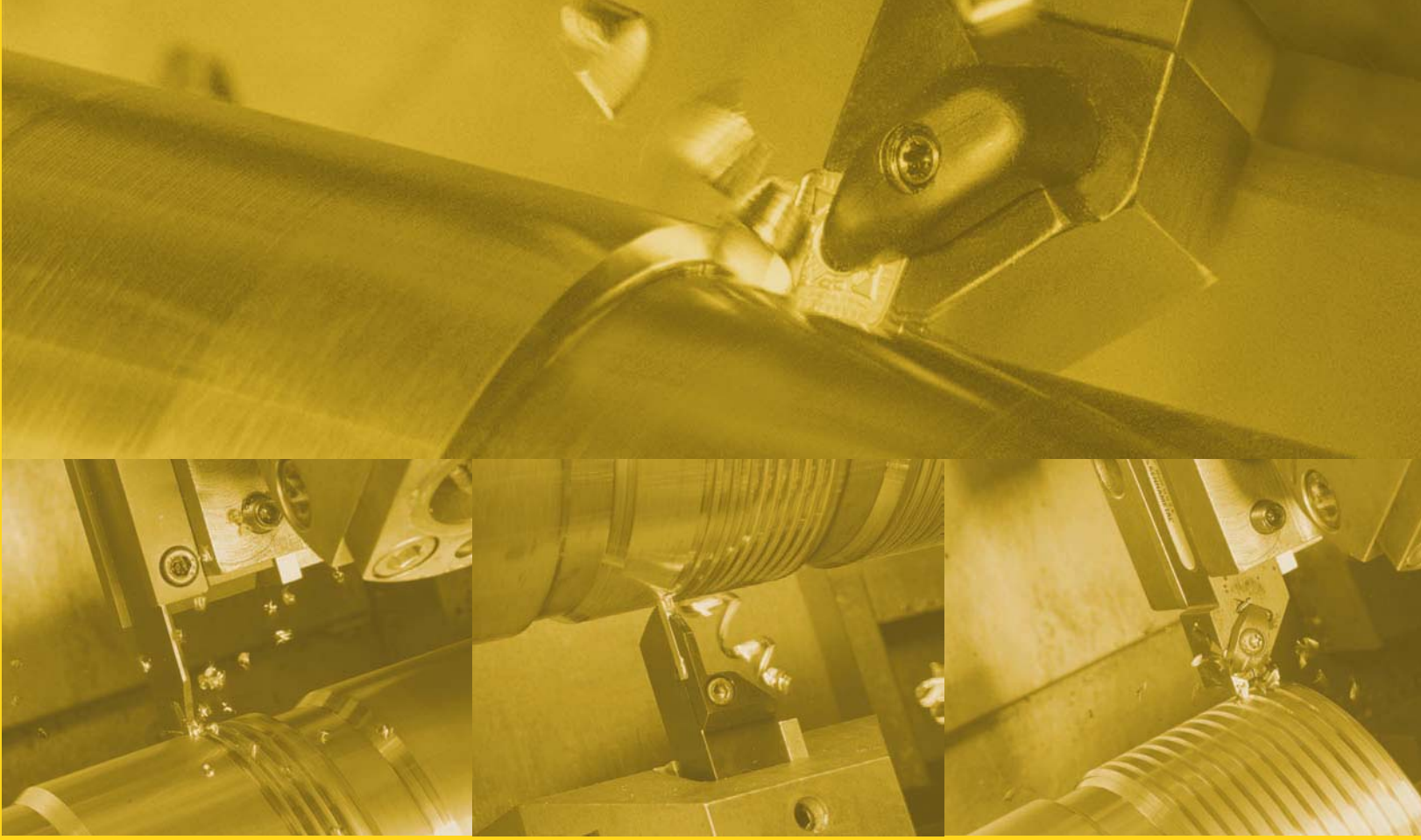


Turning | Tooling

Catalog 8010

KENNAMETAL®

KENNAMETAL®

Kennametal is a world leader in the development, manufacture, application, and supply of metalcutting tools and services. No matter what your industry, Kennametal will significantly boost your manufacturing competitiveness!

THE POWER OF THE KENNAMETAL ENTERPRISE

- Documented annual customer cost-savings from 10% to 30%.
- 10,000 new, top-quality products each year.
- More than $45,000,000 spent yearly on new product/process development.
- Nearly $2.6-billion in annual global sales.
- 14,000 employees in more than 60 countries.
- 1,000 highly trained staffers in cutting and wear solutions.

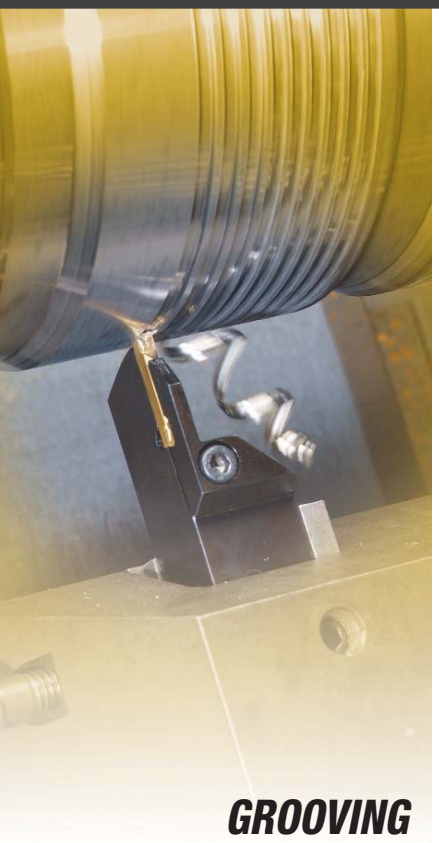
DEVELOPING INNOVATIVE CUSTOMER SOLUTIONS

- Our tooling innovations and process-optimization services enable you to greatly reduce cost-per-part time and expense.
- Globally recognized for our continuous commitment to R&D and breakthrough technology.
- Seven worldwide and highly focused R&D facilities.

Turning / Tooling

Table of Contents

KENNA PERFECT™ Selection System 2–41
Inserts A1–A133
OD/ID Tooling B1–B188
Tool Adapter VDI C1–C10
Grooving and Cut-Off D1–D130
Threading E1–E84
Application Specific F1–F26
KM™ Quick-Change Tools G1–G13
Classic Products H1–H55
Technical Section I1–I43
Index by Catalog Number J2–J42
Global Metalworking Sales Offices J43–J44
Metalcutting Safety Bulletin ..... Inside Back Cover



Kennametal Delivers —

Your one-stop shop for tooling *and* service!

Brand New PCBN Program

- New PCBN grades and upgrades provide optimal solutions for turning hardened steels and powdered metals in smooth and even heavily interrupted cuts.

New Cermet Grades

KT1120 — Steel Inserts:

- Micro-grain structure provides higher toughness and thermal shock resistance, resulting in longer tool life, excellent surface finish, and application versatility.

KT5020 — Steel and Stainless Steel Inserts:

- PVD coating provides improved wear resistance and higher speed capability, resulting in reduced cycle times.

KM™ Tunable Bars

- Combine the advantages of KMT's tunable boring bars with a KM head — maximize rigidity.
- Larger depth-of-cut and chip removal by up to 10:1 length-to-diameter ratio.
- Improve surface quality, close tolerances due to vibration-free machining.
- Bar can be tuned on the machine and tool can be adjusted to different vibration behavior.
- *See page B104.*

Large Width A4™ Modular Blades

- Expands the application range of the A4 modular grooving platform to 6, 8, and 10mm widths.
- Available in straight shank, KM, and Capto toolholder styles.
- New M65 blade designs are able to withstand higher feed rates than the traditional M50 grooving blades.
- *See pages D80–D85.*

New PCD Grades

TWO NEW PCD GRADES ENGINEERED FOR A WIDE RANGE OF APPLICATIONS

- **KD1400** — provides excellent surface finish capabilities and chipping resistance.
- **KD1425** — provides excellent thermal stability and has a unique combination of wear resistance, edge strength, and quality.

VDI Tooling

- Manufactured to ISO10889 (DIN69880).
- Hardened and precision-ground contact surfaces.
- International standard enables usage of various tools.
- *See pages C1–C10.*

New Carbide Grades

KC9105 — Steel Inserts:

- Innovative, highly deformation-resistant substrate with a new multi-layer coating for maximum wear resistance.
- Run at up to 30% higher speeds compared to competitive grades.

KC9210 — Stainless Steel Inserts:

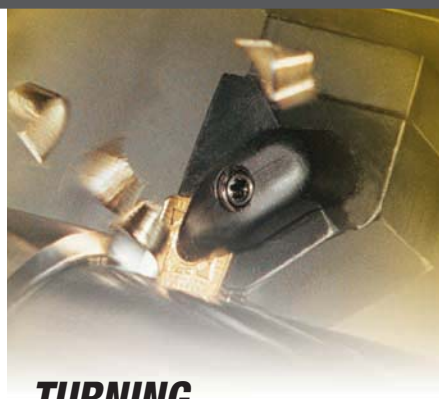
- Ultra-fine CVD coating provides improved wear resistance, enabling extended tool life at lower speeds.
- Reduces depth-of-cut notching and prevents burr formation.

KC9230 — Stainless Steel Inserts:

- Tough substrate provides good edge strength, making it ideal for roughing to heavily interrupted cuts.
- Excellent in applications where operation is restricted by speed.

KC9320 — Cast Iron Inserts

- Industry's best and most versatile general purpose cast iron machining grade.
- New technology resulting in toughened coating structure with smooth outer surface to reduce forces, friction, and workpiece sticking.



TURNING

THREADING

KENNAMETAL®

Kennametal Global Custom Solutions (GCS)

Coordinated global resources with world-class manufacturing, process development, and implementation capabilities.

No matter how small or large your project.

Whether it's a single tailored tool required to address a specific part, feature, or the development of a comprehensive manufacturing process for use on existing or newly acquired production equipment, Kennametal's GCS team can manage the development, personnel training, and successful implementation of the complete solution.

Regardless of where you're located.

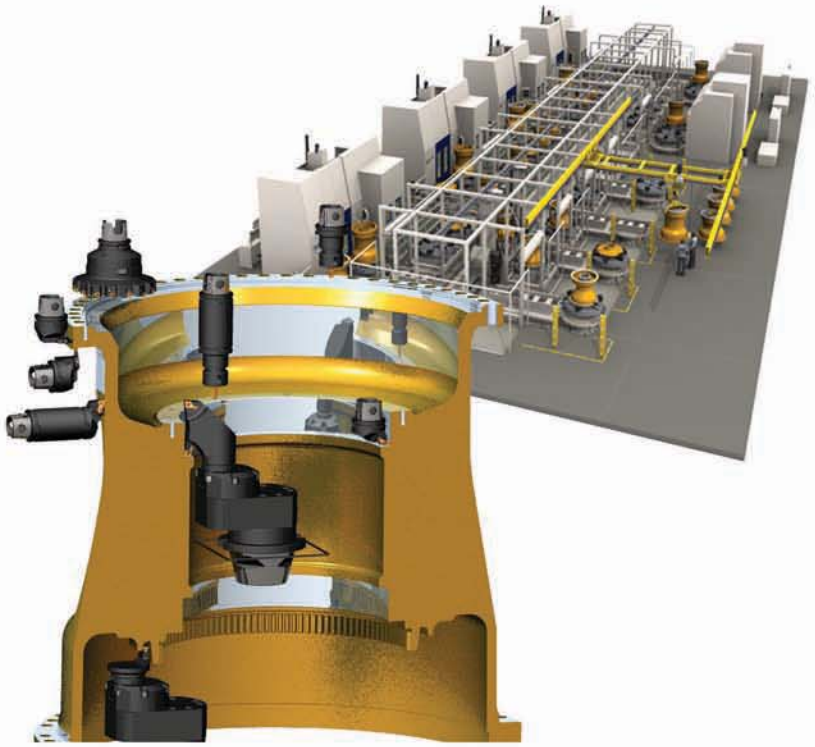
Global implies just that. With Kennametal's GCS team, you receive globally coordinated manufacturing, process development, implementation, and optimization support. At machine tool builders, end user engineering or corporate offices, and end user production facilities, Kennametal delivers the support you need, where you need it — regardless of location.

Kennametal is everywhere you are.

Well-organized, highly linked GCS teams reside in the Americas, Europe, and Asia/Pacific regions. Globally standardized design and manufacturing systems enable highly coordinated project management and implementation results.

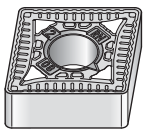
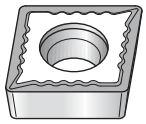
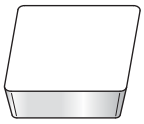
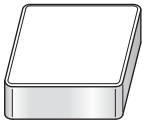
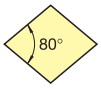
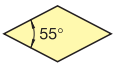
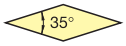
Covering the entire manufacturing process.

Key alliances with machine tool builders and other leading manufacturing technology enablers ensure a complete solution, optimizing the entire process — not just portions of it. This results in the most effective and efficient manufacturing process possible, resulting in low implementation time/cost and rapid return on investment.

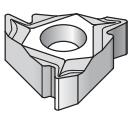
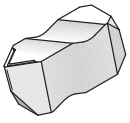
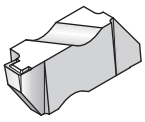
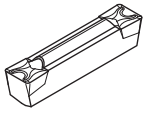
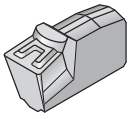
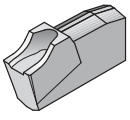


For more information, or to place an order, contact your Kennametal Representative, Authorized Kennametal Distributor, or visit www.kennametal.com.

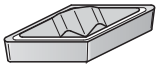
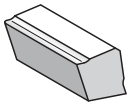
ANSI/ISO Turning Inserts

		 KENLOC™	 SCREW-ON	 KENDEX™ Positive	 KENDEX Negative
C		A2–A16	A100–A111	A90–A91	A74–A77
D		A18–A30	A110–A117	–	A76–A79
R		A32–A33	A116–A119	A90–A93	A80–A81
S		A34–A45	A118–A121	A92–A95	A82–A87
T		A46–A57	A122–A129	A94–A99	A86–A87
V		A58–A64	A130–A133	–	–
W		A64–A73	A132–A133	–	A88–A89

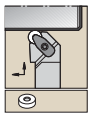
Threading, Grooving, and Cut-Off

	 LT	 TOP NOTCH™	 TOP NOTCH	 A4™	 A3™	 A2™
Inserts	E34–E51	E10–E17	D104–D117	D70–D75	D33–D35	D14–D16
Toolholders	E53–E60	E19–E27	D119–D128	D77–D94	D37–D56	D18–D26

Application Specific

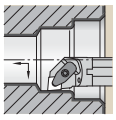
	 TOP NOTCH Profiling	 KENDEX Mini	K-LOCK™
Inserts	F4–F7	F24	F22
Toolholders	F9–F21	F25–F26	F23

External Machining



		KENCLAMP™	KENLOC™	KENLEVER™	KENDEX™ Negative	SCREW-ON	KENDEX Positive
C 80°	Conventional	B6–B9	B24–B26	B15–B16	B35–B37	B52–B55	–
	KM25	–	B156	–	–	B162	–
	KM40	B166	B173	–	–	B185	–
D 55°	Conventional	B8	B27	B17	B37–B38	B56–B58	–
	KM25	–	B157	–	–	B162–B163	–
	KM40	B167–B168	B174–B175	–	–	B185–B186	–
K/N 55°	Conventional	–	–	–	–	–	–
	KM25	–	–	–	–	–	–
	KM40	–	–	–	–	–	–
R	Conventional	B9	B28	–	B40	B58–B59	–
	KM25	–	B158	–	–	B163–B164	–
	KM40	–	B175	–	–	B186–B187	–
S 90°	Conventional	B9–B11	B28–B30	B18–B19	B41–B46	B60–B61	B48–B49
	KM25	–	B158–B159	–	–	B164	–
	KM40	B168–B170	B175–B176	–	–	B187	–
T 60°	Conventional	B12	B31–B32	B20	B46–B49	B61–B62	B49–B51
	KM25	–	B159–B160	–	–	B164–B165	–
	KM40	B170–B171	B177–B178	–	–	B188	–
V 35°	Conventional	B13	B32–B33	–	–	B63–B65	–
	KM25	–	B160–B161	–	–	B165	–
	KM40	–	B178–B179	–	–	–	–
W 80°	Conventional	B14	B33	B21	B47	B65	–
	KM25	–	B161	–	–	–	–
	KM40	B172	B179	–	–	–	–

Internal Machining



		KENCLAMP	KENLOC	KENLEVER	KENDEX Negative	SCREW-ON	KENDEX Positive
C 80°	Conventional	B72	B78	B76	B81	B86–B93	–
D 55°	Conventional	B72–B73	B78	–	B81	B93–B96	–
K/N 55°	Conventional	–	–	–	–	–	–
R	Conventional	–	–	–	–	–	–
S 90°	Conventional	B74	B79	B76	B82	B96	B84
T 60°	Conventional	B74	B79	B77	–	B97–B100	B84–B85
V 35°	Conventional	B75	B80	–	–	B101	–
W 80°	Conventional	B75	B80	B77	B83	B101–B102	–

KENNAMETAL®

KENNA PERFECT™ — Selection Guide

A system of grades, geometries, and application guidelines to provide optimal solutions for your metalcutting needs. It's easy to determine which Kennametal chip-control cutting tool will work best in your specific workpiece materials and applications!

by Geometry… **by Grade…**

CNMG432FP **KC9225**
12 34 5

…and by looking at the actual insert!

1. APPLICATION:
- FF (Fine Finishing)
- F (Finishing)
- M (Medium Machining)
- R (Roughing)
- HP (High-Positive)
- U (Universal)

2. EDGE CLASS:
- N (Negative)
- P (Positive)
- S (Sharp)
- H (Heavy Roughing)

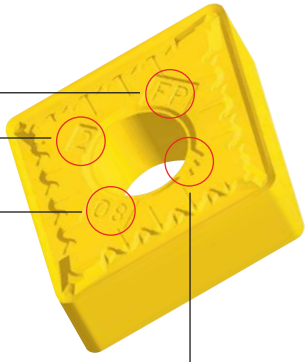
3. COATING TYPE:
- 9 = CVD (Chemical Vapor Deposition)
- 5 = PVD (Physical Vapor Deposition)

4. KENNA PERFECT MATERIAL GROUP:
- 1 = Steel
- 2 = Stainless Steel
- 3 = Cast Iron
- 4 = Non-Ferrous
- 5 = High-Temp Alloy
- 6 = Hardened Material
- 0 = Universal Machining

5. WEAR/TOUGHNESS ISO RANGE:
- 10 = Highly Wear Resistant to
- 50 = Extremely Tough

NOSE RADIUS:
both ANSI and ISO

APPLICATION:
FF, FN, MN, RN, FP, MP, RP, RH, or UN



GEOMETRY:
- ▼ Roughing
- ▼▼ Medium Machining
- ▼▼▼ Finishing
- ▼▼▼▼ Fine Finishing

Positive Inserts

SCREW-ON Inserts

- SCREW-ON inserts are your first choice for ID turning of all materials and OD turning on small- to medium-size lathes.
- Available in flat top and chip control geometries with both molded and ground peripheries. Suitable for all workpiece materials.

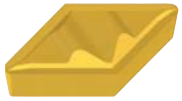
See pages A100–A133 for product listing.

KENDEX™ and V-Bottom Inserts

- KENDEX positive and V-Bottom inserts are your first choice for productive machining of high-temperature alloys on medium to large lathes.
- Available in flat top geometries with ground periphery.

See pages A90–A99 for KENDEX positive product listing.

See pages A90–A92 for V-Bottom product listings.



TOP NOTCH™ Profiling Inserts

- First choice for high-production profiling.
- Unique insert clamping design offers superior rigidity.
- Available in chip control geometries with both molded and ground peripheries. Suitable for all workpiece materials.

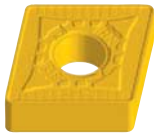
See pages F4–F7 for product listing.

K-LOCK™ Inserts

- K-Lock inserts are ideal for deep grooving and profiling.
- A unique insert clamping system allows for unimpeded chip flow.
- Available in molded and ground peripheries.

See page F22 for product listing.

Negative Inserts



KENLOC™ Inserts

- KENLOC inserts are your first choice for general machining of all materials on medium to large lathes.
- KENLOC inserts offer the best economy for high metal removal rates.
- Available in flat top and chip control geometries with both molded and ground peripheries. Suitable for all workpiece materials.

See pages A2–A73 for product listing.

KENDEX Inserts

- Ceramic KENDEX inserts are a great choice for productive machining of high-temp alloys.
- KENDEX negative rake inserts are also recommended for the machining of hardened materials and cast irons.
- Available in flat top geometries with molded and ground peripheries.
- Wide selection of standard toolholders are offered.

See pages A74–A89 for product listing.

TOP NOTCH Turning Inserts

- Ceramic TOP NOTCH Turning inserts are your first choice for high-speed roughing and finishing of cast iron parts.
- Available in flat top geometries with molded and ground peripheries.

See pages A74–A89 for product listing.

KENNA PERFECT™, Kennametal's three-step insert selection system, makes choosing and applying the most productive tool as easy as 1, 2, 3. Tool recommendations are based on six workpiece material groups, optimizing selection accuracy.

Example:

Six workpiece material groups

■ 1st Step – Select the Insert Geometry

Given: depth-of-cut = 1,0mm (.040") and feed = 0,4mm (.016 ipr)
Unknown: insert geometry
Solution: -MN

■ 2nd Step – Select the Grade

Given: cutting conditions: lightly interrupted cut
Geometry: -MN
Unknown: grade
Solution: KC9125

■ 3rd Step – Select the Cutting Speed

Given: grade KC9125
cutting conditions
material CK15
Unknown: cutting speed
Solution: 280 m/min

Need help in selecting a product?
Additional information can be obtained by contacting Kennametal's Customer Application Support Team.
Go to **www.kennametal.com** for your country's phone number.

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

- Steel
- Stainless Steel
- Cast Iron
- Non-Ferrous
- High-Temp Alloys
- Hardened Materials

1st Step — Select the Insert Geometry

Negative Inserts

▼ Roughing

-RN -RP* (positive)

▼▼ Medium Machining

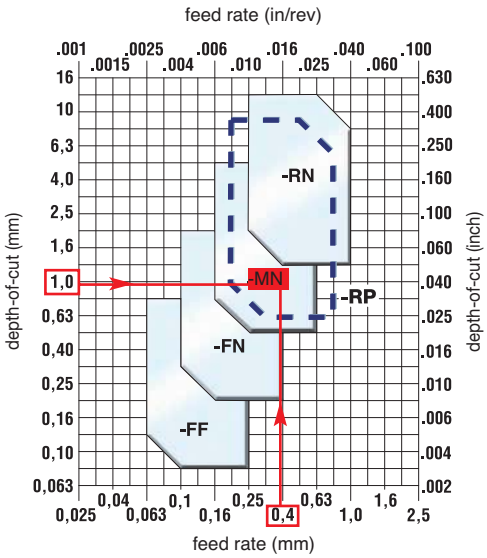
-MN

▼▼▼ Finishing

-FN

▼▼▼▼ Fine Finishing

-FF



*-RP — Supplemental geometry for for high-strength materials

2nd Step — Select the Grade

Cutting Condition	Negative Insert Geometry -FF ▼▼▼▼	-FN ▼▼▼	-MN ▼▼	-RN ▼	-RP ▼
heavily interrupted cut	KC9110	KC9125	K9140	KC9140	KC9140
lightly interrupted cut	KC9110	KC9125	KC9125	KC9125	KC9125
varying depth-of-cut, casting, or forging skin	KT315	KC9110	KC9110	KC9110	KC9110
smooth cut, pre-turned surface	KT315	KT315	KC9110	KC9110	KC9110

3rd Step — Selecting the Cutting Speed

Low-Carbon (<0,3%C) and Free-Machining Steel

AISI: 1008, 1010, 1018, 1020, 1026, 10L18, 10L45, 10L50, 1108, 1117, 1141, 1151, 11L44, 1200 series, and 12L14

KENNA PERFECT™ Material Group	grade	Speed — m/min (sfm) 135 (450)	180 (600)	225 (750)	275 (900)	1050 (320)	360 (1200)	450 (1350)	455 (1500)	Starting Conditions m/min	sfm
P1	KT315									440	1450
	KC9110 / KC9315									400	1320
	KC9125 / KC9225									280	925
	KC9140 / KC9240									215	700

New KENNA PERFECT Material Group Selection Guide:

To optimize speed recommendations, KENNA PERFECT Material Sub-Groups have been added to each of the six workpiece material groups.

Material	Material Group ISO Code	No. of Material Sub-Groups
Steel	P	1–6
Stainless Steel	M	1–3
Cast Iron	K	1–3
Non-Ferrous	N	1–8
High-Temp Alloys	S	1–4
Hardened Materials	H	1

see page I38 for KENNA PERFECT Material Group Selection Guide

1st Step — Select the Insert Geometry

Negative Wiper Inserts

Roughing Wiper

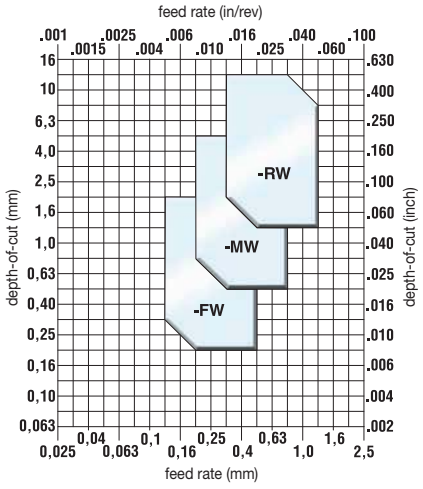
-RW

Medium Wiper

-MW

Finishing Wiper

-FW



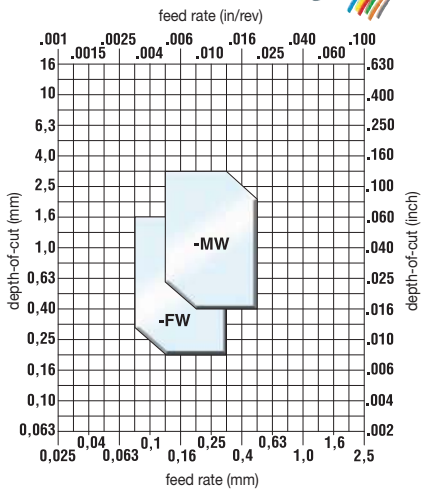
Positive Wiper Inserts

Medium Wiper

-MW

Finishing Wiper

-FW



2nd Step — Select the Grade

Cutting Condition		Negative Insert Geometry			Positive Insert Geometry	
		-FW	-MW	-RW	-FW	-MW
heavily interrupted cut		–	–	KC9125	–	KC9225
lightly interrupted cut		KC9110	KC9125	KC9125	KC9225	KC9225
varying depth-of-cut, casting, or forging skin		KT315	KC9110	KC9110	KC9315	KC9315
smooth cut, pre-turned surface		KT315	KC9110	KC9110	KT315	KT315

1st Step — Select the Insert Geometry

Negative Inserts

▼ Roughing

-RN -RP* (positive)

▼▼ Medium Machining

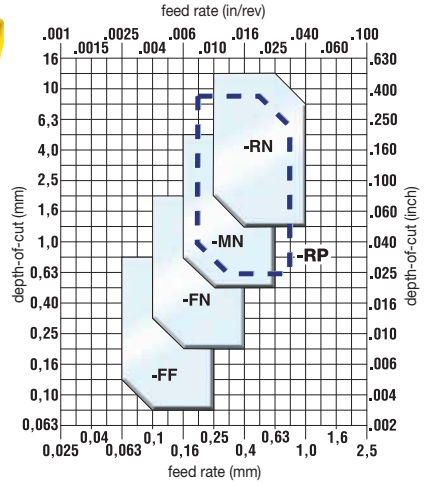
-MN

▼▼▼ Finishing

-FN

▼▼▼▼ Fine Finishing

-FF



Positive Inserts

▼▼ Medium Machining

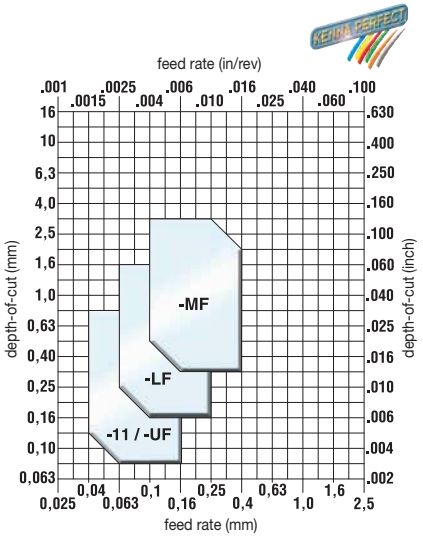
-MF

▼▼▼ Finishing

-LF

▼▼▼▼ Fine Finishing

-11 -UF



*-RP – Supplemental geometry for high-strength materials

2nd Step – Select the Grade

Cutting Condition		Negative Insert Geometry					Positive Insert Geometry			
		-FF ▼▼▼▼	-FN ▼▼▼	-MN ▼▼	-RN ▼	-RP ▼	-11 ▼▼▼▼	-UF ▼▼▼▼	-LF ▼▼▼	-MF ▼▼
heavily interrupted cut		KC9110	KC9125	KC9140	KC9140	KC9140	–	KC5010	KC9125	KC9240
lightly interrupted cut		KC9110	KC9125	KC9125	KC9125	KC9125	–	KC5010	KC9125	KC9125
varying depth-of-cut, casting, or forging skin		KT315	KC9110	KC9110	KC9110	KC9110	KT315	–	KC9110	KC9110
smooth cut, pre-turned surface		KT315	KT9105	KC9105	KC9105	KC9105	KT315	–	KT315/KC9105	KC9105

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

3rd Step — Select the Cutting Speed

Low-Carbon (< 0,3% C) and Free-Machining Steel

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 135 (450)	180 (600)	225 (750)	275 (900)	320 (1050)	360 (1200)	410 (1350)	455 (1500)	Starting Conditions m/min	sfm
P1	KT315 / KC9105							◁▷		440	1450
	KC9110 / KC9315						◁▷			400	1320
	KC9125 / KC9225 / KC5010				◁▷					280	925
	KC9140 / KC9240			◁▷						215	700

Medium- and High-Carbon Steels (> 0,3% C)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 135 (450)	180 (600)	225 (750)	275 (900)	320 (1050)	360 (1200)	410 (1350)	Starting Conditions m/min	sfm
P2	KT315 / KC9105				◁▷				270	880
	KC9110 / KC9315				◁▷				250	800
	KC9125 / KC9225 / KC5010			◁▷					200	650
	KC9140 / KC9240		◁▷						150	500

Alloy Steels and Tool Steels (≤ 330 HB) (≤ 35 HRC)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 135 (450)	180 (600)	225 (750)	275 (900)	320 (1050)	360 (1200)	410 (1350)	Starting Conditions m/min	sfm
P3	KT315 / KC9105			◁▷					210	680
	KC9110 / KC9315			◁▷					190	630
	KC9125 / KC9225 / KC5010		◁▷						155	510
	KC9140 / KC9240	◁▷							120	400

Alloy Steels and Tools Steels (340–450 HB) (36–48 HRC)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 60 (200)	90 (300)	120 (400)	160 (500)	180 (600)	210 (700)	240 (900)	Starting Conditions m/min	sfm
P4	KT315 / KC9105				◁▷				210	530
	KC9110 / KC9315				◁▷				150	480
	KC9125 / KC9225 / KC5010			◁▷					110	360
	KC9140 / KC9240			◁▷					100	325

Ferritic, Martensitic, and PH Stainless Steels (≤ 330 HB) (≤ 35 HRC)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 120 (400)	150 (500)	180 (600)	210 (700)	240 (800)	275 (900)	300 (1000)	Starting Conditions m/min	sfm
P5	KT315 / KC9105					◁▷			250	800
	KC9110 / KC9315				◁▷				220	720
	KC9125 / KC9225 / KC5010				◁▷				200	660
	KC9140 / KC9240		◁▷						140	450

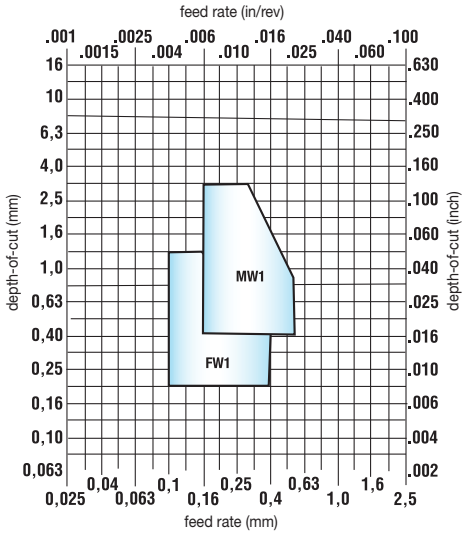
Ferritic, Martensitic, and PH Stainless Steels (340–450 HB) (36–48 HRC)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 105 (350)	135 (450)	170 (550)	200 (650)	225 (750)	260 (850)	285 (950)	Starting Conditions m/min	sfm
P6	KT315 / KC9105				◁▷				200	660
	KC9110 / KC9315				◁▷				180	600
	KC9125 / KC9225 / KC5010			◁▷					150	500
	KC9140 / KC9240	◁▷							110	350

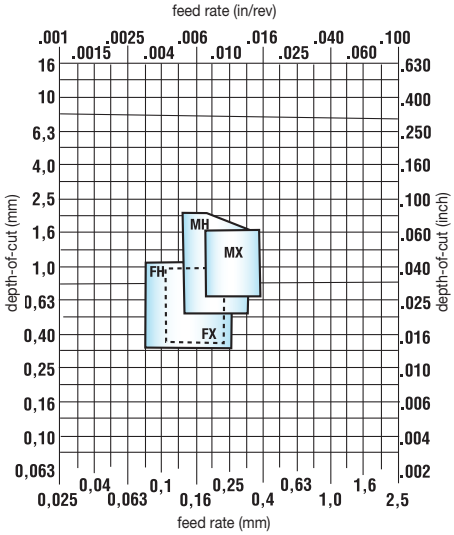
◁▷ Represents the recommended starting conditions. Optimize for your specific application.

1st Step — Select the Insert Geometry

Negative Wiper Inserts



Negative Inserts



2nd Step — Select the Grade

Cutting Condition		Negative Wiper Inserts -FW1	Negative Wiper Inserts -MW1	Negative Inserts -FH	Negative Inserts -FX	Negative Inserts -MH	Negative Inserts -MX
heavily interrupted cut		–	–	–	–	–	–
lightly interrupted cut		–	KT1120 –	–	–	KT1120 –	–
varying depth-of-cut, casting, or forging skin		KT1120 KT5020	KT1120 KT5020	KT1120 KT5020	KT1120 KT5020	KT1120 KT5020	KT1120 KT5020
smooth cut, pre-turned surface		KT1120 KT5020	–	KT1120 KT5020	KT1120 KT5020	–	KT1120 KT5020

New Insert Geometries for Steel Machining

FW1 Geometry

- Wiper design ideal for light machining at high feed rates.
- Good chip control.

FH Geometry

- Ideal for finishing to light machining.
- Good chip control.

FX Geometry

- Ideal for finishing to light machining.
- Special design produces short chips.
- Performs well in low carbon steels and other “sticky” materials.

MW1 Geometry

- Wiper design ideal for medium machining at high feed rates.
- Good chip control with long tool life.

MH Geometry

- Ideal for finishing to medium machining.
- 3D rake angle provides broad chip control.

MX Geometry

- Ideal for finishing to semi-finishing.
- Tough edge is ideal for interrupted cutting and unstable finishing operations.
- Performs well in low carbon steels and other “sticky” materials.

3rd Step — Select the Cutting Speed for Cermets

Low-Carbon (< 0,3% C) and Free-Machining Steel

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 135 (450)	180 (600)	225 (750)	275 (900)	320 (1050)	360 (1200)	410 (1350)	455 (1500)	Starting Conditions m/min	sfm
P1	KT1120				◁▷					255	850
	KT5020				◁▷					285	950

Medium- and High-Carbon Steels (> 0,3% C)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 135 (450)	180 (600)	225 (750)	275 (900)	320 (1050)	360 (1200)	410 (1350)	Starting Conditions m/min	sfm
P2	KT1120		◁▷						165	550
	KT5020			◁▷					195	650

Alloy Steels and Tool Steels (≤ 330 HB) (≤ 35 HRC)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 135 (450)	180 (600)	225 (750)	275 (900)	320 (1050)	360 (1200)	410 (1350)	Starting Conditions m/min	sfm
P3	KT1120		◁▷						165	400
	KT5020			◁▷					195	500

Alloy Steels and Tool Steels (340–450 HB) (36–48 HRC)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 60 (200)	90 (300)	120 (400)	150 (500)	180 (600)	210 (700)	240 (900)	Starting Conditions m/min	sfm
P4	KT1120			◁▷					105	350
	KT5020				◁▷				135	450

Ferritic, Martensitic, and PH Stainless Steels (≤ 330 HB) (≤ 35 HRC)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 120 (400)	150 (500)	180 (600)	210 (700)	240 (800)	275 (900)	300 (1000)	Starting Conditions m/min	sfm
P5	KT5020			◁▷					170	575

Ferritic, Martensitic, and PH Stainless Steels (340–450 HB) (36–48 HRC)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 105 (350)	135 (450)	170 (550)	200 (650)	225 (750)	260 (850)	285 (950)	Starting Conditions m/min	sfm
P6	KT5020			◁▷					150	510

Austenitic Stainless Steel

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 90 (300)	135 (450)	180 (600)	225 (750)	275 (800)	320 (1050)	360 (1200)	Starting Conditions m/min	sfm
M2	KT5020			◁▷					195	650

◁▷ Represents the recommended starting conditions. Optimize for your specific application.

Austenitic Stainless Steels

1st Step — Select the Insert Geometry

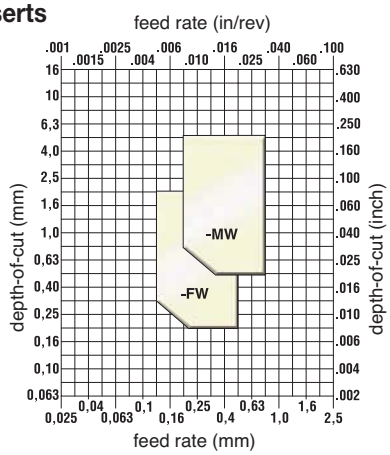
Negative Wiper Inserts

Medium Wiper

-MW

Finishing Wiper

-FW



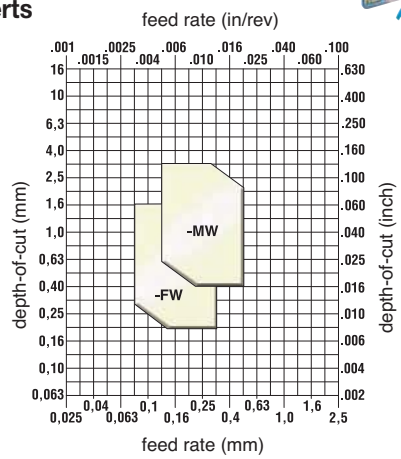
Positive Wiper Inserts

Medium Wiper

-MW

Finishing Wiper

-FW



2nd Step — Select the Grade

Cutting Condition		Negative Insert Geometry -FW	Negative Insert Geometry -MW	Positive Insert Geometry -FW	Positive Insert Geometry -MW
heavily interrupted cut		–	–	–	–
heavily interrupted cut		KC9225	KC9240	KC9225	KC9225
varying depth-of-cut, casting, or forging skin		KC5010	KC9225	KC5010	KC5010
smooth cut, pre-turned surface		KT315	KC9225	KT315	KT315

1st Step — Select the Insert Geometry

Negative Inserts

▼ Roughing

-RP

-P

▼▼ Medium Machining

-MP

-UP

▼▼▼ Finishing

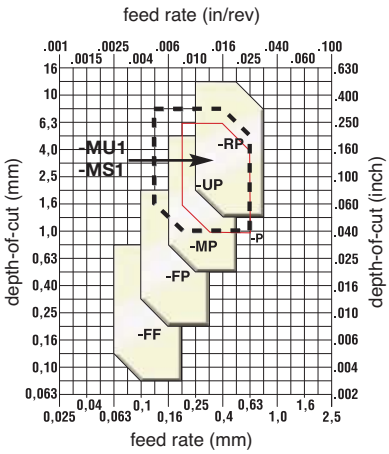
-MU1

-MS1

-FP

▼▼▼▼ Fine Finishing

-FF



Positive Inserts

▼▼ Medium Machining

-MF

▼▼▼ Finishing

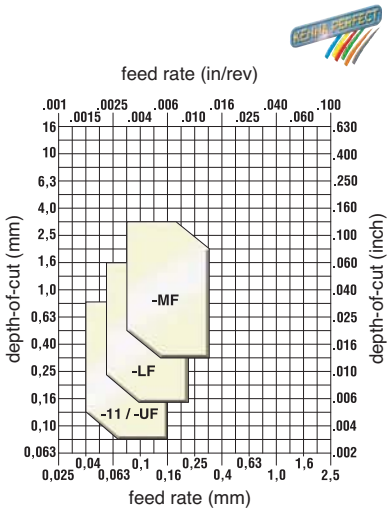
-LF

..GT-LF

▼▼▼▼ Fine Finishing

-11

-UF



2nd Step — Select the Grade

Cutting Condition		Negative Insert Geometry -FF ▼▼▼▼	-FP ▼▼▼	-MP/-UP ▼▼	-MS1/-MU1 ▼▼	-P/-RP ▼	Positive Insert Geometry -11 ▼▼▼▼	-UF ▼▼▼▼	-LF ▼▼▼▼	..GT-LF ▼▼▼	-MF ▼▼
heavily interrupted cut		KC5010	KC9225	KC9240	KC9230	KC9240	-	KC5010	KC9240	KC5025	KC9240
lightly interrupted cut		KC5010	KC9225	KC9240	KC9230	KC9240	-	KC5010	KC9225	KC5025	KC9240
varying depth-of-cut, casting, or forging skin		KT315	KC5010	KC9225	KC9210	KC9225	KT315	-	KC5010	KC5010	KC9225
smooth cut, pre-turned surface		KT315	KT315	KC5010	KC9210	KC9225	KT315	-	KT315	KC5010	KC9225

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

3rd Step — Select the Cutting Speed

Austenitic Stainless Steel

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 90 (300)	135 (450)	180 (600)	225 (750)	275 (900)	321 (1050)	360 (1200)	Starting Conditions m/min	sfm
M1	KT315				◁▷				230	750
	KC5010				◁▷				215	700
	KC9210			◁▷					160	530
	KC9225				◁▷				185	600
	KC5025				◁▷				180	550
	KC9230		◁▷						120	400
	KC9240			◁▷					150	500
	KC9245		◁▷						120	400

Austenitic Stainless Steel

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 90 (300)	135 (450)	180 (600)	225 (750)	275 (900)	321 (1050)	360 (1200)	Starting Conditions m/min	sfm
M2	KT315				◁▷				215	700
	KC5010			◁▷					200	650
	KC9210			◁▷					160	530
	KC9225			◁▷					170	550
	KC5025			◁▷					165	500
	KC9230		◁▷						120	400
	KC9240			◁▷					140	450
	KC9245		◁▷						105	350

Austenitic Stainless Steel: Duplex (Ferritic and Austenitic Mixture)

KENNA PERFECT Material Group	grade	Speed — (m/min) sfm 90 (300)	135 (450)	180 (600)	225 (750)	275 (900)	321 (1050)	360 (1200)	Starting Conditions m/min	sfm
M3	KT315			◁▷					200	650
	KC5010			◁▷					185	600
	KC9210			◁▷					160	530
	KC9225			◁▷					150	500
	KC5025			◁▷					150	450
	KC9230		◁▷						110	370
	KC9240		◁▷						120	400
	KC9245		◁▷						90	300

◁▷ Represents the recommended starting conditions. Optimize for your specific application.
Ferritic, Martensitic, and PH Stainless Steels have cutting characteristics similar to that of typical steels.
For recommendations on cutting these types of steels, please refer to page 11 (groups P5 and P6).
Ferritic, Martensitic, and PH Stainless Steels (330–450 HB) (up to 48 HRC).

KENNA PERFECT™ WIPER — Cast Iron

Gray and Ductile Irons

1st Step — Select the Insert Geometry

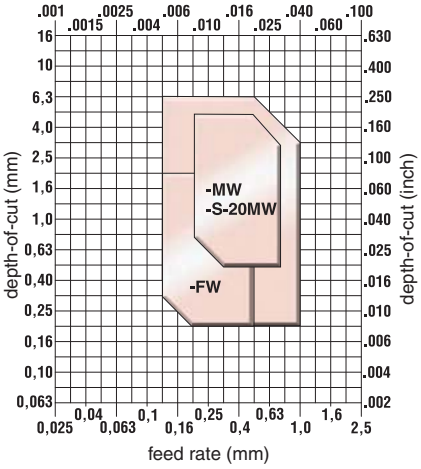
Negative Wiper Inserts

Medium Wiper

-MW | -MW -S...MW

Finishing Wiper

-FW | -FW -T-20FW | -FW -T-20FW



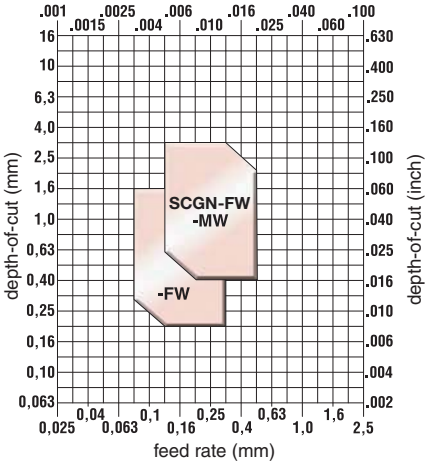
Positive Wiper Inserts

Medium Wiper

-MW

Finishing Wiper

-FW | SCGN-FW



2nd Step — Select the Grade

Gray Iron		Negative Insert Geometry				Positive Insert Geometry		
Cutting Condition		-FW	-FW -T-20FW	-MW	-S...MW...	-FW	SCGN-FW	-MW
heavily interrupted cut		–	KY3500	–	KB1345	–	KY3500	–
lightly interrupted cut		KC9315	KY3500	KC9325	KB1345	KC9315	KY3500	KC9315
varying depth-of-cut, casting, or forging skin		KT315	KY1322	KC9315	KB1345	KC9315	KY1320	KC9315
smooth cut, pre-turned surface		KT315	KY1320	KC9315	KB1345	KT315	KY1320	KT315

Ductile Iron		Negative Insert Geometry			Positive Insert Geometry		
Cutting Condition		-FW	-T-20FW	-MW	-FW	SCGN-FW	-MW
heavily interrupted cut		–	–	–	–	–	–
lightly interrupted cut		KC9315	KY3500	KC9315	KC9315	KY3500	KC9315
varying depth-of-cut, casting, or forging skin		KT315	KY3400	KC9315	KC9315	KY3400	KC9315
smooth cut, pre-turned surface		KT315	KY3400	KC9315	KT315	KY3400	KT315

3rd Step — Select the Cutting Speed

Gray Cast Iron

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 60 (200)	180 (600)	305 (1000)	430 (1400)	550 (1800)	675 (2200)	800 (2600)	920 (3000)	1040 (3400)	1160 (3800)	Starting Conditions m/min	sfm
K1	KT315											275	900
	KC9315											275	900
	KC9325											275	900
	KB1345											760	2500
	KY1320											760	2500
	KY3500											760	2500

Ductile, Compacted Graphite, and Malleable Cast Irons (<600 MPa tensile strength)

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 120 (400)	200 (650)	275 (900)	350 (1150)	430 (1400)	505 (1650)	580 (1900)	Starting Conditions m/min	sfm
K2	KT315								275	900
	KC9315								260	850
	KY3400								430	1400
	KY3500								365	1200

Ductile, Malleable and Austempered Cast Irons (>600 MPa tensile strength)

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 120 (400)	200 (650)	275 (900)	350 (1150)	430 (1400)	505 (1650)	580 (1900)	Starting Conditions m/min	sfm
K3	KT315								230	750
	KC9315								215	700
	KY3400								365	1200
	KY3500								335	1100

Represents the recommended starting conditions. Optimize for your specific application.

1st Step — Select the Insert Geometry

Negative Inserts

▼ Roughing

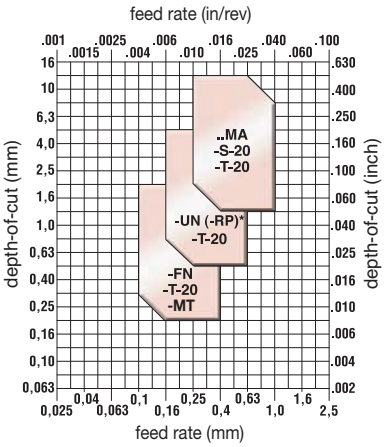
..MA -S-20 | -T-20 | -S-20

▼▼ Medium Machining

-UN | -RP | -T-20

▼▼▼ Finishing

-FN | -T-20 | -MT



Positive Inserts

▼▼ Medium Machining

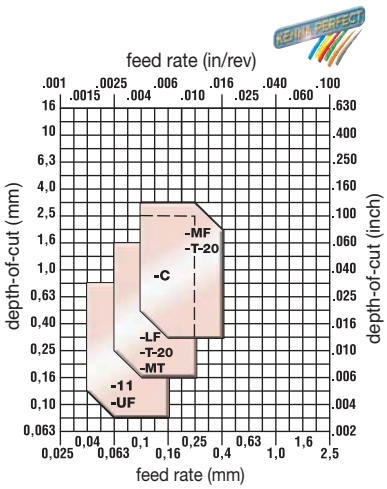
-MF | -T-20 | -C

▼▼▼ Finishing

-LF | -T-20 | -MT

▼▼▼▼ Fine Finishing

-11 | -UF



* Geometry can be used in medium machining operations to reduce tool pressure in high-strength metals.

2nd Step — Select the Grade

Carbide Grades

Gray Iron

Cutting Condition		Negative Insert Geometry -FN ▼▼▼	-UN(-RP) ▼▼	-MA ▼	Positive Insert Geometry -LF ▼▼▼	-MF ▼▼
heavily interrupted cut		KC9315	KC9325	KC9325	KC9325	KC9325
lightly interrupted cut		KC9315	KC9320	KC9320	KC9320	KC9320
varying depth-of-cut, casting, or forging skin		KT315	KC9315	KC9315	KC9320	KC9320
smooth cut, pre-turned surface		KT315	KC9315	KC9315	KC9315	KC9320

Ductile Iron

Cutting Condition		Negative Insert Geometry -FN ▼▼▼	-UN(-RP) ▼▼	..MA ▼	Positive Insert Geometry -11/-UF ▼▼▼▼	-LF ▼▼▼	-MF ▼▼
heavily interrupted cut		KC9315	KC9320	KC9325	–	KC9325	KC9325
lightly interrupted cut		KC9315	KC9320	KC9320	KC5010	KC9320	KC9320
varying depth-of-cut, casting, or forging skin		KT315	KC9320	KC9320	KC5010	KC9315	KC9320
smooth cut, pre-turned surface		KT315	KC9315	KC9320	KT315	KC5010	KC9315

2nd Step — Select the Grades

Ceramic and PCBN Grades

Gray Iron

Cutting Condition		Negative Insert Geometry -T-20 ▼▼▼	MT ▼▼▼	-T-20 ▼▼	-T-20 ▼	-S-20 ▼	Positive Insert Geometry -T-20 ▼▼▼▼	-T-20 ▼▼▼	MT ▼▼▼	-C ▼▼
heavily interrupted cut		KY3500	KB1345	KY3500	KY3500	KB1340	–	KY3500	KB1345	KB1345
lightly interrupted cut		KY3500	KB1345	KY1320	KY3500	KB1340	–	KY3500	KB1345	KB1345
varying depth-of-cut, casting, or forging skin		KY1320	KB1345	KY1320	KY1320	KB9640	KY3500	KY3500	KB1345	KB1345
smooth cut, pre-turned surface		KY3400	KB1345	KY3400	KY3400	KB9640	KY3500	KY3500	KB1345	KB1345

Ductile Iron

Cutting Conditions		Negative Insert Geometry -T-20 ▼▼▼	-T-20 ▼▼	-T-20 ▼	Positive Insert Geometry -T-20 ▼▼▼▼	-T-20 ▼▼▼	-T-20 ▼▼
heavily interrupted cut		–	KY3500	KY3500	–	KY3500	KY3500
lightly interrupted cut		–	KY3400	KY3400	–	KY3400	KY3400
varying depth-of-cut, casting, or forging skin		KY3400	KY3400	KY3400	KY3400	KY3400	KY3400
smooth cut, pre-turned surface		KY3400	KY3400	KY3400	KY3400	KY3400	KY3400

3rd Step — Select the Cutting Speed

Gray Cast iron

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 60 (200) 180 (600) 305 (1000) 430 (1400) 550 (1800) 675 (2200) 800 (2600) 920 (3000) 1040 (3400) 1160 (3800)	Starting Conditions m/min	sfm
K1	KT315		275	900
	KC9315		275	900
	KC9320		305	1000
	KC9325		275	900
	KB1340/KB1345		760	2500
	KB9640		760	2500
	KY3400		760	2500
	KY3500/KY1320		760	2500

Ductile, Compacted Graphite & Malleable Cast irons (< 600 MPa tensile strength)

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 90 (300) 135 (450) 180 (600) 225 (750) 275 (900) 320 (1050) 360 (1200) 410 (1350) 460 (1500) 500 (1650) 550 (1800) 600 (1950)	Starting Conditions m/min	sfm
K2	KT315		275	900
	KC5010		200	650
	KC9315		260	850
	KC9320		240	800
	KC9325		260	850
	KY3400		430	1400
	KY3500/KY1320		365	1200

Ductile, Malleable & Austempered Cast Irons (> 600 MPa tensile strength)

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 90 (300) 135 (450) 180 (600) 225 (750) 275 (900) 320 (1050) 360 (1200) 410 (1350) 460 (1500) 500 (1650) 550 (1800) 600 (1950)	Starting Conditions m/min	sfm
K3	KT315		230	750
	KC5010		150	500
	KC9315		215	700
	KC9320		210	700
	KC9325		215	700
	KY3400		365	1200

◁▷ Represents the recommended starting conditions. Optimize for your specific application.

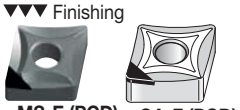
1st Step — Select the Insert Geometry

Negative Inserts

▼▼ Medium Machining

..GP ..MS

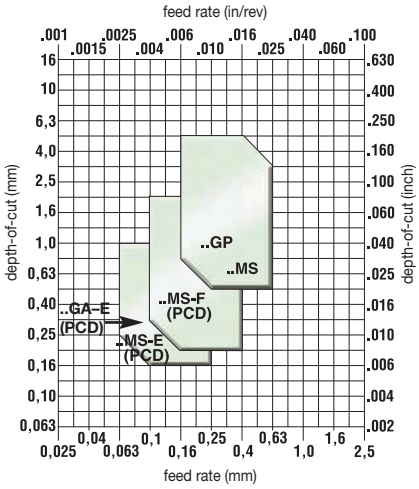
▼▼▼ Finishing



..MS-E (PCD) ..GA-F (PCD)

▼▼▼▼ Fine Finishing

..GA-E (PCD)



Positive Inserts

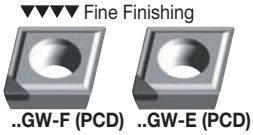
▼▼ Medium Machining

..GT-HP

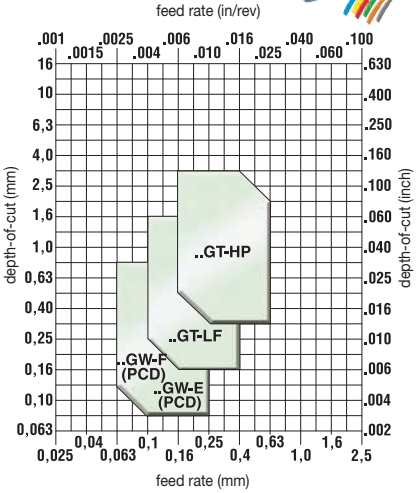
▼▼▼ Finishing

..GT-LF

▼▼▼▼ Fine Finishing



..GW-F (PCD) ..GW-E (PCD)



2nd Step — Select the Grade

		Negative Insert Geometry					Positive Insert Geometry			
		..GA-E (PCD)	..MS-E (PCD)	..GA-F (PCD)	..GP	..MS	..GW-E(PCD)	..GW-F(PCD)	..GT-LF	..GT-HP
Cutting Condition		▼▼▼▼	▼▼▼	▼▼▼	▼▼	▼▼	▼▼▼▼	▼▼▼▼	▼▼▼	▼▼
heavily interrupted cut		–	–	KD1400	KC5410	KC5410	–	KD1400	–	KC5410
lightly interrupted cut		KD1405	KD1405	KD1400	KC5410	KC5410	KD1405	KD1400	KC5410	KC5410
varying depth of cut, casting or forging skin		KD1405	KD1405	KD1425	KC5410	KC5410	KD1405	KD1425	KC5410	KC5410
smooth cut, pre-turned surface		KD1405	KD1405	KD1425	KC5410	KC5410	KD1405	KD1425	KC5410	KC5410

3rd Step — Select the Cutting Speed

Low-Silicon Aluminum Alloys (hypoeutectic < 12,2% Si) and Magnesium Alloys

KENNA PERFECT Material Group	grade	Speed - m/min (sfm)										Starting Conditions ◁▷	
		250 (800)	500 (1600)	750 (2400)	1000 (3200)	1250 (4000)	1500 (4800)	1750 (5600)	2000 (6400)	2250 (7200)	2500 (8000)	m/min	sfm
N 1	KC5410		◁▷									550	1800
	KD1400			◁▷								765	2500

High-Silicon Aluminum Alloys (hypereutectic > 12.2% Si) and Magnesium Alloys

KENNA PERFECT Material Group	grade	Speed - m/min (sfm)				Starting Conditions ◁▷	
		250 (800)	500 (1600)	750 (2400)	1000 (3200)	m/min	sfm
N 2	KD1405		◁▷			580	2000
	KD1425			◁▷		520	1700

◁▷ Represents the recommended starting conditions. Optimize for your specific application.

Additional Cutting Speed Recommendations for Miscellaneous Workpiece Materials

Copper, Brass, Zinc

KENNA PERFECT Material Group	grade	Speed – m/min (sfm) 250 (800)	500 (1600)	750 (2400)	1000 (3200)	Starting Conditions m/min	sfm
N3	KD1400 / KD1405		◇			520	1700
	KD1425		◇			500	1600
	KC5410	◇				275	900
	K313	◇				260	850

Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass, and Glass

KENNA PERFECT Material Group	grade	Speed – m/min (sfm) 250 (800)	500 (1600)	750 (2400)	1000 (3200)	Starting Conditions m/min	sfm
N4	KD1400 / KD1405	◇				400	1300
	KD1425	◇				365	1200
	KC5410	◇				170	550

Carbon and Graphite Composites: Brush Alloys, Kevlar, Graphite 280–400 HB (30–43 HRC)

KENNA PERFECT Material Group	grade	Speed – m/min (sfm) 250 (800)	500 (1600)	750 (2400)	1000 (3200)	Starting Conditions m/min	sfm
N5	KD1400 / KD1405			◇		760	2500
	KC5410	◇				200	650

MMC's (Aluminum-Based Metal Matrix Composites)

KENNA PERFECT Material Group	grade	Speed – m/min (sfm) 250 (800)	500 (1600)	750 (2400)	1000 (3200)	Starting Conditions m/min	sfm
N6	KD1405		◇			460	1500
	KD1400		◇			365	1200

Tin Alloys, Cast

KENNA PERFECT Material Group	grade	Speed – m/min (sfm) 250 (800)	500 (1600)	750 (2400)	1000 (3200)	Starting Conditions m/min	sfm
N7	KC5410	◇				215	700
	K313	◇				180	600

Depleted Uranium

KENNA PERFECT Material Group	grade	Speed – m/min (sfm) 250 (800)	500 (1600)	750 (2400)	1000 (3200)	Starting Conditions m/min	sfm
N8	KC5410	◇				215	700
	K313	◇				180	600

◇ Represents the recommended starting conditions. Optimize for your specific application.

1st Step — Select the Insert Geometry

Negative Inserts

▼ Roughing

-RP

▼▼ Medium Machining

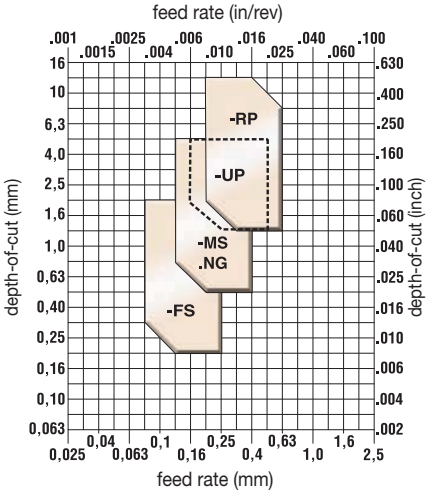
-MS

.NG

-UP

▼▼▼ Finishing

-FS



Positive Inserts

▼▼ Medium Machining

MT-LF

R.GV-T

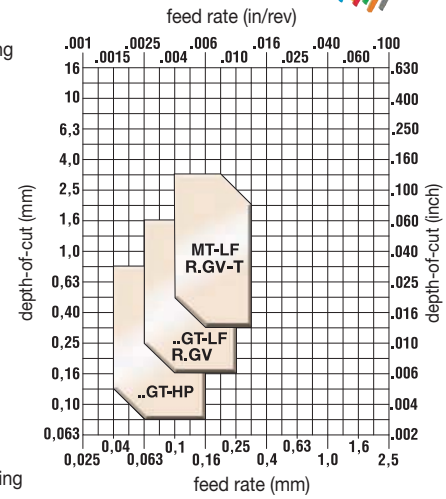
▼▼▼ Finishing

..GT-LF

R.GV

▼▼▼▼ Fine Finishing

..GT-HP



2nd Step — Select the Grade

Cutting Conditions		Negative Insert Geometry						Positive Insert Geometry			
		-FS ▼▼▼	.NG ▼▼	-MS ▼▼	-UP ▼▼	-RP ▼	..GT-HP ▼▼▼▼	R.GV ▼▼▼	..GT-LF ▼▼▼	R.GV-T ▼▼	MT-LF ▼▼
heavily interrupted out		KC5525	–	KC5525	KC9240	KC9245	–	–	KC5025	–	KC5025
lightly interrupted out		KC5510	KY1540	KC5525	KC9240	KC5525	KC5025	KY1540	KC5025	KY1540	KC5025
varying depth-of-cut, casting, or forging skin		KC5510	KY1540/ KY4300	KC5510	KC9225	KC5525	KC5010	KY1540/ KY4300	KC5010	KY1540/ KY4300	KC5010
smooth cut, pre-turned surface		KC5510/ K313	KY4300/ KY2100	KC5510/ K313	KC5010	KC5510	KC5010/ K313	KY4300/ KY2100	KC5010/ K313	KY4300/ KY2100	KC5010

3rd Step — Select Cutting Speed

Iron-Based, Heat-Resistant Alloys (135–320 HB) (≤ 34 HRC)

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 15 (50) 45 (150) 75 (250) 105 (350) 140 (450) 170 (550) 200 (650) 230 (750) 260 (850) 290 (950) 350 (1050) 350 (1150) 380 (1250)	Starting Conditions m/min	sfm
S1	K313		30	100
	KC5510 / KC5010 / KC9225		55	180
	KC5525 / KC5025 / KC9240		40	125
	KC9245		30	100
	KY4300		200	650
	KY1540		170	550
	KY2100		185	600

Cobalt-Based, Heat-Resistant Alloys (150–425 HB) (≤ 45 HRC)

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 15 (50) 45 (150) 75 (250) 105 (350) 140 (450) 170 (550) 200 (650) 230 (750) 260 (850) 290 (950) 350 (1050) 350 (1150) 380 (1250)	Starting Conditions m/min	sfm
S2	K313		35	110
	KC5510 / KC5010 / KC9225		60	195
	KC5525 / KC5025 / KC9240		30	100
	KC9245		35	110
	KY4300		220	720
	KY1540		185	600
	KY2100		200	650

Nickel-Based, Heat-Resistant Alloys (140–475 HB) (≤ 48 HRC)

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 15 (50) 45 (150) 75 (250) 105 (350) 140 (450) 170 (550) 200 (650) 230 (750) 260 (850) 290 (950) 350 (1050) 350 (1150) 380 (1250)	Starting Conditions m/min	sfm
S3	K313		40	125
	KC5510 / KC5010 / KC9225		70	225
	KC5525 / KC5025 / KC9240		40	125
	KC9245		40	125
	KY4300		250	820
	KY1540		215	700
	KY2100		230	750

Titanium and Titanium Alloys (110–450 HB) (≤ 48 HRC)

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 15 (50) 45 (150) 75 (250) 105 (350) 140 (450) 170 (550) 200 (650) 230 (750) 260 (850) 290 (950) 350 (1050) 350 (1150) 380 (1250)	Starting Conditions m/min	sfm
S4	K313		45	150
	KC5510 / KC5010 / KC9225		70	225
	KC5525 / KC5025 / KC9240		55	175

◁▷ Represents the recommended starting conditions. Optimize for your specific application.

KENNA PERFECT™ — Hardened Materials

KENNAMETAL

Hardened Steels and Irons 450–750 HB (48–65 HRC)

1st Step — Select the Insert Geometry

Wiper technology

Negative Wiper Inserts

Medium Wiper

-S..MWMT (multi-tipped)

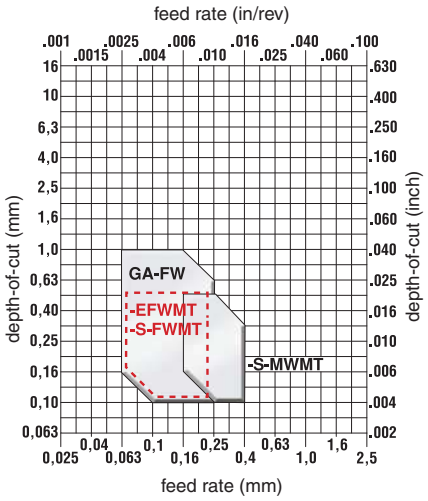
Finishing Wiper

-EFWMT (multi-tipped)

Finishing Wiper

-S..FWMT (multi-tipped)

GA-FW



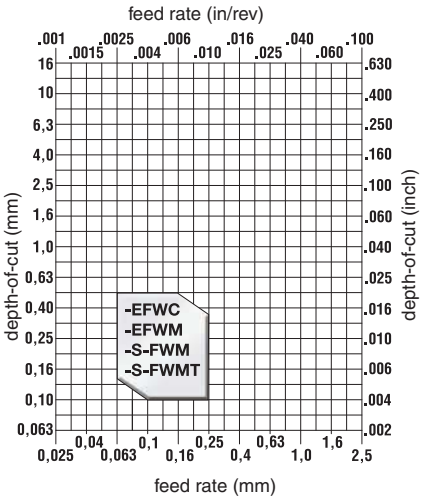
Positive Wiper Inserts

Finishing Wiper

-EFWC (full-face)
-EFWM (single tipped)

Fine Finishing Wiper

-S..FWM (single-tipped)
-S..FWMT(multi-tipped)



2nd Step — Select the Grade

Cutting Condition		Negative Insert Geometry				Positive Insert Geometry	
		GA-FW	-S..FWMT	-EFWMT	-S..MWMT	-S..FWM -S..FWMT	-EFWC/-EFWM
heavily interrupted cut		–	KB5630	KB1625	–	–	–
lightly interrupted cut		–	KB1610/KB5610	KB5625	KB9610	KB1610	KB5625
varying depth-of-cut, casting, or forging skin		KY4400	KB1610/KB5610	KB5625/KB5610	KB9610	KB1610	KB5625
smooth cut, pre-turned surface		KY4400	KB9610	KB9610	KB9610	KB9610	KB9610

1st Step — Select the Insert Geometry

Negative Inserts

▼▼ Medium Machining

-S-20

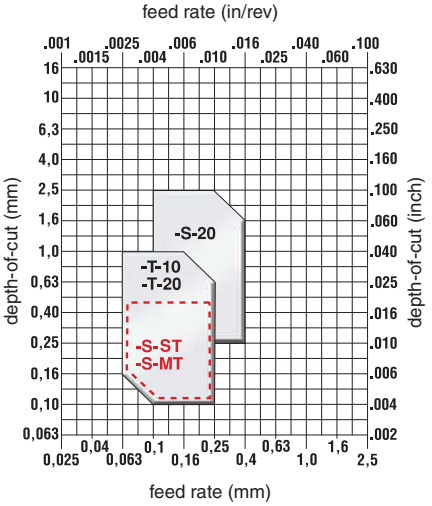
▼▼▼ Finishing

-S..ST (single-tipped)
-S..MT (multi-tipped)

▼▼▼▼ Fine Finishing

-T..10
-T.20

-T.10
-T.20



Positive Inserts

▼▼ Medium Machining

-T-15

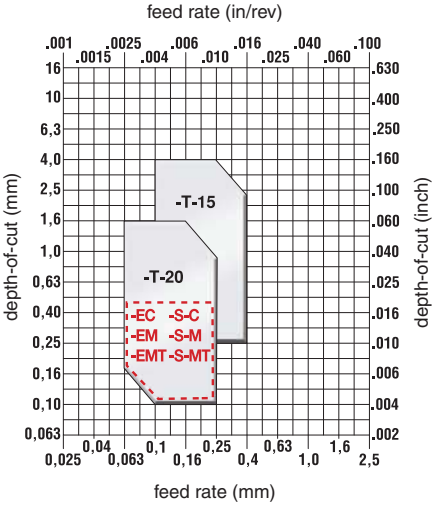
▼▼▼ Finishing

-EC (full-face)
-EM (single-tipped)
-EMT (multi-tipped)

▼▼▼▼ Fine Finishing

-T-20

-S....C (full-face)
-S....M (single-tipped)
-S....MT (multi-tipped)



2nd Step — Select the Grade

Cutting Condition		Negative Insert Geometry				Positive Insert Geometry		
		-T.10 -T.20 ▼▼▼▼	-S..ST -S..MT ▼▼▼	-S-20 ▼▼	-S...C -S...M -S...MT ▼▼▼▼▼	-T-20 ▼▼▼▼	-EC -EM -EMT ▼▼▼	-T-15 ▼▼
heavily interrupted cut		–	KB1630 / KB5630	KB9640	KB1630 / KB5630	–	KB1630 / KB5630	–
lightly interrupted cut		–	KB1625 / KB5625	KB9640	KB1625 / KB5625	KY4400	KB1625 / KB5625	KY1615
varying depth-of-cut, casting, or forging skin		K1615 / KY4400	KB1625 / KB5625	–	KB1625 / KB5625	KY4400	KB1625 / KB5625	KY1615
smooth cut, pre-turned surface		K1615 / K4400	KB1610 / KB5610 / KB9610	–	KB1610 / KB5610 / KB9610	KY4400	KB1610 / KB5610 / KB9610	KY1615

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

3rd Step — Select the Cutting Speed

KENNA PERFECT Material Group	grade	Speed — m/min (sfm) 15 (50)	45 (150)	75 (250)	110 (350)	140 (450)	170 (550)	200 (650)	230 (750)	260 (850)	Starting Conditions m/min	sfm
H1	KY4400					◁▷					135	450
	KY1615				◁▷						100	325
	KB1610					◁▷					140	460
	KB1625				◁▷						110	360
	KB1630			◁▷							90	295
	KB5610					◁▷					150	490
	KB5625					◁▷					120	400
	KB5630				◁▷						105	345
	KB9610						◁▷				170	560

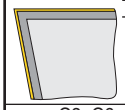
◁▷ Represents the recommended starting conditions. Optimize for your specific application.

Kennametal Grade System for Cutting Materials

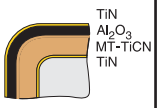
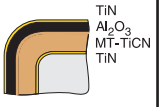
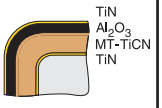
Grade Selection Table

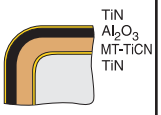
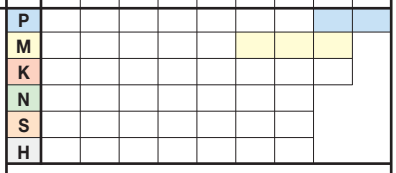
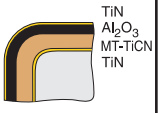
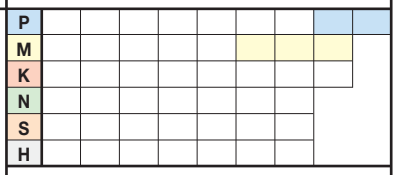
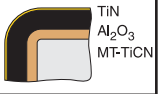
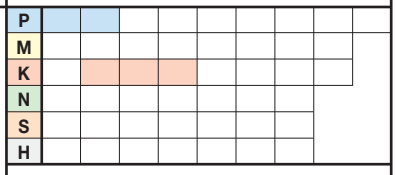
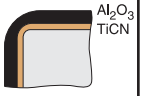
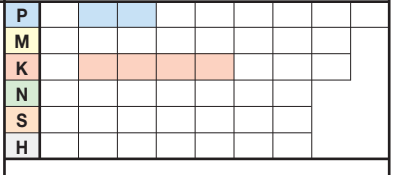
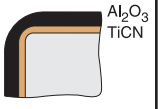
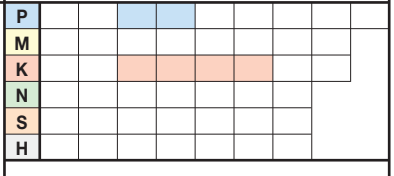
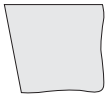
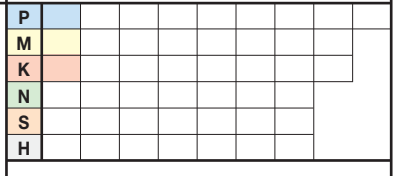
Type	Grade	Coating	Composition and Application	Standard designation	Area of use: Wear resistance ↔ Toughness (05 10 15 20 25 30 35 40 45)
Uncoated Carbide Grades	**K313™**	C3–C4	**composition**: A hard, low binder content, unalloyed WC/Co fine-grained grade. **application**: Exceptional edge wear resistance combined with very high strength for machining titanium, cast irons, austenitic stainless steels, non-ferrous metals, non-metals, and most high-temperature alloys. Superior thermal deformation and depth-of-cut notch resistance. The grain structure is well controlled for minimal pits and flaws, which contributes to long, reliable service.	P, M, K, N, S, H	
	K68™	C3	**composition:** A hard, low binder content, unalloyed grade WC/Co fine-grained grade. **application:** The K68 grade has excellent abrasion resistance for machining cast irons, austenitic stainless steels, non-ferrous metals, non-metals and as an alternative to the K313 grade on most high-temperature alloys. Use as a general purpose grade for non-ferrous materials.	P, M, K, N, S, H	
	KMF™	C3	**composition**: An advanced PVD TiAlN coated grade with a tough, ultra-fine grain unalloyed substrate. **application**: For general purpose machining of most steels, stainless steels, high-temperature alloys, titanium, irons, and non-ferrous materials. Speeds may vary from low to medium and will handle interruptions and high feed rates.	P, M, K, N, S, H	
PVD-Coated Carbide Grades	**KC5010™**	TiAlN C3–C4	**composition:** An advanced PVD TiAlN coating over a very deformation-resistant unalloyed carbide substrate. The KC5010 grade's new and improved coating allows for speeds to be increased by 50 to 100%. **application:** The KC5010 grade is ideal for finishing to general machining of most workpiece materials at higher speeds. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and super alloys under stable conditions. It also performs well machining hardened and short chipping materials.	P, M, K, N, S, H	
	KC5025™	TiAlN C2, C6	**composition**: An advanced PVD TiAlN coated grade with a tough, ultra-fine grain unalloyed substrate. **application**: For general purpose machining of most steels, stainless steels, high-temperature alloys, titanium, irons, and non-ferrous materials. Speeds may vary from low to medium and will handle interruptions and high feed rates.	P, M, K, N, S, H	
	KC5410™	TiB_2 C3–C4	**composition**: A PVD TiB_2 coating over a very deformation-resistant unalloyed substrate. **application**: The KC5410 grade is designed for roughing, semi-finishing, and finishing of free machining (hypoeutectic <12.2% Si) aluminum, aluminum alloys, and magnesium alloys. The TiB_2 coating is harder than TiN and TiAlN coatings and has an extremely smooth surface, resulting in reduced surface friction, speedy chip flow, and outstanding wear resistance. In addition, built-up edge is prevented because this coating has a very low affinity for aluminum. The substrate is unalloyed and fine grained and offers sharp edges, smooth surfaces, and excellent thermal deformation resistance and edge integrity. Inserts with a ground periphery are polished before coating and have a sharp edge. Molded inserts have a light hone.	P, M, K, N, S, H	
	KC5510™	TiAlN C3–C4	**composition:** An advanced PVD TiAlN coated fine-grained tungsten carbide grade. **application:** The KC5510 grade is specifically engineered for the productive machining of high-temperature alloys. The fine-grained tungsten carbide 6% cobalt substrate has excellent toughness and deformation resistance while the advanced PVD coating allows for metal cutting speeds double those of conventional PVD-coated cutting tools.	P, M, K, N, S, H	

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

Type	Grade	Coating	Composition and Application	Standard designation	Area of use: Wear resistance ↔ Toughness (05 10 15 20 25 30 35 40 45)
PVD-Coated Carbide Grades	KC5525™	TiAlN C2–C6	**composition:** Advanced PVD TiAlN coated fine-grained high cobalt carbide grade. **application:** The KC5525 grade utilizes the same advanced PVD coating as the KC5510 grade in conjunction with a fine-grained tungsten carbide 10% cobalt substrate. The higher cobalt provides for added security in interrupted cuts while the fine grained WC maintains hardness-resisting deformation at higher speeds. Designed for medium to heavy interruptions in high-temperature alloys.	P M K N S H	
	KU25T™	 TiN TiAlN C2, C6	**composition:** An advanced PVD coating over a tough and highly wear resistant carbide substrate. **application:** The KU25T grade is ideal for finishing to general machining of most workpiece materials. With a higher cobalt content than the KU10T grade, this grade provides the toughness needed to handle the demands of grooving, threading, and cut-off operations. The KU25T grade performs extremely well when machining most steels, stainless steels, cast irons, non-ferrous materials, and superalloys under stable conditions. The KU25T grade can also be effectively applied when machining hardened and short-chipping materials.	P M K N S H	
CVD-Coated Carbide Grades	KC9105™ NEW!	TiN Al_2O_3 MT-TiCN C3–C4	**composition**: An innovative, highly deformation-resistant, cobalt-enriched, patent-protected substrate with a new thick multi-layer MTCVD-TICN-Al_2O_3-TICN-TIN coating for maximum wear resistance. **application**: KC9105 grade is for finishing to medium machining of most steels, ferritic, martensitic, and PH stainless steels and cast irons. The specially designed substrate provides deformation resistance and insert edge strength. The extra-thick MT-TICN layer provides outstanding flank wear resistance, while the thick Al_2O_3 layer offers excellent crater wear resistance and speed capability.	P M K N S H	
	KC9110™	TiN Al_2O_3 MT-TiCN C3, C7	**composition**: A specially engineered, patented, cobalt-enriched carbide grade with thick K-MTCVD-TiCN coating layer, an Al2O3 layer of controlled grain size and outer layers of TiCN and TiN for maximum wear resistance. **application**: An excellent finishing to medium machining grade for a variety of workpiece materials including most steels, ferritic and martensitic stainless steels, and cast irons. The specially engineered, cobalt-enriched substrate offers a balanced combination of deformation resistance and edge toughness, while the thick coating layers offer outstanding abrasion resistance and crater wear resistance for high-speed machining. The smooth coating provides good resistance to edge build-up and microchipping and produces excellent surface finishes. For rougher cutting, use the KC9125 grade.	P M K N S H	
	KC9125™ NEW!	TiN Al_2O_3 MT-TiCN C2, C3, C6–C7	**composition**: A tough cobalt-enriched carbide grade with a newly designed multi-layer K-MTCVD TiCN-Al2O3-TiCN-TiN coating with superior interlayer adhesion. **application**: This is the industry's best general-purpose turning grade for most steels and ferritic and martensitic stainless steels. The substrate design, with cobalt-enrichment, ensures adequate deformation resistance along with excellent bulk toughness and insert edge strength. The coating layers offer good wear resistance over a wide range of machining conditions. The smoothness of the coating leads to reduced frictional heat, minimizes microchipping, and improves workpiece surface finishes. The KC9125 grade performs well in moderately heavy roughing to semi-finishing cuts. Use the KC9110 grade for finishing cuts.	P M K N S H	
	KC9140™ NEW!	TiN Al_2O_3 MT-TiCN TiN C5–C6	**composition**: A newly engineered, tough carbide grade with an advanced multi-layered TiN-MT-TiCN-Al2O3-TiN coating. **application**: For heavy roughing applications of alloy steels where insert edge strength is critical. A specially designed coating ensures excellent interlayer adhesion and long tool life.	P M K N S H	

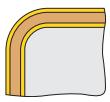
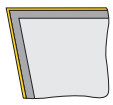
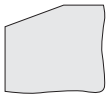
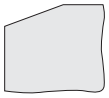
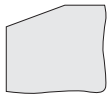
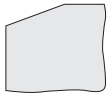
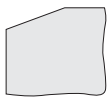
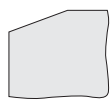
Grade Selection Table

Type	Grade	Coating	Composition and Application	Standard designation	Area of use: Wear resistance ↔ Toughness
		C-Class			05 10 15 20 25 30 35 40 45
CVD-Coated Carbide Grades	**KC9210™** NEW!	 M10–M20	**composition**: A fine-grained cobalt-enriched carbide grade with a thin MT-CVD TiCN-Al2O3 coating and a smooth insert surface. **application**: The substrate and coating design of the KC9210 grade provides good depth-of-cut notch resistance and excellent resistance to built-up edge leading to a long and reliable tool life in finishing as well as medium machining of stainless steels.	P M K N S H	
	KC9225™ NEW!	 C2, C3	**composition:** A newly engineered, patented, multi-layered K-MTCVD coated cobalt-enriched carbide grade. **application:** The KC9225 grade has been specially designed for resisting depth-of-cut notching and minimizing burr formation often observed in the machining of austenitic stainless steels. Cobalt-enrichment provides an optimum combination of toughness and deformation resistance. This new grades polished edge minimizes build-up and ensures superior workpiece finishes. KC9225 inserts are your first choice for machining stainless steels.	P M K N S H	
	KC9230™ NEW!	 M20–M30	**composition**: A medium-grained, tough carbide grade with a highly adherent and smooth MT-CVD TiCN-Al2O3 coating. **application**: This CVD coated grade is engineered to deliver exceptional performance in medium machining and roughing of stainless steels and light to heavily interrupted cuts. It is endowed with excellent resistance to depth-of-cut notching and built-up edge often observed in the machining of stainless steels.	P M K N S H	

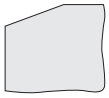
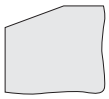
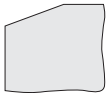
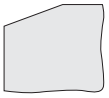
Type	Grade	Coating	Composition and Application	Area of use: Standard designation / Wear resistance / Toughness — 05 10 15 20 25 30 35 40 45 — P M K N S H
CVD-Coated Carbide Grades	**KC9240™** NEW!	 C1–C2	**composition:** A multi-layered CVD coating comprised of TiN-MT-TiCN-Al203-TiN coating over a tough, non-enriched carbide substrate. **application:** This CVD coated grade is designed for tough applications at moderate speeds and feeds. KC9240 inserts offer an extraordinary combination of toughness, built-up edge resistance, and wear resistance in stainless steel applications. Excellent thermal/mechanical shock resistance makes KC9240 inserts ideally suited for even the most challenging stainless steel applications.	
	KC9245™	 C1–C2	**composition:** A multi-layered MTCVD coating over a super-tough substrate. **application:** This MTCVD coated carbide grade is engineered to take on the most brutal cast stainless steel machining applications. Its substrate withstands heavy interruptions, while its polished surface resists build-up, even at slow cutting speeds. Additionally, its wear-resistant coating resists the micro-chipping common when machining austenitic stainless steel. The KC9245 grade is also available in insert sizes and geometries appropriate for heavy feeds and large depths-of-cut.	
	KC9315™	 C3–C4	**composition:** A multi-layered CVD coating with very thick MTCVD Al2O3 TiCN layers, for maximum wear resistance, is applied over a substrate specifically engineered for cutting cast and ductile irons. **application:** The KC9315 grade delivers longer tool life when high-speed machining of ductile and cast irons. The thick MTCVD TiCN coating ensures a tremendous tool life advantage, especially when cutting higher tensile strength ductile and cast irons where workpiece size consistency and reliability of tool life are critical. This new Kennametal grade is excellent when used for either straight or lightly interrupted cut applications. Moreover, if you're looking for high productivity performance, the KC9315 grade is an ideal choice.	
	KC9320™ NEW!	 C3–C4	**composition:** A specially toughened MTCVD-TICN and Al2O3 coating over a wear-resistant substrate. **application:** The KC9320 grade is specifically engineered to maximize coating adhesion and edge strength making this grade ideal in wet interrupted cutting of ductile and gray irons. It can be in a wide range of applications from finishing to roughing to maximize productivity wherever srength and reliability are needed.	
	KC9325™	 C2–C3	**composition:** A TiCN and alumina-coated grade with a strong, reliable substrate. **application:** Grade development for the KC9325 grade focused on a variety of ductile and cast iron operations. The coating and substrate are optimized for flexibility. If you are machining different types of ductile or cast irons where application confidence, flexibility, and broad range reliability are your primary requirements, the KC9325 grade is the perfect choice.	
Uncoated Cerment	**KT1120™** NEW!	 C2, C6	**composition:** A tough, uncoated micro-grained TiCN-based cermet grade for turning applications. **application:** The substrate design and the microstructure of this cermet grade deliver superior performance in finishing to medium machining of low to medium carbon steels, alloy steels, annealed tool steels, and stainless steels. Ideal for applications in the general engineering, automotive, and industrial manufacturing industries.	

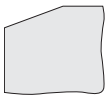
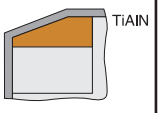
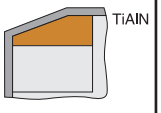
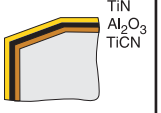
Kennametal Grade System for Cutting Materials

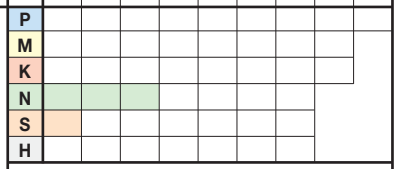
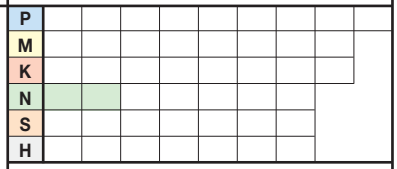
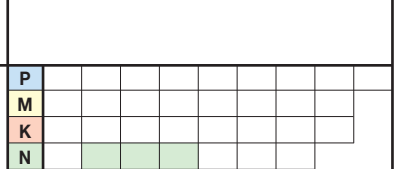
Grade Selection Table

Type	Grade	Coating	Composition and Application	Standard designation	Area of use: Wear resistance ↔ Toughness (05 10 15 20 25 30 35 40 45)
PVD-Coated Cermet	KT315™	 C3, C7	**composition:** A multi-layered, PVD TiN/TiCN/TiN, coated cermet turning grade. **application:** Ideal for high-speed finishing to medium machining of most carbon and alloy steels and stainless steels. Performs very well in cast and ductile iron applications too. Provides long and consistent tool life and will produce excellent workpiece finishes.	P M K N S H	05 10
	KT5020™ NEW!	 C3–C4	**composition:** A multilayer PVD TiAlN-TiN coated cermet turning grade. **application:** The tough substrate combined with the micro-grain structure of this PVD-coated cermet grade is engineered to deliver reliable performance and long tool life in applications requiring high speeds and smaller depths-of-cut. Ideally suited for high-speed finishing to medium machining of plain carbon steels, alloy steels, and stainless steels.	P M K N S H	15 20 25
Ceramics	KY1320™ NEW!	 —	**composition:** An uncoated, advanced, silicon nitride grade **application:** High-speed roughing to finishing of gray cast iron. The KY1320 grade, with better wear resistance, is an ideal compliment to the KY3500 grade.	P M K N S H	10 15 20 25
	KY1540™	 C4	**composition:** The KY1540 ceramic is the latest and most advanced sialon material ever developed. **application:** Combines excellent wear properties, fracture toughness, and thermal shock resistance for general purpose to finish machining of high-temperature alloys. Provides superior depth-of-cut notch resistance as compared to whisker ceramics.	P M K N S H	10 15 20
	KY1615™	 C4, C8	**composition:** An advanced alumina/TiC ceramic grade (black). **application:** Great combination of toughness and wear resistance; used for machining alloy steels, tool steels, and stainless steels to 60 HRC (653 HB). It is also applied in finish turning and boring of cast irons.	P M K N S H	05 10
	KY2100™	 C4	**composition:** An advanced sialon grade. **application:** Good mechanical shock resistance combined with edge wear resistance; used for general purpose machining of high-temperature alloys.	P M K N S H	10 15 20
	KY3400™	C3	**composition:** CVD-coated pure silicon nitride grade. **application:** Excellent combination of toughness and edge wear resistance; used for general purpose machining of gray cast irons and ductile or nodular cast irons.	P M K N S H	10 15 20
	KY3500™	 C2	**composition:** Pure silicon nitride grade. **application:** Maximum toughness; used at high-feed rates for rough machining of gray cast iron, including machining through interruptions.	P M K N S H	10 15 20 25 30
	KY4300™	 C4	**composition:** Whisker ceramic with a matrix of Al2O3 + SiCW. **application:** The SiC whiskers embedded in the micro structure give this ceramic excellent toughness for cutting high-temp alloys and cast materials with high Brinell hardness.	P M K N S H	15 20 25

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

Type	Grade	Coating	Composition and Application	Standard designation	Area of use: Wear resistance → Toughness (05 10 15 20 25 30 35 40 45)
Ceramics	KY4400™	C4, C8	**composition:** A PVD TiN coating over an aluminum oxide and titanium carbonitride composite ceramic (Al2O3/TiCN). **application:** Used for finish turning of hardened steels and irons (greater than 45 HRC). Where possible, use under dry conditions in smooth or varied depth-of-cuts. Can also be applied in finish turning of nickel alloys, cobalt alloys, and powder metals.	P M K N S H	
PCBN – Polycrystalline Cubic Boron Nitride	KB1340™ NEW!	 —	**composition:** A high CBN content, solid PCBN insert having multiple cutting edges. **application:** The KB1340 grade is applied in roughing to finishing of fully pearlitic gray cast iron, chilled irons, high-chrome alloyed steels, sintered powdered metals, and heavy cuts in hardened steels (>45 HRC). Also use for finishing chilled cast iron and fully pearlitic cast iron. The solid PCBN insert offers better security and shock resistance compared to tipped PCBN inserts, while also enabling deeper depth-of-cut capability.	P M K N S H	
	KB1345™ NEW!	 —	**composition:** A high CBN content, PCBN tip brazed onto a carbide insert. **application:** The KB1345 grade is applied in roughing to finishing of fully pearlitic gray cast iron, chilled irons, high-chrome alloyed steels, sintered powdered metals, and heavy cuts in hardened steels (>45 HRC). Also use for finishing chilled cast iron and fully pearlitic cast iron. The tipped PCBN insert is available in a wide range of insert styles including positive rake geometries that are ideally suited for boring applications.	P M K N S H	
	KB1610™ NEW!	 —	**composition:** A low CBN content, PCBN tip brazed onto a carbide insert. **application:** The KB1610 grade is designed for precision finishing in smooth cuts on hardened steels (>45 HRC) where optimal surface finish is needed. Use on bearing steel, hot and cold work tool steels, high-speed steels, die steels, case hardened steels, carburized and nitrided irons, and some hard coatings. Do not apply on soft steel, rapid crater wear will result. When possible, use negative rake tools.	P M K N S H	
	KB1625™ NEW!	 —	**composition:** A low CBN content, PCBN tip brazed onto a carbide insert. **application:** The KB1625 grade is designed for roughing to finishing of hardened steels (>45 HRC) where optimal surface finish is needed. It can be used in continuous to interrupted cutting of bearing steel, hot and cold work tool steels, high-speed steels, die steels, case hardened steels, carburized and nitrided irons, and some hard coatings.	P M K N S H	

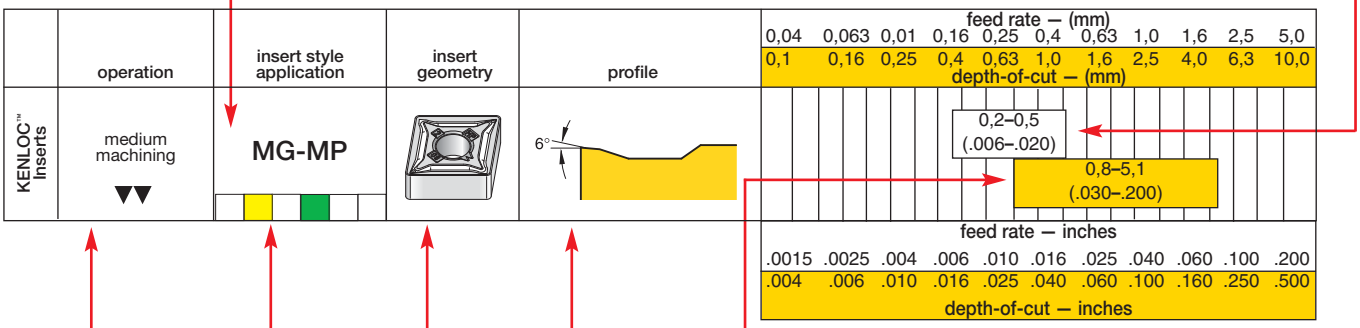
Type	Grade	Coating	Composition and Application	Area of use: Standard designation / Wear resistance → Toughness (05 10 15 20 25 30 35 40 45)
PCBN – Polycrystalline Cubic Boron Nitride	**KB1630™** NEW!	 —	**composition:** A high CBN content, PCBN tip brazed onto a carbide insert. **application:** The KB1630 grade is designed for roughing to finishing in interrupted cuts on hardened steels (>45 HRC). It can also be applied on gray cast iron, chilled irons, high-chrome alloyed steels and sintered powdered metals. The tipped PCBN insert is available in a wide range of insert styles including positive rake geometries that are ideally suited for boring applications.	P, M, K, N, S, H
	KB5610™ NEW!	 TiAlN C4, C8	**composition:** A low content PCBN grade with a PVD TiAlN coating for added wear resistance. **application:** The KB5610 grade is designed for the precision machining of hardened steels (>45 HRC), the harder the steel the better. The PVD coating offers improved wear resistance and excellent surface finish capability. It can be very effectively applied on bearing steels, hot and cold work tool steels, high-speed steels, die steels, case hardened steels, carburized and nitrided irons, and some hard coatings. The KB5610 grade is available in a multi-tip format with a tremendous breadth of edge preps, insert styles, and wiper geometries.	P, M, K, N, S, H
	KB5625™ NEW!	 TiAlN C4, C8	**composition:** A PVD TiAlN coating over a low content, PCBN tip brazed onto a carbide insert. **application:** Designed for roughing to finishing of hardened steels (>45 HRC). Use on bearing steel, hot and cold work tool steels, high-speed steels, die steels, case hardened steels, carburized and nitrided irons, and some hard coatings.	P, M, K, N, S, H
	KB9610™ NEW!	TiN Al_2O_3 TiCN C4, C8	**composition:** A low content PCBN grade with a TiN/Al2O3/TiCN CVD coating for protection against harmful crater wear. **application:** The KB9610 grade is designed for the precision machining of hardened steels (>48 HRC), the harder the steel the better. KB9610 is effectively applied on bearing steels, hot and cold work tool steels, high-speed steels, die steels, case hardened steels, carburized and nitrided irons, and some hard coatings. Do not use on soft steels. For best results, apply negative rake tools in OD applications and positive tools in ID applications. The KB9610 grade is available in a multi-tip format with a tremendous breadth of edge preps and two styles of wiper geometries.	P, M, K, N, S, H
	KB9640™	 TiN Al_2O_3 TiCN C1	**composition:** A high CBN content, solid PCBN structure having multiple cutting edges and a CVD alumina coating. **application:** The KB9640 grade is applied in the roughing to semi-finishing of fully pearlitic gray cast iron, chilled irons, high chrome alloy steels, sintered powdered metals, and heavy cuts in hardened steels (>45 HRC). Also use for finished chilled cast iron and fully pearlitic cast iron. Do not apply on finishing hardened steels. The solid KB9640 also can be effectively applied when roughing hardened steels.	P, M, K, N, S, H

Type	Grade	Coating	Composition and Application	Standard designation	Area of use: Wear resistance ↔ Toughness (05 10 15 20 25 30 35 40 45)
PCD-Polycrystalline Diamond	KD1400™ NEW!	C4	**composition:** An ultrafine-grained polycrystalline diamond tip (PCD) brazed onto a carbide substrate. **application:** The KD1400 grade is designed for general purpose turning of primarily non-ferrous materials. It can be applied over a wide range of continuous to interrupted cuts where superior surface finish is needed. Use KD1400 inserts on low to medium silicon-content aluminum alloys, non-metallics, copper, brass-and zinc-based alloys. The ultrafine grained diamond particle size enables superior surface finishes while ensuring the best mechanical shock resistance of any PCD cutting tool.	P M K N S H	
	KD1405™	C4	**composition:** A pure CVD deposited diamond sheet tool directly brazed to a carbide substrate. **application:** The KD1405 grade is Kennametal's and the industry's most abrasion resistant tool material for non-ferrous and non-metallic materials. KD1405 inserts are best applied when abrasion resistance is the desired benefit. The KD1405 grade inserts are not as tough as the KD100 grade, but can withstand moderate interruptions when turning and traditional face milling operations.	P M K N S H	
	KD1425™ NEW!	C4	**composition:** A multi-modal PCD grade with a range of rain sizes brazed onto a carbide substrate. **application:** The KD1425 grade is engineered for extreme abrasion resistance, combined with good edge strength for demanding applications. KD1425 inserts are an ideal choice for high-silicon alluminum alloys, bi-metallic (AL/GCI) materials, MMC, carbon-fiber reinforced plastics, and other abrasive non-metallic materials.	P M K N S H	

Kennametal Clamping System

Chip Control Geometry Designation
example: MG-MP = CNMG-432MP

Feed Rate Range
(for best results, use the center 60% of the range)



Depth-of-Cut Range
(for all inserts in the program, select smaller inserts for lighter cuts and larger inserts for heavy cuts)

Chipbreaker Geometry
(section is through nose radius of insert)

Pictorial View of Insert

Primary Workpiece Material Group

- steel
- stainless steel
- cast iron
- non-ferrous
- high-temp alloys
- hardened materials

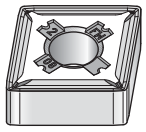
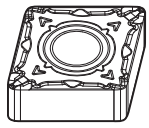
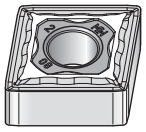
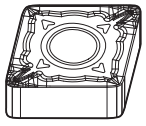
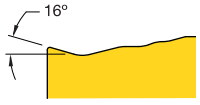
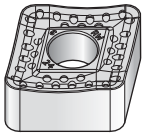
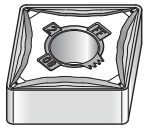
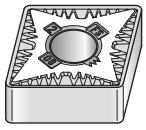
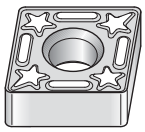
Machining Operation
(what the insert geometry is designed for)

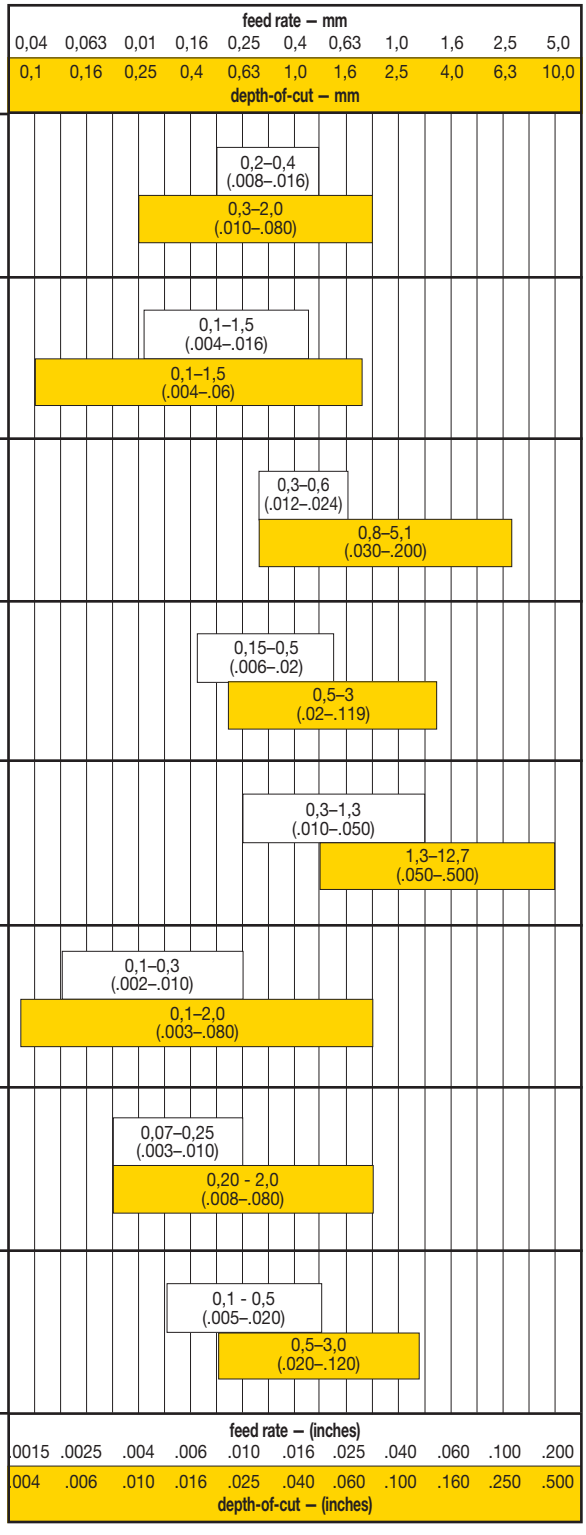
- ▼▼▼▼ – fine finishing
- ▼▼▼ – finishing
- ▼▼ – medium machining
- ▼ – roughing

KENNA PERFECT

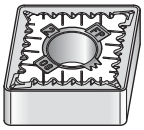
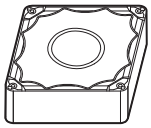
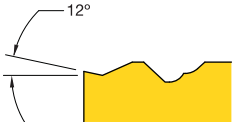
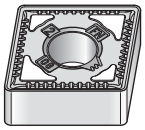
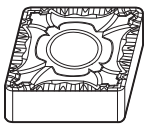
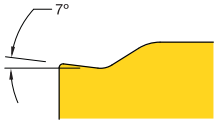
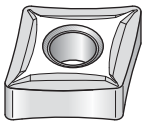
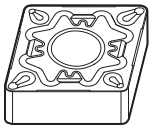
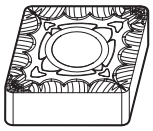
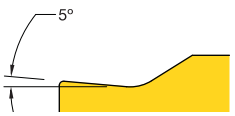
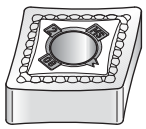
For detailed grade/geometry recommendations, reference the KENNA PERFECT™ Selection System.

KENLOC™ Inserts

operation	insert style application	insert geometry	profile
wiper, finishing	**MG-FW**		
wiper, finishing	**MG-FW1**		
wiper, medium machining	**MG-MW**		
wiper, medium machining	**MG-MW1**		
wiper, roughing	**MM-RW**		
fine finishing ▼▼▼▼	**MG-FF**		
finishing sharp ▼▼▼▼	**GG-FS** precision ground		
finishing ▼▼▼	**GG-LF** precision ground		



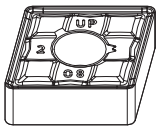
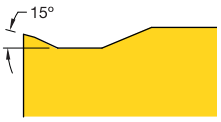
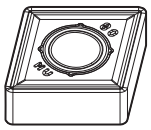
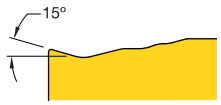
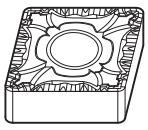
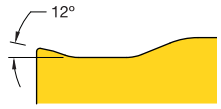
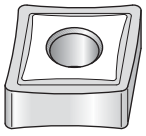
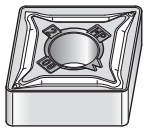
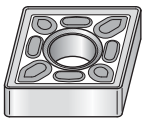
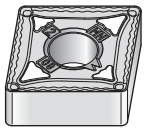
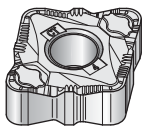
KENLOC™ Inserts

operation	insert style application	insert geometry	profile	feed rate – mm: 0,04 0,063 0,01 0,16 0,25 0,4 0,63 1,0 1,6 2,5 5,0 / depth-of-cut – mm: 0,1 0,16 0,25 0,4 0,63 1,0 1,6 2,5 4,0 6,3 10,0
finishing ▼▼▼	MG-FP			0,1–0,3 (.004–.012); 0,3–2,5 (.010–.100)
finishing	MG-FH			0,05 - 0,25 (.002–.01); 0,25 - 1 (.01–.04)
finishing ▼▼▼	MG-FN			0,1 - 0,3 (.005–.012); 0,3–2,5 (.010–.100)
finishing	MG–FX			0,07–0,22 (.003–.009); 0,2–1 (.008–.04)
finishing ▼▼▼	MP-K			0,1–0,3 (.004–.012); 0,2–2,5 (.008–.100)
medium machining	MG-MH			0,15 - 0,5 (.006–.02); 0,3–2 (.012–.079)
medium machining	MG-MX			0,15–0,35 (.006–.014); 0,5–1,5 (.02–.06)
medium sharp ▼▼	MG-MS			0,12–0,35 (.005–.014); 0,76–5,0 (.030–.200)

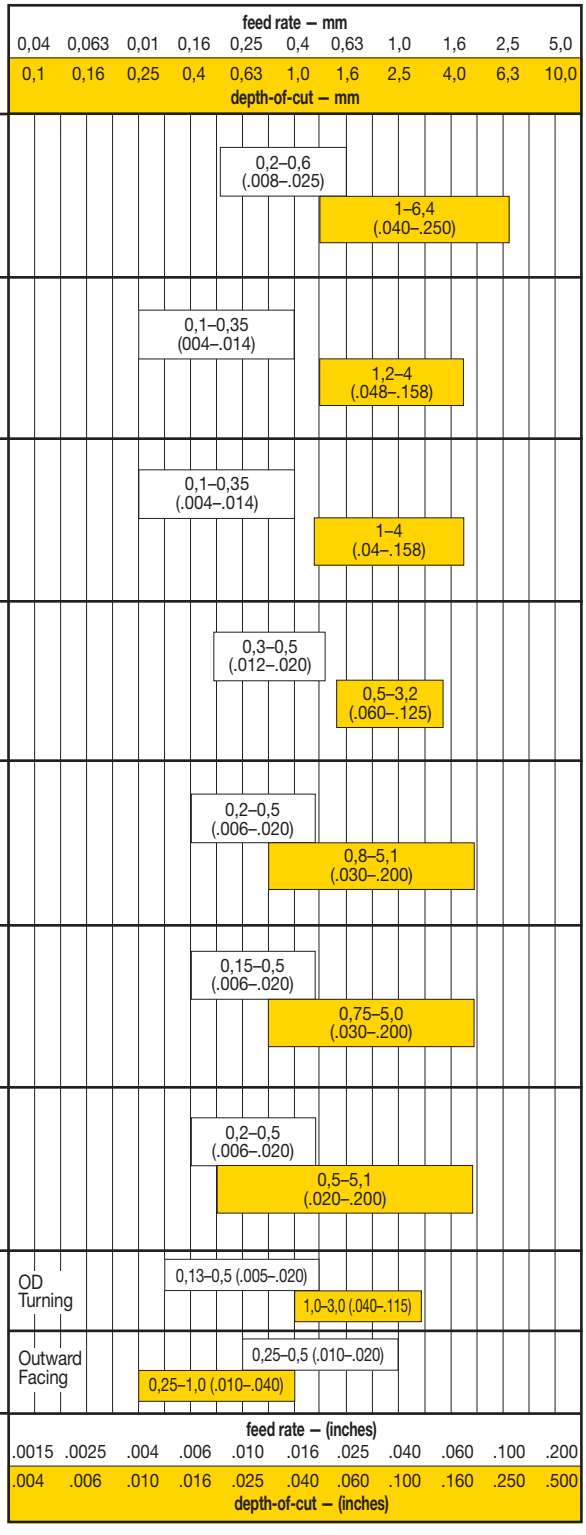
feed rate – (inches): .0015 .0025 .004 .006 .010 .016 .025 .040 .060 .100 .200

depth-of-cut – (inches): .004 .006 .010 .016 .025 .040 .060 .100 .160 .250 .500

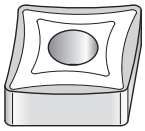
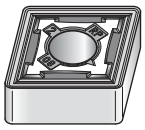
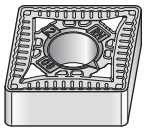
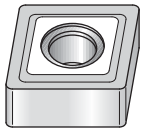
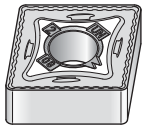
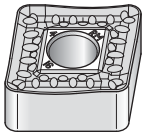
KENLOC™ Inserts

operation	insert style application	insert geometry	profile
medium machining	**MG-UP**		
medium machining	**MG-MU1**		
medium machining	**MG-MS1**		
medium machining	**__GP*** precision ground		
medium machining	**MG-MP**		
medium machining	**MG-P**		
medium machining	**MG-MN**		
medium machining	**MG-CT**		

*35° and 55° geometries are single sided.

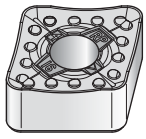
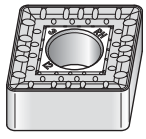
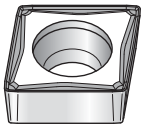
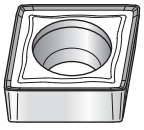
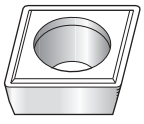
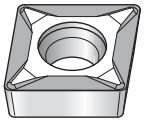
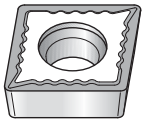
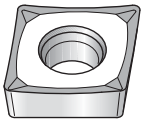
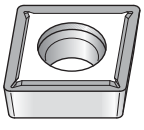


KENLOC™ Inserts

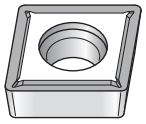
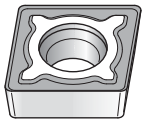
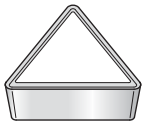
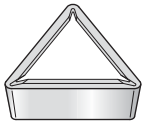
operation	insert style application	insert geometry	profile	feed rate – mm: 0,04 0,063 0,01 0,16 0,25 0,4 0,63 1,0 1,6 2,5 5,0 / depth-of-cut – mm: 0,1 0,16 0,25 0,4 0,63 1,0 1,6 2,5 4,0 6,3 10,0
medium machining ▼▼	-MS (single-sided)			0,2–0,4 (.006–.015); 0,6–2,3 (.025–.090)
roughing ▼	MG-RP			0,2–0,6 (.008–.025); 1,1–6,4 (.045–.250)
roughing ▼	MG-RN			0,3–.025 (.010–.025); 1,1–6,4 (.045–.250)
heavy roughing	MG			0,3–0,8 (.012–.030); 1,1–5,7 (.045–.225)
medium machining ▼▼	MG-UN			0,2–0,5 (.008–.020); 0,8–3,8 (.030–.150)
heavy roughing ▼	MM-RM (single-sided)			0,3–1,0 (.010–.040); 1,3–12,7 (.050–.500)

feed rate – (inches): .0015 .0025 .004 .006 .010 .016 .025 .040 .060 .100 .200

depth-of-cut – (inches): .004 .006 .010 .016 .025 .040 .060 .100 .160 .250 .500

	operation	insert style application	insert geometry	profile	feed rate – mm: 0,04 0,063 0,01 0,16 0,25 0,4 0,63 1,0 1,6 2,5 4,0 5,0 / depth-of-cut – mm: 0,1 0,16 0,25 0,4 0,63 1,0 1,6 2,5 4,0 6,3 10,0
KENLOC™ Inserts	heavy roughing ▼	**MM-RP**		0°	0,2–1,0 (.008–.030); 1,3–10,0 (.050–.400)
KENLOC™ Inserts	heavy roughing ▼	**MM-RH** (single-sided)		20°	0,4–1,3 (.015–.050); 1,3–12,7 (.050–.500)
SCREW-ON Inserts	wiper, finishing	**MT-FW**		5°	0,1–0,3 (.003–.013); 0,2–1,5 (.008–.060)
SCREW-ON Inserts	wiper, medium finishing	**MT-MW**		0°	0,1–0,5 (.005–.020); 0,4–3,3 (.016–.130)
SCREW-ON Inserts	fine finishing ▼▼▼▼	**__GM** precision ground		5°	0,1–0,2 (.002–.008); 0,2–1,0 (.008–.040)
SCREW-ON Inserts	fine finishing ▼▼▼▼	**MT-11**		5°	0,1–0,3 (.003–.010); 0,2–1,3 (.008–.050)
SCREW-ON Inserts	fine finishing ▼▼▼▼	**MT-UF**		5°	0,1–0,3 (.002–.010); 0,1–1,3 (.005–.050)
SCREW-ON Inserts	finishing ▼▼▼	**GT-HP** precision ground		15°	0,2–0,4 (.007–.015); 0,6–2,3 (.025–.090)
SCREW-ON Inserts	finishing ▼▼▼	**GT-LF** precision ground		5°	0,2–0,4 (.007–.015); 0,8–2,3 (.030–.090)

feed rate – (inches): .0015 .0025 .004 .006 .010 .016 .025 .040 .060 .100 .200
depth-of-cut – (inches): .004 .006 .010 .016 .025 .040 .060 .100 .160 .250 .500

	operation	insert style application	insert geometry	profile	feed rate – mm / depth-of-cut – mm
SCREW-ON Inserts	finishing ▼▼▼	MT-LF			0,2–0,4 (.007–.015); 0,8–2,3 (.030–.090)
	medium machining ▼▼	MT-MF			0,2–0,4 (.009–.017); 1,1–2,3 (.045–.090)
KENDEX™ Positive Inserts	finishing ▼▼▼	_ _GF precision ground			0,1–0,3 (.003–.012); .010–.060 (0,3–1,5)
	medium machining ▼▼	_ _MR			0,2–0,6 (.008–.022); 1,1–3,6 (.045–.140)

feed rate – mm: 0,04 | 0,063 | 0,01 | 0,16 | 0,25 | 0,4 | 0,63 | 1,0 | 1,6 | 2,5 | 5,0

depth-of-cut – mm: 0,1 | 0,16 | 0,25 | 0,4 | 0,63 | 1,0 | 1,6 | 2,5 | 4,0 | 6,3 | 10,0

feed rate – (inches): .0015 | .0025 | .004 | .006 | .010 | .016 | .025 | .040 | .060 | .100 | .200

depth-of-cut – (inches): .004 | .006 | .010 | .016 | .025 | .040 | .060 | .100 | .160 | .250 | .500

Insert Identification System

symbol shape	insert	shape	nose angle (degree)
S		square	90
T		triangular	60
C		rhombic (diamond)	80
D			55
E			75
F			50
M			86
V			35
W		trigon	80
H		hexagonal	120
O		octagonal	135
P		pentagonal	108
L		rectangular	90
A		parallelogram shaped	85
B			82
N/K			55
R		round	–

symbol	hole	shape of hole	chipbreaker	shape of inserts section	alternate symbols: ordinary system	alternate symbols: "D" less than 1/4"*
N	without		without		N	E
R			single-sided		R	
F			double-sided		F	
A	with	cylindrical hole	without		A	D
M,P,S			single-sided		M	
G,P,Z			double-sided		G	
W		partly cylindrical hole, 40-60° countersink	without		A	
T			single-sided		M	
Q		partly cylindrical hole, 40-60° double countersink	without		A	
U			double-sided		G	
B		partly cylindrical hole, 70-90° countersink	without		A	
H			single-sided		M	
C		partly cylindrical hole, 70-90°double countersink	without		A	
J			double-sided		G	
X	special				X	X
	*Inch system only.					

Example:

INCH: C N M G 4

METRIC: C N M G 12

1. Shape
2. Relief Angle
3. Tolerance
4. Insert Type
5. Size

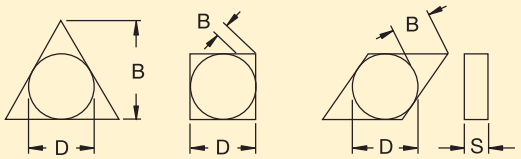
N	–	0°
A	–	3°
B	–	5°
C	–	7°
P	–	11°
D	–	15°
E	–	20°
F	–	25°
G	–	30°

tolerances: apply prior to edge prep and coating

D: theoretical diameter of the insert inscribed circle

S: thickness

B: See figures below.



tolerance class	tolerance on "D"		tolerance on "B"		tolerance on "S"	
	inch	mm	inch	mm	inch	mm
C	±.0010	±0,025	±0005	±0,013	±.001	±0,025
H	±.0005	±0,013	±0005	±0,013	±.001	±0,025
E	±.0010	±0,025	±0010	±0,025	±.001	±0,025
G	±.0010	±.0,025	±0010	±0,025	±.005	±0,13
M	See tables at right.				±.005	±0,13
U	See tables at right.				±.005	±0,13

inch	"D"		Code for meric cutting edge length "L10"						
	inch	mm	C	D	R	S	T	V	W
1.2 (5)	5.32	3,97	S4	04	03	03	06	–	–
1.5 (6)	3/16	4,76	04	05	04	04	08	08	S3
1.8 (7)	7/32	5,56	05	06	05	05	09	09	03
–	.236	6,00	–	–	06	–	–	–	–
2	1/4	6,35	06	07	06	06	11	11	04
2.5	5/16	7,94	08	09	07	07	13	13	05
–	.315	8,00	–	–	08	–	–	–	–
3	3/8	9,52	09	11	09	09	16	16	06
–	.394	10,00	–	–	10	–	–	–	–
3.5	7/16	11,11	11	13	11	11	19	19	07
–	.472	12,00	–	–	12	–	–	–	–
4	1/2	12,70	12	15	12	12	22	22	08
4.5	9/16	14,29	14	17	14	14	24	24	09
5	5/8	15,88	16	19	15	15	27	27	10
–	.630	16,00	–	–	16	–	–	–	–
5.5	11/16	17,46	17	21	17	17	30	30	11
6	3/4	19,05	19	23	19	19	33	33	13
–	.787	20,00	–	–	20	–	–	–	–
7	7/8	22,22	22	27	22	22	38	38	15
–	.984	25,00	–	–	25	–	–	–	–
8	1	25,40	25	31	25	25	44	44	17
10	1 1/4	31,75	32	38	31	31	54	54	21
–	1.260	32,00	–	–	32	–	–	–	–

NOTE: Inch sizes in parenthesis for "alternate symbols" D or E (under 1/4" "D").

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

symbol		thickness	
inch	mm	inch	mm
.5 (1)	–	1/32	0,79
.6	T0	.040	1,00
1 (2)	01	1/16	1,59
1.2	T1	5.64	1,98
1.5 (3)	02	3/32	2,38
2	03	1/8	3,18
2.5	T3	5/32	3,97
3	04	3/16	4,76
3.5	05	7/32	5,56
4	06	1/4	6,35
5	07	5/16	7,94
6	09	3/8	9,52
7	11	7/16	11,11
8	12	1/2	12,70

NOTE: Inch sides in parentheses for "alternative symbols" D or E (under 1/4" "D").

"D"		± Tolerance on "D"							
		Class M-Tolerance				Class U-Tolerance			
		Shapes S, T, C, R & W		Shape D		Shape V		Shapes S, T & C	
inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
5/32	3,97	.002	0,05	–	–	–	–	–	–
3/16	4,76			–	–	–	–	.003	0,06
7/32	5,56			.002	0,05	.002	0,05		
1/4	6,35								
5/16	7,94								
3/8	9,52								
7/16	11,11	.003	0,06	.003	0,06	.003	0,06	.005	0,13
1/2	12,70								
9/16	14,29								
5/8	15,88	.004	0,10	.004	0,10	.004	0,10	.007	0,18
11/16	17,46								
3/4	19,05								
7/8	22,22	.005	0,13	–	–	–	–	.010	0,25
1	25,40			–	–	–	–		
1 1/4	31,75	.006	0,15	–	–	–	–		

"D"		± Tolerance on "B"							
		Class M-Tolerance				Class U-Tolerance			
		Shapes S, T, C, R & W		Shape D		Shape V		Shapes S, T & C	
inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
5/32	3,97	.003	0,06	–	–	–	–	–	–
3/16	4,76			–	–	–	–	.005	0,13
7/32	5,56			.004	0,11	–	–		
1/4	6,35					–	–		
5/16	7,94					–	–		
3/8	9,52					.007	0,18		
7/16	11,11	.005	0,13	.006	0,15	–	–	–	–
1/2	12,70					.010	0,25	.008	0,20
9/16	14,29					–	–	–	–
5/8	15,88	.006	0,15	.007	0,18	–	–	.011	0,27
11/16	17,46					–	–		
3/4	19,05					–	–		
7/8	22,22	.007	0,18	–	–	–	–	.015	0,38
1	25,40			–	–	–	–		
1 1/4	31,75	.008	0,20	–	–	–	–		

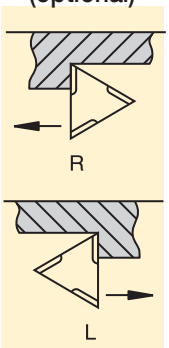
6. Thickness "S"

3. Tolerance Explanation

7. Corner Radius "Rε"

symbol		corner radius	
inch	mm	inch	mm
X0	X0	.0015	.04
0	01	.004	0,1
.5	02	.008	0,2
1	04	1/64	0,4
2	08	1/32	0,8
3	12	3/64	1,2
4	16	1/16	1,6
5	20	5/64	2,0
6	24	3/32	2,4
7	28	7/64	2,8
8	32	1/8	3,2
–	00	round insert (inch)	
–	M0	round insert (mm)	

8. Hand of Insert (optional)



9./10. Cutting Edge Condition or Chip Control Features (optional)

F	sharp
FF	fine finishing
FN	finishing
MN	medium negative
RN	roughing negative
UN	universal medium
FP	finishing positive
MP	medium positive
RP	roughing positive
RM	roughing medium
RH	roughing heavy
FW	finishing wiper
MW	medium wiper
FS	finishing sharp
MS	medium sharp
RW	roughing wiper
HP	high-positive
UP	universal positive
K	light-feed chip control
UF	ultra-fine finishing
LF	light finishing
MF	medium finishing
E	hone only
T	negative land
S	negative land plus hone
MP-K	medium-positive
MG-P	medium-positive

14./15. T-Land Angle (optional)

symbol	size
10	10°
15	15°
20	20°
25	25°
30	30°

16. Tip Style (optional)

symbol	usage
D	two-sided mini tip
M	mini tip
MT	multi tip

11./12./13. T-Land Width (optional)

symbol		size	
ANSI	ISO	inch	mm
04	010	.004	0,01
08	020	.008	0,02

KENNAMETAL®

Inserts

Table of Contents

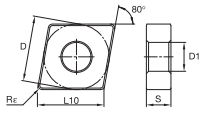
Inserts.....A1–A133

KENLOC™ Inserts A2–A73

KENDEX™ Inserts A74–A99
KENDEX Negative A74–A89
KENDEX Positive A90–A99

Screw-ON Inserts A100–A133

KENLOC™ Inserts



CNGA-E/F

(ST)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNGA120404E	CNGA431E	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGA120404FST	CNGA431FST	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGA120408E	CNGA432E	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408FST	CNGA432FST	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203

CNGA-FW/MW

(MT)

CNGA120404EFWMT	CNGA431EFWMT	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,15	.203
CNGA120404S01025FWMT	CNGA431S0425FWMT	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,15	.203
CNGA120408EFWMT	CNGA432EFWMT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408S01020FWMT	CNGA432S0420FWMT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408S01020MWMT	CNGA432S0420MWMT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408S01025FWMT	CNGA432S0425FWMT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120412EFWMT	CNGA433EFWMT	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120412S01020FWMT	CNGA433S0420FWMT	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120412S01020MWMT	CNGA433S0420MWMT	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNGA

(ST)

CNGA120404S01025ST	CNGA431S0425ST	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGA120408S01025ST	CNGA432S0425ST	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120412S01025ST	CNGA433S0425ST	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNGA

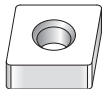
(MT)

CNGA120404EMT	CNGA431EMT	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGA120404S01020MT	CNGA431S0420MT	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGA120404S01025MT	CNGA431S0425MT	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGA120408EMT	CNGA432EMT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408S01020MT	CNGA432S0420MT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408S01025MT	CNGA432S0425MT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408S02020MT	CNGA432S0820MT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120412EMT	CNGA433EMT	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120412S01025MT	CNGA433S0425MT	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120412T02020MT	CNGA433T0820MT	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120416S01020MT	CNGA434S0420MT	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203

CNMA-MW

CNMA120408S02020MW	CNMA432S0820MW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMA120412S02020MW	CNMA433S0820MW	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNMA



CNMA120408S01025	CNMA432S0425	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMA120408S02020	CNMA432S0820	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMA120412S02020	CNMA433S0820	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMA120416S02020	CNMA434S0820	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203

CNMS-E / F

(ST)

CNMS120404FST	CNMS431FST	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMS120408E	CNMS432E	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMS120408FST	CNMS432FST	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203

Order example:
ISO catalog number: CNMS120404FST
Insert grade: KD1400

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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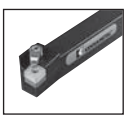
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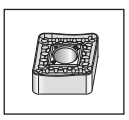
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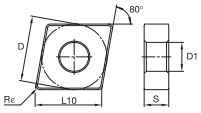
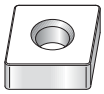
KENLOC™ Inserts



CNGA



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNGA120404E	CNGA431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGA120404T02020	CNGA431T0820	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGA120408E	CNGA432E	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408T00520	CNGA432T0220	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408T01020	CNGA432T0420	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408T02020	CNGA432T0820	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120412E	CNGA433	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120412E	CNGA433E	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120412T01020	CNGA433T0420	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120412T02020	CNGA433T0820	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120416E	CNGA434E	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNGA120416T01020	CNGA434T0420	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNGA120416T02020	CNGA434T0820	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNGA160608T02020	CNGA542T0820	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNGA160612T01020	CNGA543T0420	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNGA160612T02020	CNGA543T0820	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNGA160616T02020	CNGA544T0820	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNGA190608T02020	CNGA642T0820	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.312
CNGA190612T01020	CNGA643T0420	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.312
CNGA190612T02020	CNGA643T0820	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNGA190616T01020	CNGA644T0420	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313
CNGA190616T02020	CNGA644T0820	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313

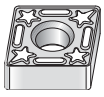
CNGA-FW

CNGA120404EFW	CNGA431FW	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,15	.203
CNGA120408EFW	CNGA432FW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120408T01020FW	CNGA432T0420FW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGA120412EFW	CNGA433FW	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120412T01020FW	CNGA433T0420FW	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGA120416T01020FW	CNGA434T0420FW	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203

CNGG-FS

CNGG120401FS	CNGG430FS	12,70	1/2	12,90	.508	4,76	3/16	0,1	.004	5,16	.203
CNGG120402FS	CNGG4305FS	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,16	.203
CNGG120404FS	CNGG431FS	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGG120408FS	CNGG432FS	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGG120412FS	CNGG433FS	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNGG-LF



CNGG120401LF	CNGG430LF	12,70	1/2	12,90	.508	4,76	3/16	0,1	.004	5,16	.203
CNGG120402LF	CNGG4305LF	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,16	.203
CNGG120404LF	CNGG431LF	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNGG120408LF	CNGG432LF	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNGG120412LF	CNGG433LF	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNGG160608LF	CNGG542LF	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNGG160612LF	CNGG543LF	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250

Order example:
ISO catalog number: CNGG120402LF
Insert grade: K313

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

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ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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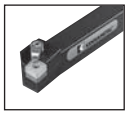
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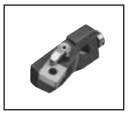
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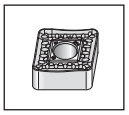
24-31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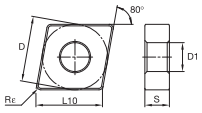

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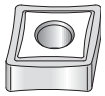
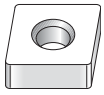


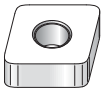
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNGP120401	CNGP430	12,70	1/2	12,90	.508	4,76	3/16	0,1	.004	5,2	.203
CNGP120402	CNGP4305	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,2	.203
CNGP120404	CNGP431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,2	.203
CNGP120408	CNGP432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,2	.203
CNGP120412	CNGP433	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,2	.203
CNGP120416	CNGP434	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,2	.203

CNMA



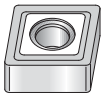
CNMA120404	CNMA431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMA120408	CNMA432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMA120408S01025	CNMA432S0425	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMA120408S02020	CNMA432S0820	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMA120408T02020	CNMA432T0820	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMA120412	CNMA433	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMA120412S02020	CNMA433S0820	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMA120412T02020	CNMA433T0820	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMA120416	CNMA434	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMA120416S02020	CNMA434S0820	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMA120416T02020	CNMA434T0820	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMA160608	CNMA542	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMA160612	CNMA543	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMA160612T02020	CNMA543T0820	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMA160616	CNMA544	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMA160616T02020	CNMA544T0820	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMA190608	CNMA642	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMA190612	CNMA643	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMA190616	CNMA644	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313

CNMA-MW



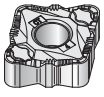
CNMA120408S02020MW	CNMA432S0820MW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMA120412S02020MW	CNMA433S0820MW	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNMG



CNMG160612	CNMG543	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMG190608	CNMG642	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMG190612	CNMG643	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMG190616	CNMG644	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313
CNMG250924	CNMG866	25,40	1	25,79	1.015	9,53	3/8	2,4	3/32	9,12	.359

CNMG-CT



CNMG120408CT	CNMG432CT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412CT	CNMG433CT	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416CT	CNMG434CT	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203

Order example:
ISO catalog number: CNMG120408CT
Insert grade: KC9225

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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CNGP120402									●																		●																		
CNGP120404									●																	●	●				●	●												
CNGP120408									●																	●	●				●	●												
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CNGP120416									●																	●	●				●													
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CNMA120408S02020																									●																		
CNMA120408T02020																				●		●																					
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CNMA160608																	●	●	●																									
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CNMA160616																	●	●	●																									
CNMA160616T02020																						●																					
CNMA190608																	●		●																									
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CNMA190616																	●	●	●													●												
CNMA120408S02020MW																									●																		
CNMA120412S02020MW																									●																		
CNMG160612						●																									●												
CNMG190608						●																									●												
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CNMG190616									●																																		
CNMG250924					●	●			●																																		
CNMG120408CT				●	●				●			●		●			●																										
CNMG120412CT				●	●				●			●		●																													
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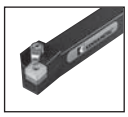
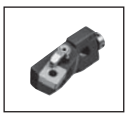

B6-B34

B72-B80

B106-B109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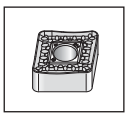
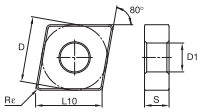
8-23

24-31


33-39

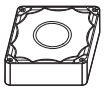
KENLOC™ Inserts



CNMG-FF

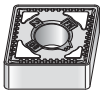
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMG090304FF	CNMG321FF	9,53	3/8	9,67	.381	3,18	1/8	0,4	1/64	3,81	.150
CNMG090308FF	CNMG322FF	9,53	3/8	9,67	.381	3,18	1/8	0,8	1/32	3,81	.150
CNMG120404FF	CNMG431FF	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408FF	CNMG432FF	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203

CNMG-FH



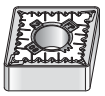
CNMG120402FH	CNMG4305FH	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,16	.203
CNMG120404FH	CNMG431FH	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408FH	CNMG432FH	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203

CNMG-FN



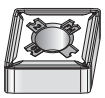
CNMG090304FN	CNMG321FN	9,53	3/8	9,67	.381	3,18	1/8	0,4	1/64	3,81	.150
CNMG090308FN	CNMG322FN	9,53	3/8	9,67	.381	3,18	1/8	0,8	1/32	3,81	.150
CNMG120404FN	CNMG431FN	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408FN	CNMG432FN	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412FN	CNMG433FN	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416FN	CNMG434FN	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203

CNMG-FP



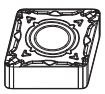
CNMG120404FP	CNMG431FP	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408FP	CNMG432FP	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412FP	CNMG433FP	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNMG-FW



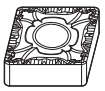
CNMG120404FW	CNMG431FW	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408FW	CNMG432FW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412FW	CNMG433FW	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNMG-FW1



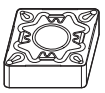
CNMG120404FW1	CNMG431FW1	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408FW1	CNMG432FW1	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203

CNMG-FX



CNMG120404FX	CNMG431FX	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408FX	CNMG432FX	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203

CNMG-MH



CNMG120404MH	CNMG431MH	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408MH	CNMG432MH	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203

Order example:
ISO catalog number: CNMG120404MH
Insert grade: KT1120

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S							H									
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
CNMG090304FF		●		●			●		●			●				●																														
CNMG090308FF				●					●			●																																		
CNMG120404FF		●	●	●			●		●			●				●																														
CNMG120408FF		●	●	●			●		●			●				●																														
CNMG120402FH	●							●																																					
CNMG120404FH	●							●																																					
CNMG120408FH	●							●																																					
CNMG090304FN		●		●	●		●									●	●																												
CNMG090308FN		●		●	●		●									●	●																												
CNMG120404FN		●	●	●	●		●									●	●																												
CNMG120408FN		●	●	●	●		●									●	●																												
CNMG120412FN		●	●	●	●		●									●	●																												
CNMG120416FN		●		●	●		●									●	●																												
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CNMG120412FP								●				●																																	
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CNMG120412FW		●	●	●			●		●			●				●	●																												
CNMG120404FW1	●							●																																					
CNMG120408FW1	●							●																																					
CNMG120404FX								●																																					
CNMG120408FX								●																																					
CNMG120404MH	●							●																																					
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B6-B34

B72-B80

B106-B109

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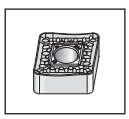
8-23

24-31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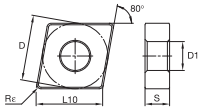
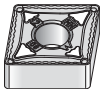
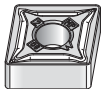


CNMG-MN



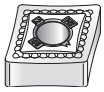
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMG090304MN	CNMG321MN	9,53	3/8	9,67	.381	3,18	1/8	0,4	1/64	3,81	.150
CNMG090308MN	CNMG322MN	9,53	3/8	9,67	.381	3,18	1/8	0,8	1/32	3,81	.150
CNMG090312MN	CNMG323MN	9,53	3/8	9,67	.381	3,18	1/8	1,2	3/64	3,81	.150
CNMG120404MN	CNMG431MN	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408MN	CNMG432MN	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412MN	CNMG433MN	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416MN	CNMG434MN	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMG160608MN	CNMG542MN	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMG160612MN	CNMG543MN	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMG160616MN	CNMG544MN	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMG190608MN	CNMG642MN	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMG190612MN	CNMG643MN	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMG190616MN	CNMG644MN	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313
CNMG190624MN	CNMG646MN	19,05	3/4	19,34	.762	6,35	1/4	2,4	3/32	7,93	.313

CNMG-MP



CNMG090308MP	CNMG322MP	9,53	3/8	9,67	.381	3,18	1/8	0,8	1/32	3,81	.150
CNMG120404MP	CNMG431MP	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408MP	CNMG432MP	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412MP	CNMG433MP	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416MP	CNMG434MP	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMG160608MP	CNMG542MP	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMG160612MP	CNMG543MP	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMG160616MP	CNMG544MP	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMG190608MP	CNMG642MP	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMG190612MP	CNMG643MP	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMG190616MP	CNMG644MP	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313

CNMG-MS



CNMG120401MS	CNMG430MS	12,70	1/2	12,90	.508	4,76	3/16	0,1	.004	5,16	.203
CNMG120402MS	CNMG4305MS	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,16	.203
CNMG120404MS	CNMG431MS	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408MS	CNMG432MS	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412MS	CNMG433MS	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416MS	CNMG434MS	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMG160608MS	CNMG542MS	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMG160612MS	CNMG543MS	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMG190608MS	CNMG642MS	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMG190612MS	CNMG643MS	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMG190616MS	CNMG644MS	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313

Order example:
ISO catalog number: CNMG120402MS
Insert grade: KC5510

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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CNMG090308MN				●	●	●																																							
CNMG090312MN				●	●	●																																							
CNMG120404MN			●	●	●	●																																							
CNMG120408MN			●	●	●	●																																							
CNMG120412MN			●	●	●	●																																							
CNMG120416MN			●	●	●	●																																							
CNMG160608MN				●	●	●																																							
CNMG160612MN			●	●	●	●																																							
CNMG160616MN			●	●	●	●																																							
CNMG190608MN				●	●	●																																							
CNMG190612MN				●	●	●																																							
CNMG190616MN				●	●	●																																							
CNMG190624MN				●	●	●																																							
CNMG090308MP									●			●		●																															
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CNMG120408MP									●	●		●		●	●																															
CNMG120412MP									●	●		●		●	●																															
CNMG120416MP									●			●			●																															
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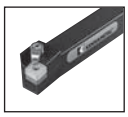
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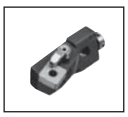
B72-B80

B106-B109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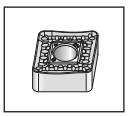
8-23

24-31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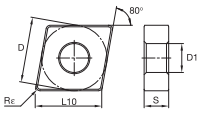
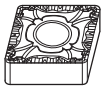
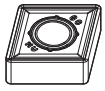


CNMG-MS1



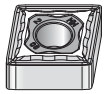
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMG120404MS1	CNMG431MS1	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408MS1	CNMG432MS1	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412MS1	CNMG433MS1	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416MS1	CNMG434MS1	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203

CNMG-MU1



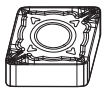
CNMG120404MU1	CNMG431MU1	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408MU1	CNMG432MU1	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412MU1	CNMG433MU1	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNMG-MW



CNMG120408MW	CNMG432MW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412MW	CNMG433MW	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNMG-MW1



CNMG120404MW1	CNMG431MW1	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408MW1	CNMG432MW1	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412MW1	CNMG433MW1	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

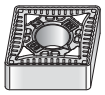
CNMG-MX

CNMG120404MX	CNMG431MX	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408MX	CNMG432MX	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203

CNMG-P

CNMG120404P	CNMG431P	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408P	CNMG432P	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412P	CNMG433P	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416P	CNMG434P	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMG160608P	CNMG542P	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMG160612P	CNMG543P	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMG160616P	CNMG544P	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMG190612P	CNMG643P	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMG190616P	CNMG644P	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313

CNMG-RN



CNMG120408RN	CNMG432RN	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412RN	CNMG433RN	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416RN	CNMG434RN	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMG160608RN	CNMG542RN	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMG160612RN	CNMG543RN	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMG160616RN	CNMG544RN	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMG190608RN	CNMG642RN	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMG190612RN	CNMG643RN	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMG190616RN	CNMG644RN	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313
CNMG190624RN	CNMG646RN	19,05	3/4	19,34	.762	6,35	1/4	2,4	3/32	7,93	.313

Order example:
ISO catalog number: CNMG120408RN
Insert grade: KC9140

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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CNMG120408MS1											●		●																															
CNMG120412MS1											●		●																															
CNMG120416MS1											●		●																															
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CNMG120408MU1											●		●																															
CNMG120412MU1											●		●																															
CNMG120408MW			●	●	●							●		●			●		●																									
CNMG120412MW			●	●	●							●		●			●		●																									
CNMG120404MW1																																												
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CNMG120412MW1	●																																											
CNMG120404MX	●							●																																				
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CNMG120416P									●				●													●					●													
CNMG160608P												●	●																															
CNMG160612P												●	●																															
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CNMG120412RN			●	●	●	●																																					
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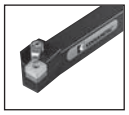
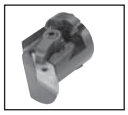
CNMG190624RN				●	●	●																																					


B6–B34

B72–B80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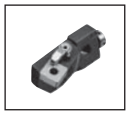
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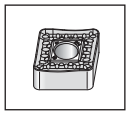
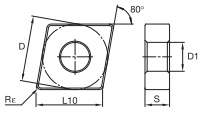
8–23

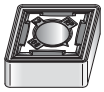
24–31


33-39

KENLOC™ Inserts

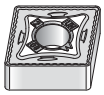


CNMG-RP



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMG120404RP	CNMG431RP	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408RP	CNMG432RP	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412RP	CNMG433RP	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416RP	CNMG434RP	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMG160608RP	CNMG542RP	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMG160612RP	CNMG543RP	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMG160616RP	CNMG544RP	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMG190612RP	CNMG643RP	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMG190616RP	CNMG644RP	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313

CNMG-UN



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMG120404UN	CNMG431UN	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408UN	CNMG432UN	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412UN	CNMG433UN	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG120416UN	CNMG434UN	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMG160608UN	CNMG542UN	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMG160612UN	CNMG543UN	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMG160616UN	CNMG544UN	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMG190608UN	CNMG642UN	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMG190612UN	CNMG643UN	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMG190616UN	CNMG644UN	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313

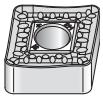
CNMG-UP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMG120404UP	CNMG431UP	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMG120408UP	CNMG432UP	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMG120412UP	CNMG433UP	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMG160608UP	CNMG542UP	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMG160612UP	CNMG543UP	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMG190608UP	CNMG642UP	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMG190612UP	CNMG643UP	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMG190616UP	CNMG644UP	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313

CNMM-RH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMM190612RH	CNMM643RH	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMM190616RH	CNMM644RH	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313
CNMM190624RH	CNMM646RH	19,05	3/4	19,34	.762	6,35	1/4	2,4	3/32	7,93	.313
CNMM250924RH	CNMM866RH	25,40	1	25,79	1.015	9,53	3/8	2,4	3/32	9,12	.359

CNMM-RM



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMM120408RM	CNMM432RM	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMM120412RM	CNMM433RM	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMM120416RM	CNMM434RM	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMM160612RM	CNMM543RM	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMM160616RM	CNMM544RM	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMM160624RM	CNMM546RM	15,88	5/8	16,12	.635	6,35	1/4	2,4	3/32	6,35	.250
CNMM190612RM	CNMM643RM	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMM190616RM	CNMM644RM	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313
CNMM190624RM	CNMM646RM	19,05	3/4	19,34	.762	6,35	1/4	2,4	3/32	7,93	.313
CNMM250924RM	CNMM866RM	25,40	1	25,79	1.015	9,53	3/8	2,4	3/32	9,12	.359

Order example:
ISO catalog number: CNMM120408RM
Insert grade: KC9125

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K								N				S						H							
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
CNMG120404RP				●	●				●			●		●	●		●															●	●								
CNMG120408RP			●	●	●	●			●	●		●		●	●		●	●	●													●	●								
CNMG120412RP			●	●	●	●			●	●		●		●	●		●	●	●													●	●								
CNMG120416RP			●	●	●				●			●		●	●		●	●	●													●	●								
CNMG160608RP				●	●				●			●			●		●		●													●	●								
CNMG160612RP			●	●	●	●			●	●		●		●	●		●	●	●													●	●								
CNMG160616RP			●	●	●				●			●		●	●		●		●														●								
CNMG190612RP			●	●	●	●			●	●		●		●	●		●	●	●													●	●								
CNMG190616RP			●	●	●	●			●			●		●	●		●		●													●	●								
CNMG120404UN																	●	●	●																						
CNMG120408UN																	●	●	●																						
CNMG120412UN																	●	●	●																						
CNMG120416UN																	●	●	●																						
CNMG160608UN																	●	●	●																						
CNMG160612UN																	●	●	●																						
CNMG160616UN																	●	●	●																						
CNMG190608UN																	●	●	●																						
CNMG190612UN																	●	●	●																						
CNMG190616UN																	●	●	●																						
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CNMG120408UP									●			●		●																										
CNMG120412UP									●			●		●																										
CNMG160608UP									●			●		●																										
CNMG160612UP									●			●		●																										
CNMG190608UP												●		●																										
CNMG190612UP												●		●																										
CNMG190616UP												●		●																										
CNMM190612RH				●	●	●																																	
CNMM190616RH				●	●	●																																	
CNMM190624RH			●	●	●	●																																	
CNMM250924RH				●	●	●																																	
CNMM120408RM				●	●																																		
CNMM120412RM				●	●																																		
CNMM120416RM				●	●																																		
CNMM160612RM				●	●																																		
CNMM160616RM				●	●																																		
CNMM160624RM				●	●																																		
CNMM190612RM				●	●																																		
CNMM190616RM				●	●																																		
CNMM190624RM			●	●	●																																		
CNMM250924RM				●	●																																		

B6–B34

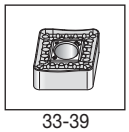
B72–B80

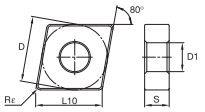
B106–B109

B114–B130

8–23

24–31


33-39



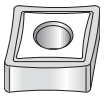
CNMM-RP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMM120408RP	CNMM432RP	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMM120412RP	CNMM433RP	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMM120416RP	CNMM434RP	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203
CNMM160608RP	CNMM542RP	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMM160612RP	CNMM543RP	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMM160616RP	CNMM544RP	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250
CNMM190612RP	CNMM643RP	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMM190616RP	CNMM644RP	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313
CNMM190624RP	CNMM646RP	19,05	3/4	19,34	.762	6,35	1/4	2,4	3/32	7,93	.313
CNMM250924RP	CNMM866RP	25,40	1	25,79	1.015	9,53	3/8	2,4	3/32	9,13	.359

CNMM-RW

CNMM190624RW	CNMM646RW	19,05	3/4	19,34	.762	6,35	1/4	2,4	3/32	7,93	.313
CNMM250924RW	CNMM866RW	25,40	1	25,79	1.015	9,53	3/8	2,4	3/32	9,12	.359

CNMP

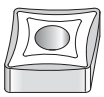


CNMP120404	CNMP431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMP120408	CNMP432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMP120412	CNMP433	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMP160608	CNMP542	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMP160612	CNMP543	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMP190608	CNMP642	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMP190612	CNMP643	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313

CNMP-K

CNMP120404K	CNMP431K	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMP120408K	CNMP432K	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMP120412K	CNMP433K	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203

CNMS



CNMS120408	CNMS432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMS160608	CNMS542	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMS190608	CNMS642	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313
CNMS190612	CNMS643	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313

Order example:
ISO catalog number: CNMS120408
Insert grade: KC5410

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
CNMM120408RP			●	●	●							●		●																														
CNMM120412RP			●	●	●							●		●																														
CNMM120416RP			●	●	●							●																																
CNMM160608RP				●	●									●																														
CNMM160612RP			●	●	●							●		●																														
CNMM160616RP			●	●	●							●		●																														
CNMM190612RP			●	●	●							●		●																														
CNMM190616RP			●	●	●							●		●																														
CNMM190624RP			●	●	●									●																														
CNMM250924RP					●																																							
CNMM190624RW				●	●																																						
CNMM250924RW				●	●																																						
CNMP120404																										●	●				●	●													
CNMP120408						●																				●	●				●	●													
CNMP120412																															●													
CNMP160608						●																									●													
CNMP160612						●																					●				●													
CNMP190608						●																									●													
CNMP190612																										●	●				●	●													
CNMP120404K				●	●																																						
CNMP120408K				●	●	●																																						
CNMP120412K				●	●																																						
CNMS120408																											●				●													
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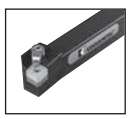
CNMS190612																															●													


B6–B34

B72–B80

B106–B109

B114–B130

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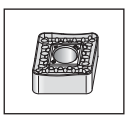
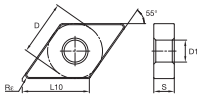
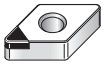
24–31


33-39

KENLOC™ Inserts

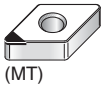


DNGA- E/F


(ST)

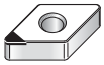
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNGA150404E	DNGA431E	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150404FST	DNGA431FST	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150408E	DNGA432E	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150408FST	DNGA432FST	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203

DNGA-FW/MW


(MT)

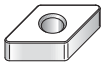
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNGA150404EFWMT	DNGA431EFWMT	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150408EFWMT	DNGA432EFWMT	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150408S01020MWMT	DNGA432S0420MWMT	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150412EFWMT	DNGA433EFWMT	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNGA150608S01020FWMT	DNGA442S0420FWMT	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203

DNGA


(MT)

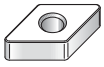
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNGA150404EMT	DNGA431EMT	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150404S01020MT	DNGA431S0420MT	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150404S01025MT	DNGA431S0425MT	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150408EMT	DNGA432EMT	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150408S01020MT	DNGA432S0420MT	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150408S01025MT	DNGA432S0425MT	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150412EMT	DNGA433EMT	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNGA150412S01020MT	DNGA433S0420MT	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNGA150412S01025MT	DNGA433S0425MT	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNGA150608S01020MT	DNGA442S0420MT	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203

DNMA


(MW)

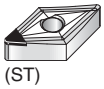
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNMA110408S02020MW	DNMA332S0820MW	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150

DNMA



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNMA110408S02020	DNMA332S0820	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMA110412S02020	DNMA333S0820	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150

DNMS-E/F


(ST)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNMS150404FST	DNMS431FST	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMS150408E	DNMS432E	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMS150408FST	DNMS432FST	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203

Order example:
ISO catalog number: DNMS150404FST
Insert grade: KD1425

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
DNGA150404E																												●																
DNGA150404FST																												●		●														
DNGA150408E																												●																
DNGA150408FST																												●		●														
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DNGA150408EFWMT																																									●	●	
DNGA150408S01020MWMT																																										●	
DNGA150412EFWMT																																									●		
DNGA150608S01020FWMT																																										●	
DNGA150404EMT																																										●	
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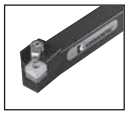
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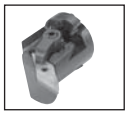
B72–B80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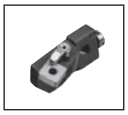
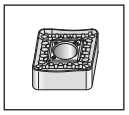

B114–B130

8–23

24–31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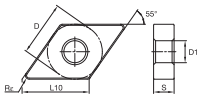
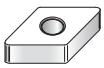
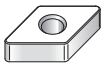


DNGA-FW



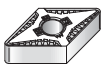
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNGA150404EFW	DNGA431FW	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150408EFW	DNGA432FW	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150412EFW	DNGA433FW	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203

DNGA



DNGA150404E	DNGA431	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150404T01020	DNGA431T0420	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150404T02020	DNGA431T0820	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGA150408E	DNGA432	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150408T01020	DNGA432T0420	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150408T02020	DNGA432T0820	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGA150412T01020	DNGA433T0420	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNGA150412T02020	DNGA433T0820	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNGA150416T01020	DNGA434T0420	12,70	1/2	15,50	.610	4,76	3/16	1,6	1/16	5,16	.203
DNGA150416T02020	DNGA434T0820	12,70	1/2	15,50	.610	4,76	3/16	1,6	1/16	5,16	.203
DNGA150604T02020	DNGA441T0820	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNGA150608T01020	DNGA442T0420	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNGA150608T02020	DNGA442T0820	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNGA150612T01020	DNGA443T0420	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNGA150612T02020	DNGA443T0820	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNGA150616T01020	DNGA444T0420	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203
DNGA150616T02020	DNGA444T0820	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203
DNGA190608T02020	DNGA542T0820	15,88	5/8	19,38	.763	6,35	1/4	0,8	1/32	6,35	.250
DNGA190612T02020	DNGA543T0820	15,88	5/8	19,38	.763	6,35	1/4	1,2	3/64	6,35	.250
DNGA190616T02020	DNGA544T0820	15,88	5/8	19,38	.763	6,35	1/4	1,6	1/16	6,35	.250

DNGG-FS



DNGG110402FS	DNGG3305FS	9,52	3/8	11,63	.458	4,76	3/16	0,2	.008	3,81	.150
DNGG110404FS	DNGG331FS	9,52	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150
DNGG110408FS	DNGG332FS	9,52	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNGG150401FS	DNGG430FS	12,70	1/2	15,50	.610	4,76	3/16	0,1	.004	5,16	.203
DNGG150402FS	DNGG4305FS	12,70	1/2	15,50	.610	4,76	3/16	0,2	.008	5,16	.203
DNGG150404FS	DNGG431FS	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGG150408FS	DNGG432FS	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGG150412FS	DNGG433FS	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNGG150416FS	DNGG434FS	12,70	1/2	15,50	.610	4,76	3/16	1,6	1/16	5,16	.203
DNGG150604FS	DNGG441FS	12,70	1/2	15,50	.610	6,35	1/2	0,4	1/64	5,16	.203
DNGG150608FS	DNGG442FS	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203

DNGG-LF

DNGG150402LF	DNGG4305LF	12,70	1/2	15,50	.610	4,76	3/16	0,2	.008	5,16	.203
DNGG150404LF	DNGG431LF	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGG150408LF	DNGG432LF	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203

Order example:
ISO catalog number: DNGG150402LF
Insert grade: KC5010

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KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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DNGA150408EFW																																					●								
DNGA150412EFW																																					●								
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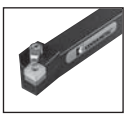
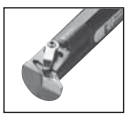
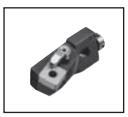

B6–B34

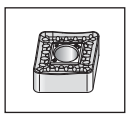

B72–B80

B106–B109

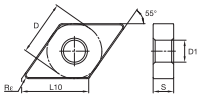

B114–B130

8–23

24–31


33-39

KENLOC™ Inserts



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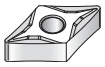
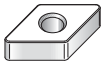


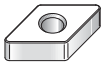
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNGP150401	DNGP430	12,70	1/2	15,50	.610	4,76	3/16	0,1	.004	5,16	.203
DNGP150402	DNGP4305	12,70	1/2	15,50	.610	4,76	3/16	0,2	.008	5,16	.203
DNGP150404	DNGP431	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNGP150408	DNGP432	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNGP150604	DNGP441	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNGP150608	DNGP442	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNGP150612	DNGP443	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203

DNMA



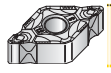
DNMA110408	DNMA332	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMA110408S02020	DNMA332S0820	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMA110412S02020	DNMA333S0820	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150
DNMA150408	DNMA432	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMA150408T02020	DNMA432T0820	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMA150412	DNMA433	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMA150412T02020	DNMA433T0820	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMA150416	DNMA434	12,70	1/2	15,50	.610	4,76	3/16	1,6	1/16	5,16	.203
DNMA150608	DNMA442	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMA150612	DNMA443	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNMA150616	DNMA444	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203

DNMA-MW



DNMA110408S02020MW	DNMA332S0820MW	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150

DNMG-CT



DNMG110404CT	DNMG331CT	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150
DNMG110408CT	DNMG332CT	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG150404CT	DNMG431CT	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408CT	DNMG432CT	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412CT	DNMG433CT	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150604CT	DNMG441CT	12,70	1/2	15,50	.610	6,35	1/4	0,3	.013	5,16	.203
DNMG150608CT	DNMG442CT	12,70	1/2	15,50	.610	6,35	1/4	0,7	.029	5,16	.203
DNMG150612CT	DNMG443CT	12,70	1/2	15,50	.610	6,35	1/4	1,1	.045	5,16	.203

DNMG-FF

DNMG110404FF	DNMG331FF	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150
DNMG110408FF	DNMG332FF	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG150404FF	DNMG431FF	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408FF	DNMG432FF	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150604FF	DNMG441FF	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608FF	DNMG442FF	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203

Order example:
ISO catalog number: DNMG110404FF
Insert grade: KC5010

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ISO catalog number	P						M								K										N				S						H							
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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DNMA150608																	●	●	●																										
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DNMA150616																	●		●																										
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DNMG150412CT				●	●				●			●					●																											
DNMG150604CT				●	●				●			●					●																											
DNMG150608CT				●	●				●			●		●			●																											
DNMG150612CT			●	●	●				●			●					●																											
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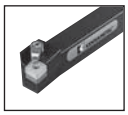
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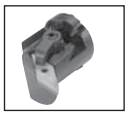
B72–B80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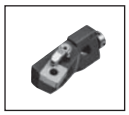
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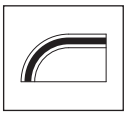
8–23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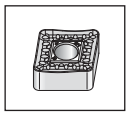
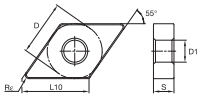

33-39

KENLOC™ Inserts



DNMG-FH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNMG150402FH	DNMG4305FH	12,70	1/2	15,50	.610	4,76	3/16	0,2	.008	5,16	.203
DNMG150404FH	DNMG431FH	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408FH	DNMG432FH	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203

DNMG-FN

DNMG110404FN	DNMG331FN	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150
DNMG110408FN	DNMG332FN	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG110412FN	DNMG333FN	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150
DNMG150404FN	DNMG431FN	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408FN	DNMG432FN	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412FN	DNMG433FN	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150604FN	DNMG441FN	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608FN	DNMG442FN	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612FN	DNMG443FN	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203

DNMG-FP

DNMG110404FP	DNMG331FP	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150
DNMG110408FP	DNMG332FP	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG150404FP	DNMG431FP	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408FP	DNMG432FP	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412FP	DNMG433FP	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150604FP	DNMG441FP	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608FP	DNMG442FP	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612FP	DNMG443FP	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203

DNMG-FW

DNMG110404FW	DNMG331FW	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150
DNMG110408FW	DNMG332FW	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG150404FW	DNMG431FW	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408FW	DNMG432FW	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150604FW	DNMG441FW	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608FW	DNMG442FW	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203

DNMG-FX

DNMG150404FX	DNMG431FX	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408FX	DNMG432FX	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203

DNMG-MH

DNMG150404MH	DNMG431MH	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408MH	DNMG432MH	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203

Order example:
ISO catalog number: DNMG150404FX
Insert grade: KT5020

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H							
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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DNMG150404FH	●							●																																				
DNMG150408FH	●							●																																				
DNMG110404FN		●	●	●	●		●									●	●																										
DNMG110408FN		●	●	●	●		●									●	●																										
DNMG110412FN		●		●	●		●									●																										
DNMG150404FN		●	●	●	●		●									●	●																										
DNMG150408FN		●	●	●	●		●									●	●																										
DNMG150412FN		●	●	●	●		●									●	●																										
DNMG150604FN		●	●	●	●		●									●	●																										
DNMG150608FN		●	●	●	●		●									●	●																										
DNMG150612FN		●	●	●	●		●									●	●																										
DNMG110404FP		●					●		●			●				●																												
DNMG110408FP		●					●		●			●				●																												
DNMG150404FP		●					●		●			●				●																												
DNMG150408FP		●					●		●			●				●																												
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DNMG150608FP		●	●				●		●			●				●																												
DNMG150612FP		●					●		●			●				●																												
DNMG110404FW		●	●	●			●		●			●				●	●																												
DNMG110408FW		●	●	●			●		●			●				●	●																												
DNMG150404FW		●	●	●			●		●			●				●	●																												
DNMG150408FW		●	●	●			●		●			●				●	●																												
DNMG150604FW		●	●	●			●		●			●				●	●																												
DNMG150608FW		●	●	●			●		●			●				●	●																												
DNMG150404FX								●																																				
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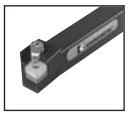
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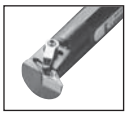
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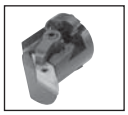
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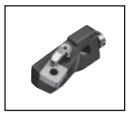
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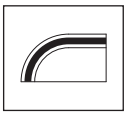
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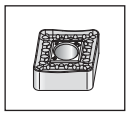
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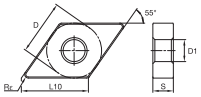

DNMG-MN

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNMG110404MN	DNMG331MN	10	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150
DNMG110408MN	DNMG332MN	10	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG110412MN	DNMG333MN	10	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150
DNMG150404MN	DNMG431MN	13	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408MN	DNMG432MN	13	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412MN	DNMG433MN	13	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150416MN	DNMG434MN	13	1/2	15,50	.610	4,76	3/16	1,6	1/16	5,16	.203
DNMG150604MN	DNMG441MN	13	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608MN	DNMG442MN	13	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612MN	DNMG443MN	13	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNMG150616MN	DNMG444MN	13	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203
DNMG190612MN	DNMG543MN	16	5/8	19,38	.763	6,35	1/4	1,2	3/64	6,35	.250

DNMG-MP

DNMG110408MP	DNMG332MP	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG110412MP	DNMG333MP	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150
DNMG150404MP	DNMG431MP	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408MP	DNMG432MP	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412MP	DNMG433MP	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150604MP	DNMG441MP	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608MP	DNMG442MP	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612MP	DNMG443MP	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203

DNMG-MS

DNMG110408MS	DNMG332MS	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG150401MS	DNMG430MS	12,70	1/2	15,50	.610	4,76	3/16	0,1	.004	5,16	.203
DNMG150402MS	DNMG4305MS	12,70	1/2	15,50	.610	4,76	3/16	0,2	.008	5,16	.203
DNMG150404MS	DNMG431MS	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408MS	DNMG432MS	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412MS	DNMG433MS	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150604MS	DNMG441MS	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608MS	DNMG442MS	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612MS	DNMG443MS	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203

DNMG-MS1

DNMG150404MS1	DNMG431MS1	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408MS1	DNMG432MS1	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412MS1	DNMG433MS1	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150604MS1	DNMG441MS1	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608MS1	DNMG442MS1	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612MS1	DNMG443MS1	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203

DNMG-MU1

DNMG150404MU1	DNMG431MU1	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408MU1	DNMG432MU1	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150604MU1	DNMG441MU1	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608MU1	DNMG442MU1	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203

Order example:
ISO catalog number: DNMG150404MU1
Insert grade: KC9210

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H							
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
DNMG110404MN			●	●	●	●																																					
DNMG110408MN			●	●	●	●																																					
DNMG110412MN				●	●	●																																					
DNMG150404MN				●	●	●																																					
DNMG150408MN			●	●	●	●																																					
DNMG150412MN			●	●	●	●																																					
DNMG150416MN				●	●	●																																					
DNMG150604MN				●	●	●																																					
DNMG150608MN			●	●	●	●																																					
DNMG150612MN			●	●	●	●																																					
DNMG150616MN				●	●	●																																					
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DNMG110412MP									●			●		●																														
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DNMG150608MP									●	●		●		●	●																													
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DNMG150402MS																																	●	●									
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DNMG150612MS1											●		●																														
DNMG150404MU1											●		●																														
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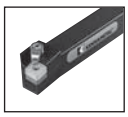
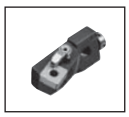

B6–B34

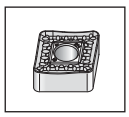
B72–B80

B106–B109

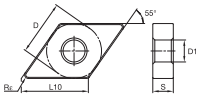

B114–B130

8–23

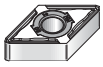
24–31


33-39

KENLOC™ Inserts



DNMG-MW

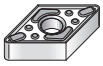


ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNMG150408MW	DNMG432MW	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412MW	DNMG433MW	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150608MW	DNMG442MW	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612MW	DNMG443MW	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203

DNMG-MX

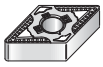
DNMG150404MX	DNMG431MX	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408MX	DNMG432MX	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203

DNMG-P



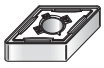
DNMG150404P	DNMG431P	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408P	DNMG432P	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150604P	DNMG441P	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608P	DNMG442P	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612P	DNMG443P	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203

DNMG-RN



DNMG150408RN	DNMG432RN	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412RN	DNMG433RN	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150416RN	DNMG434RN	12,70	1/2	15,50	.610	4,76	3/16	1,6	1/16	5,16	.203
DNMG150608RN	DNMG442RN	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612RN	DNMG443RN	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNMG150616RN	DNMG444RN	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203
DNMG190608RN	DNMG542RN	15,88	5/8	19,38	.763	6,35	1/4	0,8	1/32	6,35	.250
DNMG190612RN	DNMG543RN	15,88	5/8	19,38	.763	6,35	1/4	1,2	3/64	6,35	.250

DNMG-RP



DNMG110408RP	DNMG332RP	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG110412RP	DNMG333RP	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150
DNMG150408RP	DNMG432RP	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412RP	DNMG433RP	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150416RP	DNMG434RP	12,70	1/2	15,50	.610	4,76	3/16	1,6	1/16	5,16	.203
DNMG150608RP	DNMG442RP	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612RP	DNMG443RP	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNMG150616RP	DNMG444RP	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203

DNMG-UN

DNMG110408UN	DNMG332UN	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG110412UN	DNMG333UN	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150
DNMG150408UN	DNMG432UN	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412UN	DNMG433UN	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150416UN	DNMG434UN	12,70	1/2	15,50	.610	4,76	3/16	1,6	1/16	5,16	.203
DNMG150608UN	DNMG442UN	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612UN	DNMG443UN	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNMG150616UN	DNMG444UN	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203

Order example:
ISO catalog number: DNMG110408UN
Insert grade: KC9325

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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DNMG150608MW			●	●	●							●		●			●		●																										
DNMG150612MW			●	●	●							●					●		●																										
DNMG150404MX	●							●																																					
DNMG150408MX	●							●																																					
DNMG150404P									●			●		●																														
DNMG150408P						●			●			●		●												●					●														
DNMG150604P									●			●		●																														
DNMG150608P									●			●		●																														
DNMG150612P									●			●		●																														
DNMG150408RN			●	●	●	●																																					
DNMG150412RN			●	●	●	●																																					
DNMG150416RN					●	●																																					
DNMG150608RN			●	●	●	●																																					
DNMG150612RN			●	●	●	●																																					
DNMG150616RN				●	●	●																																					
DNMG190608RN				●																																							
DNMG190612RN				●																																							
DNMG110408RP				●	●				●			●		●			●		●																	●	●								
DNMG110412RP				●	●																																							
DNMG150408RP			●	●	●	●			●			●		●	●		●	●																	●	●								
DNMG150412RP			●	●	●	●			●			●		●	●		●																		●	●								
DNMG150416RP				●					●					●			●																		●									
DNMG150608RP			●	●	●	●			●	●		●		●	●		●	●	●																●	●								
DNMG150612RP			●	●	●	●			●			●		●	●		●	●	●																●									
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DNMG110408UN																	●	●	●																										
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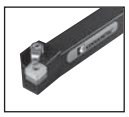
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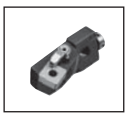
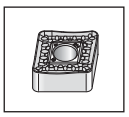
B72–B80

B106–B109


B114–B130

8–23

24–31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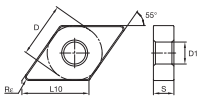


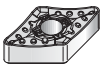
DNMG-UP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DNMG110408UP	DNMG332UP	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMG110412UP	DNMG333UP	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150
DNMG150404UP	DNMG431UP	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMG150408UP	DNMG432UP	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMG150412UP	DNMG433UP	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMG150604UP	DNMG441UP	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMG150608UP	DNMG442UP	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMG150612UP	DNMG443UP	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203

DNMM-RM

DNMM150408RM	DNMM432RM	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMM150412RM	DNMM433RM	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMM150608RM	DNMM442RM	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMM150612RM	DNMM443RM	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNMM150616RM	DNMM444RM	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203

DNMM-RP

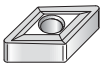


DNMM150608RP	DNMM442RP	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMM150612RP	DNMM443RP	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNMM150616RP	DNMM444RP	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203

DNMP-K

DNMP110404K	DNMP331K	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150
DNMP110408K	DNMP332K	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150
DNMP150404K	DNMP431K	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203
DNMP150408K	DNMP432K	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMP150412K	DNMP433K	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203
DNMP150604K	DNMP441K	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203
DNMP150608K	DNMP442K	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203
DNMP150612K	DNMP443K	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203
DNMP190608K	DNMP542K	15,88	5/8	19,38	.763	6,35	1/4	0,8	1/32	6,35	.250

DNMS



DNMS150408	DNMS432	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203
DNMS190608	DNMS542	15,88	5/8	19,38	.763	6,35	1/4	0,8	1/32	6,35	.250

Order example:
ISO catalog number: DNMS150408
Insert grade: KC5410

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H									
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
DNMG110408UP									●			●		●																															
DNMG110412UP									●			●		●																															
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DNMG150412UP									●			●		●																															
DNMG150604UP									●			●		●																															
DNMG150608UP									●			●		●																															
DNMG150612UP									●			●		●																															
DNMM150408RM				●	●																																							
DNMM150412RM				●	●																																							
DNMM150608RM				●	●																																							
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KENNA PERFECT SELECTION SYSTEM
INSERTS
OD/ID TOOLING
TOOL ADAPTER VDI
GROOVING AND CUT-OFF
THREADING
APPLICATION SPECIFIC
KM QUICK-CHANGE TOOLS
CLASSIC PRODUCTS
TECHNICAL SECTION
INDEX

B6–B34

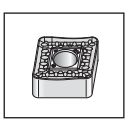
B72–B80

B106–B109

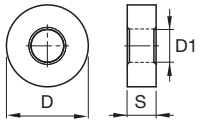
B114–B130

8–23

24–31


33-39

KENLOC™ Inserts



RNMA

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
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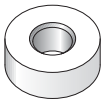
RNMA120400S02020	RNMA43S0820	12,70	1/2	–	–	4,76	3/16	–	–	5,16	.203

RNGA

RNGA090300T02020	RNGA32T0820	9,53	3/8	–	–	3,18	1/8	–	–	3,81	.150
RNGA120400T02020	RNGA43T0820	12,70	1/2	–	–	4,76	3/16	–	–	5,16	.203

RNMA



RNMA090300	RNMA32	9,53	3/8	–	–	3,18	1/8	–	–	3,81	.150
RNMA120400	RNMA43	12,70	1/2	–	–	4,76	3/16	–	–	5,16	.203
RNMA120400S02020	RNMA43S0820	12,70	1/2	–	–	4,76	3/16	–	–	5,16	.203
RNMA150600	RNMA54	15,88	5/8	–	–	6,35	1/4	–	–	6,35	.250
RNMA190600	RNMA64	19,05	3/4	–	–	6,35	1/4	–	–	7,93	.313
RNMA250900	RNMA86	25,40	1	–	–	9,53	3/8	–	–	9,12	.359

RNMG-RN

RNMG090300RN	RNMG32RN	9,53	3/8	–	–	3,18	1/8	–	–	3,81	.150
RNMG120400RN	RNMG43RN	12,70	1/2	–	–	4,76	3/16	–	–	5,16	.203
RNMG150600RN	RNMG54RN	15,88	5/8	–	–	6,35	1/4	–	–	6,35	.250
RNMG190600RN	RNMG64RN	19,05	3/4	–	–	6,35	1/4	–	–	7,93	.313
RNMG66RN	RNMG66RN	19,05	3/4	–	–	9,52	3/8	–	–	7,93	.313
RNMG250900RN	RNMG86RN	25,40	1	–	–	9,53	3/8	–	–	9,12	.359

RNMG-UN

RNMG120400UN	RNMG43UN	12,70	1/2	–	–	4,76	3/16	–	–	5,16	.2031

Order example:
ISO catalog number: RNMG120400UN
Insert grade: KC9315

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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RNMA120400S02020																									●																			
RNGA090300T02020																																				●							
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RNMG120400RN				●	●				●								●		●																								
RNMG150600RN				●	●												●		●																								
RNMG190600RN				●	●				●								●		●																								
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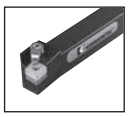
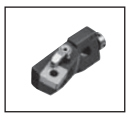

B6–B34

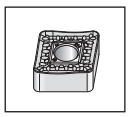
B72–B80

B106–B109


B114–B130

8–23

24–31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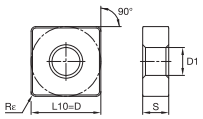


SNGA-FW

(MT)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNGA120408EFWMT	SNGA432EFWMT	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNGA120408S01020FWMT	SNGA432S0420FWMT	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203

SNGA

(MT)

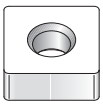
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNGA120408EMT	SNGA432EMT	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNGA120408S01020MT	SNGA432S0420MT	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNGA120408S01025MT	SNGA432S0425MT	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNGA120412EMT	SNGA433EMT	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNGA120412S01020MT	SNGA433S0420MT	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNGA120412S01025MT	SNGA433S0425MT	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203

SNGA

(MT)

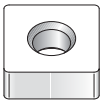
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNGA120404S01025MT	SNGA431S0425MT	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203
SNGA120408S01025MT	SNGA432S0425MT	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNGA120412S01025MT	SNGA433S0425MT	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203

SNMA-MW



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNMA120408S02020MW	SNMA432S0820MW	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMA120412S02020MW	SNMA433S0820MW	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203

SNMA



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNMA120408S01025	SNMA432S0425	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMA120408S02020	SNMA432S0820	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMA120412S01025	SNMA433S0425	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMA120412S02020	SNMA433S0820	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMA120416S02020	SNMA434S0820	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203

SNMS-F

(ST)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNMS120408FST	SNMS432FST	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMS120412FST	SNMS433FST	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203

Order example:
ISO catalog number: SNMS120408FST
Insert grade: KD1425

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K								N					S							H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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SNGA120408S01025MT																																								●				
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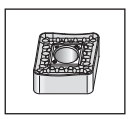
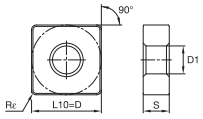
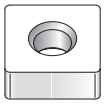

33-39

KENLOC™ Inserts



SNGA



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNGA090308T02020	SNGA322T0820	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,81	.150
SNGA120408T01020	SNGA432T0420	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNGA120408T02020	SNGA432T0820	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNGA120412T01020	SNGA433T0420	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNGA120412T02020	SNGA433T0820	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNGA120416T01020	SNGA434T0420	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNGA120416T02020	SNGA434T0820	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNGA150612T02020	SNGA543T	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNGA150612T02020	SNGA543T0820	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNGA150616T02020	SNGA544T	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNGA150616T02020	SNGA544T0820	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNGA190612T02020	SNGA643T0820	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNGA190616T02020	SNGA644T0820	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313

SNGG-FS

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNGG090308FS	SNGG322FS	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,81	.150
SNGG120408FS	SNGG432FS	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203

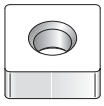
SNGG-LF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNGG090308LF	SNGG322LF	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,81	.150
SNGG150612LF	SNGG543LF	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250

SNGP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNGP120404	SNGP431	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203
SNGP120408	SNGP432	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203

SNMA



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNMA120408	SNMA432	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMA120408S01025	SNMA432S0425	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMA120408S02020	SNMA432S0820	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMA120408T02020	SNMA432T0820	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMA120412	SNMA433	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMA120412S01025	SNMA433S0425	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMA120412S02020	SNMA433S0820	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMA120412T02020	SNMA433T0820	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMA120416	SNMA434	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMA120416S02020	SNMA434S0820	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMA120416T02020	SNMA434T0820	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMA150608	SNMA542	15,88	5/8	15,88	.625	6,35	1/4	0,8	1/32	6,35	.250
SNMA150612	SNMA543	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMA150612T02020	SNMA543T0820	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMA150616	SNMA544	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMA150616T02020	SNMA544T0820	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMA190612	SNMA643	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMA190616	SNMA644	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313

Order example:
ISO catalog number: SNMA120408
Insert grade: K68

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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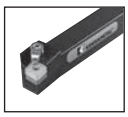
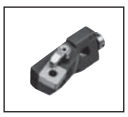

B6–B34

B72–B80

B106–B109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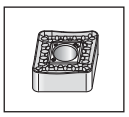
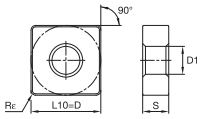
8–23

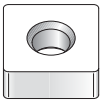
24–31


33-39

KENLOC™ Inserts



SNMA-MW



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNMA120408S02020MW	SNMA432S0820MW	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMA120412S02020MW	SNMA433S0820MW	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203

SNMG

SNMG150612	SNMG543	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMG190612	SNMG643	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMG190616B	SNMG644	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313
SNMG250924	SNMG866	25,40	1	25,40	1.000	9,53	3/8	2,4	3/32	9,12	.359

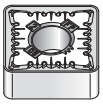
SNMG-FF

SNMG090304FF	SNMG321FF	9,53	3/8	9,53	.375	3,18	1/8	0,4	1/64	3,81	.150
SNMG090308FF	SNMG322FF	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,81	.150
SNMG120404FF	SNMG431FF	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203
SNMG120408FF	SNMG432FF	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203

SNMG-FN

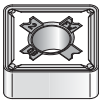
SNMG090304FN	SNMG321FN	9,53	3/8	9,53	.375	3,18	1/8	0,4	1/64	3,81	.150
SNMG090308FN	SNMG322FN	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,81	.150
SNMG120404FN	SNMG431FN	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203
SNMG120408FN	SNMG432FN	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412FN	SNMG433FN	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG120416FN	SNMG434FN	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203

SNMG-FP



SNMG120404FP	SNMG431FP	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203
SNMG120408FP	SNMG432FP	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412FP	SNMG433FP	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203

SNMG-FW

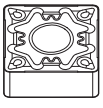


SNMG120408FW	SNMG432FW	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412FW	SNMG433FW	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203

SNMG-FX

SNMG120408FX	SNMG432FX	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203

SNMG-MH



SNMG120404MH	SNMG431MH	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203
SNMG120408MH	SNMG432MH	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203

Order example:
ISO catalog number: SNMG120404MH
Insert grade: KT1120

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number.	P						M								K											N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
SNMA120408S02020MW																									●																			
SNMA120412S02020MW																									●																			
SNMG150612						●																																						
SNMG190612					●				●																						●													
SNMG190616B					●				●																						●													
SNMG250924					●	●			●																																			
SNMG090304FF		●		●			●					●				●																												
SNMG090308FF		●		●			●					●				●																												
SNMG120404FF		●		●			●					●				●																												
SNMG120408FF		●		●			●					●				●																												
SNMG090304FN		●		●	●		●									●	●																											
SNMG090308FN				●	●												●																											
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SNMG120408FN		●	●	●	●		●									●	●																											
SNMG120412FN		●	●	●	●		●									●	●																											
SNMG120416FN				●	●												●																											
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SNMG120408FP		●					●		●			●				●																												
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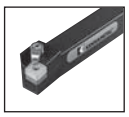
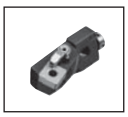
SNMG120412FW		●		●			●					●				●																												
SNMG120408FX								●																																				
SNMG120404MH	●							●																																				
SNMG120408MH	●							●																																				

KENNA PERFECT SELECTION SYSTEM
INSERTS
OD/ID TOOLING
TOOL ADAPTER VDI
GROOVING AND CUT-OFF
THREADING
APPLICATION SPECIFIC
KM QUICK-CHANGE TOOLS
CLASSIC PRODUCTS
TECHNICAL SECTION
INDEX


B6–B34

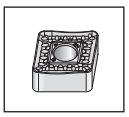
B72–B80

B106–B109

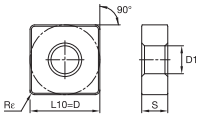

B114–B130

8–23

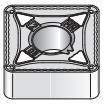
24–31


33-39

KENLOC™ Inserts



SNMG-MN



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNMG090304MN	SNMG321MN	9,53	3/8	9,53	.375	3,18	1/8	0,4	1/64	3,81	.150
SNMG090308MN	SNMG322MN	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,81	.150
SNMG090312MN	SNMG323MN	9,53	3/8	9,53	.375	3,18	1/8	1,2	3/64	3,81	.150
SNMG120404MN	SNMG431MN	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203
SNMG120408MN	SNMG432MN	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412MN	SNMG433MN	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG120416MN	SNMG434MN	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMG150612MN	SNMG543MN	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMG150616MN	SNMG544MN	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMG190612MN	SNMG643MN	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMG190616MN	SNMG644MN	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313

SNMG-MP

SNMG120408MP	SNMG432MP	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412MP	SNMG433MP	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG120416MP	SNMG434MP	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMG150608MP	SNMG542MP	15,88	5/8	15,88	.625	6,35	1/4	0,8	1/32	6,35	.250
SNMG150612MP	SNMG543MP	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMG150616MP	SNMG544MP	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMG190612MP	SNMG643MP	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMG190616MP	SNMG644MP	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313

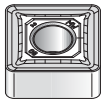
SNMG-MS

SNMG120408MS	SNMG432MS	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412MS	SNMG433MS	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG150608MS	SNMG542MS	15,88	5/8	15,88	.625	6,35	1/4	0,8	1/32	6,35	.250
SNMG150612MS	SNMG543MS	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMG190612MS	SNMG643MS	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313

SNMG-MS1

SNMG120404MS1	SNMG431MS1	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203
SNMG120408MS1	SNMG432MS1	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412MS1	SNMG433MS1	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG120416MS1	SNMG434MS1	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203

SNMG-MW



SNMG120408MW	SNMG432MW	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412MW	SNMG433MW	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203

SNMG-MX

SNMG120408MX	SNMG432MX	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203

Order example:
ISO catalog number: SNMG120408MX
Insert grade: KT1120

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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SNMG090308MN				●	●	●																																						
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SNMG120416MN				●	●	●																																						
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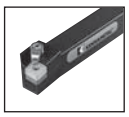
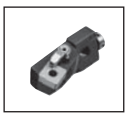

B6–B34

B72–B80

B106–B109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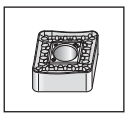
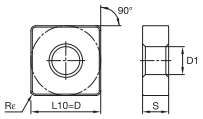
8–23

24–31


33-39

KENLOC™ Inserts



SNMG-P

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
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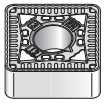
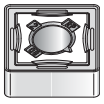
SNMG120412P	SNMG433P	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG190612P	SNMG643P	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMG190616P	SNMG644P	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313

SNMG-RN



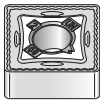
SNMG090412RN	SNMG333RN	9,53	3/8	9,53	.375	4,76	3/16	1,2	3/64	3,81	.150
SNMG120408RN	SNMG432RN	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412RN	SNMG433RN	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG120416RN	SNMG434RN	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMG150608RN	SNMG542RN	15,88	5/8	15,88	.625	6,35	1/4	0,8	1/32	6,35	.250
SNMG150612RN	SNMG543RN	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMG150616RN	SNMG544RN	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMG190608RN	SNMG642RN	19,05	3/4	19,05	.750	6,35	1/4	0,8	1/32	7,93	.313
SNMG190612RN	SNMG643RN	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMG190616RN	SNMG644RN	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313
SNMG190624RN	SNMG646RN	19,05	3/4	19,05	.750	6,35	1/4	2,4	3/32	7,93	.313

SNMG-RP



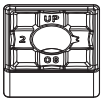
SNMG120408RP	SNMG432RP	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412RP	SNMG433RP	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG120416RP	SNMG434RP	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMG150612RP	SNMG543RP	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMG150616RP	SNMG544RP	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMG190612RP	SNMG643RP	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMG190616RP	SNMG644RP	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313

SNMG-UN



SNMG120408UN	SNMG432UN	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412UN	SNMG433UN	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG120416UN	SNMG434UN	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMG150612UN	SNMG543UN	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMG150616UN	SNMG544UN	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMG190612UN	SNMG643UN	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMG190616UN	SNMG644UN	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313

SNMG-UP



SNMG120408UP	SNMG432UP	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMG120412UP	SNMG433UP	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMG120416UP	SNMG434UP	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMG150612UP	SNMG543UP	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMG190612UP	SNMG643UP	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313

Order example:
ISO catalog number: SNMG120408UP
Insert grade: KC9325

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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SNMG120412P									●			●		●																														
SNMG190612P												●		●																														
SNMG190616P						●						●		●																														
SNMG090412RN				●																																							
SNMG120408RN				●	●	●																																					
SNMG120412RN				●	●	●																																					
SNMG120416RN				●	●	●																																					
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SNMG190624RN				●	●	●																																					
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SNMG150616RP				●	●							●		●																				●									
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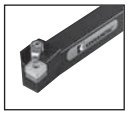
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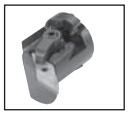
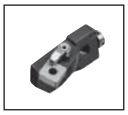
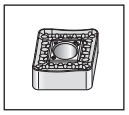
B72–B80


B106–B109


B114–B130

8–23

24–31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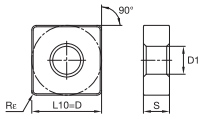
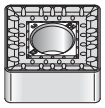
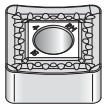


SNMM-RH



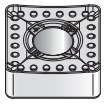
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNMM190612RH	SNMM643RH	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMM190616RH	SNMM644RH	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313
SNMM190624RH	SNMM646RH	19,05	3/4	19,05	.750	6,35	1/4	2,4	3/32	7,93	.313
SNMM250724RH	SNMM856RH	25,40	1	25,40	1.000	7,94	5/16	2,4	3/32	9,12	.359
SNMM250732RH	SNMM858RH	25,40	1	25,40	1.000	7,94	5/16	3,2	1/8	9,12	.359
SNMM250924RH	SNMM866RH	25,40	1	25,40	1.000	9,53	3/8	2,4	3/32	9,12	.359
SNMM250932RH	SNMM868RH	25,40	1	25,40	1.000	9,53	3/8	3,2	1/8	9,12	.359

SNMM-RM



SNMM120408RM	SNMM432RM	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMM120412RM	SNMM433RM	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMM120416RM	SNMM434RM	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMM150612RM	SNMM543RM	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMM150616RM	SNMM544RM	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMM190612RM	SNMM643RM	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMM190616RM	SNMM644RM	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313
SNMM190624RM	SNMM646RM	19,05	3/4	19,05	.750	6,35	1/4	2,4	3/32	7,93	.313
SNMM250724RM	SNMM856RM	25,40	1	25,40	1.000	7,94	5/16	2,4	3/32	9,12	.359
SNMM250924RM	SNMM866RM	25,40	1	25,40	1.000	9,53	3/8	2,4	3/32	9,12	.359

SNMM-RP

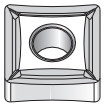


SNMM120408RP	SNMM432RP	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMM120412RP	SNMM433RP	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMM120416RP	SNMM434RP	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203
SNMM150612RP	SNMM543RP	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMM150616RP	SNMM544RP	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMM190612RP	SNMM643RP	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313
SNMM190616RP	SNMM644RP	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313
SNMM190624RP	SNMM646RP	19,05	3/4	19,05	.750	6,35	1/4	2,4	3/32	7,93	.313
SNMM250724RP	SNMM856RP	25,40	1	25,40	1.000	7,94	5/16	2,4	3/32	9,12	.359
SNMM250924RP	SNMM866RP	25,40	1	25,40	1.000	9,53	3/8	2,4	3/32	9,12	.359

SNMM-RW

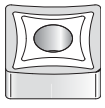
SNMM190624RW	SNMM646RW	19,05	3/4	19,05	.750	6,35	1/4	2,4	3/32	7,93	.313
SNMM250724RW	SNMM856RW	25,40	1	25,40	1.000	7,94	5/16	2,4	3/32	9,12	.359
SNMM250924RW	SNMM866RW	25,40	1	25,40	1.000	9,53	3/8	2,4	3/32	9,12	.359

SNMP-K



SNMP120408K	SNMP432K	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMP120412K	SNMP433K	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203

SNMS



SNMS120408	SNMS432	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMS120412	SNMS433	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMS190612	SNMS643	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313

Order example
ISO catalog number: SNMS120408
Insert grade: KC5410

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M									K										N				S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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SNMM190616RH				●	●	●																																						
SNMM190624RH				●	●	●																																						
SNMM250724RH				●	●	●																																						
SNMM250732RH				●	●	●																																						
SNMM250924RH				●	●	●																																						
SNMM250932RH						●																																						
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SNMM250724RP					●									●																														
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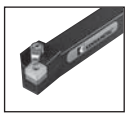
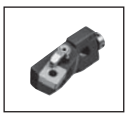

B6–B34

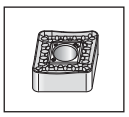
B72–B80

B106–B109

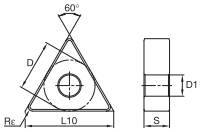

B114–B130

8–23

24–31


33-39

KENLOC™ Inserts



TNGA-FW

(MT)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNGA160408EFWMT	TNGA332EFWMT	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNGA160408S01020FWMT	TNGA332S0420FWMT	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNGA160412EFWMT	TNGA333EFWMT	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150

TNGA

(MT)

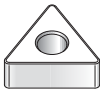
TNGA160404EMT	TNGA331EMT	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNGA160404S01020MT	TNGA331S0420MT	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNGA160404S01025MT	TNGA331S0425MT	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNGA160408EMT	TNGA332EMT	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNGA160408S01020MT	TNGA332S0420MT	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNGA160408S01025MT	TNGA332S0425MT	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNGA160412S01020MT	TNGA333S0420MT	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNGA160412S01025MT	TNGA333S0425MT	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNGA160416S01025MT	TNGA334S0425MT	9,53	3/8	16,50	.650	4,76	3/16	1,6	1/16	3,81	.150

TNMS-F

(ST)

TNMS160404FST	TNMS331FST	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMS160408FST	TNMS332FST	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150

TNGA



TNGA160308T02020	TNGA322T0820	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32	3,81	.150
TNGA160312T02020	TNGA323T0820	9,53	3/8	16,50	.650	3,18	1/8	1,2	3/64	3,81	.150
TNGA160404E	TNGA331	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNGA160404T01020	TNGA331T0420	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNGA160408E	TNGA332	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNGA160408T01020	TNGA332T0420	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNGA160408T02020	TNGA332T0820	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNGA160412T01020	TNGA333T0420	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNGA160412T02020	TNGA333T0820	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNGA160416T02020	TNGA334T0820	9,53	3/8	16,50	.650	4,76	3/16	1,6	1/16	3,81	.150
TNGA220408T01020	TNGA432T0420	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNGA220408T02020	TNGA432T0820	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNGA220412T01020	TNGA433T0420	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNGA220412T02020	TNGA433T0820	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNGA220416T02020	TNGA434T	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203
TNGA220416T02020	TNGA434T0820	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203
TNGA270608T02020	TNGA542T0820	15,88	5/8	27,50	1.083	6,35	1/4	0,8	1/32	6,35	.250
TNGA270612T02020	TNGA543T0820	15,88	5/8	27,50	1.083	6,35	1/4	1,2	3/64	6,35	.250

TNGG-FS

TNGG160402FS	TNGG3305FS	9,53	3/8	16,50	.650	4,76	3/16	0,2	.008	3,81	.150
TNGG160404FS	TNGG331FS	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNGG160408FS	TNGG332FS	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNGG220408FS	TNGG432FS	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203

Order example:
ISO catalog number: TNGG160402FS
Insert grade: KC5525

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K								N				S						H						
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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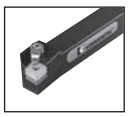
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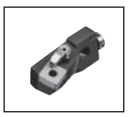
B72–B80

B106–B109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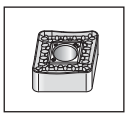
24–31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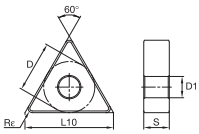


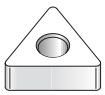
TNGG-LF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNGG160402LF	TNGG3305LF	9,53	3/8	16,50	.650	4,76	3/16	0,2	.008	3,81	.150
TNGG160404LF	TNGG331LF	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNGG160408LF	TNGG332LF	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150

TNGP

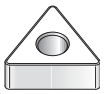
TNGP160402	TNGP3305	9,53	3/8	16,50	.650	4,76	3/16	0,2	.008	3,81	.150
TNGP160404	TNGP331	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNGP160408	TNGP332	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150

TNMA



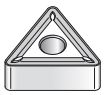
TNMA160408	TNMA332	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMA160412	TNMA333	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMA160416	TNMA334	9,53	3/8	16,50	.650	4,76	3/16	1,6	1/16	3,81	.150
TNMA220408	TNMA432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMA220412	TNMA433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMA220416	TNMA434	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203
TNMA270616	TNMA544	15,88	5/8	27,50	1.083	6,35	1/4	1,6	1/16	6,35	.250

TNMA-T



TNMA220412T02020	TNMA433T0820	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMA220416T02020	TNMA434T0820	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203

TNMG

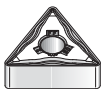


TNMG330924	TNMG666	19,05	3/4	33,00	1.299	9,53	3/8	2,4	3/32	7,93	.313

TNMG-CT

TNMG160408CT	TNMG332CT	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412CT	TNMG333CT	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220408CT	TNMG432CT	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412CT	TNMG433CT	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203

TNMG-FF



TNMG110304FF	TNMG221FF	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64	2,26	.089
TNMG110308FF	TNMG222FF	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32	2,26	.089
TNMG160404FF	TNMG331FF	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408FF	TNMG332FF	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150

TNMG-FH

TNMG160402FH	TNMG3305FH	9,53	3/8	16,50	.650	4,76	3/16	0,2	.008	3,81	.150
TNMG160404FH	TNMG331FH	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408FH	TNMG332FH	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150

Order example:
ISO catalog number: TNMG160402FH
Insert grade: KT1120

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M							K								N				S						H							
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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TNMG160404FH	●							●																																
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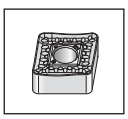
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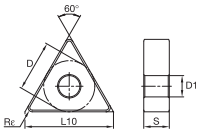


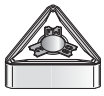
TNMG-FN

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNMG110304FN	TNMG221FN	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64	2,26	.089
TNMG110308FN	TNMG222FN	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32	2,26	.089
TNMG160404FN	TNMG331FN	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408FN	TNMG332FN	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412FN	TNMG333FN	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220404FN	TNMG431FN	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMG220408FN	TNMG432FN	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412FN	TNMG433FN	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203

TNMG-FP

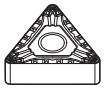
TNMG160404FP	TNMG331FP	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408FP	TNMG332FP	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412FP	TNMG333FP	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220404FP	TNMG431FP	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMG220408FP	TNMG432FP	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203

TNMG-FW



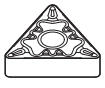
TNMG160404FW	TNMG331FW	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408FW	TNMG332FW	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412FW	TNMG333FW	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150

TNMG-FX



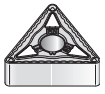
TNMG160404FX	TNMG331FX	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408FX	TNMG332FX	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150

TNMG-MH



TNMG160404MH	TNMG331MH	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408MH	TNMG332MH	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412MH	TNMG333MH	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150

TNMG-MN



TNMG160404MN	TNMG331MN	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408MN	TNMG332MN	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412MN	TNMG333MN	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220404MN	TNMG431MN	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMG220408MN	TNMG432MN	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412MN	TNMG433MN	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMG220416MN	TNMG434MN	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203

TNMG-MP

TNMG160404MP	TNMG331MP	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408MP	TNMG332MP	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412MP	TNMG333MP	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220408MP	TNMG432MP	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412MP	TNMG433MP	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMG220416MP	TNMG434MP	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203

Order example:
ISO catalog number: TNMG160404MX
Insert grade: KT5020

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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TNMG160412FN		●	●	●	●		●									●	●																											
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TNMG220408FN		●	●	●	●		●									●																											
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TNMG160404FP.3		●					●		●			●				●																											
TNMG160408FP		●					●		●			●				●																											
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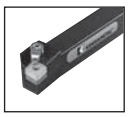
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B72–B80

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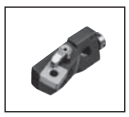
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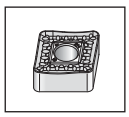
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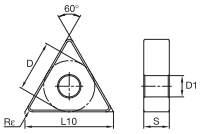
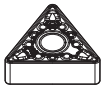
KENLOC™ Inserts



TNMG-MS

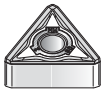
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNMG160402MS	TNMG3305MS	9,53	3/8	16,50	.650	4,76	3/16	0,2	.008	3,81	.150
TNMG160404MS	TNMG331MS	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408MS	TNMG332MS	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG220404MS	TNMG431MS	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMG220408MS	TNMG432MS	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412MS	TNMG433MS	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMG270608MS	TNMG542MS	15,88	5/8	27,50	1.083	6,35	1/4	0,8	1/32	6,35	.250
TNMG270616MS	TNMG544MS	15,88	5/8	27,50	1.083	6,35	1/4	1,6	1/16	6,35	.250

TNMG-MS1



TNMG160404MS1	TNMG331MS1	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408MS1	TNMG332MS1	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412MS1	TNMG333MS1	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150

TNMG-MW



TNMG160408MW	TNMG332MW	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412MW	TNMG333MW	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150

TNMG-MX

TNMG160404MX	TNMG331MX	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408MX	TNMG332MX	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150

Order example:
ISO catalog number: TNMG160404MX
Insert grade: KT5020

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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TNMG270608MS																										●				●			●											
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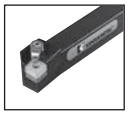
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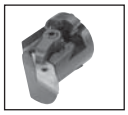
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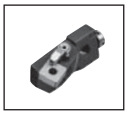
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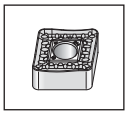
8–23

24–31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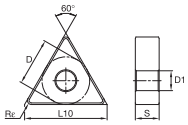
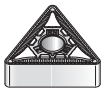


TNMG-P

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNMG160404P	TNMG331P	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408P	TNMG332P	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG220404P	TNMG431P	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMG220408P	TNMG432P	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412P	TNMG433P	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMG220416P	TNMG434P	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203
TNMG270612P	TNMG543P	15,88	5/8	27,50	1.083	6,35	1/4	1,2	3/64	6,35	.250

TNMG-RN



TNMG160408RN	TNMG332RN	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412RN	TNMG333RN	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220408RN	TNMG432RN	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412RN	TNMG433RN	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMG220416RN	TNMG434RN	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203
TNMG270608RN	TNMG542RN	15,88	5/8	27,50	1.083	6,35	1/4	0,8	1/32	6,35	.250
TNMG270612RN	TNMG543RN	15,88	5/8	27,50	1.083	6,35	1/4	1,2	3/64	6,35	.250
TNMG270616RN	TNMG544RN	15,88	5/8	27,50	1.083	6,35	1/4	1,6	1/16	6,35	.250
TNMG330924RN	TNMG666RN	19,05	3/4	33,00	1.299	9,53	3/8	2,4	3/32	7,93	.313

TNMG-RP

TNMG160408RP	TNMG332RP	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412RP	TNMG333RP	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG160416RP	TNMG334RP	9,53	3/8	16,50	.650	4,76	3/16	1,6	1/16	3,81	.150
TNMG220408RP	TNMG432RP	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412RP	TNMG433RP	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMG220416RP	TNMG434RP	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203
TNMG220432RP	TNMG438RP	12,70	1/2	22,00	.866	4,76	3/16	3,2	1/8	5,16	.203
TNMG270612RP	TNMG543RP	15,88	5/8	27,50	1.083	6,35	1/4	1,2	3/64	6,35	.250
TNMG270616RP	TNMG544RP	15,88	5/8	27,50	1.083	6,35	1/4	1,6	1/16	6,35	.250
TNMG330924RP	TNMG666RP	19,05	3/4	33,00	1.299	9,53	3/8	2,4	3/32	7,93	.313

TNMG-UN

TNMG160408UN	TNMG332UN	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412UN	TNMG333UN	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG160416UN	TNMG334UN	9,53	3/8	16,50	.650	4,76	3/16	1,6	1/16	3,81	.150
TNMG220408UN	TNMG432UN	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412UN	TNMG433UN	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMG220416UN	TNMG434UN	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203

TNMG-UP

TNMG160404UP	TNMG331UP	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408UP	TNMG332UP	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412UP	TNMG333UP	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220408UP	TNMG432UP	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412UP	TNMG433UP	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203

Order example:
ISO catalog number: TNMG160404UP
Insert grade: KC9240

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H							
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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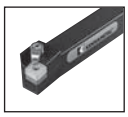
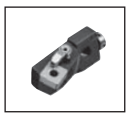

B6–B34

B72–B80

B106–B109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8–23

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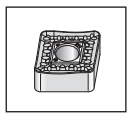
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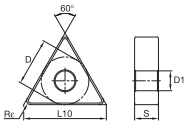
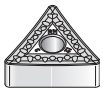
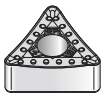


TNMM-RM



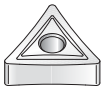
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNMM160408RM	TNMM332RM	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMM160412RM	TNMM333RM	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMM220408RM	TNMM432RM	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMM220412RM	TNMM433RM	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMM220416RM	TNMM434RM	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203
TNMM270612RM	TNMM543RM	15,88	5/8	27,50	1.083	6,35	1/4	1,2	3/64	6,35	.250
TNMM270616RM	TNMM544RM	15,88	5/8	27,50	1.083	6,35	1/4	1,6	1/16	6,35	.250

TNMM-RP



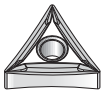
TNMM160408RP	TNMM332RP	9,53	3/8	16,36	.644	4,76	3/16	0,8	1/32	3,81	.150
TNMM160412RP	TNMM333RP	9,53	3/8	16,36	.644	4,76	3/16	1,2	3/64	3,81	.150
TNMM160416RP	TNMM334RP	9,53	3/8	16,36	.644	4,76	3/16	1,6	1/16	3,81	.150
TNMM220408RP	TNMM432RP	12,70	1/2	21,89	.862	4,76	3/16	0,8	1/32	5,16	.203
TNMM220412RP	TNMM433RP	12,70	1/2	21,89	.862	4,76	3/16	1,2	3/64	5,16	.203
TNMM220416RP	TNMM434RP	12,70	1/2	21,89	.862	4,76	3/16	1,6	1/16	5,16	.203
TNMM270612RP	TNMM543RP	15,88	5/8	27,50	1.083	6,35	1/4	1,2	3/64	6,35	.250
TNMM270616RP	TNMM544RP	15,88	5/8	27,50	1.083	6,35	1/4	1,6	1/16	6,35	.250

TNMP



TNMP160404	TNMP331	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMP160408	TNMP332	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMP160416	TNMP334	9,53	3/8	16,50	.650	4,76	3/16	1,6	1/16	3,81	.150
TNMP220404	TNMP431	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMP220408	TNMP432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMP220412	TNMP433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMP220416	TNMP434	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203
TNMP220424	TNMP436	12,70	1/2	22,00	.866	4,76	3/16	2,4	3/32	5,16	.203
TNMP220432	TNMP438	12,70	1/2	22,00	.866	4,76	3/16	3,2	1/8	5,16	.203

TNMP-K



TNMP160404K	TNMP331K	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMP160408K	TNMP332K	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMP220404K	TNMP431K	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMP220408K	TNMP432K	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203

TNMS

TNMS160404	TNMS331	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMS160408	TNMS332	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMS220404	TNMS431	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMS220408	TNMS432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMS220412	TNMS433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMS270608	TNMS542	15,88	5/8	27,50	1.083	6,35	1/4	0,8	1/32	6,35	.250

Order example:
ISO catalog number: TNMP160404K
Insert grade: KC9110

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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TNMM220416RM				●	●																																						
TNMM270612RM				●	●																																						
TNMM270616RM				●	●																																						
TNMM160408RP				●	●							●		●																													
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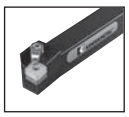
TNMS220412																																●											
TNMS270608																											●					●											

KENNA PERFECT SELECTION SYSTEM
INSERTS
OD/ID TOOLING
TOOL ADAPTER VDI
GROOVING AND CUT-OFF
THREADING
APPLICATION SPECIFIC
KM QUICK-CHANGE TOOLS
CLASSIC PRODUCTS
TECHNICAL SECTION
INDEX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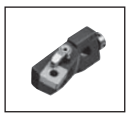
B72–B80

B106–B109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8–23

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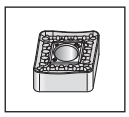
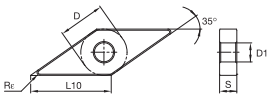
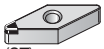

33-39

KENLOC™ Inserts

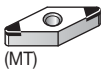


VNGA-F


(ST)

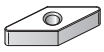
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNGA160404FST	VNGA331FST	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNGA160408FST	VNGA332FST	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNGA


(MT)

VNGA160404S01020MT	VNGA331S0420MT	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNGA160404S01025MT	VNGA331S0425MT	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNGA160408S01020MT	VNGA332S0420MT	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNGA160408S01025MT	VNGA332S0425MT	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNGA160412S01020MT	VNGA333S0420MT	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150

VNMA-E



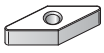
VNMA160408E	VNMA332E	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNMS-E/F

(ST)

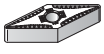
VNMS160404E	VNMS331E	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMS160404FST	VNMS331FST	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMS160408E	VNMS332E	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMS160408FST	VNMS332FST	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNGA



VNGA160404	VNGA331	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNGA160404T01020	VNGA331T0420	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNGA160404T02020	VNGA331T0820	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNGA160408	VNGA332	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNGA160408T01020	VNGA332T0420	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNGA160408T02020	VNGA332T0820	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNGA160412T02020	VNGA333T0820	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150
VNGA220408	VNGA432	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203
VNGA220408T02020	VNGA432T0820	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203
VNGA220412T02020	VNGA433T0820	12,70	1/2	22,14	.872	4,76	3/16	1,2	3/64	5,16	.203

VNGG-FS



VNGG160402FS	VNGG3305FS	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	3,81	.150
VNGG160401FS	VNGG330FS	9,53	3/8	16,61	.654	4,76	3/16	0,1	.004	3,81	.150
VNGG160404FS	VNGG331FS	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNGG160408FS	VNGG332FS	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNGG160412FS	VNGG333FS	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150

Order example:
ISO catalog number: VNGG160402FS
Insert grade: KC5510

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ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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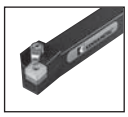
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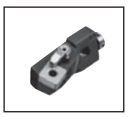
B72–B80

B106–B109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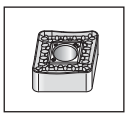
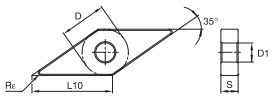
8–23

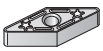
24–31


33-39

KENLOC™ Inserts



VNGG-LF

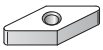


ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNGG160402LF	VNGG3305LF	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	3,81	.150
VNGG160404LF	VNGG331LF	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNGG160408LF	VNGG332LF	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNGG220408LF	VNGG432LF	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203

VNGP

VNGP160401	VNGP330	9,53	3/8	16,61	.654	4,76	3/16	0,1	.004	3,81	.150
VNGP160402	VNGP3305	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	3,81	.150
VNGP220404	VNGP431	12,70	1/2	22,14	.872	4,76	3/16	0,4	1/64	5,16	.203
VNGP220408	VNGP432	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203
VNGP220412	VNGP433	12,70	1/2	22,14	.872	4,76	3/16	1,2	3/64	5,16	.203

VNMA



VNMA160408	VNMA332	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNMG-FF

VNMG160404FF	VNMG331FF	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408FF	VNMG332FF	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNMG-FH

VNMG160402FH	VNMG3305FH	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	3,81	.150
VNMG160404FH	VNMG331FH	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408FH	VNMG332FH	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNMG-FN

VNMG160404FN	VNMG331FN	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408FN	VNMG332FN	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNMG-FP

VNMG160404FP	VNMG331FP	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408FP	VNMG332FP	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNMG-MH

VNMG160404MH	VNMG331MH	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408MH	VNMG332MH	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMG160412MH	VNMG333MH	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150

VNMG-MN

VNMG160404MN	VNMG331MN	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408MN	VNMG332MN	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMG160412MN	VNMG333MN	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150

Order example:
ISO catalog number: VNMG160404MN
Insert grade: KC9110

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K									N				S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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VNGG160404LF									●																	●				●														
VNGG160408LF									●																	●				●														
VNGG220408LF									●																																			
VNGP160401									●																	●	●			●														
VNGP160402									●																		●																	
VNGP220404									●																																			
VNGP220408									●																	●				●	●													
VNGP220412																															●													
VNMA160408																	●	●	●																									
VNMG160404FF		●	●	●			●		●			●			●																												
VNMG160408FF		●	●	●			●		●			●			●																												
VNMG160402FH	●							●																																				
VNMG160404FH	●							●																																				
VNMG160408FH	●							●																																				
VNMG160404FN		●		●	●		●									●	●																										
VNMG160408FN		●	●	●	●		●									●	●																										
VNMG160404FP		●					●		●			●			●																												
VNMG160408FP		●					●		●			●			●																												
VNMG160404MH	●							●																																				
VNMG160408MH	●							●																																				
VNMG160412MH	●																																										
VNMG160404MN			●	●	●																																					
VNMG160408MN			●	●	●	●																																				
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B6–B34

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B106–B109

B114–B130

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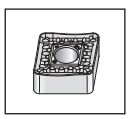
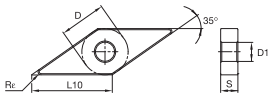
24–31


33-39

KENLOC™ Inserts



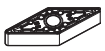
VNMG-MP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160404MP	VNMG331MP	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408MP	VNMG332MP	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMG160412MP	VNMG333MP	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150

VNMG-MS

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160401MS	VNMG330MS	9,53	3/8	16,61	.654	4,76	3/16	0,1	.004	3,81	.150
VNMG160402MS	VNMG3305MS	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	3,81	.150
VNMG160404MS	VNMG331MS	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408MS	VNMG332MS	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMG220404MS	VNMG431MS	12,70	1/2	22,14	.872	4,76	3/16	0,4	1/64	5,16	.203
VNMG220408MS	VNMG432MS	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203

VNMG-MS1



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160404MS1	VNMG331MS1	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408MS1	VNMG332MS1	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMG160412MS1	VNMG333MS1	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150

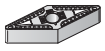
VNMG-MU1

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160404MU1	VNMG331MU1	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408MU1	VNMG332MU1	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNMG-P

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160404P	VNMG331P	9,53	3/8	16,61	.654	4,76	3/16	0,40	1/64	3,81	.150
VNMG160408P	VNMG332P	9,53	3/8	16,61	.654	4,76	3/16	0,80	1/32	3,81	.150

VNMG-RN



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160408RN	VNMG332RN	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMG160412RN	VNMG333RN	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150
VNMG220408RN	VNMG432RN	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203
VNMG220412RN	VNMG433RN	12,70	1/2	22,14	.872	4,76	3/16	1,2	3/64	5,16	.203

VNMG-RP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160408RP	VNMG332RP	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMG160412RP	VNMG333RP	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150

VNMG-UN

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160404UN	VNMG331UN	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408UN	VNMG332UN	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNMG-UP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160404UP	VNMG331UP	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMG160408UP	VNMG332UP	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMG160412UP	VNMG333UP	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150

Order example:
ISO catalog number: VNMG160404UP
Insert grade: KT5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
VNMG160404MP									●		●	●		●	●																														
VNMG160408MP									●		●	●		●	●																														
VNMG160412MP									●		●	●		●	●																														
VNMG160401MS																										●					●		●	●										
VNMG160402MS																										●					●		●	●										
VNMG160404MS																										●					●		●	●										
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VNMG220404MS																																	●	●										
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VNMG160412MS1											●		●																														
VNMG160404MU1											●		●																														
VNMG160408MU1											●		●																														
VNMG160404P									●			●		●												●					●													
VNMG160408P									●			●		●												●					●													
VNMG160408RN				●	●	●																																				
VNMG160412RN				●	●	●																																				
VNMG220408RN				●	●	●																																				
VNMG220412RN				●	●	●																																				
VNMG160408RP			●	●	●	●			●			●		●	●		●		●														●	●									
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VNMG160408UN																	●	●	●																								
VNMG160404UP									●			●		●																													
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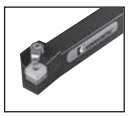
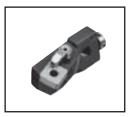

B6–B34

B72–B80

B106–B109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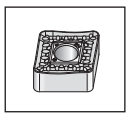
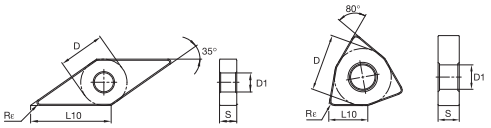
8–23

24–31


33-39

KENLOC™ Inserts



VNMP-K

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMP160404K	VNMP331K	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMP160408K	VNMP332K	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

VNMS

VNMS160404	VNMS331	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMS160408	VNMS332	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

WNGA-F

(ST)

WNGA080404FST	WNGA431FST	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNGA080408FST	WNGA432FST	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

WNGA-FW

(MT)

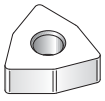
WNGA080408S01020FWMT	WNGA432S0420FWMT	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNGA080412S01020FWMT	WNGA433S0420FWMT	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

WNGA

(MT)

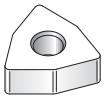
WNGA080404S01020MT	WNGA431S0420MT	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNGA080404S01025MT	WNGA431S0425MT	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNGA080408S01020MT	WNGA432S0420MT	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNGA080408S01025MT	WNGA432S0425MT	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNGA080412S01020MT	WNGA433S0420MT	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

WNMA-MW



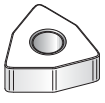
WNMA080408S02020MW	WNMA432S0820MW	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

WNMA



WNMA080408S02020	WNMA432S0820	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMA080412E	WNMA433E	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

WNGA-FW



WNGA080408EFW	WNGA432FW	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNGA080408T01020FW	WNGA432T0420FW	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNGA080412EFW	WNGA433FW	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNGA080412T01020FW	WNGA433T0420FW	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

Order example:
ISO catalog number: WNGA080408EFW
Insert grade: KY4400

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M										K										N				S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
VNMP160404K				●	●																										●														
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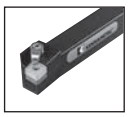
B6–B34

B72–B80

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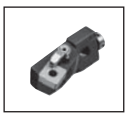
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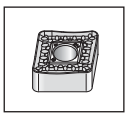
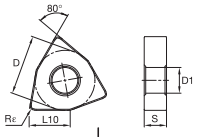

33-39

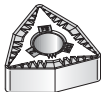
KENLOC™ Inserts



WNGA

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNGA080404T01020	WNGA431T0420	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNGA080408T01020	WNGA432T0420	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNGA080408T02020	WNGA432T0820	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNGA080412T01020	WNGA433T0420	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNGA080412T02020	WNGA433T0820	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNGA080416T02020	WNGA434T0820	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203

WNGG-FS

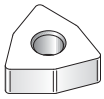


WNGG080404FS	WNGG431FS	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNGG080408FS	WNGG432FS	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

WNGG-LF

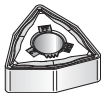
WNGG080401LF	WNGG430LF	12,70	1/2	8,69	.342	4,76	3/16	0,1	.004	5,16	.203
WNGG080402LF	WNGG4305LF	12,70	1/2	8,69	.342	4,76	3/16	0,2	.008	5,16	.203
WNGG080404LF	WNGG431LF	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNGG080408LF	WNGG432LF	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

WNMA



WNMA060408	WNMA332	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMA060412	WNMA333	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150
WNMA080408	WNMA432	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMA080412	WNMA433	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNMA080412E	WNMA433E	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNMA080412T02020	WNMA433T0820	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNMA080416	WNMA434	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203

WNMG-FF



WNMG060404FF	WNMG331FF	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150
WNMG060408FF	WNMG332FF	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG080404FF	WNMG431FF	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408FF	WNMG432FF	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

Order example:
ISO catalog number: WNMG060404FF
Insert grade: KT315

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H							
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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WNGA080408T02020																				●	●	●																						
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WNGA080412T02020																				●	●	●																						
WNGA080416T02020																				●	●	●																						
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WNMA080412T02020																				●		●																						
WNMA080416																	●	●	●																										
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WNMG060408FF		●		●			●		●			●			●																													
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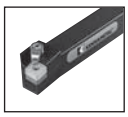
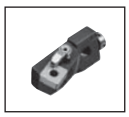

B6–B34

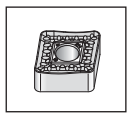
B72–B80

B106–B109

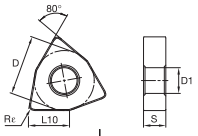

B114–B130

8–23

24–31


33-39

KENLOC™ Inserts



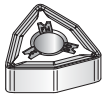
WNMG-FN

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG060404FN	WNMG331FN	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150
WNMG060408FN	WNMG332FN	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG080404FN	WNMG431FN	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408FN	WNMG432FN	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412FN	WNMG433FN	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNMG080416FN	WNMG434FN	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203

WNMG-FP

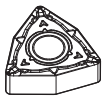
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG060404FP	WNMG331FP	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150
WNMG060408FP	WNMG332FP	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG080404FP	WNMG431FP	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408FP	WNMG432FP	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412FP	WNMG433FP	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

WNMG-FW



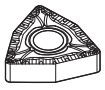
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG060404FW	WNMG331FW	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150
WNMG060408FW	WNMG332FW	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG060412FW	WNMG333FW	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150
WNMG080404FW	WNMG431FW	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408FW	WNMG432FW	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412FW	WNMG433FW	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

WNMG-FW1



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG080404FW1	WNMG431FW1	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408FW1	WNMG432FW1	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

WNMG-FX



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG080404FX	WNMG431FX	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408FX	WNMG432FX	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

WNMG-MH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG080404MH	WNMG431MH	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408MH	WNMG432MH	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412MH	WNMG433MH	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

Order example:
ISO catalog number: WNMG080404MH
Insert grade: KT1120

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H							
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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WNMG060408FN		●		●	●		●									●	●																											
WNMG080404FN		●	●	●	●		●									●	●																											
WNMG080408FN		●	●	●	●		●									●	●																											
WNMG080412FN		●		●	●		●									●	●																											
WNMG080416FN				●	●																																							
WNMG060404FP		●					●		●			●				●																												
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WNMG080408FP		●					●		●			●				●																												
WNMG080412FP									●			●																																
WNMG060404FW		●	●	●			●		●			●				●	●																											
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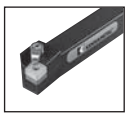
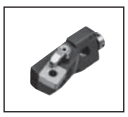

B6–B34

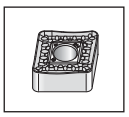
B72–B80

B106–B109


B114–B130

8–23

24–31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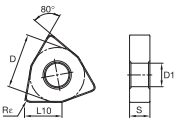
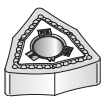


WNMG-MP

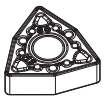
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG060404MP	WNMG331MP	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150
WNMG060408MP	WNMG332MP	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG060412MP	WNMG333MP	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150
WNMG080408MP	WNMG432MP	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412MP	WNMG433MP	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

WNMG-MS



WNMG060408MS	WNMG332MS	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG080401MS	WNMG4300MS	12,70	1/2	8,69	.342	4,76	3/16	0,1	.004	5,16	.203
WNMG080402MS	WNMG4305MS	12,70	1/2	8,69	.342	4,76	3/16	0,2	.008	5,16	.203
WNMG080404MS	WNMG431MS	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408MS	WNMG432MS	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

WNMG-MS1

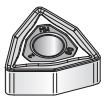


WNMG080404MS1	WNMG431MS1	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408MS1	WNMG432MS1	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412MS1	WNMG433MS1	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

WNMG-MU1

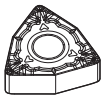
WNMG080404MU1	WNMG431MU1	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408MU1	WNMG432MU1	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

WNMG-MW



WNMG060408MW	WNMG332MW	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG060412MW	WNMG333MW	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150
WNMG080408MW	WNMG432MW	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412MW	WNMG433MW	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

WNMG-MW1



WNMG080404MW1	WNMG431MW1	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408MW1	WNMG432MW1	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412MW1	WNMG433MW1	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

WNMG-MX

WNMG080404MX	WNMG431MX	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408MX	WNMG432MX	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

WNMG-P

WNMG080404P	WNMG431P	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408P	WNMG432P	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412P	WNMG433P	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

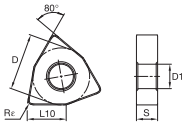
Order example:
ISO catalog number: WNMG080404P
Insert grade: KC5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

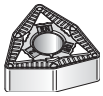
KENNA PERFECT™

ISO catalog number	P						M								K										N					S						H									
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
WNMG060404MP									●			●		●	●																														
WNMG060408MP									●			●		●	●																														
WNMG060412MP															●																														
WNMG080408MP									●			●		●	●																														
WNMG080412MP									●			●		●	●																														
WNMG060408MS																										●					●		●	●										
WNMG080401MS																																	●											
WNMG080402MS																																	●	●										
WNMG080404MS																										●					●		●	●										
WNMG080408MS																										●					●		●	●										
WNMG080404MS1											●		●																															
WNMG080408MS1											●		●																															
WNMG080412MS1											●		●																															
WNMG080404MU1											●		●																															
WNMG080408MU1											●		●																															
WNMG060408MW			●	●	●							●		●				●	●																									
WNMG060412MW			●	●	●																																						
WNMG080408MW			●	●	●							●		●				●	●																									
WNMG080412MW			●	●	●							●		●				●	●																									
WNMG080404MW1	●							●																																				
WNMG080408MW1	●							●																																				
WNMG080412MW1	●																																										
WNMG080404MX	●							●																																				
WNMG080408MX	●							●																																				
WNMG080404P									●			●																																
WNMG080408P									●			●		●																														
WNMG080412P														●																														

B6–B34 B72–B80 B106–B109 B114–B130 8–23 24–31 33-39



WNMG-RN



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG060408RN	WNMG332RN	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG060412RN	WNMG333RN	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150
WNMG080408RN	WNMG432RN	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412RN	WNMG433RN	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNMG080416RN	WNMG434RN	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203

WNMG-RP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG060408RP	WNMG332RP	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG060412RP	WNMG333RP	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150
WNMG080408RP	WNMG432RP	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412RP	WNMG433RP	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNMG080416RP	WNMG434RP	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203

WNMG-UN

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG060408UN	WNMG332UN	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG060412UN	WNMG333UN	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150
WNMG080404UN	WNMG431UN	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNMG080408UN	WNMG432UN	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412UN	WNMG433UN	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203
WNMG080416UN	WNMG434UN	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203

WNMG-UP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNMG060408UP	WNMG332UP	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150
WNMG080408UP	WNMG432UP	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203
WNMG080412UP	WNMG433UP	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203

Order example:
ISO catalog number: WNMG060408UP
Insert grade: KC9240

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M								K										N				S						H								
	KT1120	KT315	KC9105	KC9110	KC9125	KC9140	KT315	KT5020	KC5010	KC5025	KC9210	KC9225	KC9230	KC9240	KC9245	KT315	KC9315	KC9320	KC9325	KY1320	KY3400	KY3500	KB1340	KB1345	KB9640	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5510	KC5525	KY1540	KY2100	KY1615	KY4400	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
WNMG060408RN				●	●	●																																						
WNMG060412RN				●	●	●																																						
WNMG080408RN			●	●	●	●																																						
WNMG080412RN			●	●	●	●																																						
WNMG080416RN				●	●	●																																						
WNMG060408RP			●	●	●				●			●		●			●		●													●	●											
WNMG060412RP			●	●	●				●			●		●			●		●													●	●											
WNMG080408RP			●	●	●	●			●			●		●	●		●	●	●													●	●											
WNMG080412RP			●	●	●	●			●			●		●	●		●	●	●													●	●											
WNMG080416RP			●	●	●												●		●													●	●											
WNMG060408UN																	●	●	●																										
WNMG060412UN																	●	●																											
WNMG080404UN																	●		●																										
WNMG080408UN																	●	●	●																										
WNMG080412UN																	●	●	●																										
WNMG080416UN																	●	●																											
WNMG060408UP									●			●		●																														
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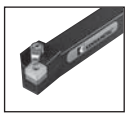
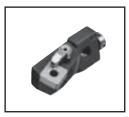

B6–B34

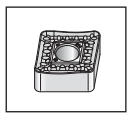
B72–B80

B106–B109

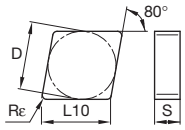

B114–B130

8–23

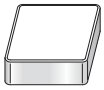
24–31


33-39

KENDEX™ Negative Inserts

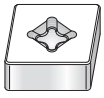


CNGN



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
CNGN120404T01020	CNG431T0420	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64
CNGN120404T02020	CNG431T0820	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64
CNGN120408T01020	CNG432T0420	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32
CNGN120408T02020	CNG432T0820	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32
CNGN120412E	CNG433E	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64
CNGN120412T01020	CNG433T0420	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64
CNGN120412T02020	CNG433T0820	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64
CNGN120416E	CNG434E	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16
CNGN120416T01020	CNG434T0420	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16
CNGN120416T02020	CNG434T0820	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16
CNGN120708T01020	CNG452T0420	12,70	1/2	12,90	.508	7,94	5/16	0,8	1/32
CNGN120708T02020	CNG452T0820	12,70	1/2	12,90	.508	7,94	5/16	0,8	1/32
CNGN120712T01020	CNG453T0420	12,70	1/2	12,90	.508	7,94	5/16	1,2	3/64
CNGN120712T02020	CNG453T0820	12,70	1/2	12,90	.508	7,94	5/16	1,2	3/64
CNGN120716T01020	CNG454T0420	12,70	1/2	12,90	.508	7,94	5/16	1,6	1/16
CNGN120716T02020	CNG454T0820	12,70	1/2	12,90	.508	7,94	5/16	1,6	1/16
CNGN160412T02020	CNG533T0820	15,88	5/8	16,12	.635	4,76	3/16	1,2	3/64
CNGN160612T02020	CNG543T0820	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64
CNGN160708T02020	CNG552T0820	15,88	5/8	16,12	.635	7,94	5/16	0,8	1/32
CNGN160712T01020	CNG553T0420	15,88	5/8	16,12	.635	7,94	5/16	1,2	3/64
CNGN160712T02020	CNG553T0820	15,88	5/8	16,12	.635	7,94	5/16	1,2	3/64
CNGN160716T02020	CNG554T0820	15,88	5/8	16,12	.635	7,94	5/16	1,6	1/16
CNGN160716T05015	CNG554T2015	15,88	5/8	16,12	.635	7,94	5/16	1,6	1/16
CNGN190732T02020	CNG658T0820	19,05	3/4	19,34	.762	7,94	5/16	3,2	1/8

CNGX



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
CNGX120708T01020	CNGX452T0420	12,70	1/2	12,90	.508	7,94	5/16	0,8	1/32
CNGX120708T02020	CNGX452T0820	12,70	1/2	12,90	.508	7,94	5/16	0,8	1/32
CNGX120712T01020	CNGX453T0420	12,70	1/2	12,90	.508	7,94	5/16	1,2	3/64
CNGX120712T02020	CNGX453T0820	12,70	1/2	12,90	.508	7,94	5/16	1,2	3/64
CNGX120716T02020	CNGX454T0820	12,70	1/2	12,90	.508	7,94	5/16	1,6	1/16
CNGX160708T02020	CNGX552T0820	15,88	5/8	16,12	.635	7,94	5/16	0,8	1/32
CNGX160712T02020	CNGX553T0820	15,88	5/8	16,12	.635	7,94	5/16	1,2	3/64
CNGX160716T02020	CNGX554T0820	15,88	5/8	16,12	.635	7,94	5/16	1,6	1/16
CNGX160724T02020	CNGX556T0820	15,88	5/8	16,12	.635	7,94	5/16	2,4	3/32

CNGX-FW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
CNGX120708T01020FW	CNGX452T0420FW	12,70	1/2	12,90	.51	7,94	5/16	0,8	1/32
CNGX120712T01020FW	CNGX453T0420FW	12,70	1/2	12,90	.51	7,94	5/16	1,2	3/64
CNGX120716T01020FW	CNGX454T0420FW	12,70	1/2	12,90	.51	7,94	5/16	1,6	1/16

Order example:
ISO catalog number: CNGX120708T01020FW
Insert grade: KY3500

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT K KY1320	K KY3400	K KY3500	K KB1340	K KB9640	S KY1540	S KY2100	S KY4300	H KY1615	H KY4400
CNGN120404T01020										●
CNGN120404T02020									●	
CNGN120408T01020						●		●		●
CNGN120408T02020			●						●	
CNGN120412E						●				
CNGN120412T01020						●	●	●		●
CNGN120412T02020	●	●	●						●	
CNGN120416E						●				
CNGN120416T01020						●	●	●		●
CNGN120416T02020	●		●						●	
CNGN120708T01020								●		●
CNGN120708T02020									●	
CNGN120712T01020						●		●		●
CNGN120712T02020	●	●	●						●	
CNGN120716T01020						●		●		●
CNGN120716T02020	●		●						●	
CNGN160412T02020			●							
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CNGN160712T01020										●
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CNGN160716T02020			●						●	
CNGN160716T05015									●	
CNGN190732T02020									●	
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CNGX120712T02020	●	●	●						●	
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CNGX160708T02020			●							
CNGX160712T02020									●	
CNGX160716T02020	●	●	●							
CNGX160724T02020	●		●							
CNGX120708T01020FW			●							
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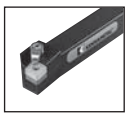
CNGX120716T01020FW	●		●							


B35–B47

B81–B83

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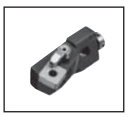
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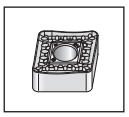
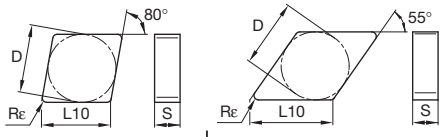
8–23

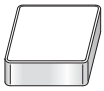
24–31


33-39

KENDEX™ Negative Inserts



CNMN

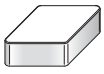


ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
CNMN090308E	CNM322E	9,53	3/8	9,67	.38	3,18	1/8	0,8	1/32
CNMN090308S02020	CNM322S0820	9,53	3/8	9,67	.38	3,18	1/8	0,8	1/32
CNMN090312S02020	CNM323S0820	9,53	3/8	9,67	.38	3,18	1/8	1,2	3/64
CNMN120408S02020	CNM432S0820	12,70	1/2	12,90	.51	4,76	3/16	0,8	1/32
CNMN120412S02020	CNM433S0820	12,70	1/2	12,90	.51	4,76	3/16	1,2	3/64
CNMN120412S03020	CNM433S1220	12,70	1/2	12,90	.51	4,76	3/16	1,2	3/64
CNMN120708T02020	CNM452T0820	12,70	1/2	12,90	.51	7,94	5/16	0,8	1/32
CNMN120712T02020	CNM453T0820	12,70	1/2	12,90	.51	7,94	5/16	1,2	3/64
CNMN120716T02020	CNM454T0820	12,70	1/2	12,90	.51	7,94	5/16	1,6	1/16

CNMX

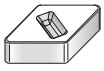
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
CNMX120708T02020	CNMX452T0820	12,70	1/2	12,90	.51	7,94	5/16	0,8	1/32
CNMX120712T02020	CNMX453T0820	12,70	1/2	12,90	.51	7,94	5/16	1,2	3/64
CNMX120716T02020	CNMX454T0820	12,70	1/2	12,90	.51	7,94	5/16	1,6	1/16

DNGN



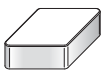
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
DNGN150408T01020	DNG432T0420	12,70	1/2	15,50	.61	4,76	3/16	0,8	1/32
DNGN150408T02020	DNG432T0820	12,70	1/2	15,50	.61	4,76	3/16	0,8	1/32
DNGN150412T01020	DNG433T0420	12,70	1/2	15,50	.61	4,76	3/16	1,2	3/64
DNGN150412T02020	DNG433T0820	12,70	1/2	15,50	.61	4,76	3/16	1,2	3/64
DNGN150608T02020	DNG442T0820	12,70	1/2	15,50	.61	6,35	1/4	0,8	1/32
DNGN150704T01020	DNG451T0420	12,70	1/2	15,50	.61	7,94	5/16	0,4	1/64
DNGN150704T02020	DNG451T0820	12,70	1/2	15,50	.61	7,94	5/16	0,4	1/64
DNGN150708T01020	DNG452T0420	12,70	1/2	15,50	.61	7,94	5/16	0,8	1/32
DNGN150708T02020	DNG452T0820	12,70	1/2	15,50	.61	7,94	5/16	0,8	1/32
DNGN150712T01020	DNG453T0420	12,70	1/2	15,50	.61	7,94	5/16	1,2	3/64
DNGN150712T02020	DNG453T0820	12,70	1/2	15,50	.61	7,94	5/16	1,2	3/64
DNGN150716T01020	DNG454T0420	12,70	1/2	15,50	.61	7,94	5/16	1,6	1/16
DNGN150716T02020	DNG454T0820	12,70	1/2	15,50	.61	7,94	5/16	1,6	1/16

DNGX



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
DNGX120708T02020	DNGX120708T02020	10,00	.3937	12,21	.48	7,94	5/16	0,8	1/32
DNGX120712T02020	DNGX120712T02020	10,00	.3937	12,21	.48	7,94	5/16	1,2	3/64
DNGX120716T02020	DNGX120716T02020	10,00	.3937	12,21	.48	7,94	5/16	1,6	1/16
DNGX150708T01020	DNGX452T0420	12,70	1/2	15,50	.61	7,94	5/16	0,8	1/32
DNGX150708T02020	DNGX452T0820	12,70	1/2	15,50	.61	7,94	5/16	0,8	1/32
DNGX150712T01020	DNGX453T0420	12,70	1/2	15,50	.61	7,94	5/16	1,2	3/64
DNGX150712T02020	DNGX453T0820	12,70	1/2	15,50	.61	7,94	5/16	1,2	3/64
DNGX150716T01020	DNGX454T0420	12,70	1/2	15,50	.61	7,94	5/16	1,6	1/16
DNGX150716T02020	DNGX454T0820	12,70	1/2	15,50	.61	7,94	5/16	1,6	1/16

DNMN

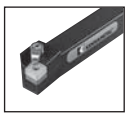


ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
DNMN110308S02020	DNM322S0820	9,53	3/8	11,63	.46	3,18	1/8	0,8	1/32
DNMN110312S02020	DNM323S0820	9,53	3/8	11,63	.46	3,18	1/8	1,2	3/64
DNMN110316S02020	DNM324S0820	9,53	3/8	11,63	.46	3,18	1/8	1,6	1/16

Order example:
ISO catalog number: DNGX120708T02020
Insert grade: KY3500

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT K KY1320	K KY3400	K KY3500	K KB1340	K KB9640	S KY1540	S KY2100	S KY4300	H KY1615	H KY4400
CNMN090308E					●					
CNMN090308S02020				●	●					
CNMN090312S02020				●	●					
CNMN120408S02020				●	●					
CNMN120412S02020				●	●					
CNMN120412S03020					●					
CNMN120708T02020			●							
CNMN120712T02020			●							
CNMN120716T02020			●							
CNMX120708T02020	●		●							
CNMX120712T02020	●		●							
CNMX120716T02020	●		●							
DNGN150408T01020										●
DNGN150408T02020									●	
DNGN150412T01020										●
DNGN150412T02020									●	
DNGN150608T02020									●	
DNGN150704T01020										●
DNGN150704T02020									●	
DNGN150708T01020								●		●
DNGN150708T02020									●	
DNGN150712T01020								●		●
DNGN150712T02020									●	
DNGN150716T01020								●		●
DNGN150716T02020									●	
DNGX120708T02020			●						●	
DNGX120712T02020	●		●						●	
DNGX120716T02020	●		●						●	
DNGX150708T01020						●				
DNGX150708T02020			●						●	
DNGX150712T01020						●				
DNGX150712T02020	●		●						●	
DNGX150716T01020						●				
DNGX150716T02020	●		●							
DNMN110308S02020					●					
DNMN110312S02020					●					
DNMN110316S02020					●					


B35–B47

B81–B83

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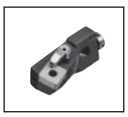
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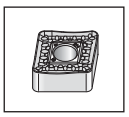
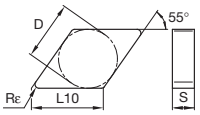
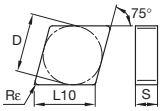
8–23

24–31

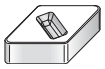

33-39

KENDEX™ Negative Inserts



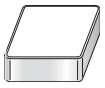


DNMX



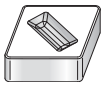
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
DNMX150712T02020	DNMX453T0820	12,70	1/2	15,50	.61	7,94	5/16	1,2	3/64
DNMX150716T02020	DNMX454T0820	12,70	1/2	15,50	.61	7,94	5/16	1,6	1/16

ENGN



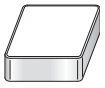
ENGN130412T02020	ENG433T0820	12,70	1/2	13,15	.52	4,76	3/16	1,2	3/64
ENGN130704T02020	ENG451T0820	12,70	1/2	13,15	.52	7,94	5/16	0,4	1/64
ENGN130708T02020	ENG452T0820	12,70	1/2	13,15	.52	7,94	5/16	0,8	1/32
ENGN130712T01020	ENG453T0420	12,70	1/2	13,15	.52	7,94	5/16	1,2	3/64
ENGN130712T02020	ENG453T0820	12,70	1/2	13,15	.52	7,94	5/16	1,2	3/64
ENGN130716T02020	ENG454T0820	12,70	1/2	13,15	.52	7,94	5/16	1,6	1/16

ENGX



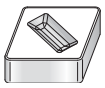
ENGX130708T02020	ENGX452T0820	12,70	1/2	13,15	.52	7,94	5/16	0,8	1/32
ENGX130712T02020	ENGX453T0820	12,70	1/2	13,15	.52	7,94	5/16	1,2	3/64
ENGX130716T02020	ENGX454T0820	12,70	1/2	13,15	.52	7,94	5/16	1,6	1/16

ENMN



ENMN130712T02020	ENM453T0820	12,70	1/2	13,15	.52	7,94	5/16	1,2	3/64
ENMN130716T02020	ENM454T0820	12,70	1/2	13,15	.52	7,94	5/16	1,6	1/16

ENMX



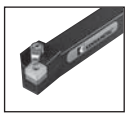
ENMX130712T02020	ENMX453T0820	12,70	1/2	13,15	.52	7,94	5/16	1,2	3/64
ENMX130716T02020	ENMX454T0820	12,70	1/2	13,15	.52	7,94	5/16	1,6	1/16

Order example:
ISO catalog number: ENMX130712T02020
Insert grade: KY3500

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT K KY1320	K KY3400	K KY3500	K KB1340	K KB9640	S KY1540	S KY2100	S KY4300	H KY1615	H KY4400
DNMX150712T02020			●							
DNMX150716T02020			●							
ENGN130412T02020			●							
ENGN130704T02020									●	
ENGN130708T02020									●	
ENGN130712T01020								●		
ENGN130712T02020			●						●	
ENGN130716T02020			●						●	
ENGX130708T02020									●	
ENGX130712T02020									●	
ENGX130716T02020	●		●							
ENMN130712T02020			●							
ENMN130716T02020			●							
ENMX130712T02020			●							
ENMX130716T02020			●							

KENNA PERFECT SELECTION SYSTEM
INSERTS
OD/ID TOOLING
TOOL ADAPTER VDI
GROOVING AND CUT-OFF
THREADING
APPLICATION SPECIFIC
KM QUICK-CHANGE TOOLS
CLASSIC PRODUCTS
TECHNICAL SECTION
INDEX


B35–B47

B81–B83

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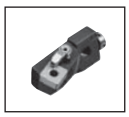
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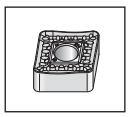
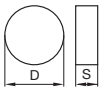
8–23

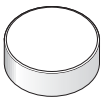
24–31


33-39

KENDEX™ Negative Inserts



RNGN



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
RNGN090300T01020	RNG32T0420	9,53	3/8	–	–	3,18	1/8	–	–
RNGN090300T02020	RNG32T0820	9,53	3/8	–	–	3,18	1/8	–	–
RNGN090400T02020	RNG33T0820	9,53	3/8	–	–	4,76	3/16	–	–
RNGN120300T01020	RNG42T0420	12,70	1/2	–	–	3,18	1/8	–	–
RNGN120300T02020	RNG42T0820	12,70	1/2	–	–	3,18	1/8	–	–
RNGN120400E	RNG43E	12,70	1/2	–	–	4,76	3/16	–	–
RNGN120400T01020	RNG43T0420	12,70	1/2	–	–	4,76	3/16	–	–
RNGN120400T02020	RNG43T0820	12,70	1/2	–	–	4,76	3/16	–	–
RNGN120700E	RNG45E	12,70	1/2	–	–	7,94	5/16	–	–
RNGN120700T00520	RNG45T0220	12,70	1/2	–	–	7,94	5/16	–	–
RNGN120700T01020	RNG45T0420	12,70	1/2	–	–	7,94	5/16	–	–
RNGN120700T01025	RNG45T0425	12,70	1/2	–	–	7,94	5/16	–	–
RNGN120700T02020	RNG45T0820	12,70	1/2	–	–	7,94	5/16	–	–
RNGN120700T10015	RNG45T4015	12,70	1/2	–	–	7,94	5/16	–	–
RNGN120700T15015	RNG45T6015	12,70	1/2	–	–	7,94	5/16	–	–
RNGN120700T20015	RNG45T8015	12,70	1/2	–	–	7,94	5/16	–	–
RNGN150700T02020	RNG55T0820	15,88	5/8	–	–	7,94	5/16	–	–
RNGN190700E	RNG65E	19,05	3/4	–	–	7,94	5/16	–	–
RNGN190700T02020	RNG65T0820	19,05	3/4	–	–	7,94	5/16	–	–
RNGN190700T20015	RNG65T8015	19,05	3/4	–	–	7,94	5/16	–	–
RNGN250700P2001503	RNG85P8015	25,40	1	–	–	7,94	5/16	–	–
RNGN250700T20015	RNG85T8015	25,40	1	–	–	7,94	5/16	–	–

RNMN

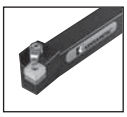
RNMN090300E	RNM32E	9,53	3/8	–	–	3,18	1/8	–	–
RNMN090300S02020	RNM32S0820	9,53	3/8	–	–	3,18	1/8	–	–
RNMN120300E	RNM42E	12,70	1/2	–	–	3,18	1/8	–	–
RNMN120300S02020	RNM42S0820	12,70	1/2	–	–	3,18	1/8	–	–
RNMN120400S02020	RNM43S0820	12,70	1/2	–	–	4,76	3/16	–	–
RNMN120400S03020	RNM43S1220	12,70	1/2	–	–	4,76	3/16	–	–
RNMN120700T02020	RNM45T0820	12,70	1/2	–	–	7,94	5/16	–	–

Order example:
ISO catalog number: RNM090300E
Insert grade: KB9640

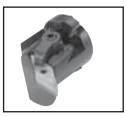
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT K KY1320	K KY3400	K KY3500	K KB1340	K KB9640	S KY1540	S KY2100	S KY4300	H KY1615	H KY4400
RNGN090300T01020								●		
RNGN090300T02020									●	
RNGN090400T02020									●	
RNGN120300T01020										●
RNGN120300T02020									●	
RNGN120400E						●	●			
RNGN120400T01020						●	●	●		●
RNGN120400T02020	●	●	●						●	
RNGN120700E						●	●	●	●	
RNGN120700T00520								●		
RNGN120700T01020						●	●	●		●
RNGN120700T01025						●				
RNGN120700T02020	●		●						●	
RNGN120700T10015								●	●	
RNGN120700T15015								●		
RNGN120700T20015									●	
RNGN150700T02020	●		●						●	
RNGN190700E						●				
RNGN190700T02020									●	
RNGN190700T20015								●		
RNGN250700P2001503									●	
RNGN250700T20015								●	●	

RNMN090300E					●					
RNMN090300S02020				●	●					
RNMN120300E					●					
RNMN120300S02020				●	●					
RNMN120400S02020				●	●					
RNMN120400S03020					●					
RNMN120700T02020	●		●							


B35–B47

B81–B83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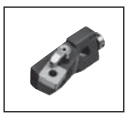
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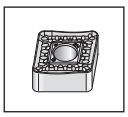
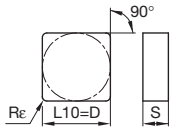
8–23

24–31

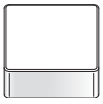

33-39

KENDEX™ Negative Inserts

KENNAMETAL



SNGN

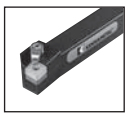


ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
SNGN090308T00520	SNG322T0220	9,53	3/8	9,53	.38	3,18	1/8	0,8	1/32
SNGN090308T01020	SNG322T0420	9,53	3/8	9,53	.38	3,18	1/8	0,8	1/32
SNGN090308T02020	SNG322T0820	9,53	3/8	9,53	.38	3,18	1/8	0,8	1/32
SNGN090312T01020	SNG323T0420	9,53	3/8	9,53	.38	3,18	1/8	1,2	3/64
SNGN090412T00515	SNG333T0215	9,53	3/8	9,53	.38	4,76	3/16	1,2	3/64
SNGN090412T02020	SNG333T0820	9,53	3/8	9,53	.38	4,76	3/16	1,2	3/64
SNGN120408T00520	SNG432T0220	12,70	1/2	12,70	.50	4,76	3/16	0,8	1/32
SNGN120408T01020	SNG432T0420	12,70	1/2	12,70	.50	4,76	3/16	0,8	1/32
SNGN120408T02020	SNG432T0820	12,70	1/2	12,70	.50	4,76	3/16	0,8	1/32
SNGN120412E	SNG433	12,70	1/2	12,70	.50	4,76	3/16	1,2	3/64
SNGN120412T01020	SNG433T0420	12,70	1/2	12,70	.50	4,76	3/16	1,2	3/64
SNGN120412T02020	SNG433T0820	12,70	1/2	12,70	.50	4,76	3/16	1,2	3/64
SNGN120416E	SNG434	12,70	1/2	12,70	.50	4,76	3/16	1,6	1/16
SNGN120416T01020	SNG434T0420	12,70	1/2	12,70	.50	4,76	3/16	1,6	1/16
SNGN120416T02020	SNG434T0820	12,70	1/2	12,70	.50	4,76	3/16	1,6	1/16
SNGN120424T02020	SNG436T0820	12,70	1/2	12,70	.50	4,76	3/16	2,4	3/32
SNGN120432T02020	SNG438T0820	12,70	1/2	12,70	.50	4,76	3/16	3,2	1/8
SNGN120704T01020	SNG451T0420	12,70	1/2	12,70	.50	7,94	5/16	0,4	1/64
SNGN120704T02020	SNG451T0820	12,70	1/2	12,70	.50	7,94	5/16	0,4	1/64
SNGN120708T01020	SNG452T0420	12,70	1/2	12,70	.50	7,94	5/16	0,8	1/32
SNGN120708T02020	SNG452T0820	12,70	1/2	12,70	.50	7,94	5/16	0,8	1/32
SNGN120712T01020	SNG453T0420	12,70	1/2	12,70	.50	7,94	5/16	1,2	3/64
SNGN120712T02020	SNG453T0820	12,70	1/2	12,70	.50	7,94	5/16	1,2	3/64
SNGN120716T01020	SNG454T0420	12,70	1/2	12,70	.50	7,94	5/16	1,6	1/16
SNGN120716T02020	SNG454T0820	12,70	1/2	12,70	.50	7,94	5/16	1,6	1/16
SNGN120720T02020	SNG455T0820	12,70	1/2	12,70	.50	7,94	5/16	2,0	5/64
SNGN120720T10015	SNG455T4015	12,70	1/2	12,70	.50	7,94	5/16	2,0	5/64
SNGN120720T20015	SNG455T8015	12,70	1/2	12,70	.50	7,94	5/16	2,0	5/64
SNGN150712T02020	SNG553T0820	15,88	5/8	15,88	.63	7,94	5/16	1,2	3/64
SNGN150716T02020	SNG554T0820	15,88	5/8	15,88	.63	7,94	5/16	1,6	1/16
SNGN190412T02020	SNG633T0820	19,05	3/4	19,05	.75	4,76	3/16	1,2	3/64
SNGN190416T02020	SNG634T0820	19,05	3/4	19,05	.75	4,76	3/16	1,6	1/16
SNGN190612T02020	SNG643T0820	19,05	3/4	19,05	.75	6,35	1/4	1,2	3/64
SNGN190616E	SNG644	19,05	3/4	19,05	.75	6,35	1/4	1,6	1/16
SNGN190616E	SNG644E	19,05	3/4	19,05	.75	6,35	1/4	1,6	1/16
SNGN190616T01020	SNG644T0420	19,05	3/4	19,05	.75	6,35	1/4	1,6	1/16
SNGN190616T02020	SNG644T0820	19,05	3/4	19,05	.75	6,35	1/4	1,6	1/16
SNGN190708T02020	SNG652T0820	19,05	3/4	19,05	.75	7,94	5/16	0,8	1/32
SNGN190716T02020	SNG654T0820	19,05	3/4	19,05	.75	7,94	5/16	1,6	1/16
SNGN190720K20015	SNG655K8015	19,05	3/4	19,05	.75	7,94	5/16	2,0	5/64
SNGN190720T20015	SNG655T8015	19,05	3/4	19,05	.75	7,94	5/16	2,0	5/64
SNGN190724E	SNG656E	19,05	3/4	19,05	.75	7,94	5/16	2,4	3/32
SNGN190724T02020	SNG656T0820	19,05	3/4	19,05	.75	7,94	5/16	2,4	3/32

Order example:
ISO catalog number: SNG090308T00520
Insert grade: KY1615

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT K KY1320	K KY3400	K KY3500	K KB1340	K KB9640	S KY1540	S KY2100	S KY4300	H KY1615	H KY4400
SNGN090308T00520									●	
SNGN090308T01020								●		●
SNGN090308T02020			●						●	
SNGN090312T01020										●
SNGN090412T00515									●	
SNGN090412T02020									●	
SNGN120408T00520									●	
SNGN120408T01020						●		●		●
SNGN120408T02020	●	●	●						●	
SNGN120412E							●			
SNGN120412T01020						●		●		●
SNGN120412T02020	●	●	●						●	
SNGN120416E							●			
SNGN120416T01020						●		●		●
SNGN120416T02020	●		●						●	
SNGN120424T02020			●							
SNGN120432T02020			●						●	
SNGN120704T01020										●
SNGN120704T02020									●	
SNGN120708T01020						●		●		●
SNGN120708T02020									●	
SNGN120712T01020						●	●	●		●
SNGN120712T02020	●	●	●						●	
SNGN120716T01020						●		●		●
SNGN120716T02020	●		●						●	
SNGN120720T02020									●	
SNGN120720T10015									●	
SNGN120720T20015									●	
SNGN150712T02020			●						●	
SNGN150716T02020									●	
SNGN190412T02020			●						●	
SNGN190416T02020			●						●	
SNGN190612T02020									●	
SNGN190616E							●			
SNGN190616E						●				
SNGN190616T01020						●				
SNGN190616T02020									●	
SNGN190708T02020									●	
SNGN190716T02020									●	
SNGN190720K20015									●	
SNGN190720T20015									●	
SNGN190724E						●				
SNGN190724T02020									●	


B35–B47

B81–B83

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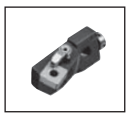
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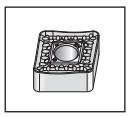
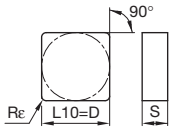
8–23

24–31


33-39

KENDEX™ Negative Inserts



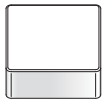
SNGX

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
SNGX120708T01020	SNGX452T0420	12,70	1/2	12,70	.50	7,94	5/16	0,8	1/32
SNGX120708T02020	SNGX452T0820	12,70	1/2	12,70	.50	7,94	5/16	0,8	1/32
SNGX120712T01020	SNGX453T0420	12,70	1/2	12,70	.50	7,94	5/16	1,2	3/64
SNGX120712T02020	SNGX453T0820	12,70	1/2	12,70	.50	7,94	5/16	1,2	3/64
SNGX120716T01020	SNGX454T0420	12,70	1/2	12,70	.50	7,94	5/16	1,6	1/16
SNGX120716T02020	SNGX454T0820	12,70	1/2	12,70	.50	7,94	5/16	1,6	1/16
SNGX150708T02020	SNGX552T0820	15,88	5/8	15,88	.63	7,94	5/16	0,8	1/32
SNGX150712T02020	SNGX553T0820	15,88	5/8	15,88	.63	7,94	5/16	1,2	3/64
SNGX150716T02020	SNGX554T0820	15,88	5/8	15,88	.63	7,94	5/16	1,6	1/16
SNGX150724T02020	SNGX556T0820	15,88	5/8	15,88	.63	7,94	5/16	2,4	3/32

SNGX-FW

SNGX120712T01020FW	SNGX453T0420FW	12,70	1/2	12,70	.50	7,94	5/16	1,2	3/64

SNMN



SNMN090308E	SNM322E	9,53	3/8	9,53	.38	3,18	1/8	0,8	1/32
SNMN090308S02020	SNM322S0820	9,53	3/8	9,53	.38	3,18	1/8	0,8	1/32
SNMN090312S02020	SNM323S0820	9,53	3/8	9,53	.38	3,18	1/8	1,2	3/64
SNMN090316S02020	SNM324S0820	9,53	3/8	9,53	.38	3,18	1/8	1,6	1/16
SNMN120308S02020	SNM422S0820	12,70	1/2	12,70	.50	3,18	1/8	0,8	1/32
SNMN120312S02020	SNM423S0820	12,70	1/2	12,70	.50	3,18	1/8	1,2	3/64
SNMN120316S02020	SNM424S0820	12,70	1/2	12,70	.50	3,18	1/8	1,6	1/16
SNMN120412E	SNM433E	12,70	1/2	12,70	.50	4,76	3/16	1,2	3/64
SNMN120412S02020	SNM433S0820	12,70	1/2	12,70	.50	4,76	3/16	1,2	3/64
SNMN120412T02020	SNM433T0820	12,70	1/2	12,70	.50	4,76	3/16	1,2	3/64
SNMN120416S02020	SNM434S0820	12,70	1/2	12,70	.50	4,76	3/16	1,6	1/16
SNMN120416S03020	SNM434S1220	12,70	1/2	12,70	.50	4,76	3/16	1,6	1/16
SNMN120416T02020	SNM434T0820	12,70	1/2	12,70	.50	4,76	3/16	1,6	1/16
SNMN120716T02020	SNM454T0820	12,70	1/2	12,70	.50	7,94	5/16	1,6	1/16

Order example:
ISO catalog number: SNMN090308E
Insert grade: KB9640

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT K KY1320	K KY3400	K KY3500	K KB1340	K KB9640	S KY1540	S KY2100	S KY4300	H KY1615	H KY4400
SNGX120708T01020						●				
SNGX120708T02020			●						●	
SNGX120712T01020						●				
SNGX120712T02020	●	●	●						●	
SNGX120716T01020						●				
SNGX120716T02020	●	●	●							
SNGX150708T02020			●						●	
SNGX150712T02020		●	●							
SNGX150716T02020	●	●	●							
SNGX150724T02020			●							
SNGX120712T01020FW			●							
SNMN090308E					●					
SNMN090308S02020				●	●					
SNMN090312S02020				●	●					
SNMN090316S02020				●	●					
SNMN120308S02020				●	●					
SNMN120312S02020				●	●					
SNMN120316S02020				●	●					
SNMN120412E					●					
SNMN120412S02020				●	●					
SNMN120412T02020	●		●							
SNMN120416S02020					●					
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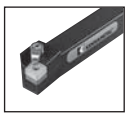
SNMN120416T02020	●		●							
SNMN120716T02020	●		●							


B35–B47

B81–B83

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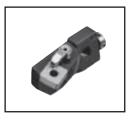
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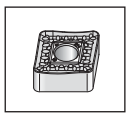
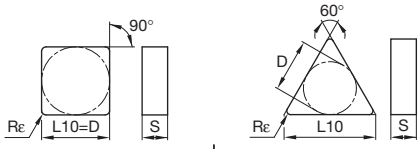
8–23

24–31


33-39

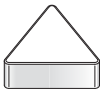
KENDEX™ Negative Inserts



SNMX

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
SNMX120712T02020	SNMX453T0820	12,70	1/2	12,70	.50	7,94	5/16	1,2	3/64
SNMX120716T02020	SNMX454T0820	12,70	1/2	12,70	.50	7,94	5/16	1,6	1/16
SNMX150716T02020	SNMX554T0820	15,88	5/8	15,88	.63	7,94	5/16	1,6	1/16

TNGN



TNGN110304T02020	TNG221T0820	6,35	1/4	11,00	.43	3,18	1/8	0,4	1/64
TNGN110308T01020	TNG222T0420	6,35	1/4	11,00	.43	3,18	1/8	0,8	1/32
TNGN110308T02020	TNG222T0820	6,35	1/4	11,00	.43	3,18	1/8	0,8	1/32
TNGN160404T01020	TNG331T0420	9,53	3/8	16,50	.65	4,76	3/16	0,4	1/64
TNGN160404T02020	TNG331T0820	9,53	3/8	16,50	.65	4,76	3/16	0,4	1/64
TNGN160408T01020	TNG332T0420	9,53	3/8	16,50	.65	4,76	3/16	0,8	1/32
TNGN160408T02020	TNG332T0820	9,53	3/8	16,50	.65	4,76	3/16	0,8	1/32
TNGN160412T01020	TNG333T0420	9,53	3/8	16,50	.65	4,76	3/16	1,2	3/64
TNGN160412T02020	TNG333T0820	9,53	3/8	16,50	.65	4,76	3/16	1,2	3/64
TNGN160416T02020	TNG334T0820	9,53	3/8	16,50	.65	4,76	3/16	1,6	1/16
TNGN160708T01020	TNG352T0420	9,53	3/8	16,50	.65	7,94	5/16	0,8	1/32
TNGN160708T02020	TNG352T0820	9,53	3/8	16,50	.65	7,94	5/16	0,8	1/32
TNGN160712T01020	TNG353T0420	9,53	3/8	16,50	.65	7,94	5/16	1,2	3/64
TNGN160712T02020	TNG353T0820	9,53	3/8	16,50	.65	7,94	5/16	1,2	3/64
TNGN160716T02020	TNG354T0820	9,53	3/8	16,50	.65	7,94	5/16	1,6	1/16
TNGN220408T01020	TNG432T0420	12,70	1/2	22,00	.87	4,76	3/16	0,8	1/32
TNGN220408T02020	TNG432T0820	12,70	1/2	22,00	.87	4,76	3/16	0,8	1/32
TNGN220412T01020	TNG433T0420	12,70	1/2	22,00	.87	4,76	3/16	1,2	3/64
TNGN220412T02020	TNG433T0820	12,70	1/2	22,00	.87	4,76	3/16	1,2	3/64
TNGN220416T01020	TNG434T0420	12,70	1/2	22,00	.87	4,76	3/16	1,6	1/16
TNGN220416T02020	TNG434T0820	12,70	1/2	22,00	.87	4,76	3/16	1,6	1/16
TNGN220712T02020	TNG453T0820	12,70	1/2	22,00	.87	7,94	5/16	1,2	3/64

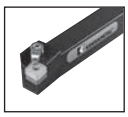
TNMN

TNMN110304S02020	TNM221S0820	6,35	1/4	11,00	.43	3,18	1/8	0,4	1/64
TNMN160412S02020	TNM333S0820	9,53	3/8	16,50	.65	4,76	3/16	1,2	3/64
TNMN160416S02020	TNM334S0820	9,53	3/8	16,50	.65	4,76	3/16	1,6	1/16

Order example:
ISO catalog number: TNM110304S0202
Insert grade: KB9640

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT K KY1320	K KY3400	K KY3500	K KB1340	K KB9640	S KY1540	S KY2100	S KY4300	H KY1615	H KY4400
SNMX120712T02020	●		●							
SNMX120716T02020	●		●							
SNMX150716T02020	●		●							
TNGN110304T02020									●	
TNGN110308T01020										●
TNGN110308T02020									●	
TNGN160404T01020										●
TNGN160404T02020									●	
TNGN160408T01020								●		●
TNGN160408T02020	●		●						●	
TNGN160412T01020								●		●
TNGN160412T02020			●						●	
TNGN160416T02020									●	
TNGN160708T01020								●		●
TNGN160708T02020									●	
TNGN160712T01020										●
TNGN160712T02020									●	
TNGN160716T02020									●	
TNGN220408T01020										●
TNGN220408T02020			●						●	
TNGN220412T01020						●				
TNGN220412T02020									●	
TNGN220416T01020						●				
TNGN220416T02020	●	●	●							
TNGN220712T02020									●	
TNMN110304S02020					●					
TNMN160412S02020					●					
TNMN160416S02020					●					


B35–B47

B81–B83

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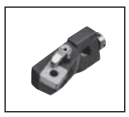
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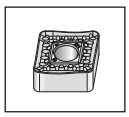
8–23

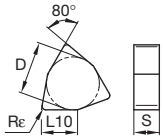
24–31


33-39

KENDEX™ Negative Inserts

KENNAMETAL

WNGX



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
WNGX080708T02020	WNGX452T0820	12,70	1/2	8,69	.34	7,94	5/16	0,8	1/32
WNGX080712T02020	WNGX453T0820	12,70	1/2	8,69	.34	7,94	5/16	1,2	3/64
WNGX080716T02020	WNGX454T0820	12,70	1/2	8,69	.34	7,94	5/16	1,6	1/16

WNGX-FW

WNGX080716T01020FW	WNGX454T0420FW	12,70	1/2	8,69	.34	7,94	5/16	1,6	1/16

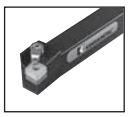
WNMX

WNMX080712T02020	WNMX453T0820	12,70	1/2	8,69	.34	7,94	5/16	1,2	3/64

Order example:
ANSI catalog number: WNMX080712T02020
Insert grade: KY3500

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT K KY1320	K KY3400	K KY3500	K KB1340	K KB9640	S KY1540	S KY2100	S KY4300	H KY1615	H KY4400
WNGX080708T02020		●	●							
WNGX080712T02020	●		●							
WNGX080716T02020		●								
WNGX080716T01020FW		●								
WNMX080712T02020	●		●							


B35–B47

B81–B83

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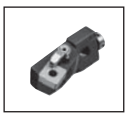
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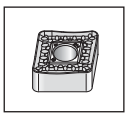
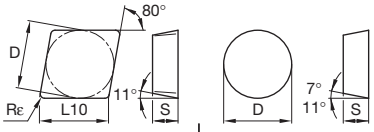
8–23

24–31


33-39

KENDEX™ Positive Inserts



CPGN

(ST)

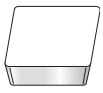
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
CPGN120304E	CPG421E	12,70	1/2	12,90	.508	3,18	1/8	0,4	1/64
CPGN120304F	CPG421F	12,70	1/2	12,90	.508	3,18	1/8	0,4	1/64
CPGN120308F	CPG422F	12,70	1/2	12,90	.508	3,18	1/8	0,8	1/32

CPGN

(MT)

CPGN120304S01015MT	CPG421S0415MT	12,70	1/2	12,90	.508	3,18	1/8	0,4	1/64
CPGN120308S01015MT	CPG422S0415MT	12,70	1/2	12,90	.508	3,18	1/8	0,8	1/32

CPGN

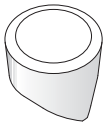


CPGN120304	CPG421	12,70	1/2	12,90	.508	3,18	1/8	0,4	1/64
CPGN120308	CPG422	12,70	1/2	12,90	.508	3,18	1/8	0,8	1/32

RCGN

RCGN120700T02020	RCG45T0820	12,70	1/2	–	–	7,92	5/16	–	–
RCGN120700T20015	RCG45T8015	12,70	1/2	–	–	7,92	5/16	–	–

RCGX



RCGV060400	RCGV23	6,35	1/4	–	–	4,78	.1882	–	–
RCGX060400E	RCGV23E	6,35	1/4	–	–	4,78	.1882	–	–
RCGV090700	RCGV35	9,53	3/8	–	–	7,92	5/16	–	–
RCGX090700E	RCGV35E	9,53	3/8	–	–	7,92	5/16	–	–
RCGX090700T01020	RCGV35T0420	9,53	3/8	–	–	7,92	5/16	–	–
RCGX090700T02020	RCGV35T0820	9,53	3/8	–	–	7,92	5/16	–	–
RCGX090700T07015	RCGV35T2815	9,53	3/8	–	–	7,92	5/16	–	–
RCGX090700T10015	RCGV35T4015	9,53	3/8	–	–	7,92	5/16	–	–
RCGX090700T20015	RCGV35T8015	9,53	3/8	–	–	7,92	5/16	–	–
RCGV120700	RCGV45	12,70	1/2	–	–	7,92	5/16	–	–
RCGX120700E	RCGV45E	12,70	1/2	–	–	7,92	5/16	–	–
RCGX120700S20015	RCGV45S8015	12,70	1/2	–	–	7,92	5/16	–	–
RCGX120700T01020	RCGV45T0420	12,70	1/2	–	–	7,92	5/16	–	–
RCGX120700T01025	RCGV45T0425	12,70	1/2	–	–	7,92	5/16	–	–
RCGX120700T02020	RCGV45T0820	12,70	1/2	–	–	7,92	5/16	–	–
RCGX120700T07015	RCGV45T2815	12,70	1/2	–	–	7,92	5/16	–	–
RCGX120700T10015	RCGV45T4015	12,70	1/2	–	–	7,92	5/16	–	–
RCGX120700T20015	RCGV45T8015	12,70	1/2	–	–	7,92	5/16	–	–
RCGX151000T20015	RCGX151000T20015	15,88	5/8	–	–	10,00	.3937	–	–
RCGX191000T20015	RCGX191000T20015	19,05	3/4	–	–	10,00	.3937	–	–
RCGX251200T20015	RCGV88T8015	25,40	1	–	–	12,70	1/2	–	–

RPGN

RPGN090300E	RPG32E	9,53	3/8	–	–	3,18	1/8	–	–
RPGN090300T01020	RPG32T0420	9,53	3/8	–	–	3,18	1/8	–	–
RPGN120300	RPG42	12,70	1/2	–	–	3,18	1/8	–	–
RPGN120400E	RPG43E	12,70	1/2	–	–	4,76	3/16	–	–
RPGN120400T01020	RPG43T0420	12,70	1/2	–	–	4,76	3/16	–	–

Order example:
ISO catalog number: RPGN090300E
Insert grade: KY1540

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P		M	K			N				S							H			
	KC5010	KC8050	KC5010	KC9315	KY3500	KB9640	K313	KC5010	KD1405	KB1425	K313	K68	KC5010	KC5510	KY1540	KY2100	KY4300	KY4400	KY1615	KB1630	KB9610
CPGN120304E									●												
CPGN120304F										●											
CPGN120308F										●											
CPGN120304S01015MT																				●	
CPGN120308S01015MT																				●	
CPGN120304							●				●	●									
CPGN120308							●				●	●									
RCGN120700T02020																			●		
RCGN120700T20015																			●		
RCGV060400	●		●				●	●			●		●								
RCGX060400E															●	●					
RCGV090700	●	●	●				●	●			●		●								
RCGX090700E															●	●			●		
RCGX090700T01020															●	●	●	●	●		
RCGX090700T02020																			●		
RCGX090700T07015																			●		
RCGX090700T10015																			●		
RCGX090700T20015																			●		
RCGV120700	●		●	●			●	●			●		●								
RCGX120700E															●	●			●		
RCGX120700S20015																		●			
RCGX120700T01020															●	●	●	●			
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RCGX120700T02020																			●		
RCGX120700T07015																			●		
RCGX120700T10015																			●		
RCGX120700T20015																			●		
RCGX151000T20015																			●		
RCGX191000T20015																			●		
RCGX251200T20015																	●		●		
RPGN090300E															●						
RPGN090300T01020																			●		
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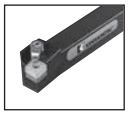
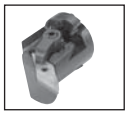
RPGN120400T01020																			●		


B48–B51

B84–B85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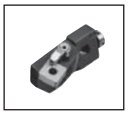
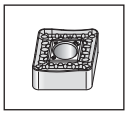
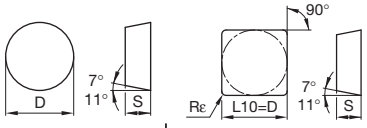

B132–B136

8–23

24–31


33-39

KENDEX™ Positive Inserts



RPGX

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
RPGV060400	RPGV23	6,35	1/4	–	–	4,78	3/16	–	–
RPGX060400T00520	RPGV23T0220	6,35	1/4	–	–	4,78	3/16	–	–
RPGV090700	RPGV35	9,53	3/8	–	–	7,92	5/16	–	–
RPGX090700E	RPGV35E	9,53	3/8	–	–	7,92	5/16	–	–
RPGX090700T00520	RPGV35T0220	9,53	3/8	–	–	7,92	5/16	–	–
RPGX090700T01020	RPGV35T0420	9,53	3/8	–	–	7,92	5/16	–	–
RPGV120700	RPGV45	12,70	1/2	–	–	7,92	5/16	–	–
RPGX120700E	RPGV45E	12,70	1/2	–	–	7,92	5/16	–	–
RPGX120700T00520	RPGV45T0220	12,70	1/2	–	–	7,92	5/16	–	–
RPGX120700T01020	RPGV45T0420	12,70	1/2	–	–	7,92	5/16	–	–

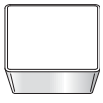
SCGN-FW

SCGN090408EFW	SCG332FW	9,53	3/8	9,53	.375	4,76	3/16	0,8	1/32
SCGN120408EFW	SCG432FW	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64

SCUN

SCUN120412T00520	SCU433T0220	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64

SPGN



SPGN090304	SPG321	9,53	3/8	9,53	.375	3,18	1/8	0,4	1/64
SPGN090308	SPG322	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32
SPGN090308T01020	SPG322T0420	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32
SPGN090312	SPG323	9,53	3/8	9,53	.375	3,18	1/8	1,2	3/64
SPGN120304	SPG421	12,70	1/2	12,70	.500	3,18	1/8	0,4	1/64
SPGN120304T01020	SPG421T0420	12,70	1/2	12,70	.500	3,18	1/8	0,4	1/64
SPGN120308	SPG422	12,70	1/2	12,70	.500	3,18	1/8	0,8	1/32
SPGN120308T01020	SPG422T0420	12,70	1/2	12,70	.500	3,18	1/8	0,8	1/32
SPGN120312	SPG423	12,70	1/2	12,70	.500	3,18	1/8	1,2	3/64
SPGN120312T01020	SPG423T0420	12,70	1/2	12,70	.500	3,18	1/8	1,2	3/64
SPGN120316	SPG424	12,70	1/2	12,70	.500	3,18	1/8	1,6	1/16
SPGN120412	SPG433	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64
SPGN120412T02020	SPG433T0820	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64
SPGN190408	SPG632	19,05	3/4	19,05	.750	4,76	3/16	0,8	1/32
SPGN190412	SPG633	19,05	3/4	19,05	.750	4,76	3/16	1,2	3/64
SPGN190416	SPG634	19,05	3/4	19,05	.750	4,76	3/16	1,6	1/16

SPGR–K

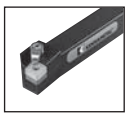
SPGR090308K	SPGF322	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32
SPGR120308K	SPGF422	12,70	1/2	12,70	.500	3,18	1/8	0,8	1/32

Order example:
ISO catalog number: SPGR090308K
Insert grade: KC5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P		M	K			N				S						H			
	KC5010	KC8050	KC5010	KC9315	KY3500	KB9640	K313	KC5010	KD1405	KB1425	K313	K68	KC5010	KC5510	KY1540	KY2100	KY4300	KY4400	KY1615	KB1630	KB9610
RPGV060400														●							
RPGX060400T00520																	●				
RPGV090700	●		●				●	●			●		●	●							
RPGX090700E															●						
RPGX090700T00520																	●				
RPGX090700T01020															●	●	●				
RPGV120700														●							
RPGX120700E															●						
RPGX120700T00520																	●				
RPGX120700T01020															●	●	●				
SCGN090408EFW					●																
SCGN120408EFW					●																
SCUN120412T00520																			●		
SPGN090304	●		●					●				●	●								
SPGN090308	●		●				●	●			●	●	●								
SPGN090308T01020																		●	●		
SPGN090312	●		●					●				●	●								
SPGN120304	●		●				●	●			●	●	●								
SPGN120304T01020																			●		
SPGN120308	●	●	●	●			●	●			●	●	●								
SPGN120308T01020																		●	●		
SPGN120312	●		●					●				●	●								
SPGN120312T01020																			●		
SPGN120316	●		●					●				●	●								
SPGN120412	●		●					●				●	●								
SPGN120412T02020																			●		
SPGN190408		●										●									
SPGN190412	●		●				●	●			●	●	●								
SPGN190416												●									
SPGR090308K	●		●					●					●								
SPGR120308K	●	●	●					●					●								


B48–B51

B84–B85

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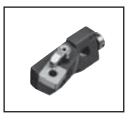
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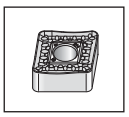
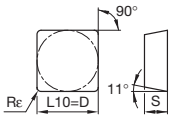
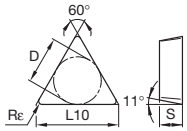
8–23

24–31

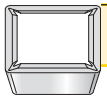

33-39

KENDEX™ Positive Inserts





SPMR



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
SPMR090304	SPMR321	9,53	3/8	9,53	.375	3,18	1/8	0,4	1/64
SPMR090308	SPMR322	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32
SPMR120304	SPMR421	12,70	1/2	12,70	.500	3,18	1/8	0,4	1/64
SPMR120308	SPMR422	12,70	1/2	12,70	.500	3,18	1/8	0,8	1/32

SPUN

SPUN090308	SPU322	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32
SPUN120304	SPU421	12,70	1/2	12,70	.500	3,18	1/8	0,4	1/64
SPUN120308	SPU422	12,70	1/2	12,70	.500	3,18	1/8	0,8	1/32
SPUN120312	SPU423	12,70	1/2	12,70	.500	3,18	1/8	1,2	3/64
SPUN190412	SPU633	19,05	3/4	19,05	.750	4,76	3/16	1,2	3/64

TPGN - E/F

TPGN110304E	TPG221E	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPGN110304F	TPG221F	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPGN110308F	TPG222F	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32
TPGN160304F	TPG321F	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPGN160308E	TPG322E	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPGN160308F	TPG322F	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPGN160312F	TPG323F	9,53	3/8	16,50	.650	3,18	1/8	1,2	3/64
TPGN220404F	TPG431F	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64
TPGN220408F	TPG432F	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32

TPGN

(M)

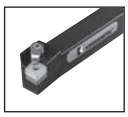
(MT)

TPGN110304EM	TPG221EM	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPGN110304S01020M	TPG221S0420M	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPGN110308S01020M	TPG222S0420M	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32
TPGN160304EM	TPG321EM	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPGN160304S01015MT	TPG321S0415MT	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPGN160304S01020M	TPG321S0420M	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPGN160308EM	TPG322EM	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPGN160308S01015MT	TPG322S0415MT	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPGN220404S01015MT	TPG431S0415MT	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64
TPGN220408S01015MT	TPG432S0415MT	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32

Order example:
ISO catalog number: TPGN110304EM
Insert grade: KB9610

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT P KC5010	P KC8050	M KC5010	K KC9315	K KY3500	K KB9640	N K313	N KC5010	N KD1405	N KB1425	S K313	S K68	S KC5010	S KC5510	S KY1540	S KY2100	S KY4300	H KY4400	H KY1615	H KB1630	H KB9610
SPMR090304		●																			
SPMR090308		●		●																	
SPMR120304		●																			
SPMR120308		●		●																	
SPUN090308				●																	
SPUN120304		●										●									
SPUN120308		●		●								●									
SPUN120312		●		●								●									
SPUN190412		●		●								●									
TPGN110304E									●												
TPGN110304F										●											
TPGN110308F										●											
TPGN160304F										●											
TPGN160308E									●												
TPGN160308F										●											
TPGN160312F										●											
TPGN220404F										●											
TPGN220408F										●											
TPGN110304EM																					●
TPGN110304S01020M																					●
TPGN110308S01020M																					●
TPGN160304EM																					●
TPGN160304S01015MT																				●	
TPGN160304S01020M																					●
TPGN160308EM																					●
TPGN160308S01015MT																				●	
TPGN220404S01015MT																				●	
TPGN220408S01015MT																				●	


B48–B51

B84–B85

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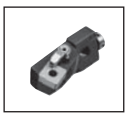
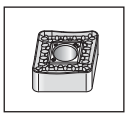
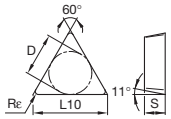

B132–B136

8–23

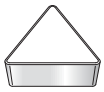
24–31


33-39

KENDEX™ Positive Inserts



TPGN



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
TPGN110304	TPG221	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPGN110304T01020	TPG221T0420	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPGN110308	TPG222	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32
TPGN110308T01020	TPG222T0420	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32
TPGN110312T01020	TPG223T0420	6,35	1/4	11,00	.433	3,18	1/8	1,2	3/64
TPGN160302	TPG3205	9,53	3/8	16,50	.650	3,18	1/8	0,2	.0080
TPGN160304	TPG321	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPGN160304T01020	TPG321T0420	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPGN160308	TPG322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPGN160308T00520	TPG322T0220	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPGN160308T01020	TPG322T0420	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPGN160308T02020	TPG322T0820	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPGN160312	TPG323	9,53	3/8	16,50	.650	3,18	1/8	1,2	3/64
TPGN160312T01020	TPG323T0420	9,53	3/8	16,50	.650	3,18	1/8	1,2	3/64
TPGN160316	TPG324	9,53	3/8	16,50	.650	3,18	1/8	1,6	1/16
TPGN160408	TPG332	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32
TPGN220404	TPG431	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64
TPGN220404T01020	TPG431T0420	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64
TPGN220408	TPG432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32
TPGN220408T01020	TPG432T0420	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32
TPGN220412	TPG433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64
TPGN220416	TPG434	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16
TPGN220416T01020	TPG434T0420	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16
TPGN220424	TPG436	12,70	1/2	22,00	.866	4,76	3/16	2,4	3/32
TPGN220432	TPG438	12,70	1/2	22,00	.866	4,76	3/16	3,2	1/8
TPGN270608	TPG542	15,88	5/8	27,50	1.083	6,35	1/4	0,8	1/32
TPGN060104	TPGE521	3,97	5/32	6,88	.271	1,59	1/16	0,4	1/64
TPGN090204	TPGE731	5,56	7/32	9,63	.379	2,38	3/32	0,4	1/64
TPGN110308T00520	TPGN110308T00520	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32

TPGR–K

TPGR110304K	TPGF221	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPGR110308K	TPGF222	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32
TPGR160304K	TPGF321	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPGR160308K	TPGF322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPGR220404K	TPGF431	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64
TPGR220408K	TPGF432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32

TPMR

TPMR110304	TPMR221	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPMR110308	TPMR222	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32
TPMR160304	TPMR321	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPMR160308	TPMR322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPMR160312	TPMR323	9,53	3/8	16,50	.650	3,18	1/8	1,2	3/64
TPMR220408	TPMR432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32
TPMR220412	TPMR433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64

Order example:
ISO catalog number: TPMR110304
Insert grade: KC8050

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P		M	K			N				S							H			
	KC5010	KC8050	KC5010	KC9315	KY3500	KB9640	K313	KC5010	KD1405	KB1425	K313	K68	KC5010	KC5510	KY1540	KY2100	KY4300	KY4400	KY1615	KB1630	KB9610
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TPGN110304T01020																		●	●		
TPGN110308	●		●				●	●			●	●	●								
TPGN110308T01020																		●	●		
TPGN110312T01020																			●		
TPGN160302	●	●	●				●	●			●	●	●								
TPGN160304	●	●	●				●	●			●	●	●								
TPGN160304T01020																		●	●		
TPGN160308	●	●	●	●			●	●			●	●	●								
TPGN160308T00520																	●				
TPGN160308T01020																		●	●		
TPGN160308T02020					●																
TPGN160312	●		●				●	●			●	●	●								
TPGN160312T01020																		●	●		
TPGN160316	●		●				●	●			●	●	●								
TPGN160408		●																			
TPGN220404	●	●	●				●	●			●	●	●								
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TPGN220408	●	●	●	●			●	●			●	●	●								
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TPGN220412	●	●	●					●				●	●								
TPGN220416	●	●	●					●				●	●								
TPGN220416T01020																			●		
TPGN220424		●																			
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TPGN270608		●																			
TPGN060104		●										●									
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TPGN110308T00520																	●				
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TPGR110308K	●		●					●					●								
TPGR160304K	●	●	●					●				●	●								
TPGR160308K	●	●	●					●					●								
TPGR220404K	●		●					●				●	●								
TPGR220408K	●		●					●					●								
TPMR110304		●		●																	
TPMR110308		●		●																	
TPMR160304		●		●																	
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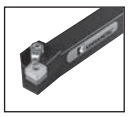
TPMR160312		●		●																	
TPMR220408		●																			
TPMR220412		●																			


B48–B51

B84–B85

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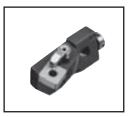
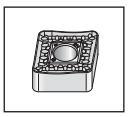
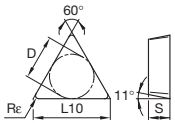

B132–B136

8–23

24–31


33-39

KENDEX™ Positive Inserts



TPUN

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
TPUN110304	TPU221	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPUN110304T00520	TPU221T0220	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64
TPUN110308	TPU222	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32
TPUN110308T00520	TPU222T0220	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32
TPUN160304	TPU321	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPUN160304T00520	TPU321T0220	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64
TPUN160308	TPU322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPUN160308T00520	TPU322T0220	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32
TPUN160312	TPU323	9,53	3/8	16,50	.650	3,18	1/8	1,2	3/64
TPUN160312T00520	TPU323T0220	9,53	3/8	16,50	.650	3,18	1/8	1,2	3/64
TPUN220408	TPU432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32
TPUN220412	TPU433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64

Order example:
ISO catalog number: TPUN110304
Insert grade: KC9315

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT P KC5010	P KC8050	M KC5010	K KC9315	K KY3500	K KB9640	N K313	N KC5010	N KD1405	N KB1425	S K313	S K68	S KC5010	S KC5510	S KY1540	S KY2100	S KY4300	H KY4400	H KY1615	H KB1630	H KB9610
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TPUN110304T00520																			●		
TPUN110308				●								●									
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TPUN160308		●		●								●									
TPUN160308T00520																			●		
TPUN160312				●																	
TPUN160312T00520																			●		
TPUN220408		●		●								●									
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B48–B51

B84–B85

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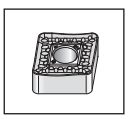
B132–B136

8–23

24–31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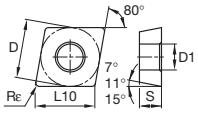

CCGW-F

	ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
(ST)	CCGW060204FST	CCGW2151FST	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CCGW09T304FST	CCGW3251FST	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CCGW09T308FST	CCGW3252FST	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

CCGW-FW

(M)	CCGW060202EFWC	CCGW21505EFWC	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CCGW060202EFWM	CCGW21505EFWM	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CCGW060204EFWC	CCGW2151EFWC	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CCGW060204EFWM	CCGW2151EFWM	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
(MT)	CCGW060204S01015FWM	CCGW2151S0415FWM	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CCGW060208EFWM	CCGW2152EFWM	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
	CCGW060208S01015FWM	CCGW2152S0415FWM	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
	CCGW09T304EFWM	CCGW3251EFWM	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
(C)	CCGW09T304EFWMT	CCGW3251EFWMT	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CCGW09T304S01015FWMT	CCGW3251S0415FWMT	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CCGW09T308EFWM	CCGW3252EFWM	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CCGW09T308S01015FWMT	CCGW3252S0415FWMT	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

CCGW

(M)	CCGW060202EM	CCGW21505EM	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CCGW060202S01015C	CCGW21505S0415C	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CCGW060202S01015M	CCGW21505S0415M	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CCGW060204EM	CCGW2151EM	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
(MT)	CCGW060204S01015C	CCGW2151S0415C	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CCGW060204S01015M	CCGW2151S0415M	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CCGW060208EM	CCGW2152EM	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
	CCGW060208S01015C	CCGW2152S0415C	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
(C)	CCGW060208S01015M	CCGW2152S0415M	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
	CCGW09T304EMT	CCGW3251EMT	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CCGW09T304S01015M	CCGW3251S0415M	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CCGW09T304S01015MT	CCGW3251S0415MT	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CCGW09T308EC	CCGW3252EC	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CCGW09T308EMT	CCGW3252EMT	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CCGW09T308S01015M	CCGW3252S0415M	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CCGW09T308S01015MT	CCGW3252S0415MT	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CCGW120404S01015MT	CCGW431S0415MT	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217
	CCGW120408S01015MT	CCGW432S0415MT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217

CDHB-F

(ST)	CDHBS4T004FST	CDHB120601FST	3,97	5/32	4,03	.159	1,02	.040	0,1	.002	2,13	.084
	CDHBS4T004FST	CDHB120605FST	3,97	5/32	4,03	.159	1,02	.040	0,2	.007	2,13	.084

CDHB

	CDHBS4T0S0	CDHB120601	3,97	5/32	4,03	.159	1,02	.040	0,1	.002	2,13	.084
	CDHBS4T002	CDHB120605	3,97	5/32	4,03	.159	1,02	.040	0,2	.007	2,13	.084
	CDHBS4T004	CDHB12061	3,97	5/32	4,03	.159	1,02	.040	0,4	1/64	2,10	.083

Order example:
ISO catalog number: CDHBS4T002
Insert grade: KB5625

KENNA PERFECT

ISO catalog number	P						M					K							N				S					H						
	KC315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KC315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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CCGW09T308FST																				●		●												
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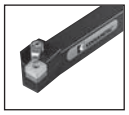
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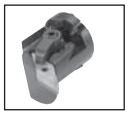
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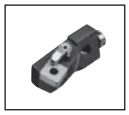
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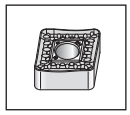
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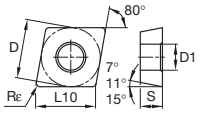

CPGW-FW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CPGW060204FWST	CPGW2151FWST	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CPGW09T308FWST	CPGW3252FWST	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
CPGW120408FWST	CPGW432FWST	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217

(ST)

CPGW-E/F

(ST)	CPGW060202E	CPGW21505E	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CPGW060202FST	CPGW21505FST	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CPGW060204E	CPGW2151E	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CPGW060204FST	CPGW2151FST	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CPGW060208E	CPGW2152E	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
	CPGW060208FST	CPGW2152FST	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
	CPGW09T304E	CPGW3251E	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CPGW09T304FST	CPGW3251FST	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CPGW09T308E	CPGW3252E	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CPGW09T308FST	CPGW3252FST	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CPGW120404FST	CPGW431FST	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217
	CPGW120408FST	CPGW432FST	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217

CPGW-FW

(M)	CPGW060202EFWC	CPGW21505EFWC	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CPGW060202EFWM	CPGW21505EFWM	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CPGW060204EFWC	CPGW2151EFWC	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CPGW060204EFWM	CPGW2151EFWM	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
(MT)	CPGW060208EFWM	CPGW2152EFWM	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
	CPGW060208S01015FWM	CPGW2152S0415FWM	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
	CPGW09T304EFWMT	CPGW3251EFWMT	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CPGW09T304S01015FWMT	CPGW3251S0415FWMT	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
(C)	CPGW09T308EFWMT	CPGW3252EFWMT	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CPGW09T308S01015FWMT	CPGW3252S0415FWMT	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

CPGW

(M)	CCGW060202EM	CCGW21505EM	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CCGW060202S01015C	CCGW21505S0415C	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CCGW060202S01015M	CCGW21505S0415M	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
	CCGW060204EM	CCGW2151EM	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
(MT)	CCGW060204S01015C	CCGW2151S0415C	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CCGW060204S01015M	CCGW2151S0415M	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
	CCGW060208EM	CCGW2152EM	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
	CCGW060208S01015C	CCGW2152S0415C	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
(C)	CCGW09T304EMT	CCGW3251EMT	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CCGW09T304S01015M	CCGW3251S0415M	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CCGW09T304S01015MT	CCGW3251S0415MT	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
	CCGW09T308EC	CCGW3252EC	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CCGW09T308EMT	CCGW3252EMT	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CCGW09T308S01015M	CCGW3252S0415M	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CCGW09T308S01015MT	CCGW3252S0415MT	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
	CCGW120404S01015MT	CCGW431S0415MT	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217
	CCGW120408S01015MT	CCGW432S0415MT	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217

Order example:
ISO catalog number: CCGW060202EM
Insert grade: KB5625

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT																																	
	P						M					K						N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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B86-B102

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B138-B152

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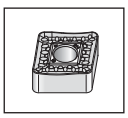
24-31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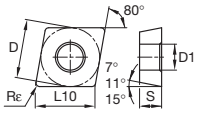
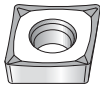
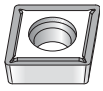


CCGT-HP



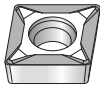
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CCGT060202HP	CCGT21505HP	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
CCGT060204HP	CCGT2151HP	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CCGT060208HP	CCGT2152HP	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
CCGT09T302HP	CCGT32505HP	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173
CCGT09T304HP	CCGT3251HP	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CCGT09T308HP	CCGT3252HP	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
CCGT09T316HP	CCGT3254HP	9,53	3/8	9,67	.381	3,97	5/32	1,6	1/16	4,40	.173
CCGT120402HP	CCGT4305HP	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,50	.217
CCGT120401HP	CCGT430HP	12,70	1/2	12,90	.508	4,76	3/16	0,1	.004	5,50	.217
CCGT120404HP	CCGT431HP	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217
CCGT120408HP	CCGT432HP	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217

CCGT-LF



CCGT060201LF	CCGT2150LF	6,35	1/4	6,45	.254	2,38	3/32	0,1	.004	2,80	.110
CCGT060202LF	CCGT21505LF	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
CCGT060204LF	CCGT2151LF	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CCGT060208LF	CCGT2152LF	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
CCGT0602X0LF	CCGT215X0LF	6,35	1/4	6,45	.254	2,38	3/32	0,0	.002	2,80	.110
CCGT09T301LF	CCGT3250LF	9,53	3/8	9,67	.381	3,97	5/32	0,1	.004	4,40	.173
CCGT09T302LF	CCGT32505LF	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173
CCGT09T304LF	CCGT3251LF	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CCGT09T308LF	CCGT3252LF	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
CCGT09T3X0LF	CCGT325X0LF	9,53	3/8	9,67	.381	3,97	5/32	0,0	.002	4,40	.173

CCMT-11



CCMT06020411	CCMT215111	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CCMT09T30411	CCMT325111	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CCMT09T30811	CCMT325211	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
CCMT12040411	CCMT43111	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217
CCMT12040811	CCMT43211	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217

CCMT-FW

CCMT060202FW	CCMT21505FW	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
CCMT060204FW	CCMT2151FW	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CCMT060208FW	CCMT2152FW	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
CCMT09T304FW	CCMT3251FW	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CCMT09T308FW	CCMT3252FW	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

Order example:
ISO catalog number: CCMT060202FW
Insert grade: KC5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M						K						N						S						H					
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240		KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425		K313	K68	KC5010	KC5025	KC9240		KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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CCGT060208HP		●						●	●					●						●							●	●									
CCGT09T302HP		●						●	●					●					●	●					●		●	●									
CCGT09T304HP		●						●	●					●					●	●					●	●	●	●									
CCGT09T308HP		●						●	●					●						●							●	●									
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CCGT120402HP		●						●	●					●						●							●	●									
CCGT120401HP		●						●						●						●							●										
CCGT120404HP		●						●	●					●					●	●					●	●	●	●									
CCGT120408HP		●						●	●					●					●	●					●	●	●	●									
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CCGT060204LF		●						●	●					●					●	●					●		●	●									
CCGT060208LF		●						●						●						●							●										
CCGT0602X0LF									●																			●									
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CCGT09T308LF		●						●	●					●					●	●					●		●	●									
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CCMT09T30811	●						●						●																								
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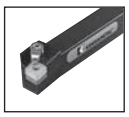
CCMT09T304FW	●	●					●	●		●			●	●	●	●												●									
CCMT09T308FW	●	●					●	●		●			●	●	●	●												●									

KENNA PERFECT SELECTION SYSTEM
INSERTS
OD/ID TOOLING
TOOL ADAPTER VDI
GROOVING AND CUT-OFF
THREADING
APPLICATION SPECIFIC
KM QUICK-CHANGE TOOLS
CLASSIC PRODUCTS
TECHNICAL SECTION
INDEX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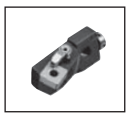
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8-23

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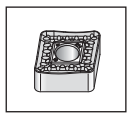
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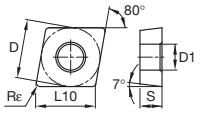

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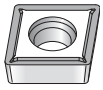
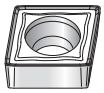


ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CCMT060202LF	CCMT21505LF	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
CCMT060204LF	CCMT2151LF	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CCMT060208LF	CCMT2152LF	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
CCMT09T302LF	CCMT32505LF	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173
CCMT09T304LF	CCMT3251LF	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CCMT09T308LF	CCMT3252LF	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
CCMT120404LF	CCMT431LF	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217
CCMT120408LF	CCMT432LF	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217
CCMT120412LF	CCMT433LF	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,50	.217

CCMT-MF

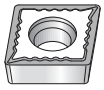
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CCMT060204MF	CCMT2151MF	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CCMT09T304MF	CCMT3251MF	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CCMT09T308MF	CCMT3252MF	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
CCMT09T312MF	CCMT3253MF	9,53	3/8	9,67	.381	3,97	5/32	1,2	3/64	4,40	.173
CCMT120408MF	CCMT432MF	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217
CCMT120412MF	CCMT433MF	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,50	.217

CCMT-MW



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CCMT09T304MW	CCMT3251MW	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CCMT09T308MW	CCMT3252MW	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
CCMT120404MW	CCMT431MW	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217
CCMT120408MW	CCMT432MW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217

CCMT-UF



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CCMT060204UF	CCMT2151UF	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CCMT09T302UF	CCMT32505UF	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173
CCMT09T304UF	CCMT3251UF	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CCMT09T308UF	CCMT3252UF	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

CDHB

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CDHBS4T0S0	CDHB120601	3,97	5/32	4,03	.159	1,02	.040	0,1	.002	2,13	.084
CDHBS4T002	CDHB120605	3,97	5/32	4,03	.159	1,02	.040	0,2	.007	2,13	.084
CDHBS4T004	CDHB12061	3,97	5/32	4,03	.159	1,02	.040	0,4	1/64	2,10	.083

CDHH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CDHHS4T002L	CDHH120605L	3,97	5/32	4,03	.159	1,02	.040	0,2	.008	2,10	.083
CDHHS4T002R	CDHH120605R	3,97	5/32	4,03	.159	1,02	.040	0,2	.008	2,10	.083
CDHHS4T004L	CDHH12061L	3,97	5/32	4,03	.159	1,02	.040	0,4	1/64	2,10	.083
CDHHS4T004R	CDHH12061R	3,97	5/32	4,03	.159	1,02	.040	0,4	1/64	2,10	.083

Order example:
ISO catalog number: CDHHS4T002L
Insert grade: KC5025

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

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ISO catalog number	P						M					K						N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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CCMT060208LF	●	●		●	●	●	●	●	●	●	●	●	●	●	●										●	●	●								
CCMT09T302LF	●	●					●	●	●			●	●					●					●		●	●									
CCMT09T304LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●	●	●	●	●								
CCMT09T308LF	●	●	●	●	●	●	●	●		●	●	●	●	●	●			●					●	●	●		●								
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CCMT120408MF			●	●	●	●				●	●			●	●	●											●								
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CDHBS4T004	●	●					●	●	●			●	●					●					●		●	●								●	
CDHHS4T002L	●	●					●	●	●			●	●												●	●									
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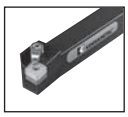
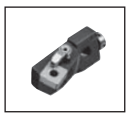
CDHHS4T004R		●						●	●				●												●	●									


B52-B65

B86-B102

B109-B110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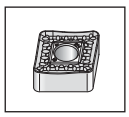
8-23

24-31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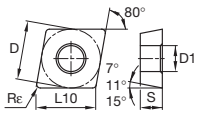
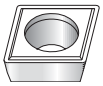
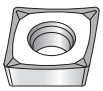


CPGH (T)



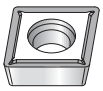
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CPGT060202K	CPGM21505	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
CPGT060204K	CPGM2151	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CPGT060208K	CPGM2152	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
CPGH09T301	CPGM3250	9,53	3/8	9,67	.381	3,97	5/32	0,1	.004	4,40	.173
CPGH09T302	CPGM32505	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173
CPGH09T304	CPGM3251	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CPGH09T308	CPGM3252	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

CPGT-HP



CPGT060202HP	CPGT21505HP	6,35	1/4	6,45	.254	2,38	3/32	0,20	.008	2,80	.110
CPGT060204HP	CPGT2151HP	6,35	1/4	6,45	.254	2,38	3/32	0,40	1/64	2,80	.110
CPGT060208HP	CPGT2152HP	6,35	1/4	6,45	.254	2,38	3/32	0,80	1/32	2,80	.110
CPGT09T302HP	CPGT32505HP	9,53	3/8	9,67	.381	3,97	5/32	0,20	.008	4,40	.173
CPGT09T304HP	CPGT3251HP	9,53	3/8	9,67	.381	3,97	5/32	0,40	1/64	4,40	.173
CPGT09T308HP	CPGT3252HP	9,53	3/8	9,67	.381	3,97	5/32	0,80	1/32	4,40	.173

CPGT-LF

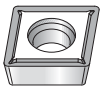


CPGT060202LF	CPGT21505LF	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
CPGT060201LF	CPGT2150LF	6,35	1/4	6,45	.254	2,38	3/32	0,1	.004	2,80	.110
CPGT060204LF	CPGT2151LF	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CPGT060208LF	CPGT2152LF	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
CPGT09T302LF	CPGT32505LF	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173
CPGT09T304LF	CPGT3251LF	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CPGT09T308LF	CPGT3252LF	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

CPMT-FW

CPMT060202FW	CPMT21505FW	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
CPMT060204FW	CPMT2151FW	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CPMT060208FW	CPMT2152FW	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
CPMT09T304FW	CPMT3251FW	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CPMT09T308FW	CPMT3252FW	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

CPMT-LF



CPMT050202LF	CPMT181505LF	5,56	7/32	5,65	.222	2,38	3/32	0,2	.008	2,65	.104
CPMT050204LF	CPMT18151LF	5,56	7/32	5,65	.222	2,38	3/32	0,4	1/64	2,65	.104
CPMT060202LF	CPMT21505LF	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110
CPMT060204LF	CPMT2151LF	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CPMT060208LF	CPMT2152LF	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
CPMT09T302LF	CPMT32505LF	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173
CPMT09T304LF	CPMT3251LF	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CPMT09T308LF	CPMT3252LF	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

CPMT-MF

CPMT060208MF	CPMT2152MF	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110
CPMT09T308MF	CPMT3252MF	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173
CPMT09T312MF	CPMT3253MF	9,53	3/8	9,67	.381	3,97	5/32	1,2	3/64	4,40	.173

Order example:
ISO catalog number: CPMT060208MF
Insert grade: KC9325

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M					K					N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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CPGT060204K			●															●	●				●	●											
CPGT060208K			●															●					●	●											
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CPGH09T302	●	●					●	●	●			●	●					●					●	●	●	●									
CPGH09T304	●	●	●	●	●	●	●	●	●	●	●	●	●	●				●					●	●	●	●	●								
CPGH09T308	●	●	●	●	●	●	●	●	●	●	●	●	●	●				●	●				●	●	●	●	●								
CPGT060202HP		●						●	●				●						●						●	●									
CPGT060204HP		●						●	●				●						●						●	●									
CPGT060208HP		●						●	●				●						●						●	●									
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CPGT09T308LF		●						●	●				●						●						●	●									
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CPMT060204FW	●	●					●	●		●		●	●	●	●										●										
CPMT060208FW	●	●					●	●		●		●	●	●											●										
CPMT09T304FW	●	●					●	●		●		●	●	●	●										●										
CPMT09T308FW	●	●					●	●		●		●	●	●	●										●										
CPMT050202LF		●						●	●				●												●	●									
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CPMT060202LF	●	●					●	●	●			●	●					●					●		●	●									
CPMT060204LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●	●	●	●	●								
CPMT060208LF	●	●	●	●	●		●	●	●	●	●	●	●	●	●			●					●		●	●	●								
CPMT09T302LF	●	●					●	●	●			●	●					●					●		●	●									
CPMT09T304LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●	●	●	●	●								
CPMT09T308LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●	●	●	●	●								
CPMT060208MF			●	●	●					●	●			●	●	●											●								
CPMT09T308MF			●	●	●	●				●	●			●	●	●											●								
CPMT09T312MF				●	●					●				●	●																				

B52-B65

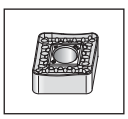
B86-B102

B109-B110

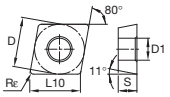
B138-B152

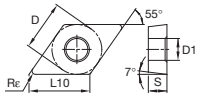
8-23

24-31


33-39

Screw-ON Inserts





CPMT-MW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CPMT09T304MW	CPMT3251MW	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173
CPMT09T308MW	CPMT3252MW	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173

CPMT-UF

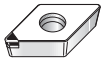
CPMT060204UF	CPMT2151UF	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110
CPMT09T304UF	CPMT3251UF	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173

DCGW-F

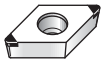
(ST)

DCGW070204FST	DCGW2151FST	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DCGW11T304FST	DCGW3251FST	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173

DCGW-FW



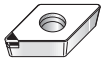
(M)



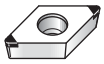
(MT)

DCGW070204EFWM	DCGW2151EFWM	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DCGW11T304EFWMT	DCGW3251EFWMT	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCGW11T304S01015FWMT	DCGW3251S0415FWMT	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCGW11T308S01015FWMT	DCGW3252S0415FWMT	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

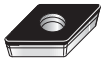
DCGW



(M)



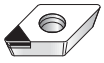
(MT)



(C)

DCGW070202EM	DCGW21505EM	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DCGW070202S01015C	DCGW21505S0415C	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DCGW070204EM	DCGW2151EM	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DCGW070204S01015C	DCGW2151S0415C	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DCGW070204S01015M	DCGW2151S0415M	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DCGW11T304EMT	DCGW3251EMT	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCGW11T304S01015M	DCGW3251S0415M	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCGW11T304S01015MT	DCGW3251S0415MT	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCGW11T308EMT	DCGW3252EMT	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173
DCGW11T308S01015M	DCGW3252S0415M	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173
DCGW11T308S01015MT	DCGW3252S0415MT	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

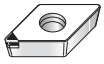
DPGW-FW



(ST)

DPGW070204FWST	DPGW2151FWST	6,35	1/4	7,72	.304	2,38	3/32	0,2	.007	2,80	.110
DPGW11T304FWST	DPGW3251FWST	9,53	3/8	11,59	.456	3,97	5/32	0,2	.007	4,40	.173

DPGW-FW



(M)

(MT)

DPGW070204S01015FWM	DPGW2151S0415FWM	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPGW11T304EFWMT	DPGW3251EFWMT	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173

Order example:
ISO catalog number: DPGW070204S01015FWM
Insert grade: KB9610

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M					K						N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
CPMT09T304MW	●	●					●	●		●		●	●												●										
CPMT09T308MW	●	●				●	●	●		●		●	●												●										
CPMT060204UF		●		●	●			●					●												●										
CPMT09T304UF		●		●	●			●					●												●										
DCGW070204FST																				●		●													
DCGW11T304FST																				●		●													
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DCGW11T304EFWMT																																			●
DCGW11T304S01015FWMT																																			●
DCGW11T308S01015FWMT																																			●
DCGW070202EM																																	●		●
DCGW070202S01015C																													●		●				●
DCGW070204EM																																			●
DCGW070204S01015C																													●		●				●
DCGW070204S01015M																																	●		●
DCGW11T304EMT																																			●
DCGW11T304S01015M																																	●		
DCGW11T304S01015MT																													●	●	●				●
DCGW11T308EMT																																			●
DCGW11T308S01015M																																	●		
DCGW11T308S01015MT																													●	●	●				●
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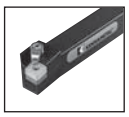
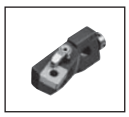

B52-B65

B86-B102

B109-B110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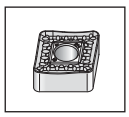
8-23

24-31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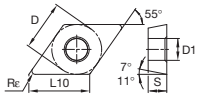
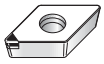


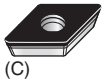
DPGW-E/F

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DPGW070202E	DPGW21505E	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DPGW070202FST	DPGW21505FST	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DPGW070204FST	DPGW2151FST	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPGW11T304E	DPGW3251E	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DPGW11T304FST	DPGW3251FST	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173

DPGW


(M)

(MT)

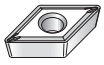

(C)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DPGW070202EM	DPGW21505EM	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DPGW070202S01015C	DPGW21505S0415C	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DPGW070204EM	DPGW2151EM	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPGW070204S01015C	DPGW2151S0415C	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPGW070204S01015M	DPGW2151S0415M	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPGW070208S01015M	DPGW2152S0415M	6,35	1/4	7,75	.305	2,38	3/32	0,8	1/32	2,80	.110
DPGW11T304EMT	DPGW3251EMT	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DPGW11T304S01015M	DPGW3251S0415M	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DPGW11T304S01015MT	DPGW3251S0415MT	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DPGW11T308EMT	DPGW3252EMT	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173
DPGW11T308S01015M	DPGW3252S0415M	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173
DPGW11T308S01015MT	DPGW3252S0415MT	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

DCGT-HP

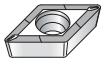
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DCGT070202HP	DCGT21505HP	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DCGT070204HP	DCGT2151HP	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DCGT070208HP	DCGT2152HP	6,35	1/4	7,75	.305	2,38	3/32	0,8	1/32	2,80	.110
DCGT11T302HP	DCGT32505HP	9,53	3/8	11,63	.458	3,97	5/32	0,2	.008	4,40	.173
DCGT11T304HP	DCGT3251HP	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCGT11T308HP	DCGT3252HP	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

DCGT-LF



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DCGT070201LF	DCGT2150LF	6,35	1/4	7,75	.305	2,38	3/32	0,1	.004	2,80	.110
DCGT0702X0LF	DCGT215X0LF	6,35	1/4	7,75	.305	2,38	3/32	0,0	.002	2,80	.110
DCGT11T301LF	DCGT3250LF	9,53	3/8	11,63	.458	3,97	5/32	0,1	.004	4,40	.173
DCGT11T3X0LF	DCGT325X0LF	9,53	3/8	11,63	.458	3,97	5/32	0,0	.002	4,40	.173
DCGT150408LF	DCGT432LF	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,50	.217

DCMT-11



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DCMT07020211	DCMT2150511	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DCMT07020411	DCMT215111	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DCMT11T30411	DCMT325111	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCMT11T30811	DCMT325211	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

DCMT-FW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DCMT11T304FW	DCMT3251FW	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCMT11T308FW	DCMT3252FW	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

Order example:
ISO catalog number: DCMT11T304FW
Insert grade: KC5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M					K						N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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DPGW070202FST																				●		●													
DPGW070204FST																				●		●													
DPGW11T304E																					●														
DPGW11T304FST																				●		●													
DPGW070202EM																																	●	●	
DPGW070202S01015C																																		●	
DPGW070204EM																																		●	
DPGW070204S01015C																																		●	
DPGW070204S01015M																																	●	●	
DPGW070208S01015M																																	●		
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DPGW11T304S01015M																																	●		
DPGW11T304S01015MT																													●	●	●			●	
DPGW11T308EMT																																		●	
DPGW11T308S01015M																																	●		
DPGW11T308S01015MT																													●	●	●			●	
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DCGT070204HP		●						●	●				●						●	●				●		●	●								
DCGT070208HP		●						●	●				●							●						●	●								
DCGT11T302HP		●						●	●				●						●	●				●		●	●								
DCGT11T304HP		●						●	●				●						●	●				●	●	●	●								
DCGT11T308HP		●						●	●				●						●	●				●	●	●	●								
DCGT070201LF		●						●	●				●													●	●								
DCGT0702X0LF									●																		●								
DCGT11T301LF		●						●	●				●													●	●								
DCGT11T3X0LF									●																		●								
DCGT150408LF		●						●	●				●													●	●								
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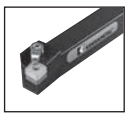
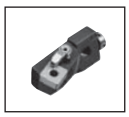
DCMT07020411	●						●					●																							
DCMT11T30411	●						●					●																							
DCMT11T30811	●						●		●			●																							
DCMT11T304FW	●	●		●			●	●		●		●	●													●									
DCMT11T308FW	●	●		●			●	●		●		●	●	●												●									


B52-B65

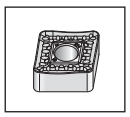
B86-B102

B109-B110


B138-B152

8-23

24-31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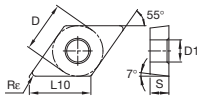
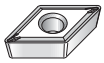
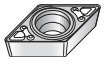


DCMT-LF



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DCMT070202LF	DCMT21505LF	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DCMT070204LF	DCMT2151LF	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DCMT11T302LF	DCMT32505LF	9,53	3/8	11,63	.458	3,97	5/32	0,2	.008	4,40	.173
DCMT11T304LF	DCMT3251LF	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCMT11T308LF	DCMT3252LF	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173
DCMT11T312LF	DCMT3253LF	9,53	3/8	11,63	.458	3,97	5/32	1,2	3/64	4,40	.173
DCMT150404LF	DCMT431LF	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,50	.217
DCMT150408LF	DCMT432LF	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,50	.217

DCMT-MF

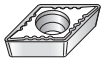


DCMT11T304MF	DCMT3251MF	9,53	3/8	11,63	.458	4,0	5/32	0,4	1/64	4,40	.173
DCMT11T308MF	DCMT3252MF	9,53	3/8	11,63	.458	4,0	5/32	0,8	1/32	4,40	.173
DCMT11T312MF	DCMT3253MF	9,53	3/8	11,63	.458	4,0	5/32	1,2	3/64	4,40	.173

DCMT-MW

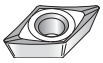
DCMT11T304MW	DCMT3251MW	9,53	3/8	12	.458	3,97	5/32	0,40	1/64	4,40	.173
DCMT11T308MW	DCMT3252MW	9,53	3/8	12	.458	3,97	5/32	0,80	1/32	4,40	.173

DCMT-UF



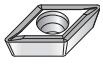
DCMT070204UF	DCMT2151UF	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DCMT11T302UF	DCMT32505UF	9,53	3/8	11,63	.458	3,97	5/32	0,2	.008	4,40	.173
DCMT11T304UF	DCMT3251UF	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DCMT11T308UF	DCMT3252UF	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

DPGT-HP



DPGT070202HP	DPGT21505HP	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DPGT070204HP	DPGT2151HP	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPGT070208HP	DPGT2152HP	6,35	1/4	7,75	.305	2,38	3/32	0,8	1/32	2,80	.110
DPGT11T304HP	DPGT3251HP	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DPGT11T308HP	DPGT3252HP	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

DPGT-LF



DPGT070202LF	DPGT21505LF	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DPGT070201LF	DPGT2150LF	6,35	1/4	7,75	.305	2,38	3/32	0,1	.004	2,80	.110
DPGT070204LF	DPGT2151LF	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPGT11T302LF	DPGT32505LF	9,53	3/8	11,63	.458	3,97	5/32	0,2	.008	4,40	.173
DPGT11T301LF	DPGT3250LF	9,53	3/8	11,63	.458	3,97	5/32	0,1	.004	4,40	.173
DPGT11T304LF	DPGT3251LF	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DPGT11T308LF	DPGT3252LF	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

DPMT-FW

DPMT070204FW	DPMT2151FW	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPMT070208FW	DPMT2152FW	6,35	1/4	7,75	.305	2,38	3/32	0,8	1/32	2,80	.110
DPMT11T308FW	DPMT3252FW	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

Order example:
ISO catalog number: DPMT070204FW
Insert grade: KC5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M					K						N				S					H						
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
DCMT070202LF	●	●					●	●	●			●	●					●					●		●	●								
DCMT070204LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●		●	●	●							
DCMT11T302LF	●	●		●			●	●	●			●	●					●					●		●	●								
DCMT11T304LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●	●	●	●	●							
DCMT11T308LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●		●	●	●							
DCMT11T312LF	●	●	●	●	●		●	●		●	●	●	●	●											●		●							
DCMT150404LF	●	●		●	●	●	●	●	●	●	●	●	●												●	●	●							
DCMT150408LF		●		●	●			●	●	●	●		●	●	●										●	●	●							
DCMT11T304MF				●	●	●				●	●		●	●	●												●							
DCMT11T308MF			●	●	●	●				●	●		●	●	●												●							
DCMT11T312MF				●	●					●			●	●	●																			
DCMT11T304MW		●		●				●		●			●												●									
DCMT11T308MW	●	●		●			●	●		●		●	●												●									
DCMT070204UF		●		●	●			●					●												●									
DCMT11T302UF		●		●	●			●					●												●									
DCMT11T304UF		●		●	●			●					●												●									
DCMT11T308UF		●		●	●			●					●												●									
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DPGT070204HP		●						●	●				●					●	●				●		●	●								
DPGT070208HP		●						●	●				●						●						●	●								
DPGT11T304HP		●						●	●				●					●	●				●		●	●								
DPGT11T308HP		●						●	●				●					●	●				●		●	●								
DPGT070202LF		●						●	●				●						●						●	●								
DPGT070201LF	●	●					●	●	●			●	●						●						●	●								
DPGT070204LF	●	●					●	●	●			●	●						●						●	●								
DPGT11T302LF	●	●					●	●	●			●	●						●						●	●								
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DPGT11T308LF	●	●					●	●	●			●	●						●						●	●								
DPMT070204FW		●		●				●		●			●												●									
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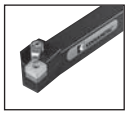
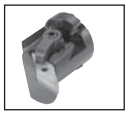

B52-B65

B86-B102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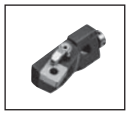
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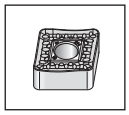
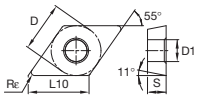
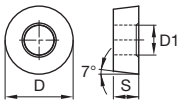
24-31

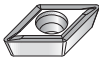

33-39

Screw-ON Inserts



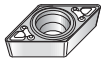


DPMT-LF



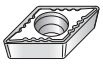
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DPMT070202LF	DPMT21505LF	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110
DPMT070204LF	DPMT2151LF	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPMT11T302LF	DPMT32505LF	9,53	3/8	11,63	.458	3,97	5/32	0,2	.008	4,40	.173
DPMT11T304LF	DPMT3251LF	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DPMT11T308LF	DPMT3252LF	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

DPMT-MF



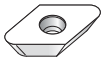
DPMT11T308MF	DPMT3252MF	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

DPMT-UF



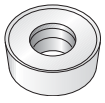
DPMT070204UF	DPMT2151UF	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110
DPMT11T304UF	DPMT3251UF	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173
DPMT11T308UF	DPMT3252UF	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

FFEW



FFEW210430L	FFEW210430L	15,88	5/8	20,72	.816	4,76	3/16	3,0	.1181	5,51	.217
FFEW533L	FFEW533L	15,88	5/8	20,72	.816	4,76	3/16	1,2	3/64	5,51	.217
FFEW533R	FFEW533R	15,88	5/8	20,72	.816	4,76	3/16	1,2	3/64	5,51	.217

RCGT-HP

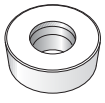


RCGT0803M0HP	RCGT0803M0HP	8,00	.315	–	–	3,18	1/8	–	–	3,40	.134
RCGT10T3M0HP	RCGT10T3M0HP	10,00	.394	–	–	3,97	5/32	–	–	4,40	.173
RCGT1204M0HP	RCGT1204M0HP	12,00	.472	–	–	4,76	3/16	–	–	4,40	.173

RCGT-MS

RCGT0803M0MS	RCGT0803M0MS	8,00	.315	–	–	3,18	1/8	–	–	3,40	.134
RCGT1204M0MS	RCGT1204M0MS	12,00	.472	–	–	4,76	3/16	–	–	4,40	.173
RCGT1606M0MS	RCGT1606M0MS	16,00	.630	–	–	6,35	1/4	–	–	5,50	.217
RCGX1003M0MS	RCGX1003M0MS	10,00	.394	–	–	3,18	1/8	–	–	3,80	.150

RCGW-T



RCGW1204M0T01020	RCGW1204M0T01020	12,00	.472	–	–	4,76	3/16	–	–	4,40	.173
RCGW1606M0T20015	RCGW1606M0T20015	16,00	.630	–	–	6,35	1/4	–	–	5,50	.217
RCGW2006M0T20015	RCGW2006M0T20015	20,00	.787	–	–	6,35	1/4	–	–	6,50	.256
RCGW2507M0T20015	RCGW2507M0T20015	25,00	.984	–	–	7,94	5/16	–	–	7,40	.291

RCMT

RCMT0602M0	RCMT0602M0	6,00	.236	–	–	2,38	3/32	–	–	2,80	.110
RCMT0803M0	RCMT0803M0	8,00	.315	–	–	3,18	1/8	–	–	3,40	.134
RCMT10T3M0	RCMT10T3M0	10,00	.394	–	–	3,97	5/32	–	–	4,40	.173
RCMT1204M0	RCMT1204M0	12,00	.472	–	–	4,76	3/16	–	–	4,40	.173
RCMT1605M0	RCMT1605M0	16,00	.630	–	–	5,56	7/32	–	–	5,50	.217
RCMT2006M0	RCMT2006M0	20,00	.787	–	–	6,35	1/4	–	–	6,50	.256
RCMT060200	RCMT215	6,35	1/4	–	–	2,38	3/32	–	–	2,80	.110
RCMT09T300	RCMT325	9,53	3/8	–	–	3,97	5/32	–	–	4,40	.173
RCMT1605M0	RCMT1605M0	16,00	.630	–	–	5,56	7/32	–	–	5,50	.217

Order example:
ISO catalog number: RCMT0602M0
Insert grade: KC5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M						K						N						S						H					
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240		KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425		K313	K68	KC5010	KC5025	KC9240		KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
DPMT070202LF		●						●	●					●													●	●									
DPMT070204LF	●	●		●	●	●	●	●	●	●	●		●	●	●												●	●	●								
DPMT11T302LF	●	●					●	●	●				●	●													●	●									
DPMT11T304LF	●	●	●	●	●	●	●	●	●	●	●		●	●	●												●	●	●								
DPMT11T308LF	●	●	●	●	●		●	●	●	●	●		●	●	●	●											●	●	●								
DPMT11T308MF				●	●					●	●				●	●	●												●								
FFEW210430L																				●																
FFEW533L																				●																
FFEW533R																				●																
DPMT070204UF		●		●	●			●						●													●									
DPMT11T304UF		●		●	●			●						●													●									
DPMT11T308UF				●	●																															
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RCGT10T3M0HP		●						●	●					●						●	●					●		●	●							
RCGT1204M0HP		●						●	●					●						●	●					●		●	●							
RCGT0803M0MS		●						●	●					●														●	●							
RCGT1204M0MS		●						●	●					●														●	●							
RCGT1606M0MS		●						●	●					●														●	●							
RCGX1003M0MS		●						●	●					●														●	●							
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RCGW1606M0T20015																														●						
RCGW2006M0T20015																														●						
RCGW2507M0T20015																														●						
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RCMT0803M0		●				●		●			●			●	●					●						●		●		●							
RCMT10T3M0		●				●		●			●			●	●	●				●						●		●		●							
RCMT1204M0		●				●		●			●			●	●	●				●						●		●		●							
RCMT1605M0		●				●		●			●			●	●					●						●		●		●							
RCMT2006M0		●				●		●			●			●	●					●						●	●	●		●							
RCMT060200		●						●			●			●							●							●		●							
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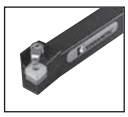
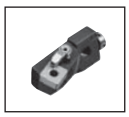

B52-B65

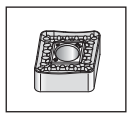
B86-B102

B109-B110


B138-B152

8-23

24-31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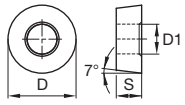
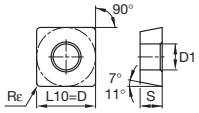




RCMT-RH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
RCMT2006M0RH	RCMT2006M0RH	20,00	.787	–	–	6,35	1/4	–	–	6,50	.256
RCMX2507M0RH	RCMX2507M0RH	25,00	.984	–	–	7,94	5/16	–	–	7,40	.291
RCMX3209M0RH	RCMX3209M0RH	32,00	1.260	–	–	9,53	3/8	–	–	9,50	.374

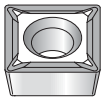
RCMT-RM

RCMT2006M0RM	RCMT2006M0RM	20,00	.787	–	–	6,35	1/4	–	–	6,50	.256

RCMT-RP

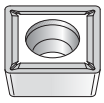
RCGT0602M0RP	RCGT0602M0RP	6,00	.236	–	–	2,38	3/32	–	–	2,85	.112
RCGT0803M0RP	RCGT0803M0RP	8,00	.315	–	–	3,18	1/8	–	–	3,40	.134
RCMT1204M0RP	RCMT1204M0RP	12,00	.472	–	–	4,76	3/16	–	–	4,40	.173
RCMT1606M0RP	RCMT1606M0RP	16,00	.630	–	–	6,35	1/4	–	–	5,50	.217
RCMT2006M0RP	RCMT2006M0RP	20,00	.787	–	–	6,35	1/4	–	–	6,50	.256
RCMX1003M0RP	RCMX1003M0RP	10,00	.394	–	–	3,18	1/8	–	–	3,70	.146
RCMX2507M0RP	RCMX2507M0RP	25,00	.984	–	–	7,94	5/16	–	–	7,40	.291
RCMX3209M0RP	RCMX3209M0RP	32,00	1.260	–	–	9,53	3/8	–	–	9,50	.374

SCMT-11



SCMT09T30411	SCMT325111	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173
SCMT09T30811	SCMT325211	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173
SCMT12040411	SCMT43111	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,50	.217
SCMT12040811	SCMT43211	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,50	.217

SCMT-LF



SCMT09T304LF	SCMT3251LF	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173
SCMT09T308LF	SCMT3252LF	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173
SCMT120404LF	SCMT431LF	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,50	.217
SCMT120408LF	SCMT432LF	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,50	.217
SCMT120412LF	SCMT433LF	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,50	.217

Order example:
ISO catalog number: SCMT09T304LF
Insert grade: KT315

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M						K							N					S						H								
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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RCMX3209M0RH				●	●						●																●								
RCMT2006M0RM				●	●						●																●								
RCGT0602M0RP				●	●																														
RCGT0803M0RP				●	●									●																					
RCMT1204M0RP				●	●									●																					
RCMT1606M0RP				●	●									●																					
RCMT2006M0RP				●	●						●																●								
RCMX1003M0RP				●	●																														
RCMX2507M0RP				●	●																														
RCMX3209M0RP				●	●																														
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SCMT12040811	●						●					●																								
SCMT09T304LF	●	●	●	●	●		●	●	●	●	●	●	●	●	●											●	●	●								
SCMT09T308LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●											●	●	●								
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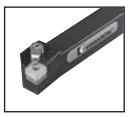
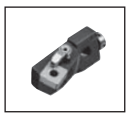

B52-B65

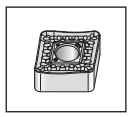
B86-B102

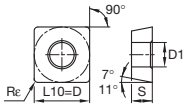
B109-B110


B138-B152

8-23

24-31

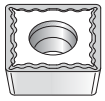

33-39



SCMT-MF

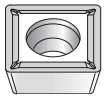
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SCMT09T308MF	SCMT3252MF	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173
SCMT120408MF	SCMT432MF	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,50	.217
SCMT120412MF	SCMT433MF	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,50	.217

SCMT-UF



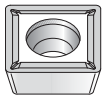
SCMT09T308UF	SCMT3252UF	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173

SPGH



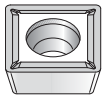
SPGH070208	SPGH25152	7,94	5/16	7,00	.276	2,38	3/32	0,8	1/32	3,24	.128
SPGH090308	SPGH322	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,95	.156

SPGT-LF



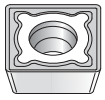
SPGT09T304LF	SPGT3251LF	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173
SPGT09T308LF	SPGT3252LF	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173

SPMT-LF



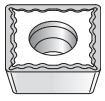
SPMT09T304LF	SPMT3251LF	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173
SPMT09T308LF	SPMT3252LF	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173

SPMT-MF



SPMT09T308MF	SPMT3252MF	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173
SPMT120408MF	SPMT432MF	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,50	.217

SPMT-UF

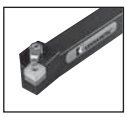


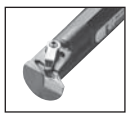
SPMT09T304UF	SPMT3251UF	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173

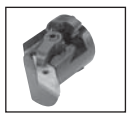
Order example:
ISO catalog number: SPMT09T304UF
Insert grade: KC5010

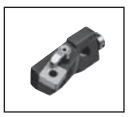
KENNA PERFECT

ISO catalog number	P						M					K						N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
SCMT09T308MF			●	●	●					●	●			●	●	●											●								
SCMT120408MF				●	●	●				●	●			●	●	●											●								
SCMT120412MF				●	●	●				●				●		●																			
SCMT09T308UF		●		●	●			●					●												●										
SPGH070208																			●																
SPGH090308			●																●																
SPGT09T304LF		●						●	●				●						●						●	●									
SPGT09T308LF		●						●	●				●						●						●	●									
SPMT09T304LF	●	●		●	●		●	●	●	●	●	●	●	●	●										●	●	●								
SPMT09T308LF	●	●	●	●	●		●	●	●		●	●	●	●	●									●	●	●	●								
SPMT09T308MF				●	●					●	●			●	●	●											●								
SPMT120408MF				●	●	●				●	●			●	●	●											●								
SPMT09T304UF		●		●	●			●					●												●										

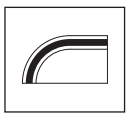

B52-B65

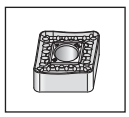

B86-B102

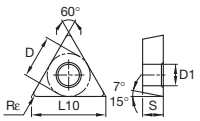

B109-B110


B138-B152

8-23


24-31


33-39



TCGW - F

(ST)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TCGW110204FST	TCGW2151FST	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TCGW16T304FST	TCGW3251FST	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173

TCGW

(M)

(MT)

(C)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TCGW110202EM	TCGW21505EM	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110
TCGW110202S01015C	TCGW21505S0415C	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110
TCGW110204S01015C	TCGW2151S0415C	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TCGW110204S01015M	TCGW2151S0415M	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TCGW110208S01015C	TCGW2152S0415C	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TCGW110208S01015M	TCGW2152S0415M	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TCGW16T304S01015M	TCGW3251S0415M	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TCGW16T304S01015MT	TCGW3251S0415MT	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TCGW16T308S01015M	TCGW3252S0415M	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173
TCGW16T308S01015MT	TCGW3252S0415MT	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

TDHB

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TDHB07T12S0	TDHB12807501	4,06	.160	7,04	.277	1,19	3/64	0,1	.002	2,39	.094
TDHB07T1202	TDHB12807505	4,06	.160	7,04	.277	1,19	3/64	0,2	.007	2,39	.094

TPGW E/F

(ST)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPGW110204E	TPGW2151E	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPGW110204FST	TPGW2151FST	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPGW110208E	TPGW2152E	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPGW110208FST	TPGW2152FST	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPGW16T304FST	TPGW3251FST	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TPGW16T308FST	TPGW3252FST	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

TPGW

(M)

(MT)

(C)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPGW110202EM	TPGW21505EM	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110
TPGW110204EC	TPGW2151EC	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPGW110204S01015C	TPGW2151S0415C	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPGW110204S01015M	TPGW2151S0415M	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPGW110208S01015C	TPGW2152S0415C	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPGW110208S01015M	TPGW2152S0415M	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPGW16T304S01015M	TPGW3251S0415M	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TPGW16T308S01015M	TPGW3252S0415M	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173
TPGW16T308S01015MT	TPGW3252S0415MT	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

Order example:
ISO catalog number: TPGW110202EM
Insert grade: KB9610

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M					K						N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC8315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
TCGW110204FST																				●		●													
TCGW16T304FST																				●		●													
TCGW110202EM																																	●	●
TCGW110202S01015C																													●					
TCGW110204S01015C																													●					●
TCGW110204S01015M																																	●	●
TCGW110208S01015C																																		●
TCGW110208S01015M																																		●
TCGW16T304S01015M																																	●	
TCGW16T304S01015MT																														●				●
TCGW16T308S01015M																																	●	
TCGW16T308S01015MT																																		●
TDHB07T12S0																																	●	
TDHB07T1202																																	●	
TPGW110204E																					●													
TPGW110204FST																				●		●													
TPGW110208E																					●													
TPGW110208FST																				●		●													
TPGW16T304FST																				●		●													
TPGW16T308FST																				●		●													
TPGW110202EM																																	●	●
TPGW110204EC																	●																	
TPGW110204S01015C																													●		●	●		●
TPGW110204S01015M																																	●	●
TPGW110208S01015C																													●		●	●		●
TPGW110208S01015M																																	●	●
TPGW16T304S01015M																																	●	
TPGW16T308S01015M																																	●	
TPGW16T308S01015MT																														●				●

B52-B65

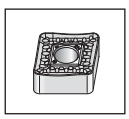
B86-B102

B109-B110

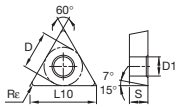
B138-B152

8-23

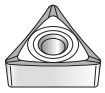
24-31


33-39

Screw-ON Inserts

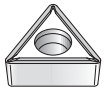


TCGT-HP



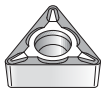
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TCGT110202HP	TCGT21505HP	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110
TCGT110204HP	TCGT2151HP	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TCGT110208HP	TCGT2152HP	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TCGT16T302HP	TCGT32505HP	9,53	3/8	16,50	.650	3,97	5/32	0,2	.008	4,40	.173
TCGT16T304HP	TCGT3251HP	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TCGT16T308HP	TCGT3252HP	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

TCGT-LF



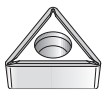
TCGT110201LF	TCGT2150LF	6,35	1/4	11,00	.433	2,38	3/32	0,1	.004	2,80	.110
TCGT110204LF	TCGT2151LF	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TCGT1102X0LF	TCGT215X0LF	6,35	1/4	11,00	.433	2,38	3/32	0,0	.0015	2,80	.110
TCGT16T302LF	TCGT32505LF	9,53	3/8	16,50	.650	3,97	5/32	0,2	.008	4,40	.173
TCGT16T301LF	TCGT3250LF	9,53	3/8	16,50	.650	3,97	5/32	0,1	.004	4,40	.173
TCGT16T304LF	TCGT3251LF	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TCGT16T308LF	TCGT3252LF	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

TCMT-11



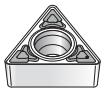
TCMT11020411	TCMT215111	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TCMT16T30411	TCMT325111	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TCMT16T30811	TCMT325211	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

TCMT-LF



TCMT110202LF	TCMT21505LF	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110
TCMT110204LF	TCMT2151LF	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TCMT110208LF	TCMT2152LF	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TCMT16T302LF	TCMT32505LF	9,53	3/8	16,50	.650	3,97	5/32	0,2	.008	4,40	.173
TCMT16T304LF	TCMT3251LF	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TCMT16T308LF	TCMT3252LF	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173
TCMT16T312LF	TCMT3253LF	9,53	3/8	16,50	.650	3,97	5/32	1,2	3/64	4,40	.173
TCMT220408LF	TCMT432LF	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,50	.217

TCMT-MF



TCMT110208MF	TCMT2152MF	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TCMT16T308MF	TCMT3252MF	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173
TCMT16T312MF	TCMT3253MF	9,53	3/8	16,50	.650	3,97	5/32	1,2	3/64	4,40	.173

TCMT-UF

TCMT110204UF	TCMT2151UF	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TCMT110208UF	TCMT2152UF	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TCMT16T308UF	TCMT3252UF	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

Order example:
ISO catalog number: TCMT110204UF
Insert grade: KC9110

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M					K						N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
TCGT110202HP		●						●	●				●						●						●	●									
TCGT110204HP		●						●	●				●					●	●				●		●	●									
TCGT110208HP		●						●	●				●						●						●	●									
TCGT16T302HP		●						●	●				●												●	●									
TCGT16T304HP		●						●	●				●					●	●				●		●	●									
TCGT16T308HP		●						●	●				●					●	●				●		●	●									
TCGT110201LF		●						●	●				●												●	●									
TCGT110204LF		●						●	●				●												●	●									
TCGT1102X0LF									●																	●									
TCGT16T302LF		●						●					●												●										
TCGT16T301LF		●						●	●				●												●	●									
TCGT16T304LF		●						●	●				●						●						●	●									
TCGT16T308LF		●						●					●												●										
TCMT11020411	●						●					●																							
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TCMT110208LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										●	●	●								
TCMT16T302LF	●	●					●	●	●			●	●												●	●									
TCMT16T304LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										●	●	●								
TCMT16T308LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										●	●	●								
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TCMT220408LF		●		●	●			●	●	●	●		●	●											●	●	●								
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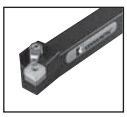
TCMT110208UF		●		●	●			●					●												●										
TCMT16T308UF		●		●	●			●					●												●										

KENNA PERFECT SELECTION SYSTEM
INSERTS
OD/ID TOOLING
TOOL ADAPTER VDI
GROOVING AND CUT-OFF
THREADING
APPLICATION SPECIFIC
KM QUICK-CHANGE TOOLS
CLASSIC PRODUCTS
TECHNICAL SECTION
INDEX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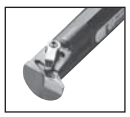
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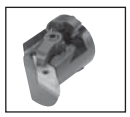
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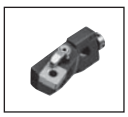
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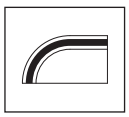
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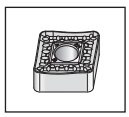
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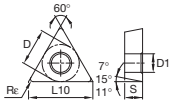
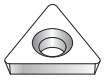


TDHB



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TDHB07T12S0	TDHB12807501	4,06	.160	7,04	.277	1,19	3/64	0,1	.002	2,39	.094
TDHB07T1202	TDHB12807505	4,06	.160	7,04	.277	1,19	3/64	0,2	.007	2,39	.094
TDHB07T1204	TDHB1280751	4,06	.160	7,04	.277	1,19	3/64	0,4	1/64	2,39	.094
TDHB07T1208	TDHB1280752	4,06	.160	7,04	.277	1,19	3/64	0,8	1/32	2,39	.094

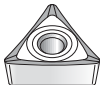
TDHH

TDHH07T1202L	TDHH12807505L	4,06	.160	7,04	.277	1,19	3/64	0,2	.007	2,39	.094
TDHH07T1202R	TDHH12807505R	4,06	.160	7,04	.277	1,19	3/64	0,2	.007	2,39	.094
TDHH07T1204L	TDHH1280751L	4,06	.160	7,04	.277	1,19	3/64	0,4	1/64	2,39	.094
TDHH07T1204R	TDHH1280751R	4,06	.160	7,04	.277	1,19	3/64	0,4	1/64	2,39	.094

TPGH

TPGT110204K	TPGM2151	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPGT110208K	TPGM2152	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPGH16T304	TPGM3251	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TPGH16T308	TPGM3252	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

TPGT-HP



TPGT110202HP	TPGT21505HP	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110
TPGT110204HP	TPGT2151HP	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPGT110208HP	TPGT2152HP	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPGT16T302HP	TPGT32505HP	9,53	3/8	16,50	.650	3,97	5/32	0,2	.008	4,40	.173
TPGT16T304HP	TPGT3251HP	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TPGT16T308HP	TPGT3252HP	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

TPGT-LF

TPGT090202LF	TPGT181505LF	5,56	7/32	9,63	.379	2,38	3/32	0,2	.008	2,65	.104
TPGT090204LF	TPGT18151LF	5,56	7/32	9,63	.379	2,38	3/32	0,4	1/64	2,65	.104
TPGT110202LF	TPGT21505LF	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110
TPGT110201LF	TPGT2150LF	6,35	1/4	11,00	.433	2,38	3/32	0,1	.004	2,80	.110
TPGT110204LF	TPGT2151LF	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPGT110208LF	TPGT2152LF	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPGT16T304LF	TPGT3251LF	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TPGT16T308LF	TPGT3252LF	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

Order example:
ISO catalog number: TPGT090202LF
Insert grade: KC5025

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M					K						N				S					H						
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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TDHB07T1202	●	●					●	●	●			●	●												●	●								
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TDHB07T1208		●						●	●				●												●	●								
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TDHH07T1204L		●						●	●				●												●	●								
TDHH07T1204R		●						●	●				●												●	●								
TPGT110204K																		●					●	●										
TPGT110208K																		●					●	●										
TPGH16T304		●		●	●			●					●												●									
TPGH16T308				●	●																													
TPGT110202HP		●						●	●				●					●	●				●		●	●								
TPGT110204HP		●						●	●				●					●	●				●		●	●								
TPGT110208HP		●						●	●				●						●						●	●								
TPGT16T302HP		●						●	●				●						●						●	●								
TPGT16T304HP		●						●	●				●					●	●				●		●	●								
TPGT16T308HP		●						●	●				●						●						●	●								
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TPGT110208LF		●						●	●				●						●						●	●								
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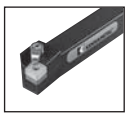
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B86-B102

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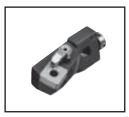
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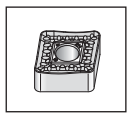
8-23

24-31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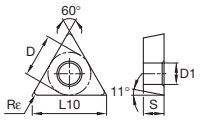
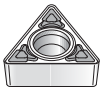


TPMT-LF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPMT090202LF	TPMT181505LF	5,56	7/32	9,63	.379	2,38	3/32	0,2	.008	2,65	.104
TPMT090204LF	TPMT18151LF	5,56	7/32	9,63	.379	2,38	3/32	0,4	1/64	2,65	.104
TPMT110202LF	TPMT21505LF	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110
TPMT110204LF	TPMT2151LF	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPMT110208LF	TPMT2152LF	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPMT16T304LF	TPMT3251LF	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TPMT16T308LF	TPMT3252LF	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173
TPMT16T312LF	TPMT3253LF	9,53	3/8	16,50	.650	3,97	5/32	1,2	3/64	4,40	.173
TPMT220408LF	TPMT432LF	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,50	.217

TPMT-MF



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPMT110208MF	TPMT2152MF	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPMT16T308MF	TPMT3252MF	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173
TPMT16T312MF	TPMT3253MF	9,53	3/8	16,50	.650	3,97	5/32	1,2	3/64	4,40	.173

TPMT-UF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPMT110202UF	TPMT21505UF	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110
TPMT110204UF	TPMT2151UF	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPMT16T304UF	TPMT3251UF	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TPMT16T308UF	TPMT3252UF	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173

Order example:
ISO catalog number: TPMT110202UF
Insert grade: KC5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M					K					N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
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TPMT110202LF	●	●					●	●	●			●	●												●	●								
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TPMT16T308LF	●	●	●	●	●		●	●	●	●	●	●	●	●	●										●	●	●							
TPMT16T312LF	●	●		●	●		●	●		●		●	●	●											●									
TPMT220408LF		●			●	●		●	●				●	●											●	●								
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TPMT16T304UF		●		●	●			●					●												●									
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B52-B65

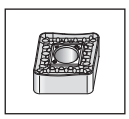
B86-B102

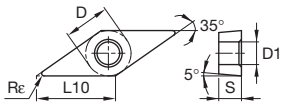
B109-B110

B138-B152

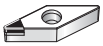
8-23

24-31


33-39



VBGW - E/F


(ST)

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VBGW110304FST	VBGW221FST	6,35	1/4	11,07	.436	3,18	1/8	0,4	1/64	2,80	.110
VBGW160404E	VBGW331E	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBGW160404FST	VBGW331FST	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBGW160408E	VBGW332E	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173

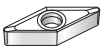
VBGW

(M)

(MT)

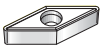
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VBGW160404S01015M	VBGW331S0415M	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBGW160404S01015MT	VBGW331S0415MT	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBGW160408S01015M	VBGW332S0415M	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173
VBGW160408S01015MT	VBGW332S0415MT	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173

VBGT-HP



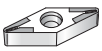
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VBGT110302HP	VBGT2205HP	6,35	1/4	11,07	.436	3,18	1/8	0,2	.008	2,80	.110
VBGT110304HP	VBGT221HP	6,35	1/4	11,07	.436	3,18	1/8	0,4	1/64	2,80	.110
VBGT160404HP	VBGT331HP	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBGT160408HP	VBGT332HP	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173

VBGT-LF



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VBGT110301LF	VBGT220LF	6,35	1/4	11,07	.436	3,18	1/8	0,1	.004	2,80	.110
VBGT110302LF	VBGT2205LF	6,35	1/4	11,07	.436	3,18	1/8	0,2	.008	2,80	.110
VBGT110304LF	VBGT221LF	6,35	1/4	11,07	.436	3,18	1/8	0,4	1/64	2,80	.110
VBGT1103X0LF	VBGT22X0LF	6,35	1/4	11,07	.436	3,18	1/8	0,05	.002	2,80	.110
VBGT160401LF	VBGT330LF	9,53	3/8	16,61	.654	4,76	3/16	0,1	.004	4,40	.173
VBGT160402LF	VBGT3305LF	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	4,40	.173
VBGT160404LF	VBGT331LF	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBGT1604X0LF	VBGT33X0LF	9,53	3/8	16,61	.654	4,76	3/16	0,05	.002	4,40	.173

VBMT-11



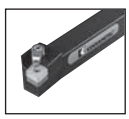
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VBMT11030211	VBMT220511	6,35	1/4	11,07	.436	3,18	1/8	0,2	.008	2,80	.110
VBMT11030411	VBMT22111	6,35	1/4	11,07	.436	3,18	1/8	0,4	1/64	2,80	.110
VBMT16040411	VBMT33111	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBMT16040811	VBMT33211	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173

Order example:
ISO catalog number: VBMT11030211
Insert grade: KT315

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT™

ISO catalog number	P						M						K						N						S						H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
VBGW110304FST																				●		●																
VBGW160404E																					●																
VBGW160404FST																				●		●																
VBGW160408E																					●																
VBGW160404S01015M																																	●					
VBGW160404S01015MT																													●	●		●		●				
VBGW160408S01015M																																	●					
VBGW160408S01015MT																													●	●		●		●				
VBGT110302HP		●						●	●				●						●							●	●											
VBGT110304HP		●						●	●				●						●							●	●											
VBGT160404HP		●						●	●				●					●	●				●	●		●	●											
VBGT160408HP		●						●	●				●					●	●				●	●		●	●											
VBGT110301LF.		●						●	●				●						●							●	●											
VBGT110302LF		●						●	●				●						●						●	●	●											
VBGT110304LF		●						●	●				●					●	●				●			●	●											
VBGT1103X0LF									●																		●											
VBGT160401LF		●						●	●				●						●							●	●											
VBGT160402LF		●						●	●				●					●	●				●			●	●											
VBGT160404LF		●						●	●				●						●					●	●	●											
VBGT1604X0LF									●																		●											
VBMT11030211	●						●					●																										
VBMT11030411	●						●					●																										
VBMT16040411	●						●					●																										
VBMT16040811	●						●					●																										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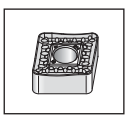
B86-B102

B109-B110

B138-B152

8-23

24-31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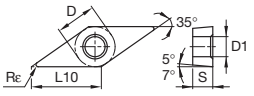
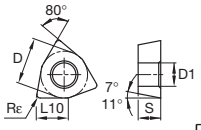
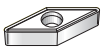


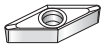


VBMT-LF



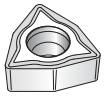
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VBMT110302LF	VBMT2205LF	6,35	1/4	11,07	.436	3,18	1/8	0,2	.008	2,80	.110
VBMT110304LF	VBMT221LF	6,35	1/4	11,07	.436	3,18	1/8	0,4	1/64	2,80	.110
VBMT110308LF	VBMT222LF	6,35	1/4	11,07	.436	3,18	1/8	0,8	1/32	2,80	.110
VBMT160402LF	VBMT3305LF	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	4,40	.173
VBMT160404LF	VBMT331LF	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBMT160408LF	VBMT332LF	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173
VBMT160412LF	VBMT333LF	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	4,40	.173

VCGT-HP



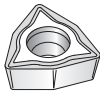
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VCGT160408HP	VCGT332HP	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	–	–

WCMT-LF



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WCMT040204LF	WCMT2151LF	6,35	1/4	4,34	.171	2,38	3/32	0,4	1/64	2,80	.110
WCMT06T308LF	WCMT3252LF	9,53	3/8	6,52	.257	3,97	5/32	0,8	1/32	4,40	.173

WPMT-LF



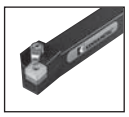
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WPMTS3T104LF	WPMT15121LF	4,76	3/16	3,25	.128	1,98	5/64	0,4	1/64	2,15	.085
WPMT040204LF	WPMT2151LF	6,35	1/4	4,34	.171	2,38	3/32	0,4	1/64	2,80	.110
WPMT06T304LF	WPMT3251LF	9,53	3/8	6,52	.257	3,97	5/32	0,4	1/64	4,40	.173
WPMT06T308LF	WPMT3252LF	9,53	3/8	6,52	.257	3,97	5/32	0,8	1/32	4,40	.173

Order example:
ISO catalog number: WPMTS3T104LF
Insert grade: KC5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P						M						K						N					S					H							
	KT315	KC5010	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC9240	KT315	KC5010	KC9315	KC9320	KC9325	KB1345	K313	KC5410	KD1400	KD1405	KD1425	K313	K68	KC5010	KC5025	KC9240	KY1615	KB1610	KB1625	KB1630	KB5610	KB5625	KB9610
VBMT110302LF	●	●					●	●				●	●					●					●		●										
VBMT110304LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●		●	●	●								
VBMT110308LF	●	●		●	●		●	●	●	●	●	●	●	●				●					●		●	●	●								
VBMT160402LF	●	●					●	●	●			●	●					●					●	●	●	●									
VBMT160404LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●	●	●	●	●								
VBMT160408LF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●					●	●	●	●	●								
VBMT160412LF			●																																
VCGT160408HP																		●					●												
WCMT040204LF		●						●	●				●												●	●									
WCMT06T308LF	●	●					●	●	●			●	●												●	●									
WPMTS3T104LF		●						●	●				●												●	●									
WPMT040204LF		●		●	●			●	●	●			●	●											●	●									
WPMT06T304LF	●	●		●	●		●	●		●		●	●	●											●										
WPMT06T308LF		●		●	●			●	●	●	●		●	●	●										●	●	●								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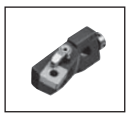
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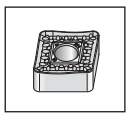
8-23

24-31


33-39

KENNAMETAL®

OD/ID Tooling

Table of Contents

OD/ID Tooling B1–B188

Toolholder Selection Guide.....B2–B3
Toolholder Identification System.....B4–B5

Toolholders B6–B66
- KENCLAMP™ Toolholders B6–B14
- KENLEVER™ Toolholders B15–B21
- FIX-PERFECT™ Toolholders.....B22
- KENLOC™ Toolholders.....B24–B33
- Wedgelock™ Toolholders.....B34
- MTS Toolholders.....B35–B47
- KENDEX™ Toolholders B48–B51
- SCREW-ON Toolholders.....B52–B65
- V-Bottom Round Toolholders.....B66

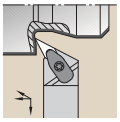
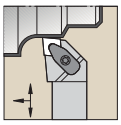
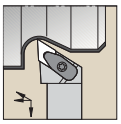
Boring Bars.....B68–B102
Boring Bar Selection Guide B68–B69
Boring Bar ID System B70–B71
- KENCLAMP Boring Bars.....B72–B75
- KENLEVER Boring Bars B76–B77
- KENLOC Boring Bars B78–B80
- MTS Boring Bars.....B81–B83
- KENDEX Boring Bars B84–B85
- SCREW-ON Boring Bars B86–B102

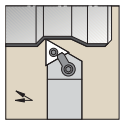
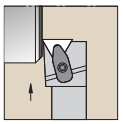
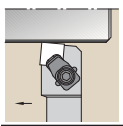
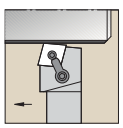
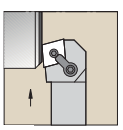
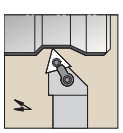
Boring Heads B103–B111
- KENLOC Boring Heads B106–B107
- KENLEVER Boring Heads B108–B109
- SCREW-ON Boring Heads.....B110–B111

Cartridges B112–B153
Cartridge ID System B112–B113
- KENLEVER Cartridges.....B114–B117
- KENLOC Cartridges B118–B131
- KENDEX Cartridges B132–B137
- SCREW-ON Cartridges B138–B153

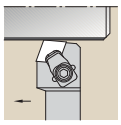
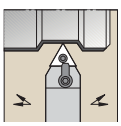
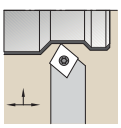
KM™ Cutting Units.....B154–B188
KM Cutting Units Identification System B154–B155
KM25™ Cutting Units.....B156–B165
- KENLOC Cutting Units B156–B161
- SCREW-ON Cutting Units B162–B165

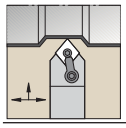
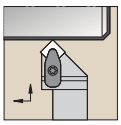
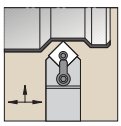
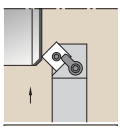
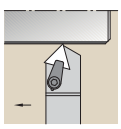
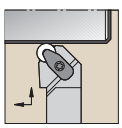
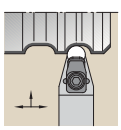
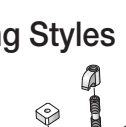
KM40™ Cutting Units.....B166–B188
- KENCLAMP Cutting Units B166–B172
- KENLOC Cutting Units B173–B179
- P-Clamping B180–B184
- SCREW-ON Cutting Units B185–B188

Tool Path	Lead Angle	Clamping Style and Insert Shape	Turning	Profiling	Facing	Plunging	Chamfering	Page
117,5° Lead Angle								
	117,5°	V 35°						
		KENLOC™	●	●				B33
		KENCLAMP™	●		●			B13
107,5° Lead Angle								
	107,5°	D 55°						
		SCREW-ON	●	●				B56
		MTS	●			●		B37
		V 35°						
		SCREW-ON	●	●				B63
97,5° Lead Angle								
	97,5°	E 75°						
		MTS	●		●			B39
95° Lead Angle								
	95°	C 80°						
		KENLOC	●	●	●			B25
		KENCLAMP	●	●	●			B6
		KENLEVER™	●	●	●			B16
		SCREW-ON	●	●	●			B54/B55
		MTS	●	●	●			B36
		W 80°						
		KENLOC	●	●	●			B33
		KENCLAMP	●	●	●			B14
		KENLEVER	●	●	●			B21
		SCREW-ON	●	●	●			B65
		MTS	●	●	●			B47
		WEDGELOCK™	●	●	●			B34
93° Lead Angle								
	93°	D 55°						
		KENLOC	●	●				B27
		KENCLAMP	●	●				B8
		KENLEVER	●	●				B17
		SCREW-ON	●	●				B57
		MTS	●	●				B38
		V 35°						
		KENLOC	●	●				B32
		KENCLAMP	●	●				B13
		SCREW-ON	●	●				B64
		T 60°	●	●				
		WEDGELOCK	●	●				B34

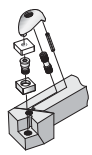
Tool Path	Lead Angle	Clamping Style and Insert Shape	Turning	Profiling	Facing	Plunging	Chamfering	Page
90° Lead Angle								
	90°	C 80°						
		SCREW-ON	●		●			B52/B53
								B53
		D 55°						
		SCREW-ON	●	●				B56
		V 35°						
		SCREW-ON	●	●				B63
		T 60°						
		KENLOC	●			●		B31/B32
								B31
			●	●				B31/B32
		KENCLAMP	●		●			B12
								B12
		KENLEVER	●		●			B20
								B20
		KENDEX™	●		●			B51
								B49/B50
		SCREW-ON	●					B62
			●		●			B61
					●			B62
		MTS	●					B47
					●			B46
85° Lead Angle								
	85°	S 90°						
		MTS	●					B45
					●			B46
75° Lead Angle								
	75°	C 80°						
		KENLOC	●					B26
					●			B24
		KENCLAMP			●			B6
			●					B7
		KENLEVER	●					B15
					●			B15
		KENDEX	●					–
		SCREW-ON	●		●			B53/B55
		MTS	●					B37
		S 90°						
		KENLOC	●					B28
					●			B29
		KENCLAMP	●					B9/B11
					●			B10
		KENLEVER	●					B18
					●			B19
		SCREW-ON	●					B60
					●			B60
		MTS	●					B43
					●			B42
		T 60°						
		KENDEX	●		●			B49

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

Tool Path	Lead Angle	Clamping Style and Insert Shape	Turning	Profiling	Facing	Plunging	Chamfering	Page
72,5° Lead Angle								
	72,5°	55° D						
		KENLOC	●	●				–
		35° V						
		KENCLAMP		●				B14
		SCREW-ON	●	●				B65
70° Lead Angle								
	70°	75° E						
		MTS	●					–
63° Lead Angle								
	63°	55° D						
		KENCLAMP	●	●				B8
62,5° Lead Angle								
	62,5°	55° D						
		KENLOC	●	●				B27
		KENLEVER™	●	●				B17
		SCREW-ON	●	●				B58
60° Lead Angle								
	60°	60° T						
		KENLOC	●	●				B31
		KENDEX	●					–
		SCREW-ON	●	●	●			–
								

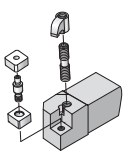
Tool Path	Lead Angle	Clamping Style and Insert Shape	Turning	Profiling	Facing	Plunging	Chamfering	Page
50° Lead Angle								
	50°	80° C						
		KENLOC	●	●				B26
45° Lead Angle								
	45°	80° C						
		KENCLAMP	●		●			B7
		KENLEVER	●		●			B16
		SCREW-ON	●	●	●			B52/B55
		90° S						
		KENLOC	●		●			B29/B30
					●			B30
		**KENCLAMP**	●		●			B10/B11
			●	●	●			B10/B11
		KENLEVER	●		●			B18/B19
		**KENDEX**	●	●				B48
			●		●			B48
		SCREW-ON	●	●	●			B60/B61
		MTS	●		●			B44
		60° T						
		**KENDEX**	●					B50
		R						
		**KENLOC**	●		●			B28
		KENCLAMP	●		●			B9
		FIX-PERFECT	●		●			B22
		SCREW-ON	●		●			B58/B59
		**MTS**	●	●	●			B40
			●		●			B40

Clamping Styles



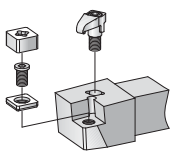
KENCLAMP™ Style

- Suitable for KENLOC inserts.
- Unique clamp design provides rigid clamping.
- Ensures insert repeatability and seating.
- Reduced chatter and improved tool life.



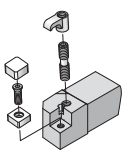
KENLOC™ Style

- Suitable for KENLOC inserts.
- Lock pin and top clamp provide rigid clamping.
- Wide variety of insert styles may be used.
- Tools may be used with or without clamp.



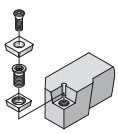
MTS Style

- Proven superior system in holding ceramic inserts rigidly in turning and profiling operations.
- Uses standard insert sizes — 80°, 75°, 55°, Square, and Trigon.
- This system offers the added versatility of using optional hardware to hold standard KENDEX and KENLOC inserts.



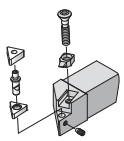
KENDEX™ Style

- Suitable for KENDEX inserts.
- Chipbreaker option available for ceramic inserts.
- Wide variety of insert styles may be used.



SCREW-ON Style

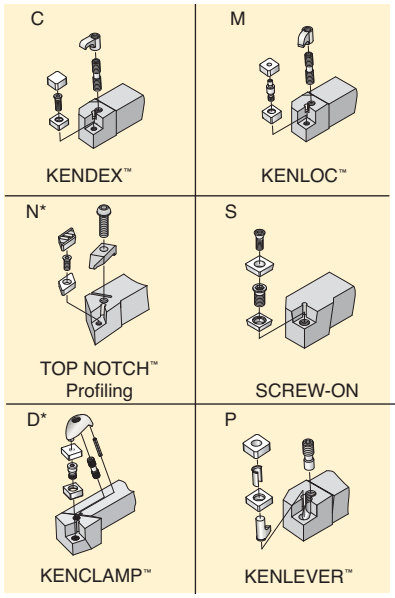
- Top clamping by screw for SCREW-ON inserts.



WEDGELOCK™ Style

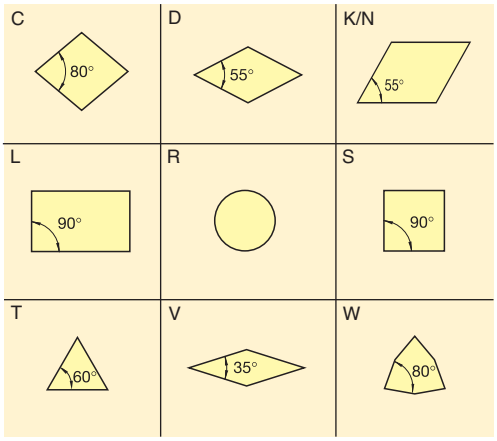
- Top and hole clamping for inserts with hole.

1. Insert Holding Method

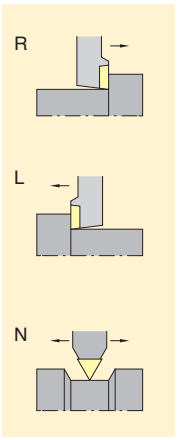


* Kennametal only

2. Insert Shape



5. Hand of Tool



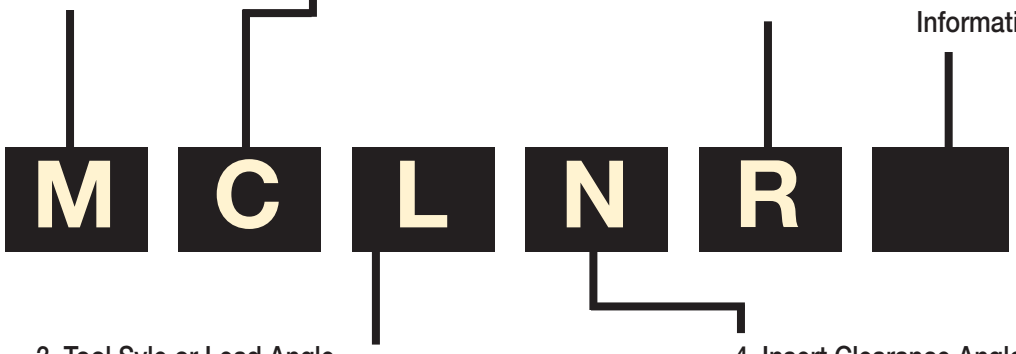
6. Additional Information

C
deep pocket for ceramic insert

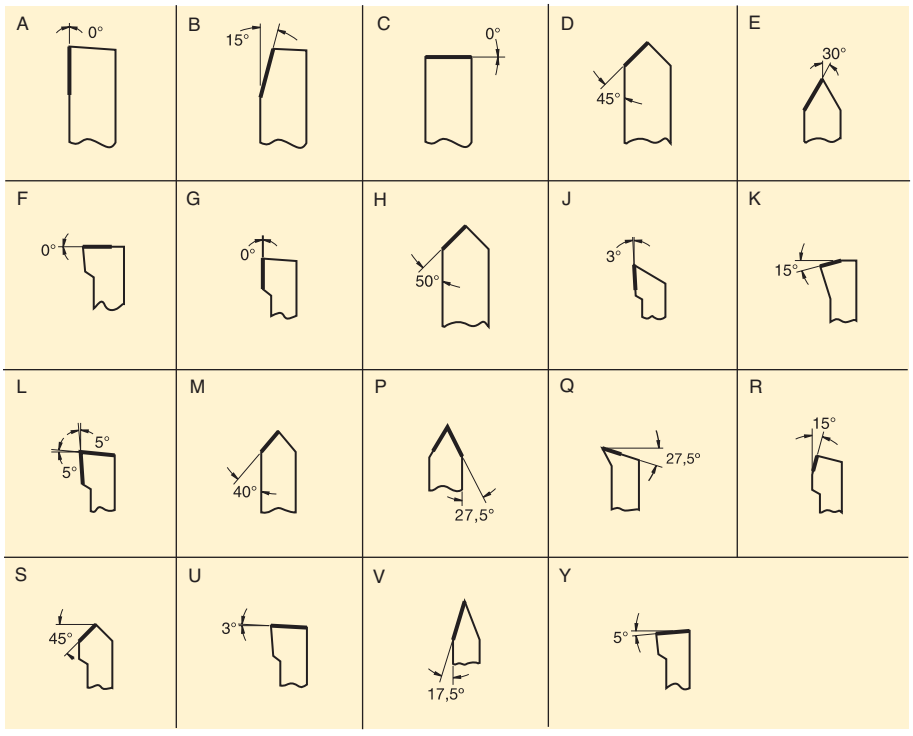
S
single pocket locating wall

F
straight shank, no offset

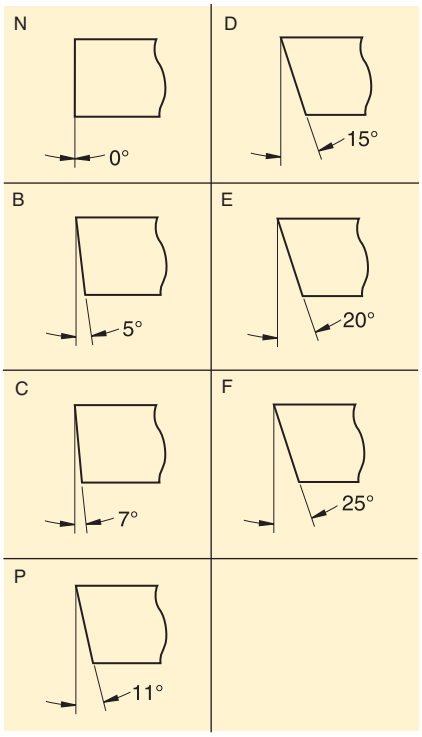
Example:



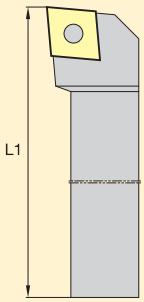
3. Tool Syle or Lead Angle



4. Insert Clearance Angle



L1	ISO
32	A
40	B
50	C
60	D
70	E
80	F
90	G
100	H
110	J
125	K
140	L
150	M
160	N
170	P
180	Q
200	R
250	S
300	T
350	U
400	V
450	W
500	Y
Special length	X



Cutting Edge Length L10

H
O
P
S
T
CDE
M
V
W
L
A
B
K
R

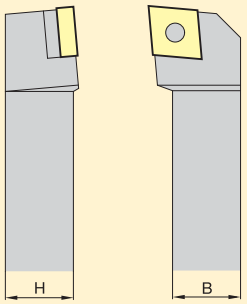
9. Tool Length

10. Insert size

25 25 M 09 [ ] [ ]

7./8. Shank Dimensions

The 7th and 8th position shall be a significant two-digit number which indicates the holder cross section. If the dimension for the width "B"or the height "H" is represented by a one digit number, a 0 (zero) will be used in front of it.
Example: 8mm = 08



11. Additional Information

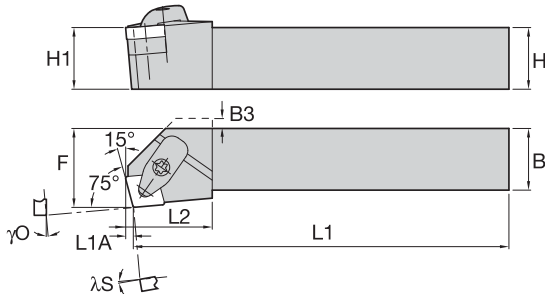
KC
KENCLAMP™
H4
WEDGELOCK™
clamping system
M..
MTS clamping system for ceramic and PCBN inserts

12. Insert Thickness (optional)

04-4,76mm
06-6,35mm

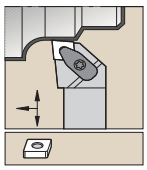
See pages A6-A7 for inserts

NOTE: H=H1



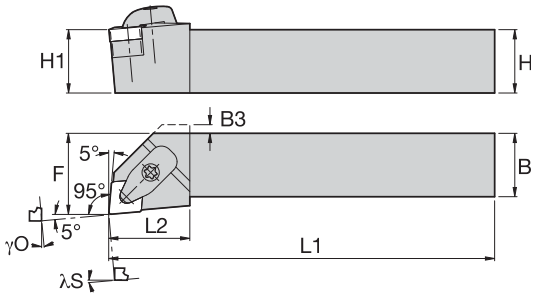
DCKN-KC 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																		
DCKNR2020K12KC04	20	20	25,0	125	32,0	–	3,1	-5.0	-5.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCKNR2525M12KC04	25	25	32,0	150	32,0	–	3,1	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCKNR3225P12KC04	32	25	32,0	170	32,0	–	3,1	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DCKNR3232P16KC06	32	32	40,0	170	32,0	–	3,8	-5.0	-5.0	CN..160612	ICSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DCKNR3232P19KC06	32	32	40,0	170	38,0	–	4,6	-5.0	-5.0	CN..190612	ICSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
left hand																		
DCKNL2020K12KC04	20	20	25,0	125	32,0	–	3,1	-5.0	-5.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCKNL2525M12KC04	25	25	32,0	150	32,0	–	3,1	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCKNL3225P12KC04	32	25	32,0	170	32,0	–	3,1	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP



See pages A6-A7 for inserts

NOTE: H=H1



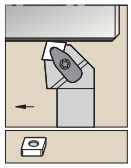
DCLN-KC 95°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DCLNR1616H09KC03	16	16	20,0	100	30,0	–	-5.0	-5.0	CN..090308	ICSN332	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DCLNR2020K09KC03	20	20	25,0	125	30,0	–	-5.0	-5.0	CN..090308	ICSN332	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DCLNR2020K12KC04	20	20	25,0	125	32,0	–	-5.0	-5.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCLNR2525M12KC04	25	25	32,0	150	32,0	–	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DCLNR2525M16KC06	25	25	32,0	150	33,0	–	-5.0	-5.0	CN..160612	ICSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DCLNR3225P12KC04	32	25	32,0	170	32,0	–	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DCLNR3225P16KC06	32	25	32,0	170	33,0	–	-5.0	-5.0	CN..160612	ICSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DCLNR3232P16KC06	32	32	40,0	170	33,0	–	-5.0	-5.0	CN..160612	ICSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DCLNR3232P19KC06	32	32	40,0	170	40,0	–	-5.0	-5.0	CN..190612	ICSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
DCLNR4040S19KC06	40	40	50,0	250	40,0	–	-5.0	-5.0	CN..190612	ICSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
DCLNR4040S25KC09	40	40	50,0	250	51,0	–	-5.0	-5.0	CN..250924	ICSN846	KMSP825IP	25IP	CM236	SSP025018M	STCM425IP	25 IP	KLM81025IP
left hand																	
DCLNL1616H09KC03	16	16	20,0	100	30,0	–	-5.0	-5.0	CN..090308	ICSN332	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DCLNL2020K09KC03	20	20	25,0	125	30,0	–	-5.0	-5.0	CN..090308	ICSN332	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DCLNL2020K12KC04	20	20	25,0	125	32,0	–	-5.0	-5.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCLNL2525M12KC04	25	25	32,0	150	32,0	–	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DCLNL2525M16KC06	25	25	32,0	150	33,0	–	-5.0	-5.0	CN..160612	ICSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DCLNL3225P12KC04	32	25	32,0	170	32,0	–	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DCLNL3225P16KC06	32	25	32,0	170	33,0	–	-5.0	-5.0	CN..160612	ICSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DCLNL3232P16KC06	32	32	40,0	170	33,0	–	-5.0	-5.0	CN..160612	ICSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DCLNL3232P19KC06	32	32	40,0	170	40,0	–	-5.0	-5.0	CN..190612	ICSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
DCLNL4040S19KC06	40	40	50,0	250	40,0	–	-5.0	-5.0	CN..190612	ICSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
DCLNL4040S25KC09	40	40	50,0	250	51,0	–	-5.0	-5.0	CN..250924	ICSN846	KMSP825IP	25IP	CM236	SSP025018M	STCM425IP	25 IP	KLM81025IP

Order example:

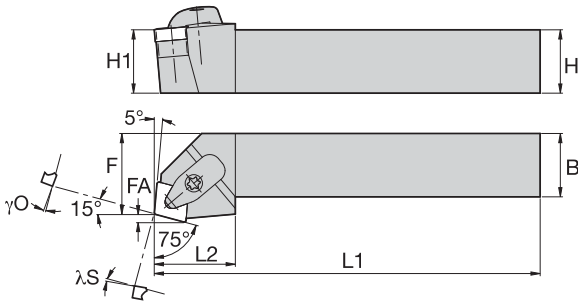
Right hand: DCLNR1616H09KC03 Left hand: DCLNL1616H09KC03

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



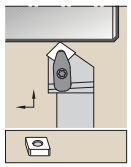
See pages A6-A7 for inserts

NOTE: H=H1



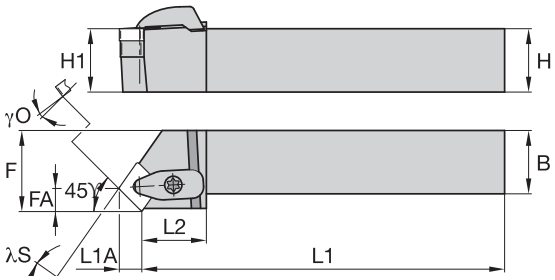
DCRN-KC 75°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage inset	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DCRNR2020K12KC04	20	20	25,0	125	32,0	3,1	-5.0	-5.0	CN..120406	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCRNR2525M12KC04	25	25	32,0	150	32,0	3,1	-5.0	-5.0	CN..120406	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DCRNR3225P12KC04	32	25	32,0	170	32,0	3,1	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DCRNR3232P16KC06	32	32	40,0	170	38,0	3,8	-5.0	-5.0	CN..160612	ICSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DCRNR3232P19KC06	32	32	40,0	170	38,0	4,6	-5.0	-5.0	CN..190612	ICSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
left hand																	
DCRNL2020K12KC04	20	20	25,0	125	32,0	3,1	-5.0	-5.0	CN..120406	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCRNL2525M12KC04	25	25	32,0	150	32,0	3,1	-5.0	-5.0	CN..120406	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DCRNL3225P12KC04	32	25	32,0	170	32,0	3,1	-5.0	-5.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DCRNL3232P16KC06	32	32	40,0	170	38,0	3,8	-5.0	-5.0	CN..160612	ICSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP



See pages A6-A7 for inserts

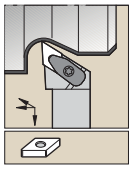
NOTE: H=H1



DCSN-KC 45°

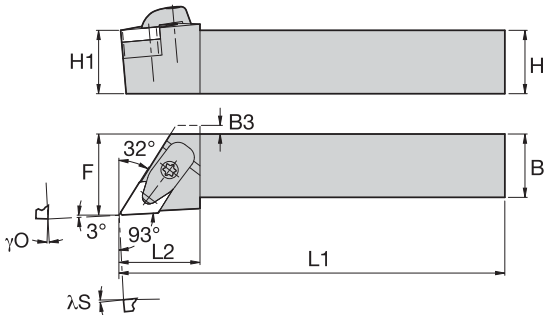
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																		
DCSNR2020K12KC04	20	20	25,0	125	35,0	8,5	8,5	0.0	-8.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCSNR2525M12KC04	25	25	32,0	150	35,0	8,5	8,5	0.0	-8.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
left hand																		
DCSNL2020K12KC04	20	20	25,0	125	35,0	8,5	8,5	0.0	-8.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DCSNL2525M12KC04	25	25	32,0	150	35,0	8,5	8,5	0.0	-8.0	CN..120408	ICSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP

Order example:
Right hand: DCSNR2020K12KC04 Left hand: DCSNL2020K12KC04



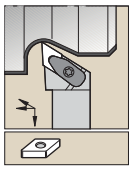
See pages A22-A23 for inserts

NOTE: H=H1



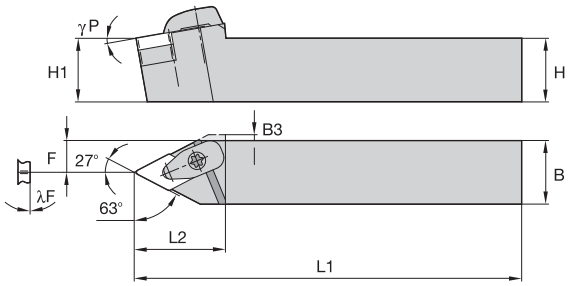
DDJN-KC 93°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DDJNR2020K11KC04	20	20	25,0	125	30,0	–	-5.0	-5.0	DN..110408	IDSN322	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DDJNR2020K15KC06	20	20	25,0	125	32,0	–	-5.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DDJNR2525M11KC04	25	25	32,0	150	30,0	–	-5.0	-5.0	DN..110408	IDSN322	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DDJNR2525M15KC06	25	25	32,0	150	32,0	–	-5.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DDJNR3225P15KC06	32	25	32,0	170	32,0	–	-5.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DDJNR3232P15KC06	32	32	40,0	170	32,0	–	-5.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
left hand																	
DDJNL2020K11KC04	20	20	25,0	125	30,0	–	-5.0	-5.0	DN..110408	IDSN322	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DDJNL2020K15KC06	20	20	25,0	125	32,0	–	-5.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DDJNL2525M11KC04	25	25	32,0	150	30,0	–	-5.0	-5.0	DN..110408	IDSN322	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DDJNL2525M15KC06	25	25	32,0	150	32,0	–	-5.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DDJNL3225P15KC06	32	25	32,0	170	32,0	–	-5.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DDJNL3232P15KC06	32	32	40,0	170	32,0	–	-5.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP



See pages A22-A23 for inserts

NOTE: H=H1



DDNN-KC 63°

catalog number	H	B	F	L1	L2	FA	γF°	γP°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DDNNR2020K15KC06	20	20	10,0	125	40,0	–	0.0	-10.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DDNNR2525M15KC06	25	25	12,5	150	40,0	–	0.0	-10.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
left hand																	
DDNNL2020K15KC06	20	20	10,0	125	40,0	–	0.0	-10.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DDNNL2525M15KC06	25	25	12,5	150	40,0	–	0.0	-10.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DDNNL3225P15KC06	32	25	12,5	170	40,0	–	0.0	-10.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP

Order Example

Right hand: DDNNR2020K15KC06 Left hand: DDNNL2020K15KC06

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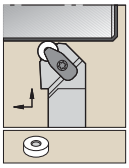
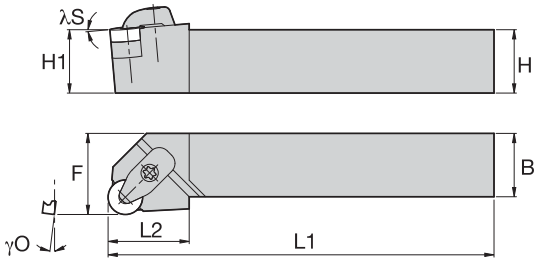


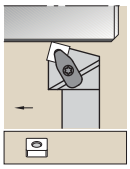
See pages A32-A33 for inserts

NOTE: H=H1



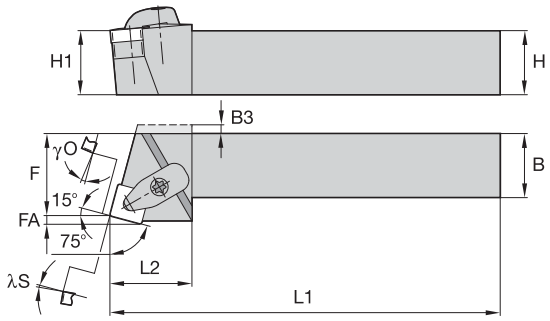
DRGN-KC

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DRGNR2525M12KC04	25	25	32,0	150	32,0	–	-5.0	-5.0	RN..120400	IRSN44	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DRGNR3225P12KC04	32	25	32,0	170	32,0	–	-5.0	-5.0	RN..120400	IRSN44	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DRGNR4040S25KC09	40	40	50,0	250	48,0	–	-5.0	-5.0	RN..250900	IRSN84	KMSP825IP	25IP	CM236	SSP025018M	STCM425IP	25 IP	KLM81025IP
left hand																	
DRGNL3225P12KC04	32	25	32,0	170	32,0	–	-5.0	-5.0	RN..120400	IRSN44	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DRGNL3232P15KC06	32	32	40,0	170	32,0	–	-5.0	-5.0	RN..150600	IRSN54	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DRGNL4040S25KC09	40	40	50,0	250	48,0	–	-5.0	-5.0	RN..250900	IRSN84	KMSP825IP	25IP	CM236	SSP025018M	STCM425IP	25 IP	KLM81025IP



See pages A36-A37 for inserts

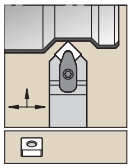
NOTE: H=H1



DSBN-KC 75°

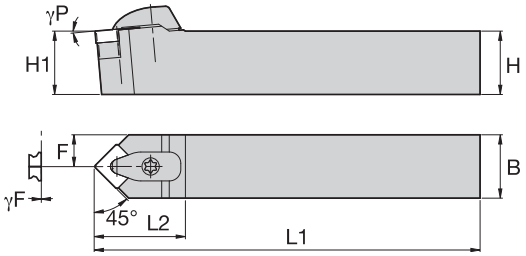
catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DSBNR3225P12KC04	32	25	22,0	170	32,0	3,0	-5.0	-5.0	SN..120408	ISSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSBNR3232P15KC06	32	32	27,0	170	36,0	5,0	-5.0	-5.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSBNR3232P19KC06	32	32	27,0	170	42,0	5,0	-5.0	-5.0	SN..190612	ISSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
DSBNR4040S25KC09	40	40	35,0	250	52,0	5,9	-5.0	-5.0	SN..250924	ISSN846	KMSP825IP	25IP	CM236	SSP025018M	STCM425IP	25 IP	KLM81025IP
left hand																	
DSBNL2525M12KC04	25	25	22,0	150	32,0	3,0	-5.0	-5.0	SN..120408	ISSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSBNL2525M15KC06	25	25	22,0	150	36,0	3,0	-5.0	-5.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSBNL3232P15KC06	32	32	27,0	170	36,0	5,0	-5.0	-5.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSBNL3232P19KC06	32	32	27,0	170	42,0	5,0	-5.0	-5.0	SN..190612	ISSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
DSBNL4040S25KC09	40	40	35,0	250	52,0	5,9	-5.0	-5.0	SN..250924	ISSN846	KMSP825IP	25IP	CM236	SSP025018M	STCM425IP	25 IP	KLM81025IP

Order example
Right hand: DSBNR3225P12KC04 Left hand: DSBNL3225P12KC04



See pages A36-A37 for inserts

NOTE: H = H1

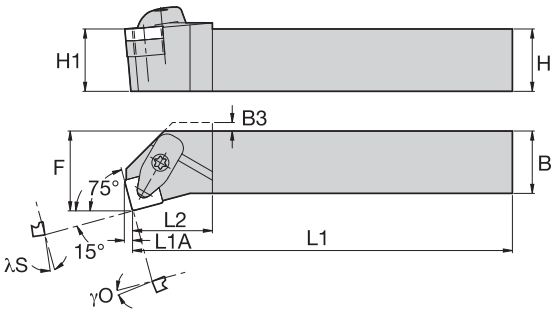


DSDN-KC 45°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage Insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
DSDNN2020K12KC04	20	20	10,0	125	36,0	–	–	–	SN..120408	ISSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DSDNN2525M12KC04	25	25	12,5	150	36,0	–	–	–	SN..120408	ISSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSDNN2525M15KC06	25	25	12,5	150	42,0	–	–	–	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSDNN3225P12KC04	32	25	12,0	170	36,0	–	–	–	SN..120408	IDSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSDNN3232P19KC06	32	32	15,5	170	44,0	–	–	–	SN..190612	ISSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
DSDNN4040S25KC09	40	40	19,5	250	59,0	–	–	–	SN..250924	ISSN846	KMSP825IP	25IP	CM236	SSP025018M	STCM425IP	25 IP	KLM81025IP

See pages A36-A37 for inserts

NOTE: H=H1

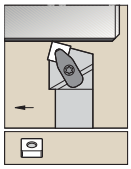


DSKN-KC 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																		
DSKNR2020K12KC04	20	20	25,0	125	32,0	–	3,1	-5.0	-5.0	SN..120408	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DSKNR2525M12KC04	25	25	32,0	150	32,0	–	3,1	-5.0	-5.0	SN..120408	ISSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSKNR3225P12KC04	32	25	32,0	170	32,0	–	3,1	-5.0	-5.0	SN..120408	IDSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSKNR3232P15KC06	32	32	40,0	170	32,0	–	3,8	-5.0	-5.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSKNR3232P19KC06	32	32	40,0	170	38,0	–	4,6	-5.0	-5.0	SN..190612	ISSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
left hand																		
DSKNL2525M12KC04	25	25	32,0	150	32,0	–	3,1	-5.0	-5.0	SN..120408	ISSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSKNL3225P12KC04	32	25	32,0	170	32,0	–	3,1	-5.0	-5.0	SN..120408	IDSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSKNL3232P15KC06	32	32	40,0	170	32,0	–	3,8	-5.0	-5.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP

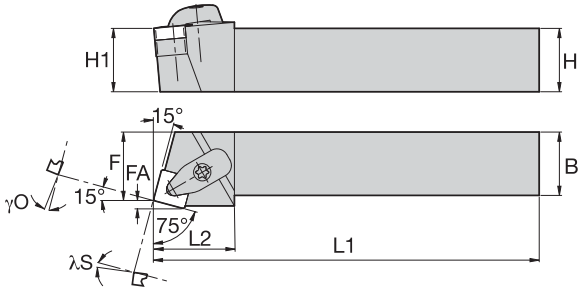
Order Example:
Right hand: DSKNR2525M12KC04 Left hand: DSKNL2525M12KC04

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



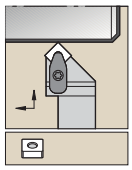
See pages A36-A37 for inserts

NOTE: H=H1



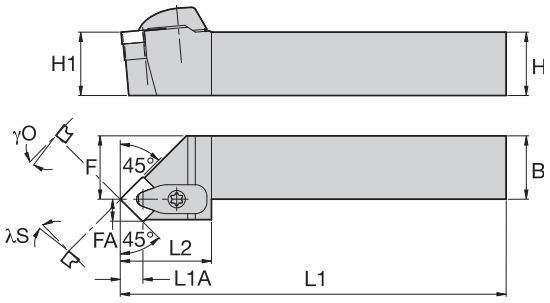
DSRN-KC 75°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DSRNR2020K12KC04	20	20	22,0	125	32,0	3,1	-5.0	-5.0	SN..120408	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DSRNR2525M12KC04	25	25	27,0	150	32,0	3,1	-5.0	-5.0	SN..120408	ISSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSRNR3232P15KC06	32	32	35,0	170	38,0	3,8	-5.0	-5.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSRNR3232P19KC06	32	32	35,0	170	42,0	4,6	-5.0	-5.0	SN..190612	ISSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
DSRNR4040S25KC09	40	40	43,0	250	52,0	5,9	-5.0	-5.0	SN..250924	ISSN846	KMSP825IP	25IP	CM236	SSP025018M	STCM425IP	25 IP	KLM81025IP
left hand																	
DSRNL2525M12KC04	25	25	27,0	150	32,0	3,1	-5.0	-5.0	SN..120408	ISSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSRNL3232P15KC06	32	32	35,0	170	38,0	3,8	-5.0	-5.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSRNL4040S25KC09	40	40	43,0	250	52,0	5,9	-5.0	-5.0	SN..250924	ISSN846	KMSP825IP	25IP	CM236	SSP025018M	STCM425IP	25 IP	KLM81025IP



See pages A36-A37 for inserts

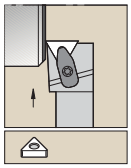
NOTE: H=H1



DSSN-KC 45°

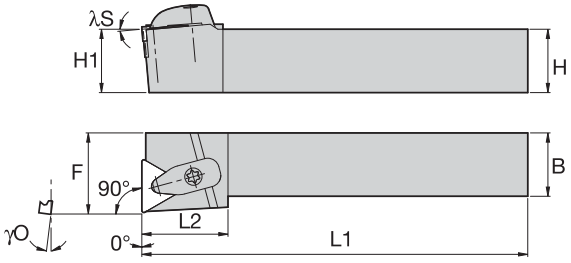
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																		
DSSNR2020K12KC04	20	20	25,0	125	36,0	8,7	8,7	0.0	-8.0	SN..120408	ISSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DSSNR2525M12KC04	25	25	32,0	150	36,0	8,7	8,7	0.0	-8.0	SN..120408	ISSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSSNR2525M15KC06	25	25	32,0	150	42,0	10,7	10,7	0.0	-8.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSSNR3225P12KC04	32	25	32,0	170	35,4	8,7	8,7	0.0	-8.0	SN..120408	IDSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSSNR3232P15KC06	32	32	40,0	170	40,3	10,7	10,7	0.0	-8.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSSNR3232P19KC06	32	32	40,0	170	44,0	10,7	10,7	0.0	-8.0	SN..190612	ISSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP
left hand																		
DSSNL2020K12KC04	20	20	25,0	125	36,0	8,7	8,7	0.0	-8.0	SN..120408	ISSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DSSNL2525M12KC04	25	25	32,0	150	36,0	8,7	8,7	0.0	-8.0	SN..120408	ISSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSSNL3225P12KC04	32	25	32,0	170	35,4	8,7	8,7	0.0	-8.0	SN..120408	IDSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DSSNL3232P15KC06	32	32	40,0	170	40,3	10,7	10,7	0.0	-8.0	SN..150612	ISSN543	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM58L15IP
DSSNL3232P19KC06	32	32	40,0	170	44,0	10,7	10,7	0.0	-8.0	SN..190612	ISSN643	KMSP625IP	25 IP	CM210	SSP025016M	STCM425IP	25 IP	KLM68L25IP

Order example:
Right hand: DSSNR2020K12KC04 Left hand: DSSNL2020K12KC04



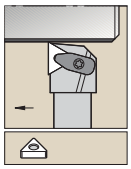
See page A48 for inserts

NOTE: H=H1



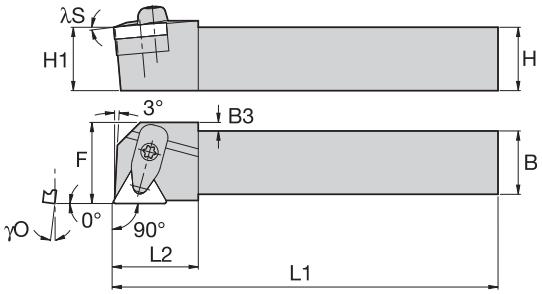
DTFN-KC 90°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DTFNR2020K16KC04	20	20	25,0	125	32,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DTFNR2525M16KC04	25	25	32,0	150	32,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DTFNR2525M22KC04	25	25	32,0	150	34,0	–	-5.0	-5.0	TN..220408	ITSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DTFNR3232P27KC06	32	32	40,0	170	38,0	–	-5.0	-5.0	TN..270612	ITSN534	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM5815IP
left hand																	
DTFNL2020K16KC04	20	20	25,0	125	32,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DTFNL2525M16KC04	25	25	32,0	150	32,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DTFNL2525M22KC04	25	25	32,0	150	34,0	–	-5.0	-5.0	TN..220408	ITSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DTFNL3225P16KC04	32	25	32,0	170	32,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DTFNL3232P27KC06	32	32	40,0	170	38,0	–	-5.0	-5.0	TN..270612	ITSN534	KMSP515IP	15 IP	CM209	SSP025016M	STCM1115IP	15 IP	KLM5815IP



See page A48 for inserts

NOTE: H=H1

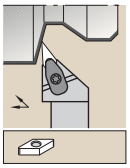


DTGN-KC 90°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DTGNR2020K16KC04	20	20	25,0	125	25,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DTGNR2525M16KC04	25	25	32,0	150	25,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DTGNR2525M22KC04	25	25	32,0	150	32,0	–	-5.0	-5.0	TN..220408	ITSN443	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM46L15IP
DTGNR3225P16KC04	32	25	32,0	170	25,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
left hand																	
DTGNL2020K16KC04	20	20	25,0	125	25,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DTGNL2525M16KC04	25	25	32,0	150	25,0	–	-5.0	-5.0	TN..160408	ITSN323	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP

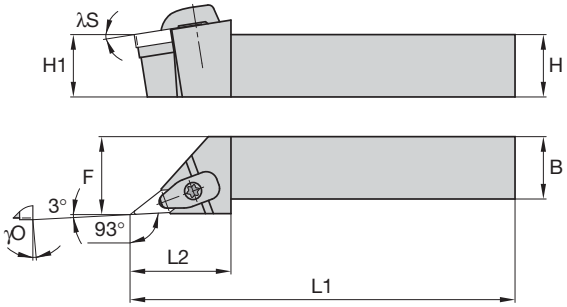
Order example:
Right hand: DTGNR2020K16KC04 Left hand: DTGNL2020K16KC04

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



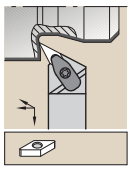
See pages A58-A59 for inserts

NOTE: H=H1



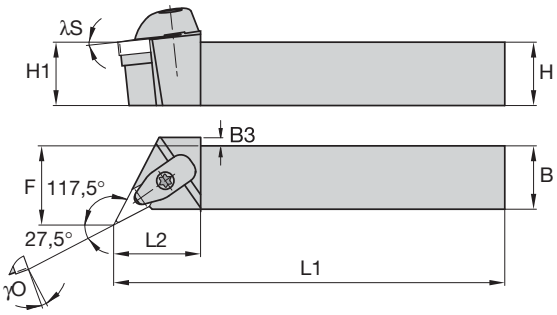
DVJN-KC 93°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DVJNR2020K16KC04	20	20	25,0	125	46,0	–	-9.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DVJNR2525M16KC04	25	25	32,0	150	46,0	–	-9.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DVJNR2525M22KC04	25	25	32,0	150	55,0	–	-9.0	-5.0	VN..220408	IVSN432	KMSP415IP	15 IP	CM235	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DVJNR3225P16KC04	32	25	32,0	170	46,0	–	-9.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DVJNR3225P22KC04	32	25	32,0	170	55,0	–	-9.0	-5.0	VN..220408	IVSN432	KMSP415IP	15 IP	CM235	SSP025016M	STCM1115IP	15 IP	KLM4615IP
left hand																	
DVJNL2020K16KC04	20	20	25,0	125	46,0	–	-9.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DVJNL2525M16KC04	25	25	32,0	150	46,0	–	-9.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DVJNL2525M22KC04	25	25	32,0	150	55,0	–	-9.0	-5.0	VN..220408	IVSN432	KMSP415IP	15 IP	CM235	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DVJNL3225P16KC04	32	25	32,0	170	46,0	–	-9.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DVJNL3225P22KC04	32	25	32,0	170	55,0	–	-9.0	-5.0	VN..220408	IVSN432	KMSP415IP	15 IP	CM235	SSP025016M	STCM1115IP	15 IP	KLM4615IP



See pages A58-A59 for inserts

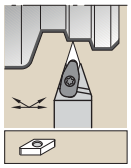
NOTE: H=H1



DVON-KC 117,5°

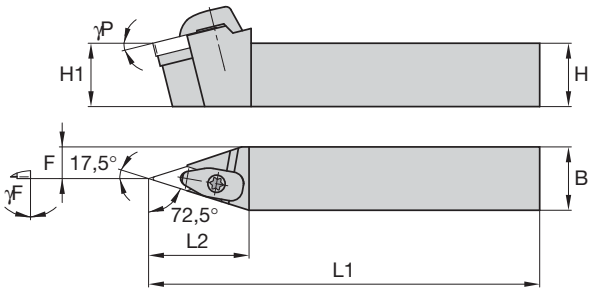
catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																	
DVONR2020K16KC04	20	20	27,0	125	38,0	–	-6.4	-6.4	VN..160408	IVSN322	KMSP315IP	9IP	CM215	SSP025016M	STCM1115IP	9 IP	KLM34L9IP
DVONR2525M16KC04	25	25	32,0	150	38,0	–	-6.4	-6.4	VN..160408	IVSN322	KMSP315IP	9IP	CM215	SSP025016M	STCM1115IP	9 IP	KLM34L9IP
DVONR3225P16KC04	32	25	32,0	170	38,0	–	-6.4	-6.4	VN..160408	IVSN322	KMSP315IP	9IP	CM215	SSP025016M	STCM1115IP	9 IP	KLM34L9IP
left hand																	
DVONL2020K16KC04	20	20	27,0	125	38,0	–	-6.4	-6.4	VN..160408	IVSN322	KMSP315IP	9IP	CM215	SSP025016M	STCM1115IP	9 IP	KLM34L9IP
DVONL2525M16KC04	25	25	32,0	150	38,0	–	-6.4	-6.4	VN..160408	IVSN322	KMSP315IP	9IP	CM215	SSP025016M	STCM1115IP	9 IP	KLM34L9IP
DVONL3225P16KC04	32	25	32,0	170	38,0	–	-6.4	-6.4	VN..160408	IVSN322	KMSP315IP	9IP	CM215	SSP025016M	STCM1115IP	9 IP	KLM34L9IP

Order example:
Right hand: DVONR2020K16KC04 Left hand: DVONL2020K16KC04



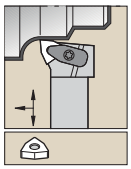
See pages A58-A59 for inserts

NOTE: H=H1



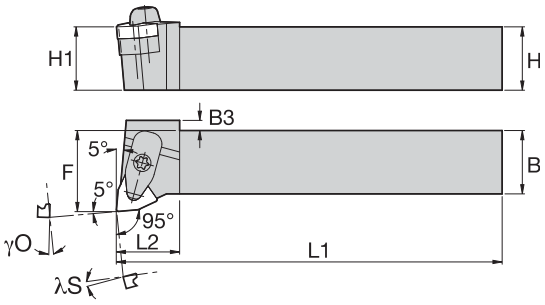
DVVN-KC 72,5°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
DVVNN2020K16KC04	20	20	9,5	125	48,0	–	–	–	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DVVNN2525M16KC04	25	25	12,0	150	48,0	–	–	–	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DVVNN2525M22KC04	25	25	12,0	150	57,0	–	–	–	VN..220408	IVSN432	KMSP415IP	15 IP	CM235	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DVVNN3225P16KC04	32	25	12,0	170	48,0	–	–	–	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DVVNN3225P22KC04	32	25	12,0	170	57,0	–	–	–	VN..220408	IVSN432	KMSP415IP	15 IP	CM235	SSP025016M	STCM1115IP	15 IP	KLM4615IP



See pages A66-A67 for inserts

NOTE: H=H1

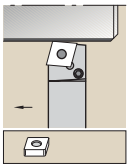


DWLN-KC 95°

catalog number	H	B	F	L1	L2	FA	B3	λS°	γO°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus	optional lock pin
right hand																		
DWLNR2020K06KC04	20	20	25,0	125	25,0	–	7,5	-5.0	-5.0	WN..060408	IWSN322	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DWLNR2020K08KC04	20	20	25,0	125	25,0	–	9,5	-5.0	-5.0	WN..080408	IWSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DWLNR2525M06KC04	25	25	32,0	150	25,0	–	–	-5.0	-5.0	WN..060408	IWSN322	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DWLNR2525M08KC04	25	25	32,0	150	25,0	–	4,0	-5.0	-5.0	WN..080408	IWSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DWLNR3225P08KC04	32	25	32,0	170	25,0	–	4,0	-5.0	-5.0	WN..080408	IWSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DWLNR3232P08KC04	32	32	40,0	170	25,0	–	–	-5.0	-5.0	WN..080408	IWSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
left hand																		
DWLNL2020K06KC04	20	20	25,0	125	25,0	–	7,5	-5.0	-5.0	WN..060408	IWSN322	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DWLNL2020K08KC04	20	20	25,0	125	25,0	–	9,5	-5.0	-5.0	WN..080408	IWSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DWLNL2525M06KC04	25	25	32,0	150	25,0	–	–	-5.0	-5.0	WN..060408	IWSN322	KMSP315IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM34L9IP
DWLNL2525M08KC04	25	25	32,0	150	25,0	–	4,0	-5.0	-5.0	WN..080408	IWSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DWLNL3225P08KC04	32	25	32,0	170	25,0	–	4,0	-5.0	-5.0	WN..080408	IWSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP
DWLNL3232P08KC04	32	32	40,0	170	25,0	–	–	-5.0	-5.0	WN..080408	IWSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP	KLM4615IP

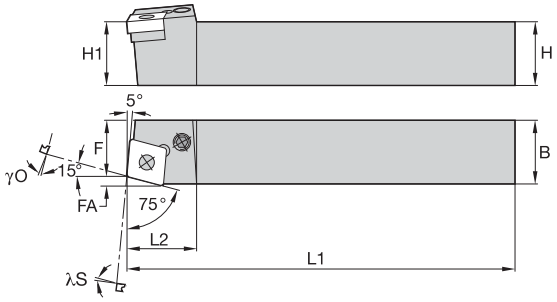
Order example:
Right hand: DWLNR2020K06KC04 Left hand: DWLNL2020K06KC04

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



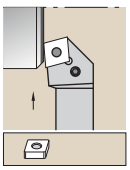
See pages A6-A7 for inserts

NOTE: H=H1



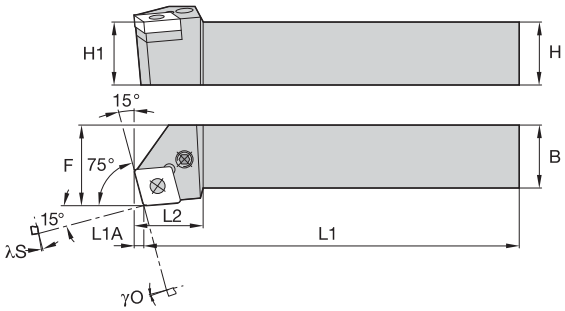
PCBN 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PCBNR2525M12	25	25	22,0	150	26,0	3,1	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCBNR3225P12	32	25	22,0	170	28,0	3,1	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCBNR3225P16	32	25	22,0	170	28,0	4,2	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCBNR3232P19	32	32	27,0	170	40,0	4,6	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
PCBNR4040S19	40	40	35,0	250	38,0	4,6	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
left hand																
PCBNL2020K12	20	20	17,0	125	26,0	3,1	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCBNL2525M12	25	25	22,0	150	26,0	3,1	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCBNL2525M16	25	25	22,0	150	26,0	4,2	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCBNL3225P16	32	25	22,0	170	28,0	4,2	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCBNL3232P16	32	32	27,0	170	38,0	4,2	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCBNL3232P19	32	32	27,0	170	40,0	4,6	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
PCBNL4040S19	40	40	35,0	250	38,0	4,6	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	**511.0**33	514.133	25 IP



See pages A6-A7 for inserts

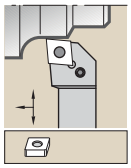
NOTE: H=H1



PCKN 75°

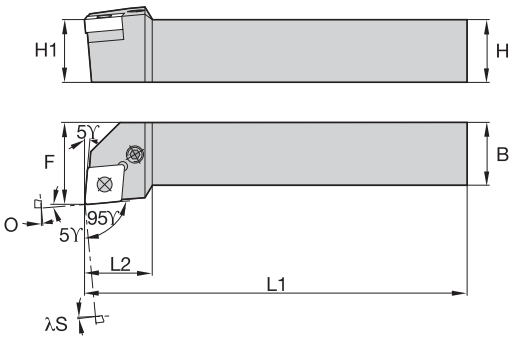
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PCKNR2020K12	20	20	25,0	125	23,0	–	3,09	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCKNR2525M12	25	25	32,0	150	23,0	–	3,09	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCKNR2525M16	25	25	32,0	150	30,0	–	3,80	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCKNR3225P12	32	25	32,0	170	26,0	–	3,09	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCKNR3225P16	32	25	32,0	170	30,0	–	3,80	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCKNR3232P19	32	32	40,0	170	40,0	–	4,63	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
left hand																
PCKNL2020K12	20	20	25,0	125	23,0	–	3,09	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCKNL2525M12	25	25	32,0	150	23,0	–	3,09	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCKNL3225P12	32	25	32,0	170	26,0	–	3,09	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCKNL3225P16	32	25	32,0	170	30,0	–	3,80	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCKNL3232P19	32	32	40,0	170	40,0	–	4,63	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP

Order example:
Right hand: PCKNR2525M12 Left hand: PCKNL2525M12



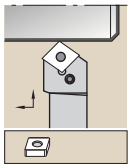
See pages A6-A7 for inserts

NOTE: H=H1



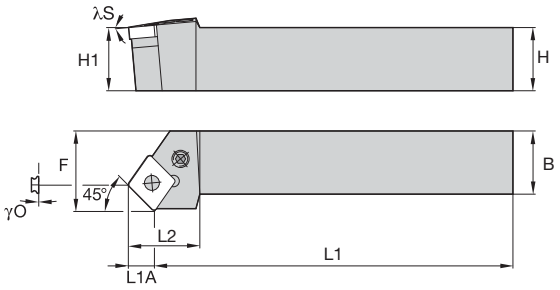
PCLN 95°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PCLNR1616H12	16	16	20,0	100	26,0	–	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCLNR2020K12	20	20	25,0	125	26,0	–	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCLNR2525M12	25	25	32,0	150	26,0	–	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCLNR2525M16	25	25	32,0	150	28,0	–	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCLNR2525M19	25	25	32,0	150	36,0	–	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
PCLNR3225P12	32	25	32,0	170	26,0	–	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCLNR3225P16	32	25	32,0	170	38,0	–	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCLNR3232P16	32	32	40,0	170	36,0	–	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCLNR3232P19	32	32	40,0	170	36,0	–	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
PCLNR4040S19	40	40	50,0	250	36,0	–	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
left hand																
PCLNL1616H12	16	16	20,0	100	26,0	–	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCLNL2020K12	20	20	25,0	125	26,0	–	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCLNL2525M12	25	25	32,0	150	26,0	–	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCLNL2525M16	25	25	32,0	150	28,0	–	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCLNL2525M19	25	25	32,0	150	36,0	–	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
PCLNL3225P12	32	25	32,0	170	26,0	–	–	-6.0	-6.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCLNL3225P16	32	25	32,0	170	38,0	–	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCLNL3225P19	32	25	32,0	170	38,0	–	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
PCLNL3232P16	32	32	40,0	170	36,0	–	–	-6.0	-6.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
PCLNL3232P19	32	32	40,0	170	36,0	–	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
PCLNL4040S19	40	40	50,0	250	36,0	–	–	-6.0	-6.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP



See page 6-7 for inserts

NOTE: H=H1

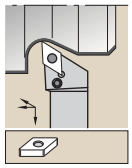


PCSN 45°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PCSNR2020K12	20	20	25,0	125	26,0	8,5	8,5	0.0	-8.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCSNR2525M12	25	25	32,0	150	28,0	8,5	8,5	0.0	-8.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCSNR3225P12	32	25	32,0	170	32,0	8,5	8,5	0.0	-8.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCSNR3232P19	32	32	40,0	170	40,0	12,7	12,7	0.0	-8.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP
left hand																
PCSNL2020K12	20	20	25,0	125	26,0	8,5	8,5	0.0	-8.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCSNL2525M12	25	25	32,0	150	28,0	8,5	8,5	0.0	-8.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCSNL3225P12	32	25	32,0	170	32,0	8,5	8,5	0.0	-8.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
PCSNL3232P19	32	32	40,0	170	40,0	12,7	12,7	0.0	-8.0	CN..190612	512.123	513.033	515.022	511.033	514.133	25 IP

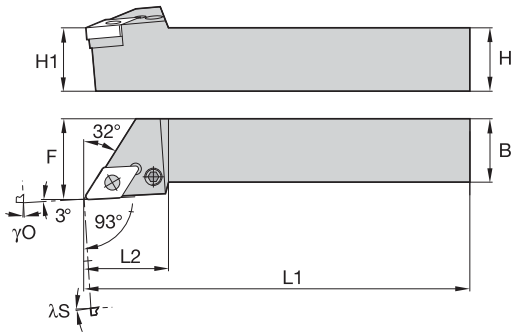
Order example:
Right hand: PCSNR2020K12 Left hand: PCSNL2020K12

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



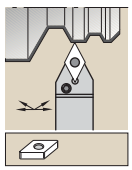
See pages A22-A23 for inserts

NOTE: H=H1



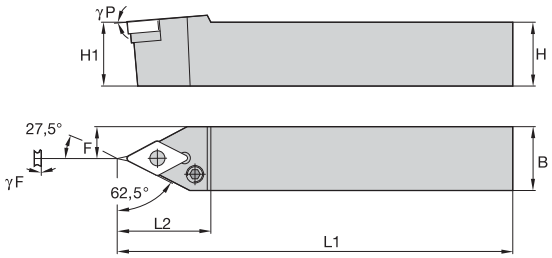
PDJN 93°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PDJNR1616H11	16	16	20,0	100	22,0	–	–	-6.0	-6.0	DN..110408	512.060	513.060	515.018	511.060	514.118	10 IP
PDJNR2020K11	20	20	25,0	125	30,0	–	–	-7.0	-6.0	DN..110408	512.060	513.060	515.018	511.060	514.118	10 IP
PDJNR2020K15	20	20	25,0	125	36,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDJNR2525M11	25	25	32,0	150	30,0	–	–	-7.0	-6.0	DN..110408	512.060	513.060	515.018	511.060	514.118	10 IP
PDJNR2525M15	25	25	32,0	150	36,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDJNR3225P15	32	25	32,0	170	38,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDJNR3232P15	32	32	40,0	170	38,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDJNR4025R15	40	25	32,0	200	38,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
left hand																
PDJNL1616H11	16	16	20,0	100	22,0	–	–	-6.0	-6.0	DN..110408	512.060	513.060	515.018	511.060	514.118	10 IP
PDJNL2020K11	20	20	25,0	125	30,0	–	–	-7.0	-6.0	DN..110408	512.060	513.060	515.018	511.060	514.118	10 IP
PDJNL2020K15	20	20	25,0	125	36,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDJNL2525M11	25	25	32,0	150	30,0	–	–	-7.0	-6.0	DN..110408	512.060	513.060	515.018	511.060	514.118	10 IP
PDJNL2525M15	25	25	32,0	150	36,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDJNL3225P15	32	25	32,0	170	38,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDJNL3232P15	32	32	40,0	170	38,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDJNL4025R15	40	25	32,0	200	38,0	–	–	-7.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP



See pages A22-A23 for inserts

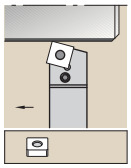
NOTE: H=H1



PDNN 62,5°

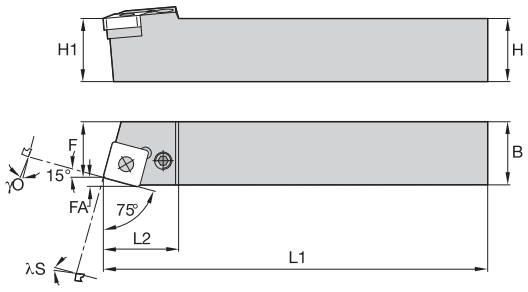
catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PDNNR2020K11	20	20	10,0	125	24,0	–	–	-6.0	-6.0	DN..110408	512.060	513.060	515.018	511.060	514.118	10 IP
PDNNR2020K15	20	20	10,0	125	36,0	–	–	-6.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDNNR2525M15	25	25	12,5	150	36,0	–	–	-6.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDNNR4025M15	40	25	12,5	150	36,0	–	–	-6.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
left hand																
PDNNL2020K11	20	20	10,0	125	24,0	–	–	-6.0	-6.0	DN..110408	512.060	513.060	515.018	511.060	514.118	10 IP
PDNNL2020K15	20	20	10,0	125	36,0	–	–	-6.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDNNL2525M11	25	25	12,5	150	30,0	–	–	-6.0	-6.0	DN..110408	512.060	513.060	515.018	511.060	514.118	10 IP
PDNNL2525M15	25	25	12,5	150	36,0	–	–	-6.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
PDNNL4025M15	40	25	12,5	150	36,0	–	–	-6.0	-6.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP

Order example:
Right hand: PDNNR2020K15 Left hand: PDNNL2020K15



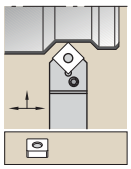
See pages A36-A37 for inserts

NOTE: H=H1



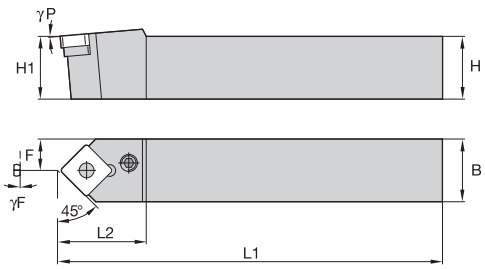
PSBN 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PSBNR2020K12	20	20	17,0	125	26,0	3,1	–	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSBNR2525M12	25	25	22,0	150	26,0	3,1	–	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSBNR2525M15	25	25	22,0	150	36,0	3,8	–	-6.0	-6.0	SN..150608	512.025	513.025	515.022	511.025	514.125	15 IP
PSBNR3225P12	32	25	22,0	170	26,0	3,1	–	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSBNR3232P15	32	32	27,0	170	33,0	3,8	–	-6.0	-6.0	SN..150608	512.025	513.025	515.022	511.025	514.125	15 IP
PSBNR3232P19	32	32	27,0	170	40,0	4,6	–	-6.0	-6.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
PSBNR4040S19	40	40	35,0	250	38,0	4,6	–	-6.0	-6.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
PSBNR4040S25	40	40	35,0	250	47,0	5,9	–	-6.0	-6.0	SN..250724	512.092	513.038	515.028	511.038	514.138	30 IP
left hand																
PSBNL2020K12	20	20	17,0	125	26,0	3,1	–	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSBNL2525M12	25	25	22,0	150	26,0	3,1	–	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSBNL2525M15	25	25	22,0	150	36,0	3,8	–	-6.0	-6.0	SN..150608	512.025	513.025	515.022	511.025	514.125	15 IP
PSBNL3225P12	32	25	22,0	170	26,0	3,1	–	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSBNL3225P15	32	25	22,0	170	33,0	3,8	–	-6.0	-6.0	SN..150608	512.025	513.025	515.022	511.025	514.125	15 IP
PSBNL3232P15	32	32	27,0	170	33,0	3,8	–	-6.0	-6.0	SN..150608	512.025	513.025	515.022	511.025	514.125	15 IP
PSBNL3232P19	32	32	27,0	170	40,0	4,6	–	-6.0	-6.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
PSBNL4040S19	40	40	35,0	250	38,0	4,6	–	-6.0	-6.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
PSBNL4040S25	40	40	35,0	250	47,0	5,9	–	-6.0	-6.0	SN..250724	512.092	513.038	515.028	511.038	514.138	30 IP



See pages A36-A37 for inserts

NOTE: H=H1

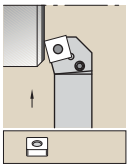


PSDN 45°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
PSDNN1616H09	16	16	8,0	100	20,0	–	–	0.0	-7.0	SN..090308	512.053	513.019	515.018	511.018	514.118	10 IP
PSDNN2020K12	20	20	10,0	125	26,0	–	–	0.0	-7.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSDNN2525M12	25	25	12,5	150	26,0	–	–	0.0	-7.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSDNN3225P12	32	25	12,5	170	28,0	–	–	0.0	-7.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSDNN3225P19	32	25	12,5	170	40,0	–	–	0.0	-7.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
PSDNN3232P19	32	32	16,0	170	40,0	–	–	0.0	-7.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
PSDNN4040S25	40	40	20,0	250	47,0	–	–	0.0	-7.0	SN..250724	512.092	513.038	515.028	511.038	514.138	30 IP

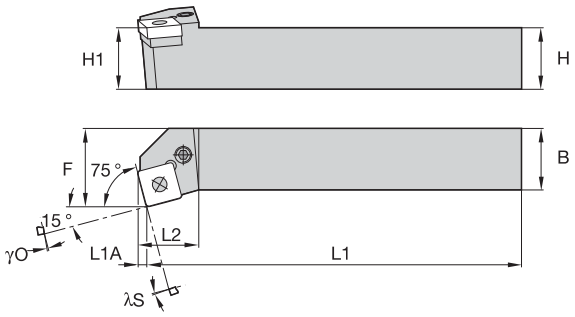
Order example:
PSDNN2020K12

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



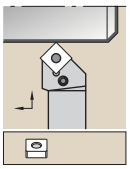
See pages A36-A37 for inserts

NOTE: H=H1



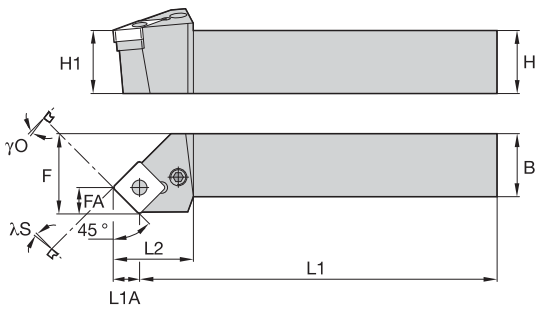
PSKN 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PSKNR1616H09	16	16	20,0	100	20,0	–	2,2	-6.0	-6.0	SN..090308	512.053	513.019	515.018	511.018	514.118	10 IP
PSKNR2020K12	20	20	25,0	125	23,0	–	3,1	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSKNR2525M12	25	25	32,0	150	23,0	–	3,1	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSKNR3232P15	32	32	40,0	170	33,0	–	3,8	-6.0	-6.0	SN..150608	512.025	513.025	515.022	511.025	514.125	15 IP
PSKNR3232P19	32	32	40,0	170	37,5	–	4,6	-6.0	-6.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
left hand																
PSKNL2020K12	20	20	25,0	125	23,0	–	3,1	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSKNL2525M12	25	25	32,0	150	23,0	–	3,1	-6.0	-6.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSKNL3232P19	32	32	40,0	170	37,5	–	4,6	-6.0	-6.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
PSKNL4040S19	40	40	50,0	250	37,5	–	4,6	-6.0	-6.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP



See pages A36-A37 for inserts

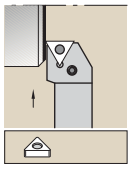
NOTE: H=H1



PSSN 45°

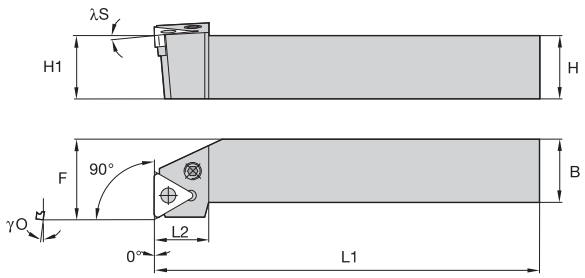
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PSSNR2020K09	20	20	25,0	125	26,0	6,1	6,1	0.0	-8.0	SN..090308	512.053	513.019	515.018	511.018	514.118	10 IP
PSSNR2020K12	20	20	25,0	125	28,0	8,3	8,3	0.0	-8.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSSNR2525M12	25	25	32,0	150	28,0	8,3	8,3	0.0	-8.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSSNR2525M15	25	25	32,0	150	32,0	10,2	10,2	0.0	-8.0	SN..150608	512.025	513.025	515.022	511.025	514.125	15 IP
PSSNR3225P12	32	25	32,0	170	29,0	8,3	8,3	0.0	-8.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSSNR3232P15	32	32	40,0	170	32,0	10,2	10,2	0.0	-8.0	SN..150608	512.025	513.025	515.022	511.025	514.125	15 IP
PSSNR3232P19	32	32	40,0	170	37,5	12,5	12,5	0.0	-8.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
left hand																
PSSNL2020K12	20	20	25,0	125	28,0	8,3	8,3	0.0	-8.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSSNL2525M12	25	25	32,0	150	28,0	8,3	8,3	0.0	-8.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSSNL3225P12	32	25	32,0	170	29,0	8,3	8,3	0.0	-8.0	SN..120408	512.063	513.023	515.018	511.023	514.123	15 IP
PSSNL3232P19	32	32	40,0	170	37,5	12,5	12,5	0.0	-8.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP
PSSNL4040S19	40	40	50,0	250	37,5	12,5	12,5	0.0	-8.0	SN..190612	512.083	513.033	515.022	511.033	514.133	25 IP

Order example:
Right hand: PSSNR2020K12 Left hand: PSSNL2020K12



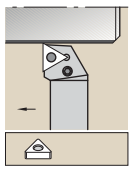
See page A48 for inserts

NOTE: H=H1



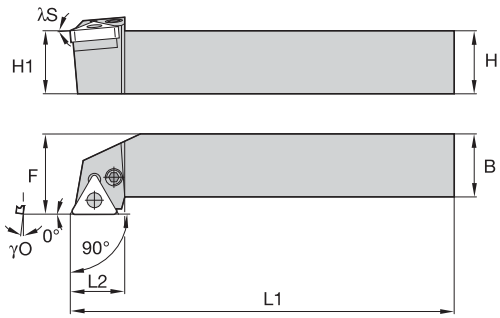
PTFN 90°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PTFNR2020K16	20	20	25,0	125	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTFNR2525M16	25	25	32,0	150	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
left hand																
PTFNL1616H16	16	16	20,0	100	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTFNL2020K16	20	20	25,0	125	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTFNL2525M16	25	25	32,0	150	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP



See page A48 for inserts

NOTE: H=H1

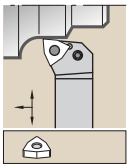


PTGN 90°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PTGNR1616H16	16	16	20,0	100	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTGNR2020K16	20	20	25,0	125	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTGNR2525M16	25	25	32,0	150	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTGNR2525M22	25	25	32,0	150	26,0	–	–	-6.0	-6.0	TN..220408	512.023	513.023	515.018	511.023	514.123	15 IP
PTGNR3225P16	32	25	32,0	170	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTGNR3232P22	32	32	40,0	170	26,0	–	–	-6.0	-6.0	TN..220408	512.023	513.023	515.018	511.023	514.123	15 IP
left hand																
PTGNL1616H16	16	16	20,0	100	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTGNL2020K16	20	20	25,0	125	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTGNL2525M16	25	25	32,0	150	20,0	–	–	-6.0	-6.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
PTGNL2525M22	25	25	32,0	150	26,0	–	–	-6.0	-6.0	TN..220408	512.023	513.023	515.018	511.023	514.123	15 IP

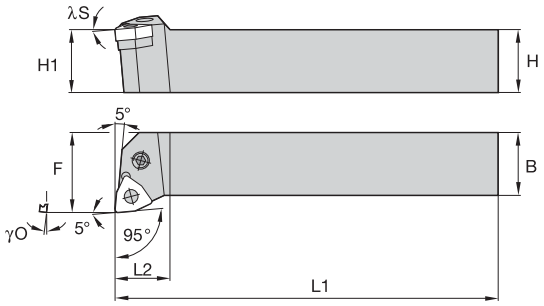
Order example:
Right hand: PTGNR1616H16 Left hand: PTGNL1616H16

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



See pages A66-A67 for inserts

NOTE: H=H1

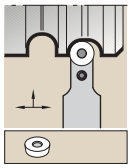


PWLN 95°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
PWLNR1616H06	16	16	20,0	100	14,0	–	–	-6.0	-6.0	WN..060404	512.134	513.018	515.018	511.018	514.118	10 IP
PWLNR2020K06	20	20	25,0	125	14,0	–	–	-6.0	-6.0	WN..060404	512.134	513.018	515.018	511.018	514.118	10 IP
PWLNR2020K08	20	20	25,0	125	20,0	–	–	-6.0	-6.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
PWLNR2525M08	25	25	32,0	150	26,0	–	–	-6.0	-6.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
PWLNR3225P08	32	25	32,0	170	26,0	–	–	-6.0	-6.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
left hand																
PWLNL1616H06	16	16	20,0	100	14,0	–	–	-6.0	-6.0	WN..060404	512.134	513.018	515.018	511.018	514.118	10 IP
PWLNL2020K06	20	20	25,0	125	14,0	–	–	-6.0	-6.0	WN..060404	512.134	513.018	515.018	511.018	514.118	10 IP
PWLNL2020K08	20	20	25,0	125	20,0	–	–	-6.0	-6.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
PWLNL2525M08	25	25	32,0	150	26,0	–	–	-6.0	-6.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
PWLNL3225P08	32	25	32,0	170	26,0	–	–	-6.0	-6.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP

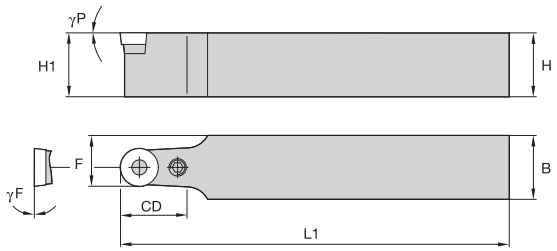
Order example:
Right hand: PWLNR1616H06 Left hand: PWLNL1616H06

SCREW-ON Inserts



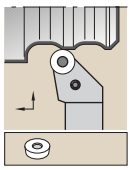
See pages A116-A117 for inserts

NOTE: H=H1



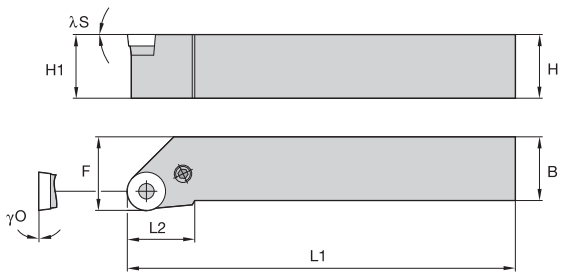
PRCC

catalog number	H	B	F	L1	L2	CD	γF°	γP°	gage insert	shim	clamp stud	clamp screw	Hex (mm)
PRCCN2020K08H1	20	20	14,0	125	–	16,0	0.0	0.0	RC..0803M0	–	119.069	121.408	2 MM
PRCCN2020K10H1	20	20	15,0	125	–	24,0	0.0	0.0	RC..1003M0	169.325	119.069	121.408	2 MM
PRCCN2525M08H1	25	25	16,5	150	–	16,0	0.0	0.0	RC..0803M0	–	119.069	121.408	2 MM
PRCCN2525M10H1	25	25	17,5	150	–	24,0	0.0	0.0	RC..1003M0	169.325	119.069	121.408	2 MM
PRCCN2525M12H1	25	25	18,5	150	–	24,0	0.0	0.0	RC..1204M0	169.322	119.071	121.512	2.5 MM
PRCCN3225P16H1	32	25	20,5	170	–	33,0	0.0	0.0	RC..1606M0	169.327	410.081	121.616	3 MM
PRCCN3232P20H1	32	32	26,0	170	–	32,0	0.0	0.0	RC..2006M0	169.333	119.073	121.820	4 MM
PRCCN4040S25H1	40	40	32,5	250	–	78,0	0.0	0.0	RC..2507M0	169.337	118.404	121.820	4 MM



See pages A116-A117 for inserts

NOTE: H=H1

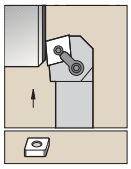


PRGC

catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	clamp stud	clamp screw	Hex (mm)
right hand												
PRGCR2020K10H1	20	20	25,0	125	26,0	0.0	0.0	RC..1003M0	169.325	119.069	121.408	2 MM
PRGCR2525M08H1	25	25	29,0	150	26,0	0.0	0.0	RC..0803M0	–	119.069	121.408	2 MM
PRGCR2525M10H1	25	25	30,0	150	26,0	0.0	0.0	RC..1003M0	169.325	119.069	121.408	2 MM
PRGCR2525M12H1	25	25	32,0	150	26,0	0.0	0.0	RC..1204M0	169.322	119.071	121.512	2.5 MM
PRGCR3225P16H1	32	25	32,0	170	36,0	0.0	0.0	RC..1606M0	169.327	118.205	121.616	3 MM
PRGCR3232P20H1	32	32	40,0	170	40,0	0.0	0.0	RC..2006M0	169.333	119.073	121.820	4 MM
PRGCR4040S25H1	40	40	50,0	250	47,0	0.0	0.0	RC..2507M0	169.337	118.404	121.820	4 MM
left hand												
PRGCL2525M08H1	25	25	29,0	150	26,0	0.0	0.0	RC..0803M0	–	119.069	121.408	2 MM
PRGCL2525M10H1	25	25	30,0	150	26,0	0.0	0.0	RC..1003M0	169.325	119.069	121.408	2 MM
PRGCL2525M12H1	25	25	32,0	150	26,0	0.0	0.0	RC..1204M0	169.322	119.071	121.512	2.5 MM
PRGCL3225P16H1	32	25	32,0	170	36,0	0.0	0.0	RC..1606M0	169.327	118.205	121.616	3 MM
PRGCL3232P20H1	32	32	40,0	170	40,0	0.0	0.0	RC..2006M0	169.333	119.073	121.820	4 MM
PRGCL4040S25H1	40	40	50,0	250	47,0	0.0	0.0	RC..2507M0	169.337	118.404	121.820	4 MM

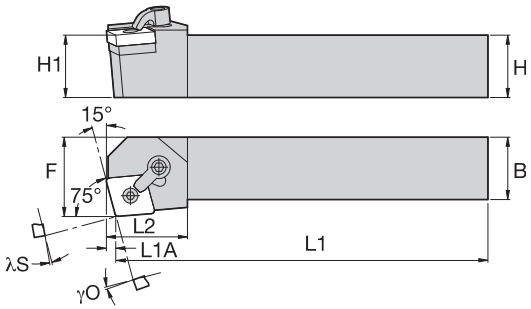
Order example:
Right hand: PRGCR2525M0BH1 Left hand: PRGCL2525M0BH1

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



See pages A6-A7 for inserts

NOTE: H=H1

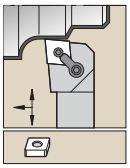


MCKN 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MCKNR2525M12	25	25	32,0	150	32,0	–	3,1	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCKNR3225P12	32	25	32,0	170	32,0	–	3,1	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCKNR3225P16	32	25	32,0	170	33,0	–	3,6	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCKNR3232P19	32	32	40,0	170	38,0	–	4,4	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM
left hand																
MCKNL2525M12	25	25	32,0	150	32,0	–	3,1	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCKNL3225P16	32	25	32,0	170	33,0	–	3,6	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCKNL3232P19	32	32	40,0	170	38,0	–	4,4	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM

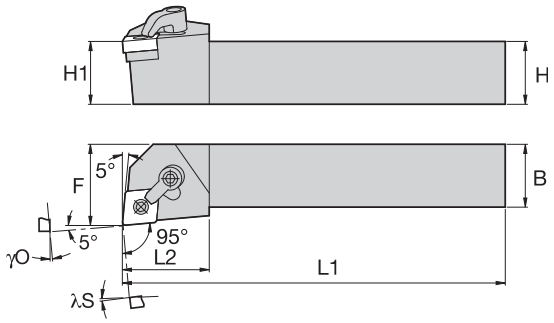
Order example:
Right hand: MCKNR2525M12 Left hand: MCKNL2525M12

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



See pages A6-A7 for inserts

NOTE: H=H1

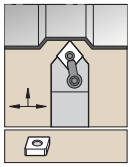


MCLN 95°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MCLNR1616H09	16	16	20,0	100	25,0	–	–	-5.0	-5.0	CN..090308	–	KLM33	2 MM	CKM6	STCM5	2.5 MM
MCLNR1616H12	16	16	20,0	100	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNR2020K09	20	20	25,0	125	25,0	–	–	-5.0	-5.0	CN..090308	ICSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
MCLNR2020K12	20	20	25,0	125	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNR2525M09	25	25	32,0	150	25,0	–	–	-5.0	-5.0	CN..090308	ICSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
MCLNR2525M12	25	25	32,0	150	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNR2525M16	25	25	32,0	150	33,0	–	–	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCLNR2525M19	25	25	32,0	150	38,0	–	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM
MCLNR3225P12	32	25	32,0	170	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNR3225P16	32	25	32,0	170	33,0	–	–	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCLNR3225P19	32	25	32,0	170	38,0	–	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM
MCLNR3232P12	32	32	40,5	171	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNR3232P16	32	32	40,5	171	33,0	–	–	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCLNR3232P19	32	32	40,0	170	38,0	–	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM
MCLNR4040R19	40	40	50,0	200	38,0	–	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM
left hand																
MCLNL1616H09	16	16	20,0	100	25,0	–	–	-5.0	-5.0	CN..090308	–	KLM33	2 MM	CKM6	STCM5	2.5 MM
MCLNL1616H12	16	16	20,0	100	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNL2020K12	20	20	25,0	125	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNL2525M09	25	25	32,0	150	25,0	–	–	-5.0	-5.0	CN..090308	ICSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
MCLNL2525M12	25	25	32,0	150	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNL2525M16	25	25	32,0	150	33,0	–	–	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCLNL2525M19	25	25	32,0	150	38,0	–	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM
MCLNL3225P12	32	25	32,0	170	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNL3225P16	32	25	32,0	170	33,0	–	–	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCLNL3225P19	32	25	32,0	170	38,0	–	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM
MCLNL3232P12	32	32	40,5	171	32,0	–	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCLNL3232P16	32	32	40,5	171	33,0	–	–	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCLNL3232P19	32	32	40,0	170	38,0	–	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM
MCLNL4040R19	40	40	50,0	200	38,0	–	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM

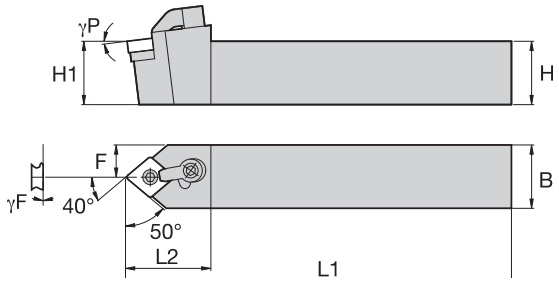
Order example:
Right hand: MCLNR1616H09 Left hand: MCLNL1616H09

KENLOC Inserts



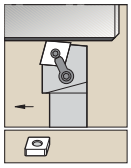
See pages A6-A7 for inserts

NOTE: H=H1



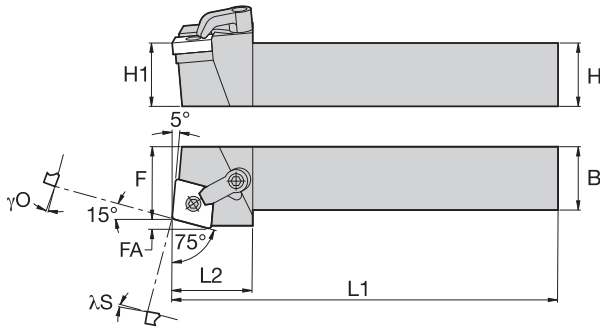
MCMN 50°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
MCMNN2020K12	20	20	10,0	125	32,0	–	–	0.0	-7.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCMNN2525M12	25	25	12,9	150	32,0	–	–	0.0	-7.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCMNN3225P16	32	25	12,9	170	40,0	–	–	0.0	-7.0	CN..190612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCMNN4040R19	40	40	20,0	200	42,0	–	–	0.0	-7.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM



See pages A6-A7 for inserts

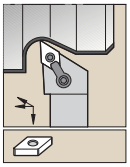
NOTE: H=H1



MCRN 75°

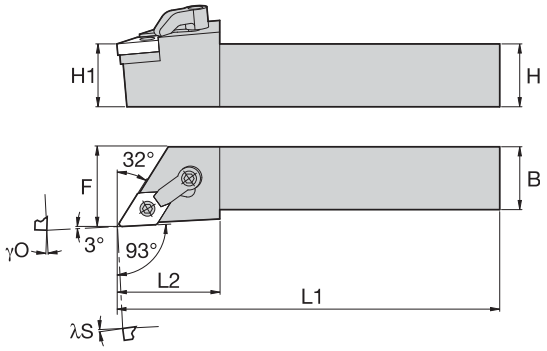
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MCRNR2020K12	20	20	25,0	125	32,0	3,3	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCRNR2525M12	25	25	32,0	150	32,0	3,3	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCRNR3225P12	32	25	32,0	170	32,0	3,3	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCRNR3232P16	32	32	32,0	170	33,0	4,2	–	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCRNR3232P19	32	32	40,0	170	38,0	4,6	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM
left hand																
MCRNL2020K12	20	20	25,0	125	32,0	3,3	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCRNL2525M12	25	25	32,0	150	32,0	3,3	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCRNL3225P12	32	25	32,0	170	32,0	3,3	–	-5.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MCRNL3232P16	32	32	32,0	170	33,0	4,2	–	-5.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MCRNL3232P19	32	32	40,0	170	38,0	4,6	–	-5.0	-5.0	CN..190612	ICSN643	KLM68	4 MM	CKM12	STCM4	4 MM

Order example:
Right hand: MCMNN2020K12 Left hand: MCRNL2020K12



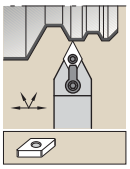
See pages A22-A23 for inserts

NOTE: H=H1



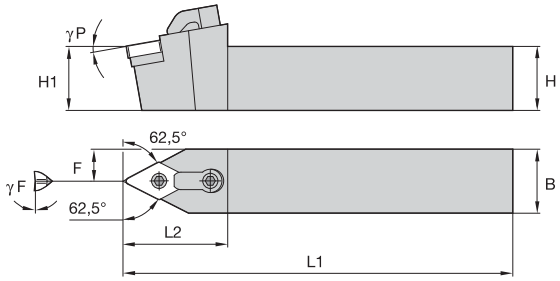
MDJN 93°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MDJNR1616H11	16	16	20,0	100	32,0	–	–	-5.0	-5.0	DN..110408	IDSN332	KLM34L	2 MM	CKM7	STCM5	2.5 MM
MDJNR2020K11	20	20	25,0	125	32,0	–	–	-5.0	-5.0	DN..110408	IDSN332	KLM34L	2 MM	CKM7	STCM5	2.5 MM
MDJNR2020K15	20	20	25,0	125	36,0	–	–	-5.0	-5.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
MDJNR2525M11	25	25	32,0	150	32,0	–	–	-5.0	-5.0	DN..110408	IDSN332	KLM34L	2 MM	CKM7	STCM5	2.5 MM
MDJNR2525M15	25	25	32,0	150	36,0	–	–	-5.0	-5.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
MDJNR3225P15	32	25	32,0	170	36,0	–	–	-5.0	-5.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
MDJNR3232P15	32	32	40,5	173	32,0	–	–	-5.0	-5.0	DN..150608	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
left hand																
MDJNL1616H11	16	16	20,0	100	32,0	–	–	-5.0	-5.0	DN..110408	IDSN332	KLM34L	2 MM	CKM7	STCM5	2.5 MM
MDJNL2020K11	20	20	25,0	125	32,0	–	–	-5.0	-5.0	DN..110408	IDSN332	KLM34L	2 MM	CKM7	STCM5	2.5 MM
MDJNL2020K15	20	20	25,0	125	36,0	–	–	-5.0	-5.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
MDJNL2525M11	25	25	32,0	150	32,0	–	–	-5.0	-5.0	DN..110408	IDSN332	KLM34L	2 MM	CKM7	STCM5	2.5 MM
MDJNL2525M15	25	25	32,0	150	36,0	–	–	-5.0	-5.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
MDJNL3225P15	32	25	32,0	170	36,0	–	–	-5.0	-5.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
MDJNL3232P15	32	32	40,5	173	32,0	–	–	-5.0	-5.0	DN..150608	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM



See pages A22-A23 for inserts

NOTE: H=H1

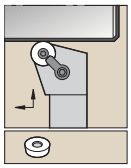


MDNN 62,5°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MDNNR2525M15	25	25	12,5	150	41,0	–	–	0.0	-10.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
MDNNR3225P15	32	25	12,5	170	41,0	–	–	0.0	-10.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
left hand																
MDNNL2525M15	25	25	12,5	150	41,0	–	–	0.0	-10.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
MDNNL3225P15	32	25	12,5	170	41,0	–	–	0.0	-10.0	DN..150612	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM

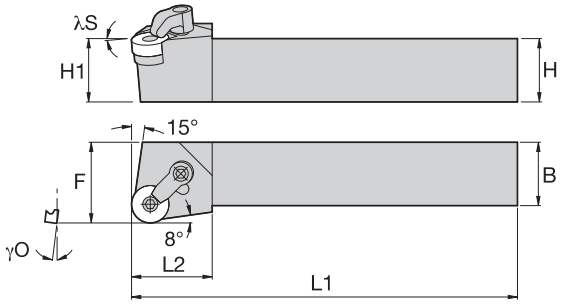
Order example:
Right hand: MDNNR2525M15 Left hand: MDNNL2525M15

KENLOC Inserts



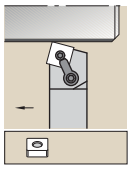
See pages A32-A33 for inserts

NOTE: H=H1



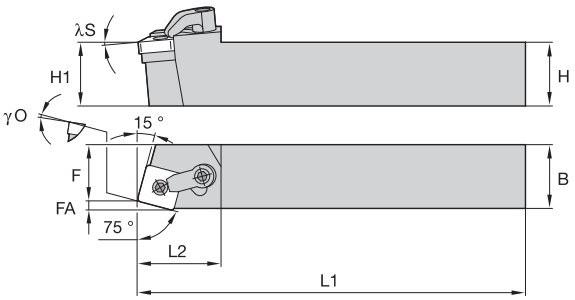
MRGN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MRGNR2525M12	25	25	32,0	150	32,0	–	–	-5.0	-5.0	RN..120400	IRSN43	KLM46	2.5 MM	CKM21	STCM20	3 MM
MRGNR3232P19	32	32	40,0	170	38,0	–	–	-5.0	-5.0	RN..190600	IRSN63	KLM68	4 MM	CKM12	STCM4	4 MM
left hand																
MRGNL2525M12	25	25	32,0	150	32,0	–	–	-5.0	-5.0	RN..120400	IRSN43	KLM46	2.5 MM	CKM21	STCM20	3 MM



See pages A36-A37 for inserts

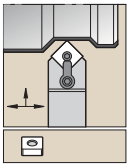
NOTE: H=H1



MSBN 75°

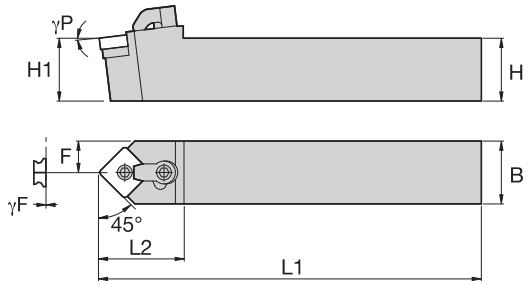
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MSBNR2020K12	20	20	17,0	125	32,0	3,1	–	-5.0	-5.0	SN..120408	ISSN433	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSBNR2525M12	25	25	22,0	150	32,0	3,1	–	-5.0	-5.0	SN..120408	ISSN433	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSBNR2525M15	25	25	22,0	150	35,0	3,8	–	-5.0	-5.0	SN..150612	ISSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MSBNR3225P12	32	25	22,0	170	32,0	3,1	–	-5.0	-5.0	SN..120408	ISSN433	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSBNR3232P15	32	32	27,0	170	35,0	3,8	–	-5.0	-5.0	SN..150612	ISSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MSBNR3232P19	32	32	27,0	170	40,0	4,6	–	-5.0	-5.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM
MSBNR4040R19	40	40	35,0	200	40,0	4,6	–	-5.0	-5.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM
left hand																
MSBNL2020K12	20	20	17,0	125	32,0	3,1	–	-5.0	-5.0	SN..120408	ISSN433	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSBNL2525M12	25	25	22,0	150	32,0	3,1	–	-5.0	-5.0	SN..120408	ISSN433	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSBNL2525M15	25	25	22,0	150	35,0	3,8	–	-5.0	-5.0	SN..150612	ISSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MSBNL3225P12	32	25	22,0	170	32,0	3,1	–	-5.0	-5.0	SN..120408	ISSN433	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSBNL3232P15	32	32	27,0	170	35,0	3,8	–	-5.0	-5.0	SN..150612	ISSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MSBNL3232P19	32	32	27,0	170	40,0	4,6	–	-5.0	-5.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM
MSBNL4040R19	40	40	35,0	200	40,0	4,6	–	-5.0	-5.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM

Order example:
Right hand: MSBNR2020K12 Left hand: MSBNL2020K12



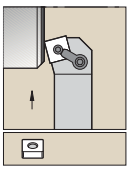
See pages A36-A37 for inserts

NOTE: H=H1



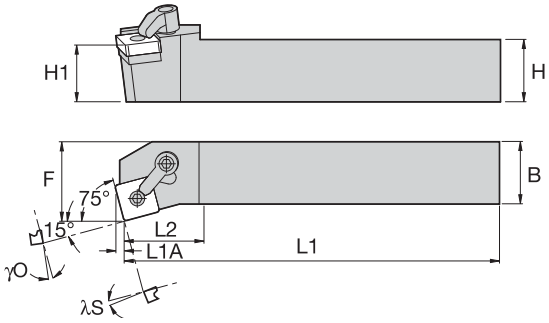
MSDN 45°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
MSDNN1616H09	16	16	8,0	100	28,0	–	–	0.0	-7.0	SN..090308	ISSN332	KLM34L	2 MM	CKM19	STCM9	2.5 MM
MSDNN2020K12	20	20	10,0	125	32,0	–	–	0.0	-7.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSDNN2525M12	25	25	12,5	150	32,0	–	–	0.0	-7.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSDNN2525M15	25	25	12,5	150	35,0	–	–	0.0	-7.0	SN..150612	ISSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MSDNN3225P12	32	25	12,5	170	32,0	–	–	0.0	-7.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSDNN3232P19	32	32	16,0	170	42,0	–	–	0.0	-7.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM



See pages A36-A37 for inserts

NOTE: H=H1



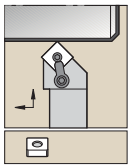
MSKN 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MSKNR2525M12	25	25	32,0	150	32,0	–	3,1	-5.0	-5.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSKNR3225P12	32	25	32,0	170	32,0	–	3,1	-5.0	-5.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSKNR3232P15	32	32	40,0	170	35,0	–	3,7	-5.0	-5.0	SN..150612	ISSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MSKNR3232P19	32	32	40,0	170	40,0	–	4,6	-5.0	-5.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM
left hand																
MSKNL2020K12	20	20	25,0	125	32,0	–	3,1	-5.0	-5.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSKNL2525M12	25	25	32,0	150	32,0	–	3,1	-5.0	-5.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSKNL2525M15	25	25	32,0	150	35,0	–	3,7	-5.0	-5.0	SN..150612	ISSN433	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSKNL3225P12	32	25	32,0	170	32,0	–	3,1	-5.0	-5.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSKNL3232P15	32	32	40,0	170	35,0	–	3,7	-5.0	-5.0	SN..150612	ISSN533	KLM58	3 MM	CKM21	STCM20	3 MM
MSKNL3232P19	32	32	40,0	170	40,0	–	4,6	-5.0	-5.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM

Order example:
Right hand: MSKNR2525M12 Left hand: MSKNL2525M12

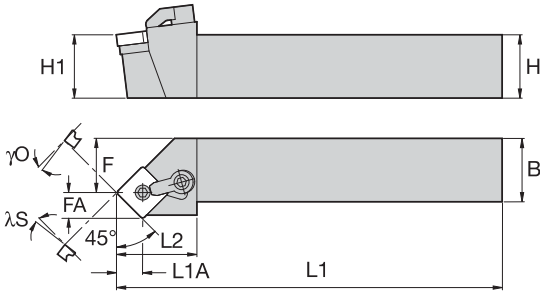
KENLOC™ Toolholders

KENLOC Inserts



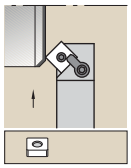
See page A36-A37 for inserts

NOTE: H=H1



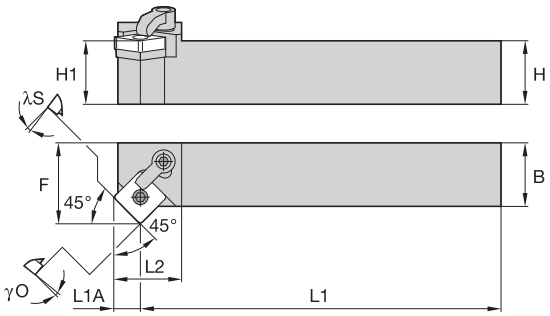
MSSN 45°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MSSNR2020K12	20	20	25,0	125	32,0	8,3	8,3	0.0	-8.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSSNR2525M12	25	25	32,0	150	32,0	8,3	8,3	0.0	-8.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSSNR3232P19	32	32	40,0	170	40,0	12,5	12,5	0.0	-8.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM
MSSNR4040R19	40	40	50,0	200	40,0	12,5	12,5	0.0	-8.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM
left hand																
MSSNL2020K12	20	20	25,0	125	32,0	8,3	8,3	0.0	-8.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSSNL2525M12	25	25	32,0	150	32,0	8,3	8,3	0.0	-8.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
MSSNL3232P19	32	32	40,0	170	40,0	12,5	12,5	0.0	-8.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM
MSSNL4040R19	40	40	50,0	200	40,0	12,5	12,5	0.0	-8.0	SN..190612	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM



See pages A36-A37 for inserts

NOTE: H=H1

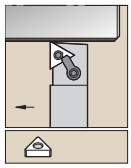


MSZN 45°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MSZNR2525M12	25	25	32,0	150	25,0	–	8,5	-5.5	-8.4	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
left hand																
MSZNL2525M12	25	25	32,0	150	25,0	–	8,5	-5.5	-8.4	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM

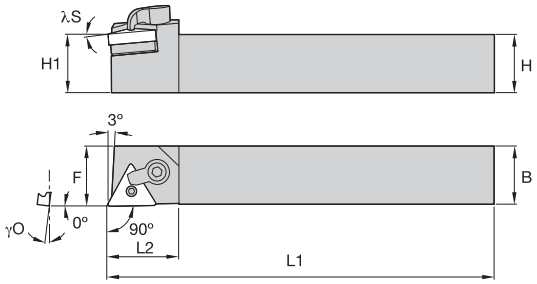
Order example:
Right hand: MSZNR2525M12 Left hand: MSZNL2525M12

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



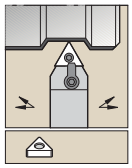
See page 48 for inserts

NOTE: H=H1



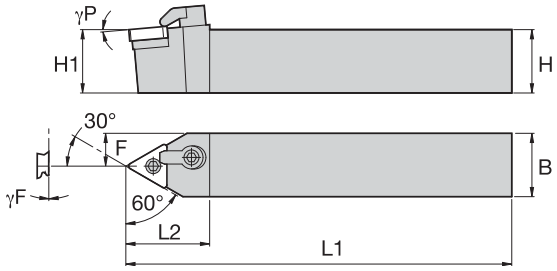
MTAN-S 90°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MTANRS2020K16	20	20	20,5	125	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
MTANRS2525M16	25	25	25,5	150	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
MTANRS2525M22	25	25	25,5	150	32,0	–	–	-5.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM
left hand																
MTANLS2020K16	20	20	20,5	125	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
MTANLS2525M16	25	25	25,5	150	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
MTANLS2525M22	25	25	25,5	150	32,0	–	–	-5.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM



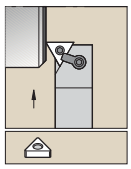
See page 48 for inserts

NOTE: H=H1



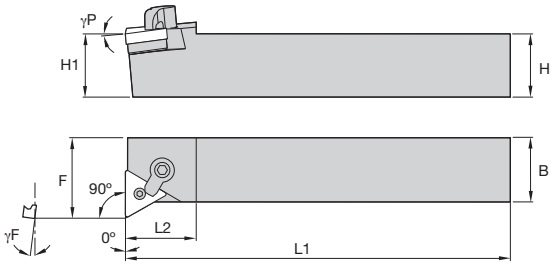
MTEN-S 60°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
MTENNS2020K16	20	20	10,0	125	32,0	–	–	0	-10	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
MTENNS2525M16	25	25	12,0	150	32,0	–	–	0	-10	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
MTENNS2525M22	25	25	12,0	150	35,0	–	–	0	-10	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM
MTENNS3225P22	32	25	12,0	170	35,0	–	–	0	-10	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM



See page 48 for inserts

NOTE: H=H1

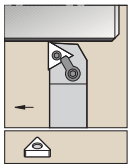


MTFN 90°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MTFNR2020K16	20	20	25,0	125	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM20	STCM11	3 MM
MTFNR2525M16	25	25	32,0	150	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM20	STCM11	3 MM
MTFNR2525M22	25	25	32,0	150	32,0	–	–	-5.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM
left hand																
MTFNL2020K16	20	20	25,0	125	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM20	STCM11	3 MM
MTFNL2525M16	25	25	32,0	150	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM20	STCM11	3 MM
MTFNL2525M22	25	25	32,0	150	32,0	–	–	-5.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM

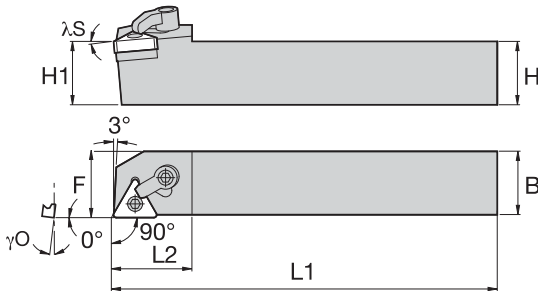
Order example:
Right hand: MTFNR2020K16 Left hand: MTFNL2020K16

KENLOC Inserts



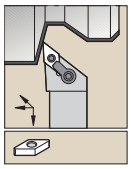
See page A48 for inserts

NOTE: H=H1



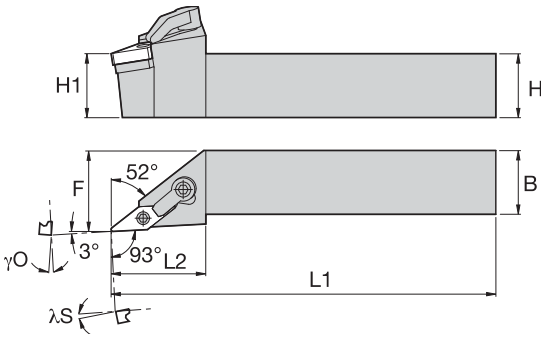
MTGN 90°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MTGNR1616H16	16	16	20,0	100	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM20	STCM11	3 MM
MTGNR2020K16	20	20	25,0	125	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
MTGNR2525M16	25	25	32,0	150	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
MTGNR2525M22	25	25	32,0	150	32,0	–	–	-5.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM
MTGNR3232P22	32	32	40,0	170	32,0	–	–	-5.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM
left hand																
MTGNL2525M16	25	25	32,0	150	32,0	–	–	-5.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
MTGNL2525M22	25	25	32,0	150	32,0	–	–	-5.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM
MTGNL3232P22	32	32	40,0	170	32,0	–	–	-5.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM



See pages A58-A59 for inserts

NOTE: H=H1

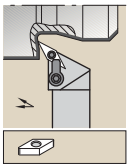


MVJN 93°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MVJNR2020K16	20	20	25,0	125	37,0	–	–	-9.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
MVJNR2525M16	25	25	32,0	150	37,0	–	–	-9.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
MVJNR3225P16	32	25	32,0	171	37,0	–	–	-9.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
MVJNR3225P22	32	25	32,0	170	50,0	–	–	-9.0	-5.0	VN..220408	IVSN432	KLM46	2.5 MM	CKM26	STCM4	4 MM
MVJNR3232P16	32	32	40,5	171	37,0	–	–	-9.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
left hand																
MVJNL2020K16	20	20	25,0	125	37,0	–	–	-9.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
MVJNL2525M16	25	25	32,0	150	37,0	–	–	-9.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
MVJNL3225P16	32	25	32,0	171	37,0	–	–	-9.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
MVJNL3225P22	32	25	32,0	170	50,0	–	–	-9.0	-5.0	VN..220408	IVSN432	KLM46	2.5 MM	CKM26	STCM4	4 MM
MVJNL3232P16	32	32	40,5	171	37,0	–	–	-9.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM

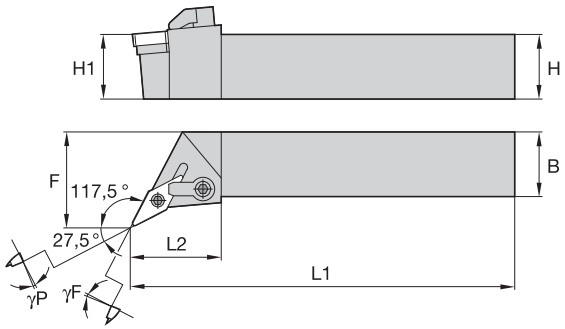
Order example:
Right hand: MVJNR2020K16 Left hand: MVJNL2020K16

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



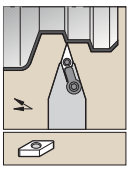
See pages A58-A59 for inserts

NOTE: H=H1



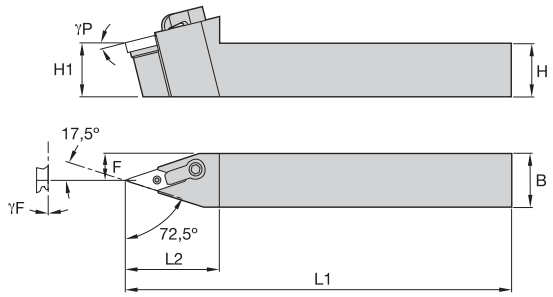
MVON 117,5°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MVONR2525M16	25	25	32,0	150	30,0	–	–	-6.4	-6.4	VN..160408	IVSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
left hand																
MVONL2525M16	25	25	32,0	150	30,0	–	–	-6.4	-6.4	VN..160408	IVSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM



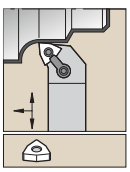
See pages A58-A59 for inserts

NOTE: H=H1



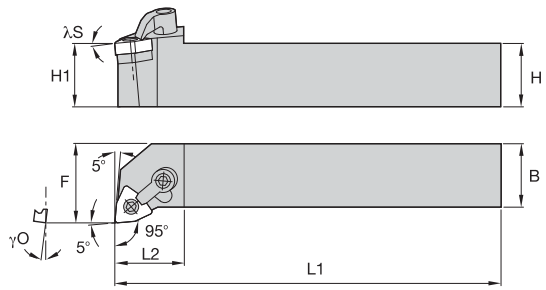
MVVN 72,5°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
MVVNN2020K16	20	20	10,0	125	42,0	–	–	0.0	-14.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
MVVNN2525M16	25	25	12,5	150	42,0	–	–	0.0	-14.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
MVVNN2525M22	25	25	12,0	150	55,0	–	–	0.0	-14.0	VN..220408	IVSN432	KLM46	2.5 MM	CKM26	STCM4	4 MM
MVVNN3225P16	32	25	12,5	170	42,0	–	–	0.0	-14.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM



See pages A66-A67 for inserts

NOTE: H=H1

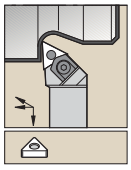


MWLN 95°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
MWLNR2020K06	20	20	25,0	125	25,0	–	–	-5.0	-5.0	WN..060408	IWSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
MWLNR2525M06	25	25	32,0	150	25,0	–	–	-5.0	-5.0	WN..060408	IWSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
MWLNR3232P08	32	32	40,3	171	32,0	–	–	-5.0	-5.0	WN..080408	IWSN433	KLM46	2.5 MM	CKM7	STCM5	2.5 MM
left hand																
MWLNL2020K06	20	20	25,0	125	25,0	–	–	-5.0	-5.0	WN..060408	IWSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
MWLNL2525M06	25	25	32,0	150	25,0	–	–	-5.0	-5.0	WN..060408	IWSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
MWLNL3232P08	32	32	40,3	171	32,0	–	–	-5.0	-5.0	WN..080408	IWSN433	KLM46	2.5 MM	CKM7	STCM5	2.5 MM

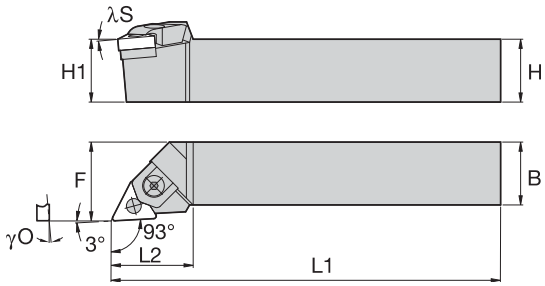
Order example:
Right hand: MWLNR2020K06 Left hand: MWLNL2020K06

WEDGELOCK Inserts



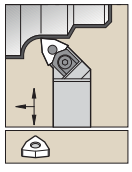
See page A48 for inserts

NOTE: H=H1



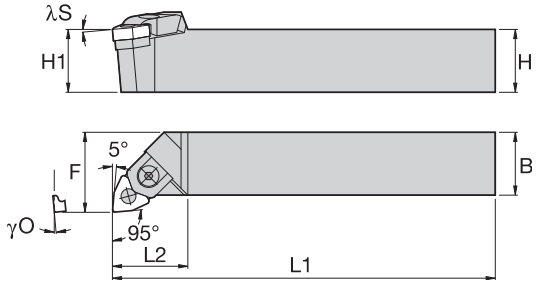
MTJN 93°

catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	lock pin	set screw	Hex (mm)	clamp assembly	Hex (mm)
right hand														
MTJNR2020K16H4	20	20	25,0	125	32,0	-6.0	-6.0	TN..160408	512.125	513.125	192.159	3 MM	551.125	3 MM
MTJNR2525M16H4	25	25	32,0	150	32,0	-6.0	-6.0	TN..160408	512.125	513.125	192.159	3 MM	551.125	3 MM
MTJNR2525M22H4	25	25	32,0	150	36,0	-6.0	-6.0	TN..220408	512.126	513.126	192.159	3 MM	551.126	3 MM
MTJNR3225P16H4	32	25	32,0	170	32,0	-6.0	-6.0	TN..160408	512.125	513.125	192.159	3 MM	551.125	3 MM
MTJNR3225P22H4	32	25	32,0	170	36,0	-6.0	-6.0	TN..220408	512.126	513.126	192.159	3 MM	551.126	3 MM
left hand														
MTJNL2020K16H4	20	20	25,0	125	32,0	-6.0	-6.0	TN..160408	512.125	513.125	192.159	3 MM	551.125	3 MM
MTJNL2525M16H4	25	25	32,0	150	32,0	-6.0	-6.0	TN..160408	512.125	513.125	192.159	3 MM	551.125	3 MM
MTJNL2525M22H4	25	25	32,0	150	36,0	-6.0	-6.0	TN..220408	512.126	513.126	192.159	3 MM	551.126	3 MM
MTJNL3225P16H4	32	25	32,0	170	32,0	-6.0	-6.0	TN..160408	512.125	513.125	192.159	3 MM	551.125	3 MM



See pages A66-A67 for inserts

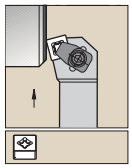
NOTE: H=H1



MWLN 95°

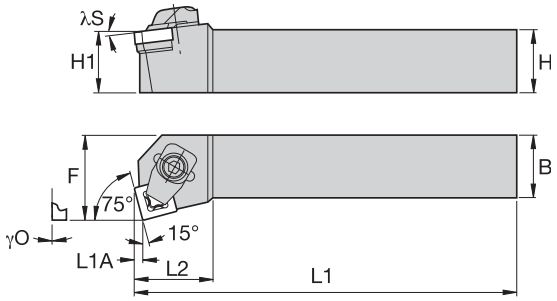
catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	lock pin	set screw	Torx	clamp assembly	Hex (mm)
right hand														
MWLNR2020K08H4	20	20	25,0	125	30,0	-6.0	-6.0	WN..080408	512.131	513.132	192.636	T15	551.131	3 MM
MWLNR2525M08H4	25	25	32,0	150	30,0	-6.0	-6.0	WN..080408	512.131	513.132	192.636	T15	551.131	3 MM
MWLNR3225P08H4	32	25	32,0	170	30,0	-6.0	-6.0	WN..080408	512.131	513.132	192.636	T15	551.131	3 MM
left hand														
MWLNL2020K08H4	20	20	25,0	125	30,0	-6.0	-6.0	WN..080408	512.131	513.132	192.636	T15	551.131	3 MM
MWLNL2525M08H4	25	25	32,0	150	30,0	-6.0	-6.0	WN..080408	512.131	513.132	192.636	T15	551.131	3 MM
MWLNL3225P08H4	32	25	32,0	170	30,0	-6.0	-6.0	WN..080408	512.131	513.132	192.636	T15	551.131	3 MM

Order example:
Right hand: MWLNR2020K08H4 Left hand: MWLNL2020K08H4



See pages A74-A89 for inserts

NOTE: H = H1



CCKN 75°

MX

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CCKNR2525M12MX7	25	25	32,5	151	32,0	–	3,1	-6.0	-6.0	CNGX120708	552.221	554.252	2.5 MM	551.013	4 MM
CCKNR3225P12MX7	32	25	32,5	171	32,0	–	3,1	-6.0	-6.0	CNGX120708	552.221	554.252	2.5 MM	551.013	4 MM
left hand															
CCKNL2525M12MX7	25	25	32,5	151	32,0	–	3,1	-6.0	-6.0	CNGX120708	552.221	554.252	2.5 MM	551.013	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CCKNR3225P12MN7	32	25	32,5	171	32,0	–	3,1	-6.0	-6.0	CNGN120708	552.221	554.252	2.5 MM	551.255	4 MM
left hand															
CCKNL2525M12MN4	25	25	32,5	151	32,0	–	3,1	-6.0	-6.0	CNGN120408	552.220	554.252	2.5 MM	551.255	4 MM
CCKNL2525M12MN7	25	25	32,5	151	32,0	–	3,1	-6.0	-6.0	CNGN120708	552.221	554.252	2.5 MM	551.255	4 MM
CCKNL3225P12MN7	32	25	32,5	171	32,0	–	3,1	-6.0	-6.0	CNGN120708	552.221	554.252	2.5 MM	551.255	4 MM

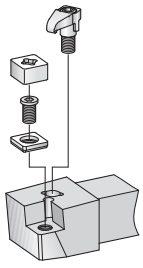
MF

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CCKNR2525M12MF7	25	25	32,5	151	32,0	–	3,1	-6.0	-6.0	CNGN120708	552.221	554.252	2.5 MM	551.252	4 MM
left hand															
CCKNL2525M12MF4	25	25	32,5	151	32,0	–	3,1	-6.0	-6.0	CNGN120408	552.220	554.252	2.5 MM	551.252	4 MM
CCKNL2525M12MF7	25	25	32,5	151	32,0	–	3,1	-6.0	-6.0	CNGN120708	552.221	554.252	2.5 MM	551.255	4 MM

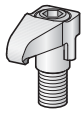
NOTE: MX — clamping version is shown.

Spare Parts for the -MX, -MN, -MA & -MF Clamping Version

Clamping mode MX

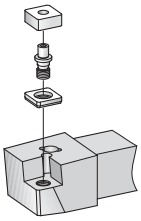


Clamp assembly



551.316
551.332

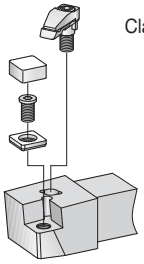
Clamping mode MA



Lock Pin

554.016
554.017
554.018

Clamping mode MN



Clamp assembly

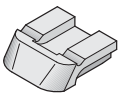
551.251
551.255

Individual clamping elements

Clamping element

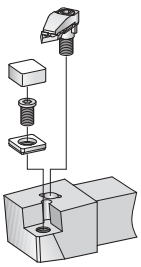
551.333
551.317

Pressure plate



557.111
557.111

Clamping mode MF

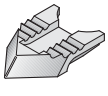


Clamp assembly

Individual clamping elements

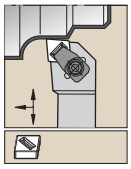
Clamping element

Chip breaker



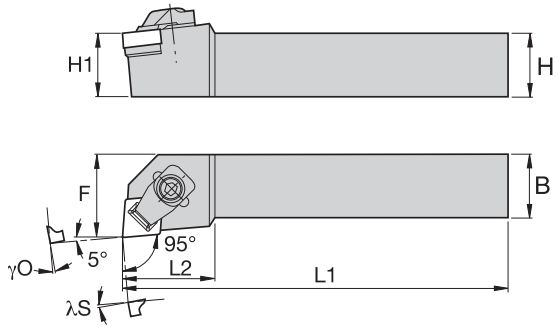
551.252	**551.317**	**557.125**
551.253	**551.317**	**557.126**
551.254	**551.317**	**557.127**
551.256	**551.317**	**557.120**
551.257	**551.317**	**557.121**
551.258	**551.317**	**557.122**
551.260	**551.317**	**557.123**
551.261	**551.317**	**557.124**

-MX, -MN & -MF for KENDEX™ negative Inserts and -MA for KENLOC™ Inserts



See pages A74-A889 for inserts

NOTE: H=H1



CCLN 95°

MX

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CCLNR2525M12-MX7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.X120708	552.221	554.252	2.5 MM	551.316	4 MM
CCLNR3225P12-MX7	32	25	32,0	170	32,0	–	–	-6.0	-6.0	CN.X120708	552.221	554.252	2.5 MM	551.316	4 MM
left hand															
CCLNL2525M12-MX7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.X120708	552.221	554.252	2.5 MM	551.316	4 MM
CCLNL3225P12-MX7	32	25	32,0	170	32,0	–	–	-6.0	-6.0	CN.X120708	552.221	554.252	2.5 MM	551.316	4 MM
CCLNL3225P16-MX7	32	25	32,0	170	32,0	–	–	-6.0	-6.0	CN.X160708	552.223	554.253	3 MM	551.332	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CCLNR2525M12-MN4	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.N120408	552.220	554.252	2.5 MM	551.317	4 MM
CCLNR2525M12-MN7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.N120708	552.221	554.252	2.5 MM	551.317	4 MM
CCLNR3225P12-MN4	32	25	32,0	170	32,0	–	–	-6.0	-6.0	CN.N120408	552.220	554.252	2.5 MM	551.317	4 MM
CCLNR3225P12-MN7	32	25	32,0	170	32,0	–	–	-6.0	-6.0	CN.N120708	552.221	554.252	2.5 MM	551.317	4 MM
left hand															
CCLNL2525M12-MN4	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.N120408	552.220	554.252	2.5 MM	551.317	4 MM
CCLNL2525M12-MN7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.N120708	552.221	554.252	2.5 MM	551.317	4 MM
CCLNL3225P12-MN7	32	25	32,0	170	32,0	–	–	-6.0	-6.0	CN.N120708	552.221	554.252	2.5 MM	551.317	4 MM

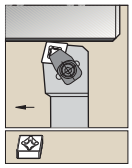
MF

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CCLNR2525M12-MF4	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.N120408	552.220	554.252	2.5 MM	551.317	4 MM
CCLNR2525M12-MF7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.N120708	552.221	554.252	2.5 MM	551.317	4 MM
left hand															
CCLNL2525M12-MF4	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.N120408	552.220	554.252	2.5 MM	551.317	4 MM
CCLNL2525M12-MF7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	CN.N120708	552.221	554.252	2.5 MM	551.317	4 MM

NOTE: MX — clamping version is shown.

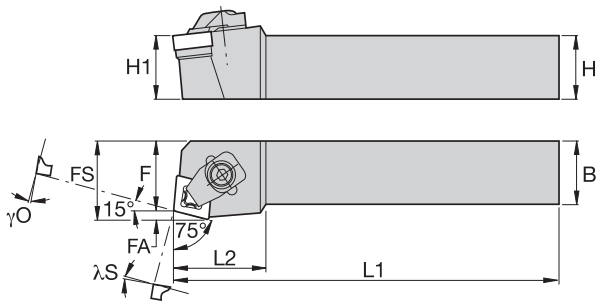
Basic holder may be ordered separately:
V.CLN R/L 2525M12
V.CLN R/L 3225P12
V.CLN R/L 3225P16

Order example:
Right hand: CCLNR3225P16MX7 Left hand: CCLNL3225P16MX7



See pages A74-A89 for inserts

NOTE: H=H1



CCRN 75°

MX

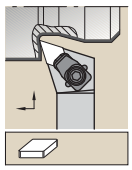
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CCRNR3225P16-MX7	32	25	27,0	170	35,0	4,2	–	-6.0	-6.0	CN.X160708	552.223	554.253	3 MM	551.316	4 MM
left hand															
CCRNL3225P16-MX7	32	25	27,0	170	35,0	4,2	–	-6.0	-6.0	CN.X160708	552.223	554.253	3 MM	551.316	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CCRNR2525M12-MN7	25	25	27,0	150	35,0	3,1	–	-6.0	-6.0	CN.N120708	552.221	554.252	2.5 MM	557.111	551.317	4 MM
CCRNR3225P12-MN7	32	25	27,0	170	35,0	3,1	–	-6.0	-6.0	CN.N120708	552.221	554.252	2.5 MM	557.111	551.317	4 MM
left hand																
CCRNL2525M12-MN7	25	25	27,0	150	35,0	3,1	–	-6.0	-6.0	CN.N120708	552.221	554.252	2.5 MM	557.111	551.317	4 MM

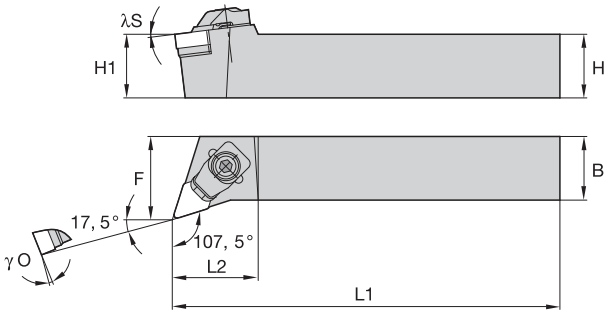
NOTE: MX — clamping version is shown.

Basic holder may be ordered separately:
V.CRN R/L 2525M12
V.CRN R/L 3225P12
V.CRN R/L 3225P16



See pages A76-A77 for inserts

NOTE: H=H1



CDHN 107,5°

MX

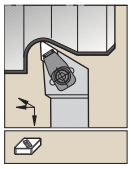
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CDHNR2525M12-MX7	25	25	32,0	150	30,0	–	–	-7.0	-7.0	DN.X120708	552.225	554.254	2.5 MM	551.316	4 MM
left hand															
CDHNL3225P15-MX7	32	25	32,0	170	33,0	–	–	-7.0	-7.0	DN.X150708	552.228	554.252	2.5 MM	551.332	4 MM

NOTE: MN — clamping version is shown.

Basic holder may be ordered separately:
V.DHN R/L 2525M12
V.DHN R/L 2525M15
V.DHN R/L 3225P15

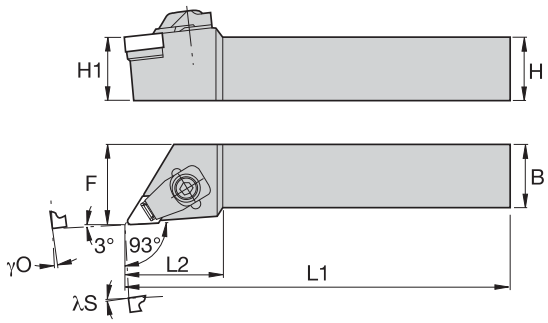
Order example:
Right hand: CDHNR2525M12MX7 Left hand: CDHNL3225P15MX7

-MX, -MN & -MF for KENDEX™ negative Inserts and -MA for KENLOC™ Inserts



See pages A76-A77 for inserts

NOTE: H=H1



CDJN 93°

MX

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CDJNR2525M12-MX7	25	25	32,0	150	38,0	–	–	-6.0	-6.0	DN.X120708	552.225	554.254	2.5 MM	551.316	4 MM
CDJNR2525M15-MX7	25	25	32,0	150	38,0	–	–	-6.0	-6.0	DN.X150708	552.228	554.252	2.5 MM	551.332	4 MM
CDJNR3225P12MX7	32	25	32,5	171	38,0	–	–	-6.0	-6.0	DNGX120708	552.225	554.254	–	551.316	4 MM
left hand															
CDJNL2525M15-MX7	25	25	32,0	150	38,0	–	–	-6.0	-6.0	DN.X150708	552.228	554.252	2.5 MM	551.332	4 MM
CDJNL3225P12MX7	32	25	32,5	171	38,0	–	–	-6.0	-6.0	DNGX120708	552.225	554.254	–	551.316	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CDJNR2525M15-MN7	25	25	32,0	150	38,0	–	–	-6.0	-6.0	DN.N150708	552.228	554.252	2.5 MM	557.111	551.317	4 MM
CDJNR3225P15-MN7	32	25	32,0	170	38,0	–	–	-6.0	-6.0	DN.N150708	552.228	554.252	2.5 MM	557.111	551.317	4 MM
left hand																
CDJNL2525M15-MN7	25	25	32,0	150	38,0	–	–	-6.0	-6.0	DN.N150708	552.228	554.252	2.5 MM	557.111	551.317	4 MM
CDJNL3225P15-MN7	32	25	32,0	170	38,0	–	–	-6.0	-6.0	DN.N150708	552.228	554.252	2.5 MM	557.111	551.317	4 MM

MF

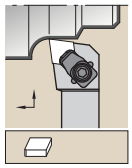
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	chipbreaker	clamp assembly	Hex (mm)
right hand																
CDJNR2525M15-MF7	25	25	32,0	150	38,0	–	–	-6.0	-6.0	DN.N150708	552.228	554.252	2.5 MM	557.123	551.317	4 MM
left hand																
CDJNL2525M15-MF7	25	25	32,0	150	38,0	–	–	-6.0	-6.0	DN.N150708	552.228	554.252	2.5 MM	557.124	551.317	4 MM

NOTE: MX — clamping version is shown

Basic holder may be ordered separately:
V.DJN R/L 2525M12
V.DJN R/L 3225M15
V.DJN R/L 3225P15

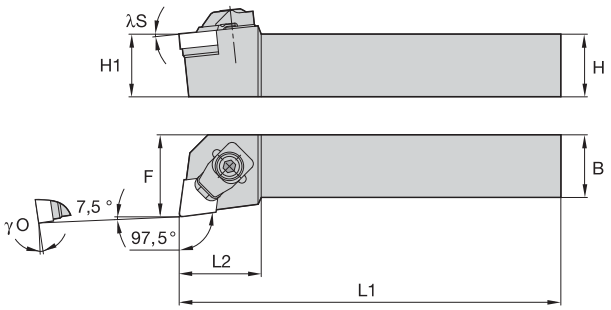
Order example:
Right hand: CDJNR2525M15MF7 Left hand: CDJNL2525M15MF7

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



See pages A78-A81 for inserts

NOTE: H=H1



CELN 97,5°

MX

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CELNR2525M13-MX7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	EN.X130708	552.240	554.252	2.5 MM	551.316	4 MM
left hand															
CELNL2525M13-MX7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	EN.X130708	552.240	554.252	2.5 MM	551.316	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CELNR2525M13-MN7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	EN.N130708	552.240	554.252	2.5 MM	557.111	551.317	4 MM
left hand																
CELNL2525M13-MN7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	EN.N130708	552.240	554.252	2.5 MM	557.111	551.317	4 MM

MF

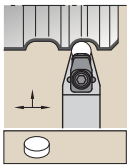
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	chipbreaker	clamp assembly	Hex (mm)
right hand																
CELNR2525M13-MF7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	EN.N130708	552.240	554.252	2.5 MM	557.125	551.317	4 MM
left hand																
CELNL2525M13-MF7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	EN.N130708	552.240	554.252	2.5 MM	557.125	551.317	4 MM

NOTE: MN – clamping version is shown.

Basic holder may be ordered separately:
V.ELN R/L 2525M13
V.ELN R/L 3225P13

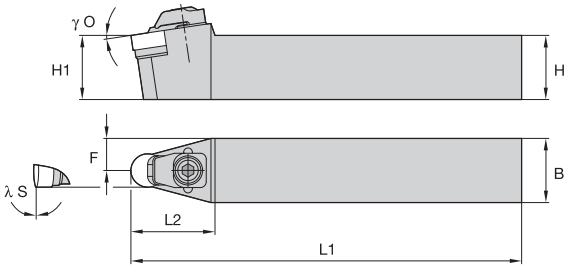
Order example:
Right hand: CELNR2525M13MF7 Left hand: CELNL2525M13MF7

-MN for KENDEX™ negative Inserts



See pages A80-A81 for inserts

NOTE: H=H1



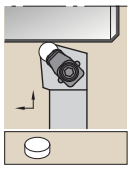
CRDN

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
CRDNN2525M12-MN4	25	25	12,5	150	30,0	–	–	0.0	-8.5	RN.N120400	552.229	554.252	2.5 MM	557.111	551.333	4 MM
CRDNN2525M12-MN7	25	25	12,5	150	30,0	–	–	0.0	-8.5	RN.N120700	552.230	554.252	2.5 MM	557.111	551.333	4 MM
CRDNN3225P12-MN4	32	25	12,5	170	30,0	–	–	0.0	-8.5	RN.N120400	552.229	554.252	2.5 MM	557.111	551.333	4 MM
CRDNN3225P12-MN7	32	25	12,5	170	30,0	–	–	0.0	-8.5	RN.N120700	552.230	554.252	2.5 MM	557.111	551.333	4 MM

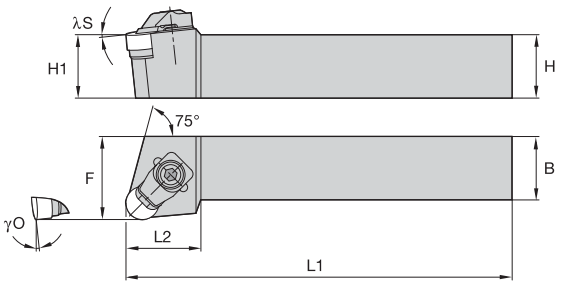
NOTE: MN — clamping version is shown.

Basic holder may be ordered separately:
V.RDN N 2525M12
V.RDN N 3225M12



See pages A80-A81 for inserts

NOTE: H=H1



CRSN

MN

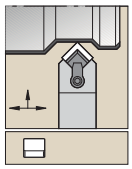
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CRSNR2525M12-MN4	25	25	32,0	150	26,0	–	–	-6.0	-6.0	RN.N120400	552.229	554.252	2.5 MM	557.111	551.333	4 MM
CRSNR2525M12-MN7	25	25	32,0	150	26,0	–	–	-6.0	-6.0	RN.N120700	552.230	554.252	2.5 MM	557.111	551.333	4 MM
CRSNR3225P12-MN4	32	25	32,0	170	26,0	–	–	-6.0	-6.0	RN.N120400	552.229	554.252	2.5 MM	557.111	551.333	4 MM
CRSNR3225P12-MN7	32	25	32,0	170	26,0	–	–	-6.0	-6.0	RN.N120700	552.230	554.252	2.5 MM	557.111	551.333	4 MM
left hand																
CRSNL2525M12-MN4	25	25	32,0	150	26,0	–	–	-6.0	-6.0	RN.N120400	552.229	554.252	2.5 MM	557.111	551.333	4 MM
CRSNL2525M12-MN7	25	25	32,0	150	26,0	–	–	-6.0	-6.0	RN.N120700	552.230	554.252	2.5 MM	557.111	551.333	4 MM
CRSNL3225P12-MN4	32	25	32,0	170	26,0	–	–	-6.0	-6.0	RN.N120400	552.229	554.252	2.5 MM	557.111	551.333	4 MM
CRSNL3225P12-MN7	32	25	32,0	170	26,0	–	–	-6.0	-6.0	RN.N120700	552.230	554.252	2.5 MM	557.111	551.333	4 MM

NOTE: MN — clamping version is shown.

Basic holder may be ordered separately:
V.RSN R/L 2525M12
V.RSN R/L 3225P12

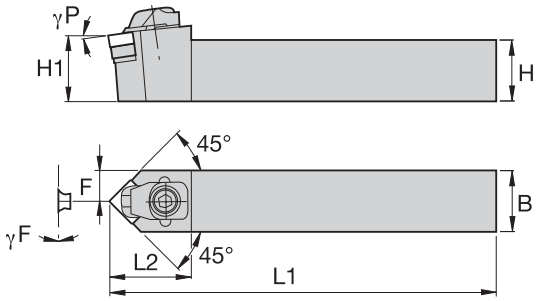
Order example:
Right hand: CRSNR3225P15MN7 Left hand: CRSNL3225P15MN7

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



See pages A82-A83 for inserts

NOTE: H = H1



CSDN

MX

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
CSDNN2525M12MX7	25	25	12,5	151	36,0	–	–	0.0	-7.0	SNGX120708	552.232	554.252	2.5 MM	551.316	4 MM
CSDNN3225P12MX7	32	25	12,5	171	36,0	–	–	0.0	-7.0	SNGX120708	552.232	554.252	2.5 MM	551.316	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
CSDNN2525M12MN4	25	25	12,5	151	36,0	–	–	0.0	-7.0	SNGN120408	552.231	554.252	2.5 MM	551.255	4 MM
CSDNN2525M12MN7	25	25	12,5	151	36,0	–	–	0.0	-7.0	SNGN120708	552.232	554.252	2.5 MM	551.255	4 MM
CSDNN3225P12MN4	32	25	12,5	171	36,0	–	–	0.0	-7.0	SNGN120408	552.231	554.252	2.5 MM	551.255	4 MM
CSDNN3225P12MN7	32	25	12,5	171	36,0	–	–	0.0	-7.0	SNGN120708	552.232	554.252	2.5 MM	551.255	4 MM

MF

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
CSDNN2525M12MF4	25	25	12,5	151	36,0	–	–	0.0	-7.0	SNGN120408	552.231	554.252	2.5 MM	551.252	4 MM
CSDNN2525M12MF7	25	25	12,5	151	36,0	–	–	0.0	-7.0	SNGN120708	552.232	554.252	2.5 MM	551.252	4 MM
CSDNN3225P12MF4	32	25	12,5	171	36,0	–	–	0.0	-7.0	SNGN120408	552.231	554.252	2.5 MM	551.252	4 MM
CSDNN3225P12MF7	32	25	12,5	171	36,0	–	–	0.0	-7.0	SNGN120708	552.232	554.252	2.5 MM	551.252	4 MM

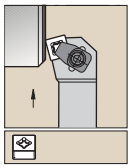
MA

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	wrench size-lock pin
PSDNN2525M12MA4	25	25	12,5	151	36,0	–	–	–	–	SNMA120408	552.231	554.016	2.5 MM
PSDNN3225P12MA4	32	25	12,5	171	36,0	–	–	–	–	SNMA120408	552.231	554.016	2.5 MM

Note: MN — clamping version is shown

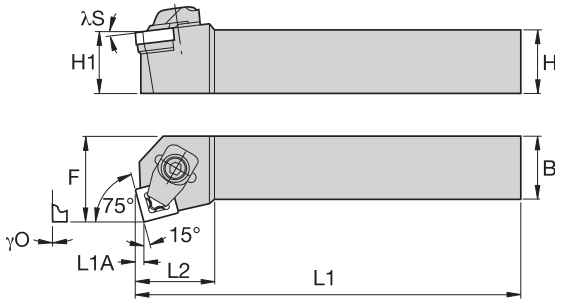
Order example:
PSDNN2525M12MA4

-MN for KENDEX™ negative Inserts



See pages A82-A83 for inserts

NOTE: H = H1



CSKN 75°

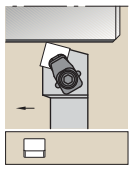
MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CSKNR2525M12-MN4	25	25	32,0	150	27,0	–	3,1	-4.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSKNR2525M12-MN7	25	25	32,0	150	27,0	–	3,1	-4.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM
left hand																
CSKNL2525M12-MN4	25	25	32,0	150	27,0	–	3,1	-4.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSKNL2525M12-MN7	25	25	32,0	150	27,0	–	3,1	-4.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM

NOTE: MX — clamping version is shown

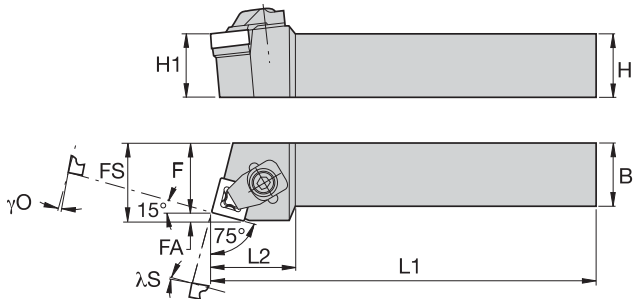
Basic holder may be ordered separately:
V.SKN R/L 2525M12

Order example:
Right hand: CSKNR2525M12MN4 Left hand: CSKNR2525M12MN4



See pages A82-A83 for inserts

NOTE: H = H1



CSRN 75°

MX

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CSRNR3225P15-MX7	32	25	27,0	170	34,0	4,1	–	-6.0	-6.0	SN.X150708	552.234	554.253	3 MM	551.316	4 MM
left hand															
CSRNL3225P15-MX7	32	25	27,0	170	34,0	4,1	–	-6.0	-6.0	SN.X150708	552.234	554.253	3 MM	551.316	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CSRNR2525M12-MN4	25	25	27,0	150	32,0	3,1	–	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSRNR2525M12-MN7	25	25	27,0	150	32,0	3,1	–	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM
CSRNR3225P12-MN4	32	25	27,0	170	32,0	3,1	–	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSRNR3225P12-MN7	32	25	27,0	170	32,0	3,1	–	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM
left hand																
CSRNL2525M12-MN4	25	25	27,0	150	32,0	3,1	–	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSRNL2525M12-MN7	25	25	27,0	150	32,0	3,1	–	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM
CSRNL3225P12-MN4	32	25	27,0	170	32,0	3,1	–	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSRNL3225P12-MN7	32	25	27,0	170	32,0	3,1	–	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM

MF

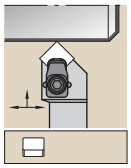
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	chipbreaker	clamp assembly	Hex (mm)
right hand																
CSRNR2525M12-MF4	25	25	27,0	150	32,0	3,1	–	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.126	551.317	4 MM
CSRNR2525M12-MF7	25	25	27,0	150	32,0	3,1	–	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.126	551.317	4 MM
CSRNR3225P15-MF7	32	25	27,0	170	34,0	4,1	–	-6.0	-6.0	SN.N150708	552.234	554.253	3 MM	557.121	551.317	4 MM
left hand																
CSRNL2525M12-MF4	25	25	27,0	150	32,0	3,1	–	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.127	551.317	4 MM
CSRNL2525M12-MF7	25	25	27,0	150	32,0	3,1	–	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.127	551.317	4 MM
CSRNL3225P15-MF7	32	25	27,0	170	34,0	4,1	–	-6.0	-6.0	SN.N150708	552.234	554.253	3 MM	557.122	551.317	4 MM

NOTE: MX — clamping version is shown

Basic holder may be ordered separately:
V.SRN R/L 2525M12
V.SRN R/L 3225P12
V.SRN R/L 3225P15

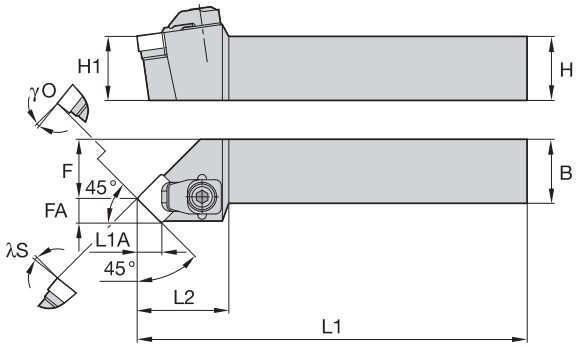
Order example:
Right hand: CSRNR2525M12MF4 Left hand: CSRNR2525M12MF4

-MX, -MN & -MF for KENDEX™ Negative Inserts and -MA for KENLOC™ Inserts



See pages A82-A83 for inserts

NOTE: H = H1



CSSN 45°

MX

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CSSNR2525M12-MX7	25	25	32,0	150	35,0	8,3	8,3	0.0	-8.0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM
CSSNR3225P15-MX7	32	25	32,0	159	37,0	10,2	10,6	0.0	-8.0	SN.X150708	552.234	554.253	3 MM	551.316	4 MM
left hand															
CSSNL2525M12-MX7	25	25	32,0	150	35,0	8,3	8,3	0.0	-8.0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CSSNR2525M12-MN7	25	25	32,0	142	35,0	8,3	8,3	0.0	-8.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM
CSSNR3225P12-MN4	32	25	32,0	162	35,0	8,3	8,3	0.0	-8.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSSNR3225P12-MN7	32	25	32,0	162	35,0	8,3	8,3	0.0	-8.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM
left hand																
CSSNL2525M12-MN7	25	25	32,0	142	35,0	8,3	8,3	0.0	-8.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM
CSSNL3225P12-MN4	32	25	32,0	162	35,0	8,3	8,3	0.0	-8.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSSNL3225P12-MN7	32	25	32,0	162	35,0	8,3	8,3	0.0	-8.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM

MF

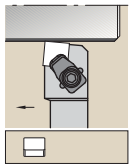
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	chipbreaker	clamp assembly	Hex (mm)
right hand																
CSSNR2525M12-MF7	25	25	32,0	142	35,0	8,3	8,3	0.0	-8.0	SN.N120708	552.232	554.252	2.5 MM	557.125	551.317	4 MM
left hand																
CSSNL2525M12-MF7	25	25	32,0	142	35,0	8,3	8,3	0.0	-8.0	SN.N120708	552.232	554.252	2.5 MM	557.125	551.317	4 MM

NOTE: MN — clamping version is shown.

Basic holder may be ordered separately:
V.SSN R/L 2525M12
V.SSN R/L 3225P12
V.SSN R/L 3225P15

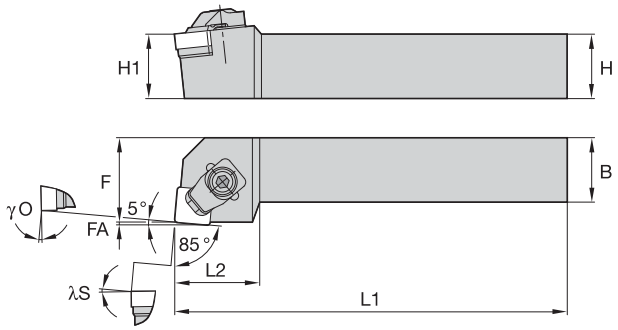
Order example:
Right hand: CSSNR2525M12MF7 Left hand: CSSNR2525M12MF7

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



See pages A82-A83 for inserts

NOTE: H=H1



CSXN 85°

MX

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CSXNR2525M12-MX7	25	25	32,0	150	30,0	1,1	–	-6.0	-6.0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM
CSXNR3225P12-MX7	32	25	32,0	170	30,0	1,1	–	-6.0	-6.0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM
left hand															
CSXNL2525M12-MX7	25	25	32,0	150	30,0	1,1	–	-6.0	-6.0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM
CSXNL3225P12-MX7	32	25	32,0	170	30,0	1,1	–	-6.0	-6.0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM
CSXNL3225P15-MX7	32	25	32,0	170	30,0	1,4	–	-6.0	-6.0	SN.X150708	552.234	554.253	3 MM	551.316	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CSXNR2525M12-MN4	25	25	32,0	150	30,0	1,1	–	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
left hand																
CSXNL2525M12-MN4	25	25	32,0	150	30,0	1,1	–	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM

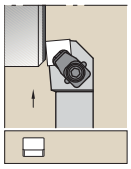
MF

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	chipbreaker	clamp assembly	Hex (mm)
right hand																
CSXNR2525M12-MF7	25	25	32,0	150	30,0	1,1	–	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.126	551.317	4 MM
left hand																
CSXNL2525M12-MF7	25	25	32,0	150	30,0	1,1	–	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.127	551.317	4 MM

NOTE: MN — clamping version is shown.

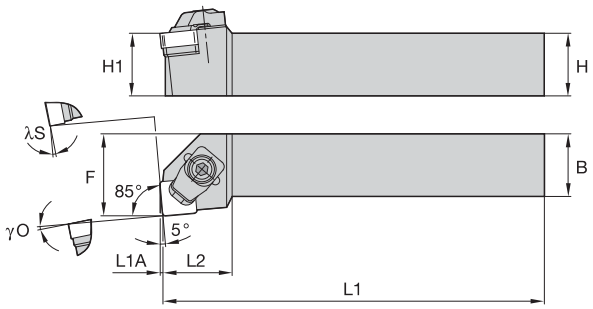
Basic holder may be ordered separately:
V.SXN R/L 2525M12
V.SXN R/L 3225P12

Order example:
Right hand: CSXNR2525M12MF7 Left hand: CSXNR2525M12MF7



See pages A82-A83 for inserts

NOTE: H=H1



CSYN 85°

MX

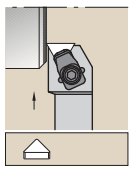
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
left hand															
CSYNL3225P12-MX7	32	25	32,0	170	27,0	–	1,0	-6.0	-6.0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
Right hand																
CSYNR2525M12-MN4	25	25	32,0	150	27,0	–	1,1	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSYNR2525M12-MN7	25	25	32,0	150	27,0	–	1,1	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM
Left hand																
CSYNL2525M12-MN4	25	25	32,0	150	27,0	–	1,1	-6.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
CSYNL2525M12-MN7	25	25	32,0	150	27,0	–	1,1	-6.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM

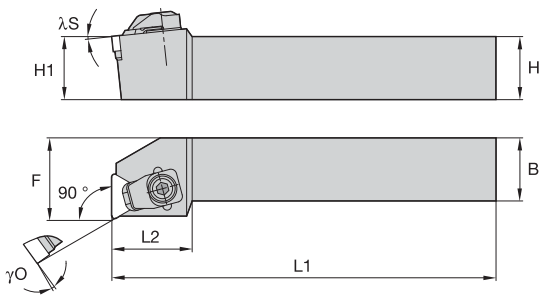
NOTE: MN — clamping version is shown.

Basic holder may be ordered separately:
V.SYN R/L 2525M12
V.SYN R/L 3225P12



See pages A86-A87 for inserts

NOTE: H=H1



CTFN 90°

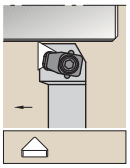
MN

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CTFNR2525M16-MN4	25	25	32,0	150	29,0	–	–	–	–	TN.N160408	552.235-H	554.254	2.5 MM	557.111	551.333	4 MM
left hand																
CTFNL2525M16-MN4	25	25	32,0	150	29,0	–	–	–	–	TN.N160408	552.235-H	554.254	2.5 MM	557.111	551.333	4 MM

NOTE: MN — clamping version is shown.

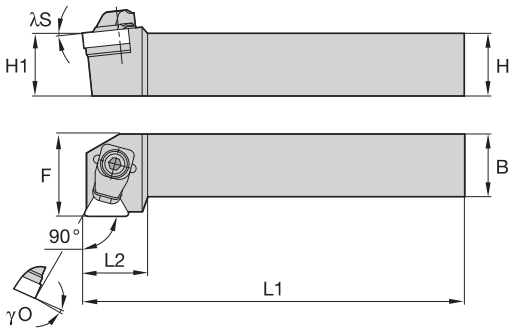
Basic holder may be ordered separately:
V.TFN R/L 2525M16

Order example:
Right hand: CTFNR2525M16MN4 Left hand: CTFNL2525M16MN4



See pages A86-A87 for inserts

NOTE: H=H1



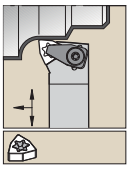
CTGN 90°

MN

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
CTGNR2525M16-MN4	25	25	32,0	150	20,0	–	–	-6.0	-6.0	TN.N160408	552.235-H	554.254	2.5 MM	557.111	551.333	4 MM
CTGNR2525M16-MN7	25	25	32,0	150	20,0	–	–	-6.0	-6.0	TN.N160708	552.236	554.254	2.5 MM	557.111	551.333	4 MM
left hand																
CTGNL2525M16-MN4	25	25	32,0	150	20,0	–	–	-6.0	-6.0	TN.N160408	552.235-H	554.254	2.5 MM	557.111	551.333	4 MM
CTGNL2525M16-MN7	25	25	32,0	150	20,0	–	–	-6.0	-6.0	TN.N160708	552.236	554.254	2.5 MM	557.111	551.333	4 MM

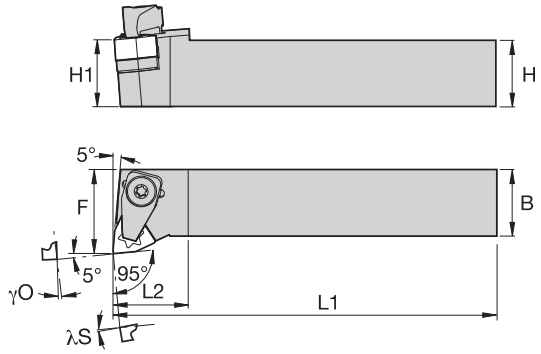
NOTE: MN — clamping version is shown.

Basic holder may be ordered separately:
V.TGN R/L 2525M16



See pages A88-A89 for inserts

NOTE: H=H1

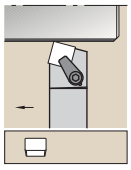


CWLN 95°

MX

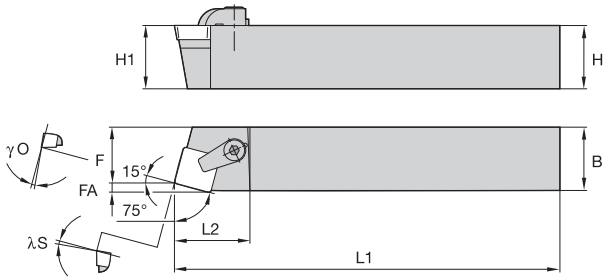
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
CWLNR2525M08MX7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	WN.X080708	552.210	554.252	2.5 MM	551.316	4 MM
CWLNR3225P08MX7	32	25	32,0	170	32,0	–	–	-6.0	-6.0	WN.X080708	552.210	554.252	2.5 MM	551.316	4 MM
left hand															
CWLNL2525M08MX7	25	25	32,0	150	32,0	–	–	-6.0	-6.0	WN.X080708	552.210	554.252	2.5 MM	551.316	4 MM

Order example:
Right hand: CWLNR2525M08MX7 Left hand: CWLNL2525M08MX7



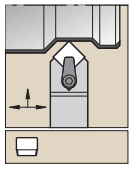
See pages A92-A93 for inserts

NOTE: H = H1



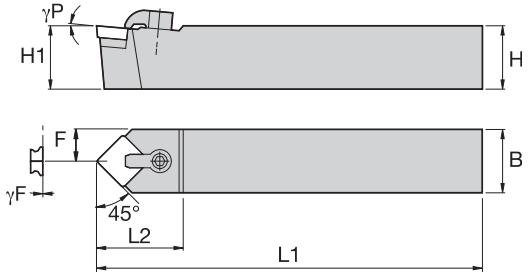
CSBP 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	Hex (mm)	shim screw	clamp	clamp screw	STC screw	Hex (mm)
right hand																	
CSBPR2020K12	20	20	17,0	125	30,0	3,1	–	0.0	5.0	SP..120308	SM840	2 MM	MS111	170.004	CKM10	STCM8	4 MM
CSBPR2525M12	25	25	22,0	150	30,0	3,1	–	0.0	5.0	SP..120308	SM840	2 MM	MS111	170.004	CKM10	STCM8	4 MM
left hand																	
CSBPL2020K12	20	20	17,0	125	30,0	3,1	–	0.0	5.0	SP..120308	SM840	2 MM	MS111	170.004	CKM10	STCM8	4 MM
CSBPL2525M12	25	25	22,0	150	30,0	3,1	–	0.0	5.0	SP..120308	SM840	2 MM	MS111	170.001	CKM10	STCM8	4 MM



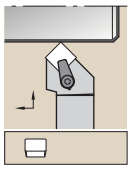
See pages A92-A93 for inserts

NOTE: H = H1



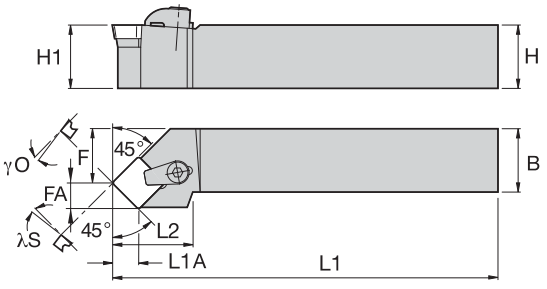
CSDP 45°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
CSDPN1212F09	12	12	6,0	80	25,0	–	–	0.0	5.0	SP..090308	SM820	MS959	–	CKM7	STCM9	2.5 MM
CSDPN1616H09	16	16	8,0	100	25,0	–	–	0.0	5.0	SP..090308	SM820	MS959	–	CKM7	STCM9	2.5 MM
CSDPN2020K12	20	20	10,0	125	32,0	–	–	0.0	5.0	SP..120308	SM840	MS111	2 MM	CKM10	STCM8	4 MM
CSDPN2525M12	25	25	12,5	150	32,0	–	–	0.0	5.0	SP..120308	SM840	MS111	2 MM	CKM9	STCM4	4 MM



See pages A92-A93 for inserts

NOTE: H = H1

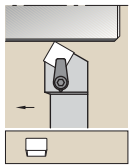


CSSP 45°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
CSSPR2020K12	20	20	25,0	125	32,0	8,7	8,3	0.0	5.0	SP..120308	SM840	MS111	2 MM	CKM10	STCM8	4 MM
CSSPR2525M12	25	25	32,0	150	32,0	8,7	8,3	0.0	5.0	SP..120308	SM840	MS111	2 MM	CKM9	STCM4	4 MM
left hand																
CSSPL2525M12	25	25	32,0	150	32,0	8,7	8,3	0.0	5.0	SP..120308	SM840	MS111	2 MM	CKM9	STCM4	4 MM

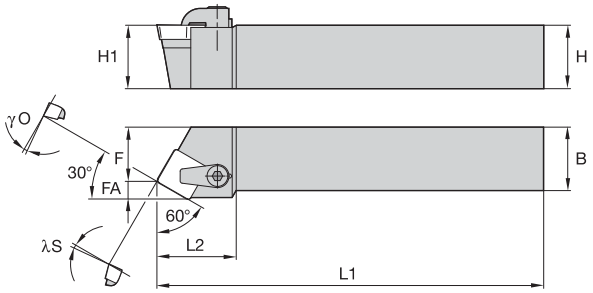
Order example:
Right hand: CSSPR2020K12 Left hand: CSSPL2525M12

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



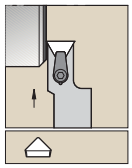
See pages A92-A93 for inserts

NOTE: H = H1



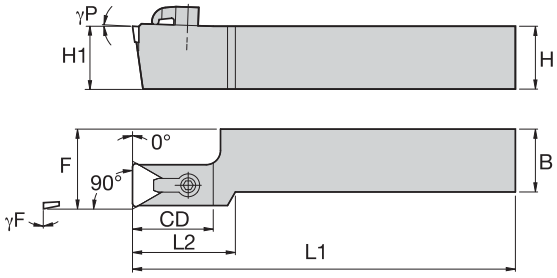
CSTP 60°

catalog number	H	B	F	L1	L2	FA	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
CSTPR2020K09	20	20	17,0	125	20,0	4,3	0.0	5.0	SP..090308	SM820	MS959	–	CKM7	STCM5	2.5 MM
CSTPR2020K12	20	20	17,0	125	30,0	5,9	0.0	5.0	SP..120308	SM840	MS111	2 MM	CKM10	STCM8	4 MM
left hand															
CSTPL2020K09	20	20	17,0	125	20,0	4,3	0.0	5.0	SP..090308	SM820	MS959	–	CKM7	STCM5	2.5 MM
CSTPL2020K12	20	20	17,0	125	30,0	5,9	0.0	5.0	SP..120308	SM840	MS111	2 MM	CKM10	STCM8	4 MM
CSTPL2525M12	25	25	22,0	150	28,0	5,9	0.0	5.0	SP..120308	SM840	MS111	2 MM	CKM12	STCM4	4 MM



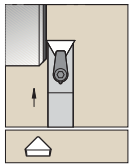
See page A96 for inserts

NOTE: H = H1



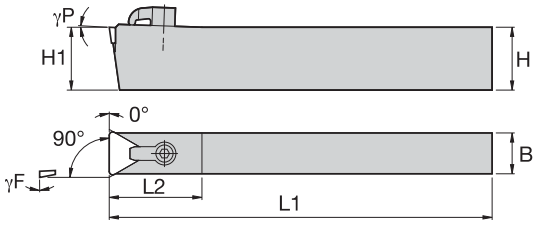
CTCP 90°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
CTCPR2020K16	20	20	25,0	125	38,0	–	–	0.0	3.0	TP..160308	SM841	MS111	2 MM	CKM13	STCM8	4 MM



See page A96 for inserts

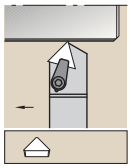
NOTE: H = H1



CTCP 90°

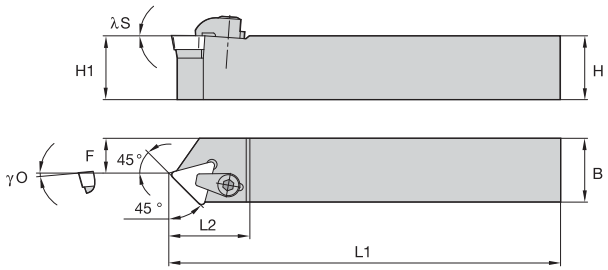
catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
CTCPN2510M11	25	10	10,0	150	26,0	–	–	0.0	3.0	TP..110304	SM819	MS960	–	CKM7	STCM5	2.5 MM
CTCPN2514M16	25	14	14,4	150	28,0	–	–	0.0	3.0	TP..160308	SM841	MS111	2 MM	CKM13	STCM4	4 MM
CTCPN2518M22	25	18	19,2	150	41,0	–	–	0.0	3.0	TP.220408	SM837	MS125	2.5 MM	CKM13	STCM4	4 MM
CTCPN2520M22	25	20	20,2	150	41,0	–	–	0.0	3.0	TP.220408	SM837	MS125	2.5 MM	CKM13	STCM4	4 MM
CTCPN4018R22	40	18	19,2	200	41,0	–	–	0.0	3.0	TP.220408	SM837	MS125	2.5 MM	CKM13	STCM4	4 MM
CTCPN4020R22	40	20	20,2	200	41,0	–	–	0.0	3.0	TP.220408	SM837	MS125	2.5 MM	CKM13	STCM4	4 MM

Order example:
Right hand: CTCPN2510M11



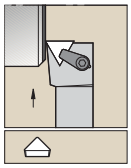
See page A96 for inserts

NOTE: H = H1



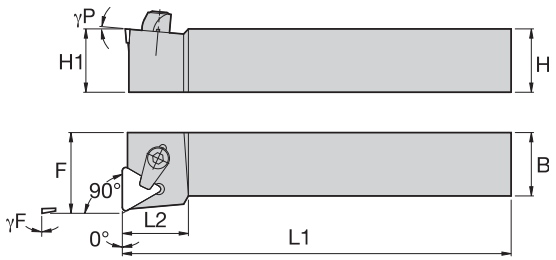
CTDP 45°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
CTDPR1212F11	12	12	6,0	80	22,0	–	–	0.0	5.0	TP..110304	SM819	MS960	–	CKM19	STCM9	2.5 MM
CTDPR2525M16	25	25	16,0	150	30,0	–	–	0.0	5.0	TP..160308	SM841	MS111	2 MM	CKM9	STCM4	4 MM
left hand																
CTDPL1212F11	12	12	6,0	80	22,0	–	–	0.0	5.0	TP..110304	SM819	MS960	–	CKM19	STCM9	2.5 MM



See page A96 for inserts

NOTE: H = H1

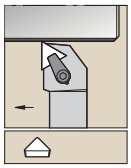


CTFP 90°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
CTFPR2020K16	20	20	25,0	125	29,0	–	–	0.0	5.0	TP..160308	SM841	MS111	2 MM	CKM10	STCM8	4 MM
CTFPR2525M16	25	25	32,0	150	29,0	–	–	0.0	5.0	TP..160308	SM841	MS111	2 MM	CKM9	STCM4	4 MM
left hand																
CTFPL2020K16	20	20	25,0	125	29,0	–	–	0.0	5.0	TP..160308	SM841	MS111	2 MM	CKM10	STCM8	4 MM
CTFPL2525M16	25	25	32,0	150	29,0	–	–	0.0	5.0	TP..160308	SM841	MS111	2 MM	CKM9	STCM4	4 MM

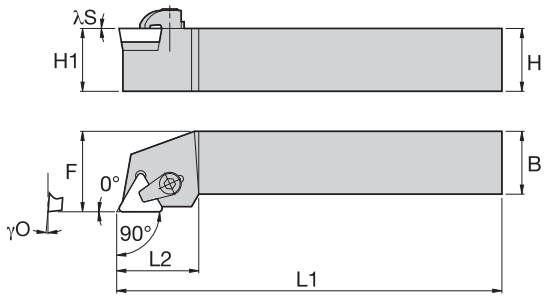
Order example:
Right hand: CTFPR2020K16 Left hand: CTFPL2020K16

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



See page A96 for inserts

NOTE: H = H1

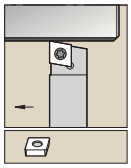


CTGP 90°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
CTGPR1212F11	12	12	16,0	80	20,0	–	–	0.0	5.0	TP..110304	SM819	MS960	–	CKM19	STCM9	2.5 MM
CTGPR1616H11	16	16	20,0	100	20,0	–	–	0.0	5.0	TP..110304	SM819	MS960	–	CKM19	STCM9	2.5 MM
CTGPR2020K11	20	20	25,0	125	20,0	–	–	0.0	5.0	TP..110304	SM819	MS960	–	CKM19	STCM9	2.5 MM
CTGPR2020K16	20	20	25,0	125	26,0	–	–	0.0	5.0	TP..160308	SM841	MS111	2 MM	CKM10	STCM8	4 MM
CTGPR2525M16	25	25	32,0	150	26,0	–	–	0.0	5.0	TP..160308	SM841	MS111	2 MM	CKM9	STCM4	4 MM
CTGPR2525M22	25	25	32,0	150	30,0	–	–	0.0	5.0	TP..220408	SM837	MS125	2.5 MM	CKM9	STCM4	4 MM
left hand																
CTGPL1212F11	12	12	16,0	80	20,0	–	–	0.0	5.0	TP..110304	SM819	MS960	–	CKM19	STCM9	2.5 MM
CTGPL2020K16	20	20	25,0	125	26,0	–	–	0.0	5.0	TP..160308	SM841	MS111	2 MM	CKM10	STCM8	4 MM
CTGPL2525M16	25	25	32,0	150	26,0	–	–	0.0	5.0	TP..160308	SM841	MS111	2 MM	CKM9	STCM4	4 MM

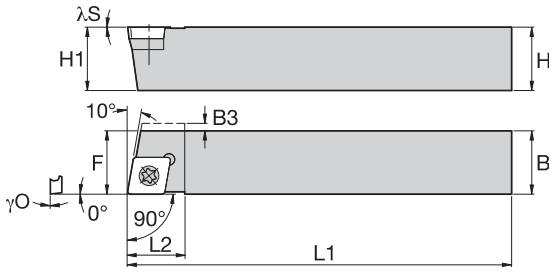
Order example:
Right hand: CTGPR1212F11 Left hand: CTGPL1212F11

SCREW-ON Inserts



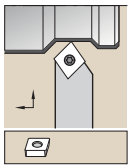
See page A104 for inserts

NOTE: H = H1



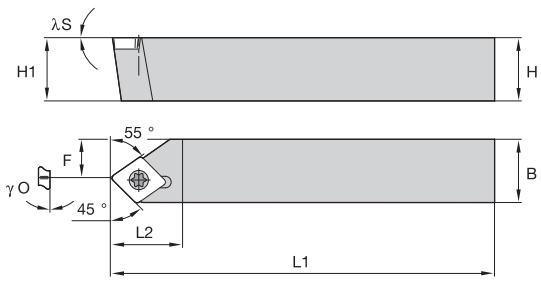
SCAC 90°

catalog number	H	B	F	L1	L2	FA	L1A	B3	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																
SCACR1010M06Q	10	10	10,0	150	11,0	–	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCACR1212M06Q	12	12	12,0	150	11,0	–	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCACR1616K09Q	16	16	16,0	125	16,0	–	–	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15
left hand																
SCACL0808M06Q	8	8	8,0	150	12,0	–	–	1,5	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCACL1010M06Q	10	10	10,0	150	11,0	–	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7



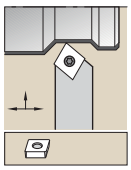
See pages A108-A109 for inserts

NOTE: H = H1



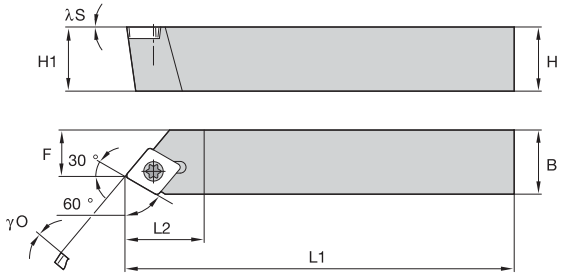
SCDP 45°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
SCDPL1212H06	12	12	7,0	100	14,0	–	–	0.0	0.0	CP..060203	–	–	–	MS1153	T7
SCDPR1212H06	12	12	7,0	100	14,0	–	–	0.0	0.0	CP..060203	–	–	–	MS1153	T7



See pages A108-A109 for inserts

NOTE: H = H1

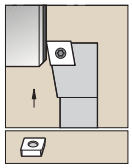


SCEP 60°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SCEPR1010H06	10	10	6,5	100	12,0	–	–	0.0	0.0	CP..060203R.	–	–	–	MS1153	T7
SCEPR1212H06	12	12	8,5	100	12,0	–	–	0.0	0.0	CP..060203R.	–	–	–	MS1153	T7
left hand															
SCEPL1010H06	10	10	6,5	100	12,0	–	–	0.0	0.0	CP..060203L.	–	–	–	MS1153	T7

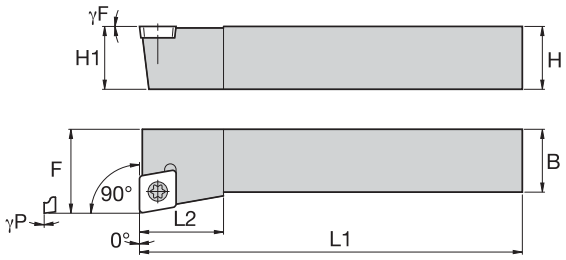
Order example:
Right hand: SCEPR1010H06 Left hand: SCEPL1010H06

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



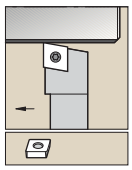
See page A104 for inserts

NOTE: H = H1



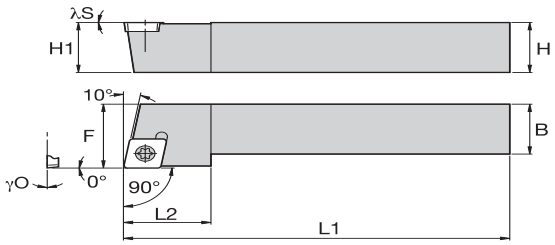
SCFC 90°

catalog number	H	B	F	L1	L2	FA	L1A	γP°	γF°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SCFCR1212N09	12	12	16,0	160	16,0	–	–	0.0	0.0	CC..09T308	–	–	–	MS1155	T15
left hand															
SCFCL1212N09	12	12	16,0	160	16,0	–	–	0.0	0.0	CC..09T308	–	–	–	MS1155	T15



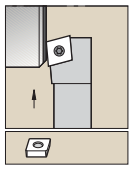
See page A104 for inserts

NOTE: H = H1



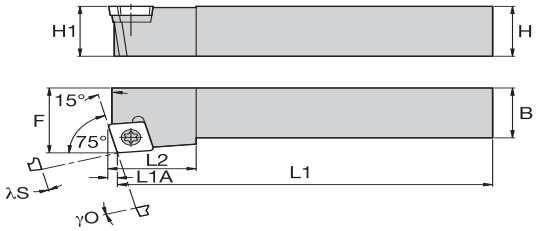
SCGC 90°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SCGCR1010M06	10	10	12,0	150	11,0	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCGCR1212N09	12	12	16,0	160	16,0	–	–	0.0	0.0	CC..09T308	–	–	–	MS1155	T15
left hand															
SCGCL1010M06	10	10	12,0	150	11,0	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCGCL1212N09	12	12	16,0	160	16,0	–	–	0.0	0.0	CC..09T308	–	–	–	MS1155	T15



See page A104 for inserts

NOTE: H = H1

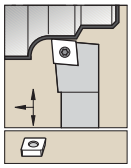


SCKC 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SCKCR1616H09	16	16	20,0	100	16,0	–	2,3	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15
SCKCR2020K09	20	20	25,0	125	16,0	–	2,3	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15

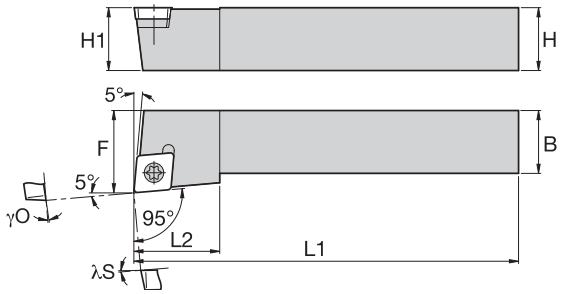
Order example:
Right hand: SCKCR1616H09

SCREW-ON Inserts



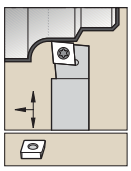
See page A104 for inserts

NOTE: H = H1



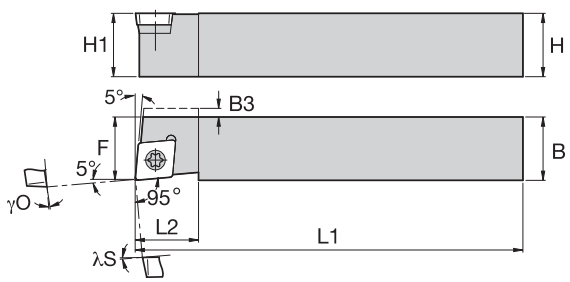
SCLC 95°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SCLCR0808L06	8	8	10,0	140	11,0	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCLCR1010M06	10	10	12,0	150	12,0	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCLCR1212N09	12	12	16,0	160	16,0	–	–	0.0	0.0	CC..09T308	–	–	–	MS1155	T15
SCLCR1616H09	16	16	20,0	100	16,0	–	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15
SCLCR2020K09	20	20	25,0	125	16,0	–	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15
SCLCR2020K12	20	20	25,0	125	20,0	–	–	0.0	0.0	CC..120408	SKCP453	SRS4	4 MM	MS1158	T15
SCLCR2525M09	25	25	32,0	150	16,0	–	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15
SCLCR2525M12	25	25	32,0	150	19,8	–	–	0.0	0.0	CC..120408	SKCP453	SRS4	4 MM	MS1158	T15
left hand															
SCLCL0808L06	8	8	10,0	140	11,0	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCLCL1010M06	10	10	12,0	150	12,0	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCLCL1212N09	12	12	16,0	160	16,0	–	–	0.0	0.0	CC..09T308	–	–	–	MS1155	T15
SCLCL1616H09	16	16	20,0	100	16,0	–	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15
SCLCL2020K09	20	20	25,0	125	16,0	–	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15
SCLCL2020K12	20	20	25,0	125	20,0	–	–	0.0	0.0	CC..120408	SKCP453	SRS4	4 MM	MS1158	T15
SCLCL2525M09	25	25	32,0	150	16,0	–	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15
SCLCL2525M12	25	25	32,0	150	19,8	–	–	0.0	0.0	CC..120408	SKCP453	SRS4	4 MM	MS1158	T15



See page A104 for inserts

NOTE: H = H1



SCLC-F 95°

catalog number	H	B	F	L1	L2	FA	L1A	B3	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																
SCLCRF0808M06Q	8	8	8,0	150	12,0	–	–	1,5	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCLCRF1010M06Q	10	10	10,0	150	11,0	–	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCLCRF1212M06Q	12	12	12,0	150	11,0	–	–	–	0.0	0.0	CC..060204	–	–	–	MS1153	T7
SCLCRF1616K09Q	16	16	16,0	125	16,0	–	–	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15
left hand																
SCLCLF1616K09Q	16	16	16,0	125	16,0	–	–	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15

Order example:
Right hand: SCLCRF0808M06Q Left hand: SCLCLF1616K09Q

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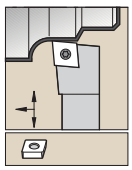
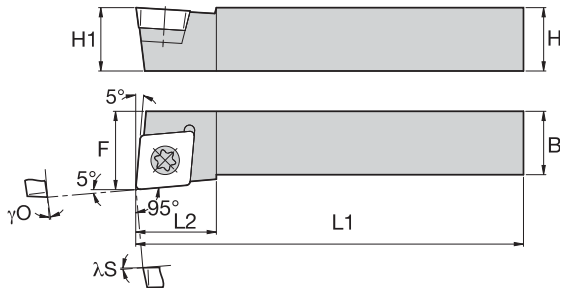


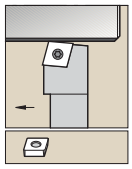
See pages A108-A109 for inserts

NOTE: H = H1



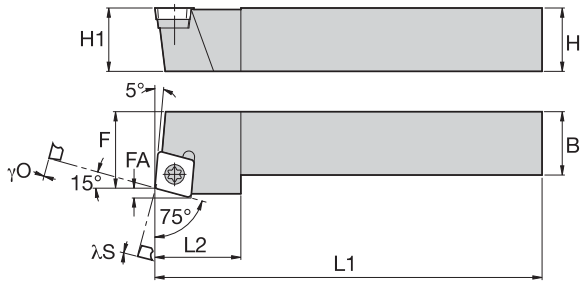
SCLP 95°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SCLPR1010M06	10	10	11,0	150	11,4	–	–	0.0	0.0	CP..060203	–	–	–	MS1153	T7
SCLPR1212M06	12	12	13,0	150	11,4	–	–	0.0	0.0	CP..060203	–	–	–	MS1153	T7
left hand															
SCLPL1212M06	12	12	13,0	150	11,4	–	–	0.0	0.0	CP..060203	–	–	–	MS1153	T7



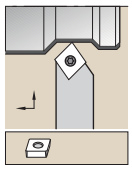
See page A104 for inserts

NOTE: H = H1



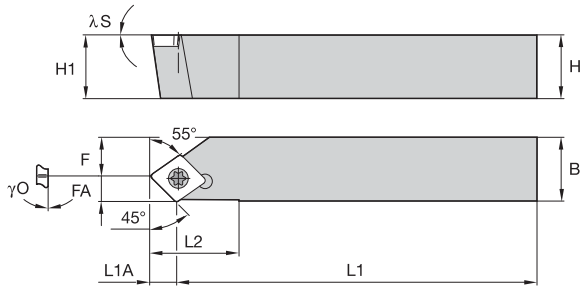
SCRC 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SCRCR1212N09	12	12	13,0	160	14,0	2,3	–	0.0	0.0	CC..09T308	–	–	–	MS1155	T15
SCRCR1616H09	16	16	17,0	100	14,0	2,3	–	0.0	0.0	CC..09T308	SKCP343	SRS3	3.5 MM	MS1156	T15



See pages A108-A109 for inserts

NOTE: H = H1

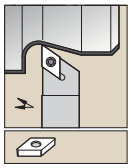


SCSP 45°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
SCSPR1010H06	10	10	6,0	100	14,0	4,2	4,2	0.0	0.0	CP..060203	–	–	–	MS1153	T7

Order example:
Right hand: SCSPR1010H06

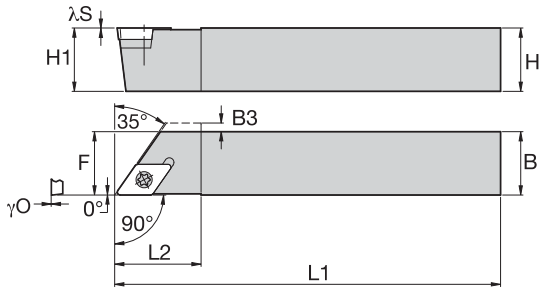
SCREW-ON Inserts



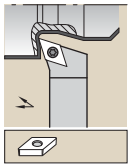
See page A112 for inserts

NOTE: H = H1

SDAC 90°



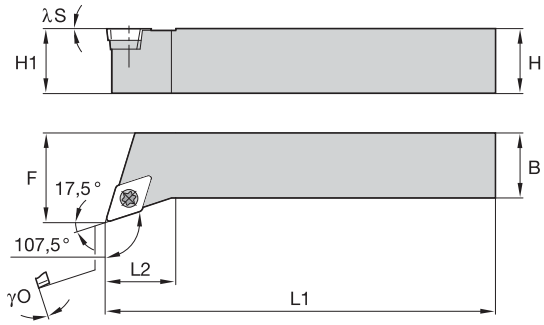
catalog number	H	B	F	L1	L2	FA	L1A	B3	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																
SDACR1212M11Q	12	12	12,0	150	22,0	–	–	1,5	0.0	0.0	DC..11T308	–	–	–	MS1155	T15
SDACR1616K11Q	16	16	16,0	125	22,0	–	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5MM	MS1156	T15
left hand																
SDACL0808M07Q	8	8	8,0	150	16,0	–	–	1,5	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDACL1212M11Q	12	12	12,0	150	22,0	–	–	1,5	0.0	0.0	DC..11T308	–	–	–	MS1155	T15



See page A112 for inserts

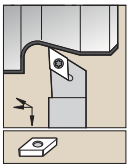
NOTE: H = H1

SDHC 107,5°



catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SDHCR1616H11	16	16	20,0	100	20,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDHCR2020K11	20	20	25,0	125	20,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDHCR2525M11	25	25	32,0	150	20,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDHCR2525M15	25	25	32,0	150	25,0	–	–	0.0	0.0	DC..150408	SKDP453	SRS4	4 MM	MS1158	T15
left hand															
SDHCL1616H11	16	16	20,0	100	20,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDHCL2020K11	20	20	25,0	125	20,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDHCL2525M11	25	25	32,0	150	20,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDHCL2525M15	25	25	32,0	150	25,0	–	–	0.0	0.0	DC..150408	SKDP453	SRS4	4 MM	MS1158	T15

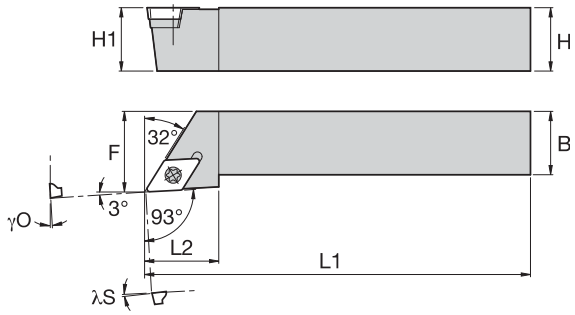
Order example:
Right hand: SDHCR1616H11 Left hand: SDHCL1616H11



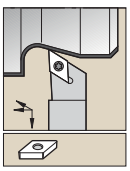
See page A112 for inserts

NOTE: H = H1

SDJC 93°



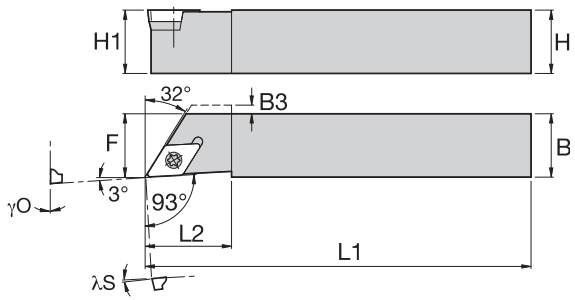
catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SDJCR0808L07	8	8	10,0	140	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCR1010M07	10	10	12,0	150	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCR1212N07	12	12	16,0	160	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCR1212N11	12	12	16,0	160	22,0	–	–	0.0	0.0	DC..11T308	–	–	–	MS1155	T15
SDJCR1616H07	16	16	20,0	100	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCR1616H11	16	16	20,0	100	22,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDJCR2020K07	20	20	25,0	125	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCR2020K11	20	20	25,0	125	22,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDJCR2020K15	20	20	25,0	125	32,0	–	–	0.0	0.0	DC..150408	SKDP453	SRS4	4 MM	MS1158	T15
SDJCR2525M11	25	25	32,0	150	22,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDJCR2525M15	25	25	32,0	150	32,0	–	–	0.0	0.0	DC..150408	SKDP453	SRS4	4 MM	MS1158	T15
left hand															
SDJCL0808L07	8	8	10,0	140	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCL1010M07	10	10	12,0	150	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCL1212N07	12	12	16,0	160	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCL1212N11	12	12	16,0	160	22,0	–	–	0.0	0.0	DC..11T308	–	–	–	MS1155	T15
SDJCL1616H07	16	16	20,0	100	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCL1616H11	16	16	20,0	100	22,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDJCL2020K07	20	20	25,0	125	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCL2020K11	20	20	25,0	125	22,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDJCL2525M11	25	25	32,0	150	22,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDJCL2525M15	25	25	32,0	150	32,0	–	–	0.0	0.0	DC..150408	SKDP453	SRS4	4 MM	MS1158	T15



See page A112 for inserts

NOTE: H = H1

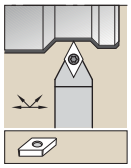
SDJC-F 93°



catalog number	H	B	F	L1	L2	FA	L1A	B3	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																
SDJCRF0808M07Q	8	8	8,0	150	16,0	–	–	1,5	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCRF1010M07Q	10	10	10,0	150	16,0	–	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCRF1212M07Q	12	12	12,0	150	16,0	–	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCRF1616K11Q	16	16	16,0	125	22,0	–	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
left hand																
SDJCLF1212M07Q	12	12	12,0	150	16,0	–	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDJCLF1616K11Q	16	16	16,0	125	22,0	–	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15

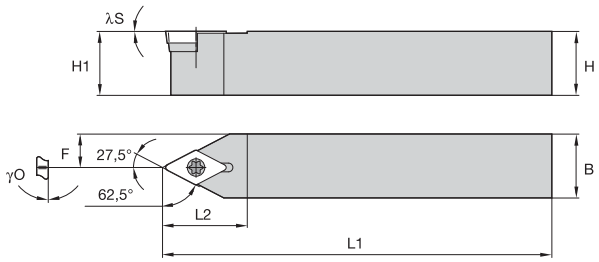
Order example:
Right hand: SDJCRF1212M07Q Left hand: SDJCLF1212M07Q

SCREW-ON Inserts



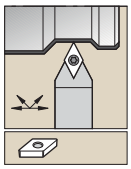
See page A112 for inserts

NOTE: H = H1



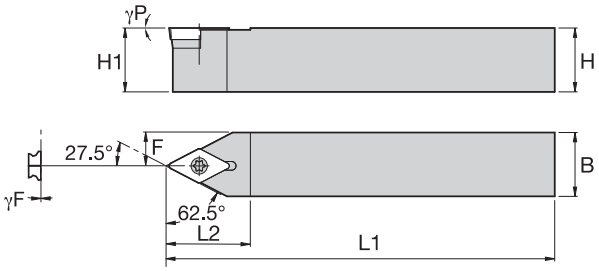
SDNC 62,5°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
SDNCN0808L07	8	8	4,0	140	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDNCN1010M07	10	10	5,0	150	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDNCN1212N07	12	12	6,0	160	16,0	–	–	0.0	0.0	DC..070204	–	–	–	MS1153	T7
SDNCN1616H11	16	16	8,0	100	22,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDNCN2020K11	20	20	10,0	125	22,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15
SDNCN2020K15	20	20	10,0	125	28,0	–	–	0.0	0.0	DC..150408	SKDP453	SRS4	4 MM	MS1158	T15
SDNCN2525M15	25	25	12,0	150	28,0	–	–	0.0	0.0	DC..150408	SKDP453	SRS4	4 MM	MS1158	T15



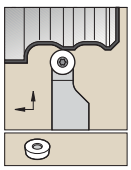
See page A112 for inserts

NOTE: H = H1



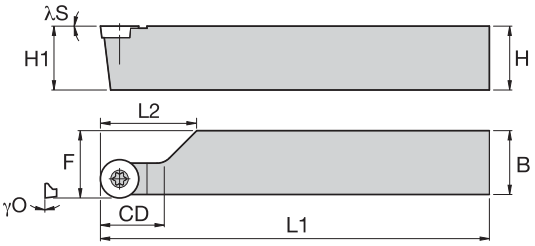
SDPC 62,5°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
SDPCN1212M11Q	12	12	6,0	150	22,0	–	–	0.0	0.0	DC..11T308	–	–	–	MS1155	T15
SDPCN1616K11Q	16	16	8,0	125	22,0	–	–	0.0	0.0	DC..11T308	SKDP343	SRS3	3.5 MM	MS1156	T15



See pages A116-A117 for inserts

NOTE: H = H1

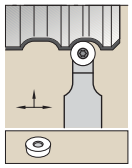


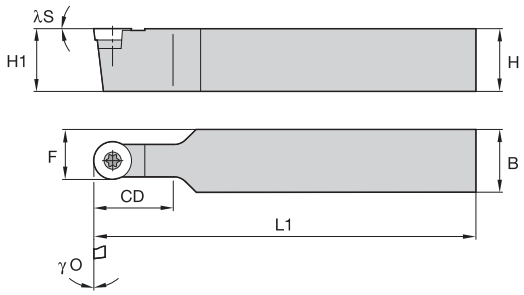
SRAC

catalog number	H	B	F	L1	L2	FA	L1A	CD	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																
SRACR1010M06	10	10	11,0	150	29,0	–	–	10,0	0.0	0.0	RC..0602M0	–	–	–	MS1153	T7
SRACR1212N08	12	12	13,0	160	31,0	–	–	12,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRACR1616Q08	16	16	17,0	180	35,0	–	–	16,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
left hand																
SRACL1616Q08	16	16	17,0	180	35,0	–	–	16,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9

Order example:
Right hand: SRACR1010M06 Left hand: SRACL1616Q08

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



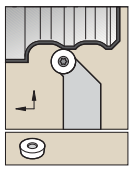


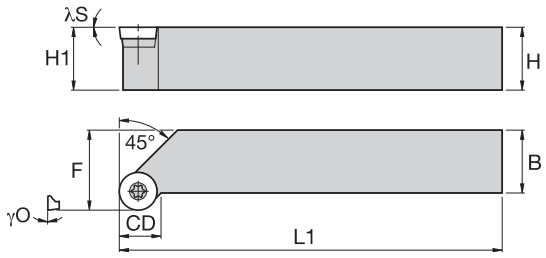
See pages A116-A117 for inserts

NOTE: H = H1

SRDC

catalog number	H	B	F	L1	L2	FA	L1A	CD	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
SRDCN0808L06	8	8	7,0	140	–	–	–	8,0	0.0	0.0	RC..0602M0	–	–	–	MS1153	T7
SRDCN1010M06	10	10	8,0	150	–	–	–	10,0	0.0	0.0	RC..0602M0	–	–	–	MS1153	T7
SRDCN1212N06	12	12	9,0	160	–	–	–	12,0	0.0	0.0	RC..0602M0	–	–	–	MS1153	T7
SRDCN1212N08	12	12	10,0	160	–	–	–	12,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRDCN1616H06	16	16	11,0	100	–	–	–	16,0	0.0	0.0	RC..0602M0	–	–	–	MS1153	T7
SRDCN1616H08	16	16	12,0	100	–	–	–	16,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRDCN1616H10	16	16	13,0	100	–	–	–	16,0	0.0	0.0	RC..10T3M0	SKRN100300	SRS3	3.5 MM	MS1156	T15
SRDCN1616Q08	16	16	12,0	180	–	–	–	16,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRDCN2020K08	20	20	14,0	125	–	–	–	20,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRDCN2020K10	20	20	15,0	125	–	–	–	20,0	0.0	0.0	RC..10T3M0	SKRN100300	SRS3	3.5 MM	MS1156	T15
SRDCN2020K12	20	20	16,0	125	–	–	–	20,0	0.0	0.0	RC..1204M0	SKRN1203M0	SRS3	3.5 MM	MS1156	T15
SRDCN2525M08	25	25	16,5	150	–	–	–	25,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRDCN2525M10	25	25	17,5	150	–	–	–	25,0	0.0	0.0	RC..10T3M0	SKRN100300	SRS3	3.5 MM	MS1156	T15
SRDCN2525M12	25	25	18,5	150	–	–	–	25,0	0.0	0.0	RC..1204M0	SKRN1203M0	SRS3	3.5 MM	MS1156	T15
SRDCN2525M16	25	25	20,5	150	–	–	–	25,0	0.0	0.0	RC..1606M0	SKRN160400	SRS4	4MM		T15





See pages A116-A117 for inserts

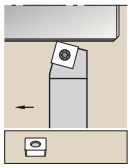
NOTE: H = H1

SRGC

catalog number	H	B	F	L1	L2	FA	L1A	CD	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																
SRGCR1616H06	16	16	20,0	100	–	–	–	7,0	0.0	0.0	RC..0602M0	–	–	–	MS1153	T7
SRGCR1616H10	16	16	20,0	100	–	–	–	7,9	0.0	0.0	RC..10T3M0	SKRN100300	SRS3	3.5 MM	MS1156	T15
SRGCR2020K08	20	20	25,0	125	–	–	–	9,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRGCR2020K10	20	20	25,0	125	–	–	–	9,3	0.0	0.0	RC..10T3M0	SKRN100300	SRS3	3.5 MM	MS1156	T15
SRGCR2525M08	25	25	32,0	150	–	–	–	11,8	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRGCR2525M10	25	25	32,0	150	–	–	–	12,1	0.0	0.0	RC..10T3M0	SKRN100300	SRS3	3.5 MM	MS1156	T15
SRGCR2525M12	25	25	32,0	150	–	–	–	12,7	0.0	0.0	RC..1204M0	SKRN1203M0	SRS3	3.5 MM	MS1156	T15
left hand																
SRGCL1616H06	16	16	20,0	100	–	–	–	7,0	0.0	0.0	RC..0602M0	–	–	–	MS1153	T7
SRGCL1616H10	16	16	20,0	100	–	–	–	7,9	0.0	0.0	RC..10T3M0	SKRN100300	SRS3	3.5 MM	MS1156	T15
SRGCL2020K08	20	20	25,0	125	–	–	–	9,0	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRGCL2525M08	25	25	32,0	150	–	–	–	11,8	0.0	0.0	RC..0803M0	–	–	–	MS1154	T9
SRGCL2525M10	25	25	32,0	150	–	–	–	12,1	0.0	0.0	RC..10T3M0	SKRN100300	SRS3	3.5 MM	MS1156	T15
SRGCL2525M12	25	25	32,0	150	–	–	–	12,7	0.0	0.0	RC..1204M0	SKRN1203M0	SRS3	3.5 MM	MS1156	T15

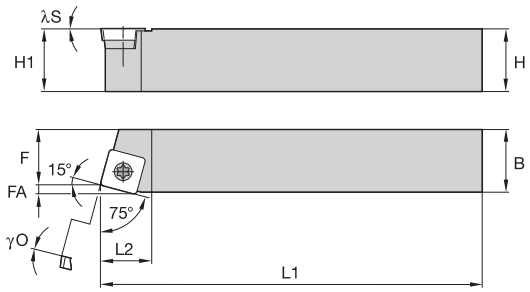
Order example:
Right hand: SRGCR1616H06 Left hand: SRGCL1616H06

SCREW-ON Inserts



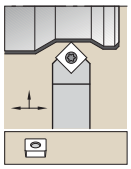
See page A118 for inserts

NOTE: H = H1



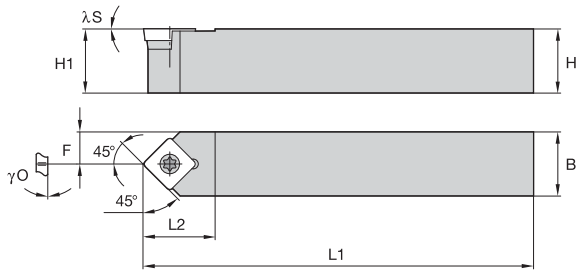
SSBC 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SSBCR1212N09	12	12	11,0	160	16,0	2,2	–	0.0	0.0	SC..09T308	–	–	–	MS1155	T15
SSBCR2020K12	20	20	17,0	125	21,0	3,1	–	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15
SSBCR2525M12	25	25	22,0	150	21,0	3,1	–	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15
left hand															
SSBCL1616H09	16	16	13,0	100	16,0	2,2	–	0.0	0.0	SC..09T308	SKSP343	SRS3	3.5 MM	MS1156	T15



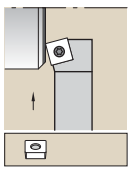
See page A118 for inserts

NOTE: H = H1



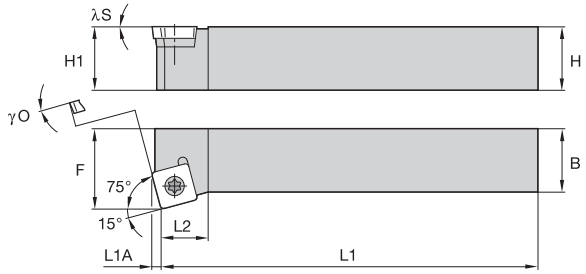
SSDC 45°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
SSDCN1212N09	12	12	6,0	160	18,0	–	–	0.0	0.0	SC..09T308	–	–	–	MS1155	T15
SSDCN1616H09	16	16	8,0	100	18,0	–	–	0.0	0.0	SC..09T308	SKSP343	SRS3	3.5 MM	MS1156	T15
SSDCN2020K09	20	20	10,0	125	18,0	–	–	0.0	0.0	SC..09T308	SKSP343	SRS3	3.5 MM	MS1156	T15



See page A118 for inserts

NOTE: H = H1

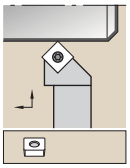


SSKC 75°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SSKCR1616H09	16	16	20,0	100	16,0	–	2,2	0.0	0.0	SC..09T308	SKSP343	SRS3	3.5 MM	MS1156	T15
SSKCR2020K12	20	20	25,0	125	22,0	–	3,1	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15
left hand															
SSKCL2020K12	20	20	25,0	125	22,0	–	3,1	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15

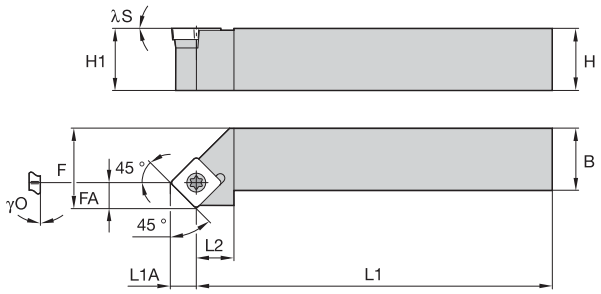
Order example:
Right hand: SSKCR1616H09 Left hand: SSKCL2020K12

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



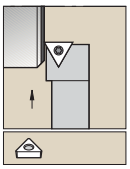
See page A118 for inserts

NOTE: H = H1



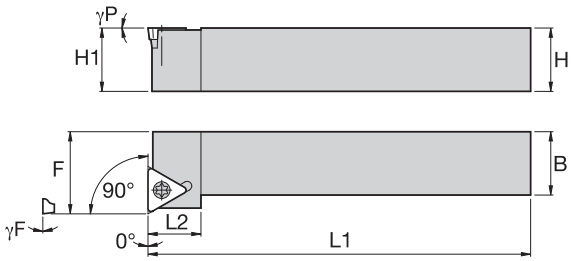
SSSC 45°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SSSCR1212N09	12	12	16,0	160	18,0	6,1	6,1	0.0	0.0	SC..09T308	–	–	–	MS1155	T15
SSSCR1616H09	16	16	20,0	100	18,0	6,1	6,1	0.0	0.0	SC..09T308	SKSP343	SRS3	3.5 MM	MS1156	T15
SSSCR1616H12	16	16	20,0	100	25,0	8,3	8,3	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15
SSSCR2020K12	20	20	25,0	125	25,0	8,3	8,3	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15
SSSCR2525M12	25	25	32,0	150	25,0	8,3	8,3	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15
left hand															
SSSCL1212N09	12	12	16,0	160	18,0	6,1	6,1	0.0	0.0	SC..09T308	–	–	–	MS1155	T15
SSSCL1616H09	16	16	20,0	100	18,0	6,1	6,1	0.0	0.0	SC..09T308	SKSP343	SRS3	3.5 MM	MS1156	T15
SSSCL1616H12	16	16	20,0	100	25,0	8,3	8,3	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15
SSSCL2020K12	20	20	25,0	125	25,0	8,3	8,3	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15
SSSCL2525M12	25	25	32,0	150	25,0	8,3	8,3	0.0	0.0	SC..120408	SKSP453	SRS4	4 MM	MS1158	T15



See pages A124-A125 for inserts

NOTE: H = H1

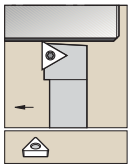


STFC 90°

catalog number	H	B	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
STFCR1616H11	16	16	20,0	100	16,0	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
STFCR1616H16	16	16	20,0	100	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
STFCR2020K16	20	20	25,0	125	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
STFCR2525M16	25	25	32,0	150	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
left hand															
STFCL1010M11	10	10	12,0	150	13,0	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
STFCL1212N11	12	12	16,0	160	13,0	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
STFCL1616H16	16	16	20,0	100	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
STFCL2020K16	20	20	25,0	125	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
STFCL2525M16	25	25	32,0	150	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15

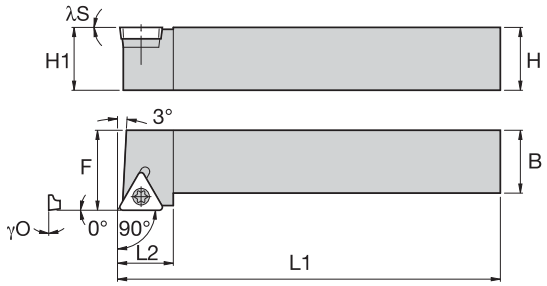
Order example:
Right hand: STFCR1616H16 Left hand: STFCL1616H16

SCREW-ON Inserts



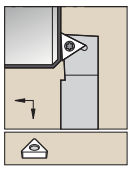
See pages A124-A125 for inserts

NOTE: H = H1



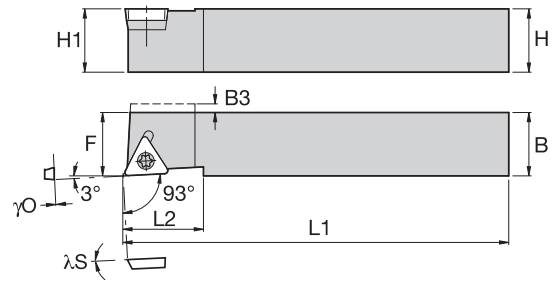
STGC 90°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
STGCR1010M11	10	10	12,0	150	16,0	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
STGCR1212N11	12	12	16,0	160	16,0	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
STGCR1616H11	16	16	20,0	100	20,0	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
STGCR1616H16	16	16	20,0	100	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
STGCR2020K16	20	20	25,0	125	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
STGCR2525M16	25	25	32,0	150	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
left hand															
STGCL1010M11	10	10	12,0	150	16,0	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
STGCL1212N11	12	12	16,0	160	16,0	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
STGCL1616H11	16	16	20,0	100	20,0	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
STGCL1616H16	16	16	20,0	100	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
STGCL2020K16	20	20	25,0	125	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
STGCL2525M16	25	25	32,0	150	20,0	–	–	0.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15



See pages A124-A125 for inserts

NOTE: H = H1

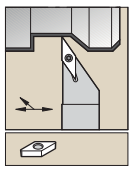


STJC-F 90°

catalog number	H	B	F	L1	L2	FA	L1A	B3	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																
STJCRF1212M11Q	12	12	12,0	150	16,0	–	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7
left hand																
STJCLF1212M11Q	12	12	12,0	150	16,0	–	–	–	0.0	0.0	TC..110204	–	–	–	MS1153	T7

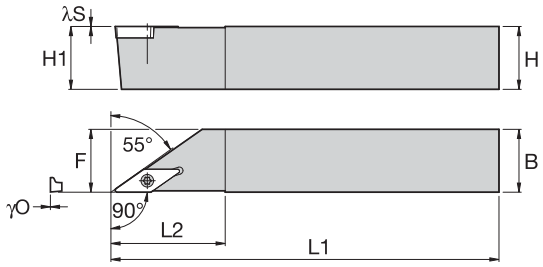
Order example:
Right hand: STJCRF1212M11Q Left hand: STJCLF1212M11Q

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



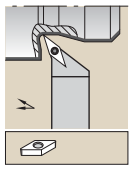
See pages A130-A131 for inserts

NOTE: H = H1



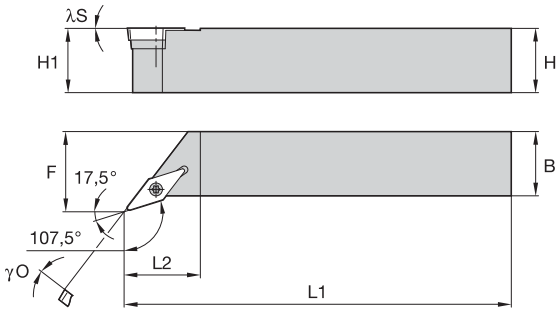
SVAB 90°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SVABR1010M11Q	10	10	10,0	150	22,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVABR1212M11Q	12	12	12,0	150	22,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVABR1616K16Q	16	16	16,0	125	30,0	–	–	0.0	0.0	VB..160408	–	–	–	MS1155	T15
left hand															
SVABL1212M11Q	12	12	12,0	150	22,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVABL1616K16Q	16	16	16,0	125	30,0	–	–	0.0	0.0	VB..160408	–	–	–	MS1155	T15



See pages A130-A131 for inserts

NOTE: H = H1

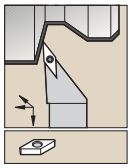


SVHB 107,5°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SVHBR1212N11	12	12	16,0	160	19,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVHBR1616H11	16	16	20,0	100	19,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVHBR2020K11	20	20	25,0	125	26,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVHBR2020K16	20	20	25,0	125	28,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVHBR2525M16	25	25	32,0	150	28,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
left hand															
SVHBL1212N11	12	12	16,0	160	19,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVHBL1616H11	16	16	20,0	100	19,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVHBL2020K11	20	20	25,0	125	26,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVHBL2020K16	20	20	25,0	125	28,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVHBL2525M16	25	25	32,0	150	28,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15

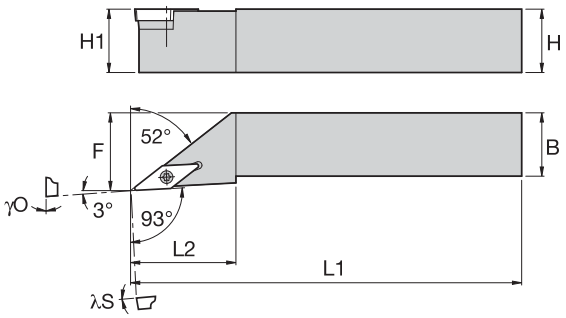
Order example:
Right hand: SVHBR1212N11 Left hand: SVHBL1212N11

SCREW-ON Inserts



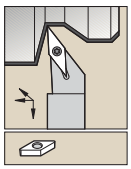
See pages A130-A131 for inserts

NOTE: H = H1



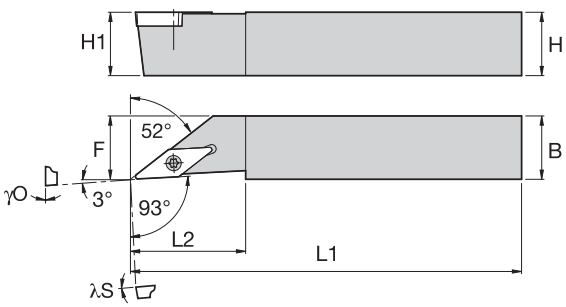
SVJB 93°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SVJBR1212N11	12	12	16,0	160	22,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBR1616H11	16	16	20,0	100	22,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBR1616H16	16	16	20,0	100	35,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVJBR2020K11	20	20	25,0	125	26,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBR2020K16	20	20	25,0	125	35,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVJBR2525M16	25	25	32,0	150	35,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVJBR3225P16	32	25	32,0	170	35,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
left hand															
SVJBL1212N11	12	12	16,0	160	22,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBL1616H11	16	16	20,0	100	22,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBL1616H16	16	16	20,0	100	35,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVJBL2020K11	20	20	25,0	125	26,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBL2020K16	20	20	25,0	125	35,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVJBL2525M16	25	25	32,0	150	35,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVJBL3225P16	32	25	32,0	170	35,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15



See pages A130-A131 for inserts

NOTE: H = H1

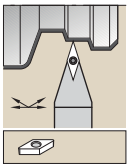


SVJB-F 93°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SVJBRF1010M11Q	10	10	10,0	150	23,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBRF1212M11Q	12	12	12,0	150	23,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBRF1616K16Q	16	16	16,0	125	31,0	–	–	0.0	0.0	VB..160408	–	–	–	MS1155	T15
left hand															
SVJBLF1010M11Q	10	10	10,0	150	23,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBLF1212M11Q	12	12	12,0	150	23,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVJBLF1616K16Q	16	16	16,0	125	31,0	–	–	0.0	0.0	VB..160408	–	–	–	MS1155	T15

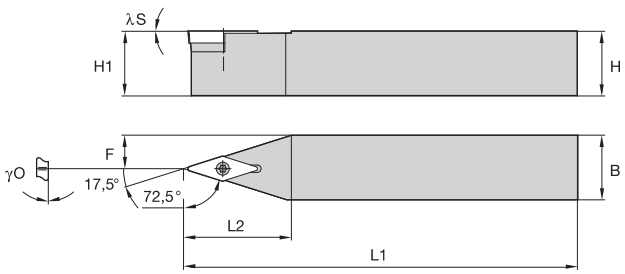
Order example:
Right hand: SVJBRF1010M11Q Left hand: SVJBLF1010M11Q

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



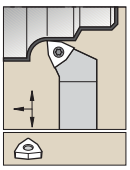
See pages A130-A131 for inserts

NOTE: H = H1



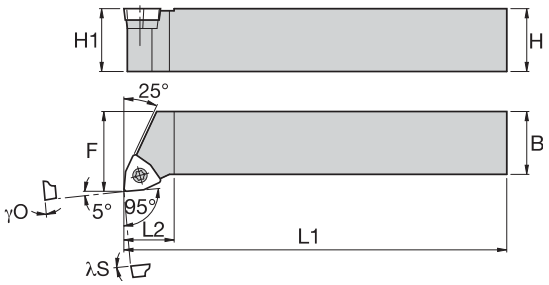
SVVB 72,5°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
SVVBN1212N11	12	12	6,0	160	26,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVVBN1616H11	16	16	8,0	100	26,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVVBN1616H16	16	16	8,0	100	33,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVVBN2020K11	20	20	10,0	125	26,0	–	–	0.0	0.0	VB..110304	–	–	–	MS1153	T7
SVVBN2020K16	20	20	10,0	125	33,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVVBN2525M16	25	25	12,5	150	33,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15
SVVBN3225P16	32	25	12,5	170	33,0	–	–	0.0	0.0	VB..160408	SKVN343	SRS3	3.5 MM	MS1156	T15



See pages A132-A133 for inserts

NOTE: H = H1



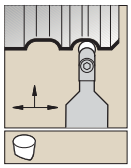
SWLC 95°

catalog number	H	B	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand															
SWLCR1212N06	12	12	16,0	160	16,0	–	–	0.0	0.0	WC..06T308	SKWP343	SRS3	3.5 MM	MS1156	T15
SWLCR2020K06	20	20	25,0	125	16,0	–	–	0.0	0.0	WC..06T308	SKWP343	SRS3	3.5 MM	MS1156	T15
left hand															
SWLCL2020K06	20	20	25,0	125	16,0	–	–	0.0	0.0	WC..06T308	SKWP343	SRS3	3.5 MM	MS1156	T15

Order example:
Right hand: SWLCR1212N06 Left hand: SWLCL2020K06

V-BOTTOM ROUND Toolholders

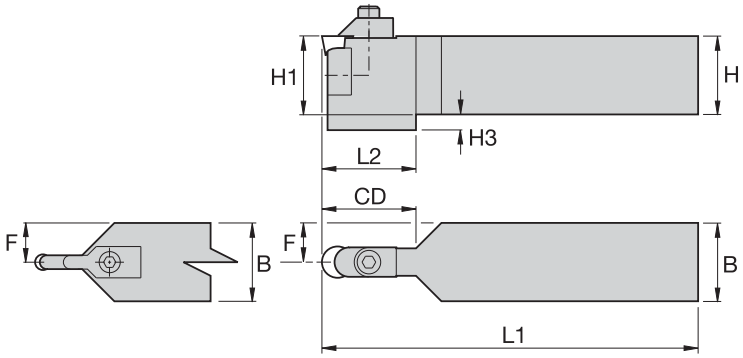
KENDEX™ Positive Inserts



1/4" diameter holder uses this style clamp

See page A90 for inserts

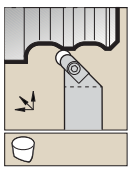
NOTE: H = H1



CRDP

catalog number	H	B	F	L1	L2	CD	H3	gage insert	nest	clamp	clamp screw	Hex (mm)
CRDPN2525M06V	25	25	12,5	151,3	–	19,0	–	RPGX060400E	NST1	CM214	MS1321	2.5 MM
CRDPN3232P09V	32	32	16,0	171,3	–	29,0	–	RPGX090700E	NST2	CM215	CS412	9/64
CRDPN2525M09V	25	25	12,5	151,3	–	29,0	–	RPGX090700E	NST2	CM215	CS412	9/64
CRDPN3232P12V	32	32	16,0	171,3	–	38,0	–	RPGX120700E	NST3	CM216	CS412	9/64
CRDPN2525M12V	25	25	12,5	151,3	–	38,0	6,4	RPGX120700E	NST3	CM216	CS412	9/64
CRDPN3232P15V	32	32	16,0	171,3	–	38,0	6,4	RPGX151000	NST4	CM217	MS1294	6 MM
CRDPN4040R19V	40	40	20,0	201,5	–	38,0	–	RPGX191000	NST5	CM217	MS1294	6 MM
CRDPN3232P19V	32	32	16,0	171,3	–	38,0	6,4	RPGX191000	NST5	CM217	MS1294	6 MM
CRDPN3232P25V	32	32	16,0	171,3	–	38,0	6,4	RPGX251200	NST6	CM218	MS1242	8 MM

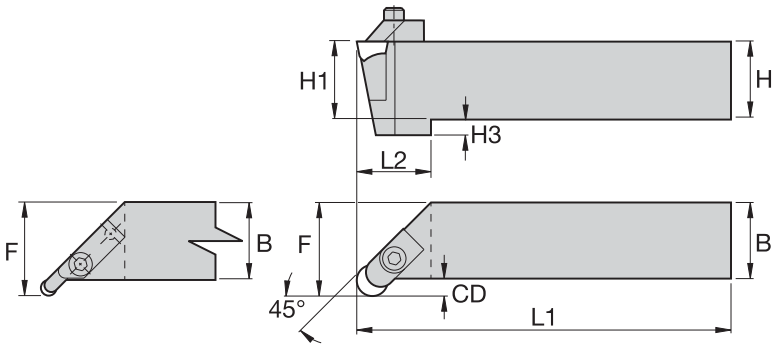
CRDP Toolholders are able to use RPGX and RCGX insert styles.



1/4" diameter holder uses this style clamp

See page A90 for inserts

NOTE: H = H1



CRGP

catalog number	H	B	F	L1	L2	CD	H3	gage insert	nest	clamp	clamp screw	Hex (mm)
right hand												
CRGPR2525M06V	25	25	32,0	151,3	–	–	–	RPGX060400E	NST1	CM214	MS1321	2.5 MM
CRGPR3232P09V	32	32	40,0	171,3	–	–	–	RPGX090700E	NST2	CM215	CS412	9/64
CRGPR2525M09V	25	25	32,0	151,3	–	–	–	RPGX090700E	NST2	CM215	CS412	9/64
CRGPR3232P12V	32	32	40,0	171,3	–	–	–	RPGX120700E	NST3	CM216	CS412	9/64
CRGPR2525M12V	25	25	32,0	151,3	–	–	6,4	RPGX120700E	NST3	CM216	CS412	9/64
CRGPR3232P15V	32	32	40,0	171,3	–	–	6,4	RPGX151000	NST4	CM217	MS1294	6 MM
CRGPR4040R19V	40	40	50,0	201,5	–	–	–	RPGX191000	NST5	CM217	MS1294	6 MM
CRGPR3232P19V	32	32	40,0	171,3	–	–	6,4	RPGX191000	NST5	CM217	MS1294	6 MM
left hand												
CRGPL2525M06V	25	25	32,0	151,3	–	–	–	RPGX060400E	NST1	CM214	MS1321	2.5 MM
CRGPL3232P09V	32	32	40,0	171,3	–	–	–	RPGX090700E	NST2	CM215	CS412	9/64
CRGPL2525M09V	25	25	32,0	151,3	–	–	–	RPGX090700E	NST2	CM215	CS412	9/64
CRGPL3232P12V	32	32	40,0	171,3	–	–	–	RPGX120700E	NST3	CM216	CS412	9/64
CRGPL2525M12V	25	25	32,0	151,3	–	–	6,4	RPGX120700E	NST3	CM216	CS412	9/64
CRGPL3232P15V	32	32	40,0	171,3	–	–	6,4	RPGX151000	NST4	CM217	MS1294	6 MM
CRGPL4040R19V	40	40	50,0	201,5	–	–	–	RPGX191000	NST5	CM217	MS1294	6 MM
CRGPL3232P19V	32	32	40,0	171,3	–	–	6,4	RPGX191000	NST5	CM217	MS1294	6 MM

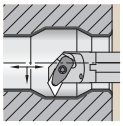
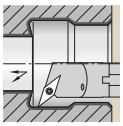
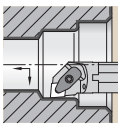
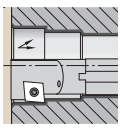
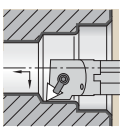
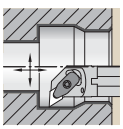
CRGP Toolholders are able to use RPGX and RCGX insert styles.

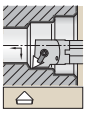
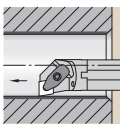
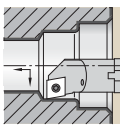
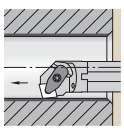
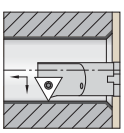
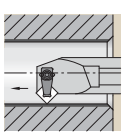
Order example:
Right hand: CRGPR2525M06V Left hand: CRGPL2525M06V

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

Boring Bar Selection Guide

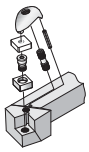
KENNAMETAL

Tool Path	Lead Angle	Clamping Style and Insert Shape		Boring	Back Boring	Profiling	Page
117,5° Lead Angle							
	117,5°	55°	D				
		KENCLAMP™		●		●	–
107,5° Lead Angle							
	107,5°	55°	D				
		KENCLAMP		●	●	●	B73
		SCREW-ON		●	●		B93, B94
		35°	V				
		SCREW-ON		●	●	●	B101
95° Lead Angle							
	95°	80°	C				
		KENLOC™		●		●	B78
		KENCLAMP		●		●	B72
		SCREW-ON		●		●	B89–B93
				●	●	●	–
		KENLEVER™		●		●	B76
		MTS		●		●	B81
		75°	E				
		MTS		●		●	–
		60°	T				
		SCREW-ON		●		●	B99, B100
		80°	W				
		KENLOC		●			B80
		KENCLAMP		●		●	B75
		KENLEVER		●		●	B77
		SCREW-ON		●		●	B101
		MTS		●		●	B83
93° Lead Angle							
	93°	55°	D				
		KENLOC		●	●	●	B78
		KENCLAMP		●	●	●	B93
		SCREW-ON		●		●	B94
		**MTS**		●		●	B81
		35°	V				
		KENLOC		●		●	B80
		KENCLAMP		●	●		B75
		SCREW-ON		●	●	●	B101

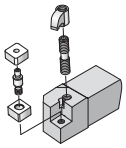
Tool Path	Lead Angle	Clamping Style and Insert Shape		Boring	Back Boring	Profiling	Page
	93°	60°	T				
		KENDEX™		●		●	B85
		80°	W				
		SCREW-ON		●		●	B102
90° Lead Angle							
	90°	80°	C				
		SCREW-ON		●		●	B86–B88
		60°	T				
		KENLOC		●			B79
		**KENCLAMP**		●		●	B74
		KENLEVER		●		●	B77
		KENDEX		●		●	B84
		SCREW-ON		●			B97–B99
				●			
75° Lead Angle							
	75°	80°	C				
		SCREW-ON		●			B88
		90°	S				
		KENLOC		●			B99
		KENCLAMP		●			B74
		KENLEVER		●			B76
		KENDEX		●			B84
		SCREW-ON		●			B96
		MTS		●			–
		60°	T				
		KENDEX		●			–
60° Lead Angle							
	60°	60°	T				
		SCREW-ON		●		●	B100
45° Angle							
	45°	90°	S				
		MTS		●			B82

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

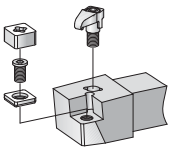
Clamping Styles



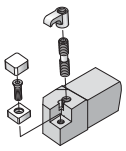
KENCLAMP™ Style
- Suitable for KENLOC inserts.
- Unique clamp design provides rigid clamping.
- Ensures insert repeatability and seating.
- Reduced chatter and improved tool life.



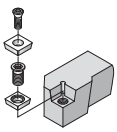
KENLOC™ Style
- Suitable for KENLOC inserts.
- Lock pin and top clamp provide rigid clamping.
- Wide variety of insert styles may be used.
- Tools may be used with or without clamp.



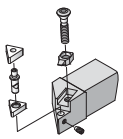
MTS Style
- Proven superior system in holding ceramic inserts rigidly in turning and profiling operations.
- Uses standard insert sizes — 80°, 75°, 55°, Square, and Trigon.
- This system offers the added versatility of using optional hardware to hold standard KENDEX and KENLOC inserts.



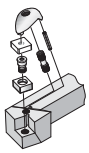
KENDEX™ Style
- Suitable for KENDEX inserts.
- Chipbreaker option available for ceramic inserts.
- Wide variety of insert styles may be used.



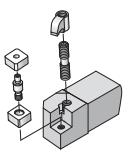
SCREW-ON Style
- Top clamping by screw for SCREW-ON inserts.



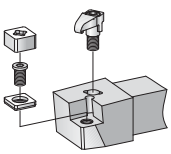
WEDGELOCK™ Style
- Top and hole clamping for inserts with hole.



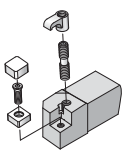
KENCLAMP Style
- Suitable for KENLOC inserts.
- Unique clamp design provides rigid clamping.
- Ensures insert repeatability and seating.
- Reduced chatter and improved tool life.



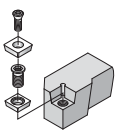
KENLOC Style
- Suitable for KENLOC inserts.
- Lock pin and top clamp provide rigid clamping.
- Wide variety of insert styles may be used.
- Tools may be used with or without clamp.



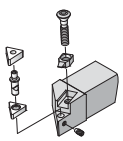
MTS Style
- Proven superior system in holding ceramic inserts rigidly in turning and profiling operations.
- Uses standard insert sizes — 80°, 75°, 55°, Square, and Trigon.
- This system offers the added versatility of using optional hardware to hold standard KENDEX and KENLOC inserts.



KENDEX Style
- Suitable for KENDEX inserts.
- Chipbreaker option available for ceramic inserts.
- Wide variety of insert styles may be used.

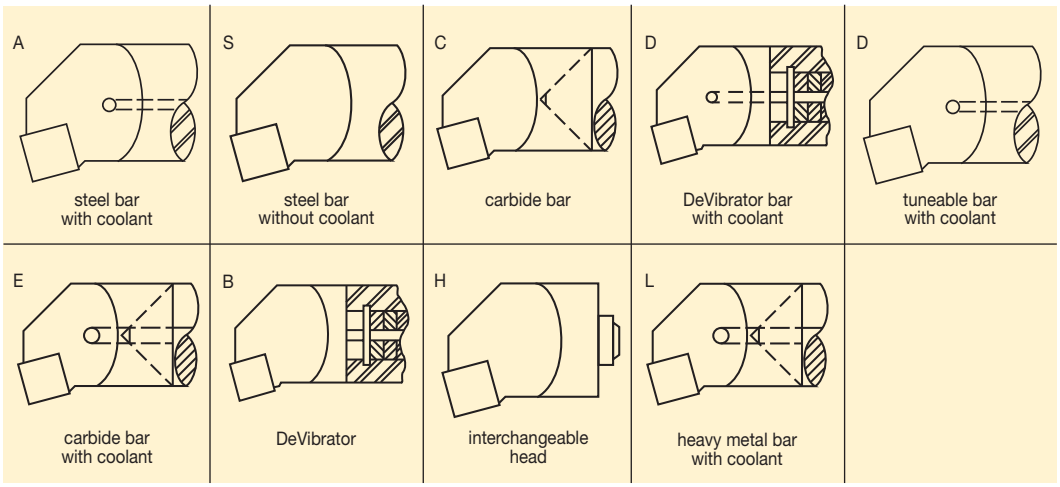


SCREW-ON Style
- Top clamping by screw for SCREW-ON inserts.

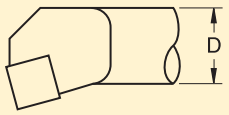


WEDGELOCK Style
- Top and hole clamping for inserts with hole.

Boring Bar and Head Identification System



A two-digit number indicates the bar diameter in mm. If the dimension for the diameter is represented by a one digit number, a 0 (zero) will be used in front of it.
Example: 8mm = 08

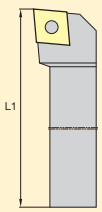


1. Bar Type

2. Bar Diameter

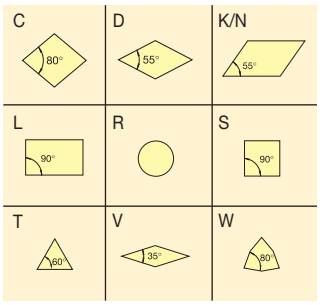
Example: **A** **32** **S**

3. Bar Length

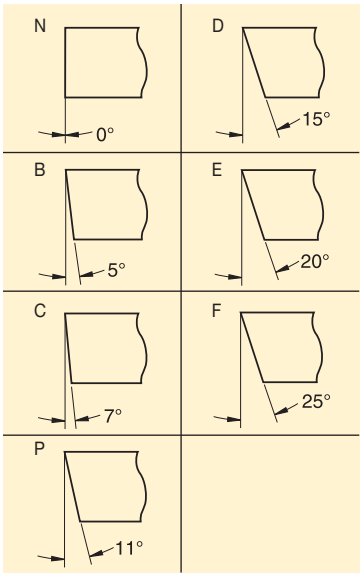


L1	ISO
32	A
40	B
50	C
60	D
70	E
80	F
90	G
100	H
110	J
125	K
140	L
150	M
160	N
170	P
180	Q
200	R
250	S
300	T
350	U
400	V
450	W
500	Y
Special length	X

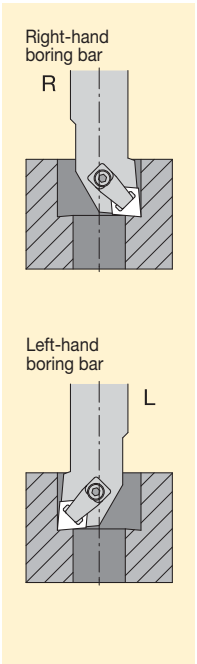
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



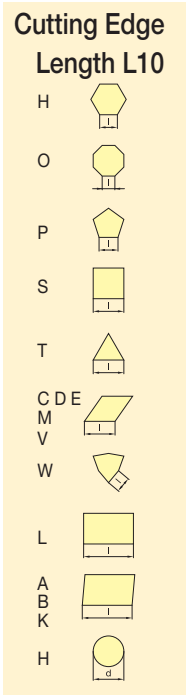
5. Insert Shape



7. Insert Clearance Angle



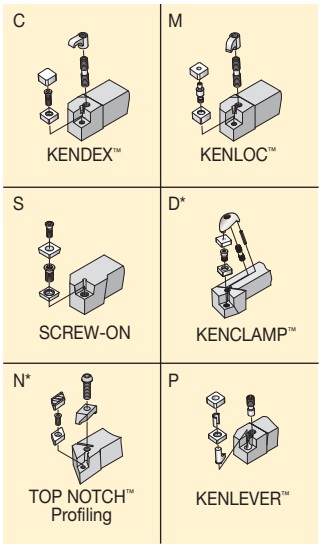
8. Hand of Tool



9. Insert Size

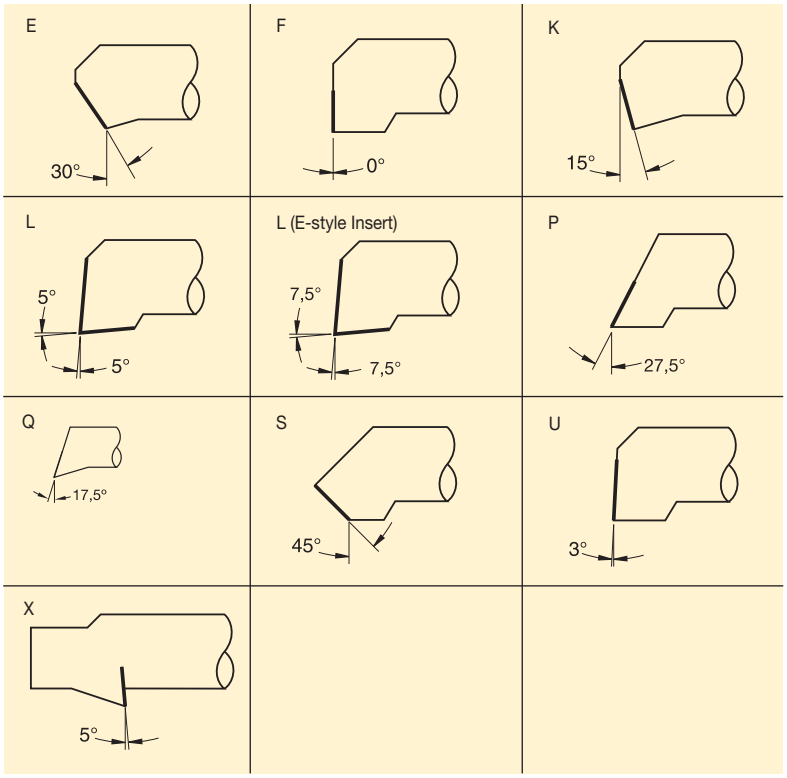
M	S	K	N	R	12	

4. Insert Holding Method



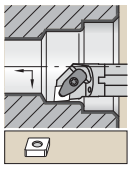
*Kennametal standard only

6. Bar Style or Lead Angle

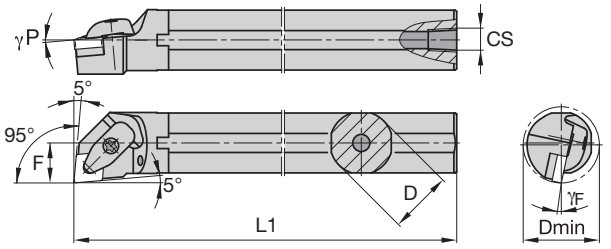


10. Additional Information

M..
MTS clamping system for ceramic and PCBN inserts
KC
KENCLAMP
+
insert thickness

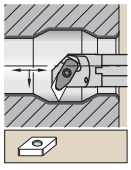


Steel shank with through coolant
See pages A6-A7 for inserts

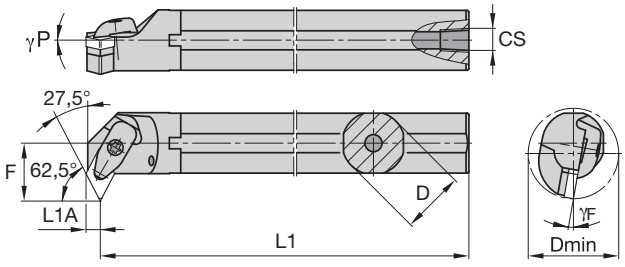


A-DCLN-KC 95°

catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus
right hand																
A25RDCLNR12KC04	25	32	17,0	200	–	1/4-18 NPT	-12.0	-5.0	CN..120408	–	–	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A32SDCLNR12KC04	32	40	22,0	250	–	1/4-18 NPT	-12.0	-5.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDCLNR12KC04	40	50	27,0	300	–	1/4-18 NPT	-9.0	-5.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDCLNR16KC06	40	50	27,0	300	–	1/4-18 NPT	-12.0	-5.0	CN..160612	ICSN533	KMSP515IP	15 IP	CM209	SSP025018M	STCM1115IP	15 IP
left hand																
A25RDCLNL12KC04	25	32	17,0	200	–	1/4-18 NPT	-12.0	-5.0	CN..120408	–	–	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A32SDCLNL12KC04	32	40	22,0	250	–	1/4-18 NPT	-12.0	-5.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDCLNL12KC04	40	50	27,0	300	–	1/4-18 NPT	-9.0	-5.0	CN..120408	ICSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDCLNL16KC06	40	50	27,0	300	–	1/4-18 NPT	-12.0	-5.0	CN..160612	ICSN533	KMSP515IP	15 IP	CM209	SSP025018M	STCM1115IP	15 IP



Steel shank with through coolant
See pages A22-A23 for inserts

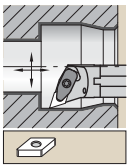


A-DDPN-KC 117,5°

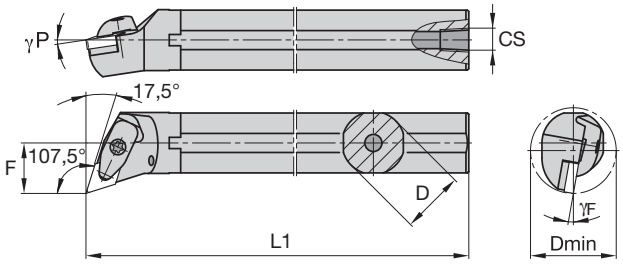
catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus
right hand																
A25RDDPNR11KC04	25	37	22,0	200	4,8	1/4-18 NPT	-10.0	0.0	DN..110408	IDSN322	KMSP315IP	9 IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDDPNR15KC06	32	45	27,0	250	6,5	1/4-18 NPT	-12.0	0.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDDPNR15KC06	40	52	30,0	300	6,6	1/4-18 NPT	-10.0	0.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
left hand																
A25RDDPNL11KC04	25	37	22,0	200	4,8	1/4-18 NPT	-10.0	0.0	DN..110408	IDSN322	KMSP315IP	9 IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDDPNL15KC06	32	45	27,0	250	6,5	1/4-18 NPT	-12.0	0.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDDPNL15KC06	40	52	30,0	300	6,6	1/4-18 NPT	-10.0	0.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP

Order example:
Right hand: A25RDDPNR11KC04 Left hand: A25RDDPNL11KC04

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

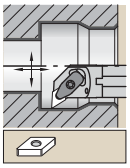


Steel shank with through coolant
See pages A22-A23 for inserts

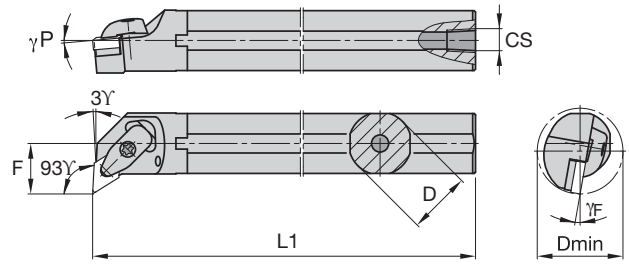


A-DDQN-KC 107,5°

catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus
right hand																
A25RDDQNR11KC04	25	32	17,0	200	–	1/4-18 NPT	-11.0	-7.0	DN..110408	–	–	9 IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDDQNR15KC06	32	40	22,0	250	–	1/4-18 NPT	-12.0	-10.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDDQNR15KC06	40	50	27,0	300	–	1/4-18 NPT	-10.0	-10.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
left hand																
A25RDDQNL11KC04	25	32	17,0	200	–	1/4-18 NPT	-11.0	-7.0	DN..110408	–	–	9 IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDDQNL15KC06	32	40	22,0	250	–	1/4-18 NPT	-12.0	-10.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDDQNL15KC06	40	50	27,0	300	–	1/4-18 NPT	-10.0	-10.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP



Steel shank with through coolant
See pages A22-A23 for inserts



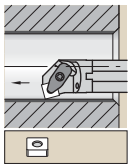
A-DDUN-KC 93°

catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus
right hand																
A25RDDUNR11KC04	25	32	17,0	200	–	1/4-18 NPT	-12.0	-5.0	DN..110408	–	–	9 IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDDUNR11KC04	32	40	22,0	250	–	1/4-18 NPT	-12.0	-5.0	DN..110408	IDSN322	KMSP315IP	9 IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDDUNR15KC06	32	40	22,0	250	–	1/4-18 NPT	-12.0	-6.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDDUNR15KC06	40	50	27,0	300	–	1/4-18 NPT	-9.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A50UDDUNR15KC06	50	63	35,0	350	–	1/4-18 NPT	-7.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
left hand																
A25RDDUNL11KC04	25	32	17,0	200	–	1/4-18 NPT	-12.0	-5.0	DN..110408	–	–	9 IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDDUNL11KC04	32	40	22,0	250	–	1/4-18 NPT	-12.0	-5.0	DN..110408	IDSN322	KMSP315IP	9 IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDDUNL15KC06	32	40	22,0	250	–	1/4-18 NPT	-12.0	-6.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDDUNL15KC06	40	50	27,0	300	–	1/4-18 NPT	-9.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A50UDDUNL15KC06	50	63	35,0	350	–	1/4-18 NPT	-7.0	-5.0	DN..150608	IDSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP

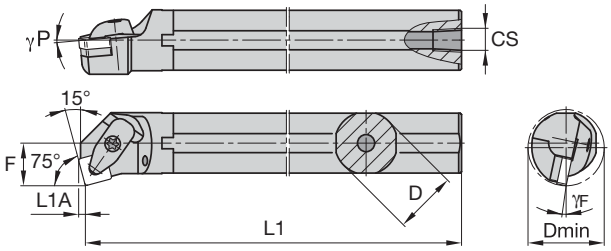
Order example:
Right hand: A25RDDUNR11KC04 Left hand: A25RDDUNL11KC04

KENCLAMP™ Boring Bars

KENLOC™ Inserts

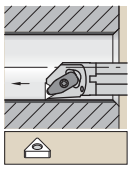


Steel shank with through coolant
See pages A36-A37 for inserts

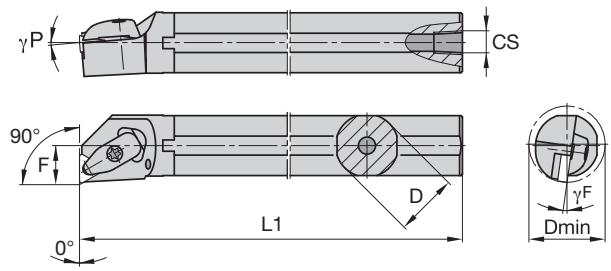


A-DSKN-KC 75°

catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus
right hand																
A25RDSKNR12KC04	25	32	17,0	200	3,0	1/4-18 NPT	-13.0	-15.0	SN..120408	–	–	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A32SDSKNR12KC04	32	40	22,0	250	3,0	1/4-18 NPT	-14.0	-5.0	SN..120408	ISSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDSKNR12KC04	40	50	27,0	300	3,0	1/4-18 NPT	-9.0	-5.0	SN..120408	ISSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDSKNR15KC06	40	50	27,0	300	3,7	1/4-18 NPT	-12.0	-5.0	SN..150612	ISSN533	KMSP515IP	15 IP	CM209	SSP025018M	STCM1115IP	15 IP
A50UDSKNR19KC06	50	63	35,0	350	4,6	1/4-18 NPT	-8.0	-5.0	SN..190612	ISSN633	KMSP625IP	25 IP	CM210	SSP025018M	STCM425IP	25 IP
left hand																
A25RDSKNL12KC04	25	32	17,0	200	3,0	1/4-18 NPT	-13.0	-15.0	SN..120408	–	–	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A32SDSKNL12KC04	32	40	22,0	250	3,0	1/4-18 NPT	-14.0	-5.0	SN..120408	ISSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDSKNL12KC04	40	50	27,0	300	3,0	1/4-18 NPT	-9.0	-5.0	SN..120408	ISSN433	KMSP415IP	15 IP	CM234	SSP025016M	STCM1115IP	15 IP
A40TDSKNL15KC06	40	50	27,0	300	3,7	1/4-18 NPT	-12.0	-5.0	SN..150612	ISSN533	KMSP515IP	15 IP	CM209	SSP025018M	STCM1115IP	15 IP
A50UDSKNL19KC06	50	63	35,0	350	4,6	1/4-18 NPT	-8.0	-5.0	SN..190612	ISSN633	KMSP625IP	25 IP	CM210	SSP025018M	STCM425IP	25 IP



Steel shank with through coolant
See page A48 for inserts

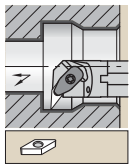


A-DTFN-KC 90°

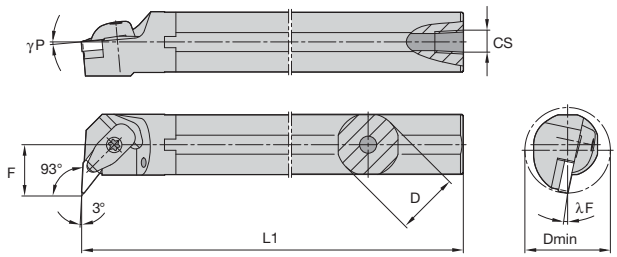
catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus
right hand																
A25RDTFNR16KC04	25	32	17,0	200	–	1/4-18 NPT	-14.0	-5.0	TN..160408	ITSN323	KMSP315IP	9IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDTFNR16KC04	32	40	22,0	250	–	1/4-18 NPT	-12.0	-5.0	TN..160408	ITSN323	KMSP315IP	9IP	CM234	SSP025016M	STCM1115IP	9 IP
A40TDTFNR22KC04	40	50	27,0	300	–	1/4-18 NPT	-10.0	-5.0	TN..220408	ITSN433	KMSP415IP	15IP	CM234	SSP025016M	STCM1115IP	15 IP
left hand																
A25RDTFNL16KC04	25	32	17,0	200	–	1/4-18 NPT	-14.0	-5.0	TN..160408	ITSN323	KMSP315IP	9IP	CM234	SSP025016M	STCM1115IP	9 IP
A32SDTFNL16KC04	32	40	22,0	250	–	1/4-18 NPT	-12.0	-5.0	TN..160408	ITSN323	KMSP315IP	9IP	CM234	SSP025016M	STCM1115IP	9 IP

Order example:
Right hand: A25RDTFNR16KC04 Left hand: A25RDTFNL16KC04

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

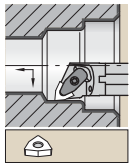


Steel shank with through coolant
See pages A58-A59 for inserts

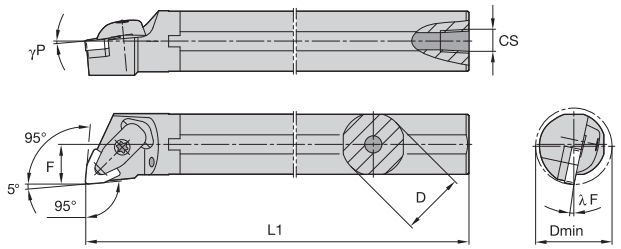


A-DVUN-KC 93°

catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus
right hand																
A32SDVUNR16KC04	32	40	22,0	250	–	1/4-18 NPT	-9.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP
A40TDVUNR16KC04	40	50	27,0	300	–	1/4-18 NPT	-8.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP
left hand																
A32SDVUNL16KC04	32	40	22,0	250	–	1/4-18 NPT	-9.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP
A40TDVUNL16KC04	40	50	27,0	300	–	1/4-18 NPT	-8.0	-5.0	VN..160408	IVSN322	KMSP315IP	15 IP	CM215	SSP025016M	STCM1115IP	15 IP



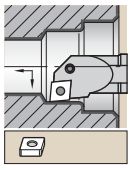
Steel shank with through coolant
See pages A66-A67 for inserts



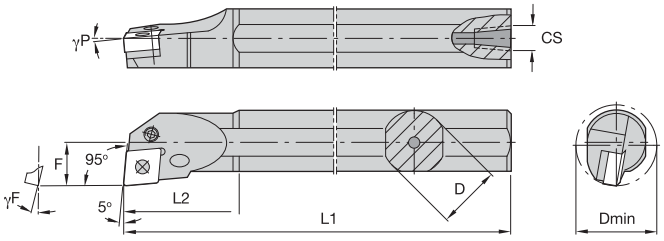
A-DWLN-KC 95°

catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Torx plus	clamp	slotted pin	clamp screw	Torx plus
right hand																
A25RDWLNR06KC04	25	32	17,0	200	–	1/4-18 NPT	-14.0	-5.0	WN..060408	–	–	–	CM234	SSP025016M	STCM1115IP	15 IP
A25RDWLNR08KC04	25	32	17,0	200	–	1/4-18 NPT	-12.0	-5.0	WN..080408	–	–	–	CM234	SSP025016M	STCM1115IP	15IP
A32SDWLNR08KC04	32	40	22,0	250	–	1/4-18 NPT	-14.0	-5.0	WN..080408	IWSN433	KMSP415IP	15IP	CM234	SSP025016M	STCM1115IP	15IP
A40TDWLNR08KC04	40	50	27,0	300	–	1/4-18 NPT	-14.0	-5.0	WN..080408	IWSN433	KMSP415IP	15IP	CM234	SSP025016M	STCM1115IP	15IP
left hand																
A25RDWLNL06KC04	25	32	17,0	200	–	1/4-18 NPT	-14.0	-5.0	WN..060408	–	–	–	CM234	SSP025016M	STCM1115IP	15 IP
A25RDWLNL08KC04	25	32	17,0	200	–	1/4-18 NPT	-12.0	-5.0	WN..080408	–	–	–	CM234	SSP025016M	STCM1115IP	15IP
A32SDWLNL08KC04	32	40	22,0	250	–	1/4-18 NPT	-14.0	-5.0	WN..080408	IWSN433	KMSP415IP	15IP	CM234	SSP025016M	STCM1115IP	15IP
A40TDWLNL08KC04	40	50	27,0	300	–	1/4-18 NPT	-14.0	-5.0	WN..080408	IWSN433	KMSP415IP	15IP	CM234	SSP025016M	STCM1115IP	15IP

Order example:
Right hand: A25RDWLNR06KC04 Left hand: A25RDWLNL06KC04

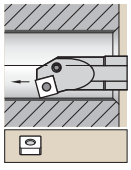


Steel shank with through coolants
See pages A6-A7 for inserts

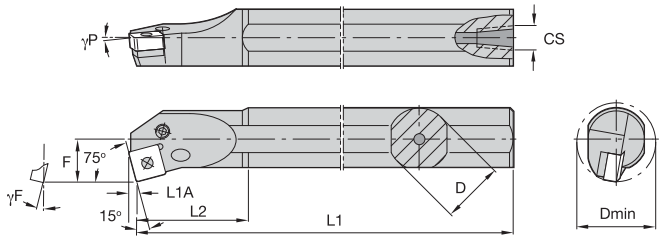


A-PCLN 95°

catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
A25TPCLNR12	25	32	17,0	300	40	–	1/4-18 NPT	-12.0	-5.0	CN..120408	–	–	–	511.022	514.122	10 IP
A32UPCLNR12	32	40	22,0	350	50	–	1/4-18 NPT	-10.0	-5.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
A40VPCLNR12	40	50	27,0	400	55	–	1/4-18 NPT	-10.0	-5.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
A32UPCLNR16	32	50	22,0	350	50	–	1/4-18 NPT	-10.0	-5.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
A40VPCLNR16	40	50	27,0	400	55	–	1/4-18 NPT	-11.0	-5.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
left hand																
A25TPCLNL12	25	32	17,0	300	40	–	1/4-18 NPT	-12.0	-5.0	CN..120408	–	–	–	511.022	514.122	10 IP
A32UPCLNL12	32	40	22,0	350	50	–	1/4-18 NPT	-10.0	-5.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
A40VPCLNL12	40	50	27,0	400	55	–	1/4-18 NPT	-10.0	-5.0	CN..120408	512.112	513.023	515.018	511.023	514.123	15 IP
A32UPCLNL16	32	50	22,0	350	50	–	1/4-18 NPT	-10.0	-5.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP
A40VPCLNL16	40	50	27,0	400	55	–	1/4-18 NPT	-11.0	-5.0	CN..160612	512.117	513.025	515.022	511.025	514.125	15 IP



Steel shank with through coolants
See pages A36-A37 for inserts

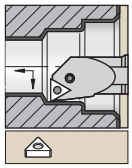


A-PSKN 75°

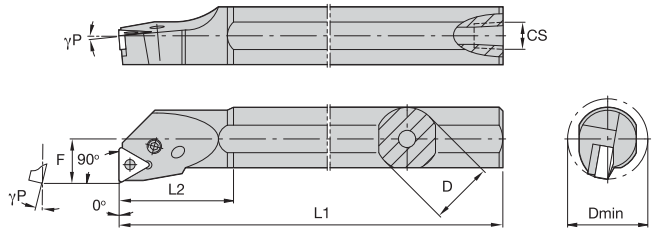
catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
A25TPSKNR12	25	30	17,0	300	43	3,030	1/4-18 NPT	-10.0	-5.0	SN..120408	–	–	–	511.022	514.122	10 IP
A32UPSKNR12	32	40	22,0	350	52	3,030	1/4-18 NPT	-10.0	-5.0	SN..120408	512.063	513.023	515.018	511.023	514.124	15 IP
A40VPSKNR12	40	48	27,0	400	57	3,030	1/4-18 NPT	-10.0	-5.0	SN..120408	512.063	513.023	515.018	511.023	514.124	15 IP
left hand																
A25TPSKNL12	25	30	17,0	300	43	3,030	1/4-18 NPT	-10.0	-5.0	SN..120408	–	–	–	511.022	514.122	10 IP
A32UPSKNL12	32	40	22,0	350	52	3,030	1/4-18 NPT	-10.0	-5.0	SN..120408	512.063	513.023	515.018	511.023	514.124	15 IP

Order example:
Right hand: A25TPSKNR12 Left hand: A25TPSKNL12

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

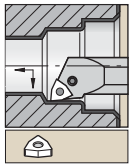


Steel shank with through coolants
See page A48 for inserts

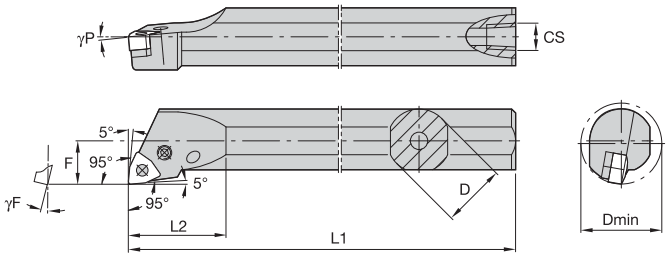


A-PTFN 90°

catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
A16RPTFNR11	16	20	11,0	200	28	–	1/8-27 NPT	-14.0	-5.0	TN..110304	–	–	–	511.011	514.111	8 IP
A20SPTFNR11	20	25	13,0	250	30	–	1/8-27 NPT	-12.0	-5.0	TN..110304	–	–	–	511.011	514.111	8 IP
A25TPTFNR16	25	32	17,0	300	40	–	1/4-18 NPT	-12.0	-5.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
A32UPTFNR16	32	40	22,0	350	50	–	1/4-18 NPT	-10.0	-5.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
A40VPTFNR22	40	48	27,0	400	55	–	1/4-18 NPT	-10.0	-5.0	TN..220408	512.023	513.023	515.018	511.023	514.123	15 IP
left hand																
A16RPTFNL11	16	20	11,0	200	28	–	1/8-27 NPT	-14.0	-5.0	TN..110304	–	–	–	511.011	514.111	8 IP
A20SPTFNL11	20	25	13,0	250	30	–	1/8-27 NPT	-12.0	-5.0	TN..110304	–	–	–	511.011	514.111	8 IP
A25TPTFNL16	25	32	17,0	300	40	–	1/4-18 NPT	-12.0	-5.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
A32UPTFNL16	32	40	22,0	350	50	–	1/4-18 NPT	-10.0	-5.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
A40VPTFNL22	40	48	27,0	400	55	–	1/4-18 NPT	-10.0	-5.0	TN..220408	512.023	513.023	515.018	511.023	514.123	15 IP



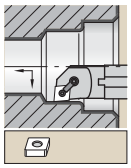
Steel shank with through coolants
See pages A66-A67 for inserts



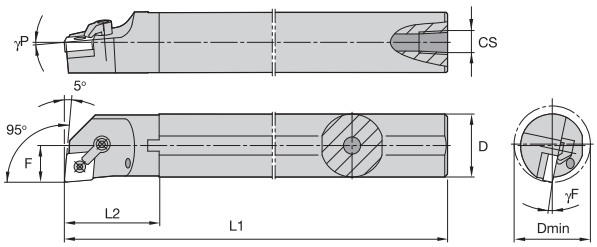
A-PWLN 95°

catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	shim pin	punch pin	lever	lever screw	Torx plus
right hand																
A16RPWLNR06	16	27	11,0	200	32	–	1/8-27 NPT	-12.0	-5.0	WN..060404	–	–	–	511.030	514.112	8 IP
A20SPWLNR06	20	25	13,0	250	32	–	1/8-27 NPT	-14.0	-5.0	WN..060408	–	–	–	511.030	514.112	8 IP
A25RPWLNR08	25	32	17,0	200	40	–	1/4-18 NPT	-12.0	-5.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
A32SPWLNR08	32	40	22,0	250	50	–	1/4-18 NPT	-10.0	-5.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
A40TPWLNR08	40	50	27,0	300	55	–	1/4-18 NPT	-8.0	-5.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
left hand																
A16RPWLNL06	16	27	11,0	200	32	–	1/8-27 NPT	-12.0	-5.0	WN..060404	–	–	–	511.030	514.112	8 IP
A20SPWLNL06	20	25	13,0	250	32	–	1/8-27 NPT	-14.0	-5.0	WN..060408	–	–	–	511.030	514.112	8 IP
A25RPWLNL08	25	32	17,0	200	40	–	1/4-18 NPT	-12.0	-5.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
A32SPWLNL08	32	40	22,0	250	50	–	1/4-18 NPT	-10.0	-5.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP
A40TPWLNL08	40	50	27,0	300	55	–	1/4-18 NPT	-8.0	-5.0	WN..080408	512.135	513.023	515.018	511.023	514.123	15 IP

Order example:
Right hand:A16RPWLNR06 Left hand:A16RPWLNL06

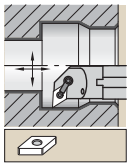


Steel shank with through coolant
See pages A6-A7 for inserts

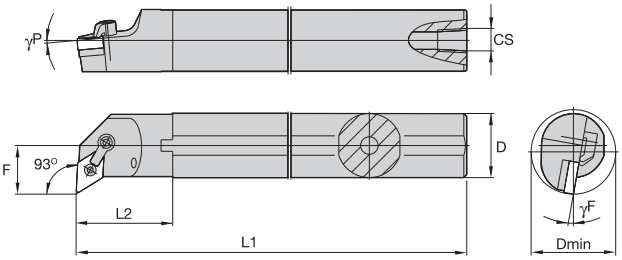


A-MCLN 95°

catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
A25RMCLNR09	25	32,0	17,0	200	40	–	1/4-18 NPT	-12.0	-5.0	CN..090308	–	KLM33	2 MM	CKM6	STCM5	2.5 MM
A25RMCLNR12	25	32,0	17,0	200	33	–	1/4-18 NPT	-12.0	-5.0	CN..120408	–	KLM43	2 MM	CKM21	STCM11	3 MM
A32SMCLNR12	32	40,0	22,0	250	–	–	1/4-18 NPT	-14.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM11	3 MM
A40TMCLNR12	40	50,0	27,0	300	–	–	1/4-18 NPT	-12.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM11	3 MM
A40TMCLNR16	40	50,0	27,0	300	–	–	1/4-18 NPT	-11.0	-5.0	CN..160608	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
A50UMCLNR12	50	63,0	35,0	350	–	–	1/4-18 NPT	-12.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM11	3 MM
A50UMCLNR16	50	63,0	35,0	350	–	–	1/4-18 NPT	-12.0	-5.0	CN..160608	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
A50UMCLNR19	50	63,0	35,0	350	–	–	1/4-18 NPT	-12.0	-5.0	CN..190608	ICSN633	KLM68	4 MM	CKM12	STCM4	4 MM
left hand																
A25RMCLNL12	25	32,0	17,0	200	33	–	1/4-18 NPT	-12.0	-5.0	CN..120408	–	KLM43	2 MM	CKM21	STCM11	3 MM
A32SMCLNL12	32	40,0	22,0	250	–	–	1/4-18 NPT	-14.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM11	3 MM
A40TMCLNL12	40	50,0	27,0	300	–	–	1/4-18 NPT	-12.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM11	3 MM
A40TMCLNL16	40	50,0	27,0	300	–	–	1/4-18 NPT	-11.0	-5.0	CN..160608	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
A50UMCLNL12	50	63,0	35,0	350	–	–	1/4-18 NPT	-12.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM11	3 MM
A50UMCLNL16	50	63,0	35,0	350	–	–	1/4-18 NPT	-12.0	-5.0	CN..160608	ICSN533	KLM58	3 MM	CKM21	STCM20	3 MM
A50UMCLNL19	50	63,0	35,0	350	–	–	1/4-18 NPT	-12.0	-5.0	CN..190608	ICSN633	KLM68	4 MM	CKM12	STCM4	4 MM



Steel shank with through coolant
See pages A22-A23 for inserts

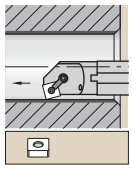


A-MDUN 93°

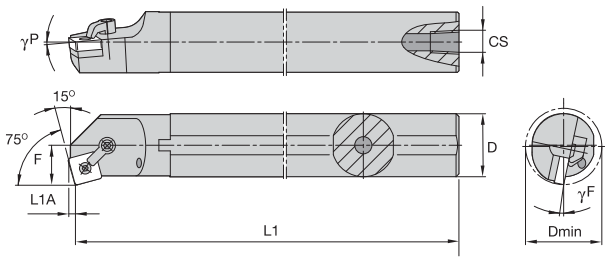
catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
A25RMDUNR11	25	32,0	17,0	200	40	–	1/4-18 NPT	-14.0	-5.0	DN..110408	–	KLM33L	2 MM	CKM7	STCM5	2.5 MM
A25RMDUNR15	25	32,0	17,0	200	–	–	1/4-18 NPT	-14.0	-5.0	DN..150608	IDSN322	KLM46	2.5 MM	CKM22	STCM11	3 MM
A32SMDUNR11	32	40,0	22,0	250	50	–	1/4-18 NPT	-12.0	-5.0	DN..110408	IDSN322	KLM34L	2 MM	CKM7	STCM5	2.5 MM
A32SMDUNR15	32	40,0	22,0	250	–	–	1/4-18 NPT	-12.0	-6.0	DN..150608	IDSN432	KLM46	2.5 MM	CKM22	STCM20	3 MM
A40TMDUNR15	40	50,0	27,0	300	–	–	1/4-18 NPT	-9.0	-5.0	DN..150608	IDSN432	KLM46	2.5 MM	CKM22	STCM20	3 MM
A50UMDUNR15	50	63,0	35,0	350	–	–	1/4-18 NPT	-7.0	-5.0	DN..150608	IDSN432	KLM46	2.5 MM	CKM22	STCM20	3 MM
left hand																
A25RMDUNL11	25	32,0	17,0	200	40	–	1/4-18 NPT	-14.0	-5.0	DN..110408	–	KLM33L	2 MM	CKM7	STCM5	2.5 MM
A25RMDUNL15	25	32,0	17,0	200	–	–	1/4-18 NPT	-14.0	-5.0	DN..150608	IDSN322	KLM46	2.5 MM	CKM22	STCM11	3 MM
A32SMDUNL11	32	40,0	22,0	250	50	–	1/4-18 NPT	-12.0	-5.0	DN..110408	IDSN322	KLM34L	2 MM	CKM7	STCM5	2.5 MM
A32SMDUNL15	32	40,0	22,0	250	–	–	1/4-18 NPT	-12.0	-6.0	DN..150608	IDSN432	KLM46	2.5 MM	CKM22	STCM20	3 MM
A40TMDUNL15	40	50,0	27,0	300	–	–	1/4-18 NPT	-9.0	-5.0	DN..150608	IDSN432	KLM46	2.5 MM	CKM22	STCM20	3 MM
A50UMDUNL15	50	63,0	35,0	350	–	–	1/4-18 NPT	-7.0	-5.0	DN..150608	IDSN432	KLM46	2.5 MM	CKM22	STCM20	3 MM

Order example:
Right hand: A25RMDUNR11 Left hand: A25RMDUNL11

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

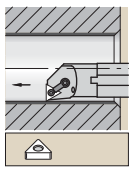


Steel shank with through coolant
See pages A36-A37 for inserts

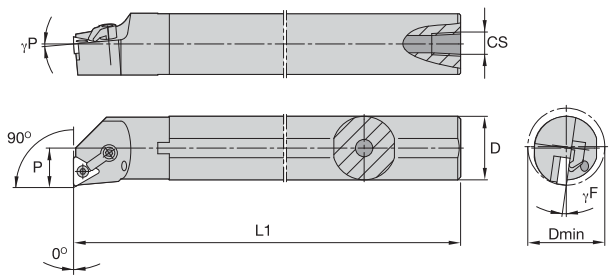


A-MSKN 75°

catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
A25RMSKNR12	25	32,0	17,0	200	–	3,1	1/4-18 NPT	-14.0	-5.0	SN..120408	–	KLM43	2 MM	CKM21	STCM11	3 MM
A32SMSKNR12	32	40,0	22,0	250	–	3,1	1/4-18 NPT	-14.0	-5.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
A40TMSKNR12	40	50,0	27,0	300	–	3,1	1/4-18 NPT	-10.0	-5.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
A40TMSKNR15	40	50,0	27,0	300	–	4,1	1/4-18 NPT	-14.0	-5.0	SN..150608	ISSN533	KLM58	3 MM	CKM21	STCM20	3 MM
A50UMSKNR19	50	63,0	35,0	350	–	4,6	1/4-18 NPT	-12.0	-5.0	SN..190608	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM
left hand																
A25RMSKNL12	25	32,0	17,0	200	–	3,1	1/4-18 NPT	-14.0	-5.0	SN..120408	–	KLM43	2 MM	CKM21	STCM11	3 MM
A32SMSKNL12	32	40,0	22,0	250	–	3,1	1/4-18 NPT	-14.0	-5.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
A40TMSKNL12	40	50,0	27,0	300	–	3,1	1/4-18 NPT	-10.0	-5.0	SN..120408	ISSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
A40TMSKNL15	40	50,0	27,0	300	–	4,1	1/4-18 NPT	-14.0	-5.0	SN..150608	ISSN533	KLM58	3 MM	CKM21	STCM20	3 MM
A50UMSKNL19	50	63,0	35,0	350	–	4,6	1/4-18 NPT	-12.0	-5.0	SN..190608	ISSN633	KLM68	4 MM	CKM12	STCM4	4 MM



Steel shank with through coolant
See page A48 for inserts

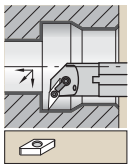


A-MTFN 90°

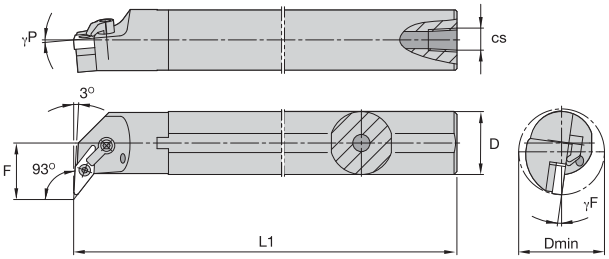
catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
A25RMTFNR16	25	32,0	17,0	200	–	–	1/4-18 NPT	-14.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
A32SMTFNR16	32	40,0	22,0	250	–	–	1/4-18 NPT	-12.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
A40TMTFNR16	40	50,0	27,0	300	–	–	1/4-18 NPT	-9.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
A50UMTFNR22	50	63,0	35,0	350	–	–	1/4-18 NPT	-7.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM
left hand																
A25RMTFNL16	25	32,0	17,0	200	–	–	1/4-18 NPT	-14.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
A32SMTFNL16	32	40,0	22,0	250	–	–	1/4-18 NPT	-12.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
A40TMTFNL16	40	50,0	27,0	300	–	–	1/4-18 NPT	-9.0	-5.0	TN..160408	ITSN322	KLM34L	2 MM	CKM21	STCM20	3 MM
A50UMTFNL22	50	63,0	35,0	350	–	–	1/4-18 NPT	-7.0	-5.0	TN..220408	ITSN433	KLM46	2.5 MM	CKM9	STCM4	4 MM

Order example:
Right hand: A25RMTFNR16 Left hand: A25RMTFNL16

KENLOC Inserts

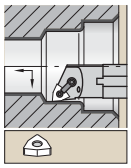


Steel shank with through coolant
See pages A58-A59 for inserts

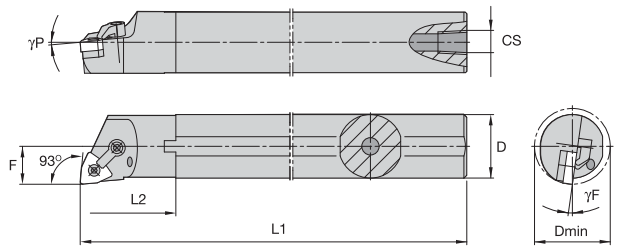


A-MVUN 93°

catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
A25RMVUNR16	25	37,0	22,0	200	–	–	1/4-18 NPT	-12.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
A32SMVUNR16	32	40,0	22,0	250	–	–	1/4-18 NPT	-12.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
left hand																
A25RMVUNL16	25	37,0	22,0	200	–	–	1/4-18 NPT	-12.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM
A32SMVUNL16	32	40,0	22,0	250	–	–	1/4-18 NPT	-12.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM31	STCM20	3 MM



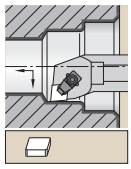
Steel shank with through coolant
See pages A66-A67 for inserts



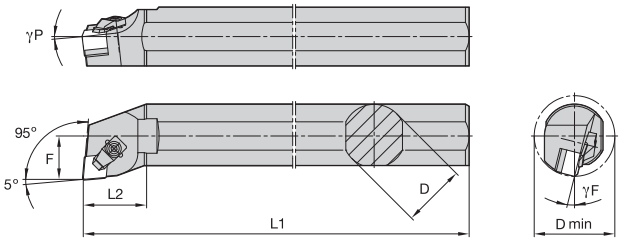
A-MWLN 95°

catalog number	D	D min	F	L1	L2	L1A	CS	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
A25RMWLNR06	25	32,0	17,0	200	–	–	1/4-18 NPT	-12.0	-5.0	WN..060408	–	KLM33L	2 MM	CKM6	STCM5	2.5 MM
A25RMWLNR08	25	32,0	17,0	200	40	–	1/4-18 NPT	-12.0	-5.0	WN..080408	–	KLM43	2 MM	CKM20	STCM11	3 MM
A32SMWLNR06	32	40,0	22,0	250	–	–	1/4-18 NPT	-10.0	-5.0	WN..060408	IWSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
A32SMWLNR08	32	40,0	22,0	250	50	–	1/4-18 NPT	-14.0	-5.0	WN..080408	IWSN433	KLM46	2.5 MM	CKM20	STCM20	3 MM
A40TMWLNR08	40	50,0	27,0	300	55	–	1/4-18 NPT	-12.0	-5.0	WN..080408	IWSN433	KLM46	2.5 MM	CKM20	STCM20	3 MM
left hand																
A25RMWLNL06	25	32,0	17,0	200	–	–	1/4-18 NPT	-12.0	-5.0	WN..060408	–	KLM33L	2 MM	CKM6	STCM5	2.5 MM
A25RMWLNL08	25	32,0	17,0	200	40	–	1/4-18 NPT	-12.0	-5.0	WN..080408	–	KLM43	2 MM	CKM20	STCM11	3 MM
A32SMWLNL06	32	40,0	22,0	250	–	–	1/4-18 NPT	-10.0	-5.0	WN..060408	IWSN322	KLM34L	2 MM	CKM6	STCM5	2.5 MM
A32SMWLNL08	32	40,0	22,0	250	50	–	1/4-18 NPT	-14.0	-5.0	WN..080408	IWSN433	KLM46	2.5 MM	CKM20	STCM20	3 MM
A40TMWLNL08	40	50,0	27,0	300	55	–	1/4-18 NPT	-12.0	-5.0	WN..080408	IWSN433	KLM46	2.5 MM	CKM20	STCM20	3 MM

Order example:
Right hand: A25RMWLNR06 Left hand: A25RMWLNL06



Steel shank with through coolant
See pages A74-A89 for inserts



S-CCLN 95°

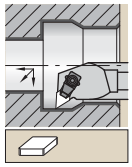
MX

catalog number	D	D min	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
S32SCCLNR12MX7	32	40	22,0	251	42,8	–	–	-14.0	-5.0	CNGX120708	–	–	–	551.316	4 MM
S40T-CCLNR12-MX7	40	55	27,0	300	40,0	–	–	-14.0	-6.0	CN.X120708	552.221	554.252	2.5 MM	551.316	4 MM
left hand															
S32SCCLNL12MX7	32	40	22,0	251	42,8	–	–	-14.0	-5.0	CNGX120708	–	–	–	551.316	4 MM
S40T-CCLNL12-MX7	40	55	27,0	300	40,0	–	–	-14.0	-6.0	CN.X120708	552.221	554.252	2.5 MM	551.316	4 MM

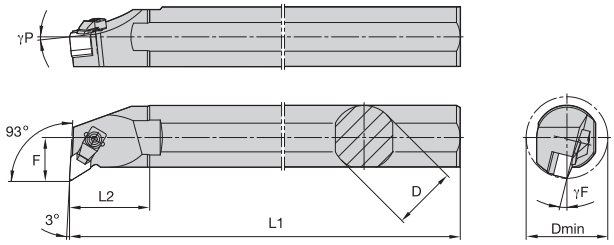
MN

catalog number	D	D min	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
S40T-CCLNR12-MN4	40	55	27,0	300	40,0	–	–	-13.4	-7.4	CN.N120408	552.220	554.252	2.5 MM	551.317	4 MM
S40T-CCLNR12-MN7	40	55	27,0	300	40,0	–	–	-13.4	-7.4	CN.N120708	552.221	554.252	2.5 MM	551.317	4 MM
left hand															
S40T-CCLNL12-MN4	40	55	27,0	300	40,0	–	–	-13.4	-7.4	CN.N120408	552.220	554.252	2.5 MM	551.317	4 MM
S40T-CCLNL12-MN7	40	55	27,0	300	40,0	–	–	-13.4	-7.4	CN.N120708	552.221	554.252	2.5 MM	551.317	4 MM

NOTE: MN clamping version is shown
Basic holder may be ordered separately:
S40T-V.CLN R/L 12



Steel shank with through coolant
See pages A76-A77 for inserts



S-CDUN 93°

MX

catalog number	D	D min	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
S40T-CDUNR15-MX7	40	55	27,0	300	50,0	–	–	-14.0	-6.0	DN.X150708	552.228	554.252	2.5 MM	551.332	4 MM
left hand															
S40T-CDUNL15-MX7	40	55	27,0	300	50,0	–	–	-14.0	-6.0	DN.X150708	552.228	554.252	2.5 MM	551.332	4 MM

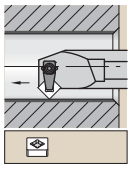
MN

catalog number	D	D min	F	L1	L2	FA	L1A	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
S40T-CDUNR15-MN7	40	55	27,0	300	50,0	–	–	-14.0	-6.0	DN.N150708	552.228	554.252	2.5 MM	557.111	551.317	4 MM
left hand																
S40T-CDUNL15-MN7	40	55	27,0	300	50,0	–	–	-14.0	-6.0	DN.N150708	552.228	554.252	2.5 MM	557.111	551.317	4 MM

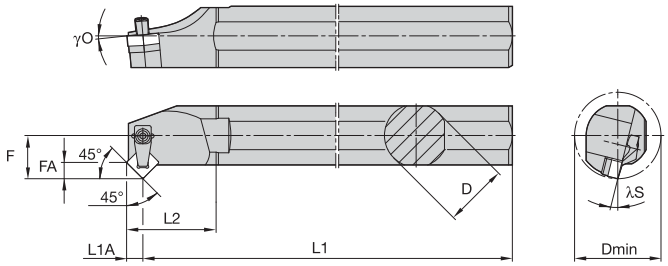
NOTE: MN clamping version is shown
Basic holder may be ordered separately:
S40T-V. DUN R/L 12
S40T-V. DUN R/L 15

Order example:
Right hand: S40T-CDUNR15MN7 Left hand: S40T-CDUNL15MN7

-MX, -MN & -MF for KENDEX™ Negative Inserts and -MA for KENLOC™ Inserts



Steel shank with through coolant
See pages A82-A83 for inserts

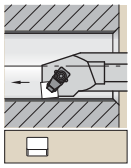


S-CSSN 45°

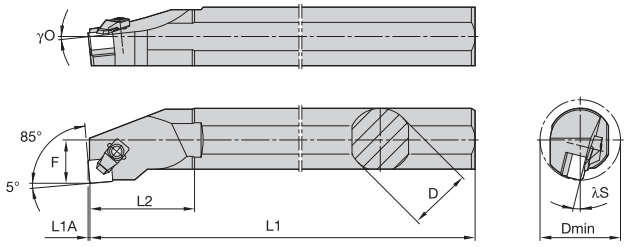
MX

catalog number	D	D min	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
S40TCSSNR12MX7	40	55	27,0	300	67,0	8,23	8,50	-14,0	-6,0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM
left hand															
S40TCSSNL12MX7	40	55	27,0	300	67,0	8,23	8,50	-14,0	-6,0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM

NOTE: MX clamping version is shown
Basic holder may be ordered separately:
S40T-V.SSN R/L 12



Steel shank with through coolant
See pages A82-A83 for inserts



S-CSYN 85°

MX

catalog number	D	D min	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
S40T-CSYNR12-MX7	40	55	27,0	300	67,0	–	0,97	-14.0	-6.0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM
left hand															
S40T-CSYNL12-MX7	40	55	27,0	300	67,0	–	0,97	-14.0	-6.0	SN.X120708	552.232	554.252	2.5 MM	551.316	4 MM

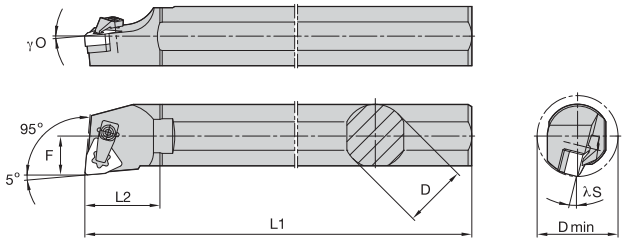
MN

catalog number	D	D min	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	thrust plate	clamp assembly	Hex (mm)
right hand																
S40T-CSYNR12-MN4	40	55	27,0	300	67,0	–	0,97	-14.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
S40T-CSYNR12-MN7	40	55	27,0	300	67,0	–	0,97	-14.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM
left hand																
S40T-CSYNL12-MN4	40	55	27,0	300	67,0	–	0,97	-14.0	-6.0	SN.N120408	552.231	554.252	2.5 MM	557.111	551.317	4 MM
S40T-CSYNL12-MN7	40	55	27,0	300	67,0	–	0,97	-14.0	-6.0	SN.N120708	552.232	554.252	2.5 MM	557.111	551.317	4 MM

NOTE: MN clamping version is shown
Basic holder may be ordered separately:
S40T-V.SYN R/L 08

Order example:
Right hand: S40TCWLNR08MN4 Left hand: S40TCWLNL08MN4

Steel shank with through coolant
See pages A88-A89 for inserts



S-CWLN 95°

MX

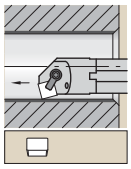
catalog number	D	D min	F	L1	L2	FA	L1A	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp assembly	Hex (mm)
right hand															
S40TCWLNR08MX7	40	80	27,0	300	55,0	–	–	-10.0	-5.0	WN.X080708	552.210	554.252	2.5 MM	551.316	4 MM
left hand															
S40TCWLNL08MX7	40	80	27,0	300	55,0	–	–	-10.0	-5.0	WN.X080708	552.210	554.252	2.5 MM	551.316	4 MM

Basic holder may be ordered separately:
S40T-V. WLN R/L 12

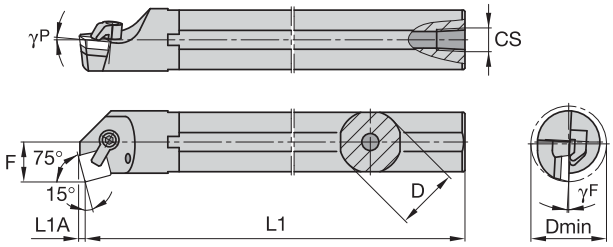
Order example:
Right hand: S40TCWLNR08MN4 Left hand: S40TCWLNL08MN4

KENDEX™ Boring Bars

KENDEX Positive Inserts

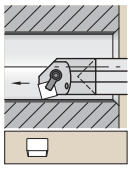


Steel shank with through coolant
See pages A92-A93 for inserts

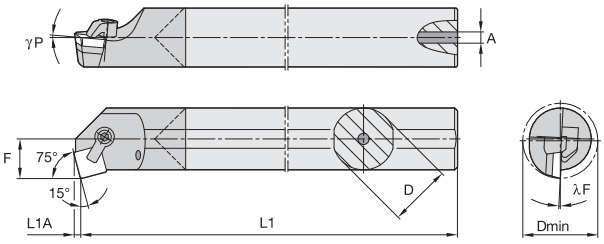


A-CSKP 75°

catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
A25RCSKPR12	25	32	17,0	200	3,1	1/4-18 NPT	-2.0	5.0	SP..120308	SM840	MS110	2 MM	CKM20	STCM11	3 MM
A32SCSKPR12	32	40	22,0	250	3,1	1/4-18 NPT	0.0	5.0	SP..120308	SM840	MS110	2 MM	CKM10	STCM8	4 MM
left hand															
A25RCSKPL12	25	32	17,0	200	3,1	1/4-18 NPT	-2.0	5.0	SP..120308	SM840	MS110	2 MM	CKM20	STCM11	3 MM
A32SCSKPL12	32	40	22,0	250	3,1	1/4-18 NPT	0.0	5.0	SP..120308	SM840	MS110	2 MM	CKM10	STCM8	4 MM

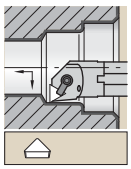


Carbide shank with through coolant
See pages A92-A93 for inserts

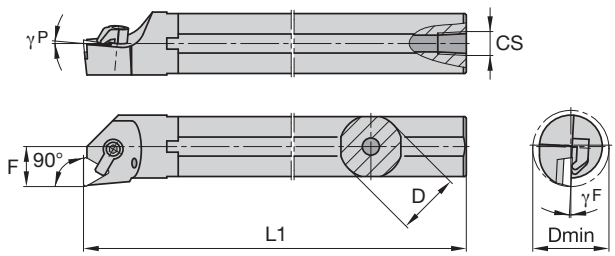


E-CSKP 75°

catalog number	D	D min	F	L1	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
E16RCSKPR09	16	20	11,0	200	2,2	5,5	–	0.0	5.0	SP..090308	SM821	MS963	–	CKM19	STCM9	2.5 MM
left hand																
E16RCSKPL09	16	20	11,0	200	2,2	5,5	–	0.0	5.0	SP..090308	SM821	MS963	–	CKM19	STCM9	2.5 MM



Steel shank with through coolant
See page A96 for inserts

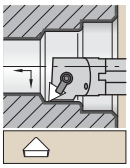


A-CTFP 90°

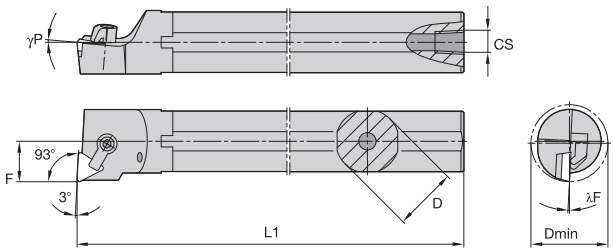
catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
A16RCTFPR11	16	20	11,0	200	–	1/8-27 NPT	-4.0	5.0	TP..110304	–	–	–	CKM19	STCM9	2.5 MM
A20QCTFPR11	20	25	13,0	180	–	1/8-27 NPT	0.0	5.0	TP..110304	SM815	MS961	–	CKM19	STCM9	2.5 MM
A25RCTFPR16	25	32	17,0	200	–	1/4-18 NPT	-3.0	5.0	TP..160308	SM841	MS110	2 MM	CKM10	STCM8	4 MM
A32SCTFPR16	32	40	22,0	250	–	1/4-18 NPT	-3.0	5.0	TP..160308	SM841	MS110	2 MM	CKM10	STCM8	4 MM
A40VCTFPR16	40	48	27,0	400	–	1/4-18 NPT	-3.0	5.0	TP..160308	SM841	MS110	2 MM	CKM10	STCM8	4 MM
left hand															
A16RCTFPL11	16	20	11,0	200	–	1/8-27 NPT	-4.0	5.0	TP..110304	–	–	–	CKM19	STCM9	2.5 MM
A20QCTFPL11	20	25	13,0	180	–	1/8-27 NPT	0.0	5.0	TP..110304	SM815	MS961	–	CKM19	STCM9	2.5 MM
A25RCTFPL16	25	32	17,0	200	–	1/4-18 NPT	-3.0	5.0	TP..160308	SM841	MS110	2 MM	CKM10	STCM8	4 MM
A32SCTFPL16	32	40	22,0	250	–	1/4-18 NPT	-3.0	5.0	TP..160308	SM841	MS110	2 MM	CKM10	STCM8	4 MM
A40VCTFPL16	40	48	27,0	400	–	1/4-18 NPT	-3.0	5.0	TP..160308	SM841	MS110	2 MM	CKM10	STCM8	4 MM

Order example:
Right hand: A20QCTFPR11 Left hand: A20QCTFPL11

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

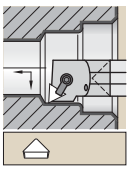


Steel shank with through coolant
See page A96 for inserts

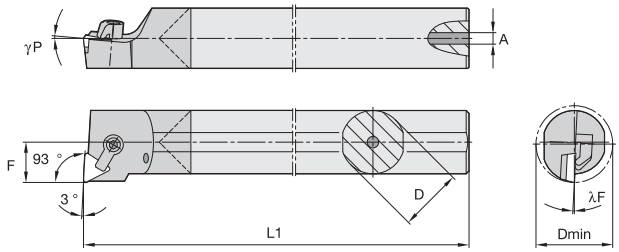


A-CTUP 93°

catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
A16MCTUPR11	16	20	11,0	150	–	1/8-27 NPT	-3.0	5.0	TP..110304	SM815	MS961	–	CKM19	STCM9	2.5 MM
A20QCTUPR11	20	25	13,0	180	–	1/8-27 NPT	-3.0	5.0	TP..110304	SM815	MS961	–	CKM19	STCM9	2.5 MM
left hand															
A16MCTUPL11	16	20	11,0	150	–	1/8-27 NPT	-3.0	5.0	TP..110304	SM815	MS961	–	CKM19	STCM9	2.5 MM
A20QCTUPL11	20	25	13,0	180	–	1/8-27 NPT	-3.0	5.0	TP..110304	SM815	MS961	–	CKM19	STCM9	2.5 MM



Carbide shank with through coolant
See page A96 for inserts

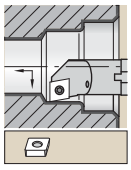


E-CTUP 93°

catalog number	D	D min	F	L1	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
E16RCTUPR11	16	20	11,0	200	–	5,5	–	0.0	5.0	TP..110304	SM815	MS961	–	CKM19	STCM9	2.5 MM
left hand																
E16RCTUPL11	16	20	11,0	200	–	5,5	–	0.0	5.0	TP..110304	SM815	MS961	–	CKM19	STCM9	2.5 MM

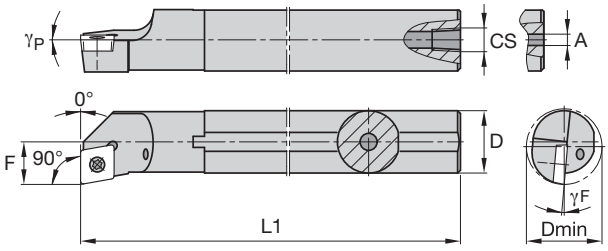
Order example:
Right hand: E16RCTUPR11 Left hand: E16RCTUPL11

SCREW-ON Inserts



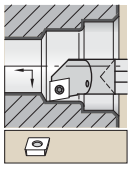
Steel shank with through coolant

See page A104 for inserts



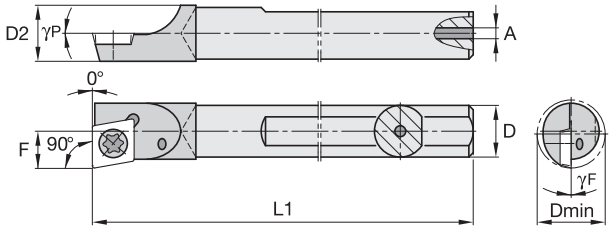
A-SCFC 90°

catalog number	D	D min	F	L1	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand														
A25TSCFCR12	25	32	17,0	300	–	1/4-18 NPT	-7.0	0.0	CC..120408	–	–	–	MS1157	T15
left hand														
A25TSCFCL12	25	32	17,0	300	–	1/4-18 NPT	-7.0	0.0	CC..120408	–	–	–	MS1157	T15



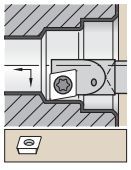
Carbide shank with through coolant

See pages A106-A107 for inserts



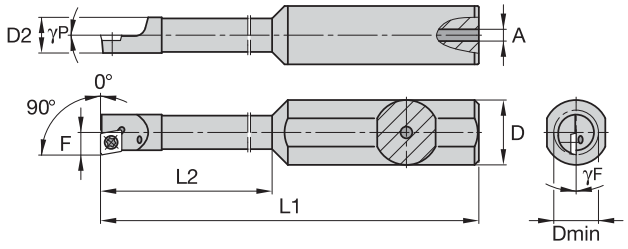
E-SCFD 90°

catalog number	D	D min	D2	F	L1	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																
E05HSCFDRS4	5	5,9	5,2	3,0	100	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
E06HSCFDRS4	6	6,9	6,2	3,7	100	–	1,2	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6



Necked steel shank with through coolant

See pages A106-A107 for inserts

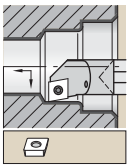


A-SCFD 90°

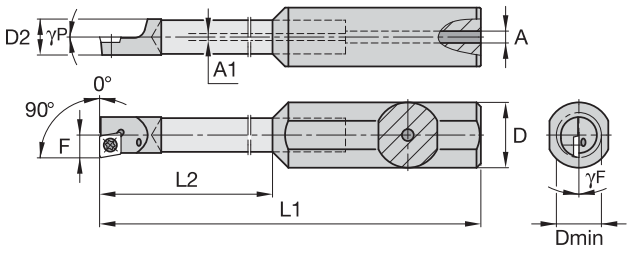
catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
A0510ESCFDRS412	10	5,94	5,16	3,10	70	12,7	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
A0510ESCFDRS425	10	5,94	5,16	3,10	70	25,4	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
A0612ESCFDRS431	12	7,42	6,60	3,86	70	31,7	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6

Order example:
Right hand: A0510ESCFDRS412

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

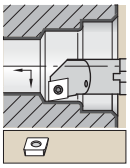


Necked carbide shank with through coolant
See pages A106-A107 for inserts

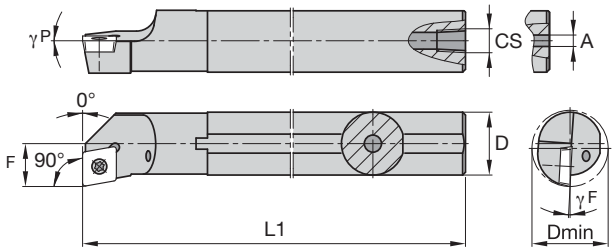


E-SCFD 90°

catalog number	D	D min	D2	F	L1	L2	L1A	A	A1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																		
E0512XSCFDRS425	12	6,10	5,00	3,18	64	25,4	–	3,18	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
E0512XSCFDRS450	12	6,10	5,00	3,18	89	50,8	–	3,18	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
E0616XSCFDRS463	16	7,42	6,35	3,86	127	63,5	–	3,18	1,2	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6



Steel shank with through coolant
See pages A108-A109 for inserts

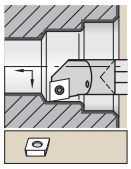


A-SCFP 90°

catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
A08JSCFPR06	8	11,0	–	6,0	110	–	–	2,4	–	-8.0	0.0	CP..060204	–	–	–	MS1153	T7
A10KSCFPR06	10	13,0	–	7,0	125	–	–	3,2	–	-6.0	0.0	CP..060204	–	–	–	MS1153	T7
A12MSCFPR06	12	16,0	–	9,0	150	–	–	–	1/16-27 NPT	-4.0	0.0	CP..060204	–	–	–	MS1153	T7
A16RSCFPR06	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-5.0	0.0	CP..060203	–	–	–	MS1153	T7
A16RSCFPR09	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-4.0	0.0	CP..09T308	–	–	–	MS1155	T15
A20SSCFPR06	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-3.0	0.0	CP..060203	–	–	–	MS1153	T7
A20SSCFPR09	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-2.0	0.0	CP..09T308	–	–	–	MS1155	T15
left hand																	
A08JSCFPL06	8	11,0	–	6,0	110	–	–	2,4	–	-8.0	0.0	CP..060204	–	–	–	MS1153	T7
A10KSCFPL06	10	13,0	–	7,0	125	–	–	3,2	–	-6.0	0.0	CP..060204	–	–	–	MS1153	T7
A12MSCFPL06	12	16,0	–	9,0	150	–	–	–	1/16-27 NPT	-4.0	0.0	CP..060204	–	–	–	MS1153	T7
A16RSCFPL06	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-5.0	0.0	CP..060203	–	–	–	MS1153	T7
A16RSCFPL09	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-4.0	0.0	CP..09T308	–	–	–	MS1155	T15
A20SSCFPL06	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-3.0	0.0	CP..060203	–	–	–	MS1153	T7
A20SSCFPL09	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-2.0	0.0	CP..09T308	–	–	–	MS1155	T15

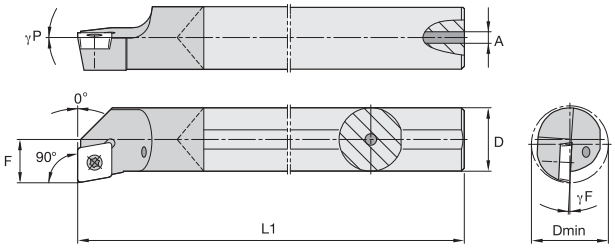
Order example:
Right hand: A08JSCFPR06 Left hand: A08JSCFPL06

SCREW-ON Inserts



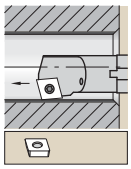
Carbide shank with through coolant

See pages A108-A109 for inserts



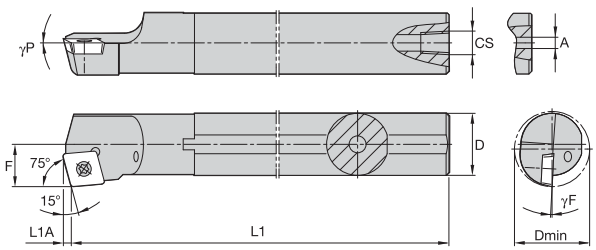
E-SCFP 90°

catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
E08KSCFPR06A	8	11,0	–	6,0	125	–	–	2,4	–	-8.0	0.0	CP..060204	–	–	–	MS1939	T7
E10MSCFPR06A	10	13,0	–	7,0	150	–	–	3,2	–	-4.0	0.0	CP..060204	–	–	–	MS1939	T7
E12QSCFPR06	12	16,0	–	9,0	180	–	–	4,8	–	-3.0	0.0	CP..060204	–	–	–	MS1153	T7
left hand																	
E08KSCFPL06A	8	11,0	–	6,0	125	–	–	2,4	–	-8.0	0.0	CP..060204	–	–	–	MS1939	T7
E10MSCFPL06A	10	13,0	–	7,0	150	–	–	3,2	–	-4.0	0.0	CP..060204	–	–	–	MS1939	T7
E12QSCFPL06	12	16,0	–	9,0	180	–	–	4,8	–	-3.0	0.0	CP..060204	–	–	–	MS1153	T7



Steel shank with through coolant

See pages A108-A109 for inserts

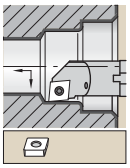


A-SCKP 75°

catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
A10KSCKPR06	10	13,0	–	7,0	125	–	1,6	3,2	–	-6.0	0.0	CP..060204	–	–	–	MS1153	T7
A12MSCKPR06	12	16,0	–	9,0	150	–	1,6	–	1/16-27 NPT	-4.0	0.0	CP..060204	–	–	–	MS1153	T7
A16RSCKPR09	16	20,0	–	11,0	200	–	2,3	–	1/8-27 NPT	-4.0	0.0	CP..09T308	–	–	–	MS1155	T15
A20SSCKPR09	20	25,0	–	13,0	250	–	2,3	–	1/8-27 NPT	-3.0	0.0	CP..09T308	–	–	–	MS1155	T15
left hand																	
A10KSCKPL06	10	13,0	–	7,0	125	–	1,6	3,2	–	-6.0	0.0	CP..060204	–	–	–	MS1153	T7
A12MSCKPL06	12	16,0	–	9,0	150	–	1,6	–	1/16-27 NPT	-4.0	0.0	CP..060204	–	–	–	MS1153	T7
A16RSCKPL09	16	20,0	–	11,0	200	–	2,3	–	1/8-27 NPT	-4.0	0.0	CP..09T308	–	–	–	MS1155	T15
A20SSCKPL09	20	25,0	–	13,0	250	–	2,3	–	1/8-27 NPT	-3.0	0.0	CP..09T308	–	–	–	MS1155	T15

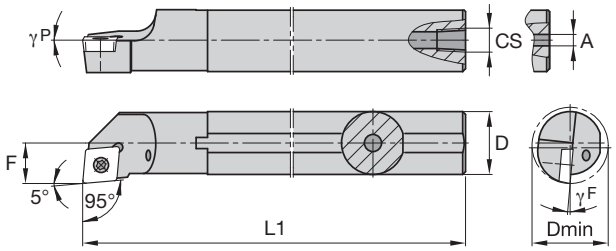
Order example:
Right hand: A10KSCKPR06 Left hand: A10KSCKPL06

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



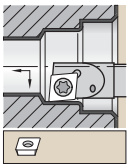
Steel shank with through coolant

See page A104 for inserts



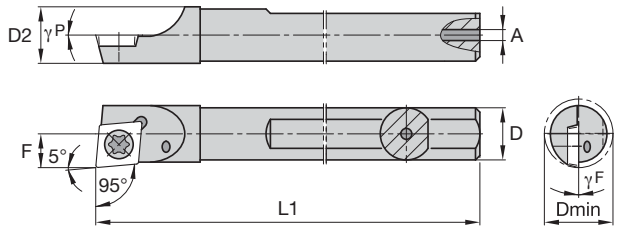
A-SCLC 95°

catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
A08JSCLCR06	8	11,0	–	6,0	110	–	–	2,4	–	-8.0	0.0	CC..060204	–	–	–	MS1939	T7
A10KSCLCR06	10	13,0	–	7,0	125	–	–	3,2	–	-7.0	0.0	CC..060204	–	–	–	MS1153	T7
A12MSCLCR06	12	16,0	–	9,0	150	–	–	–	1/16-27 NPT	-6.0	0.0	CC..060204	–	–	–	MS1153	T7
A16RSCLCR09	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-7.0	0.0	CC..09T308	–	–	–	MS1155	T15
A20SSCLCR09	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-5.0	0.0	CC..09T308	–	–	–	MS1155	T15
A25TSCLCR12	25	32,0	–	17,0	300	–	–	–	1/4-18 NPT	-7.0	0.0	CC..120408	–	–	–	MS1157	T15
A32TSCLCR12	32	40,0	–	22,0	300	–	–	–	1/4-18 NPT	-7.0	0.0	CC..120408	SKCP453	SRS4	4 MM	MS1158	T15
left hand																	
A08JSCLCL06	8	11,0	–	6,0	110	–	–	2,4	–	-8.0	0.0	CC..060204	–	–	–	MS1939	T7
A10KSCLCL06	10	13,0	–	7,0	125	–	–	3,2	–	-7.0	0.0	CC..060204	–	–	–	MS1153	T7
A12MSCLCL06	12	16,0	–	9,0	150	–	–	–	1/16-27 NPT	-6.0	0.0	CC..060204	–	–	–	MS1153	T7
A16RSCLCL09	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-7.0	0.0	CC..09T308	–	–	–	MS1155	T15
A20SSCLCL09	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-5.0	0.0	CC..09T308	–	–	–	MS1155	T15
A25TSCLCL12	25	32,0	–	17,0	300	–	–	–	1/4-18 NPT	-7.0	0.0	CC..120408	–	–	–	MS1157	T15
A32TSCLCL12	32	40,0	–	22,0	300	–	–	–	1/4-18 NPT	-7.0	0.0	CC..120408	SKCP453	SRS4	4 MM	MS1158	T15



Steel shank with through coolant

See pages A106-A107 for inserts

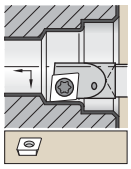


A-SCLD 95°

catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
A04XSCLDRS4	4	4,6	4,2	2,4	65	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
A05XSCLDRS4	5	5,8	5,2	3,0	65	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
A06XSCLDRS4	6	6,9	6,2	3,7	65	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6
A08XSCLDRS4	8	9,1	8,2	4,7	76	–	–	2,0	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6
left hand																	
A04XSCLDLS4	4	4,6	4,2	2,4	65	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
A05XSCLDLS4	5	5,8	5,2	3,0	65	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
A06XSCLDLS4	6	6,9	6,2	3,7	65	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6
A08XSCLDLS4	8	9,1	8,2	4,7	76	–	–	2,0	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6

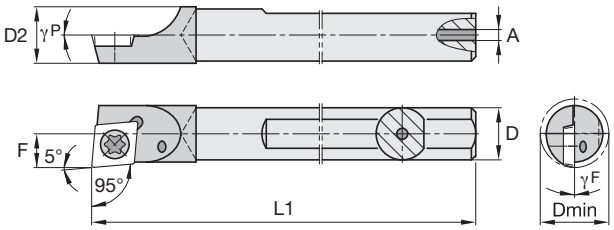
Order example:
Right hand: A04XSCLDRS4 Left hand: A04XSCLDLS4

SCREW-ON Inserts



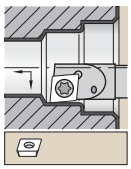
Carbide shank with through coolant

See pages A106–A107 for inserts



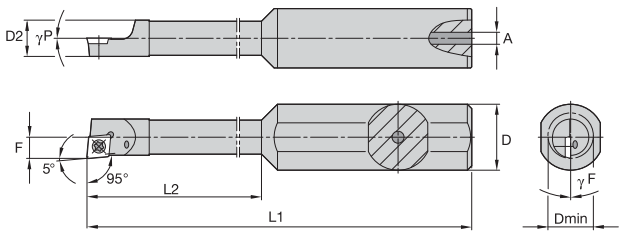
E-SCLD 95°

catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
E04HSCLDRS4	4	4,6	4,2	2,4	100	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
E04MSCLDRS4	4	4,6	4,2	2,4	150	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
E05HSCLDRS4	5	5,9	5,2	3,0	100	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
E05MSCLDRS4	5	5,9	5,2	3,0	150	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
E06HSCLDRS4	6	6,9	6,2	3,7	100	–	–	1,2	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6
E06MSCLDRS4	6	6,9	6,2	3,7	150	–	–	1,2	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6
E08MSCLDRS4	8	9,1	8,2	4,7	150	–	–	2,4	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6
left hand																	
E04HSCLDLS4	4	4,6	4,2	2,4	100	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
E04MSCLDLS4	4	4,6	4,2	2,4	150	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
E05HSCLDLS4	5	5,9	5,2	3,0	100	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
E05MSCLDLS4	5	5,9	5,2	3,0	150	–	–	1,0	–	0.0	0.0	CD..S4T002	–	–	–	CC09	T6
E06HSCLDLS4	6	6,9	6,2	3,7	100	–	–	1,2	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6
E06MSCLDLS4	6	6,9	6,2	3,7	150	–	–	1,2	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6
E08MSCLDLS4	8	9,1	8,2	4,7	150	–	–	2,4	–	0.0	0.0	CD..S4T002	–	–	–	CC11	T6



Necked Steel shank with through coolant

See pages A106–A107 for inserts

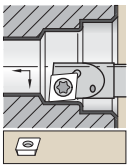


A-SCLD 95°

catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
A0410ESCLDRS412	10	5,18	4,57	2,64	70	12,7	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC09	T6
A0410ESCLDRS425	10	5,18	4,57	2,64	70	25,4	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC09	T6
A0412ESCLDRS412	12	5,18	4,57	2,64	70	12,7	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC09	T6
A0412ESCLDRS425	12	5,18	4,57	2,64	70	25,4	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC09	T6
A0510ESCLDRS412	10	5,78	5,16	2,95	70	12,7	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
A0510ESCLDRS425	10	5,78	5,16	2,95	70	25,4	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
A0612ESCLDRS419	12	7,24	6,60	3,68	70	19,1	–	1,0	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6

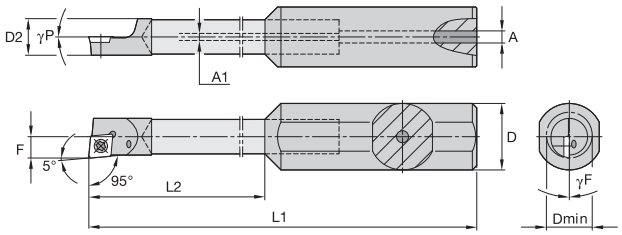
Order example:
Right hand: A0412ESCLDRS412 Left hand: A0412ESCLDLS412

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



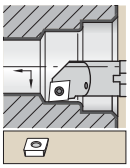
Necked carbide shank with through coolant

See pages A106–A107 for inserts



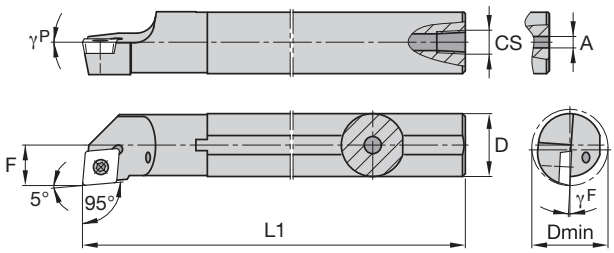
E-SCLD 95°

catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
E0412XSCLDRS447	12	5,28	4,80	2,64	86	47,6	–	3,18	–	0.0	5.0	CD..S4T002	–	–	–	CC09	T6
E0416KSCLDRS447	16	5,28	4,80	2,64	111	47,6	–	3,18	–	0.0	5.0	CD..S4T002	–	–	–	CC09	T6
E0612HSCLDRS463	12	7,24	6,56	3,68	100	63,5	–	3,18	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
E0616XSCLDRS463	16	7,24	6,56	3,68	127	63,5	–	3,18	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
E0412DSCLDRS422	12	5,28	4,80	2,64	60	22,2	–	3,18	–	0.0	5.0	CD..S4T002	–	–	–	CC09	T6
E0512XSCLDRS425	12	5,94	5,30	3,02	64	25,4	–	3,18	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
E0612ESCLDRS431	12	7,24	6,56	3,68	70	31,7	–	3,18	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6
E0616HSCLDRS431	16	7,24	6,56	3,68	95	31,7	–	3,18	–	0.0	5.0	CD..S4T002	–	–	–	CC11	T6



Steel shank with through coolant

See pages A108–A109 for inserts

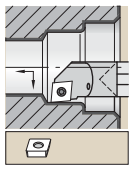


A-SCLP 95°

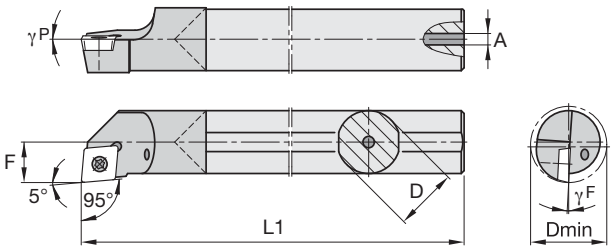
catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
A08JSCLPR06	8	11,0	–	6,0	110	–	–	2,4	–	-6.0	0.0	CP..060204	–	–	–	MS1939	T7
A10KSCLPR06	10	13,0	–	7,0	125	–	–	3,2	–	-4.0	0.0	CP..060204	–	–	–	MS1153	T7
A12MSCLPR06	12	16,0	–	9,0	150	–	–	–	1/16-27 NPT	-3.0	0.0	CP..060204	–	–	–	MS1153	T7
A16RSCLPR06	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-5.0	0.0	CP..060203	–	–	–	MS1153	T7
A16RSCLPR09	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-4.0	0.0	CP..09T308	–	–	–	MS1155	T15
A20SSCLPR06	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-3.0	0.0	CP..060203	–	–	–	MS1153	T7
A20SSCLPR09	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-2.0	0.0	CP..09T308	–	–	–	MS1155	T15
left hand																	
A08JSCLPL06	8	11,0	–	6,0	110	–	–	2,4	–	-6.0	0.0	CP..060204	–	–	–	MS1939	T7
A10KSCLPL06	10	13,0	–	7,0	125	–	–	3,2	–	-4.0	0.0	CP..060204	–	–	–	MS1153	T7
A12MSCLPL06	12	16,0	–	9,0	150	–	–	–	1/16-27 NPT	-3.0	0.0	CP..060204	–	–	–	MS1153	T7
A16RSCLPL06	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-5.0	0.0	CP..060203	–	–	–	MS1153	T7
A16RSCLPL09	16	20,0	–	11,0	200	–	–	–	1/8-27 NPT	-4.0	0.0	CP..09T308	–	–	–	MS1155	T15
A20SSCLPL06	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-3.0	0.0	CP..060203	–	–	–	MS1153	T7
A20SSCLPL09	20	25,0	–	13,0	250	–	–	–	1/8-27 NPT	-2.0	0.0	CP..09T308	–	–	–	MS1155	T15

Order example:
Right hand: A08JSCLPR06 Left hand: A08JSCLPRL06

SCREW-ON Inserts

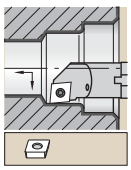


Carbide shank with through coolant
See pages A108–A109 for inserts

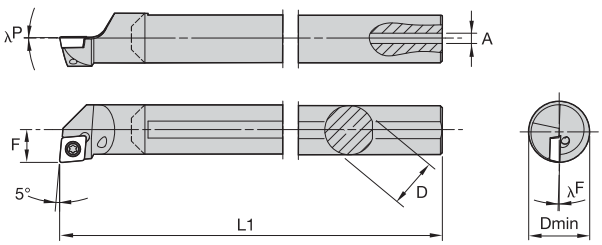


E-SCLP 95°

catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
E08KSCLPR06A	8	11,0	–	6,0	122	–	–	2,4	–	-6.0	0.0	CP..060204	–	–	–	MS1939	T7
E10MSCLPR06A	10	13,0	–	7,0	150	–	–	3,2	–	-4.0	0.0	CP..060204	–	–	–	MS1939	T7
E12QSCLPR06	12	16,0	–	9,0	180	–	–	4,8	–	-3.0	0.0	CP..060204	–	–	–	QC15	T7
E16RSCLPR09	16	20,0	–	11,0	200	–	–	5,5	–	-4.0	0.0	CP..09T308	–	–	–	QC15	T15
E20SSCLPR09	20	25,0	–	13,0	250	–	–	7,1	–	-2.0	0.0	CP..09T308	–	–	–	QC15	T15
left hand																	
E08KSCLPL06A	8	11,0	–	6,0	122	–	–	2,4	–	-6.0	0.0	CP..060204	–	–	–	MS1939	T7
E10MSCLPL06A	10	13,0	–	7,0	150	–	–	3,2	–	-4.0	0.0	CP..060204	–	–	–	MS1939	T7
E12QSCLPL06	12	16,0	–	9,0	180	–	–	4,8	–	-3.0	0.0	CP..060204	–	–	–	QC15	T7
E16RSCLPL09	16	20,0	–	11,0	200	–	–	5,5	–	-4.0	0.0	CP..09T308	–	–	–	QC15	T15
E20SSCLPL09	20	25,0	–	13,0	250	–	–	7,1	–	-2.0	0.0	CP..09T308	–	–	–	QC15	T15



Heavy metal bar with through coolant
See pages A108–A109 for inserts

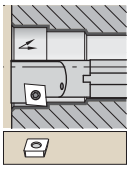


L-SCLP 95°

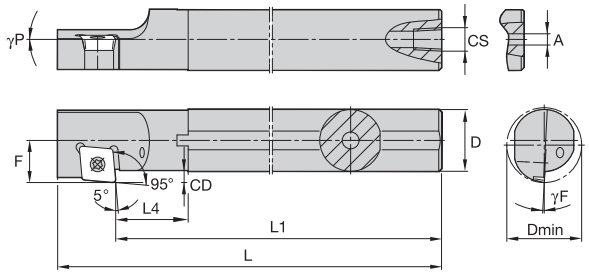
catalog number	D	D min	D2	F	L1	L2	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																	
L08KSCLPR06	8	11,0	–	6,0	123	17,620	–	2,4	–	-6.0	0.0	CPMT060204..	–	–	–	MS1939	T7
L10MSCLPR06	10	13,0	–	7,0	149	21,650	–	3,2	–	-4.0	0.0	CPMT060204..	–	–	–	MS1939	T7
L12QSCLPR06	12	16,0	–	9,0	181	22,350	–	4,0	–	-3.0	0.0	CPMT060204..	–	–	–	MS1153	T7
L16RSCLPR09	16	20,0	–	11,0	203	28,570	–	4,0	–	-4.0	0.0	CPMT09T308..	–	–	–	MS1155	T15
L20SSCLPR09	20	25,0	–	13,0	251	33,610	–	4,0	–	-2.0	0.0	CPMT09T308..	–	–	–	MS1155	T15
Left hand																	
L08KSCLPL06	8	11,0	–	6,0	123	17,620	–	2,4	–	-6.0	0.0	CPMT060204..	–	–	–	MS1939	T7
L10MSCLPL06	10	13,0	–	7,0	149	21,650	–	3,2	–	-4.0	0.0	CPMT060204..	–	–	–	MS1939	T7
L12QSCLPL06	12	16,0	–	9,0	181	22,350	–	4,0	–	-3.0	0.0	CPMT060204..	–	–	–	MS1153	T7
L16RSCLPL09	16	20,0	–	11,0	203	28,570	–	4,0	–	-4.0	0.0	CPMT09T308..	–	–	–	MS1155	T15
L20SSCLPL09	20	25,0	–	13,0	251	33,610	–	4,0	–	-2.0	0.0	CPMT09T308..	–	–	–	MS1155	T15

Order example:
Right hand: L08KSCLPR06 Left hand: L08KSCFPL06

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

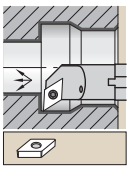


Steel shank with through coolant
See pages A108–A109 for inserts

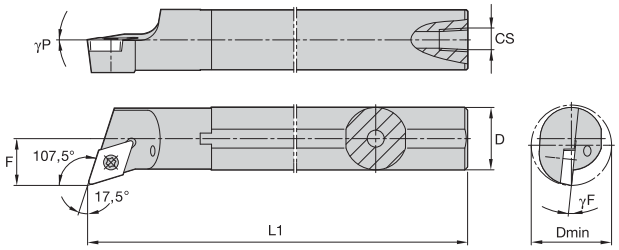


A-SCXP 95°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A10KSCXPR06	10	13,0	–	7,0	125	136,0	–	15,9	2,1	–	3,2	–	-4.0	0.0	CP..060204	–	–	–	MS1153	T7
A12MSCXPR06	12	16,0	–	9,0	150	161,0	–	16,4	3,1	–	–	1/16-27 NPT	-3.0	0.0	CP..060204	–	–	–	MS1153	T7
A16RSCXPR09	16	20,0	–	11,0	200	218,0	–	17,8	3,2	–	–	1/8-27 NPT	-4.0	0.0	CP..09T308	–	–	–	MS1155	T15
left hand																				
A10KSCXPL06	10	13,0	–	7,0	125	136,0	–	15,9	2,1	–	3,2	–	-4.0	0.0	CP..060204	–	–	–	MS1153	T7



Steel shank with through coolant
See page A112 for inserts

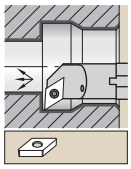


A-SDQC 107,5°

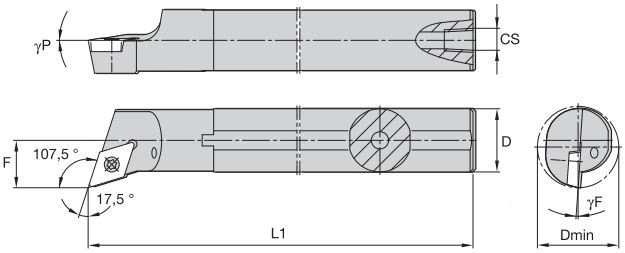
catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A12MSDQCR07	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-6.0	0.0	DC..070204	–	–	–	MS1153	T7
A16RSDQCR07	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-5.0	0.0	DC..070204	–	–	–	MS1153	T7
A20SSDQCR11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-5.0	0.0	DC..11T308	–	–	–	MS1155	T15
A25TSDQCR11	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	-4.0	0.0	DC..11T308	–	–	–	MS1155	T15
left hand																				
A12MSDQCL07	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-6.0	0.0	DC..070204	–	–	–	MS1153	T7
A16RSDQCL07	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-5.0	0.0	DC..070204	–	–	–	MS1153	T7
A20SSDQCL11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-5.0	0.0	DC..11T308	–	–	–	MS1155	T15
A25TSDQCL11	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	-4.0	0.0	DC..11T308	–	–	–	MS1155	T15

Order example:
Right hand: A12MSDQCR07 Left hand: A12MSDQCL07

SCREW-ON Inserts

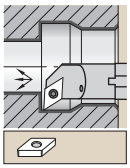


Steel shank with through coolant
See pages A114–A115 for inserts

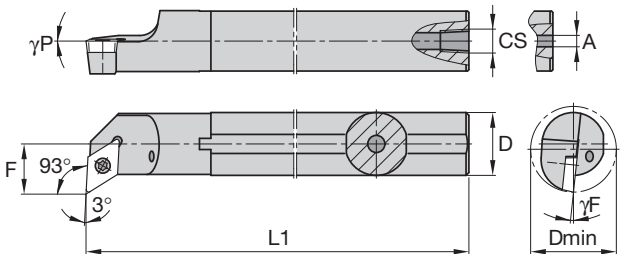


A-SDQP 107,5°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A12MSDQPR07	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-2.0	0.0	DP..070204	–	–	–	MS1153	T7
A16RSDQPR07	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	0.0	0.0	DP..070204	–	–	–	MS1153	T7
A20SSDQPR11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-2.0	0.0	DP..11T308	–	–	–	MS1155	T15
A25TSDQPR11	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	0.0	0.0	DP..11T308	–	–	–	MS1155	T15
left hand																				
A12MSDQPL07	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-2.0	0.0	DP..070204	–	–	–	MS1153	T7
A16RSDQPL07	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	0.0	0.0	DP..070204	–	–	–	MS1153	T7
A20SSDQPL11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-2.0	0.0	DP..11T308	–	–	–	MS1155	T15
A25TSDQPL11	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	0.0	0.0	DP..11T308	–	–	–	MS1155	T15



Steel shank with through coolant
See page A112 for inserts

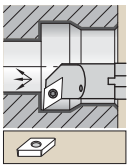


A-SDUC 93°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A10KSDUCR07	10	13,0	–	7,0	125	–	–	–	–	–	3,2	–	-7.0	0.0	DC..070204		–	–	MS1153	T7
A12MSDUCR07	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-4.0	0.0	DC..070204	–	–	–	MS1153	T7
A16RSDUCR07	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-4.0	0.0	DC..070204	–	–	–	MS1153	T7
A16RSDUCR11	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-6.0	0.0	DC..11T308	–	–	–	MS1155	T15
A20SSDUCR11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-5.0	0.0	DC..11T308	–	–	–	MS1155	T15
A25TSDUCR11	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	-4.0	0.0	DC..11T308	–	–	–	MS1155	T15
A32TSDUCR15	32	40,0	–	22,0	300	–	–	–	–	–	–	1/4-18 NPT	-7.0	0.0	DC..150408	SKDP453	SRS4	4 MM	MS1158	T15
left hand																				
A10KSDUCL07	10	13,0	–	7,0	125	–	–	–	–	–	3,2	–	-7.0	0.0	DC..070204	–	–	–	MS1153	T7
A12MSDUCL07	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-4.0	0.0	DC..070204	–	–	–	MS1153	T7
A16RSDUCL07	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-4.0	0.0	DC..070204	–	–	–	MS1153	T7
A16RSDUCL11	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-6.0	0.0	DC..11T308	–	–	–	MS1155	T15
A20SSDUCL11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-5.0	0.0	DC..11T308	–	–	–	MS1155	T15
A25TSDUCL11	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	-4.0	0.0	DC..11T308	–	–	–	MS1155	T15
A32TSDUCL15	32	40,0	–	22,0	300	–	–	–	–	–	–	1/4-18 NPT	-7.0	0.0	DC..150408	SKDP453	SRS4	4 MM	MS1158	T15

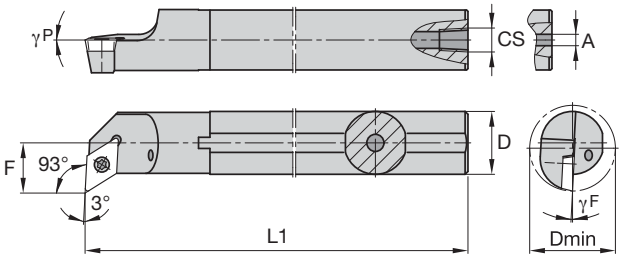
Order example:
Right hand: A10KSDUCR07 Left hand: A10KSDUCL07

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

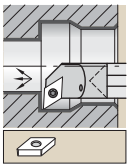


Steel shank with through coolant
See pages A114–A115 for inserts

A-SDUP 93°

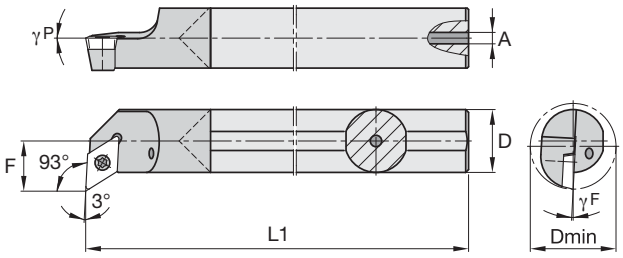


catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A12MSDUPR07	12	16,0	–	9,0	150	–	–	–	–	–	4,000	1/16-27 NPT	-2.0	0.0	DP..070204	–	–	–	MS1153	T7
A16RSDUPR07	16	20,0	–	11,0	200	–	–	–	–	–	4,000	1/8-27 NPT	0.0	0.0	DP..070204	–	–	–	MS1153	T7
A20SSDUPR11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-2.0	0.0	DP..11T308	–	–	–	MS1155	T15
A25TSDUPR11	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	0.0	0.0	DP..11T308	–	–	–	MS1155	T15
left hand																				
A12MSDUPL07	12	16,0	–	9,0	150	–	–	–	–	–	4,000	1/16-27 NPT	-2.0	0.0	DP..070204	–	–	–	MS1153	T7
A16RSDUPL07	16	20,0	–	11,0	200	–	–	–	–	–	4,000	1/8-27 NPT	0.0	0.0	DP..070204	–	–	–	MS1153	T7
A20SSDUPL11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-2.0	0.0	DP..11T308	–	–	–	MS1155	T15
A25TSDUPL11	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	0.0	0.0	DP..11T308	–	–	–	MS1155	T15

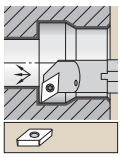


Carbide shank with through coolant
See pages A114–A115 for inserts

E-SDUP 93°

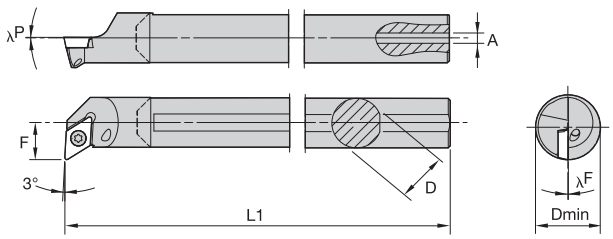


catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
E12QSDUPR07	12	16,0	–	9,0	180	–	–	–	–	–	4,8	–	-2.0	0.0	DP..070204	–	–	–	MS1153	T7
E16RSDUPR07	16	20,0	–	11,0	200	–	–	–	–	–	5,5	–	0.0	0.0	DP..070204	–	–	–	MS1153	T7
E20SSDUPR11	20	25,0	–	13,0	250	–	–	–	–	–	7,1	–	-2.0	0.0	DC..11T308	–	–	–	MS1155	T15
left hand																				
E12QSDUPL07	12	16,0	–	9,0	180	–	–	–	–	–	4,8	–	-2.0	0.0	DP..070204	–	–	–	MS1153	T7
E16RSDUPL07	16	20,0	–	11,0	200	–	–	–	–	–	5,5	–	0.0	0.0	DP..070204	–	–	–	MS1153	T7
E20SSDUPL11	20	25,0	–	13,0	250	–	–	–	–	–	7,1	–	-2.0	0.0	DC..11T308	–	–	–	MS1155	T15



Heavy metal bar with through coolant
See pages A114–A115 for inserts

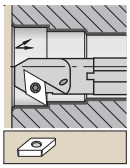
L-SDUP 93°



catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
L12QSDUPR07	12	16,0	–	9,0	181	181,170	22,4	–	–	–	4,0	–	-2.0	0.0	DPMT070204..	–	–	–	MS1153	T7
L16RSDUPR07	16	20,0	–	11,0	199	199,410	25,4	–	–	–	4,0	–	0.0	0.0	DPMT070204..	–	–	–	MS1153	T7
L20SSDUPR11	20	25,0	–	13,0	251	251,450	33,6	–	–	–	4,0	–	-2.0	0.0	DPMT11T308..	–	–	–	MS1155	T15
Left hand																				
L12QSDUPL07	12	16,0	–	9,0	181	181,170	22,4	–	–	–	4,0	–	-2.0	0.0	DPMT070204..	–	–	–	MS1153	T7
L16RSDUPL07	16	20,0	–	11,0	199	199,410	25,4	–	–	–	4,0	–	0.0	0.0	DPMT070204..	–	–	–	MS1153	T7
L20SSDUPL11	20	25,0	–	13,0	251	251,450	33,6	–	–	–	4,0	–	-2.0	0.0	DPMT11T308..	–	–	–	MS1155	T15

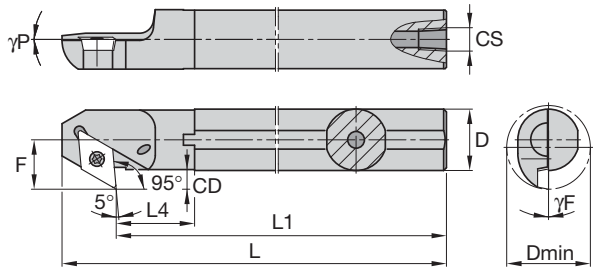
Order example:
Right hand: L12QSDUPR07 Left hand: L12QSDUPL07

SCREW-ON Inserts



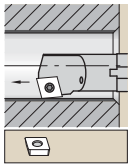
Carbide shank with through coolant

See pages A114–A115 for inserts



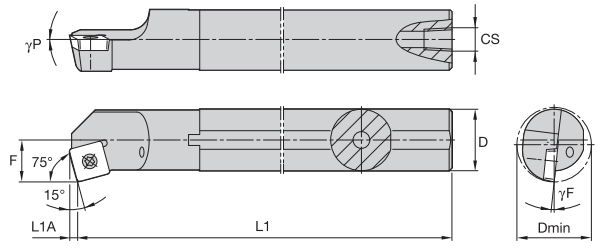
A-SDXP 95°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A12MSDXPR07	12	16,0	–	9,0	150	162,0	–	17,07	3,09	–	–	1/16-27 NPT	0.0	0.0	DP..070204	–	–	–	MS1153	T7
A16RSDXPR07	16	20,0	–	11,0	200	212,0	–	18,15	3,20	–	–	1/8-27 NPT	0.0	0.0	DP..070204	–	–	–	MS1153	T7
A20SSDXPR11	20	25,0	–	13,0	250	270,0	–	50,80	4,31	–	–	1/8-27 NPT	0.0	0.0	DP..11T308	–	–	–	MS1155	T15
left hand																				
A12MSDXPL07	12	16,0	–	9,0	150	162,0	–	17,07	3,09	–	–	1/16-27 NPT	0.0	0.0	DP..070204	–	–	–	MS1153	T7
A16RSDXPL07	16	20,0	–	11,0	200	212,0	–	18,15	3,20	–	–	1/8-27 NPT	0.0	0.0	DP..070204	–	–	–	MS1153	T7
A20SSDXPL11	20	25,0	–	13,0	250	270,0	–	50,80	4,31	–	–	1/8-27 NPT	0.0	0.0	DP..11T308	–	–	–	MS1155	T15



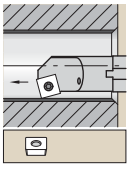
Steel shank with through coolants

See page A118 for inserts



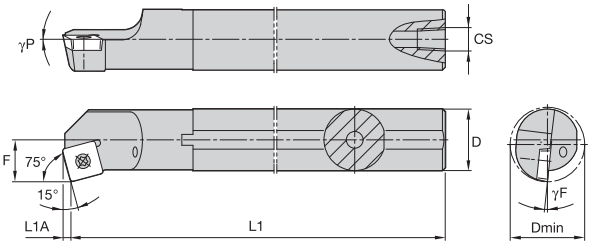
A-SSKC 75°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A16RSSKCR09	16	20,0	–	11,0	200	–	–	–	–	2,2	–	1/8-27 NPT	-7.0	0.0	SC..09T308	–	–	–	MS1155	T15
A25TSSKCR12	25	32,0	–	17,0	300	–	–	–	–	3,2	–	1/4-18 NPT	-7.0	0.0	SC..120408	–	–	–	MS1157	T15
left hand																				
A25TSSKCL12	25	32,0	–	17,0	300	–	–	–	–	3,2	–	1/4-18 NPT	-7.0	0.0	SC..120408	–	–	–	MS1157	T15



Steel shank with through coolant

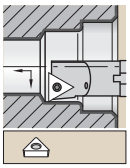
See pages A120–A121 for inserts



A-SSKP 75°

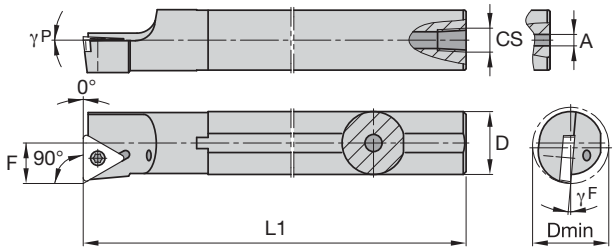
catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A20SSSKPR09	20	25,0	–	13,0	250	–	–	–	–	2,2	–	1/8-27 NPT	-4.0	0.0	SP..09T308	–	–	–	MS1155	T15

Order example:
Right hand: A20SSSKPR09



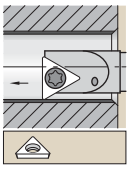
Steel shank with through coolant

See pages A120–A121 for inserts



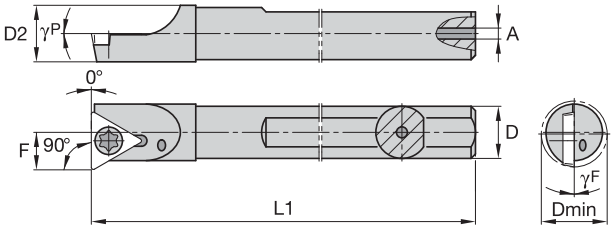
A-STFC 90°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A10KSTFCR11	10	13,0	–	7,0	125	–	–	–	–	–	3,2	–	-7.0	0.0	TC..110204	–	–	–	MS1153	T7
A12MSTFCR11	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-6.0	0.0	TC..110204	–	–	–	MS1153	T7
A32TSTFCR16	32	40,0	–	22,0	300	–	–	–	–	–	–	1/4-18 NPT	-2.0	0.0	TC..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
left hand																				
A10KSTFCL11	10	13,0	–	7,0	125	–	–	–	–	–	3,2	–	-7.0	0.0	TC..110204	–	–	–	MS1153	T7
A12MSTFCL11	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-6.0	0.0	TC..110204	–	–	–	MS1153	T7



Steel shank with through coolant

See pages A126–A127 for inserts

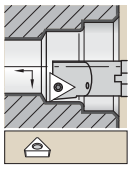


A-STFD 90°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A06HSTFDR07	6	7,1	6,2	3,7	100	–	–	–	–	–	1,0	–	0.0	0.0	TD..07T1202	–	–	–	FC11	T7
A08HSTFDR07	8	9,2	8,2	4,8	100	–	–	–	–	–	2,0	–	0.0	0.0	TD..07T1202	–	–	–	FC14	T7
left hand																				
A12MSTFDL11	12	13,2	12,2	6,8	150	–	–	–	–	–	3,0	–	0.0	0.0	TP..110202	–	–	–	QC26	T9

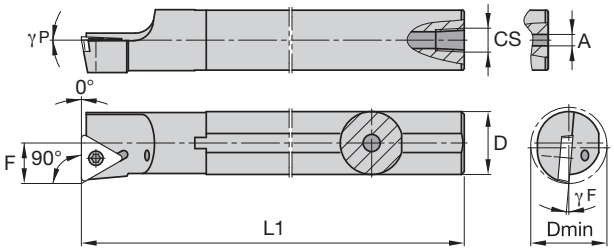
Order example:
Right hand: A06HSTFDR07 Left hand: A12MSTFDL11

SCREW-ON Inserts



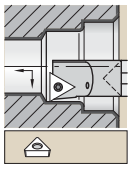
Steel shank with through coolant

See pages A126–A127 for inserts



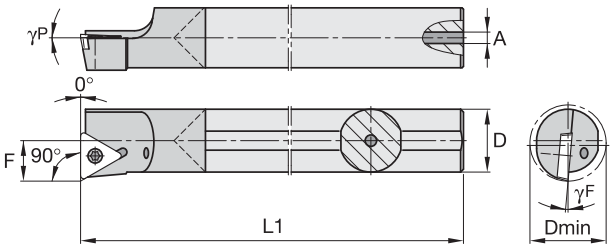
A-STFP 90°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	A1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																					
A08JSTFPR09	8	11,0	–	6,0	110	–	–	–	–	–	2,4	–	–	-8.0	0.0	TP..090204	–	–	–	MS1933	T7
A10KSTFPR11	10	13,0	–	7,0	125	–	–	–	–	–	3,2	–	–	-4.0	0.0	TP..110204	–	–	–	MS1153	T7
A12MSTFPR11	12	16,0	–	9,0	150	–	–	–	–	–	–	–	1/16-27 NPT	-2.0	0.0	TP..110204	–	–	–	MS1153	T7
A16RSTFPR11	16	20,0	–	11,0	200	–	–	–	–	–	–	–	1/16-27 NPT	0.0	0.0	TP..110204	–	–	–	MS1153	T7
A20SSTFPR16	20	25,0	–	13,0	250	–	–	–	–	–	–	–	1/8-27 NPT	-2.0	0.0	TP..16T308	–	–	–	MS1155	T15
A25TSTFPR16	25	32,0	–	17,0	300	–	–	–	–	–	–	–	1/4-18 NPT	0.0	0.0	TP..16T308	–	–	–	MS1155	T15
A32TSTFPR16	32	40,0	–	22,0	300	–	–	–	–	–	–	–	1/4-18 NPT	-2.0	0.0	TP..16T308	SKTP343	SRS3	3.5 MM	MS1156	T15
left hand																					
A08JSTFPL09	8	11,0	–	6,0	110	–	–	–	–	–	2,4	–	–	-8.0	0.0	TP..090204	–	–	–	MS1933	T7
A10KSTFPL11	10	13,0	–	7,0	125	–	–	–	–	–	3,2	–	–	-4.0	0.0	TP..110204	–	–	–	MS1153	T7
A12MSTFPL11	12	16,0	–	9,0	150	–	–	–	–	–	–	–	1/16-27 NPT	-2.0	0.0	TP..110204	–	–	–	MS1153	T7
A16RSTFPL11	16	20,0	–	11,0	200	–	–	–	–	–	–	–	1/16-27 NPT	0.0	0.0	TP..110204	–	–	–	MS1153	T7
A20SSTFPL16	20	25,0	–	13,0	250	–	–	–	–	–	–	–	1/8-27 NPT	-2.0	0.0	TP..16T308	–	–	–	MS1155	T15
A25TSTFPL16	25	32,0	–	17,0	300	–	–	–	–	–	–	–	1/4-18 NPT	0.0	0.0	TP..16T308	–	–	–	MS1155	T15



Carbide shank with through coolant

See pages A126–A127 for inserts

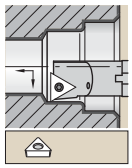


E-STFP 90°

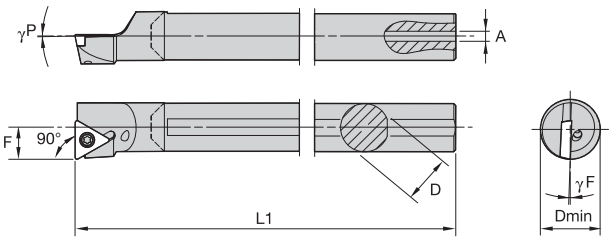
catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	A1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																					
E08KSTFPR09A	8	11,0	–	6,0	125	–	–	–	–	–	2,4	–	–	-6.0	0.0	TP..090204	–	–	–	MS1933	T7
E10MSTFPR11A	10	13,0	–	7,0	150	–	–	–	–	–	3,2	–	–	-4.0	0.0	TP..110202	–	–	–	MS1153	T7
E12QSTFPR11	12	16,0	–	9,0	180	–	–	–	–	–	4,8	–	–	-2.0	0.0	TP..110202	–	–	–	MS1153	T7
E16RSTFPR11	16	20,0	–	11,0	200	–	–	–	–	–	5,5	–	–	0.0	0.0	TP..110202	–	–	–	MS1153	T7
E20SSTFPR16	20	25,0	–	13,0	250	–	–	–	–	–	7,1	–	–	-2.0	0.0	TP..16T308	–	–	–	MS1155	T15
left hand																					
E08KSTFPL09A	8	11,0	–	6,0	125	–	–	–	–	–	2,4	–	–	-6.0	0.0	TP..090204	–	–	–	MS1933	T7
E10MSTFPL11A	10	13,0	–	7,0	150	–	–	–	–	–	3,2	–	–	-4.0	0.0	TP..110202	–	–	–	MS1153	T7
E12QSTFPL11	12	16,0	–	9,0	180	–	–	–	–	–	4,8	–	–	-2.0	0.0	TP..110202	–	–	–	MS1153	T7
E16RSTFPL11	16	20,0	–	11,0	200	–	–	–	–	–	5,5	–	–	0.0	0.0	TP..110202	–	–	–	MS1153	T7
E20SSTFPL16	20	25,0	–	13,0	250	–	–	–	–	–	7,1	–	–	-2.0	0.0	TP..16T308	–	–	–	MS1155	T15

Order example:
Right hand: E08KSTFPR09A Left hand: E08KSTFPL09A

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

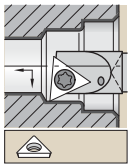


Heavy metal bar with through coolant
See pages A126–A127 for inserts

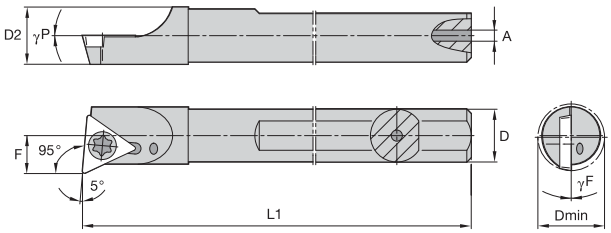


L-STFP 90°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	A1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																					
L08KSTFPR09	8	11,0	–	6,0	125	124,750	19,1	–	–	–	2,4	–	–	-6.0	0.0	TPMT090204..	–	–	–	MS1933	T7
L10MSTFPR11	10	13,0	–	7,0	151	151,250	23,7	–	–	–	3,2	–	–	-4.0	0.0	TPMT110204..	–	–	–	MS1153	T7
L12QSTFPR11	12	16,0	–	9,0	183	183,170	24,4	–	–	–	4,0	–	–	-2.0	0.0	TPMT110204..	–	–	–	MS1153	T7
L16RSTFPR11	16	20,0	–	1,0	201	201,410	27,4	–	–	–	4,0	–	–	0.0	0.0	TPMT110204..	–	–	–	MS1153	T7
L20SSTFPR16	20	25,0	–	13,0	251	251,450	33,6	–	–	–	4,0	–	–	-2.0	0.0	TPMT16T308..	–	–	–	MS1155	T15
left hand																					
L08KSTFPL09	8	11,0	–	6,0	125	124,750	19,1	–	–	–	2,4	–	–	-6.0	0.0	TPMT090204..	–	–	–	MS1933	T7
L10MSTFPL11	10	13,0	–	7,0	151	151,250	23,7	–	–	–	3,2	–	–	-4.0	0.0	TPMT110204..	–	–	–	MS1153	T7
L12QSTFPL11	12	16,0	–	9,0	183	183,170	24,4	–	–	–	4,0	–	–	-2.0	0.0	TPMT110204..	–	–	–	MS1153	T7
L16RSTFPL11	16	20,0	–	1,0	201	201,410	27,4	–	–	–	4,0	–	–	0.0	0.0	TPMT110204..	–	–	–	MS1153	T7
L20SSTFPL16	20	25,0	–	13,0	251	251,450	33,6	–	–	–	4,0	–	–	-2.0	0.0	TPMT16T308..	–	–	–	MS1155	T15

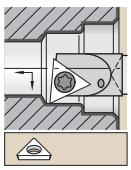


Steel shank with through coolant
See pages A126–A127 for inserts

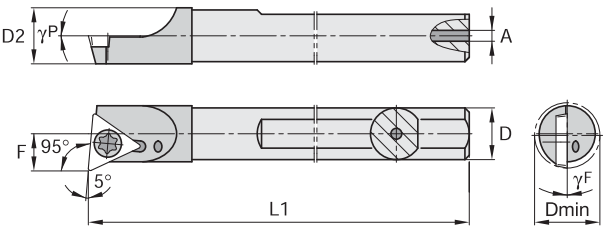


A-STLD 95°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	A1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																					
A06HSTLDR07	6	7,1	6,2	3,7	100	–	–	–	–	–	1,0	–	–	0.0	0.0	TD..07T1202	–	–	–	FC11	T7
A08HSTLDR07	8	9,2	8,2	4,8	100	–	–	–	–	–	2,0	–	–	0.0	0.0	TD..07T1202	–	–	–	FC14	T7
A20RSTLDR6P	20	21,3	20,2	10,9	200	–	–	–	–	–	7,2	–	–	0.0	0.0	TD..160308	–	–	–	SC30	T10



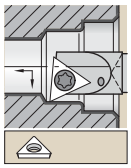
Carbide shank with through coolant
See pages A126–A127 for inserts



E-STLD 95°

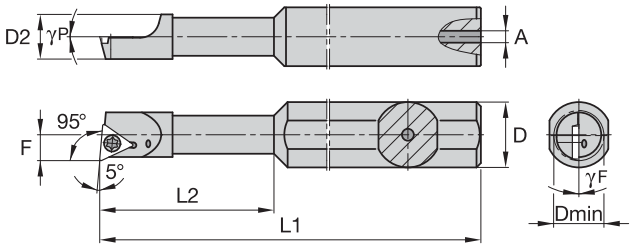
catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	A1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																					
E06MSTLDR07	6	7,1	6,2	3,7	150	–	–	–	–	–	1,2	–	–	0.0	0.0	TD..07T1202	–	–	–	FC11	T7
E08MSTLDR07	8	9,2	8,2	4,8	150	–	–	–	–	–	2,4	–	–	0.0	0.0	TD..07T1202	–	–	–	FC14	T7
left hand																					
E06MSTLDL07	6	7,1	6,2	3,7	150	–	–	–	–	–	1,2	–	–	0.0	0.0	TD..07T1202	–	–	–	FC11	T7
E08MSTLDL07	8	9,2	8,2	4,8	150	–	–	–	–	–	2,4	–	–	0.0	0.0	TD..07T1202	–	–	–	FC14	T7

Order example:
Right hand: E06MSTLDR07 Left hand: E06MSTLDL07



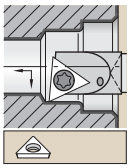
Necked steel shank with through coolant

See pages A126–A127 for inserts



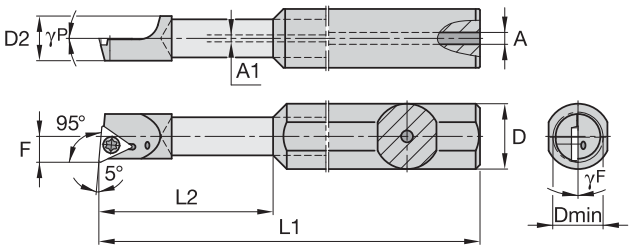
A-STLD 95°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	A1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																					
A0512XSTLDR0725	12	6,99	5,16	3,20	76	–	25,4	25,4	–	–	1,0	–	–	0.0	5.0	TD..07T1202	–	–	–	FC11	T7
A0612XSTLDR0731	12	7,51	6,58	3,96	76	–	31,7	31,8	–	–	1,0	–	–	0.0	5.0	TD..07T1202	–	–	–	FC14	T7
left hand																					
A0616HSTLDR0731	16	7,51	6,58	3,96	100	–	31,7	–	–	–	1,0	–	–	0.0	5.0	TD..07T1202	–	–	–	FC14	T7



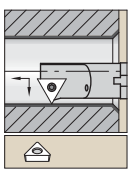
Necked carbide shank with through coolant

See pages A126–A127 for inserts



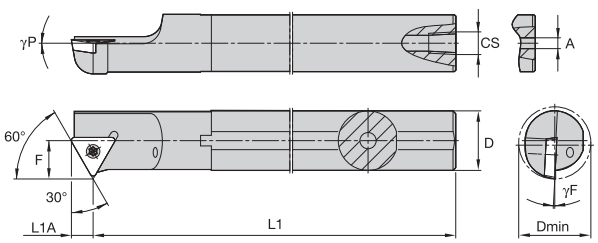
E-STLD 95°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	A1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																					
E0612ESTLDR0731	12	7,52	6,35	3,96	70	–	31,7	–	–	–	3,18	1,2	–	0.0	5.0	TD..07T1202	–	–	–	FC14	T7
E0812XSTLDR0738	12	9,11	7,92	4,75	76	–	38,1	–	–	–	3,18	2,4	–	0.0	5.0	TD..07T1202	–	–	–	FC14	T7
E0616XSTLDR0731	16	7,52	6,35	3,96	95	–	31,7	–	–	–	3,18	1,2	–	0.0	5.0	TD..07T1202	–	–	–	FC14	T7



Steel shank with through coolant

See pages A126–A127 for inserts

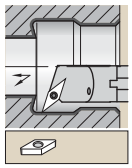


A-STWP 60°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A10KSTWPR11	10	13,0	–	7,0	125	–	–	–	–	5,0	3,2	–	-4.0	0.0	TP..110204	–	–	–	MS1153	T7
A12MSTWPR11	12	16,0	–	9,0	150	–	–	–	–	5,0	–	1/16-27 NPT	-2.0	0.0	TP..110204	–	–	–	MS1153	T7
A16RSTWPR11	16	20,0	–	11,0	200	–	–	–	–	5,0	–	1/8-27 NPT	-2.0	0.0	TP..110204	–	–	–	MS1153	T7
left hand																				
A10KSTWPL11	10	13,0	–	7,0	125	–	–	–	–	5,0	3,2	–	-4.0	0.0	TP..110204	–	–	–	MS1153	T7
A12MSTWPL11	12	16,0	–	9,0	150	–	–	–	–	5,0	–	1/16-27 NPT	-2.0	0.0	TP..110204	–	–	–	MS1153	T7
A16RSTWPL11	16	20,0	–	11,0	200	–	–	–	–	5,0	–	1/8-27 NPT	-2.0	0.0	TP..110204	–	–	–	MS1153	T7

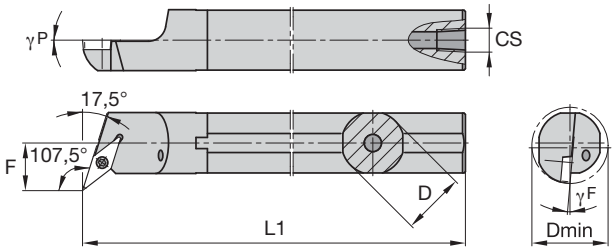
Order example:
Right hand: A10KSTWPR11 Left hand: A10KSTWPL11

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



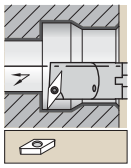
Steel shank with through coolant

See pages A130–A131 for inserts



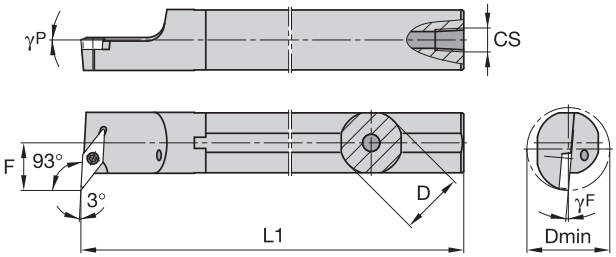
A-SVQB 107,5°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A16RSVQBR11	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-7.0	0.0	VB..110304	–	–	–	MS1153	T7
A20SSVQBR11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-6.0	0.0	VB..110304	–	–	–	MS1153	T7
A25TSVQBR16	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	-6.0	0.0	VB..160408	–	–	–	MS1155	T15
left hand																				
A16RSVQBL11	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-7.0	0.0	VB..110304	–	–	–	MS1153	T7
A20SSVQBL11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-6.0	0.0	VB..110304	–	–	–	MS1153	T7
A25TSVQBL16	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	-6.0	0.0	VB..160408	–	–	–	MS1155	T15



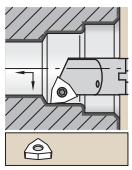
Steel shank with through coolant

See pages A130–A131 for inserts



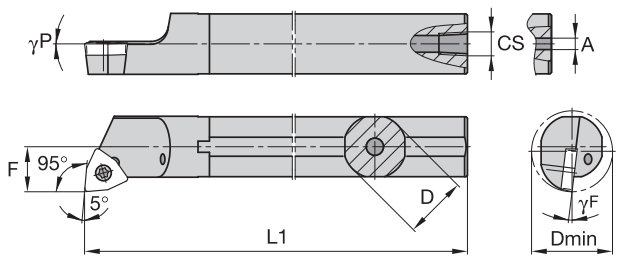
A-SVUB 93°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A20SSVUBR11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-6.0	0.0	VB..110304	–	–	–	MS1153	T7
A25TSVUBR16	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	-6.0	0.0	VB..160408	–	–	–	MS1155	T15
left hand																				
A20SSVUBL11	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-6.0	0.0	VB..110304	–	–	–	MS1153	T7
A25TSVUBL16	25	32,0	–	17,0	300	–	–	–	–	–	–	1/4-18 NPT	-6.0	0.0	VB..160408	–	–	–	MS1155	T15



Steel shank with through coolant

See pages A132–A133 for inserts

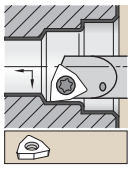


A-SWLC 95°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A10KSWLCR04	10	13,0	–	7,0	125	–	–	–	–	–	3,0	–	-7.0	0.0	WC..040204	–	–	–	MS1153	T7
A12MSWLCR04	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-6.0	0.0	WC..040204	–	–	–	MS1153	T7
A16RSWLCR06	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-7.0	0.0	WC..06T308	–	–	–	MS1155	T15
A20SSWLCR06	20	25,0	–	13,0	250	–	–	–	–	–	–	1/8-27 NPT	-5.0	0.0	WC..06T308	–	–	–	MS1155	T15
left hand																				
A12MSWLCL04	12	16,0	–	9,0	150	–	–	–	–	–	–	1/16-27 NPT	-6.0	0.0	WC..040204	–	–	–	MS1153	T7
A16RSWLCL06	16	20,0	–	11,0	200	–	–	–	–	–	–	1/8-27 NPT	-7.0	0.0	WC..06T308	–	–	–	MS1155	T15

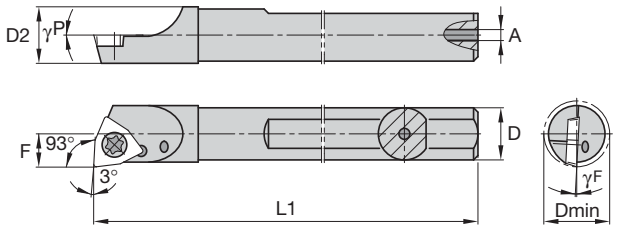
Order example:
Right hand: A12MSWLCR04 Left hand: A12MSWLCL04

SCREW-ON Inserts



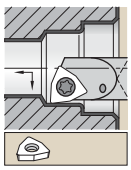
Steel shank with through coolant

See pages A132–A133 for inserts



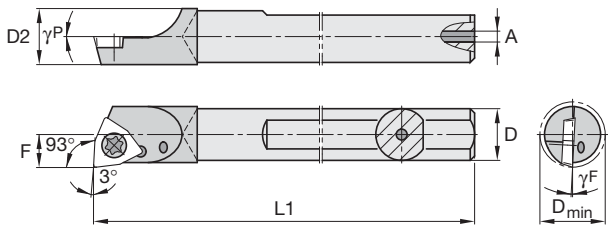
A-SWUP 93°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
A06HSWUPRS3	6	6,8	6,2	3,4	100	–	–	–	–	–	1,0	–	0.0	0.0	WP..S30102	–	–	–	GTM11	T6
A08HSWUPRS3	8	8,8	8,2	4,4	100	–	–	–	–	–	2,0	–	0.0	0.0	WP..S30102	–	–	–	GTM11	T6
A12MSWUPR04	12	12,8	12,2	6,6	150	–	–	–	–	–	3,0	–	0.0	0.0	WP..040202	–	–	–	GTM11	T6
left hand																				
A06HSWUPLS3	6	6,8	6,2	3,4	100	–	–	–	–	–	1,0	–	0.0	0.0	WP..S30102	–	–	–	GTM11	T6



Carbide shank with through coolant

See pages A132–A133 for inserts

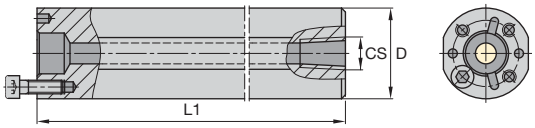


E-SWUP 93°

catalog number	D	D min	D2	F	L1	L	L2	L4	CD	L1A	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	insert screw	Torx
right hand																				
E06MSWUPRS3	6	6,8	6,2	3,4	150	–	–	–	–	–	1,2	–	0.0	0.0	WP..S30102	–	–	–	MS1438	T5
E08MSWUPRS3	8	8,8	8,2	4,4	150	–	–	–	–	–	2,4	–	0.0	0.0	WP..S30102	–	–	–	MS1438	T5
E10SSWUPR04	10	10,8	10,2	5,6	250	–	–	–	–	–	3,2	–	0.0	0.0	WP..040202	–	–	–	MS1153	T7
E12SSWUPR04	12	12,8	12,2	6,6	250	–	–	–	–	–	4,7	–	0.0	0.0	WP..040202	–	–	–	MS1153	T7
left hand																				
E06MSWUPLS3	6	6,8	6,2	3,4	150	–	–	–	–	–	1,2	–	0.0	0.0	WP..S30102	–	–	–	MS1438	T5
E08MSWUPLS3	8	8,8	8,2	4,4	150	–	–	–	–	–	2,4	–	0.0	0.0	WP..S30102	–	–	–	MS1438	T5

Order example:
Right hand: A10KSWLCR04 Left hand: A10KSWLCL04

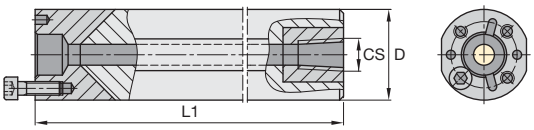
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



Steel shank with through coolant
max. 4:1 overhang ratio

BS

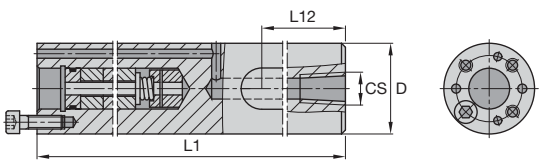
catalog number	D	L1	CS	screw 3 req'd	screw	Hex (mm)
BS32S	32	210	RP3/8	MS412	MS330	4 MM
BS40T	40	260	RP3/8	MS412	MS330	4 MM
BS50U	50	310	RP3/8	MS337	MS339	5 MM
BS60V	60	360	RP3/8	MS337	MS339	5 MM



Carbide shank with through coolant
max. 6:1 overhang ratio

BC

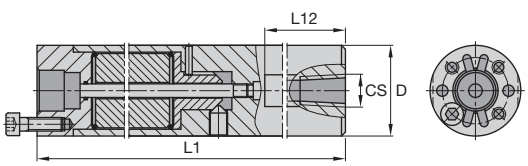
catalog number	D	L1	CS	screw 3 req'd	screw	Hex (mm)
BC25T	25	260	RP1/4	MS319	MS322	3 MM
BC32U	32	310	RP3/8	MS412	MS330	4 MM
BC40V	40	360	RP3/8	MS412	MS330	4 MM
BC50W	50	410	RP3/8	MS337	MS339	5 MM



Steel shank DeVibrator with through coolant
max. 6:1 overhang ratio

BSD

catalog number	D	L1	CS	L12	L1 min	screw 3 req'd	screw	Hex (mm)
BSD32U	32	310	RP3/8	200	200	MS412	MS330	4 MM
BSD40V	40	360	RP3/8	248	228	MS412	MS330	4 MM
BSD50W	50	410	RP3/8	280	276	MS337	MS339	5 MM



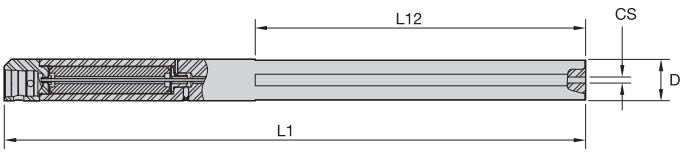
Tuneable steel shank with through coolant

D...TTB

catalog number	D	L1	CS	L12	L1 min	screw 3 req'd	screw	Hex (mm)
D25MTTB400	25	381	RP1/4	203	227	MS1499	MS1322	3 MM
D32MTTB447	32	422	RP3/8	267	332	MS325	MS1130	4 MM
D40MTTB530	40	492	RP3/8	305	300	MS326	MS330	4 MM
D50MTTB700	50	670	RP3/8	470	309	MS339	MS339	5 MM

Order example:
D25MTTB400

Boring Adapters



Tuneable steel shank with through coolant and front end KM™ clamping unit

D...TTB-KM

catalog number	system size	D	L1	CS	L12	L1 min
D40MTTB560KM40	KM40	40	520	RP 3/8-19	305	–
D50MTTB737KM40	KM40	50	697	RP 3/8-19	470	–
D60MTTB835KM40	KM40	60	795	RP 3/8-19	508	–
D80MTTB1120KM63	KM63	80	1060	RP 3/8	610	–
D100MTTB1330KM63	KM63	100	1270	RP 3/8	508	–

Tuneable Steel Shank with Through Coolant

Kennametal tuneable boring bars are manufactured with an internal dampening package designed to eliminate chatter in deep-hole boring applications. We not only manufacture standard tuneable boring bars as listed, but Kennametal has the capability to design and manufacture just about any style or size of tuneable products. Boring bars, extensions, holders, rotating adapters, and modular sections are a few examples of products manufactured with tuning packages. The features and benefits of the patented tuneable bar system provide significant improvements in metalcutting productivity.

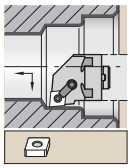
Features and Benefits

- Machine at extended lengths without chatter or vibration.
- Increase depth of cut and material removal rates at extended overhangs.
- Hold tighter tolerances and reduce scrap rates.
- Provides tool application range from 6:1 to 10:1 length-to-diameter ratios.
- Delivers improved tool life.
- Boring bars are shipped pre-tuned from the factory for a 10:1 application range.
- At the machine, boring bars may be fine adjusted, by hand tuning, to achieve optimum cutting conditions.

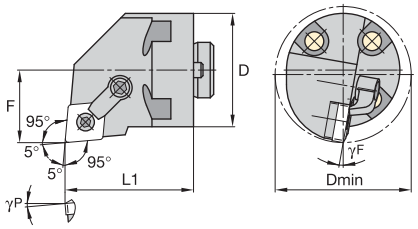
Order example:
D40TTB35KM40

KENLOC™ Boring Heads

KENLOC Inserts

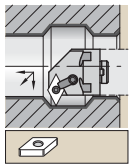


With through coolant
See pages A6–A7 for inserts

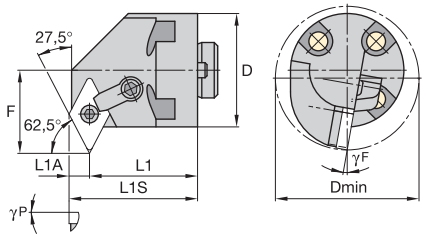


H-MCLN 95°

catalog number	D	F	L1	L1A	L1S	D min	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
H25MCLNR12	25	17	41	–	–	32	-14.0	-5.0	CN..120408	–	KLM43	2 MM	CKM7	STCM9	2.5 MM
H32MCLNR12	32	22	41	–	–	40	-14.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	3 MM
H40MCLNR16	40	27	41	–	–	50	-12.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM12	STCM4	4 MM
H40MCLNR19	40	27	41	–	–	50	-12.0	-5.0	CN..190612	ICSN633	KLM68	4 MM	CKM12	STCM4	4 MM
H50MCLNR12	50	35	41	–	–	63	-10.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM20	STCM20	3 MM
H50MCLNR16	50	35	41	–	–	63	-10.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM12	STCM4	4 MM
H50MCLNR19	50	35	41	–	–	63	-10.0	-5.0	CN..190612	ICSN633	KLM68	4 MM	CKM12	STCM4	4 MM
left hand															
H25MCLNL12	25	17	41	–	–	32	-14.0	-5.0	CN..120408	–	KLM43	2 MM	CKM7	STCM9	2.5 MM
H32MCLNL12	32	22	41	–	–	40	-14.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM21	STCM20	4 MM
H40MCLNL16	40	27	41	–	–	50	-12.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM12	STCM4	4 MM
H40MCLNL19	40	27	41	–	–	50	-12.0	-5.0	CN..190612	ICSN633	KLM68	4 MM	CKM12	STCM4	4 MM
H50MCLNL12	50	35	41	–	–	63	-10.0	-5.0	CN..120408	ICSN432	KLM46	2.5 MM	CKM20	STCM20	3 MM
H50MCLNL16	50	35	41	–	–	63	-10.0	-5.0	CN..160612	ICSN533	KLM58	3 MM	CKM12	STCM4	4 MM
H50MCLNL19	50	35	41	–	–	63	-10.0	-5.0	CN..190612	ICSN633	KLM68	4 MM	CKM12	STCM4	4 MM



With through coolant
See pages A22–A23 for inserts

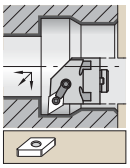


H-MDPN 62.5°

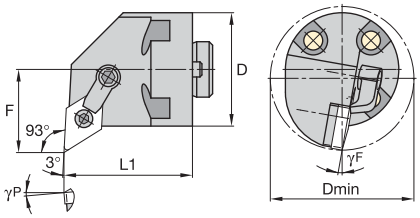
catalog number	D	F	L1	L1A	L1S	D min	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
H25MDPNR11	25	19	37	5	41	32	-13.0	0.0	DN..110408	IDSN322	KLM34L	2 MM	CKM7	STCM5	2.5 MM
H32MDPNR15	32	25	35	7	41	43	-13.0	0.0	DN..150408	IDSN442	KLM46L	2.5 MM	CKM22	STCM20	3 MM
H40MDPNR15	40	28	35	7	41	50	-10.0	0.0	DN..150608	IDSN432	KLM46L	2.5 MM	CKM22	STCM11	3 MM
H40MDPNR19	40	28	33	8	41	50	-10.0	0.0	DN..190612	IDSN533	KLM58	3 MM	CKM12	STCM4	4 MM
H50MDPNR15	50	35	35	7	41	63	-10.0	0.0	DN..150608	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
H50MDPNR19	50	35	33	8	41	63	-10.0	0.0	DN..190612	IDSN533	KLM58	3 MM	CKM12	STCM4	4 MM
left hand															
H25MDPNL11	25	19	37	5	41	32	-13.0	0.0	DN..110408	IDSN322	KLM34L	2 MM	CKM7	STCM5	2.5 MM
H32MDPNL15	32	25	35	7	41	43	-13.0	0.0	DN..150408	IDSN442	KLM46L	2.5 MM	CKM22	STCM20	3 MM
H40MDPNL15	40	28	35	7	41	50	-10.0	0.0	DN..150608	IDSN432	KLM46L	2.5 MM	CKM22	STCM11	3 MM
H40MDPNL19	40	28	33	8	41	50	-10.0	0.0	DN..190612	IDSN533	KLM58	3 MM	CKM12	STCM4	4 MM
H50MDPNL15	50	35	35	7	41	63	-10.0	0.0	DN..150608	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
H50MDPNL19	50	35	33	8	41	63	-10.0	0.0	DN..190612	IDSN533	KLM58	3 MM	CKM12	STCM4	4 MM

Order example:
Right hand: H25MDPNR15 Left hand: H25MDPNL15

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

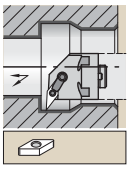


With through coolant
See pages A22-A23 for inserts

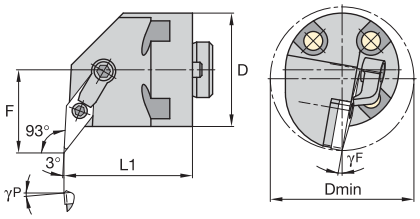


H-MDUN 93°

catalog number	D2	F	L1	L1A	L1S	D min	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
H40MDUNR15	40	27	41	–	–	50	-10.0	-5.0	DN..150608	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
H50MDUNR19	50	35	41	–	–	63	-10.0	-5.0	DN..190612	IDSN533	KLM58	3 MM	CKM12	STCM4	4 MM
left hand															
H50MDUNL15	50	35	41	–	–	63	-8.0	-5.0	DN..150608	IDSN432	KLM46L	2.5 MM	CKM22	STCM20	3 MM
H50MDUNL19	50	35	41	–	–	63	-10.0	-5.0	DN..190612	IDSN533	KLM58	3 MM	CKM12	STCM4	4 MM



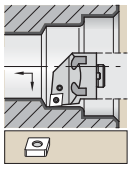
With through coolant
See pages A58–A59 for inserts



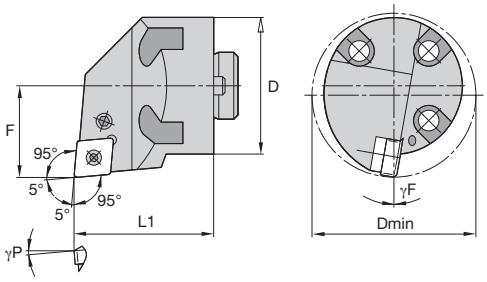
H-MVUN 93°

catalog number	D	F	L1	L1A	L1S	D min	γF°	γP°	gage insert	shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
H32MVUNR16	32	25	41	–	–	43	-12.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM23	STCM20	3 MM
H40MVUNR16	40	27	41	–	–	50	-10.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM22	STCM20	3 MM
H50MVUNR16	50	35	41	–	–	63	-10.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM22	STCM20	3 MM
H50MVUNR22	50	35	41	–	–	63	-10.0	-5.0	VN..220408	IVSN432	KLM46	2.5 MM	CKM22	STCM20	3 MM
left hand															
H32MVUNL16	32	25	41	–	–	43	-12.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM23	STCM20	3 MM
H40MVUNL16	40	27	41	–	–	50	-10.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM22	STCM20	3 MM
H50MVUNL16	50	35	41	–	–	63	-10.0	-5.0	VN..160408	IVSN322	KLM34L	2 MM	CKM22	STCM20	3 MM
H50MVUNL22	50	35	41	–	–	63	-10.0	-5.0	VN..220408	IVSN432	KLM46	2.5 MM	CKM22	STCM20	3 MM

Order example:
Right hand: H32MVUNR16 Left hand: H32MVUNL16

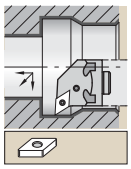


With through coolant
See pages A6–A7 for inserts

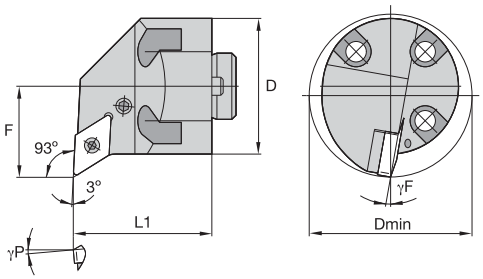


H-PCLN 95°

catalog number	D	F	L1	D min	γF°	γP°	gage insert	shim	shim pin	lever	punch pin	lever lock screw	Torx plus
right hand													
H32PCLNR12	32	22	41	40	-10.0	-5.0	CN..120408	512.112	513.023	511.023	515.018	514.123	15 IP
H40PCLNR12	40	27	41	50	-10.0	-5.0	CN..120408	512.112	513.023	511.023	515.018	514.123	15 IP
H50PCLNR12	50	35	41	63	-10.0	-5.0	CN..120408	512.112	513.023	511.023	515.018	514.123	15 IP
left hand													
H32PCLNL12	32	22	41	40	-10.0	-5.0	CN..120408	512.112	513.023	511.023	515.018	514.123	15 IP
H40PCLNL12	40	27	41	50	-10.0	-5.0	CN..120408	512.112	513.023	511.023	515.018	514.123	15 IP
H50PCLNL12	50	35	41	63	-10.0	-5.0	CN..120408	512.112	513.023	511.023	515.018	514.123	15 IP



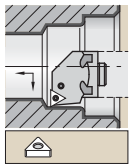
With through coolant
See pages A22–A23 for inserts



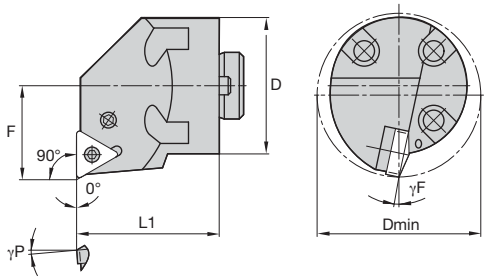
H-PDUN 93°

catalog number	D	F	L1	D min	γF°	γP°	gage insert	shim	shim pin	punch pin	toggle lever	lever lock screw	Torx plus
right hand													
H32PDUNR15	32	25	41	43	-12	-5.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
H40PDUNR15	40	27	41	50	-10	-5.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
H50PDUNR15	50	35	41	63	-10	-5.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
left hand													
H32PDUNL15	32	25	41	43	-12	-5.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
H40PDUNL15	40	27	41	50	-10	-5.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP
H50PDUNL15	50	35	41	63	-10	-5.0	DN..150608	512.153	513.023	515.018	511.024	514.128	15 IP

Order example:
Right hand: H32PDUNR15 Left hand: H32PDUNL15



With through coolant
See page A48 for inserts

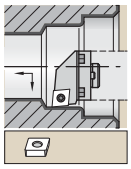


H-PTFN 90°

catalog number	D	F	L1	D min	γF°	γP°	gage insert	shim	shim pin	punch pin	toggle lever	lever lock screw	Torx plus
right hand													
H32PTFNR16	32	22	41	40	-10.0	-5.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
H32PTFNR22	32	22	41	40	-10.0	-5.0	TN..220408	512.023	513.023	515.018	511.023	514.123	15 IP
H40PTFNR16	40	27	41	50	-10.0	-5.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
H50PTFNR16	50	35	41	63	-8.0	-5.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
left hand													
H32PTFNL16	32	22	41	40	-10.0	-5.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP
H32PTFNL22	32	22	41	40	-10.0	-5.0	TN..220408	512.023	513.023	515.018	511.023	514.123	15 IP
H40PTFNL16	40	27	41	50	-10.0	-5.0	TN..160408	512.013	513.018	515.018	511.018	514.118	10 IP

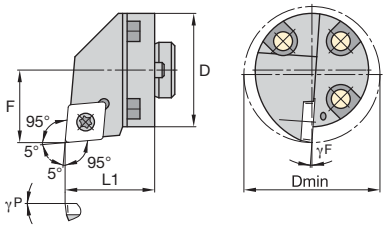
Order example:
Right hand: H32PTFNR16 Left hand: H32PTFNL16

SCREW-ON Inserts



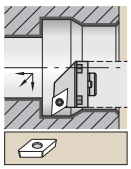
With through coolant

See page A104 for inserts



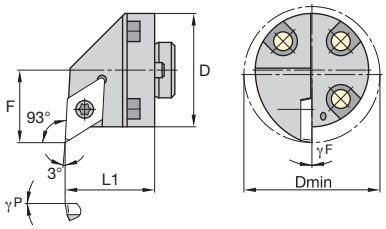
H-SCLC 95°

catalog number	D	F	L1	D min	γF°	γP°	gage insert	insert screw	Torx
right hand									
H25SCLCR09	25	17	20	32	-3.0	0.0	CC..09T308	MS1155	T15
H25SCLCR12	25	17	25	32	-5.0	0.0	CC..120408	MS1157	T15
H32SCLCR09	32	22	25	40	-3.0	0.0	CC..09T308	MS1155	T15
H32SCLCR12	32	22	25	40	-6.0	0.0	CC..120408	MS1158	T15
H40SCLCR09	40	27	41	50	-3.0	0.0	CC..09T308	MS1156	T15
H40SCLCR12	40	27	41	50	-3.0	0.0	CC..120408	MS1158	T15
H50SCLCR09	50	35	41	63	-3.0	0.0	CC..09T308	MS1156	T15
H50SCLCR12	50	35	41	63	-3.0	0.0	CC..120408	MS1158	T15
left hand									
H25SCLCL09	25	17	20	32	-3.0	0.0	CC..09T308	MS1155	T15
H25SCLCL12	25	17	25	32	-5.0	0.0	CC..120408	MS1157	T15
H32SCLCL09	32	22	25	40	-3.0	0.0	CC..09T308	MS1155	T15
H32SCLCL12	32	22	25	40	-6.0	0.0	CC..120408	MS1158	T15
H40SCLCL09	40	27	41	50	-3.0	0.0	CC..09T308	MS1156	T15
H40SCLCL12	40	27	41	50	-3.0	0.0	CC..120408	MS1158	T15
H50SCLCL09	50	35	41	63	-3.0	0.0	CC..09T308	MS1156	T15
H50SCLCL12	50	35	41	63	-3.0	0.0	CC..120408	MS1158	T15



With through coolant

See page A112 for inserts

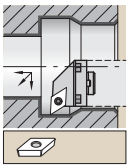


H-SDUC 93°

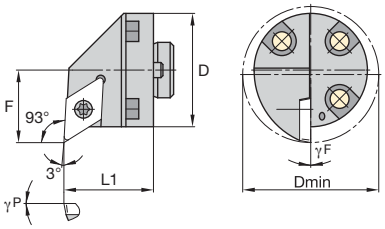
catalog number	D	F	L1	D min	γF°	γP°	gage insert	insert screw	Torx
right hand									
H25SDUCR11	25	17	20	32	-3.0	0.0	DC..11T308	MS1155	T15
H32SDUCR11	32	22	25	40	-3.0	0.0	DC..11T308	MS1155	T15
H40SDUCR11	40	27	41	50	-3.0	0.0	DC..11T308	MS1156	T15
H50SDUCR11	50	35	41	63	-3.0	0.0	DC..11T308	MS1156	T15
left hand									
H25SDUCL11	25	17	20	32	-3.0	0.0	DC..11T308	MS1155	T15
H32SDUCL11	32	22	25	40	-3.0	0.0	DC..11T308	MS1155	T15
H40SDUCL11	40	27	41	50	-3.0	0.0	DC..11T308	MS1156	T15
H50SDUCL11	50	35	41	63	-3.0	0.0	DC..11T308	MS1156	T15

Order example:
Right hand: H25SDUCR11 Left hand: H25SDUCL11

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



With through coolant
See pages A130–A131 for inserts



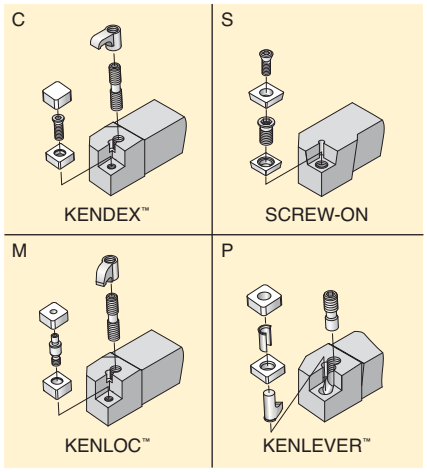
H-SVUB 93°

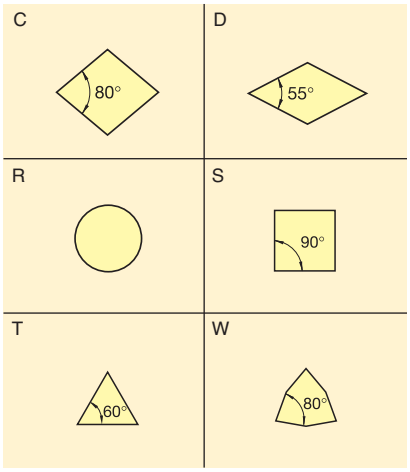
catalog number	D	F	L1	D min	γF°	γP°	gage insert	insert screw	Torx
right hand									
H25SVUBR11	25	17	25	32	-5.0	0.0	VB..110304	MS1153	T7
H32SVUBR11	32	22	25	40	-4.0	0.0	VB..110304	MS1153	T7
H32SVUBR16	32	22	25	40	-6.0	0.0	VB..160408	MS1156	T15
H40SVUBR16	40	27	41	50	-3.0	0.0	VB..160408	MS1156	T15
H50SVUBR16	50	35	41	63	-3.0	0.0	VB..160408	MS1156	T15
left hand									
H25SVUBL11	25	17	25	32	-5.0	0.0	VB..110304	MS1153	T7
H32SVUBL11	32	22	25	40	-4.0	0.0	VB..110304	MS1153	T7
H32SVUBL16	32	22	25	40	-6.0	0.0	VB..160408	MS1156	T15
H40SVUBL16	40	27	41	50	-3.0	0.0	VB..160408	MS1156	T15
H50SVUBL16	50	35	41	63	-3.0	0.0	VB..160408	MS1156	T15

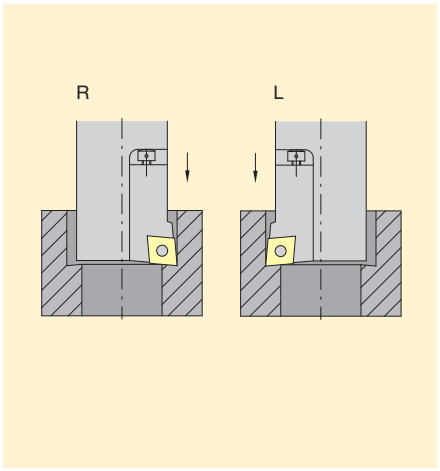
Order example:
Right hand: H25SVUBR11 Left hand: H25SVUBL11

Cartridge Identification System

KENNAMETAL







1. Insert Holding Method

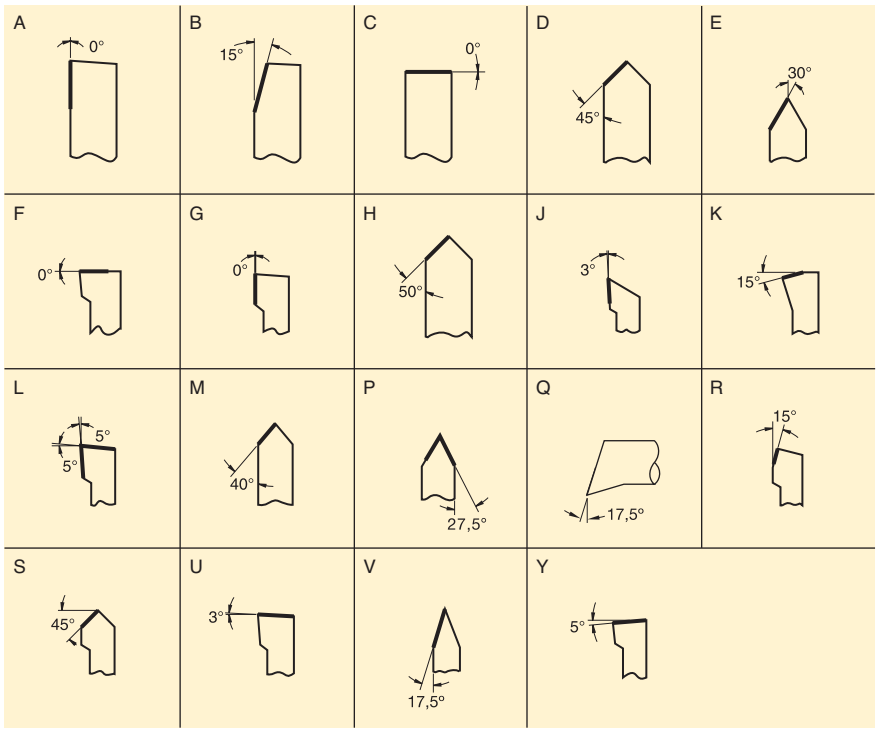
2. Insert Shape

5. Hand of Tool

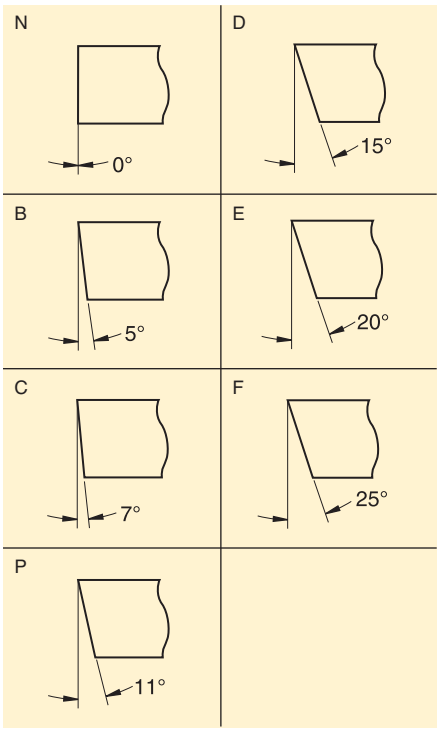
Example:

M C L N R

3. Tool Style or Lead Angle

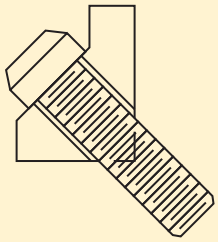


4. Insert Clearance

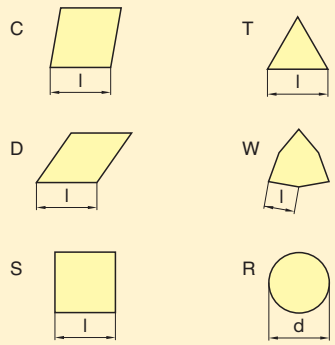


*Kennametal standard only

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



A — angular acc. ISO 5611

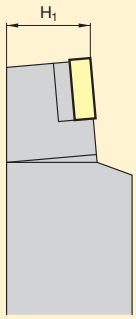


C — Cartridge

7. Cartridge Identification — 8. Cartridge Mounting — 9. Insert Size

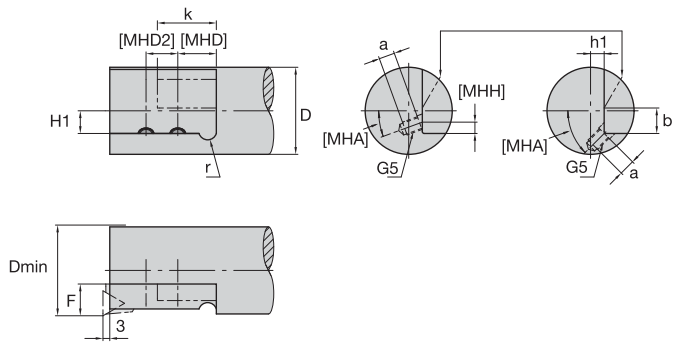
20	C	A	-	12

6. Cartridge Size



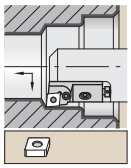
H_1 = cutting edge height of cartridge, in millimeters.

Cartridge Mounting Dimensions

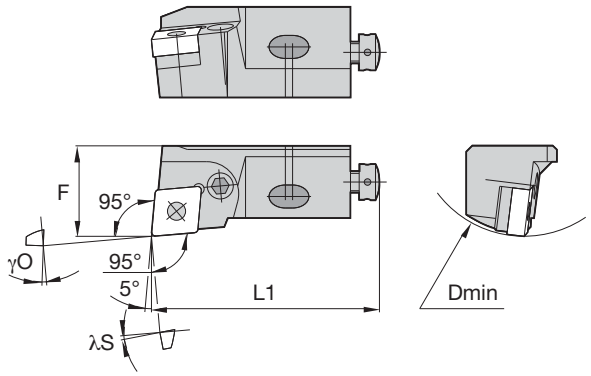


NOTE: All dimensions below in mm

size of cartridge	H1	h1	Dmin	D	a	b	[MHD]	F	k	r	[MHH]	[MHD2]	[MHA]	[G5]
8	6	2,0	20	17	10	11	12	8	12,0	4,0	3,5	-	20	M 3,5 x 0,60
10	8	2,5	25	22	10	14	17	10	18,5	5,0	4,5	-	20	M 4,0 x 0,70
12	10	6,0	40	37	14	16	20	14	26,0	8,0	5,0	-	20	M 6,0 x 1,00
16	12	5,0	50	47	14	21	20	20	28,0	9,5	6,0	-	20	M 6,0 x 1,00
20	16	5,0	60	57	15	24	25	25	34,0	9,5	-	-	45	M 8,0 x 1,25
25	20	10,0	70	67	15	31	30	25	36,0	9,5	-	-	45	M 8,0 x 1,25
	25	18,0	100	97	19	36	30	32	60,0	12,5	-	20	45	M10,0 x 1,50



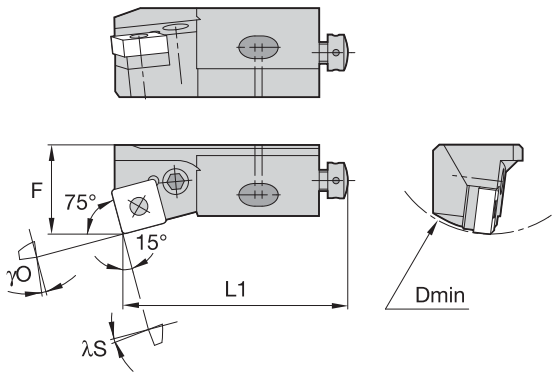
See pages A6–A7 for inserts



PCLN 95°

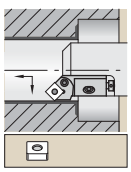
catalog number	D min	F	L1	FA	L1A	λS°	γO°	gage insert
right hand								
PCLNR12CA12	50	20,0	55	–	–	-6.0	-9.0	CN..120408/CN..432
PCLNR16CA12	60	25,0	63	–	–	-6.0	-7.0	CN..120408/CN..432
left hand								
PCLNL16CA12	60	25,0	63	–	–	-6.0	-7.0	CN..120408/CN..432

See pages A36–A37 for inserts

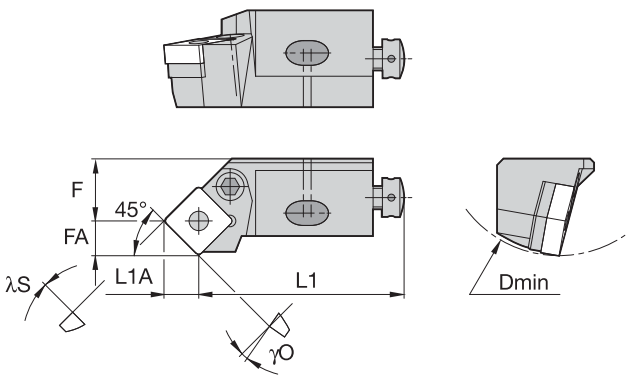


PSKN 75°

catalog number	D min	F	L1	FA	L1A	λS°	γO°	gage insert
right hand								
PSKNR12CA-12	50	20,0	55	–	3	-8.0	-6.0	SN..120408/SN..432
PSKNR16CA-12	60	25,0	63	–	3	-6.0	-6.0	SN..120408/SN..432
left hand								
PSKNL16CA-12	60	25,0	63	–	3	-6.0	-6.0	SN..120408/SN..432



See pages A36–A37 for inserts



PSSN 45°

catalog number	D min	F	L1	FA	L1A	λS°	γO°	gage insert
right hand								
PSSNR12CA-12	50	20,0	47	8,7	8,3	-10.0	0.0	SN..120408/SN..432
PSSNR16CA-12	60	25,0	53	8,7	8,3	-10.0	0.0	SN..120408/SN..432
left hand								
PSSNL12CA12	50	11,3	47	8,7	8,3	0.0	-10.0	SN..120408
PSSNL16CA12	60	16,3	53	8,7	8,3	0.0	-10.0	SN..120408

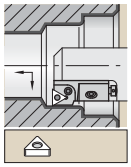
Order example:
Right hand: PSSNR12CA12 Left hand: PSSNL12CA12

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

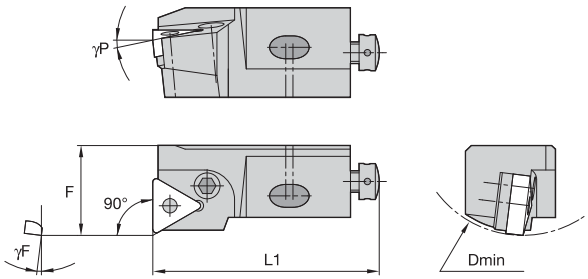
shim	shim pin	lever	lever screw	Torx Plus	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	511.022	514.122	K10IP	KUAM28	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
512.112	513.023	511.023	514.123	K15IP	KUAM23	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
512.112	513.023	511.023	514.123	K15IP	KUAM23	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	shim pin	lever	lever screw	Torx Plus	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	511.022	514.122	K10IP	KUAM28	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
512.063	513.023	511.023	514.123	K15IP	KUAM23	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
512.063	513.023	511.023	514.123	K15IP	KUAM23	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	shim pin	lever	lever screw	Torx Plus	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	511.022	514.122	K10IP	KUAM28	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
512.063	513.023	511.023	514.123	K15IP	KUAM23	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	–	511.022	514.122	K10IP	KUAM28	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
512.063	513.023	511.023	514.123	K15IP	KUAM23	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050



See page A48 for inserts



PTFN 90°

catalog number	D min	F	L1	FA	L1A	γF°	γP°	gage insert
right hand								
PTFNR12CA-16	50	20,0	55	–	–	-7.0	-6.0	TN..160408/TN..332
PTFNR16CA-16	60	25,0	63	–	–	-7.0	-6.0	TN..160408/TN..332
left hand								
PTFNL12CA-16	50	20,0	55	–	–	-7.0	-6.0	TN..160408/TN..332

Order example:
Right hand: PTFNR12CA16 Left hand: PTFNL12CA16

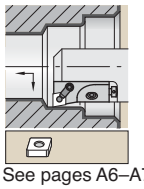
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

shim	shim pin	lever	lever screw	Torx Plus	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	511.030	514.112	K8IP	KUAM28	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
512.013	513.018	511.018	514.118	K10IP	KUAM23	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	–	511.030	514.112	K8IP	KUAM28	2 MM	KUAM31	191.406	4 MM	CSWM 060 050

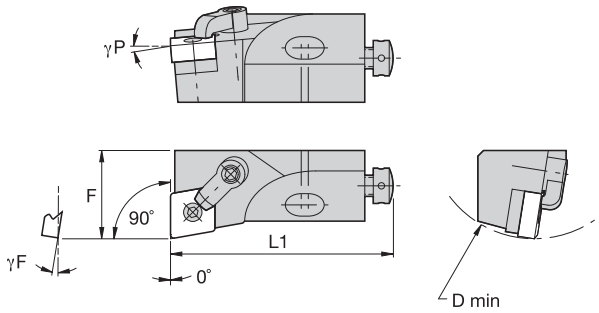
KENLOC™ Cartridges

KENNAMETAL

KENLOC Inserts

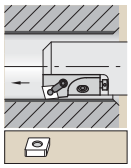


See pages A6–A7 for inserts

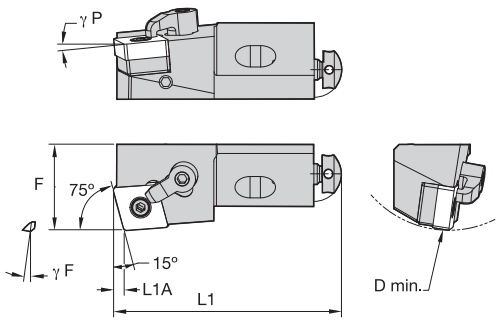


MCFN 90°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MCFNR10CA09	40	14,0	50	–	-9.0	-9.0	CN..090308/CN..322
MCFNR12CA12	50	20,0	55	–	-9.0	-5.0	CN..120408/CN..432
MCFNR16CA12	60	25,0	63	–	-9.0	-5.0	CN..120408/CN..432
MCFNR20CA12	70	25,0	70	–	-9.0	-5.0	CN..120408/CN..432
left hand							
MCFNL10CA09	40	14,0	50	–	-9.0	-9.0	CN..090308/CN..322
MCFNL12CA12	50	20,0	55	–	-9.0	-5.0	CN..120408/CN..432
MCFNL16CA12	60	25,0	63	–	-9.0	-5.0	CN..120408/CN..432



See pages A6–A7 for inserts



MCKN 75°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MCKNR12CA12	50	20,0	55	3	-9.0	-5.0	CN..120408/CN..432
MCKNR16CA12	60	25,0	63	3	-9.0	-5.0	CN..120408/CN..432
left hand							
MCKNL12CA12	50	20,0	55	3	-9.0	-5.0	CN..120408/CN..432
MCKNL16CA12	60	25,0	63	3	-9.0	-5.0	CN..120408/CN..432

Order example:
Right hand: MCKNR16CA12 Left hand: MCKNL16CA12

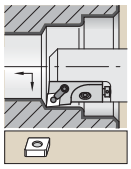
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ICSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
ICSN432	KLM46	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ICSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

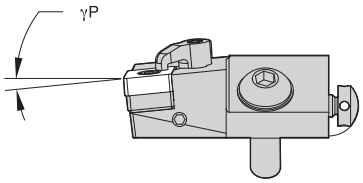
shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ICSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ICSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

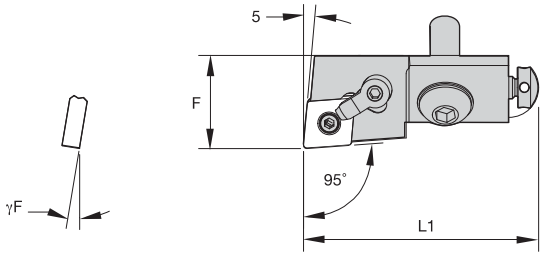
KENLOC™ Cartridges

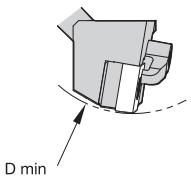
KENLOC Inserts



See pages A6–A7 for inserts

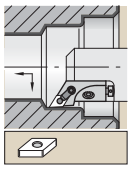




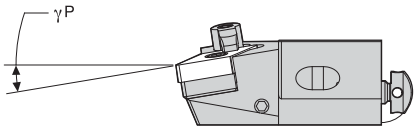


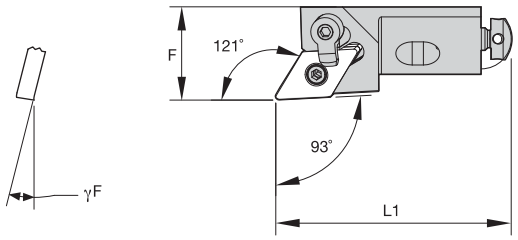
MCLN 95°

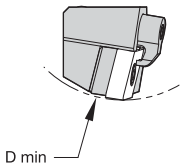
catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MCLNR12CA12	50	20,0	55	–	-9.0	-5.0	CN..120408/CN..432
MCLNR16CA12	60	25,0	63	–	-9.0	-5.0	CN..120408/CN..432
MCLNR20CA12	70	25,0	70	–	-9.0	-5.0	CN..120408/CN..432
MCLNR25CA12	100	32,0	100	–	-9.0	-5.0	CN..120408/CN..432
MCLNR25CA16	100	32,0	100	–	-9.0	-5.0	CN..160612/CN..543
MCLNR25CA19	100	32,0	100	–	-9.0	-5.0	CN..190612/CN..643
left hand							
MCLNL12CA12	50	20,0	55	–	-9.0	-5.0	CN..120408/CN..432
MCLNL16CA12	60	25,0	63	–	-9.0	-5.0	CN..120408/CN..432
MCLNL20CA12	70	25,0	70	–	-9.0	-5.0	CN..120408/CN..432
MCLNL25CA12	100	32,0	100	–	-9.0	-5.0	CN..120408/CN..432
MCLNL25CA16	100	32,0	100	–	-9.0	-5.0	CN..160612/CN..543
MCLNL25CA19	100	32,0	100	–	-9.0	-5.0	CN..190612/CN..643



See pages A22–A23 for inserts







MDJN 93°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MDJNR12CA11	50	20	55	–	-9.0	-9.0	DN..110408/DN..322
MDJNR16CA15	60	25	63	–	-9.0	-9.0	DN..150408/DN..3.532
MDJNR20CA15	70	25	70	–	-8.5	-8.5	DN..150408/DN..3.532
left hand							
MDJNL12CA11	50	20	55	–	-9.0	-9.0	DN..110408/DN..322
MDJNL16CA15	60	25	63	–	-9.0	-9.0	DN..150408/DN..3.532
MDJNL20CA15	70	25	70	–	-8.5	-8.5	DN..150408/DN..3.532

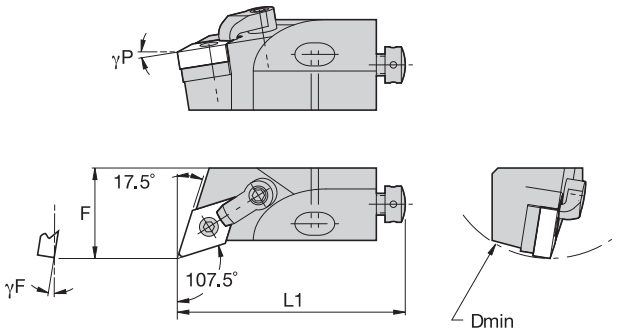
Order example:
Right hand: MDJNR16CA15 Left hand: MDJNL16CA15

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ICSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
ICSN432	KLM46	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
ICSN432	KLM46	2.5 MM	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	MS364	8 MM	CSWM 100 080
ICSN533	KLM58	3 MM	CKM41	STCM20	3 MM	KUAM26	3 MM	KUAM32	MS364	8 MM	CSWM 100 080
ICSN633	KLM68	4 MM	CKM35	STCM8	4 MM	KUAM27	4 MM	KUAM32	MS364	8 MM	CSWM 100 080
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ICSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
ICSN432	KLM46	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
ICSN432	KLM46	2.5 MM	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	MS364	8 MM	CSWM 100 080
ICSN533	KLM58	3 MM	CKM41	STCM20	3 MM	KUAM26	3 MM	KUAM32	MS364	8 MM	CSWM 100 080
ICSN633	KLM68	4 MM	CKM35	STCM8	4 MM	KUAM27	4 MM	KUAM32	MS364	8 MM	CSWM 100 080

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM33L	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
IDSN432	KLM46S	2.5 MM	CKM36	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
IDSN432	KLM46	2.5 MM	CKM41	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	KLM33L	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
IDSN432	KLM46S	2.5 MM	CKM36	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
IDSN432	KLM46	2.5 MM	CKM41	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

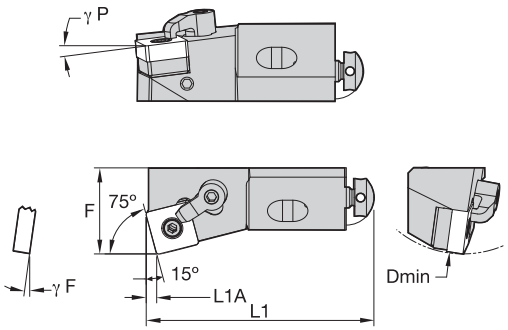
See pages A22–A23 for inserts



MDQN 107,5°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MDQNR16CA15	60	25,0	63	–	-9.0	-6.0	DN..150408/DN..3.532
MDQNR20CA15	70	25,0	70	–	-9.0	-8.0	DN..150408/DN..3.532
left hand							
MDQNL16CA15	60	25,0	63	–	-9.0	-6.0	DN..150408/DN..3.532
MDQNL20CA15	70	25,0	70	–	-9.0	-8.0	DN..150408/DN..3.532

See pages A36–A37 for inserts



MSKN 75°

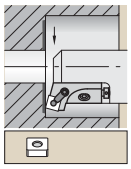
catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MSKNR10CA09	40	14,0	50	2,22	-9.0	-5.0	SN..090308/SN..322
MSKNR12CA12	50	20,0	55	3,04	-9.0	-5.0	SN..120408/SN..432
MSKNR16CA12	60	25,0	63	3,04	-9.0	-5.0	SN..120408/SN..432
MSKNR20CA15	70	25,0	70	3,74	-9.0	-5.0	SN..150612/SN..543
MSKNR25CA19	100	32,0	100	4,56	-9.0	-5.0	SN..190612/SN..543
left hand							
MSKNL10CA09	40	14,0	50	2,22	-9.0	-5.0	SN..090308/SN..322
MSKNL12CA12	50	20,0	55	3,04	-9.0	-5.0	SN..120408/SN..432
MSKNL16CA12	60	25,0	63	3,04	-9.0	-5.0	SN..120408/SN..432
MSKNL20CA15	70	25,0	70	3,74	-9.0	-5.0	SN..150612/SN..543
MSKNL25CA12	100	32,0	100	3,04	-9.0	-5.0	SN..120408/SN..432

Order example:
Right hand: MSKNR10CA09 Left hand: MSKNL10CA09

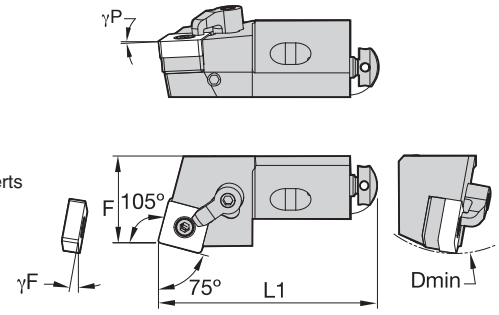
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
IDSN432	KLM46S	2.5 MM	CKM36	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
IDSN432	KLM46	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
IDSN432	KLM46S	2.5 MM	CKM36	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
IDSN432	KLM46	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
SKSN566K	KLM54	2.5 MM	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
ICSN633	KLM68	4 MM	CKM35	STCM8	4 MM	KUAM27	4 MM	KUAM32	MS364	8 MM	CSWM 100 080
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
SKSN566K	KLM54	2.5 MM	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
ICSN432	KLM46	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	MS364	8 MM	CSWM 100 080

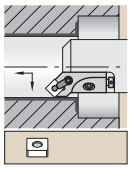


See pages A36–A37 for inserts

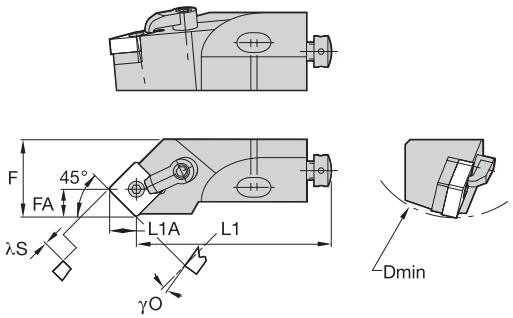


MSRN 75°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
MSRNR10CA09	40	14,0	50	-9.0	-5.0	SN..090308/SN..322
MSRNR12CA12	50	20,0	55	-9.0	-5.0	SN..120408/SN..432
MSRNR16CA12	60	25,0	63	-9.0	-5.0	SN..120408/SN..432
MSRNR20CA15	70	25,0	70	-9.0	-5.0	SN..150612/SN..543
left hand						
MSRNL10CA09	40	14,0	50	-9.0	-5.0	SN..090308/SN..322
MSRNL12CA12	50	20,0	55	-9.0	-5.0	SN..120408/SN..432
MSRNL16CA12	60	25,0	63	-9.0	-5.0	SN..120408/SN..432
MSRNL20CA15	70	25,0	70	-9.0	-5.0	SN..150612/SN..543



See pages A36–A37 for inserts



MSSN 45°

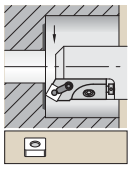
catalog number	D min	F	L1	L1A	λS°	γO°	gage insert
right hand							
MSSNR10CA09	40	14,0	44	6,09	-13.0	0.0	SN..090308/SN..322
MSSNR12CA12	50	20,0	47	8,33	-13.0	0.0	SN..120408/SN..432
MSSNR16CA12	60	25,0	53	8,33	-13.0	0.0	SN..120408/SN..432
MSSNR20CA15	70	25,0	60	10,25	-13.0	0.0	SN..150612/SN..543
left hand							
MSSNL10CA09	40	14,0	44	6,09	-13.0	0.0	SN..090308/SN..322
MSSNL12CA12	50	20,0	47	8,33	-13.0	0.0	SN..120408/SN..432
MSSNL16CA12	60	25,0	53	8,33	-13.0	0.0	SN..120408/SN..432
MSSNL20CA15	70	25,0	60	10,25	-13.0	0.0	SN..150612/SN..543

Order example:
Right hand: MSSNR10CA09 Left hand: MSSNL10CA09

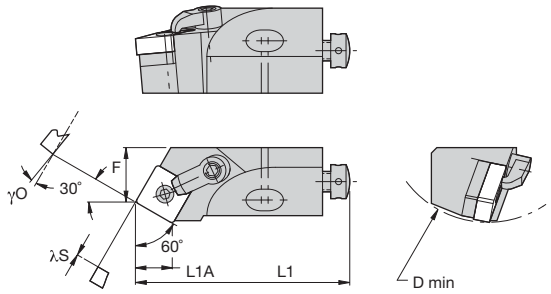
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adj. screw	mounting screw	Hex (mm)	washer
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
SKSN566K	KLM54	2.5 MM	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
SKSN566K	KLM54	2.5 MM	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adj. screw	mounting screw	Hex (mm)	washer
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM36	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
SKSN566K	KLM54	2.5 MM	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM36	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
SKSN566K	KLM54	2.5 MM	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

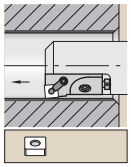


See pages A36–A37 for inserts

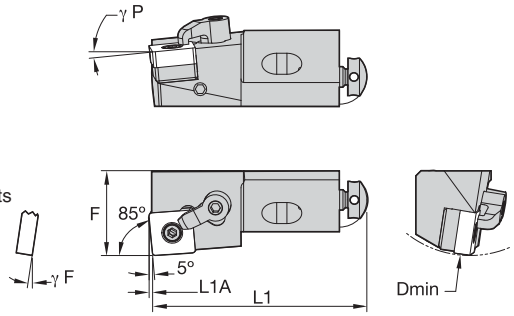


MSTN 60°

catalog number	D min	F	L1	FA	λS°	γO°	gage insert
right hand							
MSTNR10CA09	40	9,0	50	13,31	-11.0	0.0	SN..090308/SN..322
MSTNR12CA12	50	13,0	55	5,86	-11.0	0.0	SN..120408/SN..432
MSTNR16CA12	60	15,0	63	5,90	0.0	-11.0	SN..120408/SN..432
left hand							
MSTNL10CA09	40	9,0	50	13,31	-11.0	0.0	SN..090308/SN..322
MSTNL16CA12	60	15,0	63	5,90	-11.0	0.0	SN..120408/SN..432
MSTNL20CA15	70	15,0	70	7,26	-11.0	0.0	SN..150612/SN..543



See pages A36–A37 for inserts



MSYN 85°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MSYNR10CA09	40	14,0	50	0,75	-9.0	-5.0	SN..090308/SN..322
MSYNR12CA12	50	20,0	55	1,02	-9.0	-5.0	SN..120408/SN..432
MSYNR16CA12	60	25,0	63	1,02	-9.0	-5.0	SN..120408/SN..432
MSYNR25CA19	100	32,0	100	1,54	-9.0	-5.0	SN..190612/SN..643
left hand							
MSYNL10CA09	40	14,0	50	0,75	-9.0	-5.0	SN..090308/SN..322
MSYNL12CA12	50	20,0	55	1,02	-9.0	-5.0	SN..120408/SN..432
MSYNL16CA12	60	25,0	63	1,02	-9.0	-5.0	SN..120408/SN..432
MSYNL20CA15	70	25,0	70	1,26	-9.0	-5.0	SN..150612/SN..543

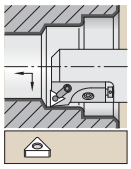
Order example:
Right hand: MSYNR10CA09 Left hand: MSYNL10CA09

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

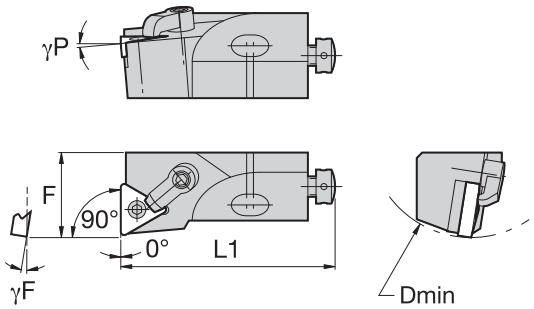
shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
SKSN566K	KLM54	2.5 MM	CKM21	STCM20	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM36	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
ISSN633	KLM68	4 MM	CKM34	STCM8	4 MM	KUAM27	4 MM	KUAM33	MS364	8 MM	CSWM 100 080
–	KLM33	2 MM	CKM36	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	KLM43	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ISSN432	KLM46S	2.5 MM	CKM34	STCM9	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
SKSN566K	KLM54	2.5 MM	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM33	191.407	6 MM	CSWM 080 050

KENLOC Inserts

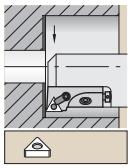


See page A48 for inserts

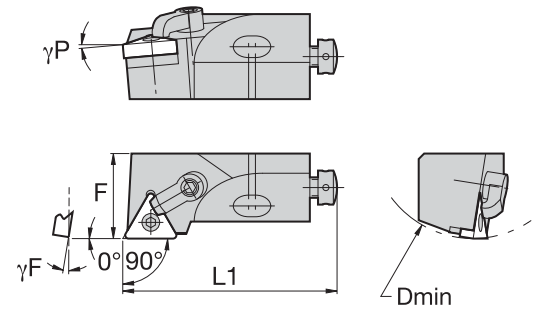


MTFN 90°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MTFNR12CA16	50	20,0	55	–	-9.0	-5.0	TN..160408/TN..332
MTFNR16CA16	60	25,0	63	–	-9.0	-5.0	TN..160408/TN..332
MTFNR20CA22	70	25,0	70	–	-9.0	-5.0	TN..220408/TN..432
MTFNR25CA27	100	32,0	100	–	-9.0	-5.0	TN..270612/TN..443
left hand							
MTFNL12CA16	50	20,0	55	–	-9.0	-5.0	TN..160408/TN..332
MTFNL16CA16	60	25,0	63	–	-9.0	-5.0	TN..160408/TN..332
MTFNL20CA22	70	25,0	70	–	-9.0	-5.0	TN..220408/TN..432



See page A48 for inserts



MTGN 90°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MTGNR12CA16	50	20,0	55	–	-9.0	-5.0	TN..160408/TN..332
MTGNR16CA16	60	25,0	63	–	-9.0	-5.0	TN..160408/TN..332
MTGNR20CA22	70	25,0	70	–	-9.0	-5.0	TN..220408/TN..432
left hand							
MTGNL12CA16	50	20,0	55	–	-9.0	-5.0	TN..160408/TN..332
MTGNL16CA16	60	25,0	63	–	-9.0	-5.0	TN..160408/TN..332
MTGNL20CA22	70	25,0	70	–	-9.0	-5.0	TN..220408/TN..432

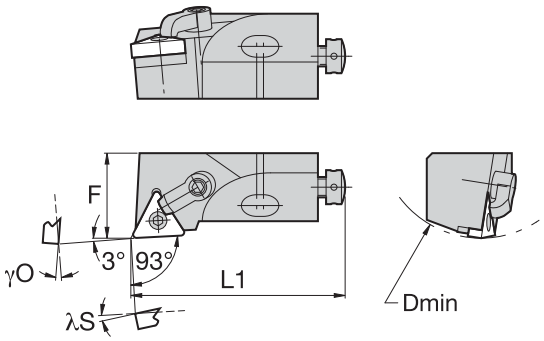
Order example:
Right hand: MTGNR16CA16 Left hand: MTGNL16CA16

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM33L	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ITSN322	KLM34L	2 MM	CKM34	STCM9	2 MM	KUAM25	2 MM	KUAM32	191.407	5 MM	CSWM 080 050
ITSN433	KLM46	2.5 MM	CKM35	STCM37	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
ITSN534	KLM58	3 MM	CKM38	STCM39	3 MM	KUAM26	3 MM	KUAM32	MS364	8 MM	CSWM 100 080
–	KLM33L	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ITSN322	KLM34L	2 MM	CKM34	STCM9	2 MM	KUAM25	2 MM	KUAM32	191.407	5 MM	CSWM 080 050
ITSN433	KLM46	2.5 MM	CKM35	STCM37	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM33L	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ITSN322	KLM34L	2 MM	CKM34	STCM9	2 MM	KUAM25	2 MM	KUAM32	191.407	5 MM	CSWM 080 050
ITSN433	KLM46	2.5 MM	CKM35	STCM37	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	KLM33L	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ITSN322	KLM34L	2 MM	CKM34	STCM9	2 MM	KUAM25	2 MM	KUAM32	191.407	5 MM	CSWM 080 050
ITSN433	KLM46	2.5 MM	CKM35	STCM37	2.5 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

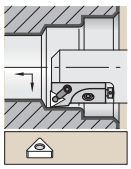
KENLOC Inserts

See page A48 for inserts

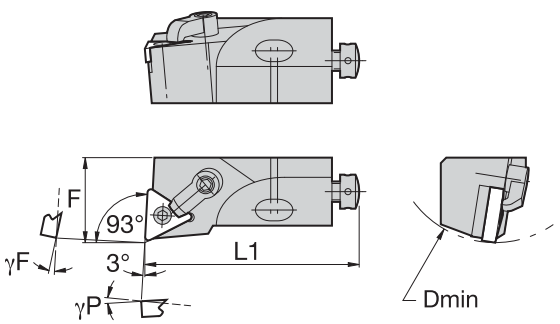


MTJN 93°

catalog number	D min	F	L1	L1A	λS°	γO°	gage insert
right hand							
MTJNR12CA16A	50	20,0	55	–	–	–	TN..160408/TN..332
left hand							
MTJNL12CA16A	50	20,0	55	–	–	–	TN..160408/TN..332
MTJNL20CA4C	70	25,0	70	–	-5.0	-9.0	TN..220408/TN..432



See page A48 for inserts



MTUN 93°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
MTUNR16CA16	60	25,0	63	–	-9.0	-5.0	TN..160408/TN..332
MTUNR20CA22	70	25,0	70	–	-9.0	-5.0	TN..220408/TN..432
left hand							
MTUNL12CA16	50	20,0	55	–	-9.0	-5.0	TN..160408/TN..332
MTUNL16CA16	60	25,0	63	–	-9.0	-5.0	TN..160408/TN..332
MTUNL20CA22	70	25,0	70	–	-9.0	-5.0	TN..220408/TN..432

Order example:
Right hand: MTUNR16CA16 Left hand: MTUNL12CA16

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

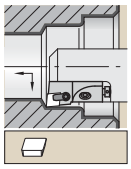
shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	KLM33L	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
–	KLM33L	2 MM	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
ITSN433	KLM46	2.5 MM	CKM37	STCM40	3 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	lock pin	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
ITSN322	KLM34L	2 MM	CKM34	STCM9	2 MM	KUAM25	2 MM	KUAM32	191.407	5 MM	CSWM 080 050
ITSN433	KLM46	–	CKM35	STCM37	2.5 MM	KUAM25	2.5 MM	KUAM33	191.407	5 MM	CSWM 080 050
–	KLM33L	5/64	CKM34	STCM38	5/64	KUAM22	4 MM	KUAM31	191.406	4 MM	CSWM 060 050
ITSN322	KLM34L	2 MM	CKM34	STCM9	2 MM	KUAM25	2 MM	KUAM32	191.407	5 MM	CSWM 080 050
ITSN433	KLM46	–	CKM37	STCM40	2.5 MM	KUAM25	2.5 MM	KUAM33	191.407	5 MM	CSWM 080 050

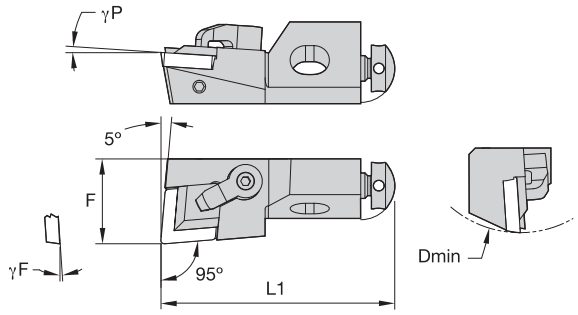
KENDEX™ Cartridges

KENNAMETAL

KENDEX Positive Inserts

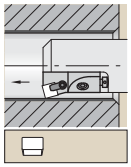


See page A90 for inserts

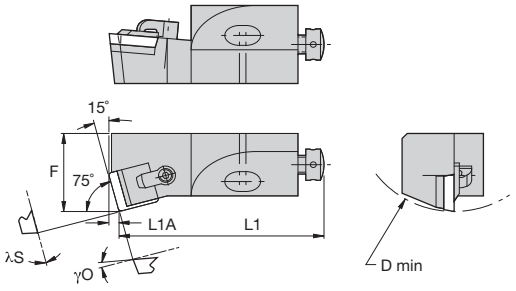


CCLP 95°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
CCLPR12CA12	50	20,0	55	3.5	3.5	CP..120308/CP..422
left hand						
CCLPL12CA12	50	20,0	55	3.5	3.5	CP..120308/CP..422

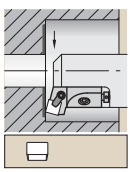


See pages A92–A93 for inserts

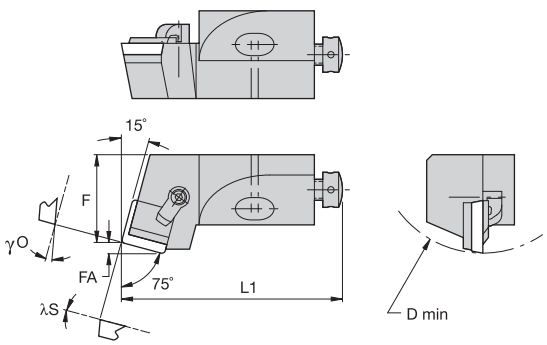


CSKP 75°

catalog number	D min	F	L1	L1A	λS°	γO°	gage insert
right hand							
CSKPR10CA09	40	14,0	50	2,2	0.0	5.0	SP..090308/SP..322
CSKPR12CA12	50	20,0	55	3,1	0.0	5.0	SP..120308/SP..422
CSKPR20CA12	70	25,0	70	3,1	0.0	5.0	SP..120308/SP..422
left hand							
CSKPL12CA12	50	20,0	55	3,1	0.0	5.0	SP..120308/SP..422
CSKPL20CA12	70	25,0	70	3,1	0.0	5.0	SP..120308/SP..422



See pages A92–A93 for inserts



CSRP 75°

catalog number	D min	F	L1	FA	L1A	λS°	γO°	gage insert
right hand								
CSRPR10CA09	40	14,0	50	2,2	–	0.0	0.0	SP..090308/SP..322
CSRPR12CA12	50	20,0	55	3,0	–	3.0	0.0	SP..120308/SP..422
left hand								
CSRPL10CA09	40	14,0	50	2,2	–	0.0	0.0	SP..090308/SP..322
CSRPL12CA12	50	20,0	55	3,0	–	3.0	0.0	SP..120308/SP..422

Order example:
Right hand: CSRPR10CA09 Left hand: CSRPL10CA09

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050

shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
SM840	MS109	2 MM	CKM34	STCM38	2 MM	KUAM24	2 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
SM840	MS109	2 MM	CKM34	STCM38	2 MM	KUAM24	2 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050

KENDEX™ Cartridges

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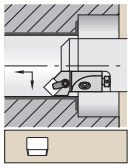
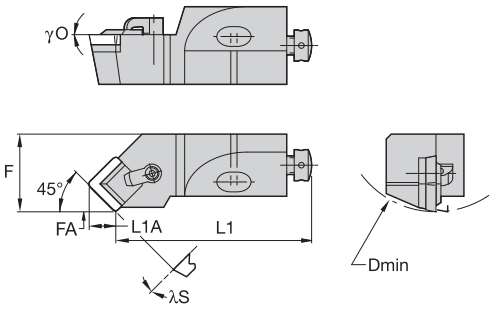
KENDEX Positive Inserts

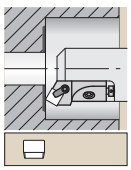


See pages A92–A93 for inserts

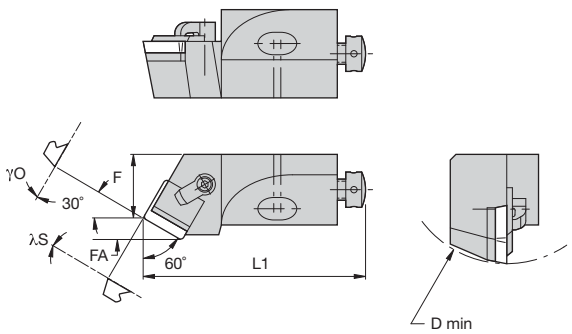


CSSP 45°

catalog number	D min	F	L1	FA	L1A	λS°	γO°	gage insert
right hand								
CSSPR10CA09	40	14,0	44	6,5	6,080	0.0	0.0	SP..090308/SP..322
CSSPR12CA12	50	20,0	47	8,7	8,320	0.0	0.0	SP..120308/SP..422
CSSPR16CA12	60	25,0	53	8,7	8,320	0.0	0.0	SP..120308/SP..422
left hand								
CSSPL10CA09	40	14,0	44	6,5	6,080	0.0	0.0	SP..090308/SP..322
CSSPL12CA12	50	20,0	47	8,7	8,320	0.0	0.0	SP..120308/SP..422
CSSPL16CA12	60	25,0	53	8,7	8,320	0.0	0.0	SP..120308/SP..422

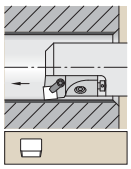


See pages A92–A93 for inserts

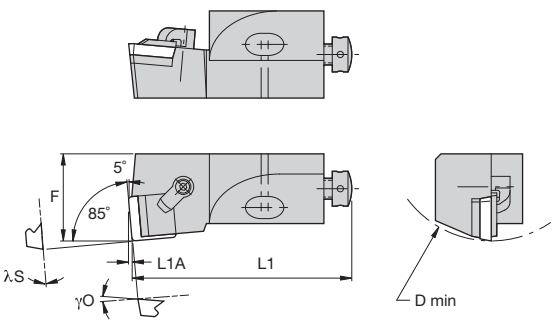


CSTP 60°

catalog number	D min	F	L1	FA	λS°	γO°	gage insert
right hand							
CSTPR10CA09	40	9,0	50	4,3	0.0	0.0	SP..090308/SP..322
CSTPR12CA12	50	13,0	55	5,8	0.0	0.0	SP..120308/SP..422
left hand							
CSTPL10CA09	40	9,0	50	4,3	0.0	0.0	SP..090308/SP..322



See pages A92–A93 for inserts



CSYP 85°

catalog number	D min	F	L1	FA	L1A	λS°	γO°	gage insert
right hand								
CSYPR10CA09	40	14,0	50	–	0,8	0.0	5.0	SP..090308/SP..322
CSYPR12CA12	50	20,0	55	–	1,0	0.0	5.0	SP..120308/SP..422
CSYPR20CA12	70	25,0	70	–	1,0	0.0	5.0	SP..120308/SP..422
left hand								
CSYPL10CA09	40	14,0	50	–	0,8	0.0	5.0	SP..090308/SP..322
CSYPL12CA12	50	20,0	55	–	1,0	0.0	5.0	SP..120308/SP..422

Order example:
Right hand: CSYPR10CA09 Left hand: CSYPL10CA09

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
SM840	CS109PKG	2 MM	CKM34	STCM9	2 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
SM840	CS109PKG	2 MM	CKM34	STCM9	2 MM	KUAM25	2 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adj. screw	mounting screw	Hex (mm)	washer
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050

shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
SM840	MS111	2 MM	CKM20	STCM11	3 MM	KUAM26	3 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050

KENDEX™ Cartridges

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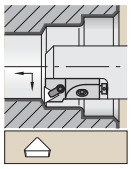
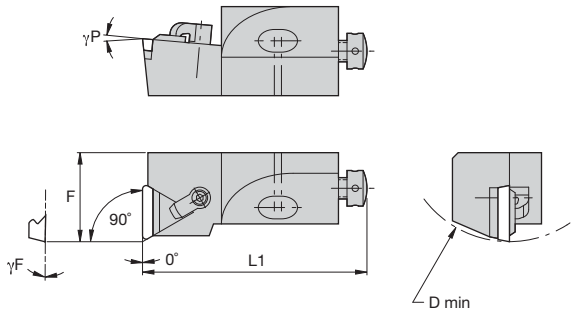
KENDEX Positive Inserts

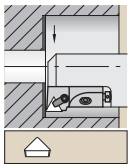


See page A96 for inserts

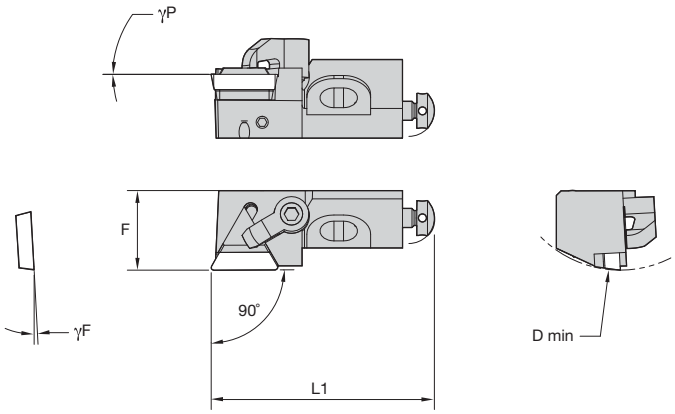


CTFP 90°

catalog number	D min	F	L1	FA	L1A	γF°	γP°	gage insert
right hand								
CTFPR10CA11	40	14,0	50	–	–	0.0	5.0	TP..110304/TP..421
CTFPR12CA16	50	20,0	55	–	–	0.0	5.0	TP..160308/TP..322
CTFPR16CA16	60	25,0	63	–	–	0.0	5.0	TP..160308/TP..322
CTFPR20CA22	70	25,0	70	–	–	0.0	5.0	TP..220408/TP..432
left hand								
CTFPL10CA11	40	14,0	50	–	–	0.0	5.0	TP..110304/TP..421
CTFPL12CA16	50	20,0	55	–	–	0.0	5.0	TP..160308/TP..322
CTFPL16CA16	60	25,0	63	–	–	0.0	5.0	TP..160308/TP..322



See page A96 for inserts



CTGP 90°

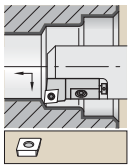
catalog number	D min	F	L1	FA	L1A	γF°	γP°	gage insert
right hand								
CTGPR10CA11	40	14,0	50	–	–	3.0	0.0	TP..110304/TP..421
CTGPR12CA16	50	20,0	55	–	–	3.0	0.0	TP..160308/TP..322
CTGPR16CA16	60	25,0	63	–	–	3.0	0.0	TP..160308/TP..322
CTGPR20CA22	70	25,0	70	–	–	3.0	0.0	TP..220408/TP..432
left hand								
CTGPL12CA16	50	20,0	55	–	–	3.0	0.0	TP..160308/TP..322
CTGPL20CA22	70	25,0	70	–	–	3.0	0.0	TP..220408/TP..432

Order example:
Right hand: CTGPR12CA11 Left hand: CTGPL12CA16

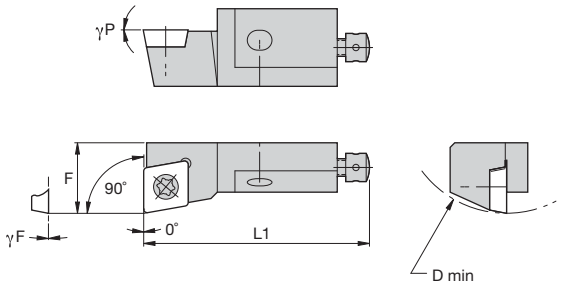
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
SM841	MS109	2 MM	CKM34	STCM38	2 MM	KUAM24	2 MM	KUAM32	191.407	5 MM	CSWM 080 050
SM837	MS125	2.5 MM	CKM35	STCM8	4 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
SM841	MS109	2 MM	CKM34	STCM38	2 MM	KUAM24	2 MM	KUAM32	191.407	5 MM	CSWM 080 050

shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
–	–	–	CKM34	STCM38	2 MM	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
SM841	MS109	2 MM	CKM34	STCM38	2 MM	KUAM24	2 MM	KUAM32	191.407	5 MM	CSWM 080 050
SM837	MS125	2.5 MM	CKM35	STCM8	4 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
–	–	–	CKM34	STCM38	2 MM	KUAM22	2 MM	KUAM31	191.406	4 MM	CSWM 060 050
SM837	MS125	2.5 MM	CKM35	STCM8	4 MM	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

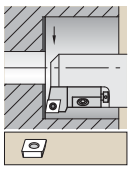


See pages A108–A109 for inserts

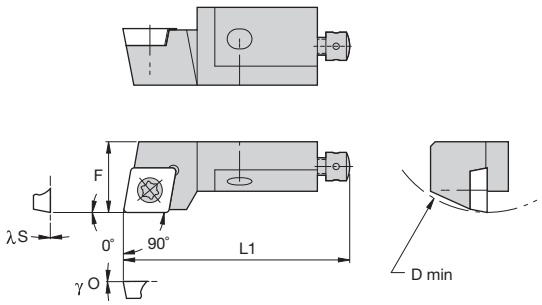


SCFP 90°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SCFPR06CA05	20	8,0	25	0.0	0.0	CP..050204/CP.18151
SCFPR08CA06	25	10,0	32	0.0	0.0	CP..060204/CP..2151
left hand						
SCFPL06CA05	20	8,0	25	0.0	0.0	CP..050204
SCFPL08CA06	25	10,0	32	0.0	0.0	CP..060204/CP..2151

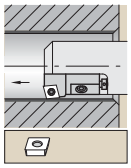


See pages A108–A109 for inserts

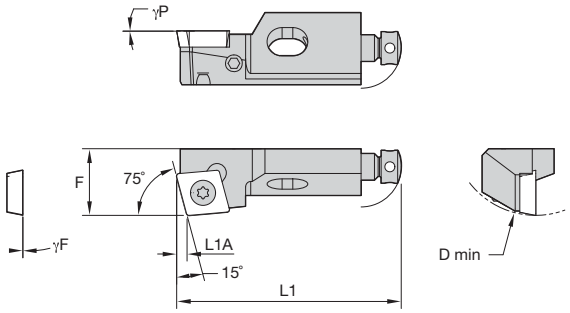


SCGP 90°

catalog number	D min	F	L1	λS°	γO°	gage insert
right hand						
SCGPR08CA06	25	10,0	32	0.0	0.0	CP..060204/CP..2151
left hand						
SCGPL08CA06	25	10,0	32	0.0	0.0	CP..060204/CP..2151



See pages A108–A109 for inserts



SCKP 75°

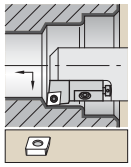
catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
SCKPR08CA06	25	10,0	32	1,6	0.0	0.0	CP..060204/CP..2151
left hand							
SCKPL08CA06	25	10,0	32	1,6	0.0	0.0	CP..060204

Order example:
Right hand: SCKPR08CA06 Left hand: SCKPL08CA06

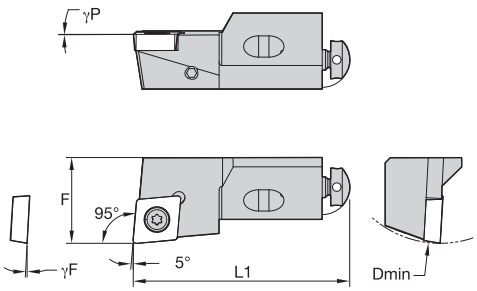
insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1933	T7	KUAM34	1.5 MM	KUAM35	MS2173	2 MM	CSWM 035 040
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1933	T7	KUAM34	1.5 MM	KUAM35	MS2173	2 MM	CSWM 035 040
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM34	2 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050

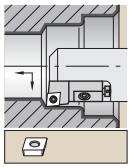


See page A014 for inserts

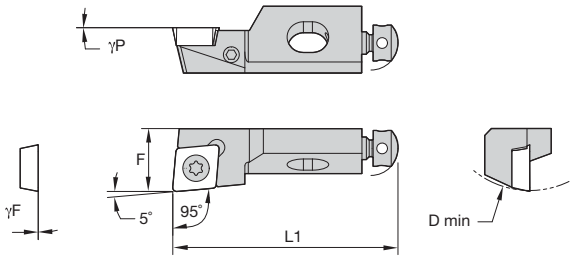


SCLC 95°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
SCLCR12CA12	50	20,0	55	–	-3.0	0.0	CC..120408/CC..432
SCLCR16CA12	60	25,0	63	–	-3.0	0.0	CC..120408/CC..432
left hand							
SCLCL12CA12	50	20,0	55	–	-3.0	0.0	CC..120408/CC..432
SCLCL16CA12	60	25,0	63	–	-3.0	0.0	CC..120408/CC..432

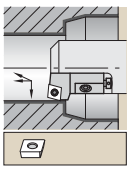


See pages A108–A109 for inserts

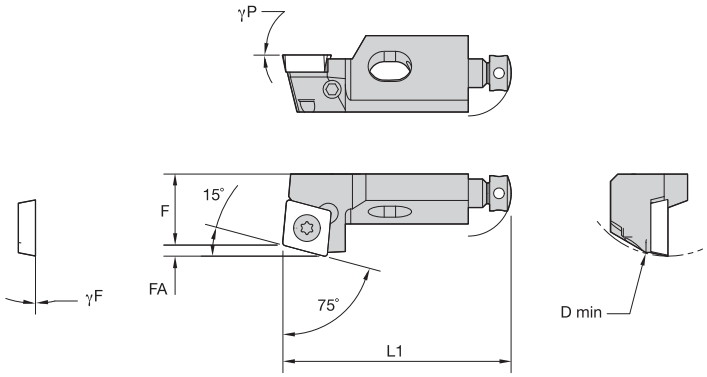


SCLP 95°

catalog number	D min	F	L1	L1A	γF°	γP°	gage insert
right hand							
SCLPR06CA05	20	8,0	25	–	0.0	0.0	CP..050204/CP..18151
SCLPR08CA06	25	10,0	32	–	0.0	0.0	CP..060204/CP..2151
SCLPR10CA09	40	14,0	50	–	0.0	0.0	CP..09T308/CP..3252
left hand							
SCLPL06CA05	20	8,0	25	–	0.0	0.0	CP..050204/CP..18151
SCLPL08CA06	25	10,0	32	–	0.0	0.0	CP..060204/CP..2151
SCLPL10CA09	40	14,0	50	–	0.0	0.0	CP..09T308/CP..3252



See pages A108–A109 for inserts



SCRP 75°

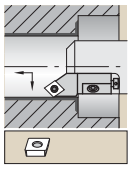
catalog number	D min	F	L1	FA	L1A	γF°	γP°	gage insert
right hand								
SCRPR08CA06	25	10,0	32	1,5	–	0.0	0.0	CP..060204/CP..2151
left hand								
SCRPL08CA06	25	10,0	32	1,5	–	0.0	0.0	CP..060204/CP..2151

Order example:
Right hand: SCRPR08CA06 Left hand: SCRPL08CA06

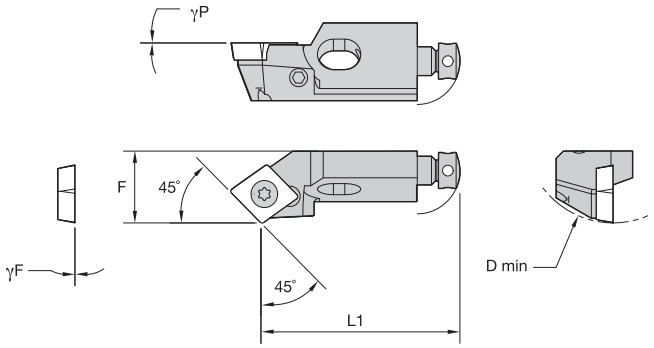
insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1157	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1157	T15	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
MS1157	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1157	T15	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1933	T7	KUAM34	1.5 MM	KUAM35	MS2173	2 MM	CSWM 035 040
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1155	T15	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1933	T7	KUAM34	1.5 MM	KUAM35	MS2173	2 MM	CSWM 035 040
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1155	T15	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050

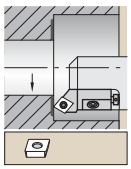


See pages A108–A109 for inserts

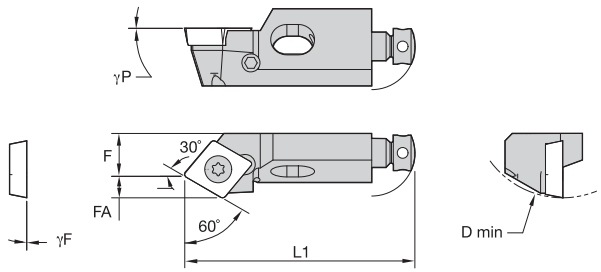


SCSP 45°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SCSPR06CA05	20	8,0	21	0.0	0.0	CP..050204/CP..18151
SCSPR08CA06	25	10,0	28	0.0	0.0	CP..060204/CP..2151
left hand						
SCSPL06CA05	20	8,0	21	0.0	0.0	CP..050204/CP..18151
SCSPL08CA06	25	10,0	28	0.0	0.0	CP..060204/CP..2151

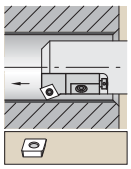


See pages A108–A109 for inserts

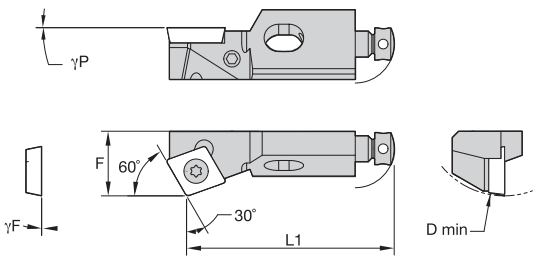


SCTP 60°

catalog number	D min	F	L1	FA	γF°	γP°	gage insert
right hand							
SCTPR06CA05	20	5,5	25	2,6	0.0	0.0	CP..050204/CP..18151
SCTPR08CA06	25	6,0	32	3,0	0.0	0.0	CP..060204/CP..2151
left hand							
SCTPL08CA06	25	6,0	32	3,0	0.0	0.0	CP..060204



See pages A108–A109 for inserts



SCWP 60°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SCWPR08CA06	25	10,0	32	0.0	0.0	CP..060204/CP..2151
left hand						
SCWPL08CA06	25	10,0	32	0.0	0.0	CP..060204

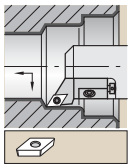
Order example:
Right hand: SCWPR08CA06 Left hand: SCWPL08CA066

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1933	T7	–	–	KUAM35	MS2173	2 MM	CSWM 035 040
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1933	T7	–	–	KUAM35	MS2173	2 MM	CSWM 035 040
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050

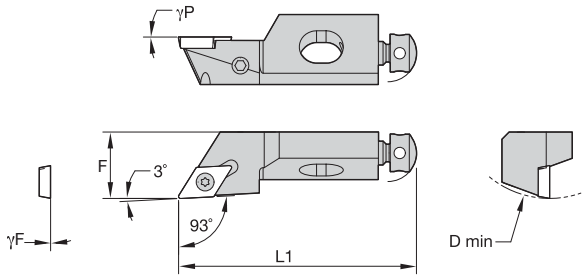
insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1933	T7		–	KUAM35	MS2173	2 MM	CSWM 035 040
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM34	2 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050

SCREW-ON Inserts

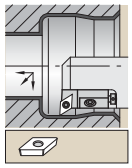


See pages A114–A115 for inserts

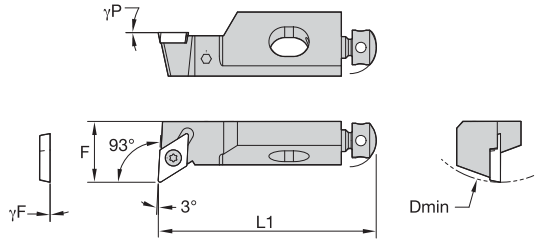


SDJP 93°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SDJPR10CA07	40	14,0	50	0.0	0.0	DP..070204/DP..2151
left hand						
SDJPL10CA07	40	14,0	50	0.0	0.0	DP..070204/DP..2151

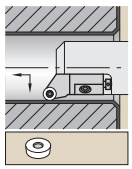


See pages A114–A115 for inserts

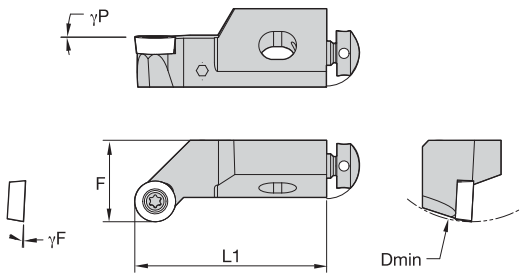


SDUP 93°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SDUPR10CA07	40	14,0	50	0.0	0.0	DP..070204/DP..2151



See pages A116–A117 for inserts



SRGC

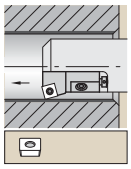
catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SRGCR08CA06	25	10,0	32	-4.0	0.0	RC..0602M0/RC..215
SRGCR10CA08	40	14,0	50	-3.0	0.0	RC..0803M0/RC..0803M0
SRGCR12CA10	50	20,0	55	-3.0	0.0	RC..10T3M0/RC..10T3M0
left hand						
SRGCL08CA06	25	10,0	32	-4.0	0.0	RC..0602M0/RC..215
SRGCL12CA10	50	20,0	55	-3.0	0.0	RC..10T3M0/RC..10T3M0

Order example:
Right hand: SRGCR08CA06 Left hand: SRGCL08CA06

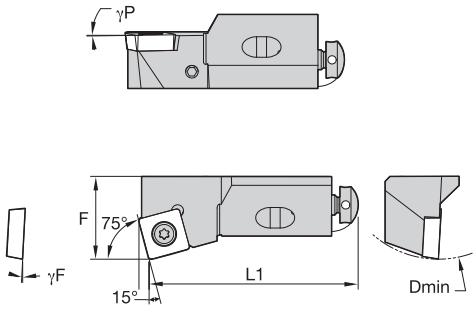
insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1154	T9	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1153	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050

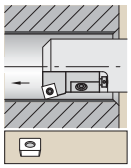


See page A118 for inserts

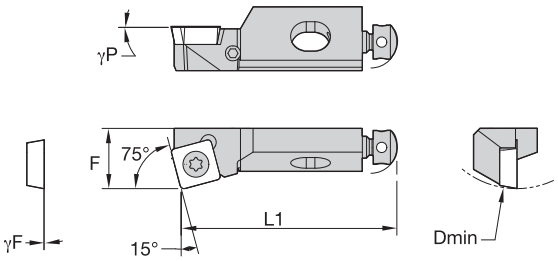


SSKC 75°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SSKCR12CA12	50	20,0	55	-3.0	0.0	SC..120408/SC..432
SSKCR16CA12	60	25,0	63	-3.0	0.0	SC..120408/SC..432
left hand						
SSKCL12CA12	50	20,0	55	-3.0	0.0	SC..120408/SC..432

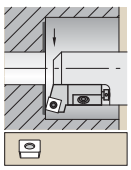


See pages A120–A121 for inserts

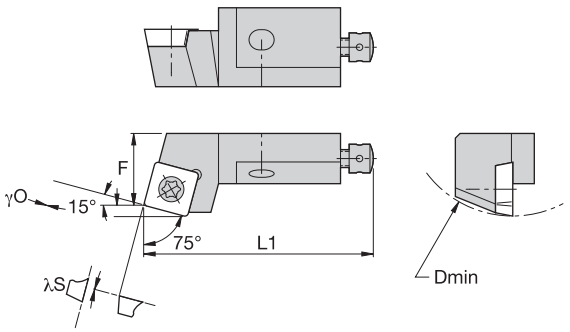


SSKP 75°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SSKPR10CA09	40	14,0	50	0.0	0.0	SP..09T308/SP..3252
SSKPR12CA09	50	20,0	55	0.0	0.0	SP..09T308
left hand						
SSKPL10CA09	40	14,0	50	0.0	0.0	SP..09T308/SP..3252



See page A118 for inserts



SSRC 75°

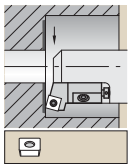
catalog number	D min	F	L1	γO°	λS°	gage insert
right hand						
SSRCR12CA12	50	20,0	55	0.0	-3.0	SC..120408/SC..432
left hand						
SSRCL12CA12	50	20,0	55	0.0	-3.0	SC..120408/SC..432

Order example:
Right hand: SSRCR12CA12 Left hand: SSRCL12CA12

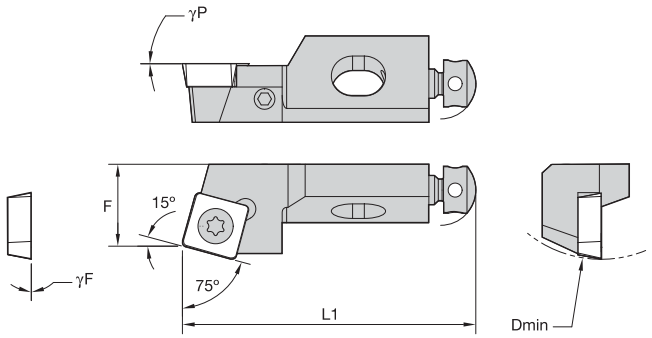
insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1157	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1157	T15	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
MS1157	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1155	T15	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1155	T15	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1157	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1157	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050

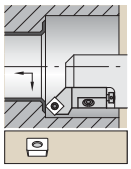


See pages A120–A121 for inserts

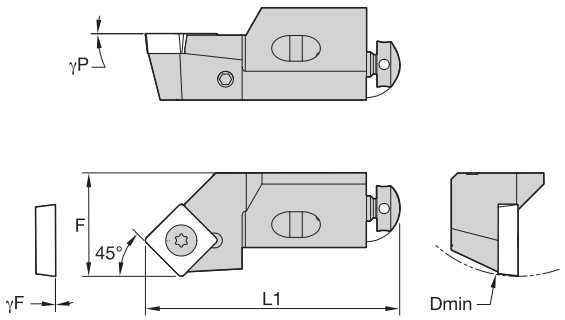


SSRP 75°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SSRPR10CA09	40	14,0	50	0.0	0.0	SP..09T308/SP..3252
left hand						
SSRPL10CA09	40	14,0	50	0.0	0.0	SP..09T308/SP..3252

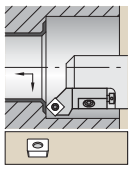


See pages A120–A121 for inserts

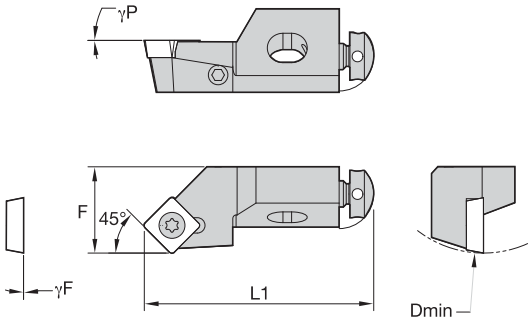


SSSC 45°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SSSCR12CA12	50	20,0	47	-3.0	0.0	SC..120408/SC..432
SSSCR16CA12	60	25,0	53	0.0	0.0	SC..120408/SC..432
left hand						
SSSCL12CA12	50	20,0	47	-3.0	0.0	SC..120408/SC..432



See pages A120–A121 for inserts



SSSP 45°

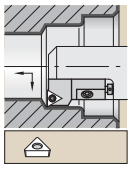
catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
SSSPR10CA09	40	14,0	44	0.0	0.0	SP..09T308/SP..3252
SSSPR12CA09	50	20,0	47	0.0	0.0	SP..09T308/SP..3252
left hand						
SSSPL10CA09	40	14,0	44	0.0	0.0	SP..09T308/SP..3252

Order example:
Right hand: SSSPR10CA09 Left hand: SSSPL10CA09

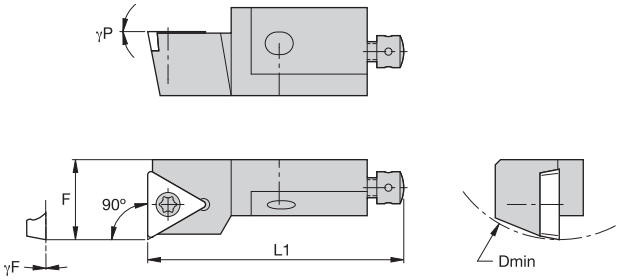
insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1155	T15	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1157	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1157	T15	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
MS1157	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1155	T15	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1155	T15	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050

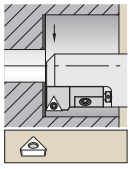


See pages A126–A127 for inserts

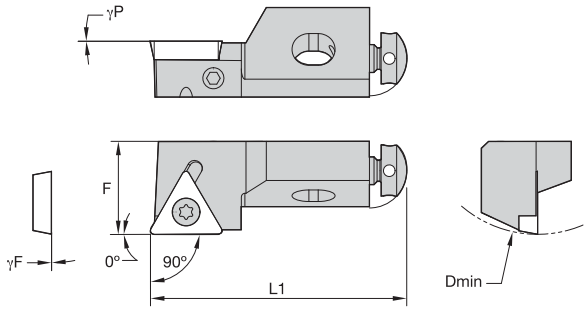


STFP 90°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
STFPR08CA09	25	10,0	32	0.0	0.0	TP..090204/TP..18151
STFPR10CA11	40	14,0	50	0.0	0.0	TP..110204/TP..2151
STFPR12CA16	50	20,0	55	0.0	0.0	TP..16T308/TP..3252
STFPR16CA16	60	25,0	63	0.0	0.0	TP..16T308/TP..3252
left hand						
STFPL08CA09	25	10,0	32	0.0	0.0	TP..090204/TP..18151
STFPL10CA11	40	14,0	50	0.0	0.0	TP..110204/TP..2151
STFPL12CA16	50	20,0	55	0.0	0.0	TP..16T308/TP..3252



See pages A126–A127 for inserts



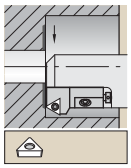
STGP 90°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
STGPR08CA09	25	10,0	32	0.0	0.0	TP..090204/TP..18151
STGPR10CA11	40	14,0	50	0.0	0.0	TP..110204/TP..2151
STGPR12CA16	50	20,0	55	0.0	0.0	TP..16T308/TP..3252
left hand						
STGPL08CA09	25	10,0	32	0.0	0.0	TP..090204/TP..18151
STGPL10CA11	40	14,0	50	0.0	0.0	TP..110204

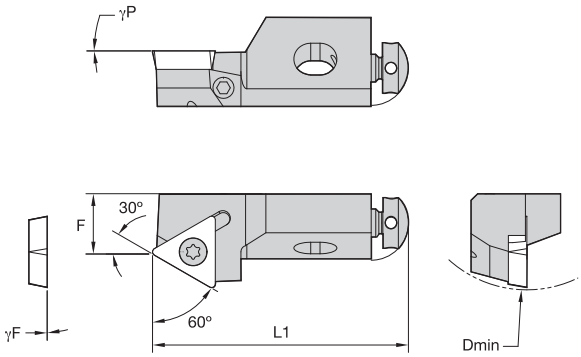
Order example:
Right hand :STGPR08CA09 Left hand:STGPL08CA09

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1152	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1155	T15	KUAM25	4 MM	KUAM32	191.407	5 MM	CSWM 080 050
MS1152	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1152	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM27	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1152	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050

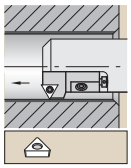


See pages A126–A127 for inserts

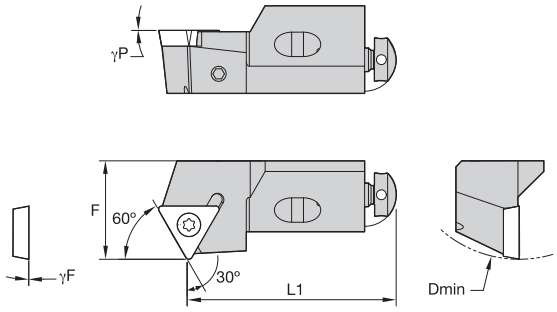


STTP 60°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
STTPR08CA09	25	6,0	32	0.0	0.0	TP..090204/TP..18151
STTPR10CA11	40	9,0	50	0.0	0.0	TP..110204/TP..2151
STTPR12CA16	50	13,0	55	0.0	0.0	TP..16T308/TP..3252
left hand						
STTPL10CA11	40	9,0	50	0.0	0.0	TP..110204/TP..2151
STTPL16CA16	60	15,0	63	0.0	0.0	TP..16T308



See pages A126–A127 for inserts



STWP 60°

catalog number	D min	F	L1	γF°	γP°	gage insert
right hand						
STWPR08CA09	25	10,0	28	0.0	0.0	TP..090204/TP..18151
STWPR10CA11	40	14,0	44	0.0	0.0	TP..110204/TP..2151
STWPR12CA16	50	20,0	47	0.0	0.0	TP..16T308/TP..3252
STWPR16CA16	60	25,0	53	0.0	0.0	TP..16T308/TP..3252
left hand						
STWPL10CA11	40	14,0	44	0.0	0.0	TP..110204
STWPL12CA16	50	20,0	47	0.0	0.0	TP..16T308/TP..3252

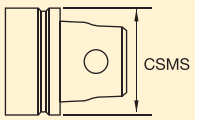
Order example:
Right hand: STWPR10CA11 Left hand: STWPL10CA11

insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1152	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM25	4 MM	KUAM32	191.407	5 MM	CSWM 080 050

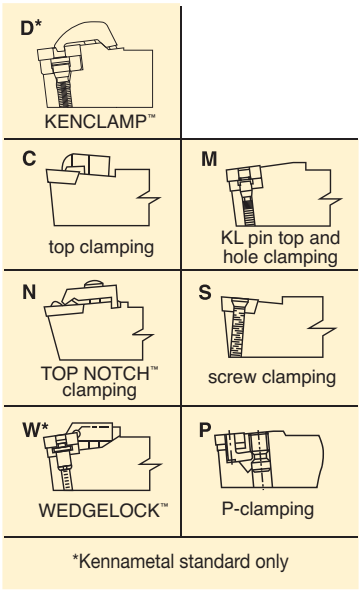
insert screw	Torx	radial adjusting screw	Hex (mm)	axial adjusting screw	mounting screw	Hex (mm)	washer
MS1152	T7	KUAM34	1.5 MM	KUAM20	MS2175	2.5 MM	CSWM 040 050
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
MS1155	T15	KUAM25	2.5 MM	KUAM32	191.407	5 MM	CSWM 080 050
MS1153	T7	KUAM28	2 MM	KUAM30	191.405	4 MM	CSWM 060 050
MS1155	T15	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050

System Size

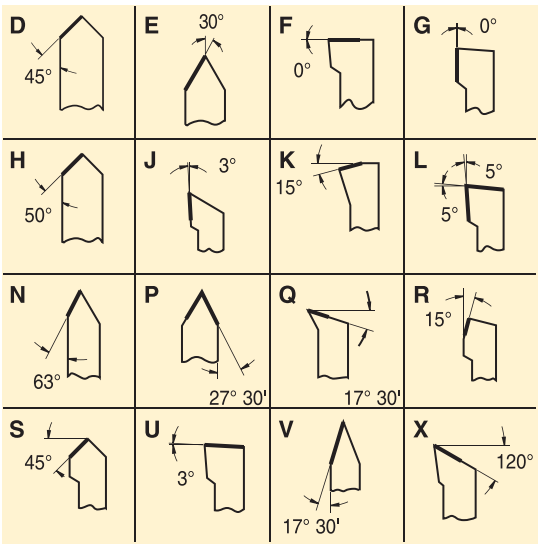
3225	=	32 mm
32	=	32 mm
40	=	40 mm
50	=	50 mm
63	=	63 mm
80	=	80 mm



Insert Holding Method



Tool Style or Lead Angle



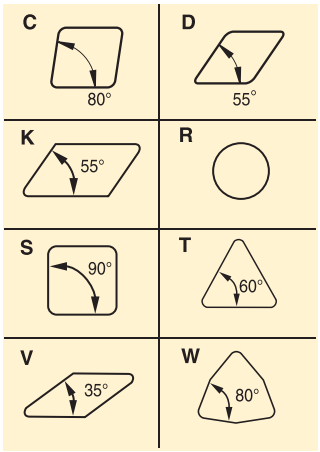
KM 63 - UT D C L N

Kennametal Modular

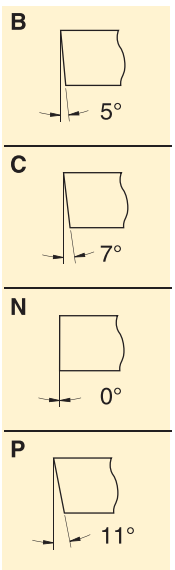
Feature

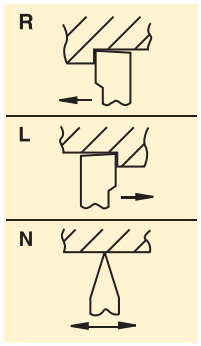
ATC
UT
XMZ
XTS

Insert Shape



Insert Clearance Angle





Hand of Tool

30 = 30 mm

Gage Length

KC = Kenclamp

Special Clamping Method

Insert Thickness

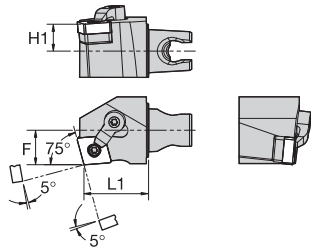
R 12 ■ KC 04 ■

Metric Products — Cutting Edge Length

Special Feature

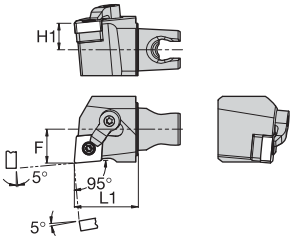
Y = Mazak Integrex

IC	A	B	C	D	E	F	G	H
3,97		04	03	03	06			11
4,76	04	05	04	04	08	08		
5,56	05	06	05	05	09	09	03	
6,00			06					
6,35	06	07	06	06	11	11	04	
7,94	08	09	07	07	13	13	05	
8,00			08			11		
9,52	09	11	09	09	16	16	06	
9,52								15
10,00			10					
11,11	11	13	11	11	19	19	07	
12,00			12					
12,70	12	15	12	12	22	22	08	
14,29	14	17	14	14	24	24	09	
15,88	16	19	15	15	27	27	10	
16,00			16					
17,46	17	21	17	17	30	30	11	22
19,05	19	23	19	19	33	33	13	
20,00			20					
22,22	22	27	22	22	38	38	15	
25,00			25					
25,40	25	31	25	25	44	44	17	
31,75	32	38	31	31	54	54	21	
32,00			32					



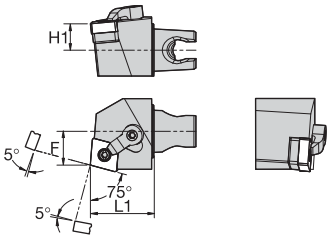
MCKN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2398793	KM25MCKNR1230	30	1.181	16	.630	12,5	.492	CN..120408/CN..432	ICSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand											
2398794	KM25MCKNL1230	30	1.181	16	.630	12,5	.492	CN..120408/CN..432	ICSN433	KLM4615IP	CKM20LP	STCM1115IP



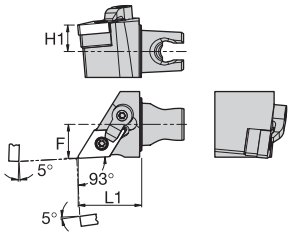
MCLN 95°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2265207	KM25MCLNR1230	30	1.181	16	.630	12,5	.492	CN..120408/CN..432	ICSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand											
2398795	KM25MCLNL1230	30	1.181	16	.630	12,5	.492	CN..120408/CN..432	ICSN433	KLM4615IP	CKM20LP	STCM1115IP



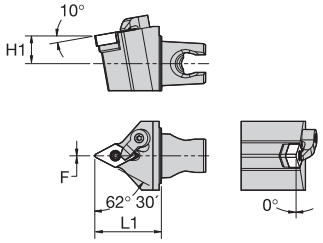
MCRN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2398796	KM25MCRNR1230	30	1.181	16	.630	12,5	.492	CN..120408/CN..432	ICSN433	KLM4615IP	CKM20LP	STCM1115IP



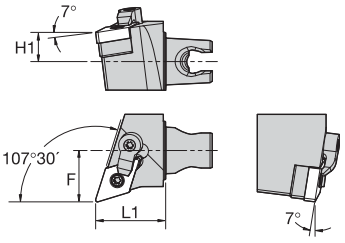
MDJN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
3176217	KM25MDJNR1130	30	1.181	16	.630	12,5	.492	DN..110408/DN..332	IDSN322	KLM34LT9PKG	CKM7LP	STCM9T9
2398798	KM25MDJNR150430	30	1.181	16	.630	12,5	.492	DN..150408/DN..432	IDSN442	KLM46L15IP	CKM20LP	STCM1115IP



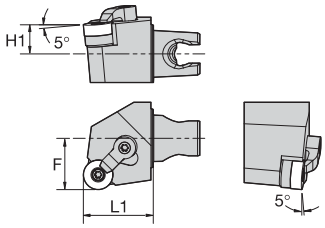
MDPN 62° 30'

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	left hand											
2398800	KM25MDPNN1130	30	1.181	0	.000	12,5	.492	DN..110408/DN..332	IDSN322	KLM34LT9PKG	CKM7LP	STCM9T9



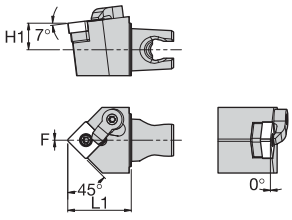
MDQN 107° 30'

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2398801	KM25MDQNR150430	30	1.181	22	.866	12,5	.492	DN..150408/DN..432	IDSN442	KLM46L15IP	CKM20LP	STCM1115IP
	left hand											
2398802	KM25MDQNL150430	30	1.181	22	.866	12,5	.492	DN..150408/DN..432	IDSN442	KLM46L15IP	CKM20LP	STCM1115IP



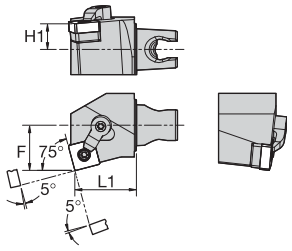
MRGN 0°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2629139	KM25MRGNR0930	30	1.181	16	.630	12,5	.492	RN..090300/RN..32	IRSN33	KLM34LT9PKG	CKM7LP	STCM9T9
2398803	KM25MRGNR1230	30	1.181	22	.866	12,5	.492	RN..120400/RN..43	IRSN43	KLM4615IP	CKM20LP	STCM1115IP
	left hand											
2629140	KM25MRGNL0930	30	1.181	16	.630	12,5	.492	RN..090300/RN..32	IRSN33	KLM34LT9PKG	CKM7LP	STCM9T9
2398804	KM25MRGNL1230	30	1.181	22	.866	12,5	.492	RN..120400/RN..43	IRSN43	KLM4615IP	CKM20LP	STCM1115IP



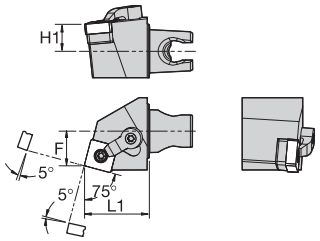
MSDN 45°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
2398805	KM25MSDNN1230	30	1.181	0	.000	12,5	.492	SN..120408/SN..432	ISSN433	KLM4615IP	CKM20LP	STCM1115IP



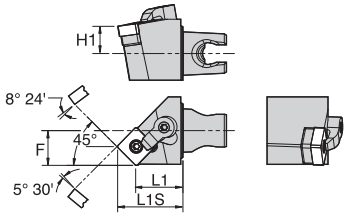
MSKN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2398806	KM25MSKNR1230	30	1.181	22	.866	12,5	.492	SN..120408/SN..432	ISSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand											
2398807	KM25MSKNL1230	30	1.181	22	.866	12,5	.492	SN..120408/SN..432	ISSN433	KLM4615IP	CKM20LP	STCM1115IP



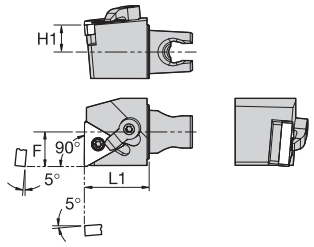
MSRN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2398808	KM25MSRNR1230	30	1.181	13	.512	12,5	.492	SN..120408/SN..432	ISSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand											
2398809	KM25MSRNL1230	30	1.181	13	.512	12,5	.492	SN..120408/SN..432	ISSN433	KLM4615IP	CKM20LP	STCM1115IP



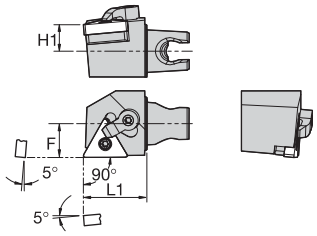
MSSN 45°

order number	catalog number	L1 mm	L1 inch	L1S mm	L1S inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand													
2398810	KM25MSSNR1230	21,7	.853	30	1.181	16	.630	12,5	.492	SN..120408/SN..432	ISSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand													
2398811	KM25MSSNL1230	21,7	.853	30	1.181	16	.630	12,5	.492	SN..120408/SN..432	ISSN433	KLM4615IP	CKM20LP	STCM1115IP



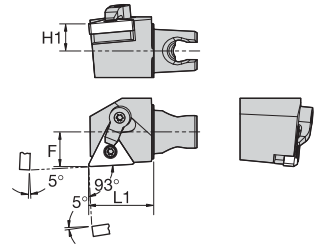
MTFN 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2655560	KM25MTFNR1630	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398812	KM25MTFNR2230	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand											
2655561	KM25MTFNL1630	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398813	KM25MTFNL2230	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP



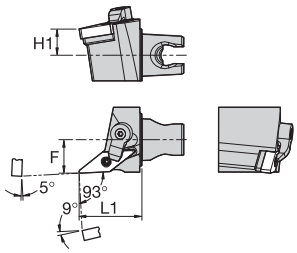
MTGN 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2655562	KM25MTGNR1630	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398814	KM25MTGNR2230	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand											
2655593	KM25MTGNL1630	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398815	KM25MTGNL2230	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP



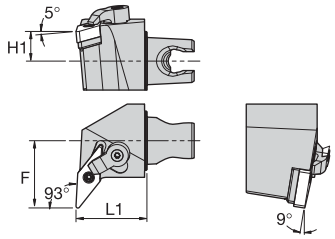
MTJN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2655594	KM25MTJNR1630	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398816	KM25MTJNR2230	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand											
2655595	KM25MTJNL1630	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398817	KM25MTJNL2230	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP



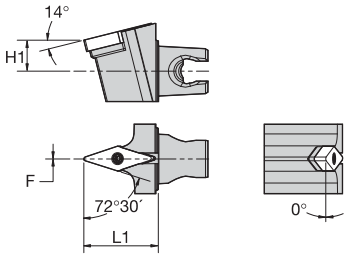
MVJN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2398818	KM25MVJNR1630	30	1.181	16	.630	12,5	.492	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP
	left hand											
2398819	KM25MVJNL1630	30	1.181	16	.630	12,5	.492	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP



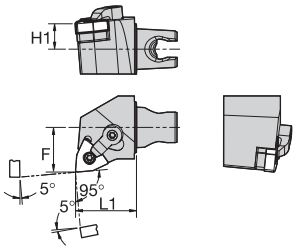
MVUN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2398820	KM25MVUNR1630	30	1.181	29	1.122	12,5	.492	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP
	left hand											
2398821	KM25MVUNL1630	30	1.181	29	1.122	12,5	.492	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP



MVVN 72° 30'

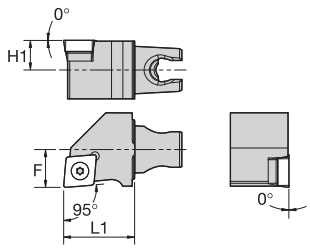
order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin
	left hand									
2398822	KM25MVVNN1630	30	1.181	0	.000	12,5	.492	VN..160408/VN..332	IVSN322	KLM34L9IP



MWLN 95°

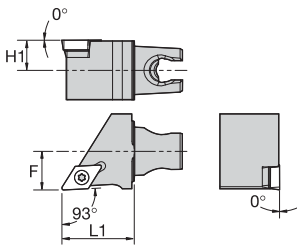
order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
2398823	KM25MWLNR0830	30	1.181	22	.866	12,5	.492	WN..080408/WN..432	IWSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand											
2398824	KM25MWLNL0830	30	1.181	22	.866	12,5	.492	WN..080408/WN..432	IWSN433	KLM4615IP	CKM20LP	STCM1115IP

SCREW-ON Inserts



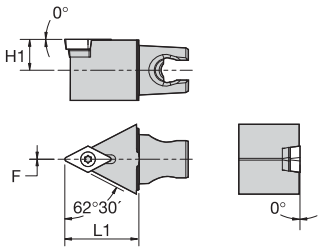
SCLC 95°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
	right hand										
2399472	KM25SCLCR0930	30	1.181	16	.630	12,5	.492	CC..09T308/CC..3252	MS1156	SKCP343	SRS3
2399474	KM25SCLCR1230	30	1.181	16	.630	12,5	.492	CC..120408/CC..432	MS1158	SKCP453	SRS4
	left hand										
2399473	KM25SCLCL0930	30	1.181	16	.630	12,5	.492	CC..09T308/CC..3252	MS1156	SKCP343	SRS3
2399475	KM25SCLCL1230	30	1.181	16	.630	12,5	.492	CC..120408/CC..432	MS1158	SKCP453	SRS4



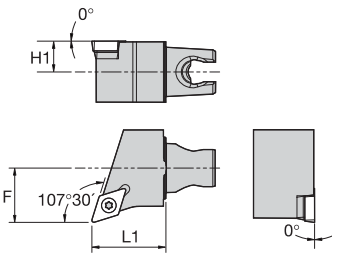
SDJC 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
	right hand										
2399476	KM25SDJCR1130	30	1.181	16	.630	12,5	.492	DC..11T308/DC..3252	MS1156	SKDP343	SRS3
	left hand										
2399477	KM25SDJCL1130	30	1.181	16	.630	12,5	.492	DC..11T308/DC..3252	MS1156	SKDP343	SRS3



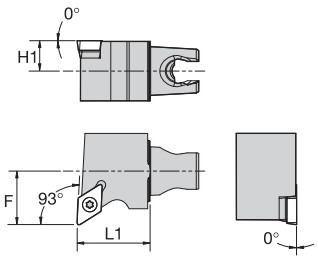
SDPC 62° 30'

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
2399478	KM25SDPCN1130	30	1.181	0	.000	12,5	.492	DC..11T308/DC..3252	MS1156	SKDP343	SRS3



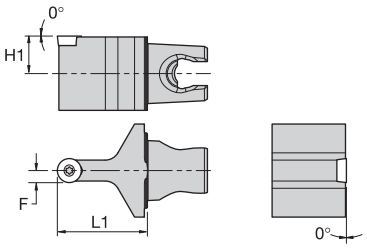
SDQC 107° 30'

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
	right hand										
2399479	KM25SDQCR1130	30	1.181	22	.866	12,5	.492	DC..11T308/DC..3252	MS1156	SKDP343	SRS3
	left hand										
2399480	KM25SDQCL1130	30	1.181	22	.866	12,5	.492	DC..11T308/DC..3252	MS1156	SKDP343	SRS3



SDUC 93°

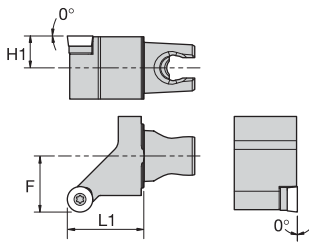
order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
	right hand										
2399481	KM25SDUCR1130	30	1.181	22	.866	12,5	.492	DC..11T308/DC..3252	MS1156	SKDP343	SRS3
	left hand										
2399482	KM25SDUCL1130	30	1.181	22	.866	12,5	.492	DC..11T308/DC..3252	MS1156	SKDP343	SRS3



SRDC 0°

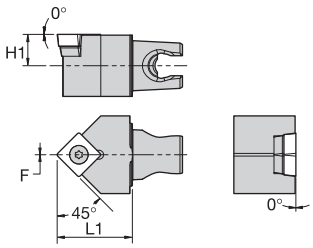
order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw
2399483	KM25SRDCN0830	30	1.181	4	.158	12,5	.492	RC..0803M0	MS1154

SCREW-ON Inserts



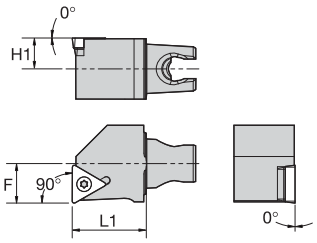
SRGC 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
	right hand										
2399484	KM25SRGCR1030	30	1.181	22	.866	12,5	.492	RC..10T3M0	MS1156	SKRN100300	SRS3
	left hand										
2399485	KM25SRGCL1030	30	1.181	22	.866	12,5	.492	RC..10T3M0	MS1156	SKRN100300	SRS3



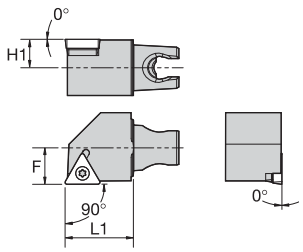
SSDC 45°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
2399486	KM25SSDCN1230	30	1.181	0	.000	12,5	.492	SC..120408	MS1158	SKSP453	SRS4



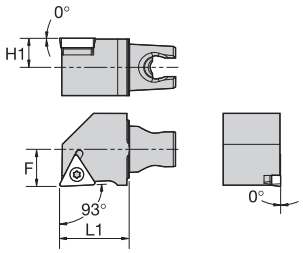
STFC 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
	right hand										
2399487	KM25STFCR1630	30	1.181	16	.630	12,5	.492	TC..16T308/TC..3252	MS1156	SKTP343	SRS3
	left hand										
2399488	KM25STFCL1630	30	1.181	16	.630	12,5	.492	TC..16T308/TC..3252	MS1156	SKTP343	SRS3



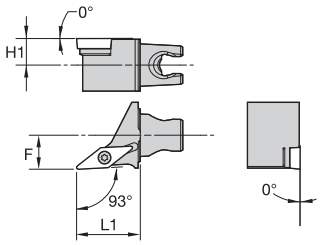
STGC 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
	right hand										
2399489	KM25STGCR1630	30	1.181	16	.630	12,5	.492	TC..16T308/TC..3252	MS1156	SKTP343	SRS3
	left hand										
2399490	KM25STGCL1630	30	1.181	16	.630	12,5	.492	TC..16T308/TC..3252	MS1156	SKTP343	SRS3



STJC 93°

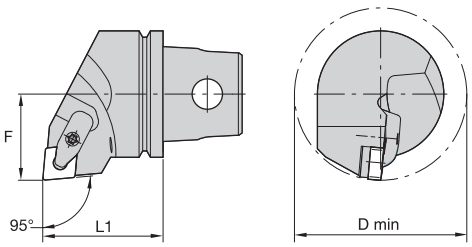
order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
	right hand										
2399491	KM25STJCR1630	30	1.181	16	.630	12,5	.492	TC..16T308/TC..3252	MS1156	SKTP343	SRS3
	left hand										
2399492	KM25STJCL1630	30	1.181	16	.630	12,5	.492	TC..16T308/TC..3252	MS1156	SKTP343	SRS3



SVJB 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	insert 1	insert screw	shim	shim screw
	right hand										
3365589	KM25SVJBR1630	30	1.181	16	.630	12,5	.492	VB..160408/VB..332	MS1156	SKVN343	SRS3
	left hand										
3365590	KM25SVJBL1630	30	1.181	16	.630	12,5	.492	VB..160408/VB..332	MS1156	SKVN343	SRS3

NEW!



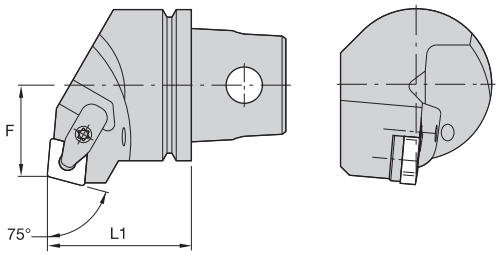
DCLN 95°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
1873561	KM40DCLNR12KC04	45	1.772	27	1.063	54	2.13	CN..120408/CN..432
1960436	KM40DCLNR16KC06	45	1.772	27	1.063	–	–	CN..160612/CN..543
	left hand							
1960411	KM40DCLNL12KC04	45	1.772	27	1.063	54	2.13	CN..120408/CN..432
1960437	KM40DCLNL16KC06	45	1.772	27	1.063	–	–	CN..160612/CN..543

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DCLNR12KC04	ICSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M
KM40DCLNR16KC06	ICSN543	KMSP515IP	CM209	STCM1115IP	SSP025018M
left hand					
KM40DCLNL12KC04	ICSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M
KM40DCLNL16KC06	ICSN543	KMSP515IP	CM209	STCM1115IP	SSP025018M

NEW!



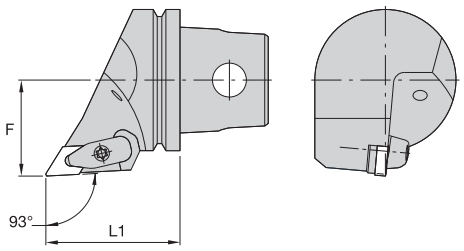
DCRN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
1960443	KM40DCRNL12KC04	45	1.772	24	.945	–	—	CN..120408/CN..432
1960442	KM40DCRNR12KC04	45	1.772	24	.945	–	–	CN..120408/CN..432

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
KM40DCRNL12KC04	ICSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
KM40DCRNR12KC04	ICSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!



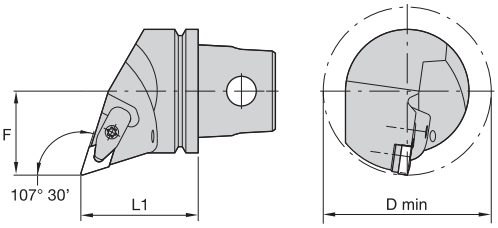
DDJN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
2220264	KM40DDJNR15KC04	50	1.969	27	1.063	–	–	DN..150408/DN..432
1960448	KM40DDJNR15KC06	50	1.969	27	1.063	–	–	DN..150608/DN..442
	left hand							
2220265	KM40DDJNL15KC04	50	1.969	27	1.063	–	–	DN..150408/DN..432
1960449	KM40DDJNL15KC06	50	1.969	27	1.063	–	–	DN..150608/DN..442

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DDJNR15KC04	IDSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
KM40DDJNR15KC06	IDSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DDJNL15KC04	IDSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
KM40DDJNL15KC06	IDSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!



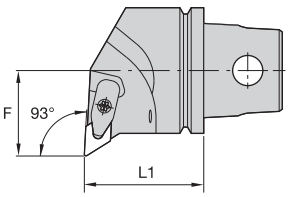
DDQN 107.5°

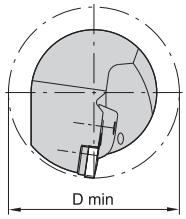
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
2220272	KM40DDQNR15KC04	45	1.772	27	1.063	86	3.39	DN..150408/DN..432
1960490	KM40DDQNR15KC06	45	1.772	27	1.063	86	3.39	DN..150608/DN..442
	left hand							
2220273	KM40DDQNL15KC04	45	1.772	27	1.063	86	3.39	DN..150408/DN..432
1960491	KM40DDQNL15KC06	45	1.772	27	1.063	86	3.39	DN..150608/DN..442

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DDQNR15KC04	IDSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
KM40DDQNR15KC06	IDSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DDQNL15KC04	IDSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
KM40DDQNL15KC06	IDSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!





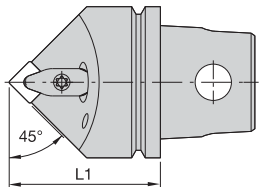
DDUN 93°

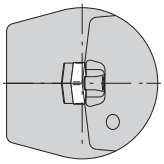
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
2220280	KM40DDUNR15KC04	45	1.772	27	1.063	86	3.39	DN..150408/DN..432
1960485	KM40DDUNR15KC06	45	1.772	27	1.063	86	3.39	DN..150608/DN..442
	left hand							
2220281	KM40DDUNL15KC04	45	1.772	27	1.063	86	3.39	DN..150408/DN..432
1937079	KM40DDUNL15KC06	45	1.772	27	1.063	86	3.39	DN..150608/DN..442

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DDUNR15KC04	IDSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
KM40DDUNR15KC06	IDSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DDUNL15KC04	IDSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
KM40DDUNL15KC06	IDSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!





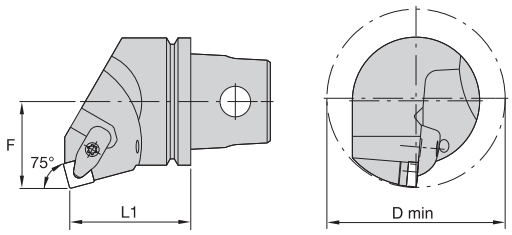
DSDN 45°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
1960454	KM40DSDNN12KC04	45	1.772	0	.00	–	–	SN..120408/SN..432

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
KM40DSDNN12KC04	ISSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!



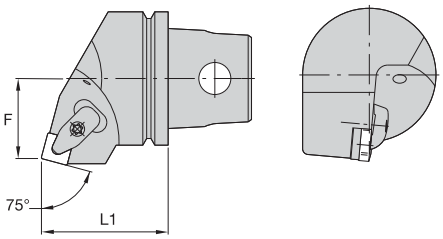
DSKN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
1960475	KM40DSKNR12KC04	45	1.772	27	1.063	54	2.13	SN..120408/SN..432
	left hand							
1937080	KM40DSKNL12KC04	45	1.772	27	1.063	54	2.13	SN..120408/SN..432

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DSKNR12KC04	ISSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DSKNL12KC04	ISSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!



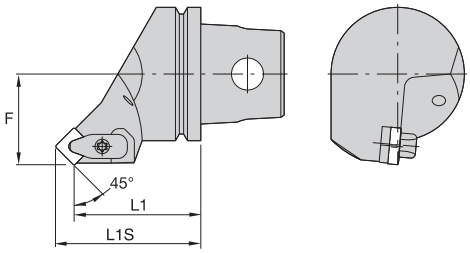
DSRN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
1960457	KM40DSRNR12KC04	45	1.772	24	.945	–	–	SN..120408/SN..432
	left hand							
1960458	KM40DSRNL12KC04	45	1.772	24	.945	–	–	SN..120408/SN..432

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DSRNR12KC04	ISSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DSRNL12KC04	ISSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!



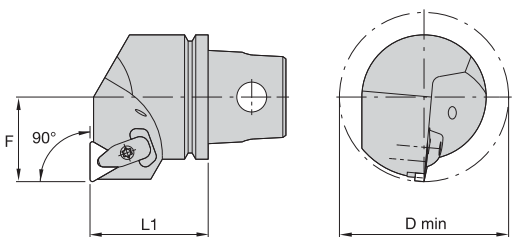
DSSN 45°

order number	catalog number	L1 mm	L1 inch	L1S mm	L1S inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand									
1960463	KM40DSSNR12KC04	45	1.772	53,3	2.099	27	1.063	–	–	SN..120408/SN..432
	left hand									
1960464	KM40DSSNL12KC04	45	1.772	53,3	2.099	27	1.063	–	–	SN..120408/SN..432

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DSSNR12KC04	ISSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DSSNL12KC04	ISSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!



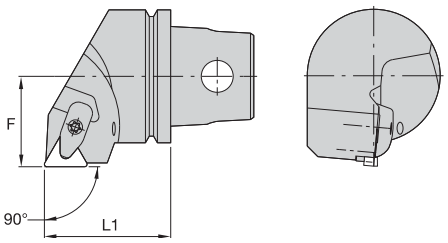
DTFN 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
1960496	KM40DTFNR22KC04	45	1.772	27	1.063	54	2.13	TN..220408/TN..432
	left hand							
1960497	KM40DTFNL22KC04	45	1.772	27	1.063	54	2.13	TN..220408/TN..432

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DTFNR22KC04	ITSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DTFNL22KC04	ITSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!



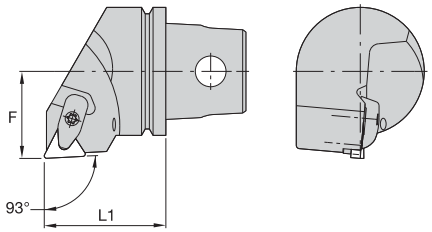
DTGN 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
1960469	KM40DTGNR22KC04	45	1.772	27	1.063	–	–	TN..220408/TN..432
	left hand							
1960470	KM40DTGNL22KC04	45	1.772	27	1.063	–	–	TN..220408/TN..432

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DTGNR22KC04	ITSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DTGNL22KC04	ITSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M

NEW!



DTJN 93°

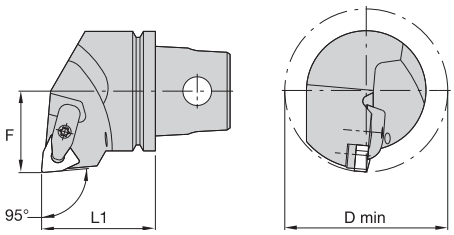
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
1960502	KM40DTJNR22KC04	45	1.772	27	1.063	–	–	TN..220408/TN..432
	left hand							
1960503	KM40DTJNL22KC04	45	1.772	27	1.063	–	–	TN..220408/TN..432

Spare Parts

catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DTJNR22KC04	ITSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DTJNL22KC04	ITSN443	KMSP415IP	CM208	STCM1115IP	SSP025018M

KENCLAMP™

NEW!

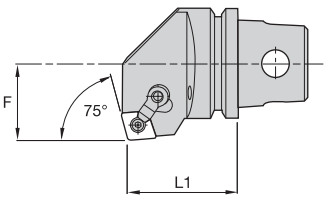


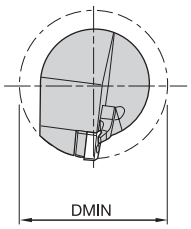
DWLN 95°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1
	right hand							
1960480	KM40DWLNR08KC04	45	1.772	27	1.063	54	2.13	WN..080408/WN..432
	left hand							
1937082	KM40DWLNL08KC04	45	1.772	27	1.063	54	2.13	WN..080408/WN..432

Spare Parts

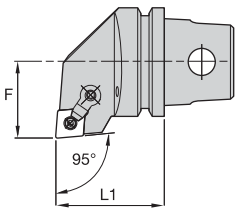
catalog number	shim	shim screw	clamp	clamp screw	pin
right hand					
KM40DWLNR08KC04	IWSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M
left hand					
KM40DWLNL08KC04	IWSN433	KMSP415IP	CM208	STCM1115IP	SSP025018M

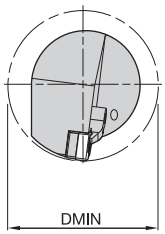




MCKN 75°

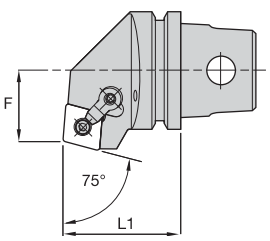
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144866	KM40MCKNR12	40	1.575	27	1.063	54	2.126	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11
	left hand											
1144868	KM40MCKNL12	40	1.575	27	1.063	54	2.126	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11

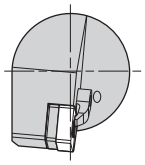




MCLN 95°

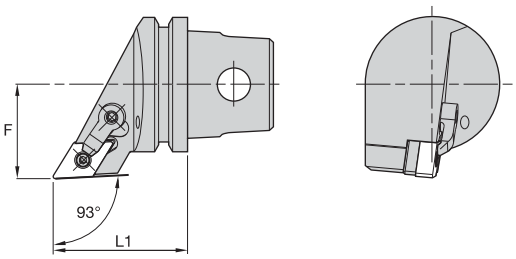
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144931	KM40MCLNR12	40	1.575	27	1.063	54	2.13	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11
1107453	KM40MCLNR16	40	1.575	27	1.063	120	4.72	CN..160612/CN..543	ICSN533	KLM58	CKM20LP	STCM11
	left hand											
1144936	KM40MCLNL12	40	1.575	27	1.063	54	2.13	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11
1107475	KM40MCLNL16	40	1.575	27	1.063	120	4.72	CN..160612/CN..543	ICSN533	KLM58	CKM20LP	STCM11





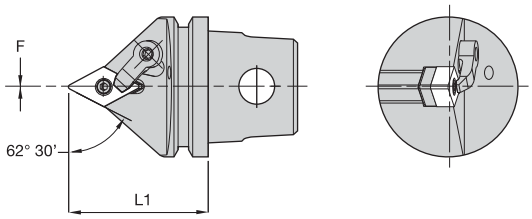
MCRN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1023458	KM40MCRNR12	40	1.575	24	.945	–	–	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11
	left hand											
1023459	KM40MCRNL12	40	1.575	24	.945	–	–	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11



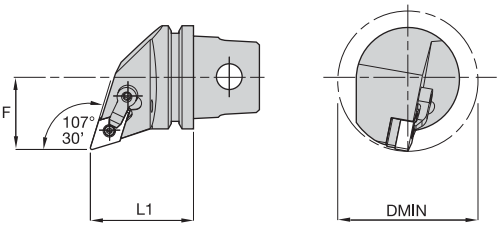
MDJN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
3050504	KM40MDJNR1504	40	1.575	27	1.063	–	–	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11
1023460	KM40MDJNR1506	40	1.575	27	1.063	–	–	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11
	left hand											
3050505	KM40MDJNL1504	40	1.575	27	1.063	–	–	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11
1023461	KM40MDJNL1506	40	1.575	27	1.063	–	–	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11



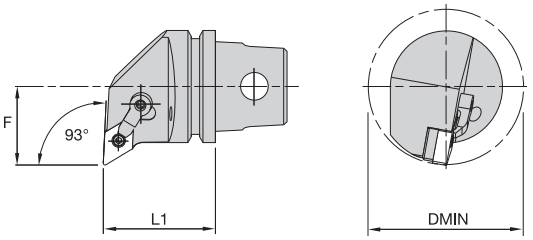
MDPN 62° 30'

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
3050506	KM40MDPNN1504	40	1.575	0	.0	–	–	DN..150408/DN..432	IDSN442	KLM46L	CKM20LP	STCM11
	left hand											
1022562	KM40MDPNN1506	40	1.575	0	.0	–	–	DN..150608/DN..442	IDSN432	KLM46L	CKM20LP	STCM11



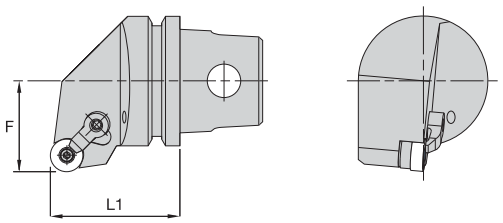
MDQN 107° 30'

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
3050507	KM40MDQNR1504	40	1.575	27	1.063	54	2.13	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11
1144954	KM40MDQNR1506	40	1.575	27	1.063	54	2.13	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11
	left hand											
3050508	KM40MDQNL1504	40	1.575	27	1.063	54	2.13	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11
1144956	KM40MDQNL1506	40	1.575	27	1.063	54	2.13	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11



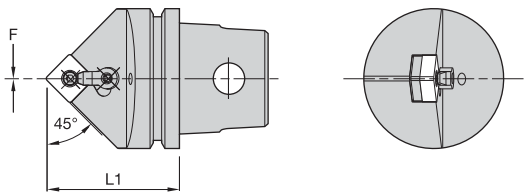
MDUN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
3050509	KM40MDUNR1504	40	1.575	27	1.063	54	2.13	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11
1144955	KM40MDUNR1506	40	1.575	27	1.063	54	2.13	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11
	left hand											
3050510	KM40MDUNL1504	40	1.575	27	1.063	54	2.13	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11
1144957	KM40MDUNL1506	40	1.575	27	1.063	54	2.13	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11



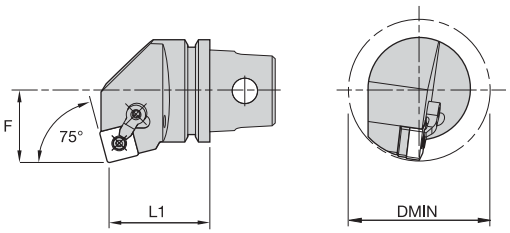
MRGN 0°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1279380	KM40MRGNR12	40	1.575	27	1.063	–	–	RN..120400/RN..43	IRSN43	KLM46	CKM20	STCM11
	left hand											
1190356	KM40MRGNL12	40	1.575	27	1.063	–	–	RN..120400/RN..43	IRSN43	KLM46	CKM20	STCM11



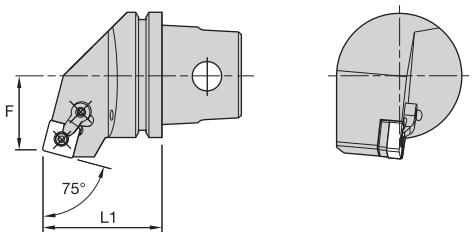
MSDN 45°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
1144935	KM40MSDNN12	40	1.575	0	.0	–	–	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11



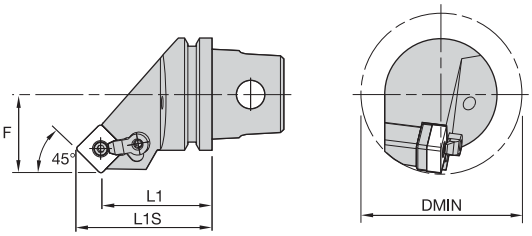
MSKN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144932	KM40MSKNR12	40	1.575	27	1.063	54	2.13	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11
	left hand											
1144937	KM40MSKNL12	40	1.575	27	1.063	54	2.13	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11



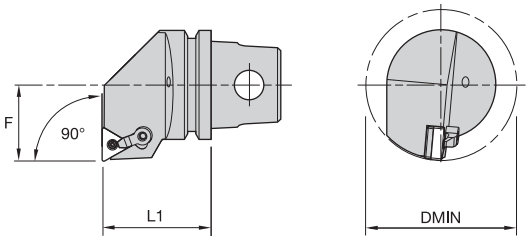
MSRN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144933	KM40MSRNR12	40	1.575	24	.945	–	–	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11
1144953	KM40MSRNR15	40	1.575	24	.945	–	–	SN..150612/SN..543	ISSN533	KLM58	CKM20LP	STCM11
	left hand											
1144938	KM40MSRNL12	40	1.575	24	.945	–	–	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11



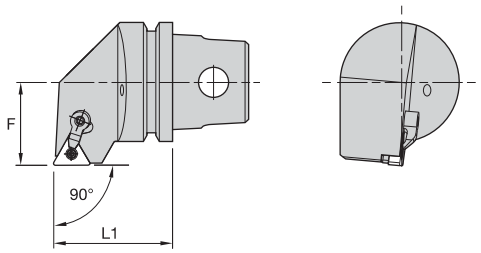
MSSN 45°

order number	catalog number	L1 mm	L1 inch	L1S mm	L1S inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand													
1144934	KM40MSSNR12	40	1.575	48,3	1.903	27	1.063	53	2.07	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11
	left hand													
1144939	KM40MSSNL12	40	1.575	48,3	1.903	27	1.063	53	2.07	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11



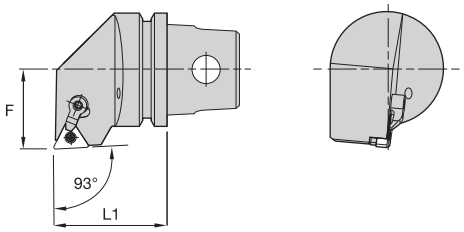
MTFN 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144940	KM40MTFNR16	40	1.575	27	1.063	54	2.13	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9
	left hand											
1144947	KM40MTFNL16	40	1.575	27	1.063	54	2.13	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9



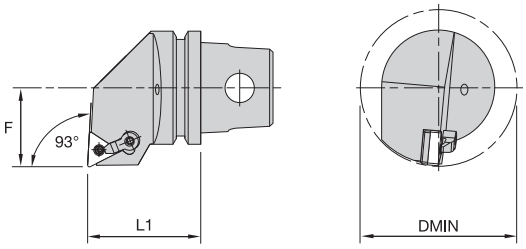
MTGN 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144893	KM40MTGNR22	40	1.575	27	1.063	–	–	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11



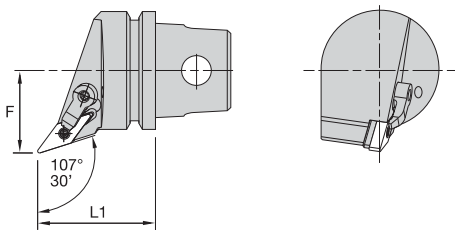
MTJN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144944	KM40MTJNR16	40	1.575	27	1.063	–	–	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9
1144899	KM40MTJNR22	40	1.575	27	1.063	–	–	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11
	left hand											
1144950	KM40MTJNL16	40	1.575	27	1.063	–	–	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9
1144901	KM40MTJNL22	40	1.575	27	1.063	–	–	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11



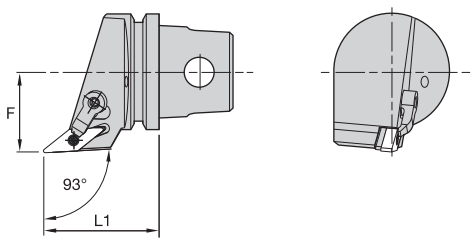
MTUN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144951	KM40MTUNR16	40	1.575	27	1.063	54	2.13	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9
	left hand											
1144946	KM40MTUNL16	40	1.575	27	1.063	54	2.13	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9
1144906	KM40MTUNL22	40	1.575	27	1.063	54	2.13	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11



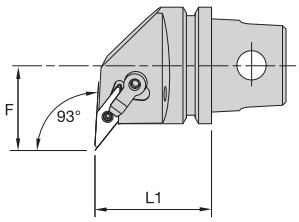
MVHN 107° 30'

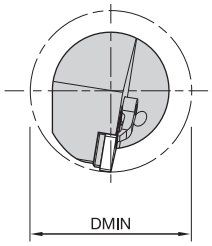
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144942	KM40MVHNR16	40	1.575	27	1.063	–	–	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11
	left hand											
1144949	KM40MVHNL16	40	1.575	27	1.063	–	–	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11



MVJN 93°

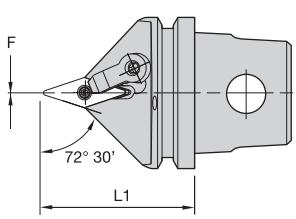
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144945	KM40MVJNR16	40	1.575	27	1.063	–	–	VN..160408/VN..332	IVSN322	KLM34L	CKM20LP	STCM11
	left hand											
1144952	KM40MVJNL16	40	1.575	27	1.063	–	–	VN..160408/VN..332	IVSN322	KLM34L	CKM20LP	STCM11

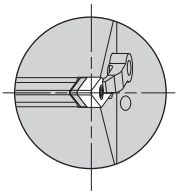




MVUN 93°

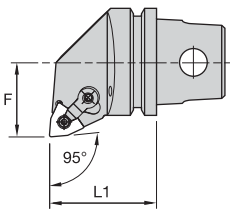
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144941	KM40MVUNR16	40	1.575	27	1.063	54	2.13	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11
	left hand											
1144948	KM40MVUNL16	40	1.575	27	1.063	54	2.13	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11

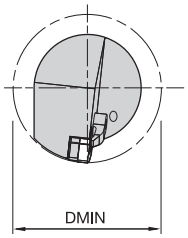




MVVN 72° 30'

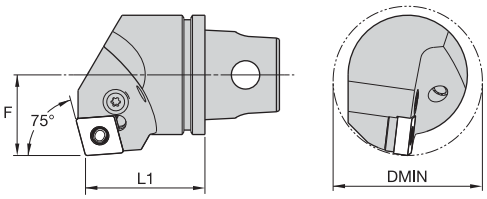
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	left hand											
1144943	KM40MVVNN16	40	1.575	0	.0	–	–	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11





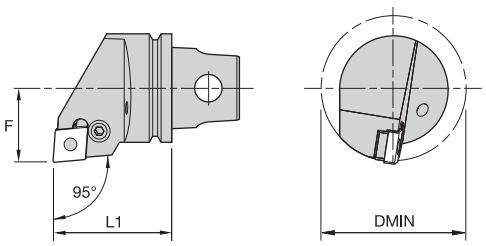
MWLN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lock pin	clamp	clamp screw
	right hand											
1144916	KM40MWLNR08	40	1.575	27	1.063	54	2.13	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11
	left hand											
1144917	KM40MWLNL08	40	1.575	27	1.063	54	2.13	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11



PCKN 75°

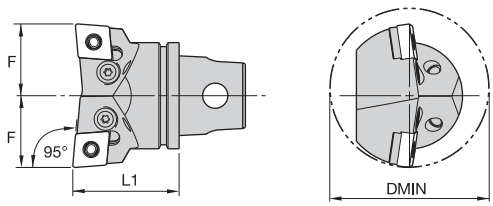
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
2500893	KM40PCKNR12	40	1.575	27	1.063	50	1.97	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018
	left hand												
2500894	KM40PCKNL12	40	1.575	27	1.063	50	1.97	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018



PCLN 95°

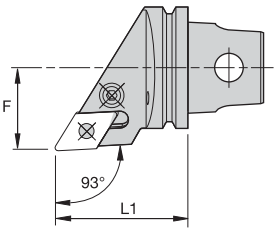
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1232369	KM40PCLNR09	40	1.575	27	1.063	50	1.97	CN..090308/CN..332	512.111	514.118	513.019	511.018	515.018
1624637	KM40PCLNR12	40	1.575	27	1.063	50	1.97	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018
	left hand												
1232373	KM40PCLNL09	40	1.575	27	1.063	50	1.97	CN..090308/CN..332	512.111	514.118	513.019	511.018	515.018
1019795	KM40PCLNL12	40	1.575	27	1.063	50	1.97	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018

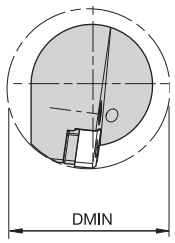
NEW!



PCLN-2W 95°

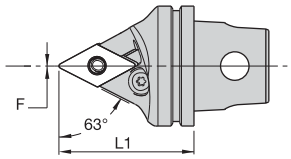
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
2500899	KM40PCLNR122W	40	1.575	27	1.063	60	2.36	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018
	left hand												
2500900	KM40PCLNL122W	40	1.575	27	1.063	60	2.36	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018

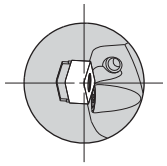




PDJN 93°

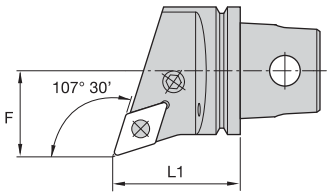
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1232371	KM40PDJNR11	40	1.575	27	1.063	74	2.91	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
1279409	KM40PDJNR15	40	1.575	27	1.063	–	–	DN..150608/DN..442	512.156	514.128	513.023	511.024	515.018
	left hand												
1232370	KM40PDJNL11	40	1.575	27	1.063	74	2.91	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
1317948	KM40PDJNL15	40	1.575	27	1.063	–	–	DN..150608/DN..442	512.156	514.128	513.023	511.024	515.018

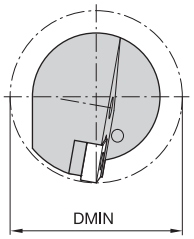




PDNN 62° 30'

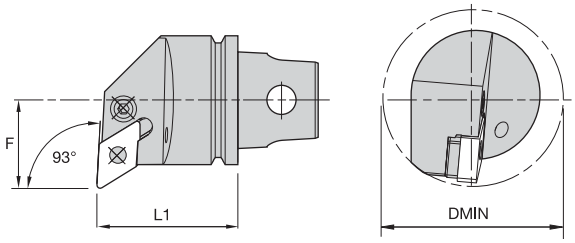
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
2500901	KM40PDNNR15	45	1.772	0	.000	–	–	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018
	left hand												
2500902	KM40PDNNL15	45	1.772	0	.000	–	–	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018





PDQN 107° 30'

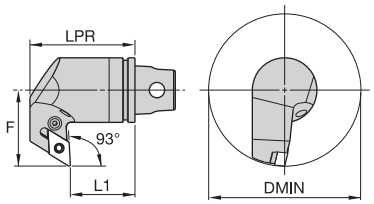
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1671517	KM40PDQNR11	40	1.575	27	1.063	50	1.97	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
	left hand												
1671518	KM40PDQNL11	40	1.575	27	1.063	50	1.97	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018



PDUN 93°

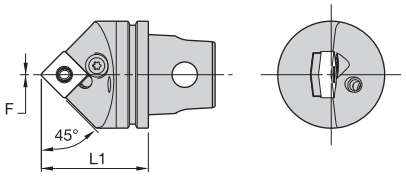
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1232366	KM40PDUNR11	40	1.575	27	1.063	50	1.97	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
1279410	KM40PDUNR15	40	1.575	27	1.063	50	1.97	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018
	left hand												
1232367	KM40PDUNL11	40	1.575	27	1.063	50	1.97	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
1671512	KM40PDUNL15	40	1.575	27	1.063	50	1.97	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018

NEW!



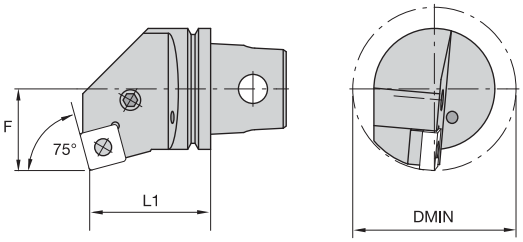
PDXN 93°

order number	catalog number	L1 mm	L1 inch	LPR mm	LPR inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand														
2500905	KM40PDXNR15	40	1.575	65	2.559	47	1.850	94	3.70	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018
	left hand														
2500906	KM40PDXNL15	40	1.575	65	2.559	47	1.850	94	3.70	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018



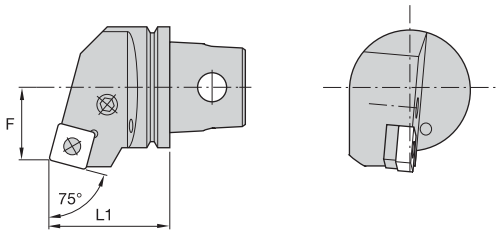
PSDN 45°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
2500911	KM40PSDNN09	40	1.575	0	.000	–	–	SN..090308/SN..322	512.053	514.118	513.019	511.018	515.018
2500912	KM40PSDNN12	40	1.575	0	.000	–	–	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018



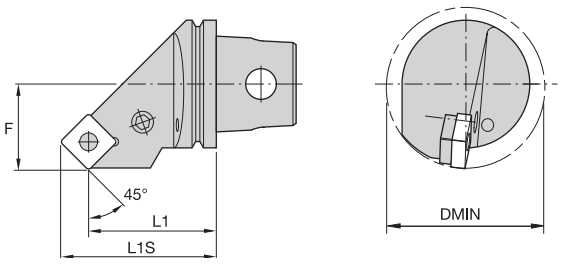
PSKN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1624684	KM40PSKNR12	40	1.575	27	1.063	50	1.97	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018
	left hand												
1624685	KM40PSKNL12	40	1.575	27	1.063	50	1.97	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018



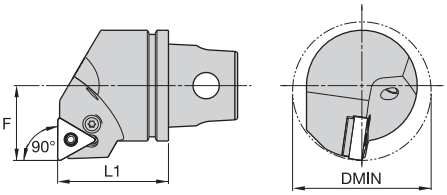
PSRN 75°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1670417	KM40PSRNR12	40	1.575	24	.945	–	–	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018
	left hand												
1670418	KM40PSRNL12	40	1.575	24	.945	–	–	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018



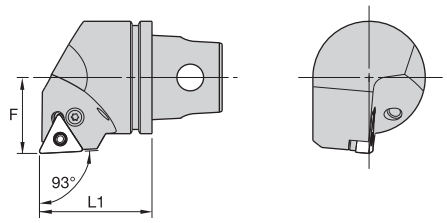
PSSN 45°

order number	catalog number	L1 mm	L1 inch	L1S mm	L1S inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand														
1670952	KM40PSSNR12	40	1.575	48,3	1.903	27	1.063	80	3.15	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018



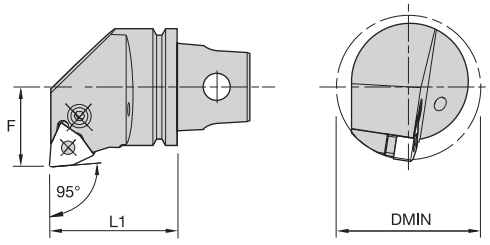
PTFN 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
2500917	KM40PTFNR16	40	1.575	27	1.063	50	1.97	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018
	left hand												
2500918	KM40PTFNL16	40	1.575	27	1.063	50	1.97	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018



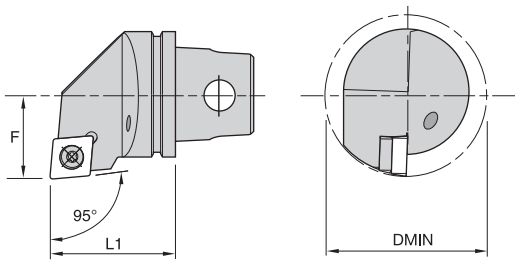
PTJN 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
2500919	KM40PTJNR16	40	1.575	27	1.063	–	–	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018
	left hand												
2500920	KM40PTJNL16	40	1.575	27	1.063	–	–	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018



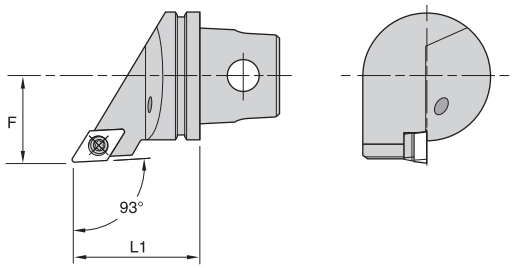
PWLN 95°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1232365	KM40PWLNR06	40	1.575	27	1.063	50	1.97	WN..060404/WN..332	512.134	514.118	513.018	511.018	515.018
1671731	KM40PWLNR08	40	1.575	27	1.063	50	1.97	WN..080408/WN..432	512.135	514.123	513.023	511.023	515.018
	left hand												
1232368	KM40PWLNL06	40	1.575	27	1.063	50	1.97	WN..060404/WN..332	512.134	514.118	513.018	511.018	515.018
1671732	KM40PWLNL08	40	1.575	27	1.063	50	1.97	WN..080408/WN..432	512.135	514.123	513.023	511.023	515.018



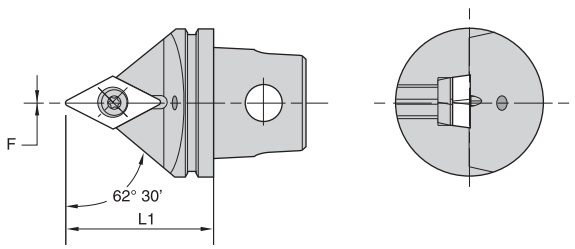
SCLC 95°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
	right hand										
1144466	KM40SCLCR12	40	1.575	27	1.063	54	2.13	CC..120408/CC..432	MS1158	SKCP453	SRS4
	left hand										
1144473	KM40SCLCL12	40	1.575	27	1.063	54	2.13	CC..120408/CC..432	MS1158	SKCP453	SRS4



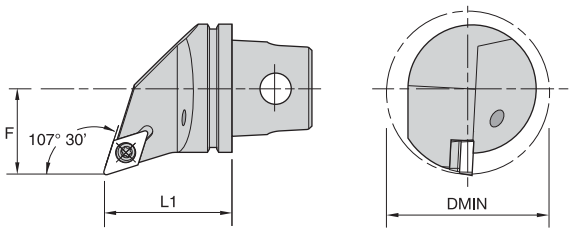
SDJC 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
	right hand										
1144456	KM40SDJCR11	40	1.575	27	1.063	–	–	DC..11T308/DC..3252	MS1156	SKDP343	SRS3
	left hand										
1144461	KM40SDJCL11	40	1.575	27	1.063	–	–	DC..11T308/DC..3252	MS1156	SKDP343	SRS3
1144498	KM40SDJCL15	40	1.575	27	1.063	–	–	DC..150408/DC..432	MS1158	SKDP453	SRS4



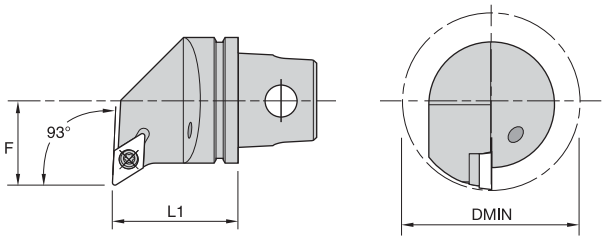
SDNC 62° 30'

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
1144496	KM40SDNCN15	40	1.575	0	.000	–	–	DC..150408/DC..432	MS1158	SKDP453	SRS4



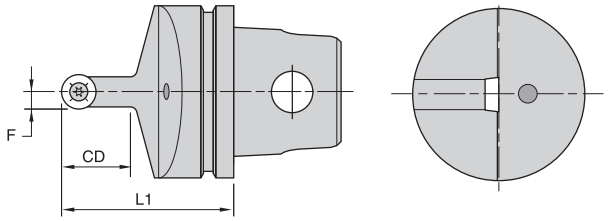
SDQC 107° 30'

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
	right hand										
1144457	KM40SDQCR11	40	1.575	27	1.063	54	2.13	DC..11T308/DC..3252	MS1156	SKDP343	SRS3
1144495	KM40SDQCR15	40	1.575	27	1.063	54	2.13	DC..150408/DC..432	MS1158	SKDP453	SRS4
	left hand										
1144462	KM40SDQCL11	40	1.575	27	1.063	54	2.13	DC..11T308/DC..3252	MS1156	SKDP343	SRS3



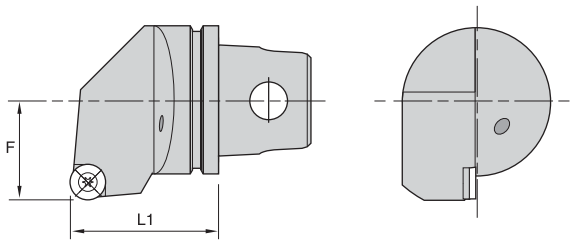
SDUC 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
	right hand										
1082668	KM40SDUCR11	40	1.575	27	1.063	54	2.13	DC..11T308/DC..3252	MS1156	SKDP343	SRS3
	left hand										
1107422	KM40SDUCL11	40	1.575	27	1.063	54	2.13	DC..11T308/DC..3252	MS1156	SKDP343	SRS3



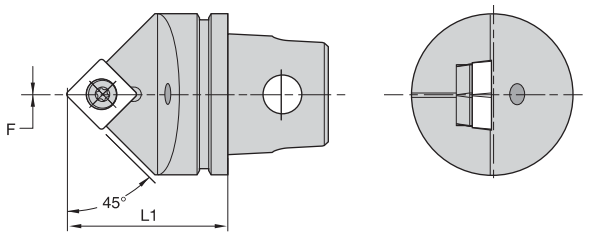
SRDC 0°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	CD mm	CD inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
1144444	KM40SRDCN06	40	1.575	3	.118	12	.47	–	–	RC..0602M0	MS1153	–	–
1144447	KM40SRDCN08	40	1.575	4	.158	16	.63	–	–	RC..0803M0	MS1154	–	–
1144450	KM40SRDCN10	40	1.575	5	.197	20	.79	–	–	RC..10T3M0	MS1156	SKRN100300	SRS3



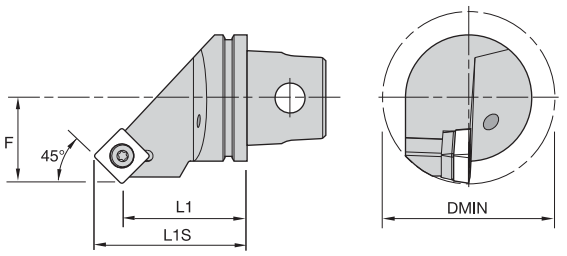
SRGC 0°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
	right hand										
1144449	KM40SRGCR10	40	1.575	27	1.063	–	–	RC..10T3M0	MS1156	SKRN100300	SRS3
1144472	KM40SRGCR12	40	1.575	27	1.063	–	–	RC..1204M0	MS1156	SKRN120300	SRS3



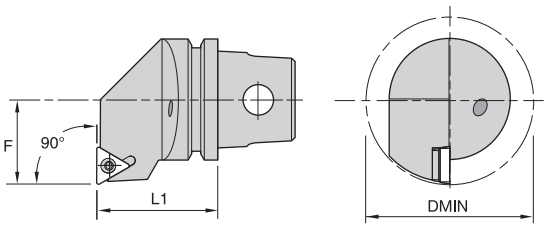
SSDC 45°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
1144471	KM40SSDCN12	40	1.575	0	.000	–	–	SC..120408/SC..432	MS1158	SKSP453	SRS4



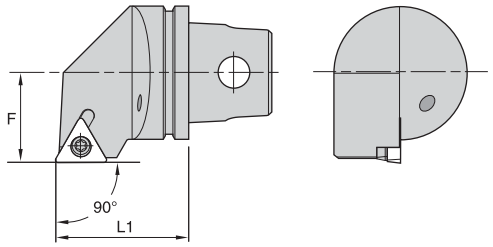
SSSC 45°

order number	catalog number	L1 mm	L1 inch	L1S mm	L1S inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
	right hand												
1144470	KM40SSSCR12	40	1.575	48	1.903	27	1.063	54	2.13	SC..120408/SC..432	MS1158	SKSP453	SRS4
	left hand												
1144476	KM40SSSCL12	40	1.575	48	1.903	27	1.063	54	2.13	SC..120408/SC..432	MS1158	SKSP453	SRS4



STFC 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
	right hand										
1144480	KM40STFCR16	40	1.575	27	1.063	54	2.13	TC..16T308/TC..3252	MS1156	SKTP343	SRS3
	left hand										
1144487	KM40STFCL16	40	1.575	27	1.063	54	2.13	TC..16T308/TC..3252	MS1156	SKTP343	SRS3



STGC 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	insert 1	insert screw	shim	shim screw
	right hand										
1144481	KM40STGCR16	40	1.575	27	1.063	–	–	TC..16T308/TC..3252	MS1156	SKTP343	SRS3
	left hand										
1144488	KM40STGCL16	40	1.575	27	1.063	–	–	TC..16T308/TC..3252	MS1156	SKTP343	SRS3

KENNAMETAL®

Tool Adapter VDI

Kennametal offers an extensive range of VDI Tool Adapters manufactured to DIN 69880 (DIN/ISO 10889) for all usual machine tools and interface for manual and automatic tool changing.

Kennametal's VDI Tool Adapters are manufactured from hardened steel with all contact surfaces precision ground.

Table of Contents

Tool Adapter VDI C1–C10

Tooling Selection Guide C2
VDI Toolholders (DIN 69880) C3–C10

VDI Form A1 — Rectangular Blank C3
VDI Form A2 — Round Blank C3
VDI Form B1 — Right-Hand Short C3

VDI Form B2 — Left-Hand Short C4
VDI Form B3 — Right-Hand Short Inverted C4

VDI Form B4 — Left-Hand Short Inverted C5
VDI Form B5 — Right-Hand Long C5

VDI Form B6 — Left-Hand Long C6
VDI Form B7 — Right-Hand Long Inverted C6
VDI Form B8 — Left-Hand Long Inverted C6

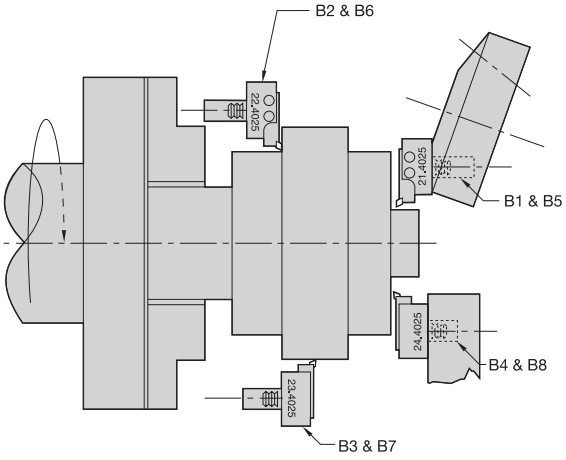
VDI Form C1 — Square Right-Hand C7
VDI Form C2 — Square Left-Hand C7
VDI Form C3 — Square Right-Hand Inverted C7

VDI Form C4 — Square Left-Hand Inverted C8
VDI Form E1 — Boring Bar Internal Coolant C8

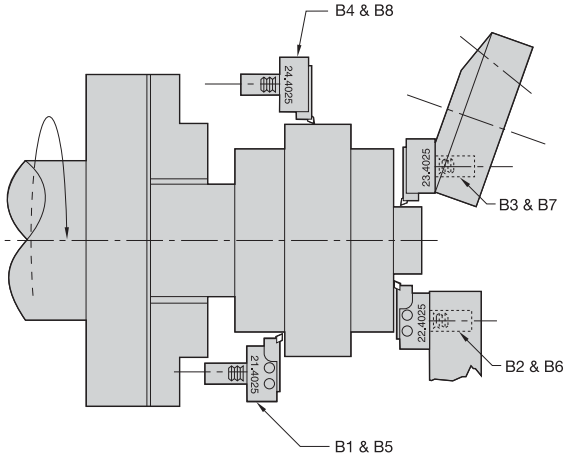
VDI Form E2 — Boring Bar Dual Coolant C9

VDI Form E3 — Collet Chuck — DIN 6388 ..... C10
VDI Form E4 — Collet Chuck — ER C10
VDI Form Z2 — Steel Plug C10

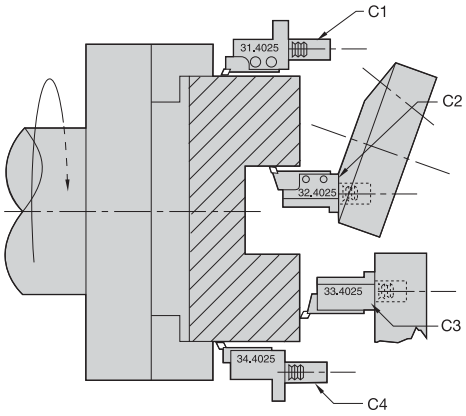
Left-Hand (Clockwise) Spindle Rotation



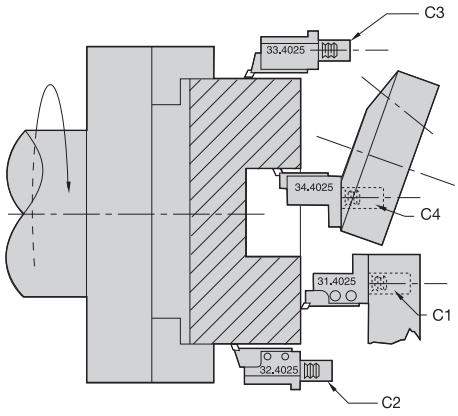
Right-Hand (Counter-Clockwise) Spindle Rotation



Left-Hand (Clockwise) Spindle Rotation

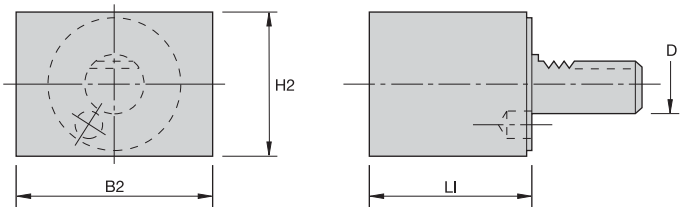


Right-Hand (Counter-Clockwise) Spindle Rotation



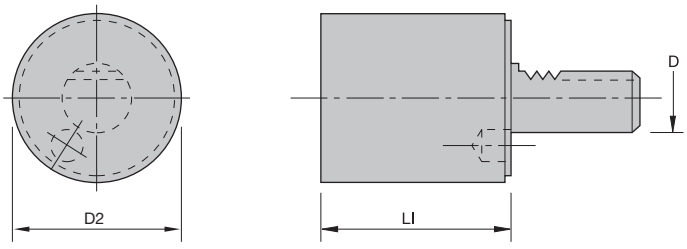
C1 — right-hand form C1.
C2 — left-hand form C2.
C3 — right-hand inverted form C3.
C4 — left-hand inverted form C4.

B1 — right-hand short form B1.
B2 — left-hand short form B2.
B3 — right-hand short inverted form B3.
B4 — left-hand short inverted form B4.
B5 — right-hand long form B5.
B6 — left-hand long form B6.
B7 — right-hand long inverted form B7.
B8 — left-hand long inverted form B8.



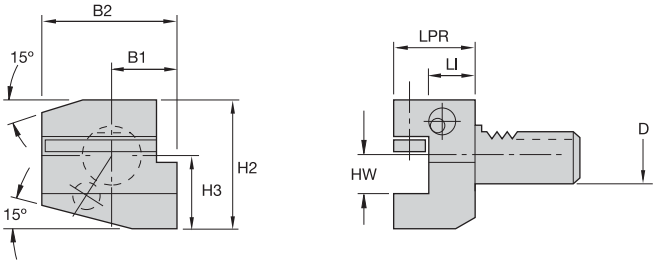
VDI Form A1 — Rectangular Blank

catalog number	D	L1	B2	H2
VDIA1M2065	20,00	65,00	100,00	60,00
VDIA1M3085	30,00	85,00	130,00	76,00
VDIA1M40100	40,00	100,00	151,00	96,00
VDIA1M50125	50,00	125,00	160,00	120,00
VDIA1M60160	60,00	160,00	165,00	125,00



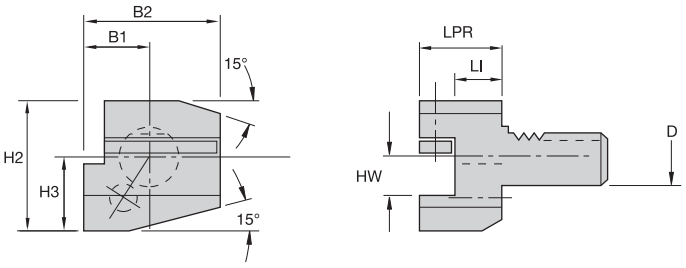
VDI Form A2 — Round Blank

catalog number	D	D2	L1
VDIA2M2070	20,00	50,00	70,00
VDIA2M30100	30,00	68,00	100,00
VDIA2M30240	30,00	68,00	240,00
VDIA2M40120	40,00	83,00	120,00
VDIA2M40320	40,00	83,00	320,00
VDIA2M50135	50,00	98,00	135,00
VDIA2M50400	50,00	98,00	400,00
VDIA2M60150	60,00	123,00	150,00
VDIA2M60480	60,00	123,00	480,00



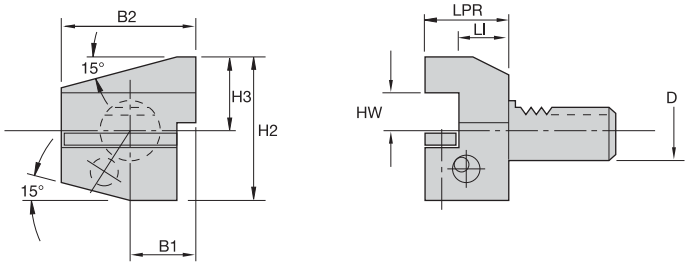
VDI Form B1 — Right-Hand Short

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB1M161224	16,00	42,00	23,00	12,00	42,00	22,00	13,00	24,00
VDIB1M161234	16,00	42,00	23,00	12,00	42,00	22,00	23,00	34,00
VDIB1M201630	20,00	55,00	30,00	16,00	55,00	30,00	16,00	30,00
VDIB1M201640	20,00	55,00	30,00	16,00	55,00	30,00	26,00	40,00
VDIB1M251630	25,00	55,00	30,00	16,00	55,00	30,00	16,00	30,00
VDIB1M302040	30,00	70,00	35,00	20,00	66,00	38,00	22,00	40,00
VDIB1M302060	30,00	70,00	35,00	20,00	66,00	38,00	42,00	60,00
VDIB1M402544	40,00	85,00	42,50	25,00	80,50	48,00	22,00	44,00
VDIB1M503255	50,00	100,00	50,00	32,00	95,00	60,00	30,00	55,00
VDIB1M603260	60,00	125,00	62,50	32,00	105,00	62,50	30,00	60,00



VDI Form B2 — Left-Hand Short

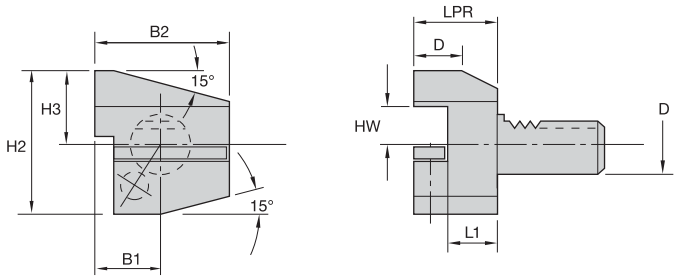
catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB2M161224	16,00	42,00	23,00	12,00	42,00	22,00	13,00	24,000
VDIB2M161234	16,00	42,00	23,00	12,00	42,00	22,00	23,00	34,000
VDIB2M201630	20,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB2M201640	20,00	55,00	30,00	16,00	55,00	30,00	26,00	40,000
VDIB2M251630	25,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB2M302040	30,00	70,00	35,00	20,00	66,00	38,00	22,00	40,000
VDIB2M302060	30,00	70,00	35,00	20,00	66,00	38,00	42,00	60,000
VDIB2M402544	40,00	85,00	42,50	25,00	80,50	48,00	22,00	44,000
VDIB2M503255	50,00	100,00	50,00	32,00	95,00	60,00	30,00	55,000
VDIB2M603260	60,00	125,00	62,50	32,00	105,00	62,50	30,00	60,000



VDI Form B3 — Right-Hand Short Inverted

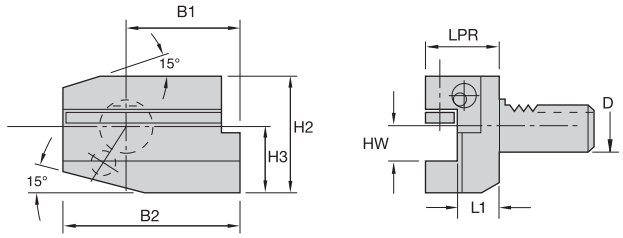
catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB3M161224	16,00	42,00	23,00	12,00	42,00	22,00	13,00	24,000
VDIB3M161234	16,00	42,00	23,00	12,00	42,00	22,00	23,00	34,000
VDIB3M201630	20,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB3M201640	20,00	55,00	30,00	16,00	55,00	30,00	26,00	40,000
VDIB3M251630	25,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB3M302040	30,00	70,00	35,00	20,00	73,00	38,00	22,00	40,000
VDIB3M302060	30,00	70,00	35,00	20,00	73,00	38,00	42,00	60,000
VDIB3M402544	40,00	85,00	42,50	25,00	90,50	48,00	22,00	44,000
VDIB3M503255	50,00	100,00	50,00	32,00	110,00	60,00	30,00	55,000
VDIB3M603260	60,00	125,00	62,50	32,00	125,00	62,50	30,00	60,000

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



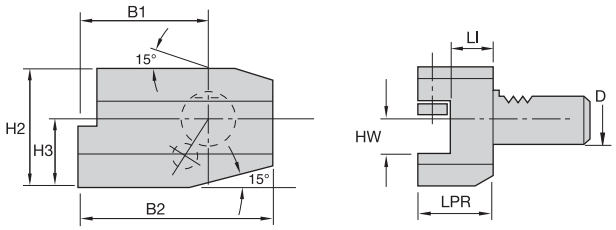
VDI Form B4 — Left-Hand Short Inverted

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB4M161224	16,00	42,00	23,00	12,00	42,00	22,00	13,00	24,000
VDIB4M161234	16,00	42,00	23,00	12,00	42,00	22,00	23,00	34,000
VDIB4M201630	20,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB4M201640	20,00	55,00	30,00	16,00	55,00	30,00	26,00	40,000
VDIB4M251630	25,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB4M302040	30,00	70,00	35,00	20,00	73,00	38,00	22,00	40,000
VDIB4M302060	30,00	70,00	35,00	20,00	73,00	38,00	42,00	60,000
VDIB4M402544	40,00	85,00	42,50	25,00	90,50	48,00	22,00	44,000
VDIB4M503255	50,00	100,00	50,00	32,00	110,00	60,00	30,00	55,000
VDIB4M603260	60,00	125,00	62,50	32,00	125,00	62,50	30,00	60,000



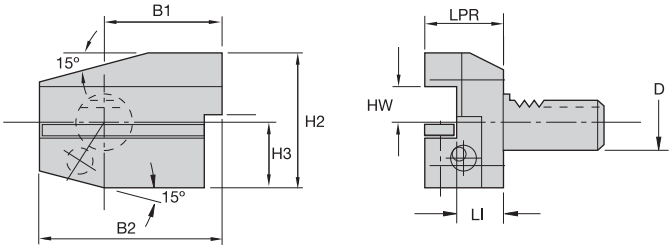
VDI Form B5 — Right-Hand Long

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB5M201630	20,00	75,00	50,00	16,00	55,00	30,00	16,00	30,00
VDIB5M201640	20,00	75,00	50,00	16,00	55,00	30,00	26,00	40,00
VDIB5M302040	30,00	100,00	65,00	20,00	66,00	38,00	22,00	40,00
VDIB5M402044	40,00	118,00	75,50	20,00	80,50	48,00	22,00	44,00
VDIB5M402544	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00
VDIB5M503255	50,00	130,00	80,00	32,00	95,00	60,00	30,00	55,00
VDIB5M603260	60,00	145,00	82,50	32,00	105,00	62,50	30,00	60,00



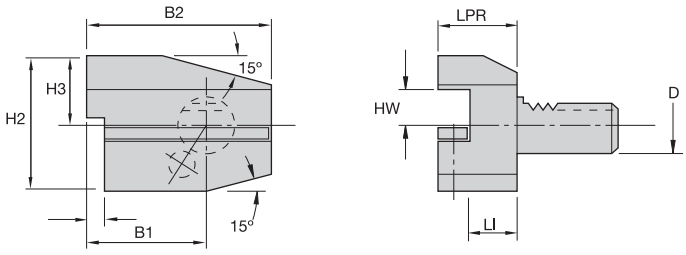
VDI Form B6 — Left-Hand Long

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB6M201630	20,00	75,00	50,00	16,00	55,00	30,00	16,00	30,00
VDIB6M201640	20,00	75,00	50,00	16,00	55,00	30,00	26,00	40,00
VDIB6M302040	30,00	100,00	65,00	20,00	66,00	38,00	22,00	40,00
VDIB6M402044	40,00	118,00	75,50	20,00	80,50	48,00	22,00	44,00
VDIB6M402544	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00
VDIB6M503255	50,00	130,00	80,00	32,00	95,00	60,00	30,00	55,00
VDIB6M603260	60,00	145,00	82,50	32,00	105,00	62,50	30,00	60,00



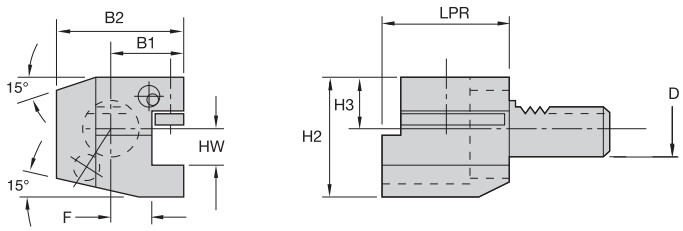
VDI Form B7 — Right-Hand Long Inverted

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB7M201630	20,00	75,00	50,00	16,00	55,00	30,00	16,00	30,00
VDIB7M201640	20,00	75,00	50,00	16,00	55,00	30,00	26,00	40,00
VDIB7M302040	30,00	100,00	65,00	20,00	73,00	38,00	22,00	40,00
VDIB7M402044	40,00	118,00	75,50	20,00	80,50	48,00	22,00	44,00
VDIB7M402544	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00
VDIB7M503255	50,00	130,00	80,00	32,00	110,00	60,00	30,00	55,00
VDIB7M603260	60,00	145,00	82,50	32,00	125,00	62,50	30,00	60,00



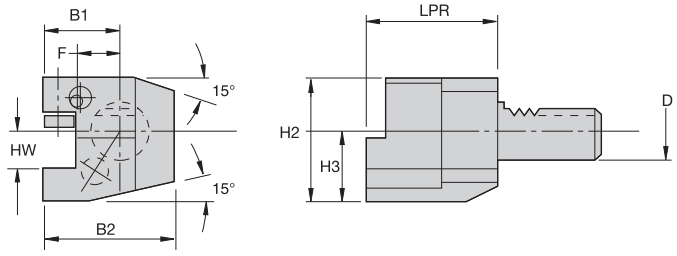
VDI Form B8 — Left-Hand Long Inverted

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB8M201630	20,00	75,00	50,00	16,00	55,00	30,00	16,00	30,00
VDIB8M201640	20,00	75,00	50,00	16,00	55,00	30,00	26,00	40,00
VDIB8M302040	30,00	100,00	65,00	20,00	73,00	38,00	22,00	40,00
VDIB8M402044	40,00	118,00	75,50	20,00	80,50	48,00	22,00	44,00
VDIB8M402544	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00
VDIB8M503255	50,00	130,00	80,00	32,00	110,00	60,00	30,00	55,00
VDIB8M603260	60,00	145,00	82,50	32,00	125,00	62,50	30,00	60,00



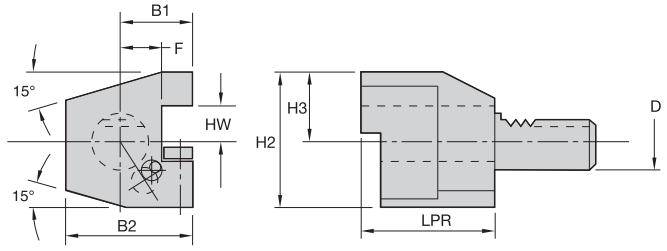
VDI Form C1 — Square Right-Hand

catalog number	D	B2	B1	F	HW	H2	H3	LPR
VDIC1M201650	20,00	65,00	40,00	26,00	16,00	55,00	30,00	50,00
VDIC1M201655	20,00	52,00	27,00	13,00	16,00	55,00	30,00	55,00
VDIC1M302070	30,00	70,00	36,00	17,00	20,00	70,00	38,00	70,00
VDIC1M402585	40,00	85,00	42,50	21,00	25,00	80,50	48,00	85,00
VDIC1M5032100	50,00	100,00	50,00	26,00	32,00	95,00	60,00	100,00
VDIC1M6032125	60,00	125,00	62,50	33,00	32,00	105,00	62,50	125,00



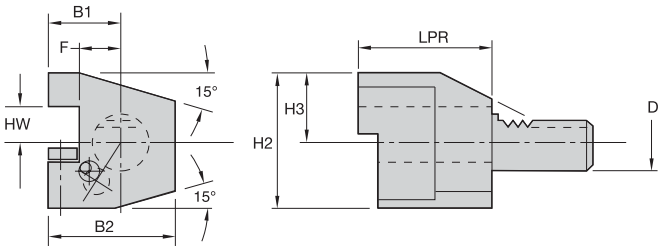
VDI Form C2 — Square Left-Hand

catalog number	D	B2	B1	F	HW	H2	H3	LPR
VDIC2M201650	20,00	65,00	40,00	26,00	16,00	55,00	30,00	50,00
VDIC2M201655	20,00	65,00	40,00	26,00	16,00	55,00	30,00	55,00
VDIC2M302070	30,00	76,00	41,00	23,00	20,00	66,00	38,00	70,00
VDIC2M402585	40,00	90,00	47,50	25,50	25,00	80,50	48,00	85,00
VDIC2M5032100	50,00	105,00	55,00	30,50	32,00	95,00	60,00	100,00
VDIC2M6032125	60,00	125,00	62,50	33,00	32,00	105,00	62,50	125,00



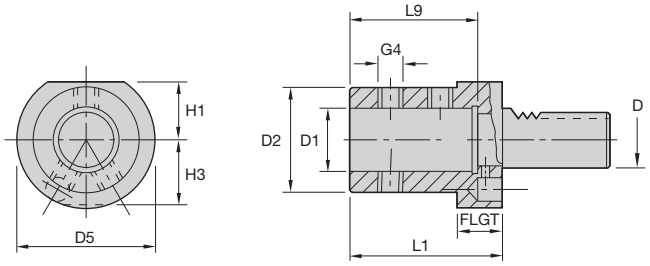
VDI Form C3 — Square Right-Hand Inverted

catalog number	D	B2	B1	F	HW	H2	H3	LPR
VDIC3M201650	20,00	65,00	40,00	26,00	16,00	55,00	30,00	50,00
VDIC3M201655	20,00	52,00	27,00	13,00	16,00	55,00	30,00	55,00
VDIC3M302070	30,00	70,00	35,00	17,00	20,00	73,00	38,00	70,00
VDIC3M402585	40,00	85,00	42,50	21,00	25,00	90,50	48,00	85,00
VDIC3M5032100	50,00	100,00	50,00	26,00	32,00	110,00	60,00	100,00
VDIC3M6032125	60,00	125,00	62,50	33,00	32,00	125,00	62,50	125,00



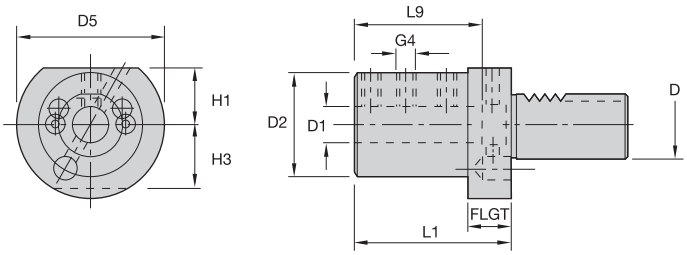
VDI Form C4 — Square Left-Hand Inverted

catalog number	D	B2	B1	F	HW	H2	H3	LPR
VDIC4M201650	20,00	65,00	40,00	26,00	16,00	55,00	30,00	50,00
VDIC4M201655	20,00	65,00	40,00	26,00	16,00	55,00	30,00	55,00
VDIC4M302070	30,00	76,00	41,00	23,00	20,00	73,00	38,00	70,00
VDIC4M402585	40,00	90,00	47,50	25,50	25,00	90,50	48,00	85,00
VDIC4M5032100	50,00	105,00	55,00	30,50	32,00	110,00	60,00	100,00
VDIC4M6032125	60,00	125,00	62,50	33,00	32,00	125,00	62,50	125,00



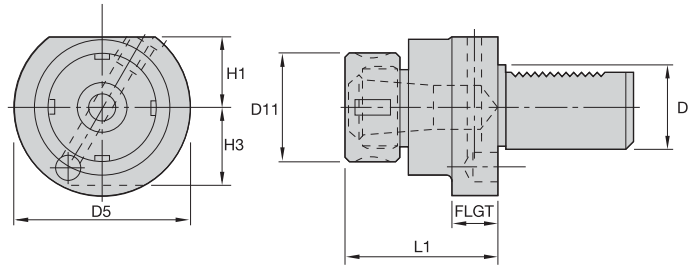
VDI Form E1 — Boring Bar Internal Coolant

catalog number	D	D1	D2	G4	D5	H1	H3	L1	L9	FLGT
VDIE1M2020	20,00	20,00	40,00	M10 X 1.0	50,00	25,00	23,00	67,00	54,00	18,00
VDIE1M2025	20,00	25,00	45,00	M12 X 1.0	50,00	25,00	23,00	71,00	59,00	18,00
VDIE1M3020	30,00	20,00	40,00	M10 X 1.0	68,00	28,00	30,00	67,00	54,00	22,00
VDIE1M3025	30,00	25,00	45,00	M12 X 1.0	68,00	28,00	30,00	71,00	59,00	22,00
VDIE1M3032	30,00	32,00	52,00	M12 X 1.0	68,00	28,00	30,00	75,00	63,00	22,00
VDIE1M3040	30,00	40,00	60,00	M16 X 1.0	68,00	28,00	30,00	85,00	75,00	22,00
VDIE1M4020	40,00	20,00	40,00	M10 X 1.0	83,00	32,50	41,50	67,00	55,00	22,00
VDIE1M4025	40,00	25,00	45,00	M12 X 1.0	83,00	32,50	41,50	75,00	59,00	22,00
VDIE1M4032	40,00	32,00	52,00	M12 X 1.0	83,00	32,50	41,50	75,00	63,00	22,00
VDIE1M4040	40,00	40,00	65,00	M16 X 1.0	83,00	32,50	41,50	90,00	73,00	22,00
VDIE1M5020	50,00	20,00	40,00	M10 X 1.0	98,00	35,00	49,00	67,00	54,00	30,00
VDIE1M5025	50,00	25,00	45,00	M12 X 1.0	98,00	35,00	49,00	80,00	59,00	30,00
VDIE1M5032	50,00	32,00	52,00	M12 X 1.0	98,00	35,00	49,00	80,00	63,00	30,00
VDIE1M5040	50,00	40,00	65,00	M16 X 1.0	98,00	35,00	49,00	90,00	75,00	30,00
VDIE1M5050	50,00	50,00	70,00	M16 X 1.0	98,00	35,00	49,00	100,00	83,00	30,00
VDIE1M6020	60,00	20,00	40,00	M10 X 1.0	123,00	42,50	61,50	66,00	54,00	30,00
VDIE1M6025	60,00	25,00	45,00	M12 X 1.0	123,00	42,50	61,50	71,00	59,00	30,00
VDIE1M6032	60,00	32,00	52,00	M12 X 1.0	123,00	42,50	61,50	75,00	63,00	30,00
VDIE1M6040	60,00	40,00	60,00	M16 X 1.0	123,00	42,50	61,50	85,00	73,00	30,00
VDIE1M6050	60,00	50,00	70,00	M16 X 1.0	123,00	42,50	61,50	95,00	83,00	30,00



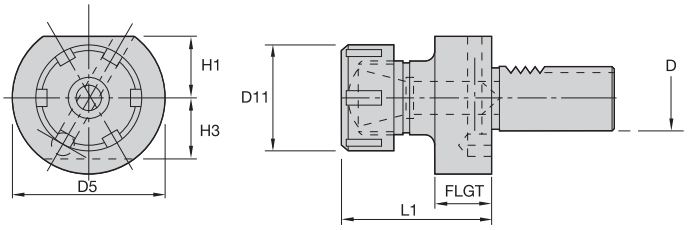
VDI Form E2 — Boring Bar Dual Coolant

catalog number	D	D1	D2	G4	D5	H1	H3	L1	L9	FLGT
VDIE2M2010	20,00	10,00	40,00	M6	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M2012	20,00	12,00	40,00	M8	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M2016	20,00	16,00	40,00	M8	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M2020	20,00	20,00	50,00	M8	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M2025	20,00	25,00	50,00	M8	50,00	25,00	23,00	60,00	51,00	18,00
VDIE2M208	20,00	8,00	40,00	M6	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M3010	30,00	10,00	55,00	M6	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3012	30,00	12,00	55,00	M8	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3016	30,00	16,00	55,00	M8	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3020	30,00	20,00	55,00	M8	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3025	30,00	25,00	55,00	M8	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3032	30,00	32,00	68,00	M8	50,00	28,00	30,00	75,00	62,00	–
VDIE2M308	30,00	8,00	55,00	M6	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M4010	40,00	10,00	55,00	M8	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4012	40,00	12,00	55,00	M8	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4016	40,00	16,00	55,00	M10	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4020	40,00	20,00	55,00	M10	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4025	40,00	25,00	55,00	M10	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4032	40,00	32,00	83,00	M10	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4040	40,00	40,00	83,00	M10	83,00	32,50	41,50	90,00	77,00	22,00
VDIE2M408	40,00	8,00	55,00	M8	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M5010	50,00	10,00	55,00	M6	98,00	35,00	49,00	75,00	61,00	30,00
VDIE2M5012	50,00	12,00	55,00	M8	98,00	35,00	49,00	75,00	61,00	30,00
VDIE2M5016	50,00	16,00	68,00	M10	98,00	35,00	49,00	90,00	78,00	30,00
VDIE2M5020	50,00	20,00	68,00	M12	98,00	35,00	49,00	90,00	78,00	30,00
VDIE2M5025	50,00	25,00	68,00	M12	98,00	35,00	49,00	90,00	78,00	30,00
VDIE2M5032	50,00	32,00	68,00	M12	98,00	35,00	49,00	90,00	78,00	30,00
VDIE2M5040	50,00	40,00	98,00	M12	98,00	35,00	49,00	90,00	78,00	–
VDIE2M5050	50,00	50,00	98,00	M12	98,00	35,00	49,00	100,00	86,00	–
VDIE2M508	50,00	8,00	55,00	M6	98,00	35,00	49,00	80,00	61,00	30,00
VDIE2M6010	60,00	10,00	68,00	M8	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6012	60,00	12,00	68,00	M8	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6016	60,00	16,00	68,00	M10	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6020	60,00	20,00	68,00	M12	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6025	60,00	25,00	68,00	M12	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6032	60,00	32,00	68,00	M12	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6040	60,00	40,00	98,00	M12	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6050	60,00	50,00	98,00	M12	123,00	42,50	61,50	100,00	86,00	30,00



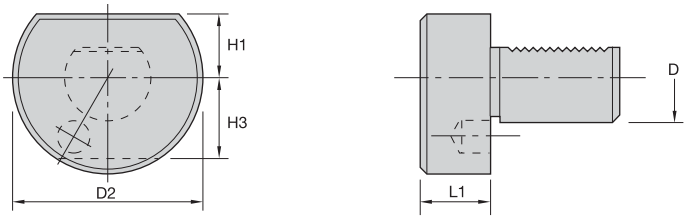
VDI Form E3 — Collet Chuck — DIN 6388

catalog number	D	D5	D11	H1	H3	FLGT	L1
VDIE3M2016	20,00	50,00	43,00	25,00	23,00	18,00	57,00
VDIE3M2020	20,00	50,00	50,00	25,00	23,00	18,00	62,00
VDIE3M3025	30,00	68,00	60,00	28,00	30,00	22,00	75,00
VDIE3M4025	40,00	83,00	60,00	32,50	41,50	22,00	75,00
VDIE3M4032	40,00	83,00	72,00	32,50	41,50	22,00	90,00
VDIE3M5025	50,00	98,00	60,00	35,00	49,00	30,00	75,00
VDIE3M5032	50,00	98,00	72,00	35,00	49,00	30,00	90,00
VDIE3M6032	60,00	123,00	72,00	42,50	61,50	30,00	90,00



VDI Form E4 — Collet Chuck — ER

catalog number	D	D5	D11	H1	H3	FLGT	L1
VDIE4M1616	16,00	40,00	32,00	18,00	20,00	13,00	36,00
VDIE4M2016	20,00	50,00	32,00	25,00	23,00	18,00	42,00
VDIE4M2025	20,00	68,00	42,00	25,00	23,00	18,00	50,00
VDIE4M3025	30,00	68,00	42,00	28,00	30,00	22,00	57,00
VDIE4M3032	30,00	68,00	50,00	28,00	30,00	22,00	62,00
VDIE4M3040	30,00	83,00	63,00	28,00	30,00	22,00	70,00
VDIE4M4025	40,00	83,00	42,00	32,50	41,50	22,00	57,00
VDIE4M4032	40,00	83,00	50,00	32,50	41,50	22,00	62,00
VDIE4M4040	40,00	83,00	63,00	32,50	41,50	22,00	75,00
VDIE4M5040	50,00	98,00	63,00	35,00	49,00	30,00	75,00
VDIE4M6040	60,00	123,00	63,00	42,50	61,50	30,00	75,00



VDI Form Z2 — Steel Plug

catalog number	D	D2	L1	H1	H3
VDIZ2M20	20,00	50,00	16,00	23,00	23,00
VDIZ2M30	30,00	68,00	16,00	28,00	30,00
VDIZ2M40	40,00	83,00	20,00	32,50	41,50
VDIZ2M50	50,00	98,00	20,00	35,00	49,00
VDIZ2M60	60,00	123,00	20,00	42,50	61,50

KENNAMETAL®

Grooving and Cut-Off

Table of Contents

Grooving and Cut-Off.....D1–D130

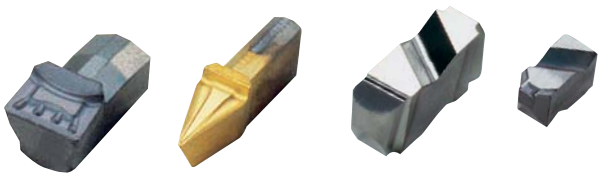
Grooving Application Guide.....D2–D3
Grade System for Grooving and Cut-Off Applications.....D4–D7

A2™ — Cut-Off.....D8–D25
- KENNA PERFECT™ Selection Guide.....D10–D11
- Inserts.....D12–D16
- Toolholders.....D17–D19
- Blades and Blocks.....D20–D27

A3™ — Deep Grooving.....D28–D61
- KENNA PERFECT® Selection Guide.....D30–D31
- Inserts.....D32–D35
- Toolholders.....D36–D41
- Boring Bars.....D42–D43
- Modular Blades.....D44–D47
- Modular Toolholders.....D48–D49
- Modular KM™ Cutting Units.....D50–D53
- KM25™ & KM40™ Cutting Units.....D54–D56
- A4 & A3 Modular Blade Assemblies.....D57–D60

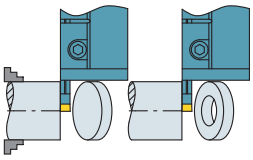
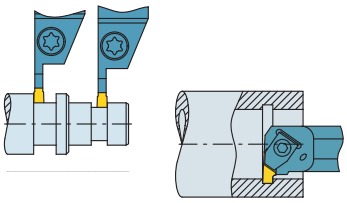
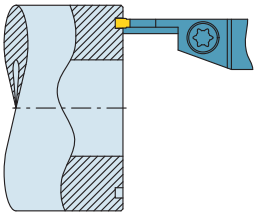
A4™ — Groove & Turn.....D62–D97
- KENNA PERFECT Selection Guide.....D64–D67
- Inserts.....D68–D75
- Toolholders.....D76–D78
- Boring Bars.....D79
- Modular Blades.....D80–D85
- Modular Toolholders.....D86–D87
- A4 Modular Blade Assemblies.....D88
- Modular KM Cutting Units.....D89–D92
- KM25 & KM40 Cutting Units.....D93–D94
- A4 & A3 Modular Blade Assemblies.....D95–D97

TOP NOTCH™ — Grooving.....D98–D130
- KENNA PERFECT Selection Guide.....D100–D101
- Inserts.....D102–D117
- Toolholders.....D118–D121
- Boring Bars.....D122–D124
- Boring Heads and Cartridges.....D125
- KM25 & KM40 Cutting Units.....D126–D128

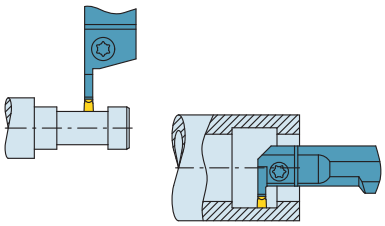
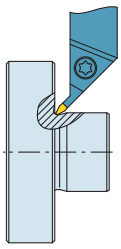
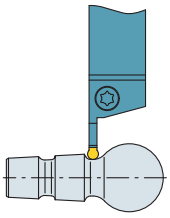


Grooving Application Guide

KENNAMETAL

	Cut-Off	Grooving	Face Grooving
Application			
TOP NOTCH™ Grooving generally recommended for cutting depth/width ratios of 1,5 or less		**Inserts** • cutting widths from 0,8 to 9,5mm (.031 to .375 inch). • cutting depths from 1,27 to 12,70mm (.050 to .500 inch). • chip control, positive rake, and neutral flat top inserts are available. **OD Application** • integral shank toolholders and KM heads are available. **ID Application** • boring bars with a 11,5mm (.453 inch) minimum bore diameter.	**Minimum Face Groove Diameter Capabilities** • standard inserts: 54 to 330mm (2.125 to 13 inch) depending on size. • NF/NFD face grooving inserts: 24 to 57mm (.940 to 2.25 inch). • all have unlimited maximum diameter. **Cutting Width Range** • standard inserts: 0,8 to 9,5mm (.031 to .375 inch). • NF/NFD face grooving inserts: 2,0 to 6,35mm (.079 to .250 inch). **Cutting Depth Range** • standard inserts: 1,27 to 12,7mm (.050 to .500 inch). • NF/NFD face grooving inserts: 3,8 to 6,35mm (.150 to .250 inch).
A4 Groove & Turn	**Cut-Off Capabilities** • 1,5 to 4,05mm (0.059 to 0.159 inch) cut-off width. • satisfies extreme demands for rigidity and dimensional accuracy. • integral screw-clamping toolholders with 17mm (.670 inch) maximum cutting depth available. • economical double-edge inserts.	**Inserts** • cutting widths from 2,0 to 10,05mm (0.079 to .396 inch). • precision ground and molded inserts — all available with chip control. **OD Application** • integral shank toolholders and modular KM heads are available. • cutting depths from 14 to 26mm (.55 to 1.02 inch). **ID Application** • boring bars with 25mm (.984 inch) minimum bore diameter. • cutting widths from 2,0 to 6,35mm (0.079 to .250 inch).	**Minimum Face Groove Diameter Capabilities** • 36mm (1.417 inch) minimum diameter. • unlimited maximum diameter. **Cutting Width Range** • cutting widths from 2,0 to 5,05mm (.079 to .199 inch). **Cutting Depth Range** • cutting depths of 7 to 19mm (.276 to .748 inch).
A3 Deep Grooving generally recommended for cutting depth/width ratios of more than 1,5		**Inserts** • cutting widths from 2,36 to 10,05mm (.093 to .396 inch). • precision ground and molded inserts — all available with chip control. **OD Application** • integral shank toolholders and modular KM heads are available. • cutting depths from 10 to 32mm (.394 to 1.26 inch). **ID Application** • boring bars with 32mm (1.26 inch) minimum bore diameter.	**Minimum Face Groove Diameter Capabilities** • 25mm (.984 inch) minimum diameter. • unlimited maximum diameter. **Cutting Width Range** • cutting widths from 3,0 to 6,35mm (.118 to .250 inch). **Cutting Depth Range** • cutting depths from 10 to 32mm (.393 to 1.26 inch).
A2 Cut-Off	**Cut-Off Capabilities** • cut-off widths from 1,4 to 8mm (.055 to .315 inch). • left- and right-hand styles with 6° to 16° lead angles. • self-clamping blades and screw-clamping integral shank toolholders are available. • single-edge inserts for maximum depth capability.		

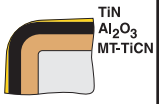
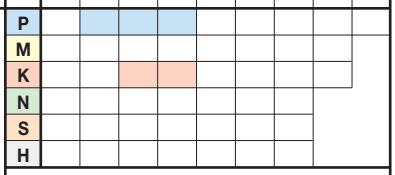
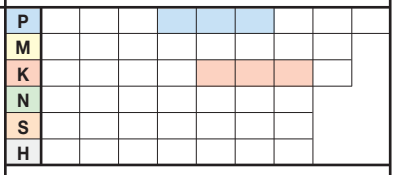
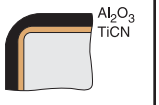
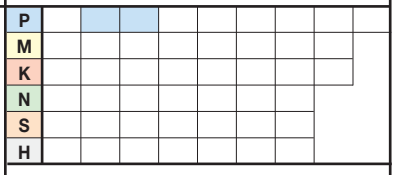
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

	Groove & Turn	Undercutting	Profiling
Application			
TOP NOTCH™ Grooving generally recommended for cutting depth/width ratios of 1,5 or less		**TOP NOTCH Undercutting Capabilities** • undercutting insert widths from 2,4 to 4mm (.094 to .156 inch). • economical double-ended inserts.	**Recommended for Moderate to Heavy Stock Removal at Shallow Profile Depths** **Full Radius Inserts** • cutting widths from 1,57 to 6,35mm (.062 to .250 inch). • cutting depths of 2,39 to 6,35mm (.094 to .250 inch). **OD Application** • integral shank toolholders and KM heads are available.
A4 Groove & Turn	**Recommended for Heavy Stock Removal, Particularly in Turning Applications** **Inserts** • cutting widths from 2,0 to 10,05mm (.079 to .396 inch). • double-ended, precision ground, and molded inserts — all available with chip control. **OD Application** • integral shank toolholders and modular KM™ heads are available. • cutting depths from 14 to 26mm (.55 to 1.02 inch). **ID Application** • boring bars with 25mm (.984 inch) minimum bore diameter. • cutting widths from 2,0 to 6,35mm (.079 to .250 inch).		**Recommended for Heavy Stock Removal** **Full Radius Inserts** • cutting widths from 2,0 to 10,05mm (.079 to .396 inch). **OD Application** • integral shank toolholders and modular KM heads are available. • cutting depths from 14 to 26mm (.55 to 1.02 inch).
A3 Deep Grooving generally recommended for cutting depth/width ratios of more than 1,5	**Recommended for Light Cutting Inserts** • cutting widths from 2,36 to 10mm (.093 to .396 inch). • precision ground and molded inserts, all available with chip control. **OD Application** • integral shank toolholders and modular KM heads are available. • cutting depths from 10 to 32mm (.394 to 1.26 inch). **ID Application** • boring bars with 32mm (1.26 inch) minimum bore diameter.	**Full Radius Undercutting** • full radius inserts with cutting widths from 3,0 to 8mm (.118 to .315 inch) at 45° lead angle. **35° Insert Undercutting** • 35° V-form inserts for profiling undercuts. • toolholder lead angles of 45°, 93°, and 117,5°.	**Recommended for Light Cutting** • full radius inserts with cutting widths from 3 to 8mm (.118 to .315 inch). • 32mm (1.26 inch) maximum cutting depth. • integral shank toolholders and modular KM heads are available. • 35° V-form inserts are also available.
A2 Cut-Off			

Grade System for Grooving and Cut-Off Applications

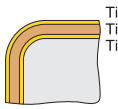
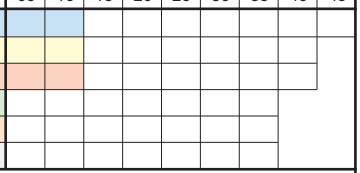
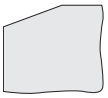
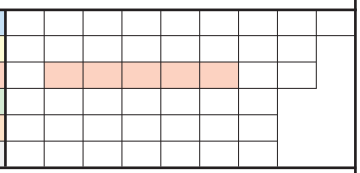
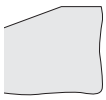
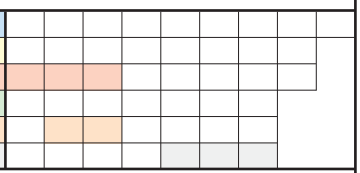
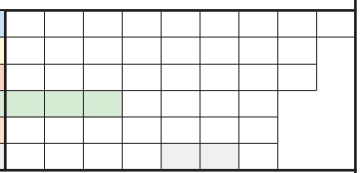
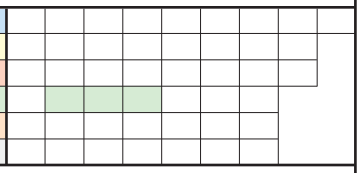
Grade Selection Table

Type	Grade	Coating	Composition and Application	Standard designation	Area of use: Wear resistance → Toughness
		C-Class			05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45
Uncoated Carbide Grades	**K313™**	C3–C4	**composition:** A hard, low binder content, unalloyed WC/Co fine-grained grade. **application:** Exceptional edge wear resistance combined with very high strength for machining titanium, cast irons, austenitic stainless steels, non-ferrous metals, nonmetals, and most high-temperature alloys. Superior thermal deformation and depth-of-cut notch resistance. The grain structure is well controlled for minimal pits and flaws, which contributes to long, reliable service.	P M K N S H	
Uncoated Carbide Grades	**K1025™ (KMF)**	C2,C6	**composition:** It's medium in hardness and binder content unalloyed WC/Co fine-grained grade. **application:** For machining high-temp alloys, titanium, and non-ferrous workpiece materials under unfavorable conditions.	P M K N S H	
PVD Coated Carbide Grades	**KC5010™** NEW! improved	TiAlN C3–C4	**composition:** An advanced PVD TiAlN coating over a very deformation resistant unalloyed carbide substrate. The new and improved coating allows for speeds to be increased by 50 to 100%. **application:** The KC5010 grade is ideal for finishing to general machining of most workpiece materials at higher speeds. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and super alloys under stable conditions. It also performs well machining hardened and short chipping materials.	P M K N S H	
PVD Coated Carbide Grades	**KC5025™** NEW! improved	TiAlN C2,C6	**composition:** An advanced PVD TiAlN coated grade with a tough, ultra-fine grain unalloyed substrate. **application:** For general purpose machining of most steels, stainless steels, high-temperature alloys, titanium, irons, and non-ferrous materials. Speeds may vary from low to medium and will handle interruptions and high feed rates.	P M K N S H	
PVD Coated Carbide Grades	**KC5410™**	TiB_2 C3–C4	**composition:** A PVD TiB2 coating over a very deformation-resistant unalloyed substrate. **application:** The KC5410 grade is designed for roughing, semifinishing and finishing of free machining (hypoeutectic <12.2% Si) aluminum, aluminum alloys, and magnesium alloys. The TiB2 coating is harder than TiN and TiAlN coatings and has an extremely smooth surface, resulting in reduced surface friction, speedy chip flow, and outstanding wear resistance. In addition, built-up edge is prevented because this coating has a very low affinity for aluminum. The substrate is unalloyed and fine grained and offers sharp edges, smooth surfaces, and excellent thermal deformation resistance and edge integrity. Inserts with a ground periphery are polished before coating and have a sharp edge. Molded inserts have a light hone.	P M K N S H	

Type	Grade	Coating	Composition and Application	Standard designation	Area of Use: Wear resistance → Toughness (05 10 15 20 25 30 35 40 45)
		C–Class			
CVD Coated Carbide Grades	**KC9110™**	 C3,C7	**composition:** A specially engineered, patent-pending cobalt-enriched carbide grade with thick K-MTCVD-TiCN coating layer, an Al2O3 layer of controlled grain size and outer layers of TiCN and TiN for maximum wear resistance. **application:** An excellent finishing to medium machining grade for a variety of workpiece materials including most steels, ferritic and martensitic stainless steels, and cast irons. The specially engineered, cobalt-enriched substrate offers a balanced combination of deformation resistance and edge toughness, while the thick coating layers offer outstanding abrasion resistance and crater wear resistance for high-speed machining. The smooth coating provides good resistance to edge build-up and microchipping and produces excellent surface finishes. For rougher cutting, use the KC9125 grade.	P, M, K, N, S, H	
	KC9125™	C2–C3,C6–C7	**composition:** A tough cobalt-enriched carbide grade with a newly designed multi-layer K-MTCVD TiCN-Al2O3-TiCN-TiN coating with superior interlayer adhesion. **application:** This is the industry's best general-purpose turning grade for most steels and ferritic and martensitic stainless steels. The substrate design, with cobalt-enrichment, ensures adequate deformation resistance along with excellent bulk toughness and insert edge strength. The coating layers offer good wear resistance over a wide range of machining conditions. The smoothness of the coating leads to reduced frictional heat, minimizes microchipping, and improves workpiece surface finishes. The KC9125 grade performs well in moderately heavy roughing to semi-finishing cuts. Use the KC9110 grade for finishing cuts.	P, M, K, N, S, H	
	KC9320™	 C3–C4	**composition:** A patent-protective specially toughened MTCVD-TICN and Al2O3 coating over a wear-resistant substrate. **application:** KC9320 is specifically engineered to maximize coating adhesion and edge strength making this grade ideal in wet interrupted cutting of ductile and gray irons. It can be in a wide range of applications from finishing to roughing to maximize productivity wherever srength and reliability are needed.	P, M, K, N, S, H	

Grade System for Grooving and Cut-Off Applications

Grade Selection Table

Type	Grade	Coating	Composition and Application	Standard designation	Area of Use: Wear resistance ↔ Toughness (05 10 15 20 25 30 35 40 45)
		C–Class			
Cermet	KT315™	 C3–C7	**composition:** A multi-layered, PVD TiN/TiCN/TiN coated cermet turning grade. **application:** Ideal for high-speed finishing to medium machining of most carbon and alloy steels and stainless steels. Performs very well in cast and ductile iron applications too. Provides long and consistent tool life and will produce excellent workpiece finishes.	P M K N S H	
Ceramics	KY3500™	 C2	**composition:** Pure silicon nitride grade. **application:** Maximum toughness; used at high-feed rates for rough machining of gray cast iron, including machining through interruptions.	P M K N S H	
PCBN – Polycrystalline Cubic Boron Nitride	KB1630™	 —	**composition:** A high CBN content, PCBN tip brazed onto a carbide insert. **application:** Grade KB1630 is designed for roughing to finishing in interrupted cuts on hardened steels (>45 HRC). It can also be applied on gray cast iron, chilled irons, high-chrome alloyed steels and sintered powdered metals. The tipped PCBN insert is available in a wide range of insert styles including positive rake geometries that are ideally suited for boring applications.	P M K N S H	
PCD-Polycrystalline Diamond	KD1405™	C4	**composition:** A pure CVD deposited diamond sheet tool direct brazed to a carbide substrate. **application:** KD1405 is Kennametal's and the industry's most abrasion-resistant tool material for non-ferrous and non-metallic materials. KD1405 is best applied when abrasion resistance is the desired benefit. KD1405 is not as tough as KD100 but can withstand moderate interruptions when turning and traditional face milling operations.	P M K N S H	
PCD-Polycrystalline Diamond	KD1425™ NEW!	C4	**composition:** A multi-modal PCD grade with a range of rain sizes brazed onto a carbide substrate. **application:** KD1425 is engineered for extreme abrasion resistance, combined with good edge strength for demanding applications. AKD1425 is an ideal choice for high-silicon alluminum alloys, bi-metallic (AL/GCI) materials, MMC, carbon-fiber reinforced plastics, and other abrasive non-metallic materials.	P M K N S H	

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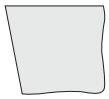
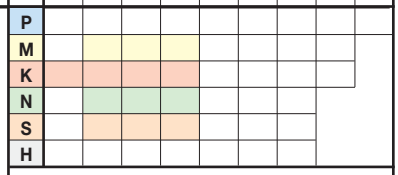
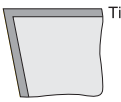
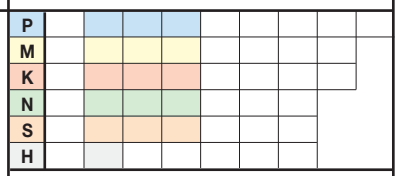
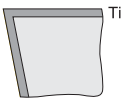
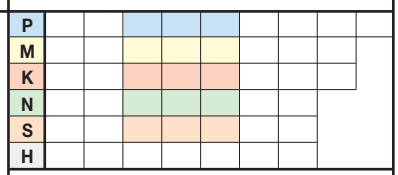
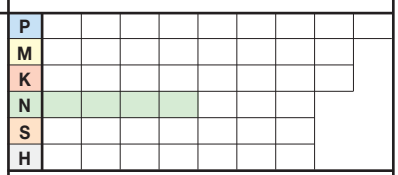
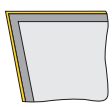
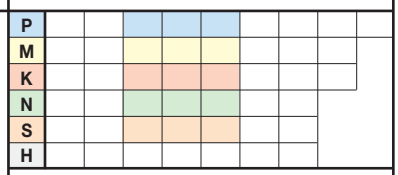
Type	Grade	Coating	Composition and Application	Standard designation / Area of Use (Wear resistance ↔ Toughness; 05 10 15 20 25 30 35 40 45)
Uncoated Carbide Grades	**K68™**	 C3	**composition:** A hard, low binder content, unalloyed grade WC/Co fine-grained grade. **application:** The K68 grade has excellent abrasion resistance for machining cast irons, austenitic stainless steels, non-ferrous metals, nonmetals, and as an alternative to the K313 grade on most high-temperature alloys. Use as a general purpose grade for non-ferrous materials.	
PVD Coated Carbide Grades	**KC5010™** NEW! improved	 TiAlN C3–C4	**composition:** An advanced PVD TiAlN coating over a very deformation-resistant unalloyed carbide substrate. The new and improved coating allows for speeds to be increased by 50 to 100%. **application:** The KC5010 grade is ideal for finishing to general machining of most workpiece materials at higher speeds. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and super alloys under stable conditions. It also performs well machining hardened and short chipping materials.	
	KC5025™ NEW! improved	 TiAlN C2,C6	**composition:** An advanced PVD TiAlN coated grade with a tough, ultra-fine grain unalloyed substrate. **application:** For general purpose machining of most steels, stainless steels, high-temperature alloys, titanium, irons, and non-ferrous materials. Speeds may vary from low to medium and will handle interruptions and high feed rates.	
	KC5410™	TiB_2 C3–C4	**composition:** A PVD TiB_2 coating over a very deformation-resistant unalloyed substrate. **application:** The KC5410 grade is designed for roughing, semifinishing and finishing of free machining (hypoeutectic <12.2% Si) aluminum, aluminum alloys, and magnesium alloys. The TiB_2 coating is harder than TiN and TiAlN coatings and has an extremely smooth surface, resulting in reduced surface friction, speedy chip flow, and outstanding wear resistance. In addition, built-up edge is prevented because this coating has a very low affinity for aluminum. The substrate is unalloyed and fine grained and offers sharp edges, smooth surfaces, and excellent thermal deformation resistance and edge integrity. Inserts with a ground periphery are polished before coating and have a sharp edge. Molded inserts have a light hone.	
	KU25T™ NEW!	 TiN TiAlN C2,C6	**composition:** An advanced PVD coating over a tough and highly wear resistant carbide substrate. **application:** KU25T is ideal for finishing to general machining of most workpiece materials. With a higher cobalt content than KU10T, this grade provides the toughness needed to handle the demands of grooving, threading, and cut-off operations. KU25T performs extremely well when machining most steels, stainless steels, cast irons, non-ferrous materials, and superalloys under stable conditions.	

KENNAMETAL®

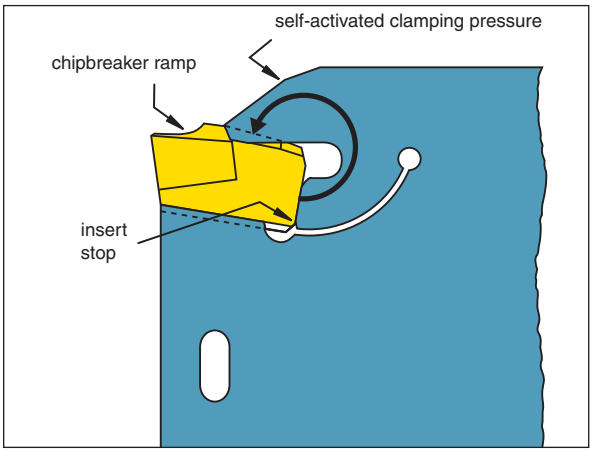
Grooving and Cut-Off

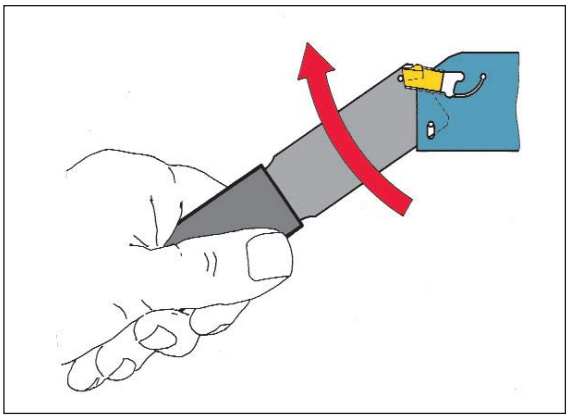
A2 Cut-Off...

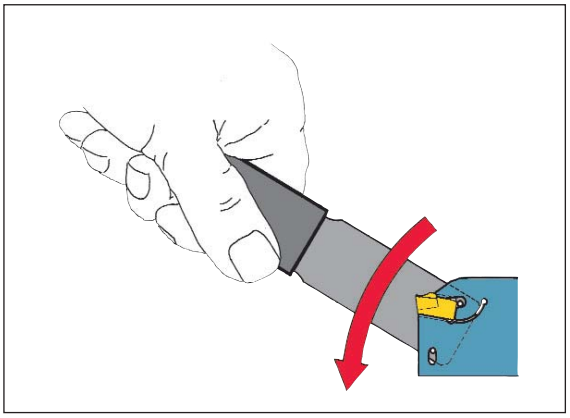
...high-performance tools to maximize productivity!

Innovative A2 Insert Design

- V-prisms on both top and bottom enable higher clamping force to prevent insert movement, even when cutting at high-feed rates.
- The cutting edge has a molded-in chipbreaker ramp to direct chips away from the blade, extending blade life.
- Positive rake cutting action combined with Kennametal's high-performance PVD coatings result in superior tool life and chip control.







A2 Insert Stop Design

- As cutting forces increase, clamping forces also increase for secure holding power.
- Fixed insert stop ensures solid seating with every index and delivers up to 30% longer life.
- Cutting height is accurately controlled for maximum reliability and performance on even small-diameter parts.

Quick and Easy Insert Indexing

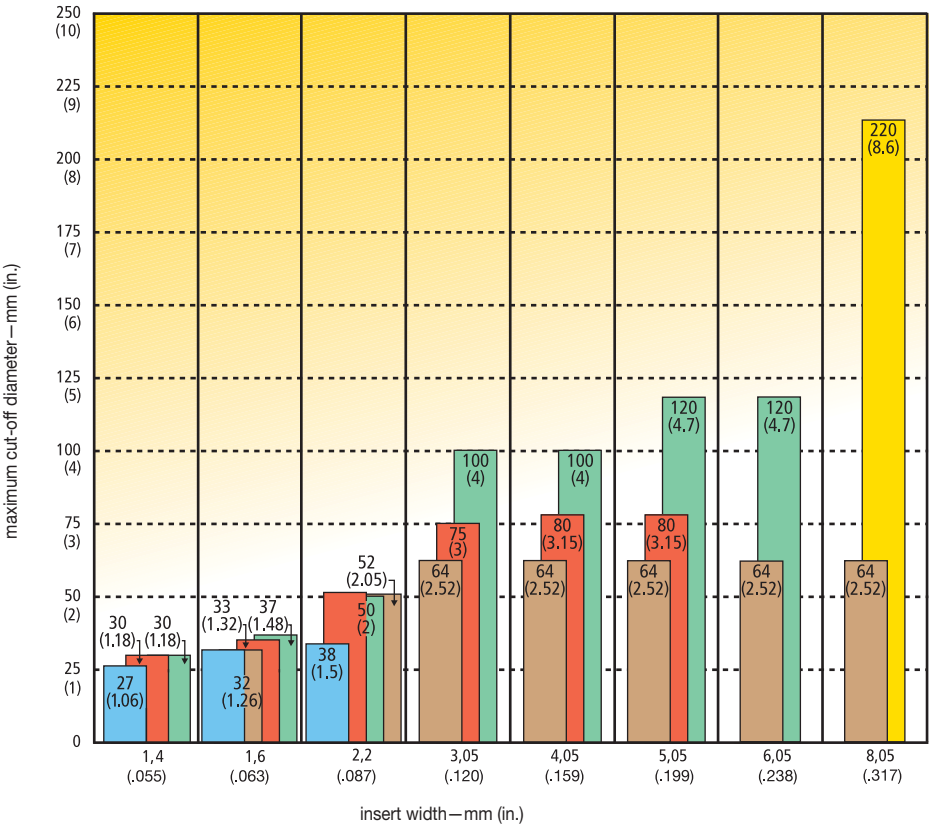
- A convenient indexing wrench is available to minimize downtime by enabling fast removal and insertion without damage to the cutting edge.

KENNA PERFECT™ — A2 Cut-Off Selection Guide

KENNAMETAL

5 Easy Steps to Maximize Cut-Off Productivity

1st Step — Select Insert Width and Holder Type



What you need to know:

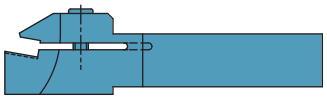
- Cut-off diameter.
- Part/machine requirements.

For required cut-off diameter, select insert width and holder type based on the part and machine requirement:

- To maximize rigidity, select the largest possible blade height or an integral shank toolholder.
- Diameters shown are for cut-off to center. Maximum cut-offdepth to a through-hole depth is one half of the diameter.
- To determine depth capability for cut-off to a through-hole on integral shank or reinforced blades, please refer to listing for that tool in this catalog.

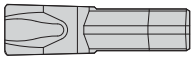
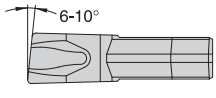
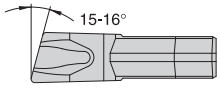
blade height	
19mm	
26mm	
32mm	
52mm	
Integral Shank Toolholders	

Toolholder Type

Blade: (self-clamping)	Blade: (self-clamping, reinforced version)	Toolholder: (with clamping screw)
	(Available in 26mm and 32mm heights)	
• Frequently used tool. • Two insert seats. • Deepest depth of cut capability.	• Efficient tooling solution with improved stability. • Limited depth of cut capability.	• Shank tool with the highest stability. • Limited depth-of-cut. • Single insert seat.

2nd Step — Select Insert Lead Angle

- Part type.
- Burr and center stub considerations.
- Cut-off to center or through-hole.

	Neutral (0°)	Right/Left 6°–10°	Right/Left 15°–16°
Insert type			
Recommended Application	• For cutting off solid workpieces. • Center stub will form on cut-off part. • Eliminates lateral deflection. • Best for deep cut-off depths.	• For cutting off solid workpieces with reduced formation of center stub. • For cut-off to a through-hole with reduced burr.	• For thin-walled workpieces. • For cutting off small diameter workpieces with minimal burr or center stub.
Tool life	Best tool life	Better tool life	Good tool life

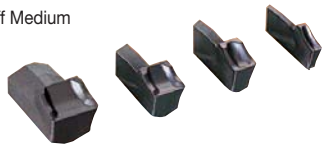
3rd Step — Select Chipbreaker Style and Feed Rate

- Lead angle or neutral insert.
- Workpiece material.

-CF
Cut-Off Fine

- Cut-off insert with precision ground cutting edge for low feeds.
- Curved cutting edge.

-CM
Cut-Off Medium

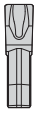
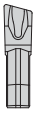


- Cut-off insert with precision molded cutting edge for medium feeds.
- Stabilized straight cutting edge.

-CR
Cut-Off Rough

- Cut-off insert with precision molded cutting edge for higher feed rates.
- Curved cutting edge.

Chipbreaker Style and Feed Rates — mm/rev (in/rev)

Insert Type	Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
	**N-CR** 0,08–0,3 (.003–.012)	**N-CF** 0,05–0,12 (.002–.005)	**N-CM** 0,05–0,2 (.002–.008)	**N-CF** 0,05–0,18 (.002–.007)	**N-CF** 0,04–0,10 (.002–.004)	**CBN available upon request**
	N-CF 0,05–0,15 (.002–.006)	–	–	–	–	–
	**R/L-CR** 0,05–0,12 (.002–.005)	**R/L-CF** 0,04–0,08 (.002–.003)	**R/L-CM** 0,05–0,12 (.002–.005)	**R/L-CF** 0,04–0,10 (.002–.004)	**R/L-CF** 0,04 –0,08 (.002–.003)	**CBN available upon request**
	R/L-CF 0,04–0,08 (.002–.003)	–	–	–	–	–

4th Step — Select Grade and Speed

Recommendations for Grade and Speed Selection — m/min (sfm)

	Machining Condition	Workpiece Material: Steel	Steel Stainless	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
KENNA PERFECT	high-performance optimum conditions, higher speeds	**KT315** 120–190 (395–625)	**KT315** 70–170 (230–560)	**KC5025** 80–170 (265–560)	**KT315** 180–400 (600–1300)	**KC5025** 30–100 (100–325)	–
KENNA PERFECT	first choice for general machining conditions	**KC5025** 80–170 (265–560)	**KC5025** 80–150 (265–500)	**KC5025** 70–150 (230–500)	**KC5025** 150–300 (500–980)	**KC5025** 25–75 (80–250)	**CBN available upon request.**
KENNA PERFECT	unfavorable conditions, interrupted cuts, low speeds	**KC5025** 60–100 (200–325)	**KMF** 40–80 (135–265)	**KMF** 25–80 (80–265)	**KMF** 60–180 (200–600)	**KMF** 30–25 (30–80)	–

5th Step — Select Insert and Holder from Catalog Page

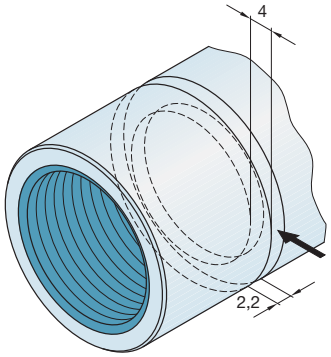
NOTE: The insert seat size must match the seat size of your holder selection.

Example for A2 — Cut-Off

material:	low carbon steel
workpiece dia.:	27mm (1.02 in.)
depth-of-cut:	4mm (.157 in.)

Recommendation:

insert:	A2022R10CF00
grade:	KC5025
cutting width:	2,2mm (.087 in.)
insert seat size:	2
toolholder:	A2BNSN3202
seat size:	2



speed:	140 m/min (460 sfm)
feed:	0,05mm (.002 ipr)

Congratulations!

You have successfully maximized cut-off productivity by selecting the best insert, toolholder, grade, and cutting specifications for your application!

A2 Insert Identification System

KENNAMETAL

Cut-Off

1. Insert Type	2. Cutting Width	3. Hand of Insert	4. Approach Angle of Main Cutting Edge	5. Chipbreaker	6. Corner Radius
A2	040	N	00	CF	02

1. Insert Type

A2
Cut-Off

2. Cutting Width

(in 1/10 mm)

Cutting Width (mm)	Pocket Seat Size
1,40	1B
1,60	01
2,20	02
3,05	03
4,05	04
5,05	05
6,05	06
8,05	08

3. Hand of Insert

N = neutral
R = right hand
L = left hand

4. Approach Angle of Main Cutting Edge

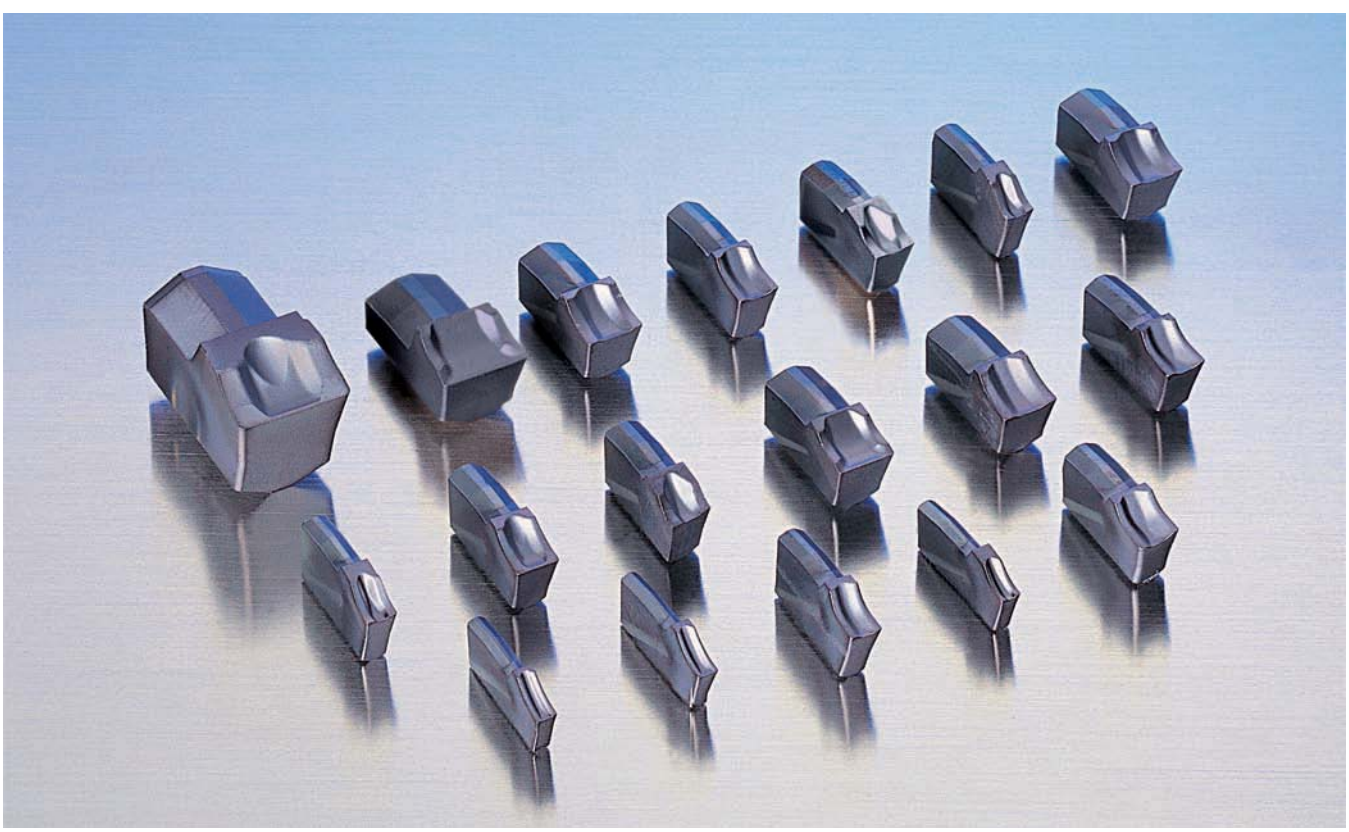
00 = neutral
06 = 6°
10 = 10°
15 = 15°
16 = 16°

5. Chipbreaker

-CF (**Cut-Off F**ine)
-CM (**Cut-Off M**edium)
-CR (**Cut-Off R**ough)

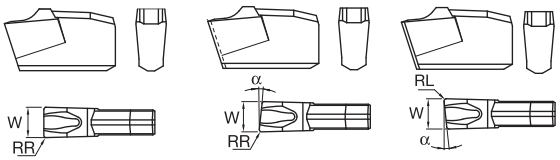
6. Corner Radius

	mm	inch
00	0,0	.000
01	0,1	.004/.006
02	0,2	.008
03	0,3	.010
04	0,4	.016



With more than 110 insert line items in three grades and three chipbreaker styles, Kennametal offers a complete line of inserts designed to productively handle any cut-off application.

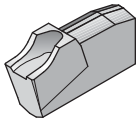
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



● first choice
○ alternate choice

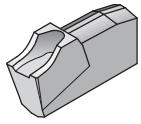
H			
S		●	●
N		●	●
K	○	○	●
M	●	○	●
P	●	○	●

A2-N-CF



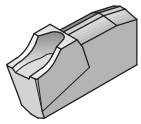
seat size	W mm	W in	catalog number	α°	RR mm	RR in	KT315	KMF	KC5025
1B	1,40	.055	A2014N00CF01	–	0,15	.006			●
1	1,55	.061	A2016N00CF00	–	–	–			●
1	1,60	.063	A2016N00CF01	–	0,15	.006	●	●	●
2	2,20	.087	A2022N00CF00	–	–	–			●
2	2,20	.087	A2022N00CF02	–	0,20	.008	●	●	●
3	3,10	.122	A2030N00CF00	–	–	–			●
3	3,00	.118	A2030N00CF02	–	0,20	.008	●	●	●
4	4,05	.159	A2040N00CF00	–	–	–			●
4	4,00	.157	A2040N00CF02	–	0,20	.008	●	●	●
5	5,00	.197	A2050N00CF03	–	0,30	.012		●	●

A2-L-CF



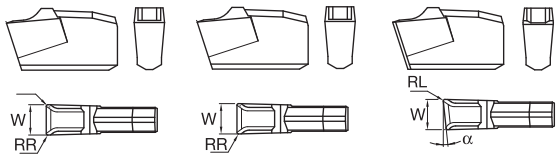
seat size	W mm	W in	catalog number	α°	RR mm	RR in	KT315	KMF	KC5025
			left hand						
1B	1,40	.055	A2014L06CF01	6	0,15	.006			●
1	1,60	.063	A2016L06CF00	6	–	–		●	●
1	1,60	.063	A2016L10CF00	10	–	–			●
1	1,60	.063	A2016L16CF00	16	–	–			●
2	2,20	.087	A2022L06CF02	6	0,20	.008			●
2	2,20	.087	A2022L10CF00	10	–	–			●
2	2,20	.087	A2022L16CF00	16	–	–			●
3	3,00	.118	A2030L06CF02	6	0,20	.008	●	●	●
3	3,00	.118	A2030L10CF00	10	–	–			●
3	3,00	.118	A2030L15CF00	15	–	–			●
4	4,00	.157	A2040L06CF02	6	0,20	.008			●
5	5,00	.197	A2050L06CF03	6	0,30	.012			●

A2-R-CF



seat size	W mm	W in	catalog number	α°	RL mm	RL in	KT315	KMF	KC5025
			right hand						
1B	1,40	.055	A2014R06CF01	6	0,15	.006			●
1	1,60	.063	A2016R06CF00	6	–	–	●	●	●
1	1,60	.063	A2016R10CF00	10	–	–			●
1	1,60	.063	A2016R16CF00	16	–	–			●
2	2,20	.087	A2022R06CF02	6	0,20	.008	●	●	●
2	2,20	.087	A2022R10CF00	10	–	–			●
2	2,20	.087	A2022R16CF00	16	–	–			●
3	3,00	.118	A2030R06CF02	6	0,20	.008	●	●	●
3	3,00	.118	A2030R10CF00	10	–	–			●
3	3,00	.118	A2030R15CF00	15	–	–			●
4	4,00	.157	A2040R06CF02	6	0,20	.008			●
5	5,00	.197	A2050R06CF03	6	0,30	.012			●

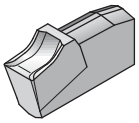
Order example:
Catalog number: A2014R06CF01
Insert grade: KC5025



● first choice
○ alternate choice

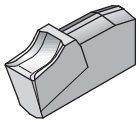
H				
S			●	●
N			●	●
K		○	○	●
M		●	○	●
P		●	○	●

A2-N-CM



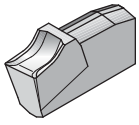
seat size	W mm	W in	catalog number	α°	RR mm	RR in	KT315	KMF	KC5025
1B	1,40	.055	A2014N00CM01	–	0,15	.006			●
1	1,60	.063	A2016N00CM01	–	0,10	.004	●		●
2	2,20	.087	A2022N00CM02	–	0,20	.008			●
3	3,00	.118	A2030N00CM02	–	0,20	.008			●
4	4,00	.157	A2040N00CM02	–	0,20	.008			●
5	5,00	.197	A2050N00CM03	–	0,30	.012			●
6	6,00	.236	A2060N00CM03	–	0,30	.012			●
8	8,00	.315	A2080N00CM04	–	0,40	.016			●

A2-L-CM



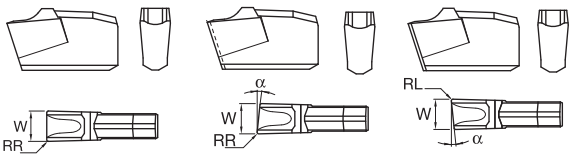
seat size	W mm	W in	catalog number	α°	RR mm	RR in	KT315	KMF	KC5025
			left hand						
1	1,60	.063	A2016L06CM00	6	–	–			●
1	1,60	.063	A2016L16CM00	16	–	–			●
2	2,20	.087	A2022L06CM00	6	–	–			●
3	3,00	.118	A2030L06CM01	6	0,10	.004			●

A2-R-CM



seat size	W mm	W in	catalog number	α°	RL mm	RL in	KT315	KMF	KC5025
			right hand						
1	1,60	.063	A2016R06CM00	6	–	–			●
1	1,60	.063	A2016R16CM00	16	–	–			●
2	2,20	.087	A2022R06CM00	6	–	–			●
3	3,00	.118	A2030R06CM01	6	0,10	.004			●

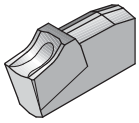
Order example:
Catalog number: A2016R06CM00
Insert grade: KC5025



● first choice
○ alternate choice

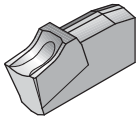
H				
S			●	●
N			●	●
K			○	●
M			○	●
P			○	●

A2-N-CR



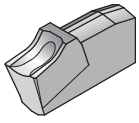
seat size	W mm	W in	catalog number	α°	RR mm	RR in	KT315	KMF	KC5025
2	2,20	.087	A2022N00CR02	–	0,20	.008	●		●
3	3,00	.118	A2030N00CR02	–	0,20	.008	●		●
4	4,00	.157	A2040N00CR02	–	0,20	.008	●		●
5	5,00	.197	A2050N00CR03	–	0,30	.012			●
6	6,00	.236	A2060N00CR03	–	0,30	.012			●
8	8,00	.315	A2080N00CR04	–	0,40	.016			●

A2-L-CR



seat size	W mm	W in	catalog number	α°	RR mm	RR in	KT315	KMF	KC5025
			left hand						
2	2,20	.087	A2022L06CR03	6	0,30	.012			●
3	3,00	.118	A2030L06CR03	6	0,30	.012			●
4	4,00	.157	A2040L06CR03	6	0,30	.012			●
5	5,00	.197	A2050L06CR04	6	0,40	.016			●
6	6,00	.236	A2060L06CR04	6	0,40	.016			●

A2-R-CR

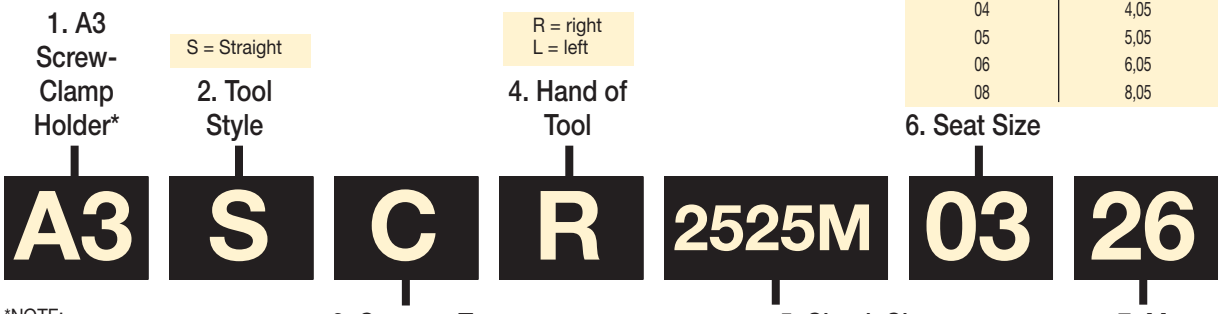


seat size	W mm	W in	catalog number	α°	RL mm	RL in	KT315	KMF	KC5025
			right hand						
2	2,20	.087	A2022R06CR03	6	0,30	.012			●
3	3,00	.118	A2030R06CR03	6	0,30	.012			●
4	4,00	.157	A2040R06CR03	6	0,30	.012			●
5	5,00	.197	A2050R06CR04	6	0,40	.016			●
6	6,00	.236	A2060R06CR04	6	0,40	.016			●

tolerance on "W" dimension			
width		**tolerance**	
inch	**mm**	**inch**	**mm**
.055	1,4	+ .002 - .002	+ 0,05 - 0,05
.063	1,6	+ 0 - .004	+ 0 - 0,01
.087 .118 .157	2,2 3,0 4,0	+ .006 - 0	+ 0,15 - 0
.197 .236 .315	5,0 6,0 8,0	+ .010 - 0	+ 0,25 - 0

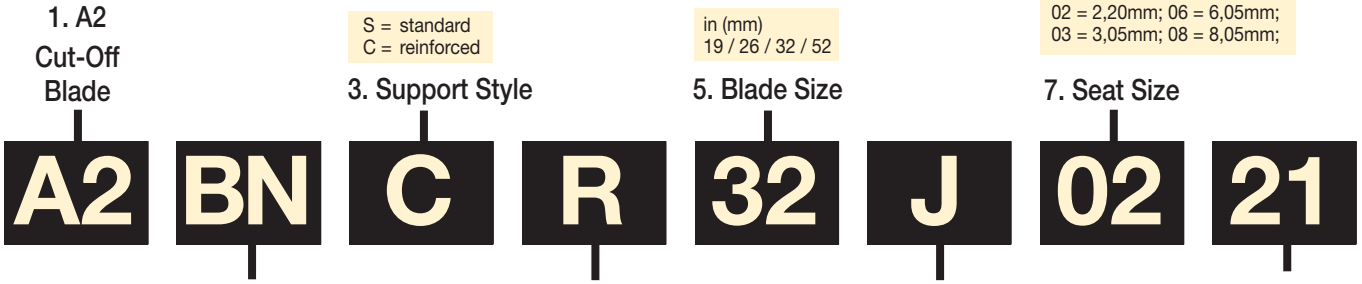
Order example:
Catalog number: A2022R06CR03
Insert grade: KC5025

Pocket Seat Size	Cutting Width (mm)
01	1,60
02	2,20
03	3,05
04	4,05
05	5,05
06	6,05
08	8,05

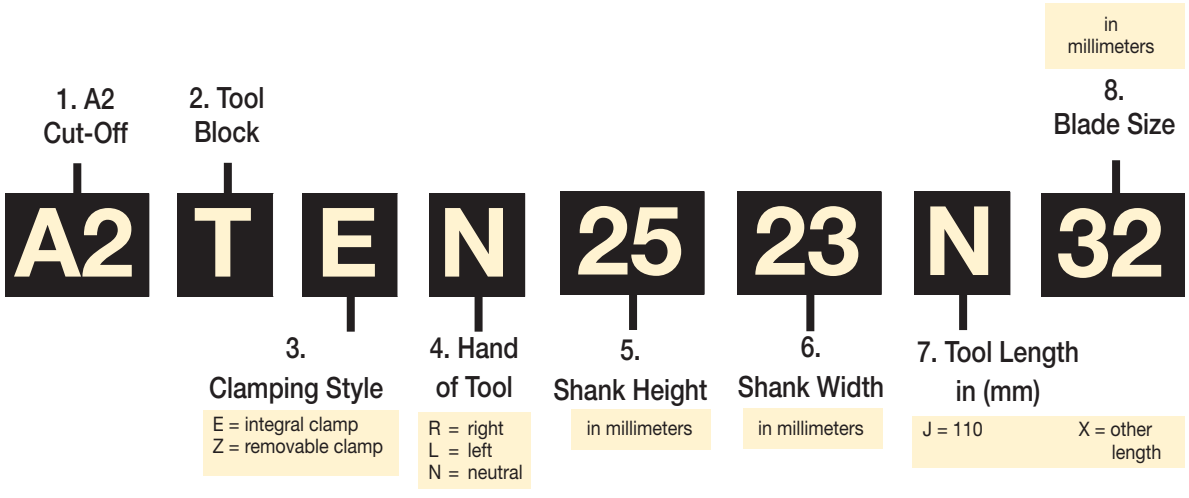


*NOTE:
A3 screw-clamp OD holders are also designed to hold A2 inserts (see Technical data, page D27)

Cut-Off — Blades



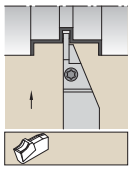
Cut-Off — Tool Blocks

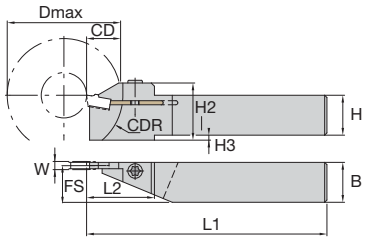


NOTE: For torque recommendations for clamp screw, see page I37.

A3 Reinforced Toolholders for A2 Cut-Off

Cut-Off



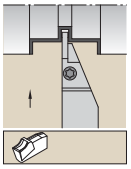


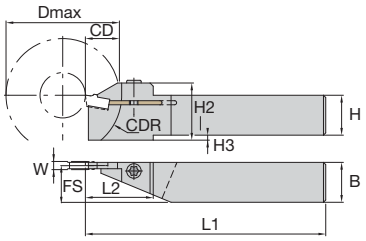
A3SC

seat size	CD	catalog number	D max	W	H	B	FS	L1	L2	H2	H3	CDR	clamp screw	Torx
		right hand												
1	10	A3SCR0808X0110	20	1,60	8	8	7,3	130	20,0	15	4	11,000	191.916	T15
1	10	A3SCR1010X0110	20	1,60	10	10	9,3	130	20,0	15	2	11,000	MS1160	T20
1	10	A3SCR1212X0110	20	1,60	12	12	11,3	130	20,0	15	—	11,000	MS1160	T20
1	16	A3SCR1010J0116	42	1,60	10	10	9,3	110	28,0	27	10	22,000	MS1488	T15
1	16	A3SCR1212J0116	42	1,60	12	12	11,3	110	30,0	27	8	22,000	MS1944	T25
1	16	A3SCR1616J0116	42	1,60	16	16	15,3	110	30,0	27	4	22,000	MS1944	T25
1	16	A3SCR2020K0116	42	1,60	20	20	19,3	125	30,0	27	—	22,000	MS1944	T25
2	10	A3SCR1010X0210	20	2,20	10	10	9,1	130	20,0	15	2	11,000	MS1160	T20
2	10	A3SCR1212X0210	20	2,20	12	12	11,1	130	20,0	15	—	11,000	MS1160	T20
2	16	A3SCR1212J0216	42	2,20	12	12	11,1	110	30,0	27	8	22,000	MS1944	T25
2	16	A3SCR1616J0216	42	2,20	16	16	15,1	110	30,0	27	4	22,000	MS1944	T25
2	16	A3SCR2020K0216	42	2,20	20	20	19,1	125	30,0	27	—	22,000	MS1944	T25
2	26	A3SCR2525M0226	62	2,20	25	25	24,1	150	42,0	32	—	32,000	MS1595	T30
3	10	A3SCR1010X0310	20	3,00	10	10	8,8	130	20,0	15	2	11,000	MS1160	T20
3	10	A3SCR1212X0310	20	3,00	12	12	10,8	130	20,0	15	—	11,000	MS1160	T20
3	16	A3SCR1212J0316	52	3,00	12	12	10,8	110	30,0	27	8	27,000	MS1944	T25
3	16	A3SCR1616J0316	52	3,00	16	16	14,8	110	30,0	27	4	27,000	MS1944	T25
3	16	A3SCR2020K0316	52	3,00	20	20	18,8	125	30,0	27	—	27,000	MS1944	T25
3	16	A3SCR2525M0316	62	3,00	25	25	23,8	150	30,0	32	—	32,000	MS1944	T25
3	26	A3SCR2020K0326	62	3,00	20	20	18,8	125	42,0	27	—	32,000	MS1595	T30
3	26	A3SCR2525M0326	62	3,00	25	25	23,8	150	42,0	32	—	32,000	MS1595	T30
3	32	A3SCR3225P0332	62	3,00	32	25	23,8	170	52,0	43	4	32,000	MS1595	T30
4	10	A3SCR1212X0410	20	4,00	12	12	10,3	130	20,0	15	—	11,000	MS1160	T20
4	16	A3SCR1616J0416	52	4,00	16	16	14,3	110	30,0	27	4	27,000	MS1944	T25
4	16	A3SCR2020K0416	52	4,00	20	20	18,3	125	30,0	27	—	27,000	MS1944	T25
4	16	A3SCR2525M0416	62	4,00	25	25	23,3	150	30,0	32	—	32,000	MS1944	T25
4	26	A3SCR2020K0426	62	4,00	20	20	18,3	125	42,0	27	—	32,000	MS1595	T30
4	26	A3SCR2525M0426	62	4,00	25	25	23,3	150	42,0	32	—	32,000	MS1595	T30
4	32	A3SCR3225P0432	62	4,00	32	25	23,3	170	52,0	43	4	32,000	MS1595	T30

Order example:
Right hand: A3SCR0808X0110

(continued on next page)



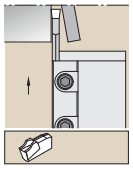


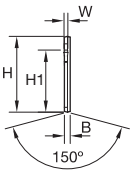
A3SC (continued from previous page)

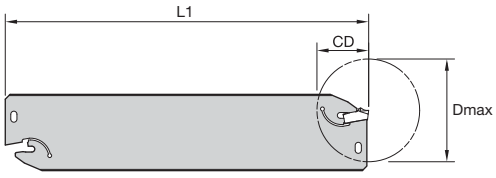
seat size	CD	catalog number	D max	W	H	B	FS	L1	L2	H2	H3	CDR	clamp screw	Torx
		left hand												
1	10	A3SCL0808X0110	20	1,60	8	8	7,3	130	20,0	15	4	11,000	191.916	T15
1	10	A3SCL1010X0110	20	1,60	10	10	9,3	130	20,0	15	2	11,000	MS1160	T20
1	10	A3SCL1212X0110	20	1,60	12	12	11,3	130	20,0	15	—	11,000	MS1160	T20
1	16	A3SCL1010J0116	42	1,60	10	10	9,3	110	28,0	27	10	22,000	MS1488	T15
1	16	A3SCL1212J0116	42	1,60	12	12	11,3	110	30,0	27	8	22,000	MS1944	T25
1	16	A3SCL1616J0116	42	1,60	16	16	15,3	110	30,0	27	4	22,000	MS1944	T25
1	16	A3SCL2020K0116	42	1,60	20	20	19,3	125	30,0	27	—	22,000	MS1944	T25
2	10	A3SCL1010X0210	20	2,20	10	10	9,1	130	20,0	15	2	11,000	MS1160	T20
2	10	A3SCL1212X0210	20	2,20	12	12	11,1	130	20,0	15	—	11,000	MS1160	T20
2	16	A3SCL1212J0216	42	2,20	12	12	11,1	110	30,0	27	8	22,000	MS1944	T25
2	16	A3SCL1616J0216	42	2,20	16	16	15,1	110	30,0	27	4	22,000	MS1944	T25
2	16	A3SCL2020K0216	42	2,20	20	20	19,1	125	30,0	27	—	22,000	MS1944	T25
2	26	A3SCL2525M0226	62	2,20	25	25	24,1	150	42,0	32	—	32,000	MS1595	T30
3	10	A3SCL1010X0310	20	3,00	10	10	8,8	130	20,0	15	2	11,000	MS1160	T20
3	10	A3SCL1212X0310	20	3,00	12	12	10,8	130	20,0	15	—	11,000	MS1160	T20
3	16	A3SCL1212J0316	52	3,00	12	12	10,8	110	30,0	27	8	27,000	MS1944	T25
3	16	A3SCL1616J0316	52	3,00	16	16	14,8	110	30,0	27	4	27,000	MS1944	T25
3	16	A3SCL2020K0316	52	3,00	20	20	18,8	125	30,0	27	—	27,000	MS1944	T25
3	16	A3SCL2525M0316	62	3,00	25	25	23,8	150	30,0	32	—	32,000	MS1944	T25
3	26	A3SCL2020K0326	62	3,00	20	20	18,8	125	42,0	27	—	32,000	MS1595	T30
3	26	A3SCL2525M0326	62	3,00	25	25	23,8	150	42,0	32	—	32,000	MS1595	T30
3	32	A3SCL3225P0332	62	3,00	32	25	23,8	170	52,0	43	4	32,000	MS1595	T30
4	10	A3SCL1212X0410	20	4,00	12	12	10,3	130	20,0	15	—	11,000	MS1160	T20
4	16	A3SCL1616J0416	52	4,00	16	16	14,3	110	30,0	27	4	27,000	MS1944	T25
4	16	A3SCL2020K0416	52	4,00	20	20	18,3	125	30,0	27	—	27,000	MS1944	T25
4	16	A3SCL2525M0416	62	4,00	25	25	23,3	150	30,0	32	—	32,000	MS1944	T25
4	26	A3SCL2020K0426	62	4,00	20	20	18,3	125	42,0	27	—	32,000	MS1595	T30
4	26	A3SCL2525M0426	62	4,00	25	25	23,3	150	42,0	32	—	32,000	MS1595	T30
4	32	A3SCL3225P0432	62	4,00	32	25	23,3	170	52,0	43	4	32,000	MS1595	T30

Order example:
Left hand: A3SCL0808X0110

A2 Cut-Off Blades







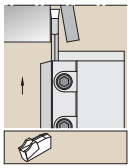
A2BNSN

H	seat size	catalog number	W	H1	L1	B	D max	CD	assemply wrench
		left hand							
19	1B	A2BNSN19X1B13	1,4	15,5	86	2	27	14	170.137
19	1	A2BNSN19X0116	1,6	15,4	86	2	30	16	170.137
19	2	A2BNSN19X02	2,2	15,4	86	2	–	20	170.137
26	1B	A2BNSN26G1B15	1,4	21,5	90	2	30	15	170.137
26	1B	A2BNSN26J1B15	1,4	21,5	110	2	30	15	170.137
26	1	A2BNSN26J0117	1,6	21,4	110	2	34	17	170.137
26	2	A2BNSN26M02	2,2	21,4	150	2	–	25	170.137
26	2	A2BNSN26G02	2,2	21,4	90	2	–	25	170.137
26	2	A2BNSN26J02	2,2	21,4	110	2	–	25	170.137
26	3	A2BNSN26M03	3,0	21,4	150	2	–	40	170.137
26	3	A2BNSN26J03	3,0	21,4	110	2	–	40	170.137
26	3	A2BNSN26G03	3,0	21,4	90	2	–	40	170.137
26	4	A2BNSN26J04	4,0	21,4	110	3	–	40	170.137
26	5	A2BNSN26J05	5,0	21,4	110	4	–	40	170.130
26	6	A2BNSN26J06	6,0	21,4	110	5	–	40	170.130
32	1B	A2BNSN32M1B15	1,4	25,1	150	2	30	15	170.137
32	1	A2BNSN32M0119	1,6	25,0	150	2	38	19	170.137
32	2	A2BNSN32M02	2,2	25,0	150	2	–	60	170.137
32	3	A2BNSN32H03	3,0	25,0	100	2	–	50	170.137
32	3	A2BNSN32M03	3,0	25,0	150	2	–	50	170.137
32	4	A2BNSN32M04	4,0	25,0	150	3	–	50	170.137
32	5	A2BNSN32M05	5,0	25,0	150	4	–	60	170.130
32	6	A2BNSN32M06	6,0	25,0	150	5	–	60	170.130
52	8	A2BNSN52X08	8,0	45,2	260	7	–	120	170.132

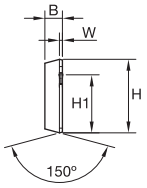
* Seat size 1 blades only.

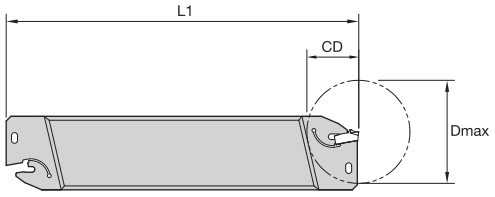
Order example:
A2BNSN19X0116

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



Reinforced Blades



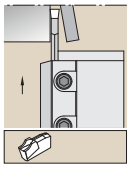


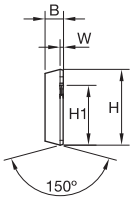
A2BNC

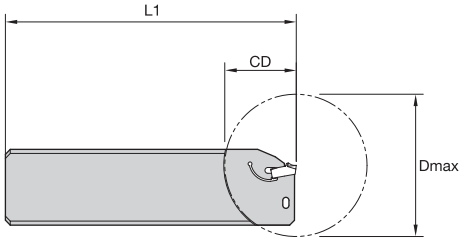
H	seat size	catalog number	W	H1	L1	B	D max	CD	assembly wrench
		right hand							
26	2	A2BNCR26J0221	2,2	21,4	110	8	42	21	170.137
26	3	A2BNCR26J0321	3,0	21,4	110	8	42	21	170.137
26	4	A2BNCR26J0421	4,0	21,4	110	8	42	21	170.130
32	2	A2BNCR32J0221	2,2	25,0	110	8	42	21	170.137
32	3	A2BNCR32J0321	3,0	25,0	110	8	42	21	170.137
		left hand							
26	2	A2BNCL26J0221	2,2	21,4	110	8	42	21	170.137
26	3	A2BNCL26J0321	3,0	21,4	110	8	42	21	170.137
26	4	A2BNCL26J0421	4,0	21,4	110	8	42	21	170.130
32	2	A2BNCL32J0221	2,2	25,0	110	8	42	21	170.137
32	3	A2BNCL32J0321	3,0	25,0	110	8	42	21	170.137

**Assembly wrench 170.137 and 170.130 must be ordered separately.

NOTE: Size 19 blades require careful insert installation using a plastic hammer.







A2BHC

H	seat size	catalog number	W	H1	L1	B	D max	CD	assembly wrench
		right hand							
32	3	A2BHCR32K0333	3,0	25,0	125	8	66	33	170.137
32	4	A2BHCR32K0433	4,0	25,0	125	8	66	33	170.137
		left hand							
32	3	A2BHCL32K0333	3,0	25,0	125	8	66	33	170.137
32	4	A2BHCL32K0433	4,0	25,0	125	8	66	33	170.137

**Assembly wrench 170.137 and 170.130 must be ordered separately.

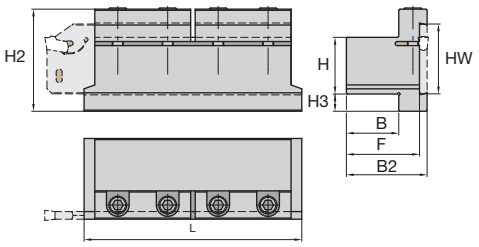
NOTE:

170.130 is designed for the larger cutting widths size 4-6. It has 2 small pins on one side -- these are designed to remove the insert only. On the opposite side, there is a large pin and a rotating tang -- these are designed to assemble the insert into the pocket. The large pin and tang are a better design for assembling the larger inserts as the smaller insertion pins will bend or break if used repeatedly for assembly.

170.137 is designed for the smaller widths below 4 mm. I has only the 2 small pins which are used for both assembly and removal.

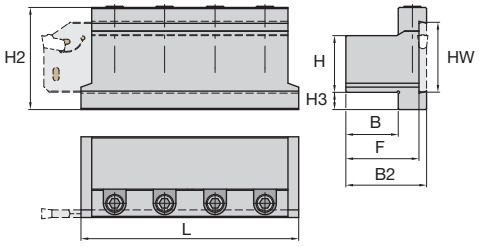
When using the smallest 1,4 & 1,6mm cut-off blades, please note that the wrench can only be used to remove the insert.
The insert must be installed by tapping the edge of the insert with a plastic hammer.

Order example:
Right Hand: A2BHCR32K0333 Left Hand: A2BHCL32K0333



A2TE – Integral Clamp

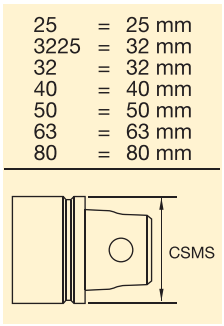
HW	H	catalog number	B	F	H2	B2	H3	L	clamp screw	Hex (mm)
19	16	A2TEN1616X19	16	24,0	30	26,0	4,0	75	125.520	4 MM
26	20	A2TEN2020X26	20	29,5	40	34,0	8,0	86	125.625	5 MM
26	25	A2TEN2523X26	23	33,5	41	38,0	3,0	86	125.625	5 MM
32	20	A2TEN2020J32	20	30,5	48	36,0	13,0	110	125.630	5 MM
32	25	A2TEN2520J32	20	30,5	48	36,0	8,0	110	125.630	5 MM
32	32	A2TEN3228J32	28	38,5	50	44,0	3,0	110	125.630	5 MM
32	40	A2TEN4038J32	38	48,5	59	54,0	4,0	110	125.630	5 MM
53	40	A2TEN4035X52	35	50,0	80	58,0	20,0	135	125.835	6 MM
53	50	A2TEN5038X52	38	51,0	80	59,0	9,0	135	125.835	6 MM



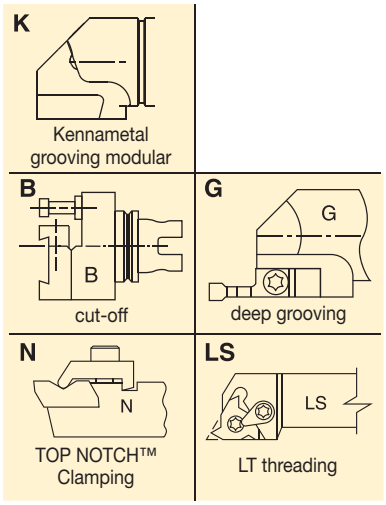
A2TZ – Removable Clamp

HW	H	catalog number	B	F	H2	B2	H3	L	clamp	clamp screw	Hex (mm)
26	20	A2TZN2019X26	19	33,5	44	38,0	9,0	86	168.682	125.616	5 MM
32	25	A2TZN2523J32	23	34,5	48	40,0	8,0	110	168.936	125.616	5 MM
32	32	A2TZN3225J32	25	36,5	50	42,0	3,0	110	168.936	125.616	5 MM

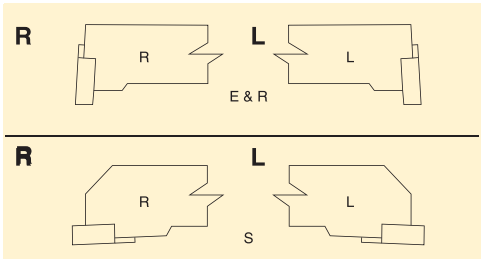
Order example:
Catalog number: A2TZN2019X26



2. System Size



4. Insert Holding Method



6. Hand of Tool

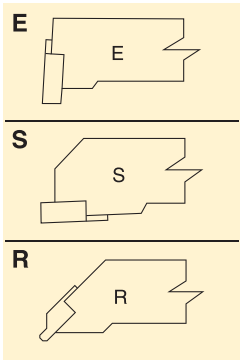
KM 63 - UT N S R 3 E

1. Kennametal Modular

3. Feature

ATC
UT
XMZ
XTS

5. Insert Location



9. Special Feature

Y = Mazak Integrex

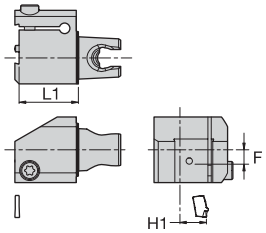
8. Additional Information

E -	External only
N -	Internal only
C -	GC-style insert

7. Insert Cutting Edge Length

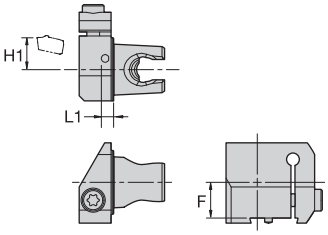
N — insert size		LT — cutting edge length		KGM blade size
s		l	d (IC)	
2	3,18	l	d (IC)	50
3	4,95	16	9,52	50
4	6,48	22	12,70	50
5	9,65	–	–	50
6	11,13	–	–	50

KM25™ Cutting Units



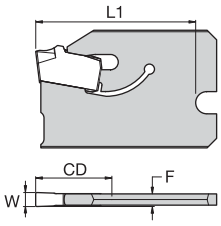
BE – End Mount

order number	catalog number	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	clamp screw	wrench size – clamp screw	Nm	ft.lbs	cartridge 1
	right hand											
2426882	KM25BER	28	1.103	6,8	.268	12,5	.492	MS1898PKG	T27	16	11	A2BHSN19X...
	left hand											
2427293	KM25BEL	28	1.103	6,8	.268	12,5	.492	MS1898PKG	T27	16	11	A2BHSN19X...



BS – Side Mount

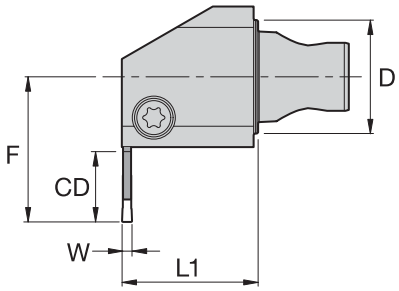
order number	catalog number	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	clamp screw	wrench size – clamp screw	Nm	ft.lbs	cartridge 1
	right hand											
2426880	KM25BSR	4,8	.189	14	.552	12,5	.492	MS1898PKG	T27	16	11	A2BHSN19X___
	left hand											
2426881	KM25BSL	4,8	.189	14	.552	12,5	.492	MS1898PKG	T27	16	11	A2BHSN19X___

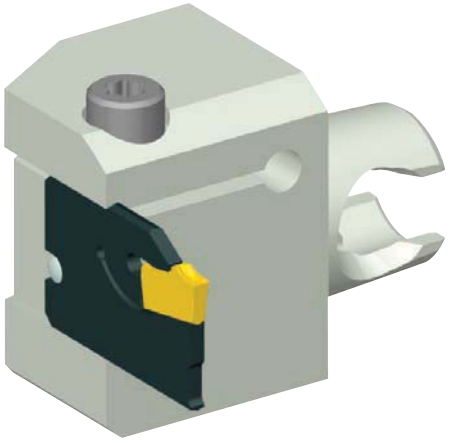


Blade

order number	catalog number	L1 mm	L1 in	F mm	F in	W mm	W in	CD mm	CD in	insert 1
1984998	A2BHSN19X0116	25,2	.992	1,7	.066	1,6	.063	16,0	.629	A2016..
1851799	A2BHSN19X0216	25,2	.992	2,0	.078	2,2	.086	16,0	.629	A2022..
1851800	A2BHSN19X0211	20,2	.795	2,0	.078	2,2	.086	11,0	.433	A2022..

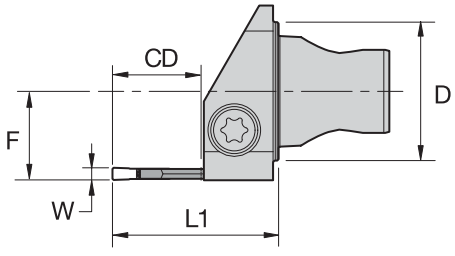
BE – End Mount

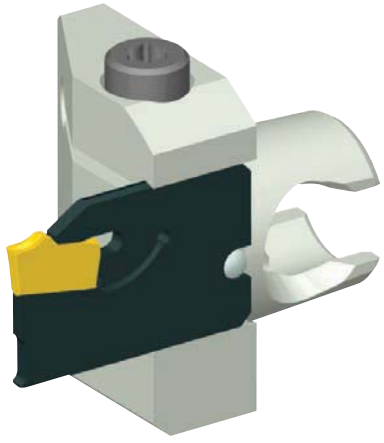




F (assembly) = F (toolholder) + L1 (blade)
L1 (assembly) = L1 (toolholder) + F (blade)

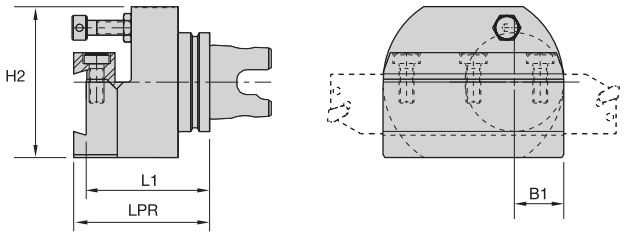
BS – Side Mount





F (assembly) = F (toolholder) + F (blade)
L1 (assembly) = L1 (toolholder) + L1 (blade)

A2 Cut-Off Blocks



BE – End Mount

order number	catalog number	L1 mm	L1 in	LPR mm	LPR in	H2 mm	H2 in	B1 mm	B1 in	cartridge size	blade	clamp	clamp screw
	right hand												
1144391	KM40BER	49,9	1.965	55	2.17	61	2.40	20	.79	26	A2BNSN26...	CGS4	MS1595
	left hand												
1144392	KM40BEL	49,9	1.965	55	2.17	61	2.40	20	.79	26	A2BNSN26...	CGS4	MS1595

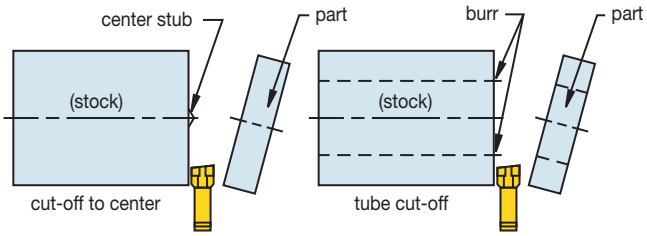
Definitions and Guidelines

1. width of cut (W) = width of the insert
2. lead angle = 0° (neutral) 6°, 10°, 15°, 16° (RH or LH)

To reduce the burr of cut-off faces:

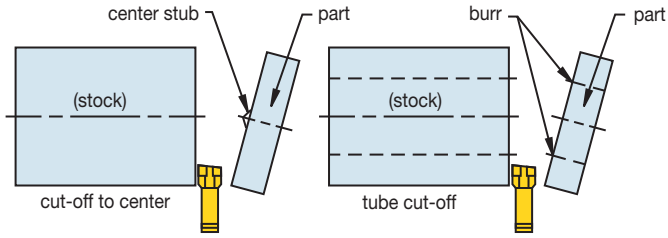
- To reduce burr formation on the part, use lead angle type insert (figure 1 & 2). Lead angle on a cut-off insert reduces the burr that remains on the part but decreases tool life and increases tool side deflection and possibly cycle time.

fig. 1
insert selection **right-hand lead**



Right-hand lead insert leaves center stub or burr on stock and produces clean part.

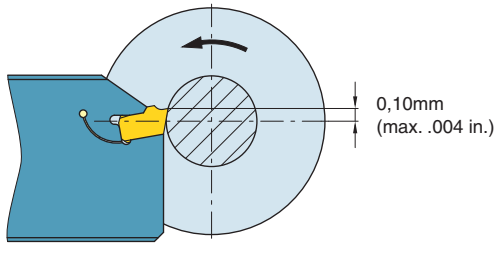
fig. 2
insert selection **left-hand lead**



Left-hand lead insert leaves center stub or burr on part and produces clean stock surface.

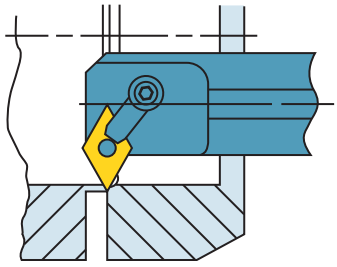
- Check total height and maintain on center with part diameter.
- The cutting edge height should be within 0,1mm (±.004 in.) to the center; recommended cutting position is 0,05mm (.002 in.) above center.

fig. 3
above center:



- If 0° lead angle is mandatory, use the narrowest possible cut-off insert and blade. This will minimize the center stub or cut-off burr length. Decrease the feed rate to maximum 0,05mm (.002 in.) or less at the point where diameter equals insert width.
- On tubing-type parts that require a chamfer on the ID, align ID chamfer tool with cut-off surface. This will enable the chamfering operation to actually seperate the part from the bar (see figure 4). Note the part may drop onto the chamfering bar which, in this case, will act like a catcher for the part.

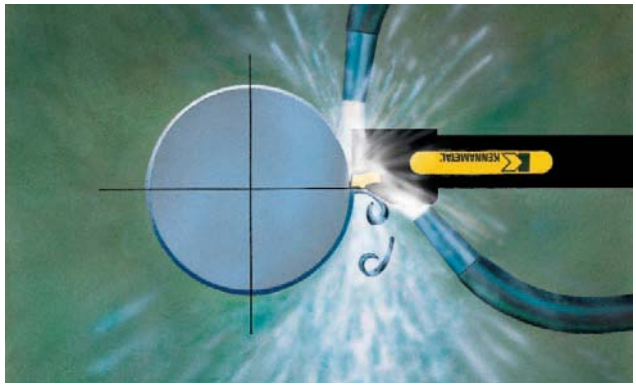
fig. 4
internal chamfer line up



To improve surface finish of cut-off faces:

- Use insert with 0° lead angle.
- Increase coolant flow or improve application technique, as shown in figure 5.
- Decrease the feed rate near the break-through point of the cut.
- Check that the grooving tool is set at a right angle.
- Use blades with the greatest possible face height and smallest possible cutting width.
- Use grade KT315, especially for a sub-spindle machine or for cut-off to a through hole.
- Increase the speed.

fig. 5
preferred method for applying coolant



- Mount cut-off tool upside down. This allows gravity to remove chips and avoids cutting the chips twice. Another benefit from mounting the tool upside down is preventing chips from wedging between the tool insert and the groove side walls, which galls the side wall surfaces.

A2 and A3 compatibility:

A2 and A3 inserts can be interchangeably used on all screw-clamping holders within the following guidelines:

- A2 inserts can be used in A3 holders with equal seat sizes.
- A3 inserts CANNOT be used in self-clamping cut-off blades.
- A2 inserts are NOT recommended for face grooving toolholders.
- A3 inserts can be used in A3 modular blades if the guidelines noted above are followed.

KENNAMETAL®

Grooving and Cut-Off

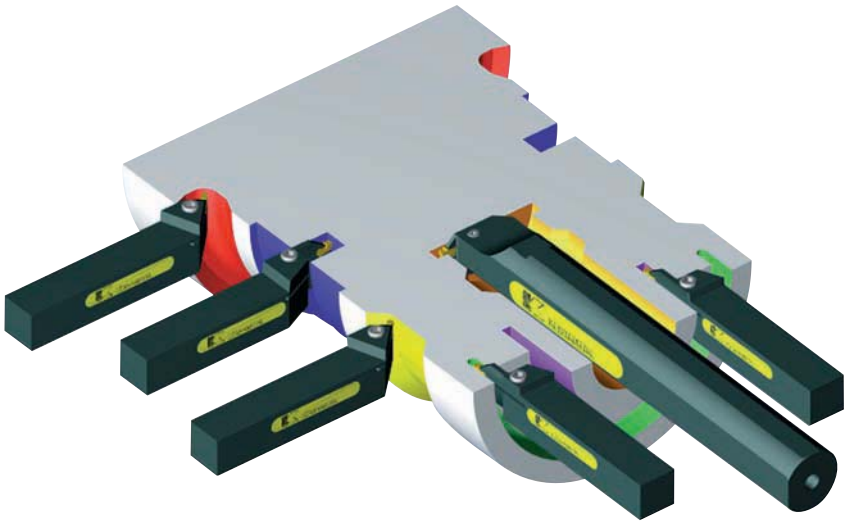
A3 Deep Grooving...

...the best choice for high productivity – with outstanding application flexibility!

- A3 deep grooving tooling is compatible with square shank, KM™, and Kennametal Capto platforms.

- One insert performs:
  - OD operations.
  - ID operations.
  - Face grooving operations.

- In addition, the A3 system's performance is enhanced by:
  - TiAlN grades.
  - The KENNA PERFECT™ Tooling Selection System



KENNA PERFECT™ — A3 Deep Grooving — Selection Guide

KENNAMETAL

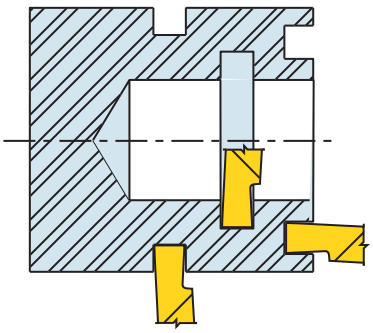
5 Easy Steps to Greater Productivity

What you need to know:

- Groove depth, width, and profile.
- Material to be machined.
- Application to be performed (face, OD, or ID grooving).
- Toolholder requirements (ie: KM, square shank, right/left).

1st Step — Choose Your System Based on the Groove Depth Required

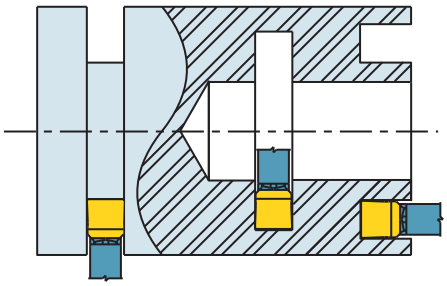
TOP NOTCH™



Grooving

For grooving depth ≤ 1.5 x grooving width,
see TOP NOTCH grooving, page D100.

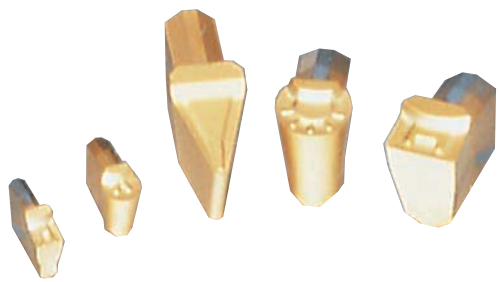
A3 or A4



Deep Grooving

For grooving depth ≥ 1.5 x grooving width,
proceed to step 2 for the A3 Deep Grooving program or
see A4 Groove & Turn program on page D64.

A3 Deep Grooving for Deep internal, External, and Face Grooving Applications



System Capabilities

Groove	min.	max.
Width	2,25mm (.087 in.)	10,05mm (.397 in.)
Depth	—	32 mm (1.260 in.)

Face grooving diameter range: 25mm (.984 in.) to ∞

2nd Step — Choose Your Toolholder Based on the Application

Note: Toolholders are available as conventional square shank versions and as well as quick-change versions.
Please select equal seat sizes for the insert and the toolholder.

ID grooving applications -> see page D43
Face grooving with integral square shank toolholders -> see page D40
OD grooving with integral square shank toolholders -> see page D37
Face and OD grooving with modular toolholders -> see pages D45–D53

3rd Step — Select Chipbreaker Style and Feed Rate

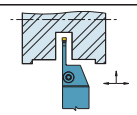
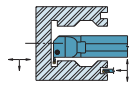
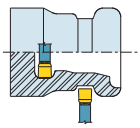
DF — Deep Finishing

DM — Deep Medium

DR — Deep Roughing

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

Chipbreaker and Feed Rates — mm/rev (in/rev)

Workpiece Material and Application	Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
 Deep OD Grooving	**DM** 0,05–0,25 (.002–010)	**DF** 0,05–0,15 (.002–.006)	**DM** 0,05–0,23 (.002–.009)	**DF** 0,05–0,25 (.002–.010)	**DF** 0,05–0,13 (.002–.005)	**CBN tip on request** 0,05–0,10 (.002–.004)
	DF 0,05–0,18 (.002–.007)	–	–	–	–	–
 Face & ID Grooving	**DF** 0,05–0,15 (.002–.006)	**DF** 0,05–0,13 (.002–.005)	**DM** 0,05–0,18 (.002–.007)	**DF** 0,05–0,18 (.002–.007)	**DF** 0,04–0,10 (.0015–.004)	**CBN tip on request** 0,05–0,10 (.002–.004)
	–	–	**DF** 0,05–0,15 (.002–.006)	–	–	–
 Profiling	**DR** 0,10–0,40 (.004–.015)	**DF** 0,05–0,25 (.002–.010)	**DR** 0,10–0,40 (.004–015)	**DF** 0,05–0,25 (.002–.010)	**DF** 0,05–0,25 (.002–.010)	**CBN tip on request** 0,05–0,10 (.002–.004)
	DF 0,05 - 0,25 (.002 - .010)	–	–	–	–	–
	For profiling, the maximum recommended depth-of-cut is 1/3 the insert's width.					

NOTE: Use minimum feed rates for narrower grooves and heavier feed rates for wider grooves.
Increase feed rate as operation allows. See Technical Section for additional application information.

4th Step — Select Grade and Speed

Recommendations for Grade and Speed Selection – m/min (sfm)

Machining Condition	Workpiece Material: Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
high-performance for optimal conditions (clean cuts, good machine condition, higher speed capability)	**KT315** 100–230 (330–750)	**KT315** 70–170 (230–560)	**KC5010** 70–220 (230–720)	**KC5010** 180–850 (590–2800)	**KC5010** 10–110 (35–360)	**KB5625*** 120–150 (390–500)
	KC9110 110–220 (360–720)	–	–	–	–	–
general purpose (first choice for general machining)	**KC5010** 60–160 (200–525)	**KC5010** 50–140 (160–450)	**KC5025** 70–150 (230–500)	**KC5010** 150–730 (500–2400)	**KC5025** 10–60 (35–200)	**KB5625*** 80–130 (260–425)
unfavorable conditions (roughing, poor machine condition, interrupted cuts, low speed)	**KC5025** 50–110 (160–360)	**KC5025** 40–90 (130–300)	**KC5025** 25–140 (80–450)	**KC5025** 60–305 (200–1000)	**KC5025** 10–46 (35–150)	**KC5010** 10–35 (35–115)
	–	–	–	**KMF** 60–200 (200–650)	**KMF** 10–30 (35–100)	–

*NOTE: PCBN tipped inserts in KB5625 are available on request.

5th Step — Select Insert and Holder from Catalog Pages

NOTE: The insert seat size and cutting width must match the seat size and cutting width of your toolholder selection.

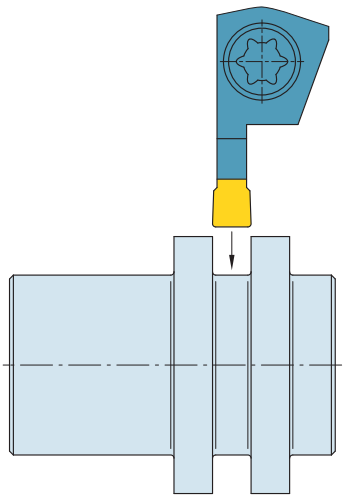
Example for A3 — Deep Grooving:

material: low-alloyed steel
groove depth: 12mm (.5 in.)
groove width: 6,35mm (.250 in.)
smooth cut

Recommendation:

insert: A3G250I06P1DF
grade: KC5010
insert width: 6,35 mm (.250 in.)
insert seat size: 6

toolholder: A3SML2525M0616
grooving depth: 16mm (.630 in.)
seat size: 6



speed: 180 m/min (570 sfm)
plunge feed: 0,15mm (.008 ipr)

Congratulations!

You have successfully maximized your productivity by selecting the best A3 insert geometry, grade, and cutting specifications for your application!

A3 Insert Identification System

Deep Grooving

1. Type of Program	2. Insert Style	3. Groove Width	4. Units	5. Insert Size	6. Insert Tolerance	7. Corner Radii	8. Chipbreaker
A3	G	0400	M	04	P	02	DF

1. Type of Program

A3 Deep Grooving

2. Insert Style

G = square
R = full radius
V = V-style 35°

3. Groove Width

expressed in
1/100 mm
or .001 inch
0000 for
V shape

4. Units

M = metric
I = inch

5. Insert Size

03
(*)3S
04
(*)4S
05
06
08
10

6. Insert Tolerance

P = precision ground grooving width tolerance: ±.001 in. (0,025mm)

U = utility molded grooving width tolerance:

3,05-4,05: (+0,15mm) -0 +.006 in. -0

5,05-10,05: (+0,25mm) -0 +.010 in. -0

7. Corner Radii

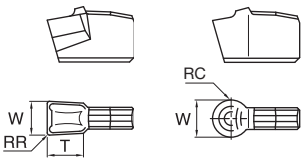
metric	inch
01	0
02	05 = .008
04	1 = .016
08	2 = .032
12	3 = .047
16	4 = .062

full radius = 00

8. Chipbreaker

DF = Deep Finishing
DM = Deep Medium
DR = Deep Roughing

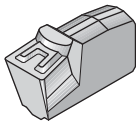
(*) 3S/4S designates a small size insert for face grooving of small diameters.



● first choice
○ alternate choice

H					○											
S				●	●	●										
N				●	●	●										
K	○	○		●	●	○										
M	●	○		●	●	○										
P	●	○		●	●	●										

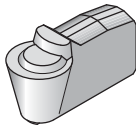
A3G-P-DF



seat size	W mm	W in	catalog number	RR mm	RR in	RC mm	RC in	T mm	T in	KT315	KMF	KC5010	KC5025	KC9110
3	3,0	.118	A3G0300M03P02DF	0,2	.008	–	–	3,5	.138	●	●	●	●	●
3	3,0	.118	A3G0300M03P04DF	0,4	.016	–	–	3,5	.138		●		●	●
4	4,0	.157	A3G0400M04P02DF	0,2	.008	–	–	3,5	.138		●	●	●	●
4	4,0	.157	A3G0400M04P04DF	0,4	.016	–	–	3,5	.138	●	●	●	●	●
4	4,0	.157	A3G0400M04P08DF	0,8	.032	–	–	3,5	.138				●	●
5	5,0	.197	A3G0500M05P02DF	0,2	.008	–	–	4,5	.177		●	●	●	●
5	5,0	.197	A3G0500M05P04DF	0,4	.016	–	–	4,5	.177	●	●	●	●	●
5	5,0	.197	A3G0500M05P08DF	0,8	.032	–	–	4,5	.177				●	●
6	6,0	.236	A3G0600M06P04DF	0,4	.016	–	–	4,5	.177		●	●	●	●
6	6,0	.236	A3G0600M06P08DF	0,8	.032	–	–	4,5	.177		●	●	●	●
6	6,0	.236	A3G0600M06P12DF	1,2	.047	–	–	4,5	.177				●	●
8	8,0	.315	A3G0800M08P04DF	0,4	.016	–	–	6,0	.236			●	●	●
8	8,0	.315	A3G0800M08P08DF	0,8	.032	–	–	6,0	.236		●	●	●	●

*Face Grooving for small diameter 25–60mm (.98–2.36 in.).

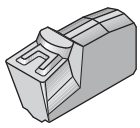
A3R-P-DF



seat size	W mm	W in	catalog number	RR mm	RR in	RC mm	RC in	T mm	T in	KT315	KMF	KC5010	KC5025	KC9110
3	3,0	.118	A3R0300M03P00DF	–	–	1,5	.059	–	–	●	●	●	●	●
4	4,0	.157	A3R0400M04P00DF	–	–	2,0	.079	–	–	●	●	●	●	●
5	5,0	.197	A3R0500M05P00DF	–	–	2,5	.098	–	–			●	●	●
6	6,0	.236	A3R0600M06P00DF	–	–	3,0	.118	–	–		●	●	●	●
8	8,0	.315	A3R0800M08P00DF	–	–	4,0	.157	–	–				●	●

*Face Grooving for small diameter 25–60mm (.98–2.36 in.).

A3G-P-DF Face Grooving



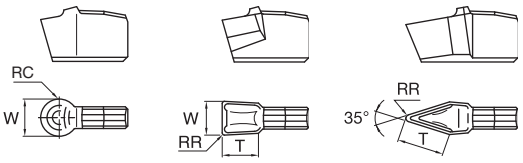
Face Grooving*

seat size	W mm	W in	catalog number	RR mm	RR in	RC mm	RC in	T mm	T in	KT315	KMF	KC5010	KC5025	KC9110
3S	3,0	.118	A3G0300M3SP02DF	0,2	.008	–	–	3,5	.138			●	●	
3S	3,0	.118	A3G0300M3SP04DF	0,4	.016	–	–	3,5	.138			●	●	
4S	4,0	.158	A3G0400M4SP02DF	0,2	.008	–	–	3,5	.138			●	●	
4S	4,0	.157	A3G0400M4SP04DF	0,4	.016	–	–	3,5	.138			●	●	
4S	4,0	.158	A3G0400M4SP08DF	0,8	.032	–	–	3,5	.138			●	●	

*Face Grooving for small diameter 25–60mm (.98–2.36 in.).

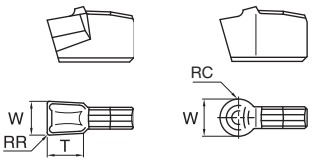
Order example:
Catalog number: A3G0300M3SP02DF
Insert grade: KC5025

A3 Deep Grooving Inserts



● first choice
○ alternate choice

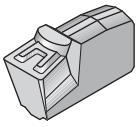
| | | |



● first choice
○ alternate choice

H					○											
S				●	●	●										
N				●	●	●										
K	○	○		●	●	○										
M	●	○		●	●	○										
P	●	○		●	●	●										

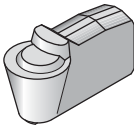
A3G-P-DF



seat size	W mm	W in	catalog number	RR mm	RR in	RC mm	RC in	T mm	T in	KT315	KMF	KC5010	KC5025	KC9110
3	2,36	.093	A3G093I03P05DF	0,2	.008	–	–	3,5	.138		●	●	●	●
3	3,18	.125	A3G125I03P05DF	0,2	.008	–	–	3,5	.138			●	●	●
4	3,18	.125	A3G125I04P05DF	0,2	.008	–	–	3,5	.138	●	●	●	●	●
5	4,75	.187	A3G187I05P05DF	0,2	.008	–	–	4,5	.177			●	●	●
6	5,54	.218	A3G218I06P1DF	0,4	.016	–	–	4,5	.177			●	●	●
6	5,54	.218	A3G218I06P2DF	0,8	.032	–	–	4,5	.177			●	●	●
6	6,35	.250	A3G250I06P1DF	0,4	.016	–	–	4,5	.177			●	●	●
6	6,35	.250	A3G250I06P2DF	0,8	.032	–	–	4,5	.177	●		●	●	●
8	6,35	.250	A3G250I08P1DF	0,4	.016	–	–	6,0	.236			●	●	●
8	6,35	.250	A3G250I08P2DF	0,8	.032	–	–	6,0	.236			●	●	●
8	7,93	.312	A3G312I08P1DF	0,4	.016	–	–	6,0	.236			●	●	●
8	7,93	.312	A3G312I08P2DF	0,8	.032	–	–	6,0	.236			●	●	●

*Face Grooving for small diameter 25–60mm (.98–2.36 in.).

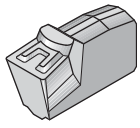
A3R-P-DF



seat size	W mm	W in	catalog number	RR mm	RR in	RC mm	RC in	T mm	T in	KT315	KMF	KC5010	KC5025	KC9110
3	2,36	.093	A3R093I03P00DF	–	–	1,2	.047	–	–		●	●	●	●
3	3,18	.125	A3R125I03P00DF	–	–	1,6	.063	–	–			●	●	●
4	3,18	.125	A3R125I04P00DF	–	–	1,6	.063	–	–		●	●	●	●
5	4,75	.187	A3R187I05P00DF	–	–	2,4	.094	–	–			●	●	●
6	5,54	.218	A3R218I06P00DF	–	–	2,8	.109	–	–			●	●	●
6	6,35	.250	A3R250I06P00DF	–	–	3,2	.125	–	–	●	●	●	●	●
8	6,35	.250	A3R250I08P00DF	–	–	3,2	.125	–	–	●		●	●	●
8	7,93	.312	A3R312I08P00DF	–	–	4,0	.156	–	–		●		●	●

*Face Grooving for small diameter 25–60mm (.98–2.36 in.).

A3G-P-DF Face Grooving

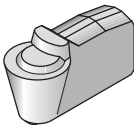


Face Grooving*

seat size	W mm	W in	catalog number	RR mm	RR in	RC mm	RC in	T mm	T in	KT315	KMF	KC5010	KC5025	KC9110
3S	3,18	.125	A3G125I3SP05DF	0,2	.008	–	–	3,5	.138				●	

*Face Grooving for small diameter 25–60mm (.98–2.36 in.).

A3G-P-DF Face Grooving



Face Grooving*

seat size	W mm	W in	catalog number	RR mm	RR in	RC mm	RC in	T mm	T in	KT315	KMF	KC5010	KC5025	KC9110
3S	3,18	.125	A3R125I3SP00DF	–	–	1,6	.063	3,5	.138				●	

*Face Grooving for small diameter 25–60mm (.98–2.36 in.).

Order example:
Catalog number: A3R125I3SP00DF
Insert grade: KC5025

1. A3 Screw Clamp Holder

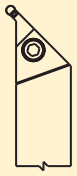
METRIC
INCH

A3	S	S	R	2525M / 16	03	26	

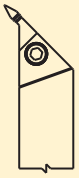
2. Tool Style

S = straight

D = 45° profiling



U = 93° V-profiling
P = 117.5° V-profiling



5. Shank Size

metric: height x width in mm, letter indicates tool length according to ISO

inch sizes: for square shanks, the number indicates the height and width in 1/16-inch increments (rectangular: 1st digit = width in 1/8-inch increments, 2nd digit = height in 1/4-inch increments)

metric tool length (mm)

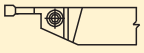
J = 110	K = 125	X = other length
	M = 150	
	P = 170	

7. Max. Cutting Depth

in millimeters

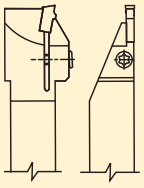
3. Support Type

S = standard support for a range of groove widths and straight clearance for unlimited workpiece diameters



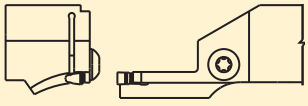
M = maximum support for specific groove widths and straight clearance for unlimited workpiece diameters

C = reinforced maximum support width circular clearance

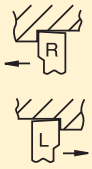


A = inboard sweep face grooving toolholder

B = outboard sweep face grooving toolholder



4. Hand of Tool



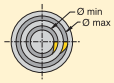
R = right
L = left
N = neutral

6. Seat Size

Pocket Seat Size	Cutting Width (mm)
03	3,05
04/45	4,05
05	5,05
06	6,05
08	8,05
10	10,05

8. Face Grooving Diameter in mm (optional)

Ø min – Ø max



Screw-Clamping Holder Options

Both A2 and A3 inserts are designed to fit all A3-style holders.

C-style reinforced maximum support toolholder with circular clearance:

- Provides maximum support for cut-off operations.
- For cut-off to center or small through-hole applications.
- Ideal for A3 deep grooving operations as well.

Example: **A3SCR -1603-26**

circular clearance

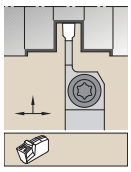
S-style standard support toolholder with straight clearance:

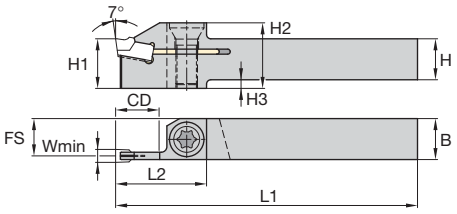
- Provides maximum flexibility.
- Unlimited diameter capability for cut-off to through-hole applications.
- Narrower support blade width allows full insert width flexibility for A3 deep grooving operations.
- Straight clearance is also available in selected M-style maximum support integral shank and modular toolholders.

Example: **A3SSR-1605-26**

straight clearance

NOTE: A2 inserts can be used in A3 toolholders with equal seat sizes. For torque recommendations for clamp screw, see page I37.





A3SM

seat size	CD	catalog number	W min	H	B	FS	L1	L2	H1	H2	H3	clamp screw	Torx
		right hand											
3	10,000	A3SMR1616J0310	3,00	16	16	14,80	110	23	16	25	4,000	MS1944	T25
3	10,000	A3SMR2020K0310	3,00	20	20	18,80	125	23	20	25	–	MS1944	T25
3	10,000	A3SMR2525M0310	3,00	25	25	23,80	150	23	25	30	–	MS1944	T25
3	16,000	A3SMR1616J0316	3,00	16	16	14,80	110	30	16	27	4,000	MS1944	T25
3	16,000	A3SMR2020K0316	3,00	20	20	18,80	125	30	20	27	–	MS1944	T25
3	16,000	A3SMR2525M0316	3,00	25	25	23,80	150	30	25	32	–	MS1944	T25
4	10,000	A3SMR1616J0410	4,00	16	16	14,30	110	23	16	25	4,000	MS1944	T25
4	10,000	A3SMR2020K0410	4,00	20	20	18,30	125	23	20	25	–	MS1944	T25
4	10,000	A3SMR2525M0410	4,00	25	25	23,30	150	23	25	30	–	MS1944	T25
4	16,000	A3SMR2020K0416	4,00	20	20	18,30	125	30	20	27	–	MS1944	T25
4	16,000	A3SMR2525M0416	4,00	25	25	23,30	150	30	25	32	–	MS1944	T25
4	26,000	A3SMR2020K0426	4,00	20	20	18,30	125	42	20	27	–	MS1595	T30
4	26,000	A3SMR2525M0426	4,00	25	25	23,30	150	43	25	32	–	MS1595	T30
5	16,000	A3SMR2020K0516	5,00	20	20	17,80	125	33	20	27	–	MS1595	T30
5	16,000	A3SMR2525M0516	5,00	25	25	22,80	150	33	25	32	–	MS1595	T30
5	16,000	A3SMR3225P0516	5,00	32	25	22,80	170	32	32	39	–	MS1595	T30
5	26,000	A3SMR2525M0526	5,00	25	25	22,80	150	43	25	32	–	MS1595	T30
5	26,000	A3SMR3225P0526	5,00	32	25	22,80	170	42	32	39	–	MS1595	T30
5	32,000	A3SMR3225P0532	5,00	32	25	22,80	170	52	32	39	–	MS1595	T30
6	16,000	A3SMR2020K0616	6,00	20	20	17,30	125	32	20	27	–	MS1595	T30
6	16,000	A3SMR2525M0616	6,00	25	25	22,30	150	32	25	32	–	MS1595	T30
6	26,000	A3SMR2525M0626	6,00	25	25	22,30	150	42	25	32	–	MS1595	T30
6	26,000	A3SMR3225P0626	6,00	32	25	22,30	170	42	32	39	–	MS1595	T30
6	32,000	A3SMR3225P0632	6,00	32	25	22,30	170	52	32	39	–	MS1595	T30
8	16,000	A3SMR2525M0816	8,00	25	25	21,30	150	42	25	33	–	MS1875	T45
8	26,000	A3SMR2525M0826	8,00	25	25	21,30	150	50	25	33	–	MS1875	T45
8	32,000	A3SMR3232P0832	8,00	32	32	28,30	170	53	32	40	–	MS1875	T45
10	32,000	A3SMR3232P1032	10,00	32	32	27,80	170	58	32	40	–	MS1875	T45

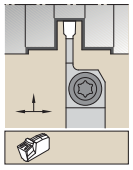
NOTE: Seat size 4 inserts can be used in seat size 3 and 4 toolholders, within cutting width range.
Seat size 6 inserts can be used in seat size 5 and 6 toolholders, within cutting width range.
Seat size 8 inserts can be used in seat size 8 and 10 toolholders, within cutting width range.
Use the larger seat size toolholder for optimal performance.

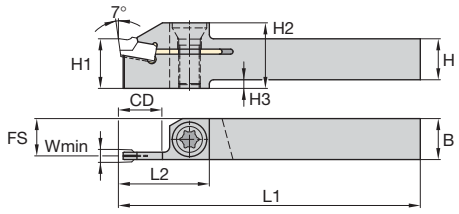
Order example:
Right hand: A3SMR1616J0310

(continued on next page)

A3 Deep Grooving Toolholders

OD Deep Grooving



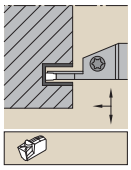


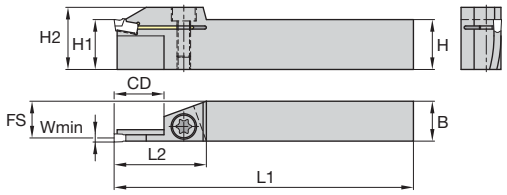
A3SM (continued from previous page)

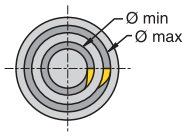
seat size	CD	catalog number	W min	H	B	FS	L1	L2	H1	H2	H3	clamp screw	Torx
		left hand											
3	10,000	A3SML1616J0310	3,00	16	16	14,80	110	23	16	25	4,000	MS1944	T25
3	10,000	A3SML2020K0310	3,00	20	20	18,80	125	23	20	25	–	MS1944	T25
3	10,000	A3SML2525M0310	3,00	25	25	23,80	150	23	25	30	–	MS1944	T25
3	16,000	A3SML1616J0316	3,00	16	16	14,80	110	30	16	27	4,000	MS1944	T25
3	16,000	A3SML2020K0316	3,00	20	20	18,80	125	30	20	27	–	MS1944	T25
3	16,000	A3SML2525M0316	3,00	25	25	23,80	150	30	25	32	–	MS1944	T25
4	10,000	A3SML1616J0410	4,00	16	16	14,30	110	23	16	25	4,000	MS1944	T25
4	10,000	A3SML2020K0410	4,00	20	20	18,30	125	23	20	25	–	MS1944	T25
4	10,000	A3SML2525M0410	4,00	25	25	23,30	150	23	25	30	–	MS1944	T25
4	16,000	A3SML2020K0416	4,00	20	20	18,30	125	30	20	27	–	MS1944	T25
4	16,000	A3SML2525M0416	4,00	25	25	23,30	150	30	25	32	–	MS1944	T25
4	26,000	A3SML2020K0426	4,00	20	20	18,30	125	42	20	27	–	MS1595	T30
4	26,000	A3SML2525M0426	4,00	25	25	23,30	150	43	25	32	–	MS1595	T30
5	16,000	A3SML2020K0516	5,00	20	20	17,80	125	33	20	27	–	MS1595	T30
5	16,000	A3SML2525M0516	5,00	25	25	22,80	150	33	25	32	–	MS1595	T30
5	16,000	A3SML3225P0516	5,00	32	25	22,80	170	32	32	39	–	MS1595	T30
5	26,000	A3SML2525M0526	5,00	25	25	22,80	150	43	25	32	–	MS1595	T30
5	26,000	A3SML3225P0526	5,00	32	25	22,80	170	42	32	39	–	MS1595	T30
5	32,000	A3SML3225P0532	5,00	32	25	22,80	170	52	32	39	–	MS1595	T30
6	16,000	A3SML2020K0616	6,00	20	20	17,30	125	32	20	27	–	MS1595	T30
6	16,000	A3SML2525M0616	6,00	25	25	22,30	150	32	25	32	–	MS1595	T30
6	26,000	A3SML2525M0626	6,00	25	25	22,30	150	42	25	32	–	MS1595	T30
6	26,000	A3SML3225P0626	6,00	32	25	22,30	170	42	32	39	–	MS1595	T30
6	32,000	A3SML3225P0632	6,00	32	25	22,30	170	52	32	39	–	MS1595	T30
8	16,000	A3SML2525M0816	8,00	25	25	21,30	150	42	25	33	–	MS1875	T45
8	26,000	A3SML2525M0826	8,00	25	25	21,30	150	50	25	33	–	MS1875	T45
8	32,000	A3SML3232P0832	8,00	32	32	28,30	170	53	32	40	–	MS1875	T45
10	32,000	A3SML3232P1032	10,00	32	32	27,80	170	58	32	40	–	MS1875	T45

NOTE: Seat size 4 inserts can be used in seat size 3 and 4 toolholders, within cutting width range.
Seat size 6 inserts can be used in seat size 5 and 6 toolholders, within cutting width range.
Seat size 8 inserts can be used in seat size 8 and 10 toolholders, within cutting width range.
Use the larger seat size toolholder for optimal performance.

Order example:
Left hand: A3SML1616J0310





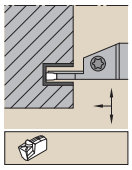


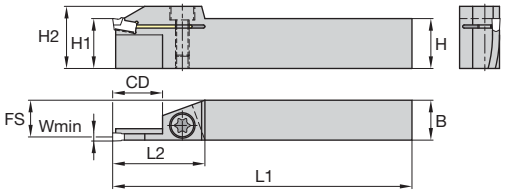
A3SA

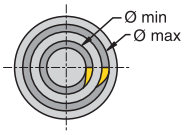
seat size	CD	D min	D max	catalog number	W min	H	B	FS	L1	L2	H1	H2	clamp screw	Torx
				right hand										
4	25	60	75	A3SAR2020M0425-060-075	4,00	20	20	18,50	150	42	20	30	MS1970	KT30
4	25	60	75	A3SAR2520M0425-060-075	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	75	100	A3SAR2520M0425-075-100	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	100	180	A3SAR2020M0425-100-180	4,00	20	20	18,50	150	42	20	30	MS1970	KT30
4	25	100	180	A3SAR2520M0425-100-180	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	180	250	A3SAR2020M0425-180-250	4,00	20	20	18,50	150	42	20	30	MS1970	KT30
4	25	180	250	A3SAR2520M0425-180-250	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	250	350	A3SAR2520M0425-250-350	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	350	–	A3SAR2520M0425-350-999	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4S	10	25	30	A3SAR2020M4S10-025-030	4,00	20	20	18,50	150	27	20	30	MS1970	KT30
4S	10	25	30	A3SAR2520M4S10-025-030	4,00	25	20	18,50	150	27	25	30	MS1970	KT30
4S	10	30	35	A3SAR2020M4S10-030-035	4,00	20	20	18,50	150	27	20	30	MS1970	KT30
4S	10	30	35	A3SAR2520M4S10-030-035	4,00	25	20	18,50	150	27	25	30	MS1970	KT30
4S	20	35	40	A3SAR2020M4S20-035-040	4,00	20	20	18,50	150	37	20	30	MS1970	KT30
4S	20	35	40	A3SAR2520M4S20-035-040	4,00	25	20	18,50	150	37	25	30	MS1970	KT30
4S	25	40	50	A3SAR2020M4S25-040-050	4,00	20	20	18,50	150	42	20	30	MS1970	KT30
4S	25	40	50	A3SAR2520M4S25-040-050	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4S	25	50	60	A3SAR2020M4S25-050-060	4,00	20	20	18,50	150	42	20	30	MS1970	KT30
4S	25	50	60	A3SAR2520M4S25-050-060	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
5+6	25	60	75	A3SAR2020M0525-060-075	5,00	20	20	17,80	150	42	20	30	MS1970	KT30
5+6	25	60	75	A3SAR2520M0525-060-075	5,00	25	20	17,80	150	42	25	30	MS1970	KT30
5+6	30	75	100	A3SAR2020M0530-075-100	5,00	20	20	17,80	150	47	20	30	MS1970	KT30
5+6	30	75	100	A3SAR2520M0530-075-100	5,00	25	20	17,80	150	47	25	30	MS1970	KT30
5+6	30	100	180	A3SAR2520M0530-100-180	5,00	25	20	17,80	150	47	25	30	MS1970	KT30
5+6	30	180	250	A3SAR2020M0530-180-250	5,00	20	20	17,80	150	47	20	30	MS1970	KT30
5+6	30	180	250	A3SAR2520M0530-180-250	5,00	25	20	17,80	150	47	25	30	MS1970	KT30
5+6	30	250	350	A3SAR2520M0530-250-350	5,00	25	20	17,80	150	47	25	30	MS1970	KT30
5+6	30	350	–	A3SAR2020M0530-350-999	5,00	20	20	17,80	150	47	20	30	MS1970	KT30
5+6	30	350	–	A3SAR2520M0530-350-999	5,00	25	20	17,80	150	47	25	30	MS1970	KT30

Order example:
Right hand: A3SAR2020M0425-060-075

(continued on next page)



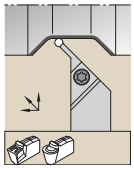


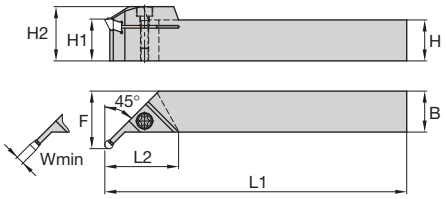


A3SA (continued from previous page)

seat size	CD	D min	D max	catalog number	W min	H	B	FS	L1	L2	H1	H2	clamp screw	Torx
				left hand										
4	25	60	75	A3SAL2020M0425-060-075	4,00	20	20	18,50	150	42	20	30	MS1970	KT30
4	25	60	75	A3SAL2520M0425-060-075	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	75	100	A3SAL2520M0425-075-100	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	100	180	A3SAL2020M0425-100-180	4,00	20	20	18,50	150	42	20	30	MS1970	KT30
4	25	100	180	A3SAL2520M0425-100-180	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	180	250	A3SAL2520M0425-180-250	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	250	350	A3SAL2520M0425-250-350	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4	25	350	–	A3SAL2520M0425-350-999	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4S	10	25	30	A3SAL2020M4S10-025-030	4,00	20	20	18,50	150	27	20	30	MS1970	KT30
4S	10	25	30	A3SAL2520M4S10-025-030	4,00	25	20	18,50	150	27	25	30	MS1970	KT30
4S	10	30	35	A3SAL2020M4S10-030-035	4,00	20	20	18,50	150	27	20	30	MS1970	KT30
4S	10	30	35	A3SAL2520M4S10-030-035	4,00	25	20	18,50	150	27	25	30	MS1970	KT30
4S	20	35	40	A3SAL2020M4S20-035-040	4,00	20	20	18,50	150	37	20	30	MS1970	KT30
4S	20	35	40	A3SAL2520M4S20-035-040	4,00	25	20	18,50	150	37	25	30	MS1970	KT30
4S	25	40	50	A3SAL2020M4S25-040-050	4,00	20	20	18,50	150	42	20	30	MS1970	KT30
4S	25	40	50	A3SAL2520M4S25-040-050	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
4S	25	50	60	A3SAL2020M4S25-050-060	4,00	20	20	18,50	150	42	20	30	MS1970	KT30
4S	25	50	60	A3SAL2520M4S25-050-060	4,00	25	20	18,50	150	42	25	30	MS1970	KT30
5+6	25	60	75	A3SAL2020M0525-060-075	5,00	20	20	17,80	150	42	20	30	MS1970	KT30
5+6	25	60	75	A3SAL2520M0525-060-075	5,00	25	20	17,80	150	42	25	30	MS1970	KT30
5+6	30	75	100	A3SAL2020M0530-075-100	5,00	20	20	17,80	150	47	20	30	MS1970	KT30
5+6	30	75	100	A3SAL2520M0530-075-100	5,00	25	20	17,80	150	47	25	30	MS1970	KT30
5+6	30	100	180	A3SAL2520M0530-100-180	5,00	25	20	17,80	150	47	25	30	MS1970	KT30
5+6	30	180	250	A3SAL2020M0530-180-250	5,00	20	20	17,80	150	47	20	30	MS1970	KT30
5+6	30	180	250	A3SAL2520M0530-180-250	5,00	25	20	17,80	150	47	25	30	MS1970	KT30
5+6	30	250	350	A3SAL2520M0530-250-350	5,00	25	20	17,80	150	47	25	30	MS1970	KT30
5+6	30	350	–	A3SAL2020M0530-350-999	5,00	20	20	17,80	150	47	20	30	MS1970	KT30
5+6	30	350	–	A3SAL2520M0530-350-999	5,00	25	20	17,80	150	47	25	30	MS1970	KT30

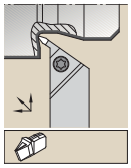
Order example:
Left hand: A3SAL2020M0425-060-075

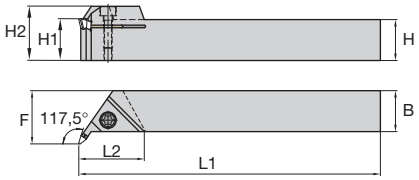




A3DS

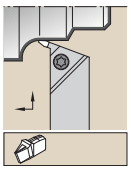
seat size	W min	catalog number	H	B	F	L1	L2	H1	H2	clamp screw	Torx
		right hand									
3+4	3,00	A3DSR1616J04	16	16	22,00	110	34	16	23	MS1944	T25
3+4	3,00	A3DSR2020K04	20	20	26,00	125	33	20	27	MS1944	T25
5+6	5,00	A3DSR2525M06	25	25	31,00	150	40	25	32	MS1595	T30
8	8,00	A3DSR3232P08	32	32	41,00	170	48	32	40	MS1595	T30
		left hand									
3+4	3,00	A3DSL1616J04	16	16	22,00	110	34	16	23	MS1944	T25
3+4	3,00	A3DSL2020K04	20	20	26,00	125	33	20	27	MS1944	T25
5+6	5,00	A3DSL2525M06	25	25	31,00	150	40	25	32	MS1595	T30
8	8,00	A3DSL3232P08	32	32	41,00	170	48	32	40	MS1595	T30

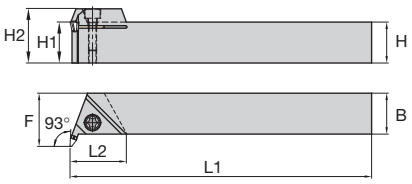




A3PS

seat size*	catalog number	H	B	F	L1	L2	H1	H2	clamp screw	Torx
	right hand									
4	A3PSR2020K04	20	20	25,00	125	34	20	26,500	MS1595	T30
4	A3PSR2525M04	25	25	32,00	150	34	25	31,500	MS1595	T30
8	A3PSR2525M08	25	25	32,00	150	50	25	32,500	MS1875	T45
8	A3PSR3225P08	32	25	32,00	170	50	32	39,500	MS1875	T45
	left hand									
4	A3PSL2020K04	20	20	25,00	125	34	20	26,500	MS1595	T30
4	A3PSL2525M04	25	25	32,00	150	34	25	31,500	MS1595	T30
4	A3USL2525M04	25	25	32,00	150	40	25	31,500	MS1595	T30
8	A3PSL2525M08	25	25	32,00	150	50	25	32,500	MS1875	T45



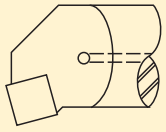


A3US

seat size*	catalog number	H	B	F	L1	L2	H1	H2	clamp screw	Torx
	right hand									
4	A3USR2525M04	25	25	32,00	150	40	25	32	MS1595	T30
	left hand									
4	A3USL2525M04	25	25	32,00	150	40	25	32	MS1595	T30

*NOTE: Only insert A3V-U-DM can be used with these toolholders.

Order example:
Right hand: A3USR2525M04 Left hand: A3USL2525M04

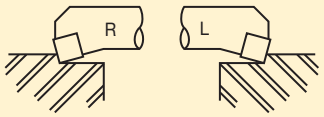


1. Steel Bar with Coolant

4. A3 System

6. Support Type

S = standard support for a wide range of groove widths



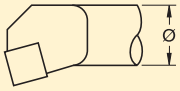
7. Hand of Tool

M – metric
N – inch

10. Tool Units

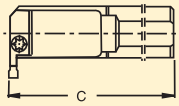
A	16	R	A3	E	S	R	03	05	M

2. Bar Diameter



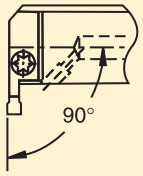
metric bars:
bar diameter in millimeters
inch bars:
A two-digit number which indicates the bar diameter in 1/16-inch increments.

3. Bar Length



metric bars:
R = 200mm
S = 250mm
T = 300mm
inch bars:
R = 8 inch
S = 10 inch
T = 12 inch

5. Tool Style

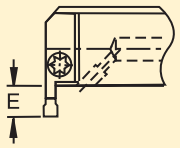


E = end mounted (90°)

8. Seat Size

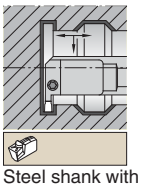
Pocket Seat Size	Cutting Width (mm)
03	2,25–3,05
04	3,05–4,05
05	4,05–5,05
06	5,05–6,05
08	6,05 - 8,05

9. Grooving Depth in mm

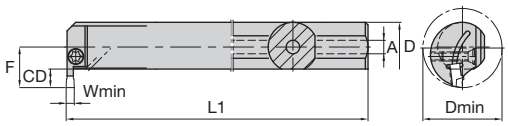


conversions: inch
5mm = .20
8mm = .32
10mm = .39
12mm = .47
15mm = .59

NOTE: For torque recommendations for clamp screw, see page I37.



Steel shank with through coolant



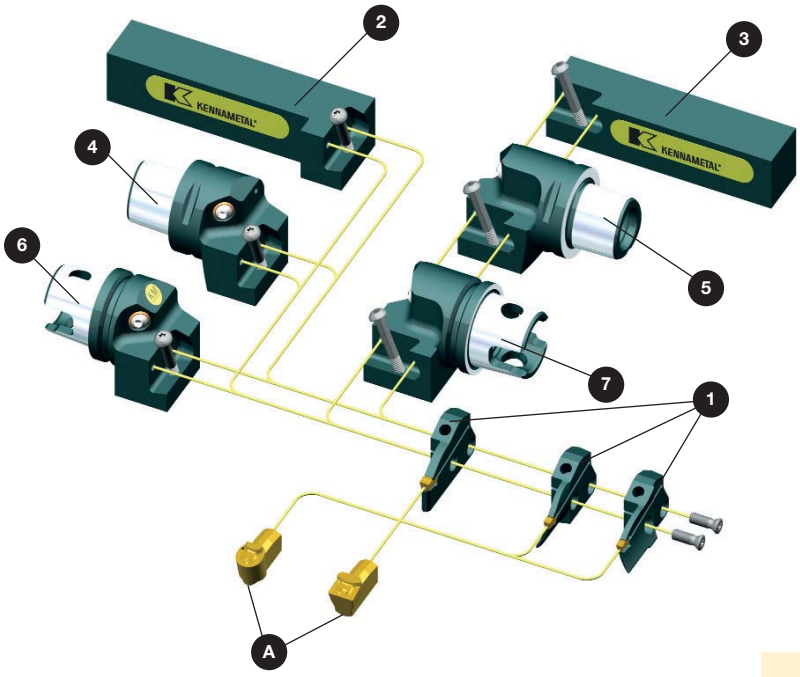
A-A3E

seat size	CD	catalog number	W min	D min	D	F	L1	A	insert screw	Torx
		right hand								
3	5,0	A25RA3ESR0305M	2,20	32	25	18,5	200	7	MS1571	T20
3	5,0	A32SA3ESR0305M	2,20	45	32	22,0	250	10	MS1571	T20
3+4	8,0	A25RA3ESR0408M	3,00	40	25	20,5	200	7	MS1571	T20
3+4	8,0	A32SA3ESR0408M	3,00	48	32	25,0	250	10	MS1571	T20
3+4	8,0	A40TA3ESR0408M	3,00	56	40	28,0	300	10	MS1571	T20
5	10,0	A32SA3ESR0510M	4,00	45	32	26,0	250	10	MS1162	T25
5	10,0	A40TA3ESR0510M	4,00	60	40	30,0	300	10	MS1162	T25
5+6	12,0	A32SA3ESR0612M	5,00	45	32	28,0	250	10	MS1162	T25
5+6	12,0	A40TA3ESR0612M	5,00	64	40	32,0	300	10	MS1162	T25
8	15,0	A40TA3ESR0815M	6,00	70	40	35,0	300	10	MS1163	T30
		left hand								
3	5,0	A25RA3ESL0305M	2,20	32	25	18,5	200	7	MS1571	T20
3	5,0	A32SA3ESL0305M	2,20	45	32	22,0	250	10	MS1571	T20
3+4	8,0	A25RA3ESL0408M	3,00	40	25	20,5	200	7	MS1571	T20
3+4	8,0	A32SA3ESL0408M	3,00	48	32	25,0	250	10	MS1571	T20
3+4	8,0	A40TA3ESL0408M	3,00	56	40	28,0	300	10	MS1571	T20
5	10,0	A32SA3ESL0510M	4,00	45	32	26,0	250	10	MS1162	T25
5	10,0	A40TA3ESL0510M	4,00	60	40	30,0	300	10	MS1162	T25
5+6	12,0	A32SA3ESL0612M	5,00	45	32	28,0	250	10	MS1162	T25
5+6	12,0	A40TA3ESL0612M	5,00	64	40	32,0	300	10	MS1162	T25
8	15,0	A40TA3ESL0815M	6,00	70	40	35,0	300	10	MS1163	T30

Order example:
Right hand: A25RA3ESR0305M Left hand:A25RA3ESL0305M

A3 Modular Blades Identification System

Modular Grooving Shank and Quick-Change Tooling

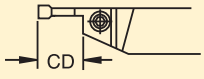


Legend		page
A	A2/A3 Inserts	D33–D35 D14–D16
1	OD and Face Grooving Blades	D45–D47
2	KGME Toolholder	D49
3	KGMS Toolholder	D49
4	Capto KGME Cutting Unit	D53
5	Capto KGMS Cutting Unit	D53
6	KM® KGME Cutting Unit	D51
7	KM® KGMS Cutting Unit	D51

By customer demand, Kennametal Inc. and Sandvik Coromant have entered into an agreement that allows both companies to manufacture, market, and sell KM and Coromant Capto products worldwide. Using the trademark Kennametal Capto, we make available a variety of leading and innovative Kennametal tooling designs utilizing the Coromant Capto coupling.

The manufacture and marketing of Kennametal Capto products and the use of the “Capto” trademark are in accordance with a license granted from Sandvik.

Pocket Seat Size	Cutting Width (mm)
03/3S	3,05
04/4S	4,05
05	5,05
06	6,05



conversions:

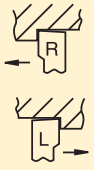
mm		inch
12mm	=	.47
16mm	=	.63
20mm	=	.79
26mm	=	1.02
32mm	=	1.26

1. A3 Modular Grooving System

A3M | **50** | **R** | **4** | **26** | **M** | **[ ]**

2. Blade Size

3. Hand of Tool

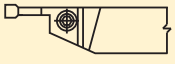


4. Seat Size

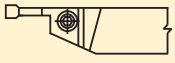
5. Grooving Depth in mm

6. Tool Style

S = standard support for a range of groove widths and straight clearance for unlimited workpiece diameters

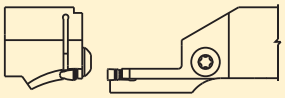


M = maximum support for specific groove widths and straight clearance for unlimited workpiece diameters



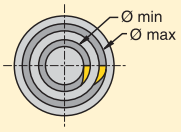
A = inboard sweep face grooving toolholder

B = outboard sweep face grooving toolholder

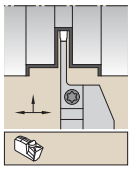


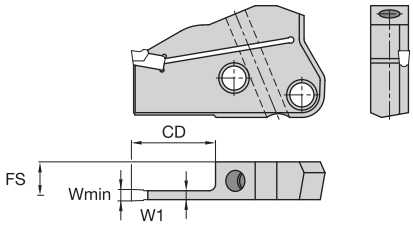
7. Face Grooving Diameter Range

Ø min – Ø max



To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

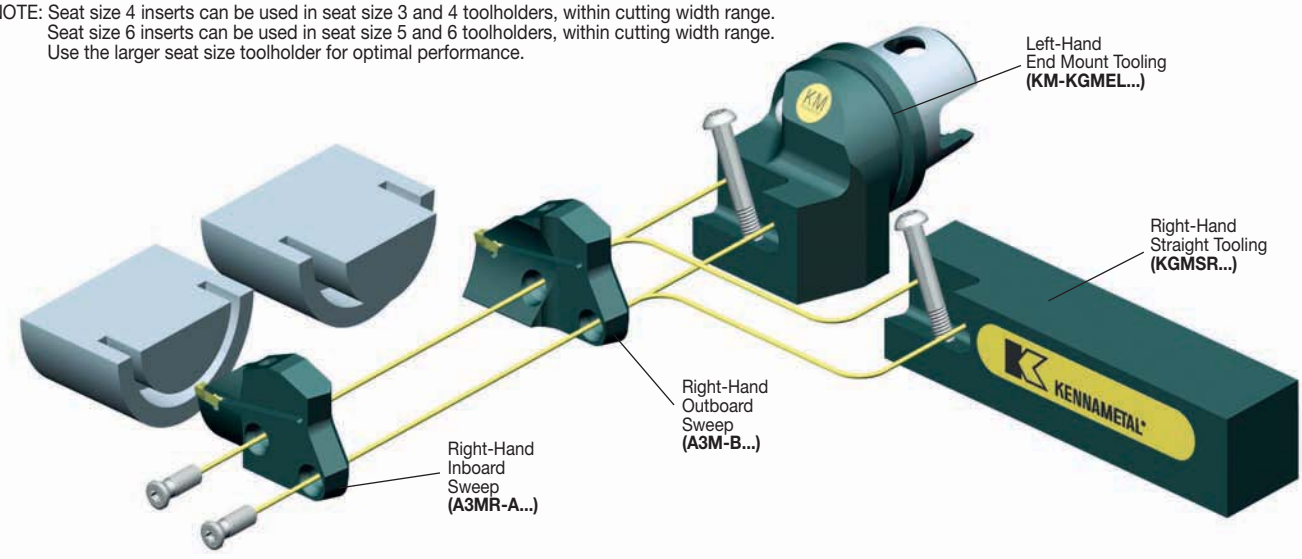




A3M-M

seat size	CD	catalog number	W min	FS	W1	blade size
		right hand				
3+4	12,0	A3M50R312M	3,00	10,50	2,3	50
3+4	16,0	A3M50R316M	3,00	10,50	2,3	50
3+4	26,0	A3M50R326M	3,00	10,50	2,3	50
4	12,0	A3M50R412M	4,00	10,00	3,3	50
4	16,0	A3M50R416M	4,00	10,00	3,3	50
4	26,0	A3M50R426M	4,00	10,00	3,3	50
4	32,0	A3M50R432M	4,00	10,00	3,3	50
5+6	16,0	A3M50R516M	4,75	9,50	4,3	50
5+6	26,0	A3M50R526M	4,75	9,50	4,3	50
5+6	32,0	A3M50R532M	4,75	9,50	4,3	50
6	16,0	A3M50R616M	6,00	9,00	5,3	50
6	26,0	A3M50R626M	6,00	9,00	5,3	50
6	32,0	A3M50R632M	6,00	9,00	5,3	50
		left hand				
3+4	12,0	A3M50L312M	3,00	10,50	2,3	50
3+4	16,0	A3M50L316M	3,00	10,50	2,3	50
3+4	26,0	A3M50L326M	3,00	10,50	2,3	50
4	12,0	A3M50L412M	4,00	10,00	3,3	50
4	16,0	A3M50L416M	4,00	10,00	3,3	50
4	26,0	A3M50L426M	4,00	10,00	3,3	50
4	32,0	A3M50L432M	4,00	10,00	3,3	50
5+6	16,0	A3M50L516M	4,75	9,50	4,3	50
5+6	26,0	A3M50L526M	4,75	9,50	4,3	50
5+6	32,0	A3M50L532M	4,75	9,50	4,3	50
6	16,0	A3M50L616M	6,00	9,00	5,3	50
6	26,0	A3M50L626M	6,00	9,00	5,3	50
6	32,0	A3M50L632M	6,00	9,00	5,3	50

NOTE: Seat size 4 inserts can be used in seat size 3 and 4 toolholders, within cutting width range.
Seat size 6 inserts can be used in seat size 5 and 6 toolholders, within cutting width range.
Use the larger seat size toolholder for optimal performance.

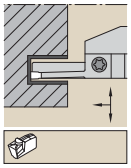


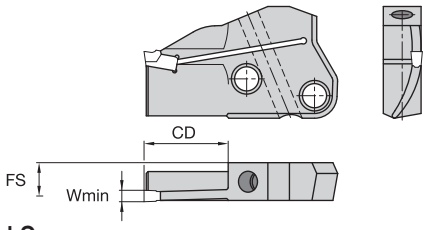
Order example:
Right hand: A3M50R312M Left hand: A3M50L312M

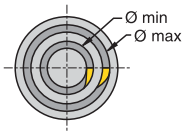
A3 Deep Grooving Modular Blades

KENNAMETAL

Face Grooving





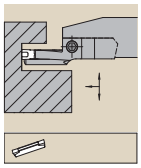


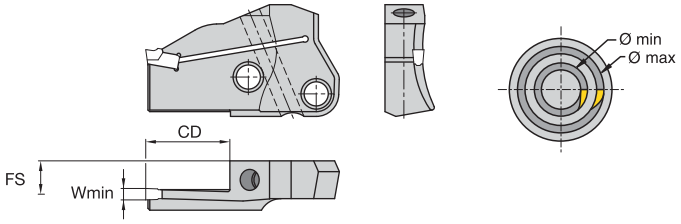
A3M-A Inboard Sweep

seat size	D min	D max	catalog number	W min	CD	FS	cartridge size
			right hand				
3S	25	30	A3M50R312A025030	3,00	12,0	10,50	50
3S	30	35	A3M50R312A030035	3,00	12,0	10,50	50
3S	35	40	A3M50R316A035040	3,00	16,0	10,50	50
3S	40	50	A3M50R316A040050	3,00	16,0	10,50	50
3S	50	60	A3M50R316A050060	3,00	16,0	10,50	50
4	60	75	A3M50R426A060075	4,00	26,0	10,00	50
4	75	100	A3M50R426A075100	4,00	26,0	10,00	50
4	100	180	A3M50R426A100180	4,00	26,0	10,00	50
4	180	250	A3M50R426A180250	4,00	26,0	10,00	50
4	250	350	A3M50R426A250350	4,00	26,0	10,00	50
4	350	–	A3M50R426A350999	4,00	26,0	10,00	50
4S	25	30	A3M50R412A025030	4,00	12,0	10,00	50
4S	30	35	A3M50R412A030035	4,00	12,0	10,00	50
4S	35	40	A3M50R420A035040	4,00	20,0	10,00	50
4S	40	50	A3M50R420A040050	4,00	20,0	10,00	50
4S	50	60	A3M50R420A050060	4,00	20,0	10,00	50
5+6	60	75	A3M50R526A060075	5,00	26,0	9,50	50
5+6	75	100	A3M50R532A075100	5,00	32,0	9,50	50
5+6	100	180	A3M50R532A100180	5,00	32,0	9,50	50
5+6	180	250	A3M50R532A180250	5,00	32,0	9,50	50
5+6	250	350	A3M50R532A250350	5,00	32,0	9,50	50
5+6	350	–	A3M50R532A350999	5,00	32,0	9,50	50
			left hand				
3S	25	30	A3M50L312A025030	3,00	12,0	10,50	50
3S	30	35	A3M50L312A030035	3,00	12,0	10,50	50
3S	35	40	A3M50L316A035040	3,00	16,0	10,50	50
3S	40	50	A3M50L316A040050	3,00	16,0	10,50	50
3S	50	60	A3M50L316A050060	3,00	16,0	10,50	50
4	60	75	A3M50L426A060075	4,00	26,0	10,00	50
4	75	100	A3M50L426A075100	4,00	26,0	10,00	50
4	100	180	A3M50L426A100180	4,00	26,0	10,00	50
4	180	250	A3M50L426A180250	4,00	26,0	10,00	50
4	250	350	A3M50L426A250350	4,00	26,0	10,00	50
4	350	–	A3M50L426A350999	4,00	26,0	10,00	50
4S	25	30	A3M50L412A025030	4,00	12,0	10,00	50
4S	30	35	A3M50L412A030035	4,00	12,0	10,00	50
4S	35	40	A3M50L420A035040	4,00	20,0	10,00	50
4S	40	50	A3M50L420A040050	4,00	20,0	10,00	50
4S	50	60	A3M50L420A050060	4,00	20,0	10,00	50
5+6	60	75	A3M50L526A060075	5,00	26,0	9,50	50
5+6	75	100	A3M50L532A075100	5,00	32,0	9,50	50
5+6	100	180	A3M50L532A100180	5,00	32,0	9,50	50
5+6	180	250	A3M50L532A180250	5,00	32,0	9,50	50
5+6	250	350	A3M50L532A250350	5,00	32,0	9,50	50
5+6	350	–	A3M50L532A350999	5,00	32,0	9,50	50

Order example:
Right hand: A3M50R312A025030 Left hand: A3M50L312A025030

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

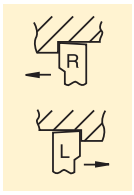


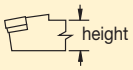


A3M-B Outboard Sweep

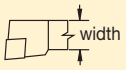
seat size	D min	D max	catalog number	W min	CD	FS	cartridge size
			right hand				
3S	25	30	A3M50R312B025030	3,00	12,0	10,50	50
3S	30	35	A3M50R312B030035	3,00	12,0	10,50	50
3S	35	40	A3M50R316B035040	3,00	16,0	10,50	50
3S	40	50	A3M50R316B040050	3,00	16,0	10,50	50
3S	50	60	A3M50R316B050060	3,00	16,0	10,50	50
4S	25	30	A3M50R412B025030	4,00	12,0	10,00	50
4S	30	35	A3M50R412B030035	4,00	12,0	10,00	50
4S	35	40	A3M50R420B035040	4,00	20,0	10,00	50
4S	40	50	A3M50R420B040050	4,00	20,0	10,00	50
4S	50	60	A3M50R420B050060	4,00	20,0	10,00	50
4	60	75	A3M50R426B060075	4,00	26,0	10,00	50
4	75	100	A3M50R426B075100	4,00	26,0	10,00	50
4	100	180	A3M50R426B100180	4,00	26,0	10,00	50
4	180	250	A3M50R426B180250	4,00	26,0	10,00	50
4	250	350	A3M50R426B250350	4,00	26,0	10,00	50
4	350	–	A3M50R426B350999	4,00	26,0	10,00	50
5+6	60	75	A3M50R526B060075	5,00	26,0	9,50	50
5+6	75	100	A3M50R532B075100	5,00	32,0	9,50	50
5+6	100	180	A3M50R532B100180	5,00	32,0	9,50	50
5+6	180	250	A3M50R532B180250	5,00	32,0	9,50	50
5+6	250	350	A3M50R532B250350	5,00	32,0	9,50	50
5+6	350	–	A3M50R532B350999	5,00	32,0	9,50	50
			left hand				
3S	25	30	A3M50L312B025030	3,00	12,0	10,50	50
3S	30	35	A3M50L312B030035	3,00	12,0	10,50	50
3S	35	40	A3M50L316B035040	3,00	16,0	10,50	50
3S	40	50	A3M50L316B040050	3,00	16,0	10,50	50
3S	50	60	A3M50L316B050060	3,00	16,0	10,50	50
4S	25	30	A3M50L412B025030	4,00	12,0	10,00	50
4S	30	35	A3M50L412B030035	4,00	12,0	10,00	50
4S	35	40	A3M50L420B035040	4,00	20,0	10,00	50
4S	40	50	A3M50L420B040050	4,00	20,0	10,00	50
4S	50	60	A3M50L420B050060	4,00	20,0	10,00	50
4	60	75	A3M50L426B060075	4,00	26,0	10,00	50
4	75	100	A3M50L426B075100	4,00	26,0	10,00	50
4	100	180	A3M50L426B100180	4,00	26,0	10,00	50
4	180	250	A3M50L426B180250	4,00	26,0	10,00	50
4	250	350	A3M50L426B250350	4,00	26,0	10,00	50
4	350	–	A3M50L426B350999	4,00	26,0	10,00	50
5+6	60	75	A3M50L526B060075	5,00	26,0	9,50	50
5+6	75	100	A3M50L532B075100	5,00	32,0	9,50	50
5+6	100	180	A3M50L532B100180	5,00	32,0	9,50	50
5+6	180	250	A3M50L532B180250	5,00	32,0	9,50	50
5+6	250	350	A3M50L532B250350	5,00	32,0	9,50	50
5+6	350	–	A3M50L532B350999	5,00	32,0	9,50	50

Order example:
Right hand: A3M50R312B025030 Left hand: A3M50L312B025030





shank height in millimeters



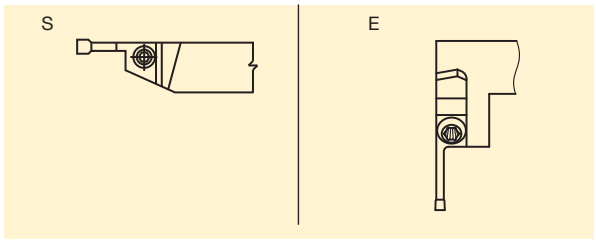
shank width in millimeters

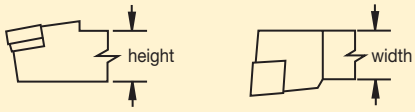
length over insert in a support blade with a 12,5mm D dimension according to ISO

M = 150mm
P = 170mm

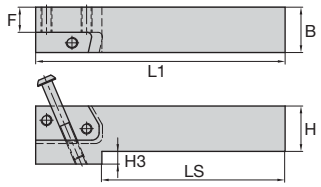
	1. Kennametal Grooving Modular	2. Tool Style	3. Hand of Tool	4. Shank Height / 4. Shank Dimensions	5. Shank Width / 5. Blade Size	6. Tool Length / 6. Tool Units	7. Blade Size
METRIC	KGM	S	R	25	25	M	50
INCH	KGM	S	R	16	50	N	50

N = inch



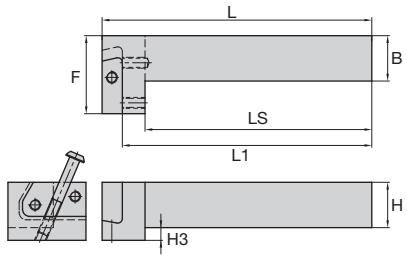


Square Shanks: The number indicates the toolholder cross section in 1/16-inch increments.
Rectangular Shanks: The first digit indicates the number of eighth-inch increments of width and the second digit indicates the number of quarter-inch increments of height.



KGMS

catalog number	B	H	L1	F	LS	H3	blade screw (2 required)	clamp screw	Torx
right hand									
KGMSR2525M50	25	25	138,75	13,84	109,00	7,00	MS1162	MS2002	T25
KGMSR3232P50	32	32	158,75	20,81	–	–	MS1162	MS2002	T25
left hand									
KGMSL2525M50	25	25	138,75	13,84	109,00	7,00	MS1162	MS2002	T25
KGMSL3232P50	32	32	158,75	20,81	–	–	MS1162	MS2002	T25

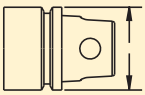


KGME

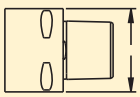
catalog number	B	H	L1	F	LS	H3	L	blade screw (2 required)	clamp screw	Torx
right hand										
KGMER2525M50	25	25	139,25	42,75	125,25	6,84	150,25	MS1162	MS2002	T25
KGMER3232P50	32	32	159,25	42,75	145,25	–	170,25	MS1162	MS2002	T25
left hand										
KGMEL2525M50	25	25	139,25	42,75	125,25	6,84	150,25	MS1162	MS2002	T25
KGMEL3232P50	32	32	159,25	42,75	145,25	–	170,25	MS1162	MS2002	T25

NOTE: .KGMS..: Right-hand holder uses right-hand blades.
.KGME..: Right-hand holder uses left-hand blades.
Blade and clamp screw torque equals 8–10 Nm (71–88 in.-lbs)

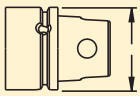
Order example:
Right hand: KGMER2525M50 Left hand: KGMEL2525M50



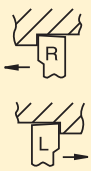
KM size
KM40 = 40mm dia.
KM50 = 50mm dia.
KM63 = 63mm dia.



Kennametal Capto size
C4 = 40mm dia.
C5 = 50mm dia.
C6 = 63mm dia.

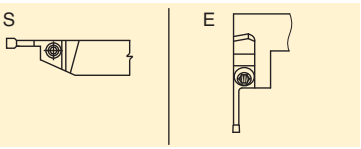


KMXMZ size
KM63XMZ = 63mm dia.



1. System & Size		3. Tool Style	4. Hand of Tool	5. Blade Size	6. Special Conditions
KM40	KGM	S	R	50	

2. Kennametal Grooving Modular

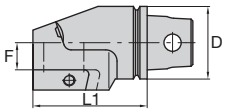


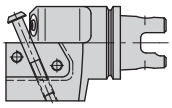
Y =
Mazak Integrex
Y-series machines

(KM-KGMSR...)

(KM-KGMEL...)

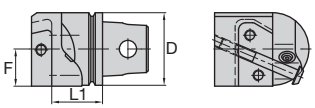
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.





KGMS-KM

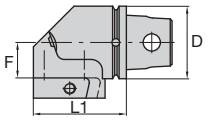
catalog number	D	L1	F	blade screw	clamp screw	Torx
right hand						
KM40KGMSR50	40	53,5	15,000	MS1162	MS2002	T25
KM50KGMSR50	50	58,5	23,000	MS1162	MS2002	T25
KM63UTKGMSR50	63	63,5	31,000	MS1162	MS2002	T25
left hand						
KM40KGMSL50	40	53,5	15,000	MS1162	MS2002	T25
KM50KGMSL50	50	58,5	23,000	MS1162	MS2002	T25
KM63UTKGMSL50	63	63,5	31,000	MS1162	MS2002	T25

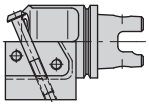


KGME-KM

catalog number	D	L1	F	blade screw	clamp screw	Torx
right hand						
KM40KGMER50	40	28	20,5	MS1162	MS2002	T25
KM50KGMER50	50	38	25,5	MS1162	MS2002	T25
KM80ATCKGMER50	80	58	40,5	MS1162	MS2002	T25
left hand						
KM40KGMEL50	40	28	20,5	MS1162	MS2002	T25
KM50KGMEL50	50	38	25,5	MS1162	MS2002	T25
KM80ATCKGMEL50	80	58	40,5	MS1162	MS2002	T25

Order example:
Right hand: KM40KGMER50 Left hand: KM40KGMEL50



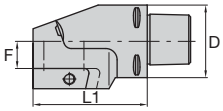


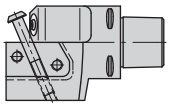
KGMS-KM XMZ

catalog number	D	L1	F	blade screw	clamp screw	Torx
right hand						
KM63XMZKGMSR50Y	63	63,50	31	MS1162	MS2002	T25
left hand						
KM63XMZKGMSLF50Y	63	63,50	31	MS1162	MS2002	T25

NOTE: .KGMS..: Right-hand holder uses right-hand blades.
.KGME..: Right-hand holder uses left-hand blades.
Blade and clamp screw torque 8–10 Nm (71–.88 in.-lbs).
See Modular Blade assembly diagrams on page D58.

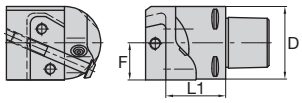
Order example:
Right hand: KM63XMZKGMSR50Y Left hand: KM63XMZKGMSLF50Y





C-KGMS..

catalog number	D	L1	F	blade screw (2 required)	clamp screw	Torx
right hand						
C4KGMSR50	40	63,5	10,0	MS1162	MS2002	T25
C5KGMSR50	50	63,5	15,0	MS1162	MS2002	T25
C6KGMSR50	63	65,5	22,0	MS1162	MS2002	T25
left hand						
C4KGMSL50	40	63,5	10,0	MS1162	MS2002	T25
C5KGMSL50	50	63,5	15,0	MS1162	MS2002	T25
C6KGMSL50	63	65,5	22,0	MS1162	MS2002	T25



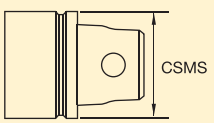
C-KGME..

catalog number	D	L1	F	blade screw (2 required)	clamp screw	Torx
right hand						
C4KGMER50	40	33,0	20,5	MS1162	MS2002	T25
C5KGMER50	50	43,0	25,5	MS1162	MS2002	T25
C6KGMER50	63	48,0	32,5	MS1162	MS2002	T25
left hand						
C4KGMEL50	40	33,0	20,5	MS1162	MS2002	T25
C5KGMEL50	50	43,0	25,5	MS1162	MS2002	T25
C6KGMEL50	63	48,0	32,5	MS1162	MS2002	T25

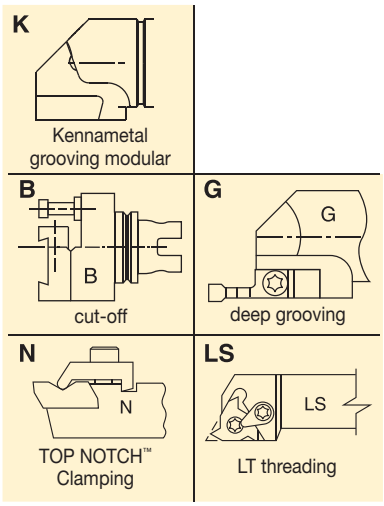
NOTE: .KGMS..: Right-hand holder uses right-hand blades.
.KGME..: Right-hand holder uses left-hand blades.
Blade and clamp screw torque 8–10 Nm (71–88 in.-lbs).
See Modular Blade assembly diagrams on page D58.

Order example:
Right hand: C4KGMER50 Left hand: C4KGMEL50

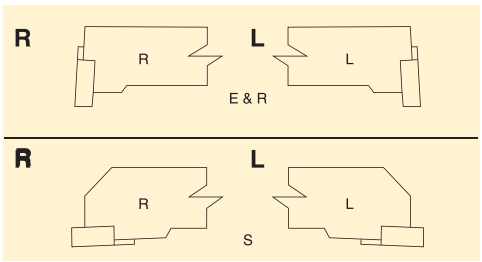
25	=	25 mm
3225	=	32 mm
32	=	32 mm
40	=	40 mm
50	=	50 mm
63	=	63 mm
80	=	80 mm



2. System Size



4. Insert Holding Method



6. Hand of Tool

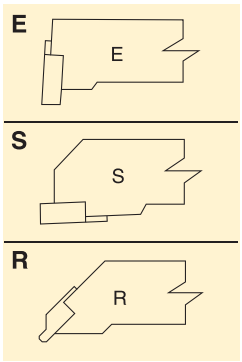
KM 63 - UT N S R 3 E ■

1. Kennametal Modular

3. Feature

ATC
UT
XMZ
XTS

5. Insert Location



9. Special Feature

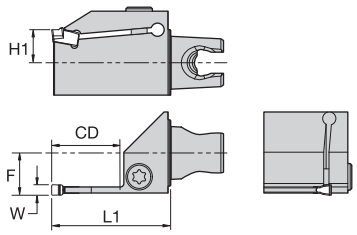
Y = Mazak Integrex

8. Additional Information

E -	External only
N -	Internal only
C -	GC-style insert

7. Insert Cutting Edge Length

N — insert size		LT — cutting edge length		KGM blade size
2	3,18	l	d (IC)	50
3	4,95	16	9,52	50
4	6,48	22	12,70	50
5	9,65	–	–	50
6	11,13	–	–	50



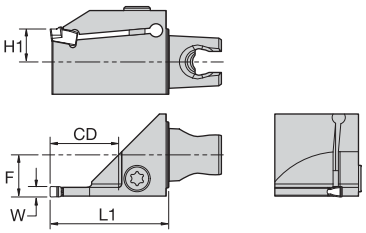
A3SS – Deep Groove

order number	catalog number	L1 mm	L1 in	F mm	F in	W mm	W in	H1 mm	H1 in	CD mm	CD in	insert 1
	right hand											
2399513	KM25A3SSR031635	35	1.378	16	.630	3,0	.118	12,5	.492	16	.630	A3..03..
2399515	KM25A3SSR041635	35	1.378	16	.630	4,0	.158	12,5	.492	16	.630	A3..04..
2399517	KM25A3SSR042645	45	1.772	16	.630	4,0	.158	12,5	.492	26	1.024	A3..04..
2399519	KM25A3SSR051635	35	1.378	16	.630	5,0	.197	12,5	.492	16	.630	A3..05..
2399521	KM25A3SSR052645	45	1.772	16	.630	5,0	.197	12,5	.492	26	1.024	A3..05..
	left hand											
2399514	KM25A3SSL031635	35	1.378	16	.630	3,0	.118	12,5	.492	16	.630	A3..03..
2399516	KM25A3SSL041635	35	1.378	16	.630	4,0	.158	12,5	.492	16	.630	A3..04..
2399518	KM25A3SSL042645	45	1.772	16	.630	4,0	.158	12,5	.492	26	1.024	A3..04..
2399520	KM25A3SSL051635	35	1.378	16	.630	5,0	.197	12,5	.492	16	.630	A3..05..
2399522	KM25A3SSL052645	45	1.772	16	.630	5,0	.197	12,5	.492	26	1.024	A3..05..

Spare Parts

catalog number	clamp screw	wrench size-clamp screw	Nm	in.lbs
right hand				
KM25A3SSR031635	MS1944	T25	8	70
KM25A3SSR041635	MS1595	T30	21	185
KM25A3SSR042645	MS1595	T30	21	185
KM25A3SSR051635	MS1595	T30	21	185
KM25A3SSR052645	MS1595	T30	21	185
left hand				
KM25A3SSL031635	MS1944	T25	8	70
KM25A3SSL041635	MS1595	T30	21	185
KM25A3SSL042645	MS1595	T30	21	185
KM25A3SSL051635	MS1595	T30	21	185
KM25A3SSL052645	MS1595	T30	21	185

A3 Cut-Off



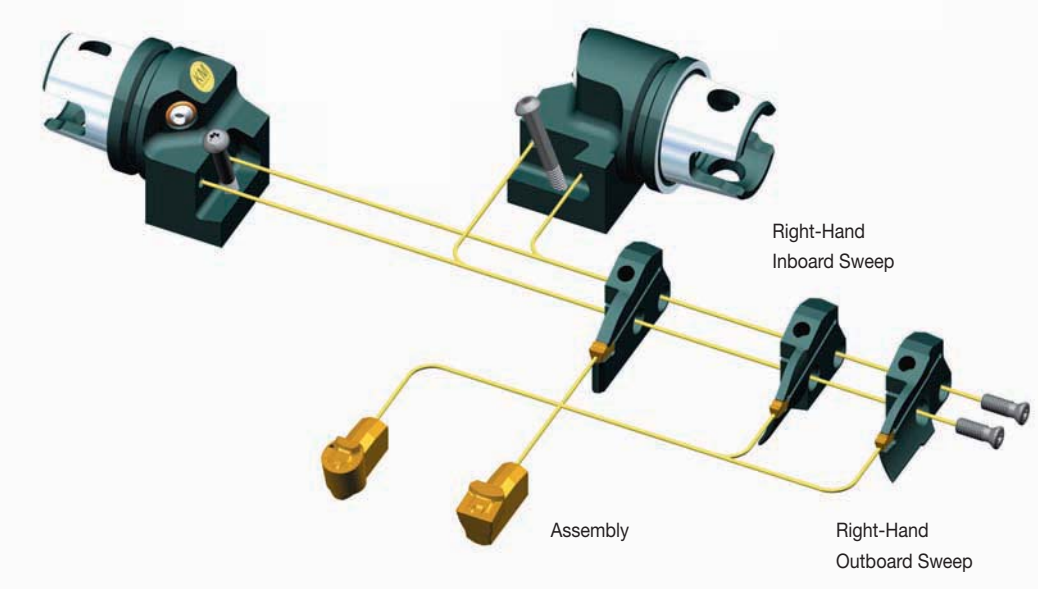
A3SC — Cut-Off

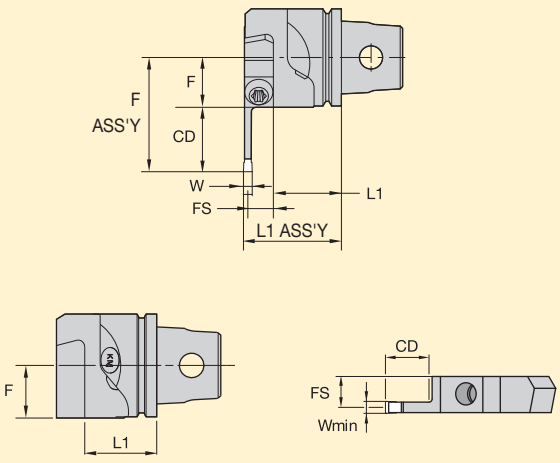
order number	catalog number	L1 mm	L1 in	F mm	F in	W mm	W in	H1 mm	H1 in	CD mm	CD in	insert 1
	right hand											
2399527	KM25A3SCR031635	35	1.378	16	.630	3,0	.118	12,5	.492	16	.630	A3..03..
2399529	KM25A3SCR032645	45	1.772	16	.630	3,0	.118	12,5	.492	26	1.024	A3..03..
2399531	KM25A3SCR041635	35	1.378	16	.630	4,0	.158	12,5	.492	16	.630	A3..04..
2399533	KM25A3SCR042645	45	1.772	16	.630	4,0	.158	12,5	.492	26	1.024	A3..04..
	left hand											
2399528	KM25A3SCL031635	35	1.378	16	.630	3,0	.118	12,5	.492	16	.630	A3..03..
2399530	KM25A3SCL032645	45	1.772	16	.630	3,0	.118	12,5	.492	26	1.024	A3..03..
2399532	KM25A3SCL041635	35	1.378	16	.630	4,0	.158	12,5	.492	16	.630	A3..04..
2399534	KM25A3SCL042645	45	1.772	16	.630	4,0	.158	12,5	.492	26	1.024	A3..04..

Spare Parts

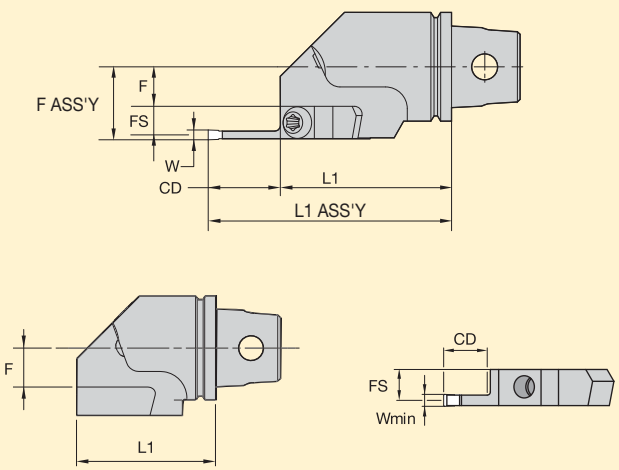
catalog number	clamp screw	wrench size—clamp screw	Nm	in.lbs
right hand				
KM25A3SCR031635	MS1944	T25	8	70
KM25A3SCR032645	MS1595	T30	21	185
KM25A3SCR041635	MS1944	T30	21	185
KM25A3SCR042645	MS1595	T30	21	185
left hand				
KM25A3SCL031635	MS1944	T25	8	70
KM25A3SCL032645	MS1595	T30	21	185
KM25A3SCL041635	MS1944	T30	21	185
KM25A3SCL042645	MS1595	T30	21	185

Kennametal's A3 and A4 grooving systems are the best choice for high productivity with outstanding application flexibility.



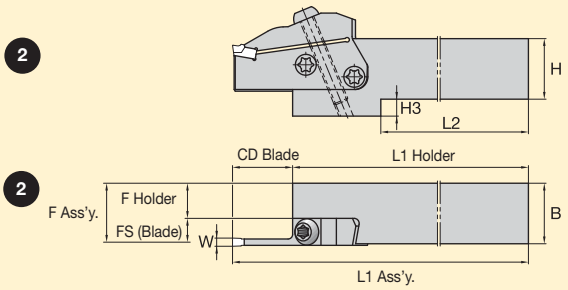


F Ass'y. = F (Holder) + FS (Blade) + W/2
L1 Ass'y. = L1 (Holder) + CD (Blade)



F Ass'y. = F (Holder) + CD (Blade)
L1 Ass'y. = L1 (Holder) + FS (Blade) + W/2

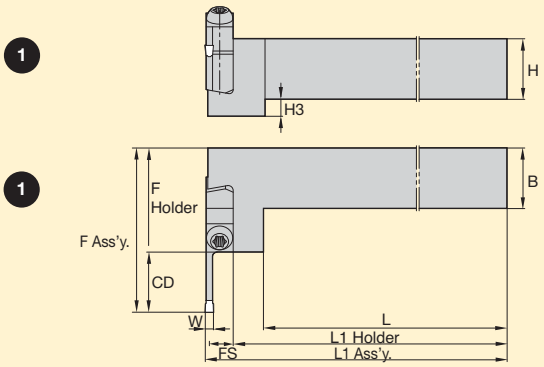
KGMS Toolholder with Modular Blade Assemblies



2

F Ass'y. = F (Holder) + FS (Blade) + W/2
L1 Ass'y. = L1 (Holder) + CD (Blade)

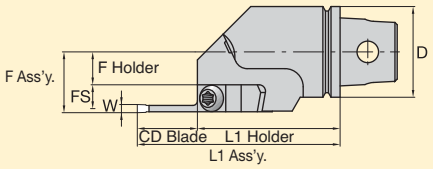
KGME Toolholder with Modular Blade Assemblies



1

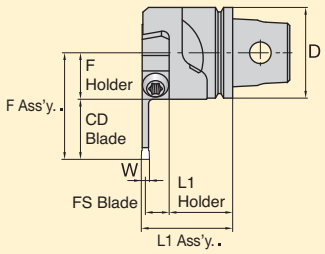
F Ass'y. = F (Holder) + CD (Blade)
L1 Ass'y. = L1 (Holder) + FS (Blade) + W/2

KM-KGMS



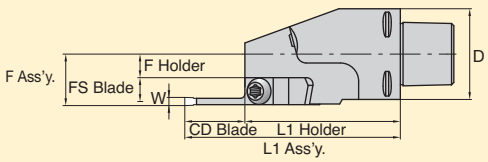
F Ass'y. = F (Holder) + FS (Blade) + W/2
L1 Ass'y. = L1 (Holder) + CD (Blade)

KM-KGME



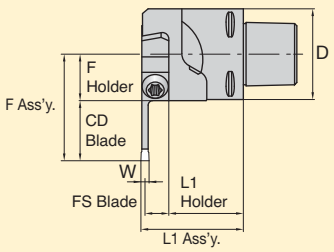
F Ass'y. = F (Holder) +CD (Blade)
L1 Ass'y. = L1 (Holder) + FS (Blade) + W/2

C-KGMS



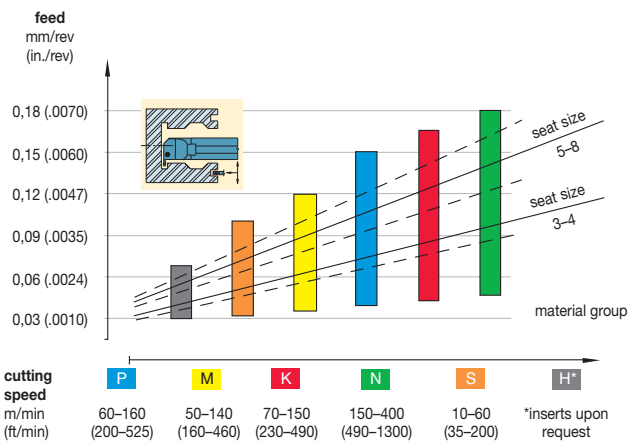
F Ass'y. = F (Holder) + FS (Blade) + W2
L1 Ass'y. = L1 (Holder) + CD (Blade)

C-KGME



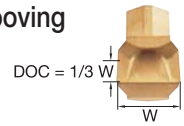
F Ass'y. = F (Holder) + CD (Blade)
L1 Ass'y. = L1 (Holder) + FS (Blade) + W/2

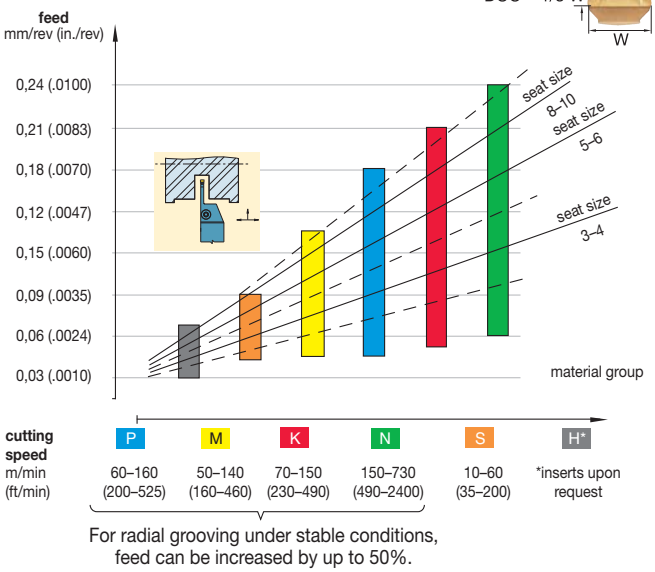
Feed and Speed Selection for ID and Face Grooving



Feed and Speed Selection for OD Grooving

For profiling, depth-of-cut recommendation



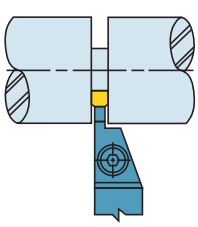


For radial grooving under stable conditions, feed can be increased by up to 50%.

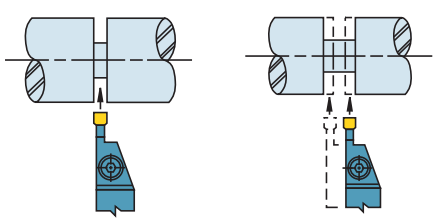
Tool Application Guidelines

- Always use good general machining practices.
- Make the machine and workpiece setup as rigid as possible.
- Integral shank toolholders offer the best rigidity. They should be your first toolholder choice, when possible.
- Use the toolholder with the shortest possible depth-of-cut for the application (“CD” dimension).
- When changing inserts, make sure the new insert locates securely against the toolholder’s positive stop.
- Never tighten the clamping screw without an insert in the pocket.
- Toolholder projection out of the tool block should be as short as possible.
- Inserts should cut as close to center as possible.
- Dwell time in bottom of groove should be less than three revolutions.
- Recommended cutting speeds and feeds are a starting point. Adjust, as necessary, for optimum tool life and chip control.

Deep Grooves

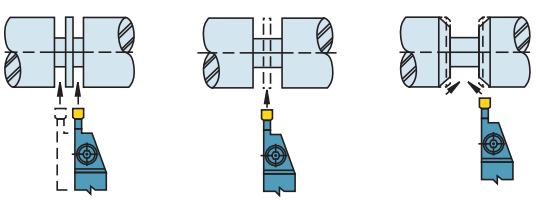


Deep Grooves Slightly Wider than the Tool



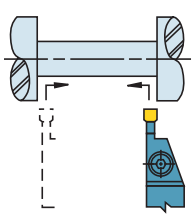
1. Plunge the center of the groove.
2. Plunge each side of the groove to get the specified width. Use a slower feed rate when cutting groove sides.

Extra Wide Deep Grooves



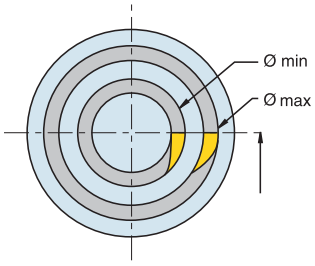
1. Plunge out both sides of the groove width.
2. Plunge center area to remove web of remaining material.
3. Plunge both sides of groove at the required angle, using approximately one-half the width of the grooving tool for maximum width-of-cut.

Finish Turning of the Groove / Light Profiling



1. Follow recommendations explained above.
2. To avoid insert chipping and to achieve groove wall perpendicularity, follow the tool path shown here.
3. Use the lightest depth-of-cut possible while still maintaining good chip breaking, tool life, and surface finish.

Face Grooving Application Guidelines



Tool Selection

- When selecting the toolholder, always start at the largest diameter possible and work toward the smaller diameter. This will allow the strongest tool to be used.

Cutting the First Groove

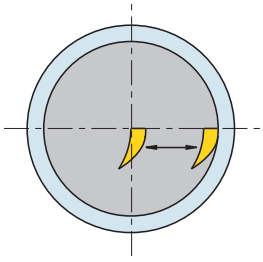
- The outside diameter of the first groove must be between the diameter minimum and diameter maximum capability of the face grooving tool (see illustration above). This creates clearance for the toolholder.

Chip Control

- Adjust speed and feed for good chip control and evacuation from the groove. Chip compaction can cause poor surface finish, tool breakage, and reduced tool life.

Tool Setting

- The tool should be set as close to the center as possible to avoid extreme formation of burrs.
- Align the cutting edge square to the workpiece.



Widening a Face Groove

- After the first groove has been cut, the groove width can be widened in either direction using the same tool. The best practice is to work from the OD to the ID.

Practical Solutions to Grooving Problems

Problem	Remedy
Burr	1. Verify tool center height. 2. Use sharp tools (index more often). 3. Use positive rake PVD coated insert. 4. Use correct grade for workpiece material. 5. Use correct geometry (e.g. positive rake for workhardening material). 6. Change tool path.
Poor surface finish	1. Increase speed. 2. Use sharp tools (index more often). 3. Dwell time in bottom 1–3 revolutions (max). 4. Use proper chip control geometry. 5. Increase coolant flow. 6. Verify proper setup (overhang, shank size). 7. Use correct geometry (e.g. positive rake for workhardening material).
Groove bottom not flat	1. Use sharp tools (index more often). 2. Dwell time in bottom 1–3 revolutions (max). 3. Reduce tool overhang (increase rigidity). 4. Reduce feed rate at groove bottom. 5. Use a wider insert. 6. Verify tool center height.
Poor chip control	1. Use sharp tools (index more often). 2. Increase coolant concentration. 3. Adjust feed rate (usually increase first).
Chatter	1. Reduce tool and workpiece overhang. 2. Adjust speed (usually increase first). 3. Adjust feed (usually increase first). 4. Verify tool center height.
Insert chipping	1. Use correct grade for workpiece material. 2. Increase speed. 3. Reduce feed. 4. Use a stronger grade. 5. Increase tool and setup rigidity.
Built-up edge	1. Use positive rake PVD coated insert. 2. Increase speed. 3. Reduce feed. 4. Increase coolant flow/concentration. 5. Use cermets.
Side walls not straight	1. Check tool alignment for square. 2. Reduce workpiece and tool overhang. 3. Use sharp inserts (index more often).

KENNAMETAL®

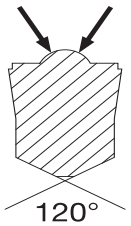
Grooving and Cut-Off

A4 Groove, Turn & Cut-Off...

...a precise and productive solution to increase productivity!

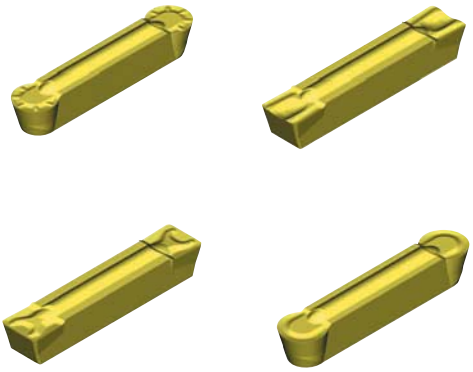
A4 Groove & Turn System

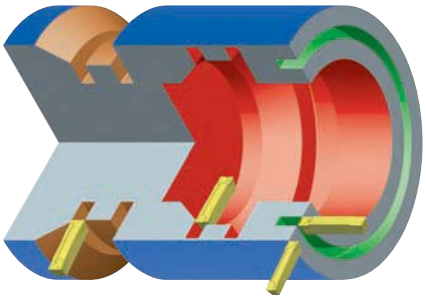
- One tool for turning, facing, grooving, face-grooving, and cut-off… in OD and ID applications —that means exceptionally fast cycle times, no turret indexes!
- Extra-long clamping area, ground 120° bottom prism seating surface, and an exclusive top guide rail combine to deliver unsurpassed grooving and side-turning stability!
- Precise insert positioning is ensured —for accurate cuts!



Guide rail

Chipbreaker—GMN Chipbreaker—GMP





The A4 system increases your productivity:

- Covers multiple applications.
- Reduces tool cost.
- Minimizes machining time.

KENNA PERFECT™ — A4 Groove & Turn

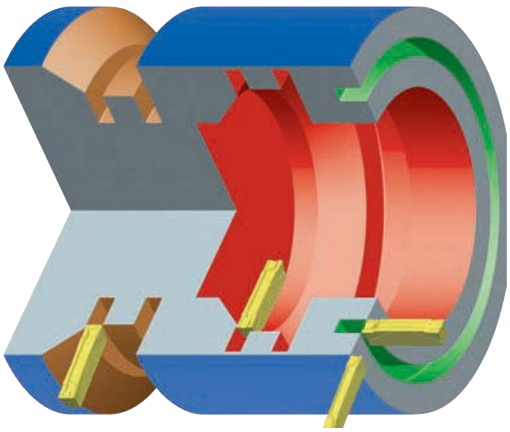
KENNAMETAL

5 Easy Steps to Greater Productivity in Grooving and Turning

What you need to know:

- Groove depth, width, and profile.
- Material being machined.
- Application to be performed (OD & ID grooving, turning, face-grooving, and cut-off).

1st Step—Choose the A4 Size for Your Grooving and Turning Application



General Recommendation to Select the Insert Size

for workpiece diameters...	insert seat size
up to 25mm	3
from 25mm to 50mm	4
>50mm	5–10

2nd Step—Choose Your Toolholder Based on the Application

Note: Insert seat size must match the seat size of the toolholder

	Conventional Toolholders	Modular Blades
OD Grooving, Turning, & Cut-Off	D77	D81
Face Grooving	D78	D82
ID Grooving, Turning, & Cut-Off	D79	

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

3rd Step—Select Chipbreaker Style and Feed Rate

Choose Chipbreaker Based on Material Type.

Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
GMN	GMP	GMN	GMP precision ground (-E for KD 1405)	GMP precision ground	GMN *

* Alternative tipped inserts in KB5625 are available upon request.

NOTE: Precision ground A4-P-GMN inserts can be applied on all material groups for inch-width grooving

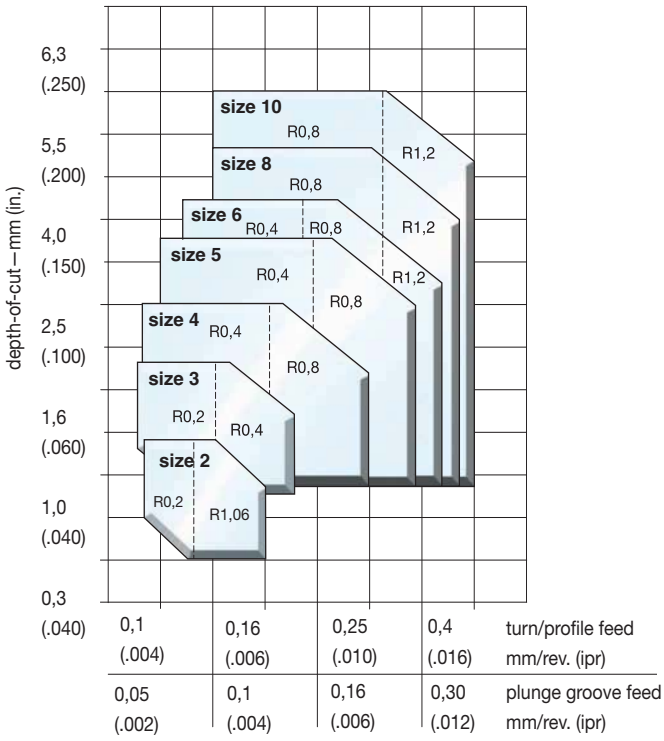
Depth-of-Cut and Feed Guidelines for Square Inserts (A4G...):

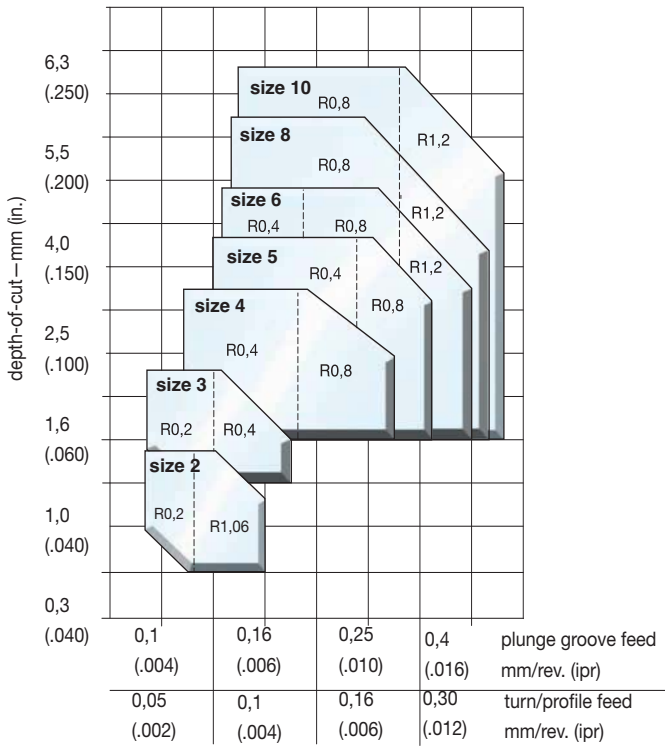
GMN Chipbreaker

- Groove & turn molded and precision ground inserts.
- Stable cutting edge.
- Available in metric and inch widths.

GMP Chipbreaker

- Groove & turn inserts.
- Available in molded and precision-ground styles.
- Positive rake angle.
- Available in metric widths only.





NOTE: Select feed based on nose radius. Diagram explanation: R0,2 - R = corner radius; 0,2 = 0,2mm radius; see page D68 for further references.

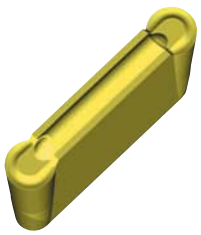
Depth-of-Cut Feed and Guidelines for Full Radius Inserts (A4R...):

GMN Chipbreaker

Maximum turning and profiling depth of cut equals 1/2 insert width.

The maximum turn and profile feed rate depends on the material to be machined and the depth-of-cut. For easy-to-machine materials, feed can be increased up to 1,5 times.

GMP Chipbreaker



KENNA PERFECT™ — A4 Groove & Turn

KENNAMETAL

5 Easy Steps to Greater Productivity in Grooving and Turning

4th Step — Select Grade and Speed

Recommended KENNA PERFECT Grades

Cutting Condition	Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
Heavily interrupted cut	KC5025	KC5025	KC9125	KC5025	KC5025	–
Lightly interrupted cut	KC9125/KC5025	KC5025	KC9125	KC5025	KC5025	–
Varying depth-of-cut, casting, or forging skin	KC5010	KC5010	KC9110	KC5010/KD1405	K313/KC5010	KC5010*
Smooth cut, pre-turned surface	KT315**/KC9110	KT315	KC9110	KC5010/KD1405	K313/KC5010	KC5010*

*NOTE: PCBN-tipped inserts in KB5625 are available on request.

Recommended KENNA PERFECT Cutting Speeds

Steel

KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 60 (200)	120 (400)	185 (600)	245 (800)	300 (1000)	Starting Conditions m/min	sfm
P	KC5025		◁▷				120	400
	KC9125			◁▷			200	650
	KC9110				◁▷		250	800
	KT315**				◁▷		260	850

**NOTE: KT315 is an alternative choice for steel; primarily available in the GMP chipbreaker.

Stainless Steel

KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 45 (150)	90 (300)	140 (450)	185 (600)	230 (750)	Starting Conditions m/min	sfm
M	KC5025		◁▷				105	350
	KC5010			◁▷			135	450
	KC315				◁▷		170	400

Cast Iron

KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 150 (500)	300 (1000)	450 (1500)	600 (2000)	750 (2500)	900 (3000)	1050 (3500)	Starting Conditions m/min	sfm
K	KC9320		◁▷						230	750
	KY3500					◁▷			760	2500

Non-Ferrous Metals

KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 150 (500)	300 (1000)	460 (1500)	610 (2000)	760 (2500)	Starting Conditions m/min	sfm
N	KC5025			◁▷			365	1200
	KC5010				◁▷		455	1500
	KD1405***				◁▷		610	2000

***Recommended for high-silicon aluminum alloys and abrasive non-metallics.

High-Temperature Alloys

KENNA PERFECT® Material Group	grade	Speed - m/min (sfm) 15 (60)	35 (120)	55 (180)	75 (240)	90 (300)	140 (450)	Starting Conditions m/min	sfm
S	KT315		◁▷					30	100
	KC5025			◁▷				45	150
	KC5010				◁▷			60	200

Hardened Materials

KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 15 (60)	35 (120)	55 (180)	75 (240)	Starting Conditions m/min	sfm
H	KC5010		◁▷			30	100

5th Step – Select Insert and Holder from Catalog Page

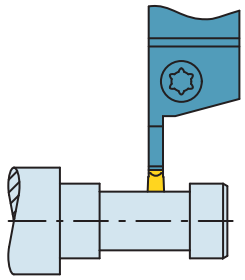
NOTE: The insert seat size must match the seat size of your toolholder selection.

Example for A4 — Groove and Turn

material: low-alloyed steel
workpiece OD: 38mm (1.5 in.)
groove depth: 12mm (.5 in.)
groove width: 22mm (.850 in.)
lightly interrupted cut

Recommendation:

insert: A4G0405M04U08GMN
grade: KC9125
insert width: 4,05mm
insert seat size: 4
toolholder: A4SMR160417
grooving depth: 17mm (.670 in.)
seat size: 4



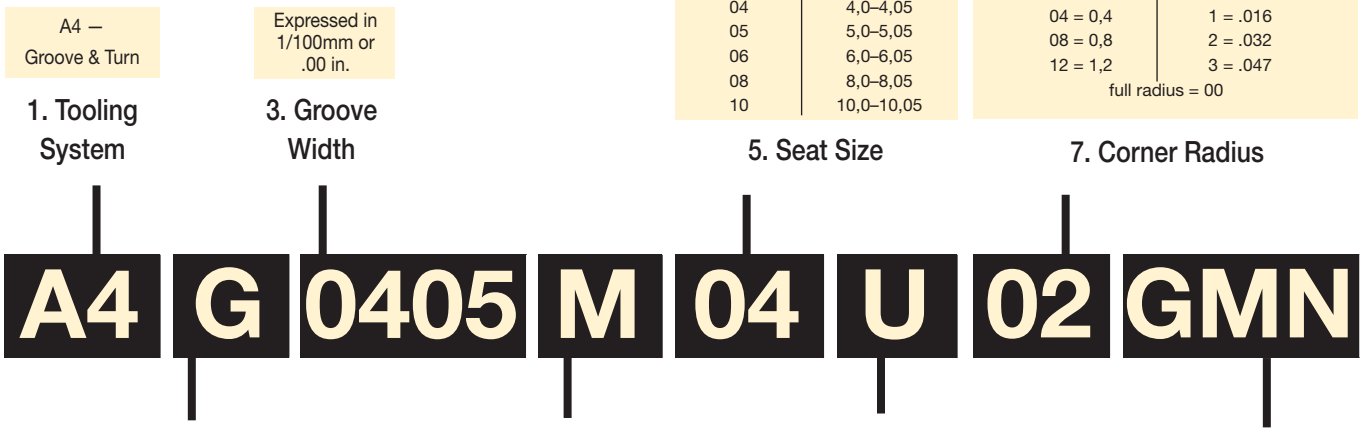
speed: 200 m/min (650 sfm)
turn feed: 0,25mm (.010 ipr)
plunge feed: 0,14mm (.006 ipr)

Congratulations!

You have successfully maximized your productivity by selecting the best A4 insert geometry, grade, and cutting specifications for your application!

A4 Insert Identification System

Groove and Turn Inserts



1. Tooling System

A4 — Groove & Turn

2. Insert Type

G — square
R — full radius
C — cut-off

3. Groove Width

Expressed in 1/100mm or .00 in.

4. Unit of Measurement for Grooving Width

M — metric
N — inch

5. Seat Size

Pocket Seat Size	Cutting Width (mm)
02	2,00–2,62
2B	2,39–2,62
03	3,0–3,05
04	4,0–4,05
05	5,0–5,05
06	6,0–6,05
08	8,0–8,05
10	10,0–10,05

6. Insert Tolerance

P = precision ground grooving width tolerance: (0,025 mm) ± .001 in.

U = utility molded grooving width tolerance:

3,05-4,05: $\frac{(+0{,}15\text{ mm})}{-0}$ $\frac{+.006\text{ in.}}{-0}$

5,05-10,05: $\frac{(+0{,}25\text{ mm})}{-0}$ $\frac{+.010\text{ in.}}{-0}$

7. Corner Radius

metric	inch
01 = 0,1	0 = .004
02 = 0,2	05 = .008
04 = 0,4	1 = .016
08 = 0,8	2 = .032
12 = 1,2	3 = .047

full radius = 00

8. Chipbreaker Type/ Edge Prep

GMN = groove & turn medium machining stable cutting edge

GMP = groove & turn medium machining positive rake angle

B = flat top for special forms and applications

E = flat top, slight honed edge

Cut-Off Inserts

1. Tooling System

A4 — Groove & Turn

2. Insert Type

C = cut-off

3. Cutting Width

expressed in 1/100mm

4. Hand of Insert

R = right hand
L = left hand
N = neutral

5. Main Cutting Edge Lead Angle

00 = neutral
06 = 6°
10 = 10°

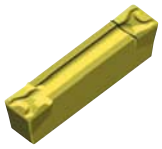
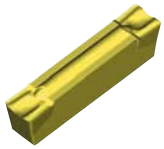
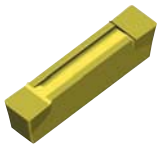
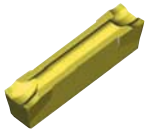
6. Chipbreaker Type

CF = cut-off fine positive rake

7. Corner Radius

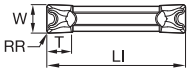
metric	inch
02 = 0,2	.008

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

Insert Type & Chipbreaker Designation		Application Range	Metric Widths (mm)	Inch Widths (in.)	Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
Molded: **A4G-U-GMN**		**Groove & Turn:** • Stable cutting edge for higher feed rates. • Utility molded.	2,05–10,05	–	●		●			●
Precision Ground: **A4G-P-GMN**		• Stable, precision ground cutting edge. • General grooving for specific inch widths. • 0,025mm (+/- .001 in.) width tolerance.	–	.125–.375	●	○	●	○	○	●
Molded: **A4G-U-GMP**		**Groove & Turn:** • Positive rake angle. • Reduced cutting force. • Small to medium feed rates. • Utility molded.	2,05–10,05	–	○	●				
Precision Ground: **A4G-P-GMP**		• Positive rake angle. • Precision ground cutting edge. • 0,025mm (+/- .001 in.) width tolerance.	2,00–10,00	–		○		●	●	
Molded: **A4R-U-GMN**		Groove & Turn: • Stable cutting edge for higher feed rates. • Utility molded.	2,05–10,05	–	●		●			●
Precision Ground: **A4R-P-GMN**		• Stable, precision ground cutting edge. • General grooving for specific inch widths. • 0,025mm (+/- .001 in.) width tolerance.	–	.125–.375	●	○	●	○	○	●
Precision Ground: **A4R-P-GMP**		**Groove & Turn:** • Positive rake angle. • Precision ground cutting edge. • 0,025mm (+/- .001 in.) width tolerance.	2,0–10,00	–		●		●	●	
Molded: **A4G-U-B**		**Groove & Turn:** • For special profiles and for PCBN-tipped inserts (on request only). • Secondary choice for cast iron and high-temp alloys.	3,05–10,05	–			○		○	
Precision Ground: **A4G-P-E**		• Diamond sheet-tipped tool for high-performance non-ferrous machining.	3,0–5,0	–				●		
Molded: **A4C-CF**		**Cut-Off:** • High positive rake angle sharp cutting edge. • Available in neutral lead angle, in 6° and 10° right- and left-hand styles.	3,05–4,05	–	●	●	●	●	●	

● - primary application ○ - secondary application

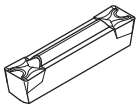
A4 Groove & Turn Inserts



● first choice
○ alternate choice

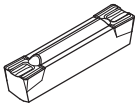
H				○						
S			●	●	●					
N			●	○	○					●
K	○	○	●	●	○	○	●	●		
M	●		●	●	○	○				
P	●		●	●	●	●	○			

A4G-U-GMN



seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
2	2,05	.081	A4G0205M02U02GMN	0,2	.008	20	.79	2,0	.079			●	●	●	●			
2B	2,62	.103	A4G0255M2BU02GMN	0,2	.008	20	.79	2,0	.079			●	●	●	●			
3	3,05	.120	A4G0305M03U02GMN	0,2	.008	20	.79	3,5	.138			●	●	●	●			
3	3,05	.120	A4G0305M03U04GMN	0,4	.016	20	.79	3,5	.138			●	●	●	●			
4	4,05	.159	A4G0405M04U04GMN	0,4	.016	20	.79	3,5	.138			●	●	●	●			
4	4,05	.159	A4G0405M04U08GMN	0,8	.031	20	.79	3,5	.138			●	●	●	●			
5	5,05	.199	A4G0505M05U04GMN	0,4	.016	25	.98	4,2	.165			●	●	●	●			
5	5,05	.199	A4G0505M05U08GMN	0,8	.031	25	.98	4,2	.165			●	●	●	●			
6	6,05	.238	A4G0605M06U04GMN	0,4	.016	30	1.18	4,9	.193			●	●	●	●			
6	6,05	.238	A4G0605M06U08GMN	0,8	.031	30	1.18	4,9	.193	●		●	●	●	●			
6	6,05	.238	A4G0605M06U12GMN	1,2	.047	30	1.18	4,9	.193			●	●		●			
8	8,05	.317	A4G0805M08U08GMN	0,8	.031	30	1.18	6,4	.252			●	●	●	●			
8	8,05	.317	A4G0805M08U12GMN	1,2	.047	30	1.18	6,4	.252			●	●	●	●			
10	10,05	.396	A4G1005M10U08GMN	0,8	.031	30	1.18	8,1	.319			●	●	●	●			
10	10,05	.396	A4G1005M10U12GMN	1,2	.047	30	1.18	8,1	.319				●	●	●			

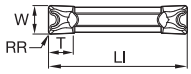
A4G-U-GMP



seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
2	2,05	.081	A4G0205M02U02GMP	0,2	.008	20	.79	2,0	.079	●		●	●	●	●			
2B	2,62	.103	A4G0255M2BU02GMP	0,2	.008	20	.79	2,0	.079	●			●	●	●			
3	3,05	.120	A4G0305M03U02GMP	0,2	.008	20	.79	3,5	.138	●		●	●	●	●			
3	3,05	.120	A4G0305M03U04GMP	0,4	.016	20	.79	3,5	.138	●		●	●	●	●			
4	4,05	.159	A4G0405M04U04GMP	0,4	.016	20	.79	3,5	.138	●		●	●	●	●			
4	4,05	.159	A4G0405M04U08GMP	0,8	.031	20	.79	3,5	.138	●		●	●	●	●			
5	5,05	.199	A4G0505M05U04GMP	0,4	.016	25	.99	4,2	.165	●		●	●	●	●			
5	5,05	.199	A4G0505M05U08GMP	0,8	.031	25	.99	4,2	.165	●		●	●	●	●			
6	6,05	.238	A4G0605M06U04GMP	0,4	.016	30	1.19	4,9	.193			●	●	●	●			
6	6,05	.238	A4G0605M06U08GMP	0,8	.031	30	1.19	4,9	.193	●		●	●	●	●			
6	6,05	.238	A4G0605M06U12GMP	1,2	.047	30	1.19	4,9	.193			●	●	●	●			
8	8,05	.317	A4G0805M08U08GMP	0,8	.031	30	1.19	6,4	.252				●	●	●			
8	8,05	.317	A4G0805M08U12GMP	1,2	.047	30	1.19	6,4	.252				●		●			
10	10,05	.396	A4G1005M10U08GMP	0,8	.031	30	1.19	8,1	.319			●	●		●			
10	10,05	.396	A4G1005M10U12GMP	1,2	.047	30	1.19	8,1	.319				●		●			

Order example:
Catalog number: A4G0205M02U02GMP
Insert grade: KC9125

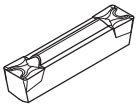
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



● first choice
○ alternate choice

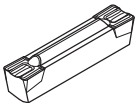
		KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
H				○						
S			●	●	●					
N			●	○	○					●
K		○	○	●	●	○	○	●	●	
M		●		●	●	○	○			
P		●		●	●	●	●	○		

A4G-P-GMN



seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
2B	2,39	.094	A4G094I2BP05GMN	0,2	.008	20	.79	1,9	.075			●						
3	3,18	.125	A4G125I03P05GMN	0,2	.008	20	.79	3,4	.134			●	●					
3	3,18	.125	A4G125I03P1GMN	0,4	.016	20	.79	3,4	.134			●	●					
4	4,76	.187	A4G187I04P1GMN	0,4	.016	20	.79	3,5	.138		●	●	●					
4	4,76	.187	A4G187I04P2GMN	0,8	.031	20	.79	3,5	.138			●	●					
6	6,35	.250	A4G250I06P1GMN	0,4	.016	30	1.18	4,7	.187			●	●					
6	6,35	.250	A4G250I06P2GMN	0,8	.031	30	1.18	4,7	.187			●	●					
8	7,94	.312	A4G312I08P1GMN	0,4	.016	30	1.18	6,2	.246			●	●					
10	9,53	.375	A4G375I10P1GMN	0,4	.016	30	1.18	7,9	.312		●	●	●					
10	9,53	.375	A4G375I10P2GMN	0,8	.031	30	1.18	7,9	.313			●	●					

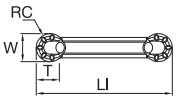
A4G-P-GMP



seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
2	2,00	.079	A4G0200M02P02GMP	0,20	.008	20,0	.79	2,0	.079			●	●					
2B	2,50	.098	A4G0250M2BP02GMP	0,20	.008	20,0	.79	2,0	.079			●						
3	3,00	.118	A4G0300M03P02GMP	0,20	.008	20,0	.79	3,5	.138		●	●	●					
3	3,00	.118	A4G0300M03P04GMP	0,40	.016	20,0	.79	3,5	.138		●	●	●					
4	4,00	.157	A4G0400M04P02GMP	0,20	.008	20,0	.79	3,5	.138		●	●	●					
4	4,00	.157	A4G0400M04P04GMP	0,40	.016	20,0	.79	3,5	.138		●	●	●					
4	4,00	.157	A4G0400M04P08GMP	0,80	.031	20,0	.79	3,5	.138			●	●					
5	5,00	.197	A4G0500M05P04GMP	0,40	.016	25,0	.98	4,2	.165		●	●	●					
5	5,00	.197	A4G0500M05P08GMP	0,80	.031	25,0	.98	4,2	.165		●	●	●					
6	6,00	.236	A4G0600M06P04GMP	0,40	.016	30,0	1.18	4,8	.190		●	●	●					
6	6,00	.236	A4G0600M06P08GMP	0,80	.031	30,0	1.18	4,8	.190			●	●					
8	8,00	.315	A4G0800M08P08GMP	0,80	.031	30,0	1.18	6,3	.249		●	●	●					
8	8,00	.315	A4G0800M08P12GMP	1,20	.047	30,0	1.18	6,3	.249			●	●					
10	10,00	.394	A4G1000M10P08GMP	0,80	.031	30,0	1.18	8,0	.316		●	●	●					
10	10,00	.394	A4G1000M10P12GMP	1,20	.047	30,0	1.18	8,0	.316			●	●					

Order example:
Catalog number: A4G0200M02P02GMP
Insert grade: KC5025

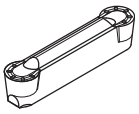
A4 Groove & Turn Inserts



● first choice
○ alternate choice

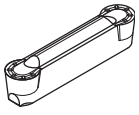
	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
H			○						
S		●	●	●					
N		●	○	○					●
K	○	○	●	●	○	○	●	●	
M	●		●	●	○	○			
P	●		●	●	●	●	○		

A4R-U-GMN



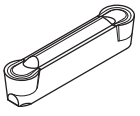
seat size	W mm	W in	catalog number	RC mm	RC in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
2	2,05	.081	A4R0205M02U00GMN	1,0	.042	20	.79	1,8	.069			●	●	●	●			
3	3,05	.120	A4R0305M03U00GMN	1,5	.060	20	.79	2,6	.101			●	●	●	●			
4	4,05	.159	A4R0405M04U00GMN	2,0	.080	20	.79	3,4	.134			●	●	●	●			
5	5,05	.199	A4R0505M05U00GMN	2,5	.099	25	.99	4,1	.161			●	●	●	●			
6	6,05	.238	A4R0605M06U00GMN	3,0	.119	30	1.19	4,9	.193			●	●	●	●			
8	8,05	.317	A4R0805M08U00GMN	4,0	.159	30	1.19	6,5	.256			●	●	●	●			
10	10,05	.396	A4R1005M10U00GMN	5,0	.198	30	1.19	8,1	.319			●	●		●			

A4R-P-GMN



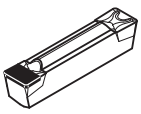
seat size	W mm	W in	catalog number	RC mm	RC in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
3	3,18	.125	A4R125I03P00GMN	1,6	.063	20	.79	2,7	.107			●	●					
4	4,76	.187	A4R187I04P00GMN	2,4	.094	20	.79	3,8	.149			●	●					
6	6,35	.250	A4R250I06P00GMN	3,2	.125	30	1.18	5,2	.204			●	●					
8	7,94	.312	A4R312I08P00GMN	4,0	.156	30	1.18	6,4	.250			●	●					
10	9,53	.375	A4R375I10P00GMN	4,8	.188	30	1.18	7,3	.289				●					

A4R-P-GMP



seat size	W mm	W in	catalog number	RC mm	RC in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
2	2,00	.079	A4R0200M02P00GMP	1,0	.039	20	.79	1,7	.067			●	●					
3	3,00	.118	A4R0300M03P00GMP	1,5	.059	20	.79	2,5	.099		●	●	●					
4	4,00	.157	A4R0400M04P00GMP	2,0	.079	20	.79	3,4	.134		●	●	●					
5	5,00	.197	A4R0500M05P00GMP	2,5	.098	25	.99	4,1	.161		●	●	●					
6	6,00	.236	A4R0600M06P00GMP	3,0	.118	30	1.18	4,9	.192			●	●					
8	8,00	.315	A4R0800M08P00GMP	4,0	.158	30	1.18	6,5	.256		●	●	●					
10	10,00	.394	A4R1000M10P00GMP	5,0	.197	30	1.18	8,1	.319		●	●						

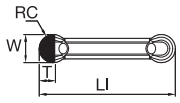
A4G-P-E



seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
3	3,00	.118	A4G0300M03P04E	0,4	.016	20	.79	3,5	.138									●
4	4,00	.157	A4G0400M04P04E	0,4	.016	20	.79	3,5	.138									●
5	5,00	.197	A4G0500M05P08E	0,8	.031	25	.98	4,2	.165									●

Order example:
Catalog number: A4G0300M03P04E
Insert grade: KD1405

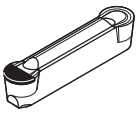
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



● first choice
○ alternate choice

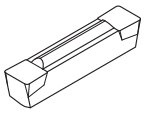
H				○						
S			●	●	●					
N			●	○	○					●
K		○	○	●	●	○	○	●	●	
M		●		●	●	○	○			
P		●		●	●	●	●	○		

A4R-P-E



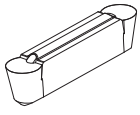
seat size	W mm	W in	catalog number	RC mm	RC in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
4	4,00	.157	A4R0400M04P00E	2,0	.079	20	.79	3,4	.134									●
5	5,00	.197	A4R0500M05P00E	2,5	.099	25	.98	4,1	.161									●

A4G-P-T



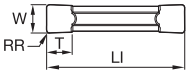
seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
3	3,00	.118	A4G0300M03P04T01025	0,4	.016	20	.79	3,4	.134								●	
4	4,00	.157	A4G0400M04P04T01025	0,4	.016	20	.79	3,4	.134								●	
5	5,00	.197	A4G0500M05P08T01025	0,8	.031	25	.98	4,2	.165								●	
6	6,00	.236	A4G0600M06P08T01025	0,8	.031	30	1.18	4,8	.189								●	
8	8,00	.315	A4G0800M08P08T01025	0,8	.031	30	1.18	6,4	.250								●	
3	3,18	.125	A4G125I03P1T0425	0,4	.016	20	.79	3,4	.134								●	
4	4,76	.187	A4G187I04P2T0425	0,8	.031	20	.79	3,4	.134								●	
6	6,35	.250	A4G250I06P2T0425	0,8	.031	30	1.18	4,9	.193								●	

A4R-P-T



seat size	W mm	W in	catalog number	RC mm	RC in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
3	3,00	.118	A4R0300M03P00T01025	1,5	.059	20	.79	2,4	.095								●	
4	4,00	.157	A4R0400M04P00T01025	2,0	.079	20	.79	3,0	.117								●	
5	5,00	.197	A4R0500M05P00T01025	2,5	.098	25	.98	4,1	.163								●	
6	6,00	.236	A4R0600M06P00T01025	3,0	.118	30	1.18	4,3	.171								●	
8	8,00	.315	A4R0800M08P00T01025	4,0	.157	30	1.18	6,4	.250								●	
3	3,18	.125	A4R125I03P00T0425	1,6	.062	20	.79	2,6	.100								●	
4	4,76	.187	A4R187I04P00T0425	2,4	.094	20	.79	4,3	.169								●	
6	6,35	.250	A4R250I06P00T0425	3,2	.125	30	1.18	4,8	.191								●	

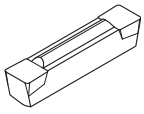
Ordering Example:
Catalog number: A4R0300M03P00T01025
Insert grade: KY3500



● first choice
○ alternate choice

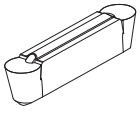
H				○						
S			●	●	●					
N			●	○	○					●
K		○	○	●	●	○	○	●	●	
M		●		●	●	○	○			
P		●		●	●	●	●	○		

A4G-U-B



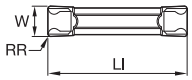
seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
2	2,05	.081	A4G0205M02U02B	0,2	.008	20	.79	2,0	.079		●							
2	2,62	.103	A4G0255M2BU02B	0,2	.008	20	.79	2,0	.079		●							
3	3,05	.120	A4G0305M03U02B	0,2	.008	20	.79	3,5	.138		●		●			●		
3	3,25	.128	A4G128I03U05B	0,2	.008	20	.79	3,5	.138		●							
4	4,05	.159	A4G0405M04U04B	0,4	.016	20	.79	3,4	.134		●					●		
4	4,83	.190	A4G190I04U1B	0,4	.016	20	.79	3,6	.142		●							
5	5,05	.199	A4G0505M05U04B	0,4	.016	25	.98	4,2	.165		●		●			●		
6	6,05	.238	A4G0605M06U04B	0,4	.016	30	1.18	4,9	.193		●		●			●		
6	6,43	.253	A4G253I06U1B	0,4	.016	30	1.19	4,9	.193		●							
8	8,03	.316	A4G316I08U1B	0,4	.016	30	1.19	6,4	.252		●							
8	8,05	.317	A4G0805M08U08B	0,8	.031	30	1.18	6,4	.252		●		●			●		
10	9,63	.379	A4G379I10U1B	0,4	.016	30	1.19	8,1	.319		●							
10	10,05	.396	A4G1005M10U08B	0,8	.031	30	1.18	8,1	.319		●		●			●		

A4R-U-B



seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	T mm	T in	KT315	K313	KC5010	KC5025	KC9110	KC9125	KC9320	KY3500	KD1405
2B	2,55	.100	A4R0255M2BU00B	–	–	20	.79	2,2	.085		●							

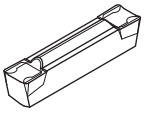
Order example:
Catalog number: A4R0255M2BU00B
Insert grade: K313



● first choice
○ alternate choice

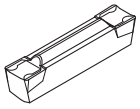
H	
S	●
N	○
K	●
M	●
P	●

A4C-N-CF



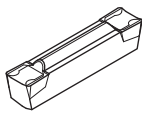
seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	αR	KC5025
1	1,50	.059	A4C0155N00CF01	0,2	.006	15,50	.61	–	●
2	2,05	.081	A4C0205N00CF02	0,2	.008	20,02	.79	–	●
2B	2,50	.098	A4C0255N00CF02	0,2	.008	20,03	.79	–	●
3	3,05	.120	A4C0305N00CF02	0,2	.008	20,10	.79	–	●
4	4,05	.159	A4C0405N00CF02	0,2	.008	20,10	.79	–	●

A4C-R-CF



seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	αR	KC5025
1	1,50	.059	A4C0155R06CF01	–	–	15,50	.61	6.000	●
1	1,50	.059	A4C0155R10CF01	–	–	15,50	.61	10.000	●
1	1,50	.059	A4C0155R16CF01	–	–	15,50	.61	16.000	●
2	1,99	.078	A4C0205R06CF02	–	–	20,03	.79	6.000	●
2	1,99	.078	A4C0205R10CF02	–	–	20,03	.79	10.000	●
2B	2,49	.098	A4C0255R06CF02	–	–	20,03	.79	6.000	●
3	3,05	.120	A4C0305R06CF02	–	–	20,10	.79	6.000	●
3	3,05	.120	A4C0305R10CF02	0,2	.008	20,10	.79	10.000	●
4	4,05	.159	A4C0405R06CF02	0,2	.008	20,10	.79	6.000	●
4	4,05	.159	A4C0405R10CF02	0,2	.008	20,10	.79	10.000	●

A4C-L-CF



seat size	W mm	W in	catalog number	RR mm	RR in	LI mm	LI in	αR	KC5025
1	1,50	.059	A4C0155L06CF01	0,2	.006	15,50	.61	–	●
2	1,99	.078	A4C0205L06CF02	0,2	.008	20,03	.79	–	●
2	1,99	.078	A4C0205L10CF02	0,2	.008	20,03	.79	–	●
3	3,05	.120	A4C0305L06CF02	0,2	.008	20,10	.79	–	●
3	3,05	.120	A4C0305L10CF02	0,2	.008	20,10	.79	–	●
4	4,05	.159	A4C0405L06CF02	0,2	.008	20,10	.79	–	●
4	4,05	.159	A4C0405L10CF02	0,2	.008	20,10	.79	–	●

Order example:
Catalog number: A4C0155L06CF01
Insert grade: KC5025

A4 Toolholder Identification System

Toolholders

A4 - Groove & Turn

1. Tooling System

3. Support Type

M = maximum support for specific groove widths and straight clearance for unlimited workpiece diameters

E = no steel support for face grooving

5. Shank Size

metric: height x width in mm, letter indicates tool length according to ISO

metric tool length (mm)
K = 125
M = 150
P = 170

inch sizes: for square shanks, the number indicates the height and width in 1/16-inch increments (rectangular: 1st digit = width in 1/8-inch increments, 2nd digit = height in 1/4-inch increments)

7. Max. Grooving Depth

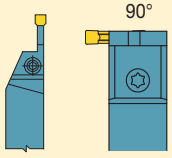
in millimeters

A4	S	M	R	2525M	03	17

2. Tool Style

S = straight

E = end mounted 90°



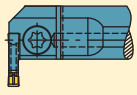
4. Hand of Tool

R = right hand
L = left hand
N = neutral

6. Seat Size

03, 04, 05, 06, 08, 10

Boring Bars



1. Steel Bar with Coolant

4. A4 Groove & Turn System

6. Support Type

M = maximum support

8. Insert Seat Size

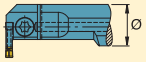
Pocket Seat Size	Cutting Width (mm)
02	2,00–2,62
2B	2,39–2,62
03	3,0–3,05
04	4,0–4,05
05	5,0–5,05
06	6,0–6,05
08	8,0–8,05
10	10,0–10,05

10. Tool Units

M — metric
N — inch

A	16	R	A4	E	M	R	03	10	M

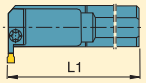
2. Bar Diameter



metric bars: bar diameter in millimeters

inch bars: A two-digit number which indicates the bar diameter in 1/16-inch increments.

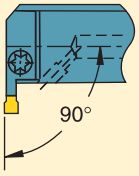
3. Bar Length



metric bars:
R = 200mm
S = 250mm
T = 300mm

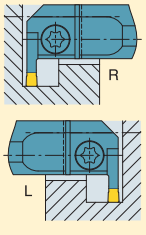
inch bars:
R = 8 inch
S = 10 inch
T = 12 inch

5. Tool Style

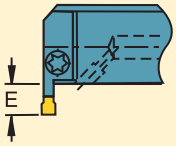


E = end mounted (90°)

7. Hand of Tool



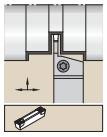
9. Grooving Depth in mm

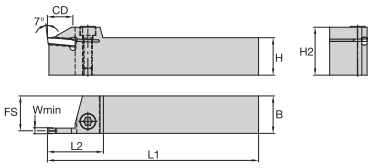


conversions: inch
7mm = .28
10mm = .39
12mm = .47
16mm = .63

NOTE: For torque recommendation for clamp screw, see page I37.

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



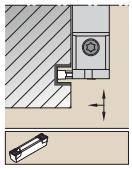


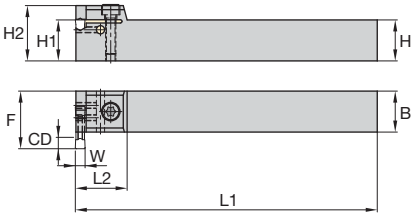
A4SM

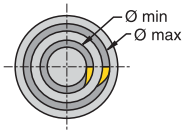
seat size	CD	catalog number	W min	H	B	H2	H3	L1	FS	L2	Torx clamp screw	Torx
		right hand										
2	14,000	A4SMR1616K0214	2,00	16	16	25	4	125	15,20	30,000	MS1160	KT20
2	17,000	A4SMR2020K0217	2,00	20	20	31	5	125	19,20	34,000	MS1944	KT25
2	17,000	A4SMR2525M0217	2,00	25	25	31	–	150	24,20	34,000	MS1944	KT25
3	14,000	A4SMR2020K0314	3,00	20	20	27	–	125	18,72	35,000	MS1595	KT30
3	14,000	A4SMR1616K0314	3,00	16	16	27	4	125	14,72	35,000	MS2091	
3	17,000	A4SMR2525M0317	3,00	25	25	32	–	150	23,72	37,000	MS1970	KT30
3	17,000	A4SMR2020K0317	3,00	20	20	32	5	125	18,70	37,000	MS1970	KT30
3	17,000	A4SMR2016K0317	3,00	20	16	32	5	125	14,70	37,000	MS1970	KT30
4	14,000	A4SMR2020K0414	4,00	20	20	27	–	125	18,22	34,700	MS1595	KT30
4	17,000	A4SMR3225P0417	4,00	32	25	40	–	170	23,22	37,000	MS1970	KT30
4	17,000	A4SMR2020K0417	4,00	20	20	32	5	125	18,20	37,000	MS1970	KT30
4	17,000	A4SMR2525M0417	4,00	25	25	32	–	150	23,22	36,700	MS1970	KT30
4	17,000	A4SMR2016K0417	4,00	20	16	32	5	125	14,20	37,000	MS1970	KT30
5	19,000	A4SMR2020K0519	5,00	20	20	28	–	125	17,72	39,700	MS1595	KT30
5	20,000	A4SMR2525M0520	5,00	25	25	33	–	150	22,72	39,700	MS1970	KT30
5	22,000	A4SMR3225P0522	5,00	32	25	40	–	170	22,72	42,000	MS1970	KT30
6	20,000	A4SMR2020K0620	6,00	20	20	33	5	125	17,30	40,000	MS1970	KT30
6	20,000	A4SMR2525M0620	6,00	25	25	33	–	150	22,30	40,000	MS1970	KT30
6	26,000	A4SMR3225P0626	6,00	32	25	40	–	170	22,30	45,000	MS1970	KT30
8	20,000	A4SMR2525M0820	8,00	25	25	34	–	150	21,40	43,000	MS1490	KT45
8	26,000	A4SMR3225P0826	8,00	32	25	41	–	170	21,40	47,000	MS1490	KT45
10	26,000	A4SMR3225P1026	10,00	32	25	41	–	170	20,80	47,000	MS1490	KT45
2	14,000	A4SMR2020K0214	–	20	20	25	–	125	19,20	30,000	MS1160	KT20
2	14,000	A4SMR2525M0214	–	25	25	30	–	150	24,20	30,000	MS1160	KT20
		left hand										
2	14,000	A4SML1616K0214	2,00	16	16	25	4	125	15,20	30,000	MS1160	KT20
2	17,000	A4SML2020K0217	2,00	20	20	31	5	125	19,20	34,000	MS1944	KT25
2	17,000	A4SML2525M0217	2,00	25	25	31	–	150	24,20	34,000	MS1944	KT25
3	14,000	A4SML2020K0314	3,00	20	20	27	–	125	18,72	35,000	MS1595	KT30
3	14,000	A4SML1616K0314	3,00	16	16	27	4	125	14,72	35,000	MS2091	
3	17,000	A4SML2020K0317	3,00	20	20	32	5	125	18,70	37,000	MS1970	KT30
3	17,000	A4SML2525M0317	3,00	25	25	32	–	150	23,72	37,000	MS1970	KT30
3	17,000	A4SML2016K0317	3,00	20	16	32	5	125	14,70	37,000	MS1970	KT30
4	14,000	A4SML2020K0414	4,00	20	20	27	–	125	18,22	34,700	MS1595	KT30
4	17,000	A4SML2525M0417	4,00	25	25	32	–	150	23,22	36,700	MS1970	KT30
4	17,000	A4SML2020K0417	4,00	20	20	32	5	125	18,20	37,000	MS1970	KT30
4	17,000	A4SML2016K0417	4,00	20	16	32	5	125	14,20	37,000	MS1970	KT30
4	17,000	A4SML3225P0417	4,00	32	25	40	–	170	23,22	37,000	MS1970	KT30
5	19,000	A4SML2020K0519	5,00	20	20	28	–	125	17,72	39,700	MS1595	KT30
5	20,000	A4SML2525M0520	5,00	25	25	33	–	150	22,72	39,700	MS1970	KT30
5	22,000	A4SML3225P0522	5,00	32	25	40	–	170	22,72	42,000	MS1970	KT30
6	20,000	A4SML2525M0620	6,00	25	25	33	–	150	22,30	40,000	MS1970	KT30
6	20,000	A4SML2020K0620	6,00	20	20	33	5	125	17,30	40,000	MS1970	KT30
6	26,000	A4SML3225P0626	6,00	32	25	40	–	170	22,30	45,000	MS1970	KT30
8	20,000	A4SML2525M0820	8,00	25	25	34	–	150	21,40	43,000	MS1490	KT45
8	26,000	A4SML3225P0826	8,00	32	25	41	–	170	21,40	47,000	MS1490	KT45
10	26,000	A4SML3225P1026	10,00	32	25	41	–	170	20,80	47,000	MS1490	KT45
2	14,000	A4SML2020K0214	–	20	20	25	–	125	19,20	30,000	MS1160	KT20
2	14,000	A4SML2525M0214	–	25	25	30	–	150	24,20	30,000	MS1160	KT20

Order example:
Right hand: A4SMR1616K0214 Left hand: A4SML1616K0214

NOTE: For torque recommendation for clamp screw, see page page I37.







A4EN

seat size	CD	catalog number	W min	D min	H	H1	B	H2	L1	F	L2	Torx clamp screw	Torx	Hex seating screw	Hex (mm)
3	5	A4ENN2525M0305	3,00	70	25	25	25	32	150,0	30,4	25	MS2091	T25	MS2090	1.5 MM
3	5	A4ENN2020K0305	3,00	70	20	20	20	27	125,0	25,4	25	MS2091	T25	MS2090	1.5 MM
4	7	A4ENN2020K0407	4,00	90	20	20	20	27	125,0	27,9	25	MS2091	T25	MS2090	1.5 MM
4	7	A4ENN2525M0407	4,00	90	25	25	25	32	150,0	33,1	25	MS2091	T25	MS2090	1.5 MM
5	9	A4ENN2525M0509	5,00	120	25	25	25	33	150,0	35,1	34	MS1970	T30	193.297	1.5 MM
6	11	A4ENN3232P0611	6,00	120	32	32	32	40	170,0	43,4	34	MS1970	T30	193.297	2 MM
6	11	A4ENN2525M0611	6,00	120	25	25	25	33	150,0	38,9	34	MS1970	T30	193.297	2 MM
6	11	A4ENN2020K0611	6,00	120	20	20	20	28	125,0	35,4	34	MS1595	T30	193.297	2 MM
8	11	A4ENN3232P0811	8,00	120	32	32	32	42	170,0	43,4	40	MS1490	T45	193.407	2.5 MM
8	11	A4ENN2525M0811	8,00	120	25	25	25	35	150,0	39,0	40	MS1490	T45	193.407	2.5 MM
10	11	A4ENN2525M1011	10,00	120	25	25	25	35	150,0	38,9	40	MS1490	T45	193.407	2.5 MM
10	11	A4ENN3232P1011	10,00	120	32	32	32	42	170,0	43,4	40	MS1490	T45	193.407	2.5 MM

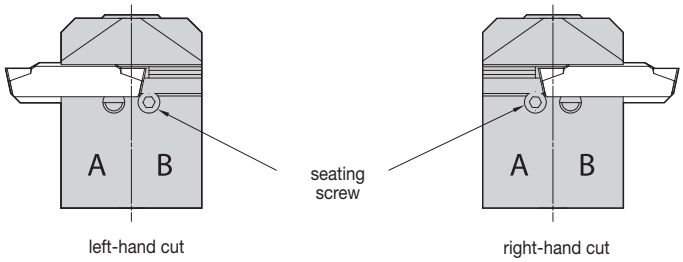
*Dmin for face grooving applications.

A4EN-style toolholders are designed without steel support for face grooving capacity. Cutting feed recommendations should be reduced by 25–30%.

Recommended clamp screw torque = 50–70 in.-lbs. (6–8 Nm).

*NOTE: Minimum cutting width supplied for reference only; see insert listing for actual width. Always match seat size of insert to seat size of holder.

A4EN Insert Mounting

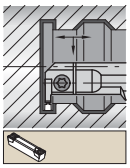


A4EN-style holders can be used for either left or right-hand applications. The seating screw is to be used in position B for a left-hand cut, and in position A for a right-hand cut.

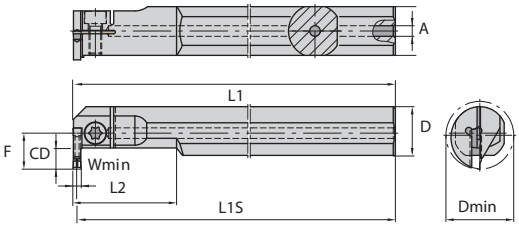
Order example:
A4ENN2525M0305

NOTE: For torque recommendations for clamp screw, see page I37.

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



Steel shank with through coolant

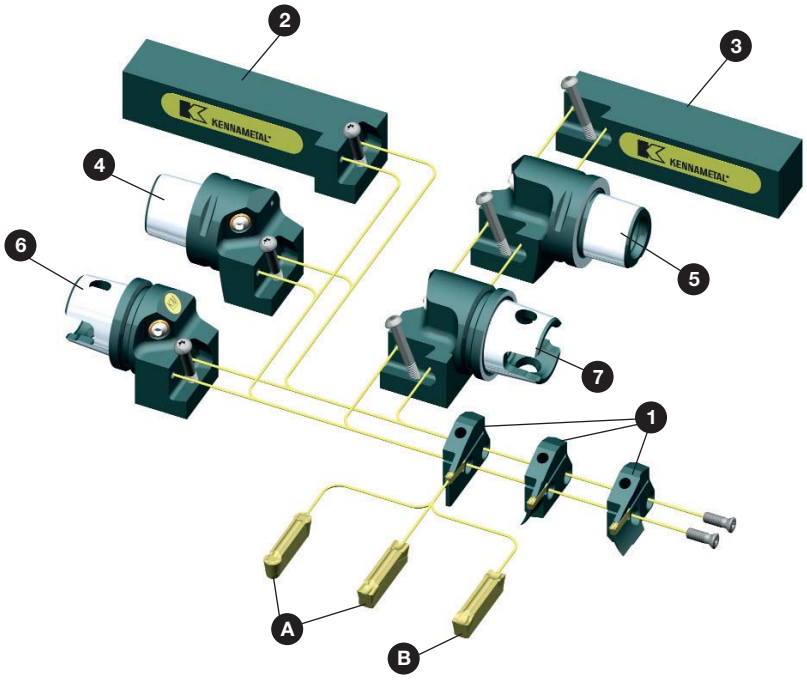


A-A4E

seat size	CD	catalog number	W min	D	D min	L1	F	L1S	L2	A	Torx clamp screw	Torx
		right hand										
2	7,00	A20RA4EMR0207M	2,00	20	25	200	13	199,0	40	4,00	MS2089	
2	10,00	A25RA4EMR0210M	2,00	25	32	200	17	199,0	50	5,00	MS2089	
3	7,00	A20RA4EMR0307M	3,00	20	25	200	13	198,5	40	4,00	MS2089	
3	10,00	A25RA4EMR0310M	3,00	25	32	200	17	198,5	50	5,00	MS1595	KT30
3	12,00	A32SA4EMR0312M	3,00	32	40	250	22	248,5	64	6,00	MS1595	KT30
4	7,00	A20RA4EMR0407M	4,00	20	25	200	13	198,0	40	4,00	MS2089	
4	10,00	A25RA4EMR0410M	4,00	25	32	200	17	198,0	50	5,00	MS1595	KT30
4	12,00	A32SA4EMR0412M	4,00	32	40	250	22	248,0	64	6,00	MS1595	KT30
4	16,00	A40TA4EMR0416M	4,00	40	52	300	30	298,0	80	6,00	MS1970	KT30
5	16,00	A32SA4EMR0516M	5,00	32	44	250	26	247,5	64	6,00	MS1595	KT30
5	16,00	A40TA4EMR0516M	5,00	40	52	300	30	297,5	80	6,00	MS1970	KT30
6	16,00	A40TA4EMR0616M	6,00	40	52	300	30	297,0	80	6,00	MS1970	KT30
		left hand										
2	7,00	A20RA4EML0207M	2,00	20	25	200	13	199,0	40	4,00	MS2089	
2	10,00	A25RA4EML0210M	2,00	25	32	200	17	199,0	50	5,00	MS2089	
3	7,00	A20RA4EML0307M	3,00	20	25	200	13	198,5	40	4,00	MS2089	
3	10,00	A25RA4EML0310M	3,00	25	32	200	17	198,5	50	5,00	MS1595	KT30
3	12,00	A32SA4EML0312M	3,00	32	40	250	22	248,5	64	6,00	MS1595	KT30
4	7,00	A20RA4EML0407M	4,00	20	25	200	13	198,0	40	4,00	MS2089	
4	10,00	A25RA4EML0410M	4,00	25	32	200	17	198,0	50	5,00	MS1595	KT30
4	12,00	A32SA4EML0412M	4,00	32	40	250	22	248,0	64	6,00	MS1595	KT30
4	16,00	A40TA4EML0416M	4,00	40	52	300	30	298,0	80	6,00	MS1970	KT30
5	16,00	A32SA4EML0516M	5,00	32	44	250	26	247,5	64	6,00	MS1595	KT30
5	16,00	A40TA4EML0516M	5,00	40	52	300	30	297,5	80	6,00	MS1970	KT30
6	16,00	A40TA4EML0616M	6,00	40	52	300	30	297,0	80	6,00	MS1970	KT30

Order example:
Right hand: A20RA4EMR0207M
Left hand: A20RA4EML0207M

NOTE: For torque recommendation for clamp screw, see page I37.

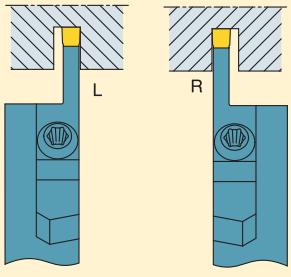


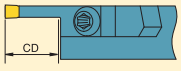
Legend		page
A	A4 Groove & Turn Inserts	D69–D74
B	A4 Cut-Off Inserts	D75
1	OD and Face Grooving Blades	D81–D85
2	KGME Toolholder	D87
3	KGMS Toolholder	D87
4	Capto KGME Cutting Unit	D92
5	Capto KGMS Cutting Unit	D92
6	KM KGME Cutting Unit	D91
7	KM KGMS Cuting Unit	D90

By customer demand, Kennametal Inc. and Sandvik® Coromant have entered into an agreement that allows both companies to manufacture, market, and sell KM and Coromant Capto products worldwide. Using the trademark Kennametal Capto, we make available a variety of leading and innovative Kennametal tooling designs utilizing the Coromant Capto coupling.

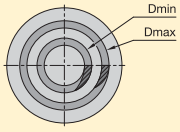
The manufacture and marketing of Kennametal Capto products and the use of the “Capto” trademark are in accordance with a license granted from Sandvik.

Modular blade assembly for A4 inserts





14mm = .55 in.
19mm = .75 in.



diameters are min and max for outer face groove dia. 999 = unlimited D max

1. A4 Tooling System
3. Hand of Tool
5. Maximum Groove Depth
7. Face Grooving Diameter D min-D max (mm)

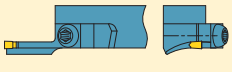
A4M 50 R 04 14 B 048-072

2. Modular System Size
4. Seat Size
6. Tool Style

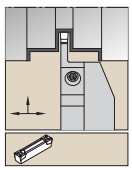
Pocket Seat Size	Cutting Width (mm)
02	2,00–2,62
2B	2,39–2,62
03	3,0–3,05
04	4,0–4,05
05	5,0–5,05
06	6,0–6,05
08	8,0–8,05
10	10,0–10,05

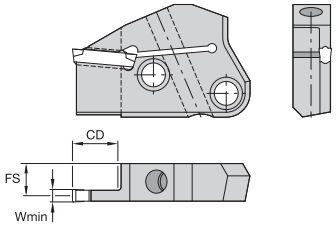
M = maximum support for specific groove widths and straight clearance for unlimited workpiece diameters

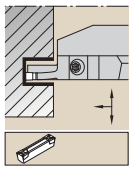
A = inboard sweep face grooving support

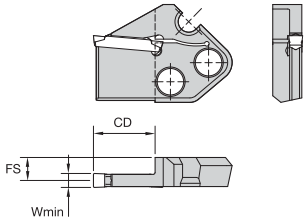


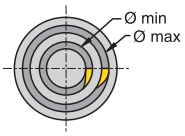
B = outboard sweep face grooving support







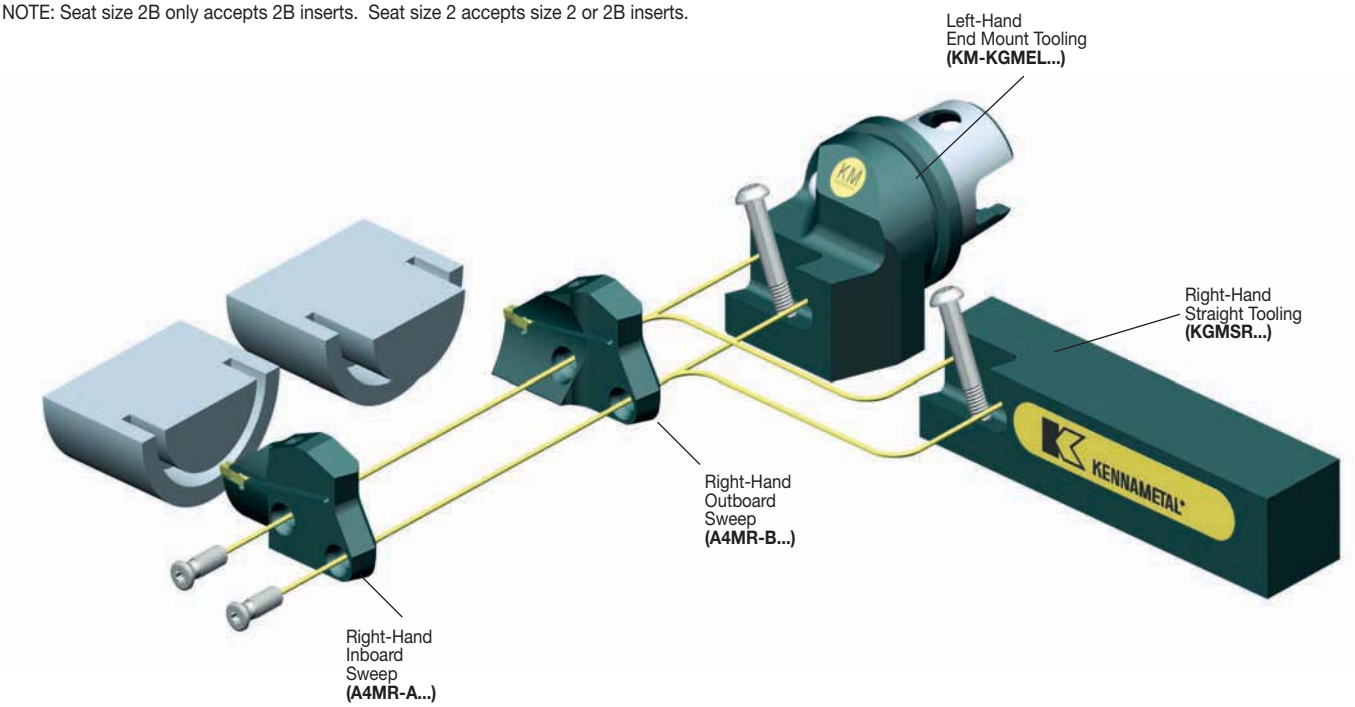




A4M-M

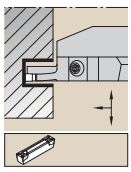
seat size	CD	catalog number	W min	FS	cartridge size
		right hand			
2	14,0	A4M50R0214M	2,00	10,87	50
2B	14,0	A4M50R2B14M	2,50	10,70	50
3	14,0	A4M50R0314M	3,00	10,43	50
4	14,0	A4M50R0414M	4,00	9,93	50
5	19,0	A4M50R0519M	5,00	9,43	50
6	20,0	A4M65R0620M	6,00	9,88	65
6	26,0	A4M65R0626M	6,00	9,88	65
8	20,0	A4M65R0820M	8,00	9,00	65
8	26,0	A4M65R0826M	8,00	9,00	65
10	20,0	A4M65R1020M	10,00	8,35	65
10	26,0	A4M65R1026M	10,00	8,35	65
		left hand			
2	14,0	A4M50L0214M	2,00	10,87	50
2B	14,0	A4M50L2B14M	2,50	10,70	50
3	14,0	A4M50L0314M	3,00	10,43	50
4	14,0	A4M50L0414M	4,00	9,93	50
5	19,0	A4M50L0519M	5,00	9,43	50
6	20,0	A4M65L0620M	6,00	9,88	65
6	26,0	A4M65L0626M	6,00	9,88	65
8	20,0	A4M65L0820M	8,00	9,00	65
8	26,0	A4M65L0826M	8,00	9,00	65
10	20,0	A4M65L1020M	10,00	8,35	65
10	26,0	A4M65L1026M	10,00	8,35	65

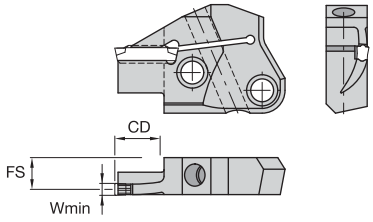
NOTE: Seat size 2B only accepts 2B inserts. Seat size 2 accepts size 2 or 2B inserts.

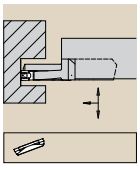


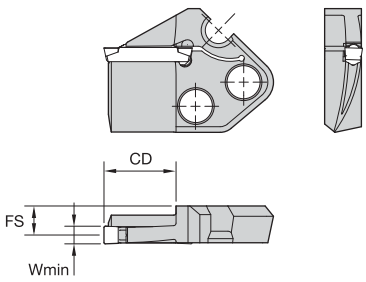
Order example:

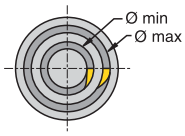
Right hand: A4M50R0214M Left hand: A4M50L0214M









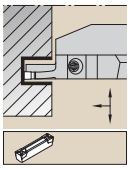
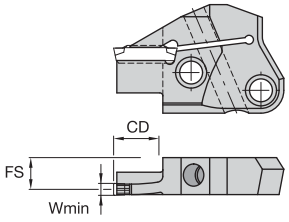


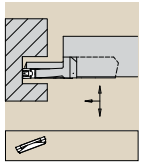
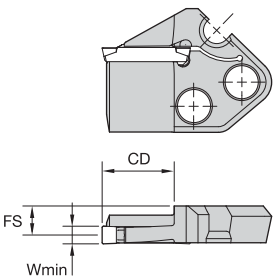
A4M-A INBOARD SWEEP

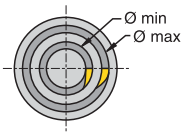
seat size	D min	D max	catalog number	W min	CD	FS	cartridge size
			right hand				
2	120	254	A4M50R0212A120254	2,00	12,0	10,90	50
2	50	64	A4M50R0212A050064	2,00	12,0	10,90	50
2	42	54	A4M50R0212A042054	2,00	12,0	10,90	50
2	36	46	A4M50R0212A036046	2,00	12,0	10,90	50
2	250	–	A4M50R0212A250999	2,00	12,0	10,90	50
2	60	84	A4M50R0212A060084	2,00	12,0	10,90	50
2	80	124	A4M50R0212A080124	2,00	12,0	10,90	50
3	90	160	A4M50R0314A090160	3,00	14,0	10,50	50
3	42	58	A4M50R0314A042058	3,00	14,0	10,50	50
3	130	300	A4M50R0314A130300	3,00	14,0	10,50	50
3	36	48	A4M50R0314A036048	3,00	14,0	10,50	50
3	290	–	A4M50R0314A290999	3,00	14,0	10,50	50
3	68	100	A4M50R0314A068100	3,00	14,0	10,50	50
3	52	74	A4M50R0314A052074	3,00	14,0	10,50	50
4	132	300	A4M50R0414A132300	4,00	14,0	10,00	50
4	290	–	A4M50R0414A290999	4,00	14,0	10,00	50
4	64	100	A4M50R0414A064100	4,00	14,0	10,00	50
4	48	72	A4M50R0414A048072	4,00	14,0	10,00	50
4	92	150	A4M50R0414A092150	4,00	14,0	10,00	50
5	58	94	A4M50R0519A058094	5,00	19,0	9,50	50
5	120	300	A4M50R0519A120300	5,00	19,0	9,50	50
5	250	–	A4M50R0519A250999	5,00	19,0	9,50	50
5	80	136	A4M50R0519A080136	5,00	19,0	9,50	50
6	70	112	A4M65R0624A070-112	6,00	24,0	9,88	65
6	200	999	A4M65R0624A200-999	6,00	24,0	9,88	65
6	100	212	A4M65R0624A100-212	6,00	24,0	9,88	65
8	184	999	A4M65R0824A184-999	8,00	24,0	9,00	65
8	90	200	A4M65R0824A090-200	8,00	24,0	9,00	65
10	200	999	A4M65R1024A200-999	10,00	24,0	8,35	65
10	100	220	A4M65R1024A100-220	10,00	24,0	8,35	65

Order example:
Right hand: A4M50R0212A120254

(continued on next page)

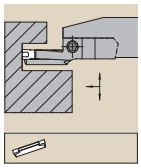



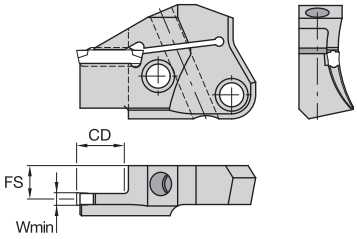


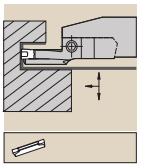
A4M-A INBOARD SWEEP (continued from previous page)

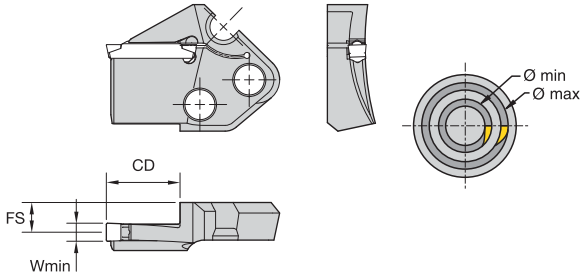
seat size	D min	D max	catalog number	W min	CD	FS	cartridge size
			left hand				
2	60	84	A4M50L0212A060084	2,00	12,0	10,90	50
2	36	46	A4M50L0212A036046	2,00	12,0	10,90	50
2	250	–	A4M50L0212A250999	2,00	12,0	10,90	50
2	42	54	A4M50L0212A042054	2,00	12,0	10,90	50
2	120	254	A4M50L0212A120254	2,00	12,0	10,90	50
2	50	64	A4M50L0212A050064	2,00	12,0	10,90	50
2	80	124	A4M50L0212A080124	2,00	12,0	10,90	50
3	36	48	A4M50L0314A036048	3,00	14,0	10,50	50
3	68	100	A4M50L0314A068100	3,00	14,0	10,50	50
3	130	300	A4M50L0314A130300	3,00	14,0	10,50	50
3	90	160	A4M50L0314A090160	3,00	14,0	10,50	50
3	290	–	A4M50L0314A290999	3,00	14,0	10,50	50
3	42	58	A4M50L0314A042058	3,00	14,0	10,50	50
3	52	74	A4M50L0314A052074	3,00	14,0	10,50	50
4	290	–	A4M50L0414A290999	4,00	14,0	10,00	50
4	64	100	A4M50L0414A064100	4,00	14,0	10,00	50
4	132	300	A4M50L0414A132300	4,00	14,0	10,00	50
4	92	150	A4M50L0414A092150	4,00	14,0	10,00	50
4	48	72	A4M50L0414A048072	4,00	14,0	10,00	50
5	80	136	A4M50L0519A080136	5,00	19,0	9,50	50
5	58	94	A4M50L0519A058094	5,00	19,0	9,50	50
5	120	300	A4M50L0519A120300	5,00	19,0	9,50	50
5	250	–	A4M50L0519A250999	5,00	19,0	9,50	50
6	100	212	A4M65L0624A100-212	6,00	24,0	9,88	65
6	200	999	A4M65L0624A200-999	6,00	24,0	9,88	65
6	70	112	A4M65L0624A070-112	6,00	24,0	9,88	65
8	184	999	A4M65L0824A184-999	8,00	24,0	9,00	65
8	90	200	A4M65L0824A090-200	8,00	24,0	9,00	65
10	100	220	A4M65L1024A100-220	10,00	24,0	8,35	65
10	200	999	A4M65L1024A200-999	10,00	24,0	8,35	65

Order example:
Left hand: A4M50L0212A060084







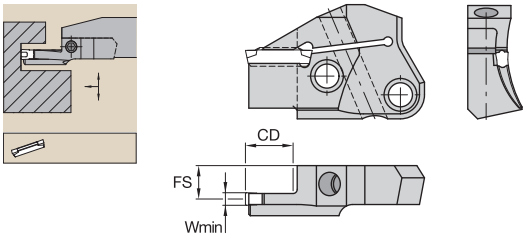


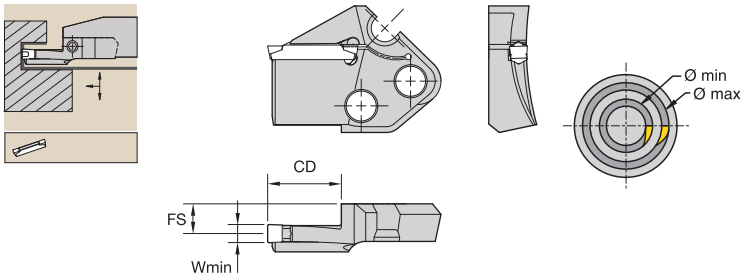
A4M-B OUTBOARD SWEEP

seat size	D min	D max	catalog number	W min	CD	FS	cartridge size
			right hand				
2	36	46	A4M50R0212B036046	2,00	12,0	10,90	50
2	42	54	A4M50R0212B042054	2,00	12,0	10,90	50
2	50	64	A4M50R0212B050064	2,00	12,0	10,90	50
2	60	84	A4M50R0212B060084	2,00	12,0	10,90	50
2	80	124	A4M50R0212B080124	2,00	12,0	10,90	50
2	120	254	A4M50R0212B120254	2,00	12,0	10,90	50
2	250	–	A4M50R0212B250999	2,00	12,0	10,90	50
3	36	48	A4M50R0314B036048	3,00	14,0	10,50	50
3	42	58	A4M50R0314B042058	3,00	14,0	10,50	50
3	52	74	A4M50R0314B052074	3,00	14,0	10,50	50
3	68	100	A4M50R0314B068100	3,00	14,0	10,50	50
3	90	160	A4M50R0314B090160	3,00	14,0	10,50	50
3	130	300	A4M50R0314B130300	3,00	14,0	10,50	50
3	290	–	A4M50R0314B290999	3,00	14,0	10,50	50
4	48	72	A4M50R0414B048072	4,00	14,0	10,00	50
4	64	100	A4M50R0414B064100	4,00	14,0	10,00	50
4	92	150	A4M50R0414B092150	4,00	14,0	10,00	50
4	132	300	A4M50R0414B132300	4,00	14,0	10,00	50
4	290	–	A4M50R0414B290999	4,00	14,0	10,00	50
5	58	94	A4M50R0519B058094	5,00	19,0	9,50	50
5	80	136	A4M50R0519B080136	5,00	19,0	9,50	50
5	120	300	A4M50R0519B120300	5,00	19,0	9,50	50
5	250	–	A4M50R0519B250999	5,00	19,0	9,50	50
6	70	112	A4M65R0624B070-112	6,00	24,0	9,87	65
6	100	212	A4M65R0624B100-212	6,00	24,0	9,87	65
6	200	999	A4M65R0624B200-999	6,00	24,0	9,87	65
8	90	200	A4M65R0824B090-200	8,00	24,0	9,00	65
8	184	999	A4M65R0824B184-999	8,00	24,0	9,00	65
10	100	220	A4M65R1024B100-220	10,00	24,0	8,35	65
10	200	999	A4M65R1024B200-999	10,00	24,0	8,35	65

Order example:
Right hand: A4M50R0212B036046

(continued on next page)



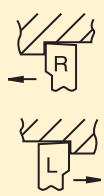


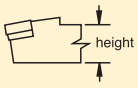
A4M-B OUTBOARD SWEEP (continued from previous page)

seat size	D min	D max	catalog number	W min	CD	FS	cartridge size
			left hand				
2	36	46	A4M50L0212B036046	2,00	12,0	10,90	50
2	42	54	A4M50L0212B042054	2,00	12,0	10,90	50
2	50	64	A4M50L0212B050064	2,00	12,0	10,90	50
2	60	84	A4M50L0212B060084	2,00	12,0	10,90	50
2	80	124	A4M50L0212B080124	2,00	12,0	10,90	50
2	120	254	A4M50L0212B120254	2,00	12,0	10,90	50
2	250	–	A4M50L0212B250999	2,00	12,0	10,90	50
3	36	48	A4M50L0314B036048	3,00	14,0	10,50	50
3	42	58	A4M50L0314B042058	3,00	14,0	10,50	50
3	52	74	A4M50L0314B052074	3,00	14,0	10,50	50
3	68	100	A4M50L0314B068100	3,00	14,0	10,50	50
3	90	160	A4M50L0314B090160	3,00	14,0	10,50	50
3	130	300	A4M50L0314B130300	3,00	14,0	10,50	50
3	290	–	A4M50L0314B290999	3,00	14,0	10,50	50
4	48	72	A4M50L0414B048072	4,00	14,0	10,00	50
4	64	100	A4M50L0414B064100	4,00	14,0	10,00	50
4	92	150	A4M50L0414B092150	4,00	14,0	10,00	50
4	132	300	A4M50L0414B132300	4,00	14,0	10,00	50
4	290	–	A4M50L0414B290999	4,00	14,0	10,00	50
5	58	94	A4M50L0519B058094	5,00	19,0	9,50	50
5	80	136	A4M50L0519B080136	5,00	19,0	9,50	50
5	120	300	A4M50L0519B120300	5,00	19,0	9,50	50
5	250	–	A4M50L0519B250999	5,00	19,0	9,50	50
6	70	112	A4M65L0624B070-112	6,00	24,0	9,87	65
6	100	212	A4M65L0624B100-212	6,00	24,0	9,87	65
6	200	999	A4M65L0624B200-999	6,00	24,0	9,87	65
8	90	200	A4M65L0824B090-200	8,00	24,0	9,00	65
8	184	999	A4M65L0824B184-999	8,00	24,0	9,00	65
10	100	220	A4M65L1024B100-220	10,00	24,0	8,35	65
10	200	999	A4M65L1024B200-999	10,00	24,0	8,35	65

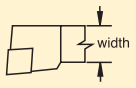
Order example:
Left hand: A4M50L0212B250999

	1. Kennametal Grooving Modular	2. Tool Style	3. Hand of Tool	4. Shank Height	5. Shank Width	6. Tool Length	7. Blade Size
METRIC	KGM	S	R	25	25	M	50
INCH	KGM	S	R	16	50	N	50





shank height in millimeters



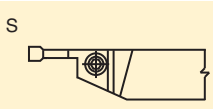
shank width in millimeters

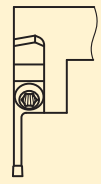
over insert in a support blade with a 12,5mm D dimension

M = 150mm
P = 170mm

50-modular blade size (2-5mm widths)

65-modular blade size (6-10mm widths)



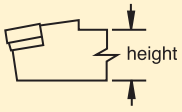


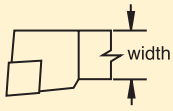
4. Shank Dimensions

5. Blade Size

6. Tool Units

N = inch

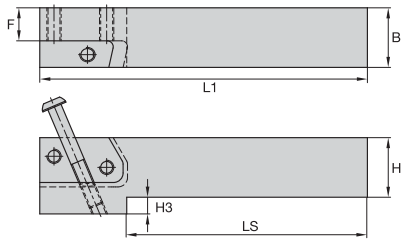


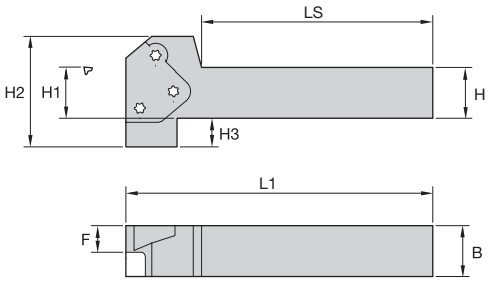


Square Shanks: The number indicates the toolholder cross section in 1/16-inch increments.
Rectangular Shanks: The first digit indicates the number of eighth-inch increments of width and the second digit indicates the number of quarter-inch increments of height.

(KGMSR...)

(KGMER...)

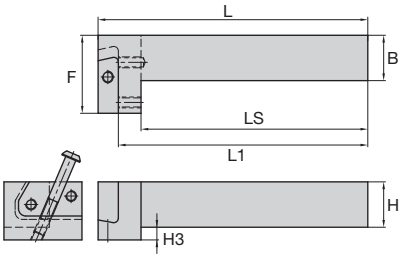


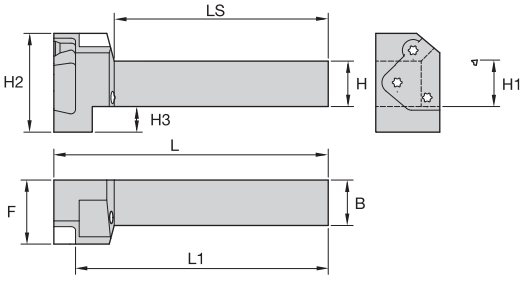


KGMS

catalog number	B	H	L1	F	LS	H3	blade screw	clamp screw	Torx
right hand									
KGMSR2525M50	25	25	138,75	13,84	109,00	7,00	MS1162	MS2002	KT25
KGMSR2525M65	25	25	150,00	13,00	125,00	14,00	MS1163		KT30
KGMSR3232P50	32	32	158,75	20,81	–	–	MS1162	MS2002	KT25
KGMSR3232P65	32	32	170,00	20,79	158,00	7,00	MS1163		KT30
left hand									
KGMSL2525M50	25	25	138,75	13,84	109,00	7,00	MS1162	MS2002	KT25
KGMSL2525M65	25	25	150,00	13,00	125,00	14,00	MS1163		KT30
KGMSL3232P50	32	32	158,75	20,81	–	–	MS1162	MS2002	KT25
KGMSL3232P65	32	32	170,00	20,79	158,00	7,00	MS1163		KT30

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
Blade and clamp screw torque equals 8–10 Nm (71–88 in.lbs.)





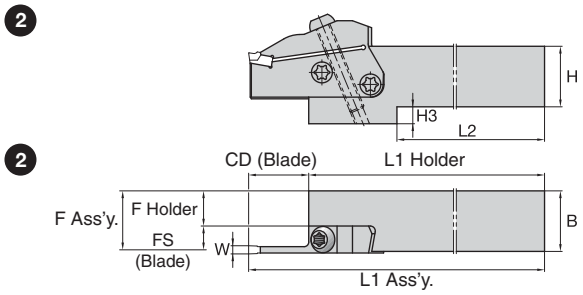
KGME

catalog number	B	H	L1	F	LS	H3	L	blade screw	clamp screw	Torx
right hand										
KGMER2525M50	25	25	139,25	42,75	125,25	6,84	150,25	MS1162	MS2002	KT25
KGMER2525M65	25	25	138,15	35,00	129,00	14,00	150,00	MS1163		KT30
KGMER3232P50	32	32	159,25	42,75	145,25	–	170,25	MS1162	MS2002	KT25
KGMER3232P65	32	32	158,15	35,00	153,00	7,00	170,00	MS1163		KT30
left hand										
KGMEL2525M50	25	25	139,25	42,75	125,25	6,84	150,25	MS1162	MS2002	KT25
KGMEL2525M65	25	25	138,15	35,00	129,00	14,00	150,00	MS1163		KT30
KGMEL3232P50	32	32	159,25	42,75	145,25	–	170,25	MS1162	MS2002	KT25
KGMEL3232P65	32	32	158,15	35,00	153,00	7,00	170,00	MS1163		KT30

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
Blade and clamp screw torque equals 8–10 Nm (71–88 in.lbs.)

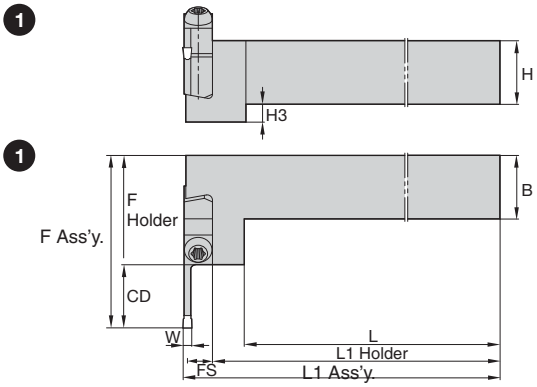
Order example:
Right hand: KGMER2525M50 Left hand: KGMEL2525M50

KGMS Toolholder with Modular Blade Assemblies

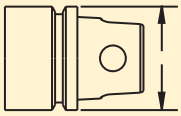


2 F Ass'y. = F (Holder) + FS (Blade) + W/2
L1 Ass'y. = L1 (Holder) + CD (Blade)

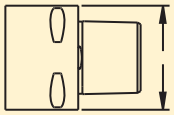
KGME Toolholder with Modular Blade Assemblies



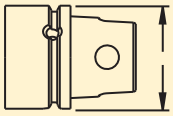
1 F Ass'y. = F (Holder) + CD (Blade)
L1 Ass'y. = L1 (Holder) + FS (Blade) + W/2



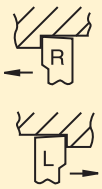
KM™ size
KM40 = 40mm dia.
KM50 = 50mm dia.
KM63 = 63mm dia



Kennametal Capto size
C4 = 40mm dia.
C5 = 50mm dia.
C6 = 63mm dia.



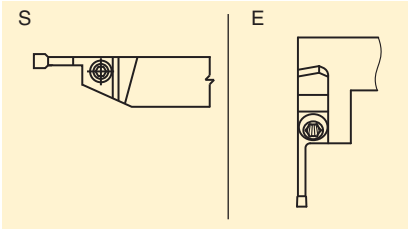
KMXMZ size
KM63XMZ = 63mm dia.



50 - modular blade size (2–5mm widths)

65 - modular blade size (6–10mm widths)

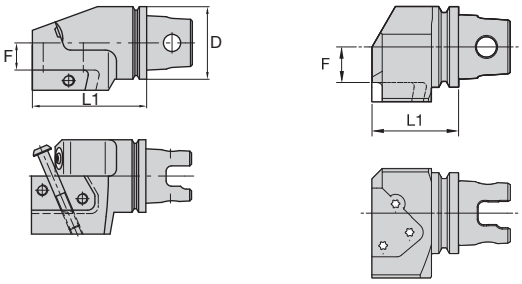
1. System & Size	2. Kennametal Grooving Modular	3. Tool Style	4. Hand of Tool	5. Blade Size	6. Special Conditions
KM40	KGM	S	R	50	



Y =
Mazak Integrex
Y-series machines

(KM-KGMSR...)

(KM-KGMEL...)



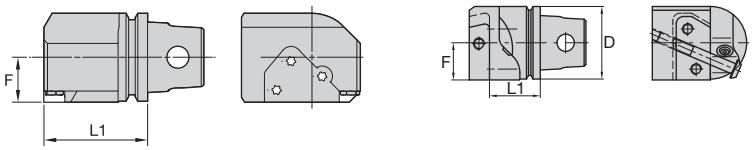
KGMS-KM

order number	catalog number	L1	L1	F	F	blade screw	clamp screw
	right hand						
1599784	KM40KGMSR50	53,5	2.106	15,0	.591	MS1162	MS2002
1599785	KM50KGMSR50	58,5	2.303	23,0	.906	MS1162	MS2002
1756550	KM63XMZKGMSR50Y	63,5	2.500	31,0	1.220	MS1162	MS2002
1982206	KM40XTSKGMSR50	53,5	2.106	15,0	.591	MS1162	MS2002
2255824	KM63UTKGMSR50	63,5	2.500	31,0	1.221	MS1162	MS2002
3138942	KM80ATCKGMSR50	66,5	2.618	41,0	1.614	MS1162	MS2002
3526853	KM50KGMSR65	53,5	2.106	22,0	.866	MS1163	–
3588679	KM63XMZKGMSR65Y	58,5	2.303	30,0	1.181	MS1163	–
3588795	KM80ATCKGMSL65	63,5	2.500	40,0	1.575	MS1163	–
3590203	KM63UTKGMSR65	58,5	2.303	30,0	1.181	MS1163	–
	left hand						
1599782	KM40KGMSL50	53,5	2.106	15,0	.591	MS1162	MS2002
1599790	KM50KGMSL50	58,5	2.303	23,0	.906	MS1162	MS2002
1756574	KM63XMZKGMSLF50Y	63,5	2.500	31,0	1.220	MS1162	MS2002
2255543	KM63UTKGMSL50	63,5	2.500	31,0	1.221	MS1162	MS2002
3138941	KM80ATCKGMSL50	66,5	2.618	41,0	1.614	MS1162	MS2002
3588680	KM63XMZKGMSLF65Y	58,5	2.303	30,0	1.181	MS1163	–
3588790	KM80ATCKGMSR65	63,5	2.500	40,0	1.575	MS1163	–
3590204	KM63UTKGMSL65	58,5	2.303	30,0	1.181	MS1163	–
3591003	KM50KGMSL65	47,0	1.850	25,5	1.004	MS1163	–

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
Blade and clamp screw torque (8–10 Nm) 71–88 In.lbs.
See Modular Blade assembly diagrams on page D96.

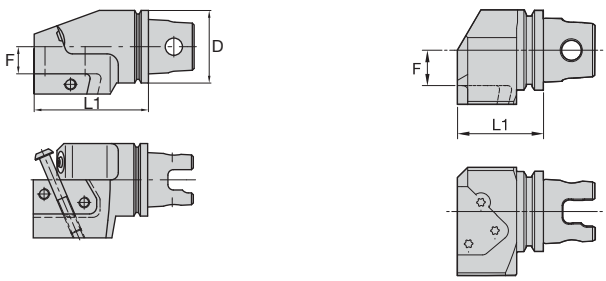
Order Example:
Right Hand: KM40KGMSR50 Left Hand: KM40KGMSL50

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



KGME-KM

order number	catalog number	L1	L1	F	F	clamp screw
	right hand					
1599789	KM40KGMER50	28,0	1.102	20,5	.807	MS2002
1599829	KM50KGMER50	38,0	1.496	25,5	1.004	MS2002
3591004	KM50KGMER65	47,0	1.850	25,5	1.004	
2265404	KM63UTKGMER50	48,0	1.890	32,5	1.280	MS2002
3590205	KM63UTKGMER65	58,9	2.317	32,5	1.280	
3588681	KM63XMZKGMER65Y	58,9	2.317	32,5	1.280	
2036392	KM80ATCKGMER50	58,0	2.283	40,5	1.594	MS2002
3588800	KM80ATCKGMER65	57,0	2.244	40,5	1.595	
	left hand					
1599787	KM40KGMEL50	28,0	1.102	20,5	.807	MS2002
1599828	KM50KGMEL50	38,0	1.496	25,5	1.004	MS2002
3591005	KM50KGMEL65	53,5	2.106	22,0	.866	
2265405	KM63UTKGMEL50	48,0	1.890	32,5	1.280	MS2002
3590206	KM63UTKGMEL65	58,9	2.317	32,5	1.280	
3588682	KM63XMZKGMELF65Y	58,9	2.317	32,5	1.280	
1961339	KM80ATCKGMEL50	58,0	2.283	40,5	1.594	MS2002
3588804	KM80ATCKGMEL65	57,0	2.244	40,5	1.595	

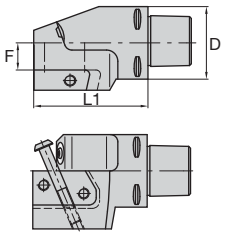


KM-XMZKGMS..

catalog number	D	L1	F	blade screw	clamp screw	Torx
right hand						
KM63XMZKGMSR50Y	63	63,5	31,000	MS1162	MS2002	T25
KM63XMZKGMSR65Y	63	58,5	30,000	MS1163		–
left hand						
KM63XMZKGMSLF50Y	63	63,5	31,000	MS1162	MS2002	T25
KM63XMZKGMSLF65Y	63	58,5	30,000	MS1163		–

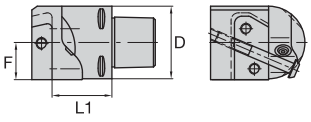
NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
Blade and clamp screw torque (8–10 Nm) 71–88 In.lbs.
See Modular Blade assembly diagrams on page D96.

Order example:
Right hand: KM63XMZKGMSR50Y Left hand: KM63XMZKGMSLF50Y



KGMS-C

catalog number	D	L1	F	blade screw (2 req'd)	clamp screw	Torx
right hand						
C4KGMER50	40	33,0	20,5	MS1162	MS2002	T25
C5KGMER50	50	43,0	25,5	MS1162	MS2002	T25
C6KGMER50	63	48,0	32,5	MS1162	MS2002	T25
left hand						
C4KGMEL50	40	33,0	20,5	MS1162	MS2002	T25
C5KGMEL50	50	43,0	25,5	MS1162	MS2002	T25
C6KGMEL50	63	48,0	32,5	MS1162	MS2002	T25



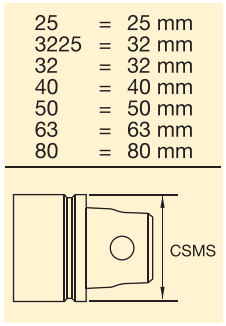
KGME-C

catalog number	D	L1	F	blade screw	clamp screw	Torx
right hand						
C4KGMSR50	40	63,5	10,0	MS1162	MS2002	T25
C5KGMSR50	50	63,5	15,0	MS1162	MS2002	T25
C6KGMSR50	63	65,5	22,0	MS1162	MS2002	T25
Left hand						
C4KGMSL50	40	63,5	10,0	MS1162	MS2002	T25
C5KGMSL50	50	63,5	15,0	MS1162	MS2002	T25
C6KGMSL50	63	65,5	22,0	MS1162	MS2002	T25

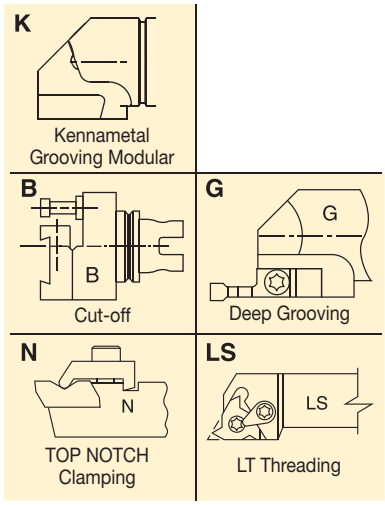
NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
Blade and clamp screw torque equals 8–10 Nm (71–88 in.lbs.)
See Modular Blade assembly diagrams on page D96.

Order example:
Right hand: C4KGMSR50 Left hand: C4KGMSL50

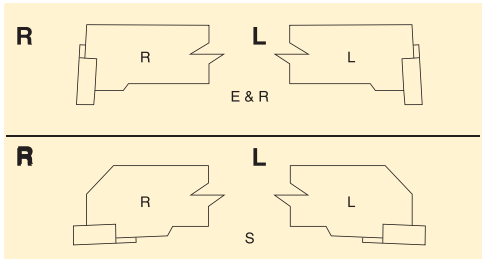
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



2. System Size



4. Insert Holding Method



6. Hand of Tool

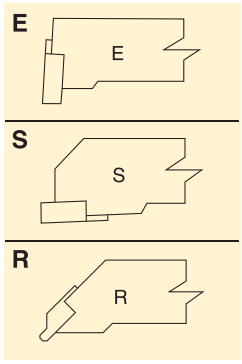
KM 63 - UT N S R 3 E

1. Kennametal Modular

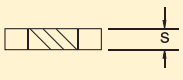
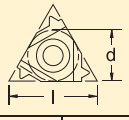
3. Feature

ATC
UT
XMZ
XTS

5. Insert Location



7. Insert Cutting Edge Length

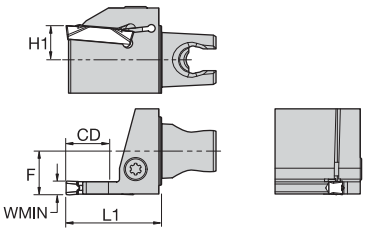
N—Insert Size		LT—Cutting Edge Length		KGM Blade Size
				
2	3,18	l	d (IC)	50
3	4,95	16	9,52	50
4	6,48	22	12,70	50
5	9,65	–	–	50
6	11,13	–	–	50

8. Additional Information

E -	External only
N -	Internal only
C -	GC-style insert

9. Special Feature

Y = Mazak Integrex

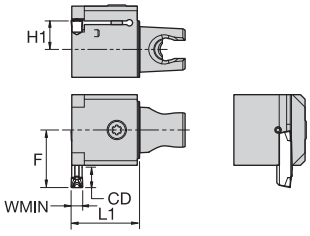


A4SM—Straight Mount

order number	catalog number	L1 mm	L1 in	F mm	F in	W min mm	W min in	H1 mm	H1 in	CD mm	CD in	insert 1
	right hand											
2399464	KM25A4SMR031430	30	1.181	16	.630	3,0	.118	12,5	.492	14	.55	A4..03..
2399466	KM25A4SMR041430	30	1.181	16	.630	4,0	.157	12,5	.492	14	.55	A4..04..
2399468	KM25A4SMR051935	35	1.378	16	.630	5,0	.197	12,5	.492	19	.75	A4..05..
	left hand											
2399465	KM25A4SML031430	30	1.181	16	.630	3,0	.118	12,5	.492	14	.55	A4..03..
2399467	KM25A4SML041430	30	1.181	16	.630	4,0	.157	12,5	.492	14	.55	A4..04..
2399469	KM25A4SML051935	35	1.378	16	.630	5,0	.197	12,5	.492	19	.75	A4..05..

Spare Parts

catalog number	clamp screw	wrench size-actuation screw	Nm	in.lbs
right hand				
KM25A4SMR031430	MS2091	25 IP	8	70
KM25A4SMR041430	MS2091	25 IP	8	70
KM25A4SMR051935	MS2091	25 IP	8	70
left hand				
KM25A4SML031430	MS2091	25 IP	8	70
KM25A4SML041430	MS2091	25 IP	8	70
KM25A4SML051935	MS2091	25 IP	8	70



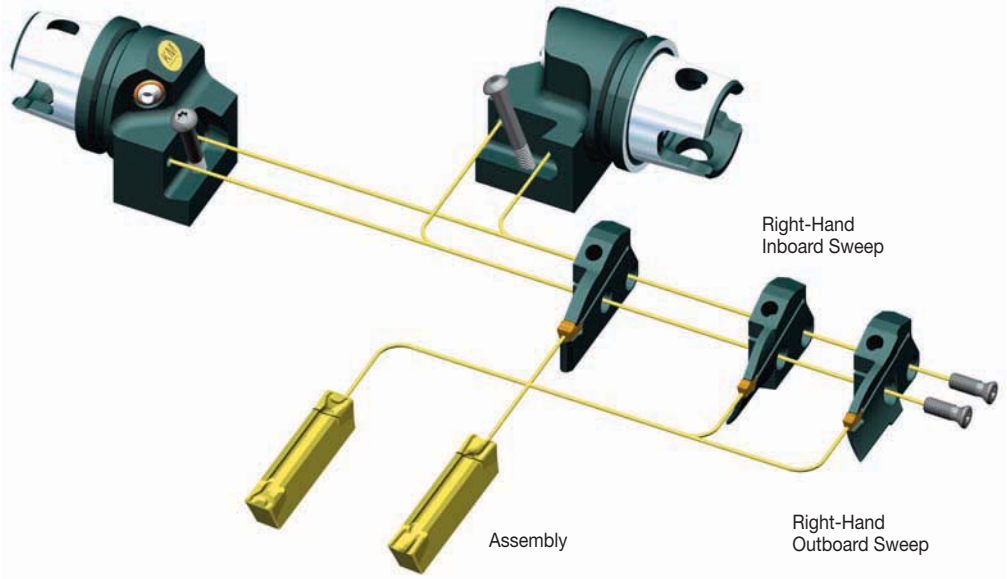
A4EN—End Mount

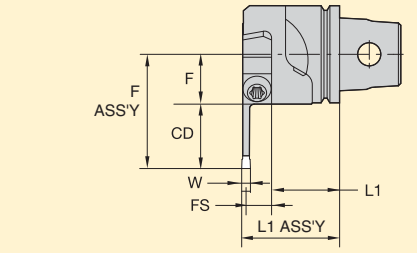
order number	catalog number	L1 mm	L1 in	F mm	F in	W min mm	W min in	H1 mm	H1 in	CD mm	CD in	insert 1
2399470	KM25A4ENN040730	30	1.181	23	.906	4,0	.157	12,5	.492	7	.28	A4..04..
2399471	KM25A4ENN050930	30	1.181	25	.996	5,0	.197	12,5	.492	9	.35	A4..05..

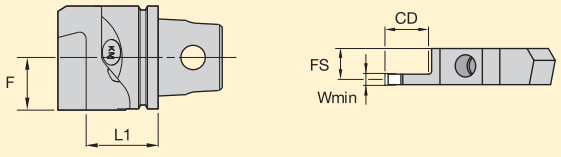
Spare Parts

catalog number	clamp screw	wrench size-clamp screw	Nm	in.lbs
KM25A4ENN040730	MS2091	25 IP	8	70
KM25A4ENN050930	MS2091	25 IP	8	70

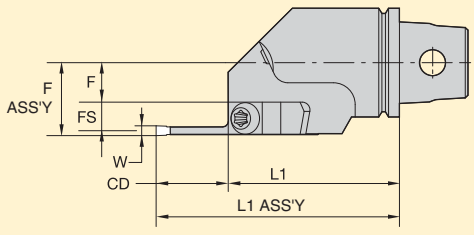
Kennametal's A4 and A3 grooving systems are the best choice for high productivity with outstanding application flexibility.

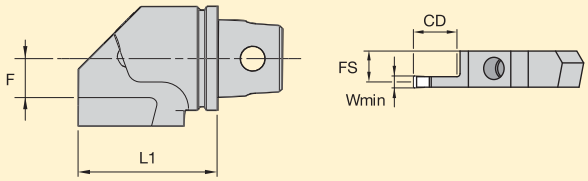






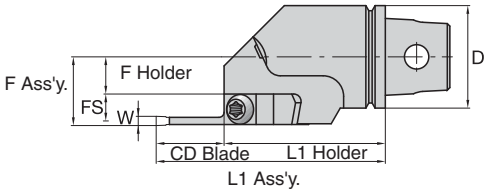
F Ass'y. = F (Holder) + FS (Blade) + W/2
L1 Ass'y. = L1 (Holder) + CD (Blade)





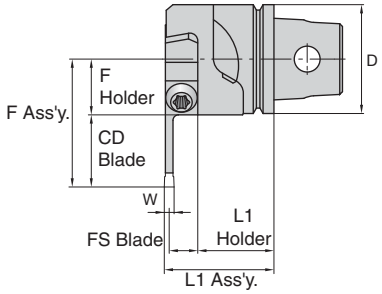
F Ass'y. = F (Holder) + CD (Blade)
L1 Ass'y. = L1 (Holder) + FS (Blade) + W/2

KM-KGME Toolholder with Modular Blade Assembly



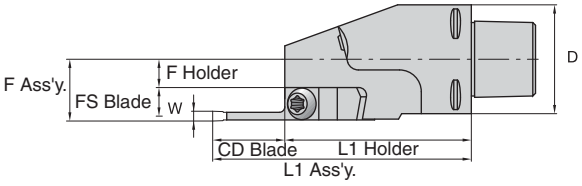
F Ass'y. = F (Holder) + FS (Blade) + W/2
L1 Ass'y. = L1 (Holder) + CD (Blade)

C-KGMS Toolholder with Modular Blade Assembly



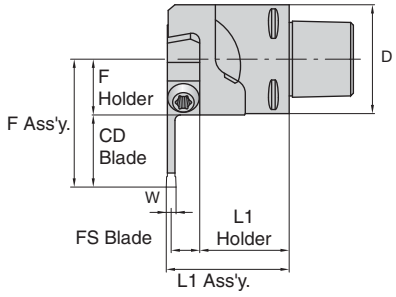
F Ass'y. = F (Holder) + CD (Blade)
L1 Ass'y. = L1 (Holder) + FS (Blade) + W/2

C-KGME Toolholder with Modular Blade Assembly



F Ass'y. = F (Holder) + FS (Blade) + W/2
L1 Ass'y. = L1 (Holder) + CD (Blade)

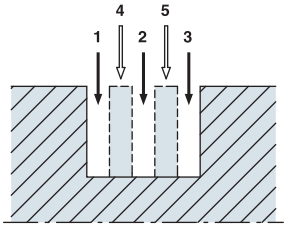
C-KGMS Toolholder with Modular Blade Assembly



F Ass'y. = F (Holder) + CD (Blade)
L1 Ass'y. = L1 (Holder) + FS (Blade) + W/2

When groove width is greater than insert width, two methods are possible:

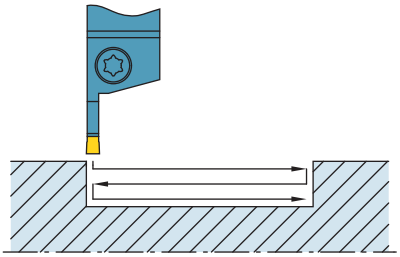
1.



1. Multiple-Pass Grooving

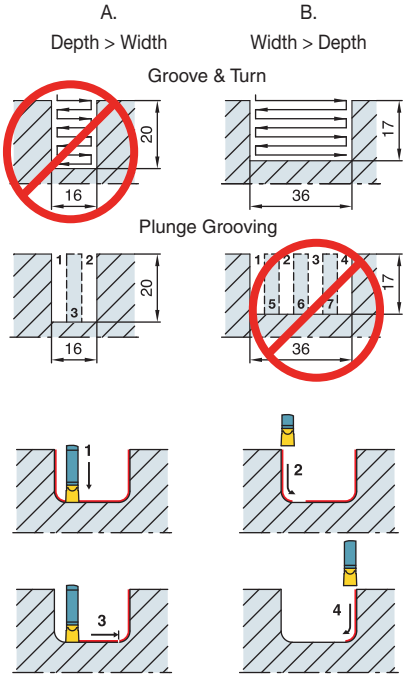
Use the widest possible insert width to achieve optimal chip control and tool life. Make grooves 1, 2, and 3 first...then connect with passes 4 and 5. For passes 4 and 5, the material removed should be no more than 0.8 times the insert width.

2.



2. Grooving and Turning

For small and unstable workpieces, this is the preferred method to reduce vibrations experienced when axial grooving. The depth-of-cut in longitudinal turning should generally be 60–70% of the groove width. Turning in both directions improves tool life.



Choosing the Best Method:

A. When the groove depth is greater than the groove width, multiple-pass plunge grooving offers the best results.

B. When the groove width is greater than the groove depth, groove and turn (plunge/longitudinal turning) is easier and faster.

Finish Profiling

When finish profile machining internal chamfers or radii, take into account that the effective feed rate and chip cross section are reduced (the tool is cutting in both radial and axial directions). The accompanying drawing (left) shows the suggested processing sequence for the final pass, to reduce vibrations.

A4 Grooving Tool Application Guidelines

- Always use good general machining practices.
- Make the machine and workpiece setup as rigid as possible.
- Integral shank toolholders offer the best rigidity. They should be your first toolholder choice, when possible.
- When changing inserts, make sure the new insert locates securely against the toolholder's positive stop.
- Never tighten the clamping screw without an insert in the pocket.
- Toolholder extension out of the tool block should be as short as possible.
- Inserts should cut as close to center as possible or slightly above.
- Dwell time in bottom of groove should be less than three revolutions.
- Recommended cutting speeds and feeds are a startinig point. Adjust, as necessary, for optimum tool life and chip control.

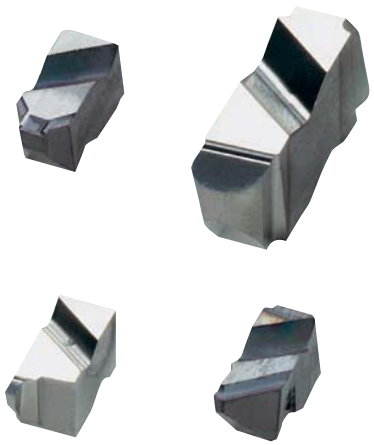
KENNAMETAL®

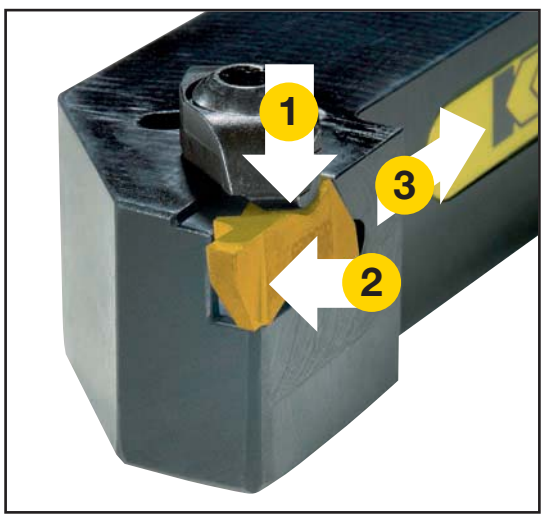
Grooving and Cut-Off

TOP NOTCH™ Grooving...

...the proven solution for high productivity!

- New improved PVD TiAlN-coated grades are designed to cut a variety of workpiece materials.
- New CVD KENNA PERFECT™ grades.
- Rigid clamping securely locks insert in place through the toughest cuts.
- Versatile design enables one system to handle O.D. and I.D. grooving, face grooving, back turning, undercutting, and even threading operations.
- Chip control inserts provide excellent chip evacuation in grooving, and offer better chip control in multi-directional turning.





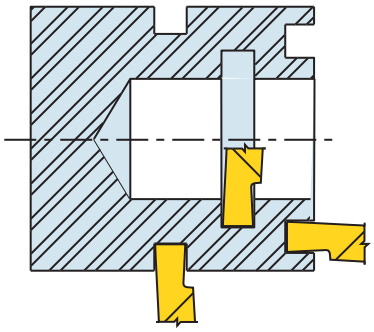
Our rigid clamping design prevents insert movement during high-feed rate applications. This benefit ensures excellent surface finish, improved productivity, and superior tool life, and promotes perfect concentricity. The rugged bridge clamp generates locking forces in three directions to provide superior resistance to side thrust and tangential forces.

What you need to know:

- Groove depth, width, and profile.
- Material to be machined.
- Application to be performed (face, OD, or ID grooving).
- Toolholder requirements (ie: KM™, square shank, right/left).

1st Step—Choose Your System Based on the Groove Depth Required

TOP NOTCH

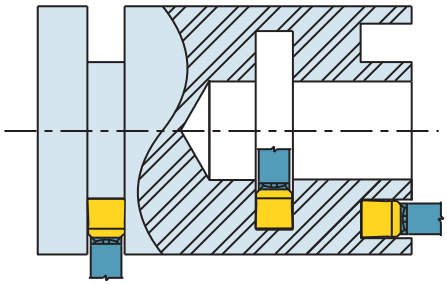


Grooving

grooving depth ≤ 1,5 x grooving width

Review system capability chart and proceed to step 2.

A3 or A4



Deep Grooving

grooving depth ≥ 1,5 x grooving width

See A3 Deep Grooving pages D30–D31 Groove and Turn page D64.

TOP NOTCH Grooving for Internal, External, and Face Grooving Applications

System Capabilities

		mm (inch)	
		minimum	maximum
OD / ID Grooving	width	0,79 (.031)	9,53 (.375)
	depth	1,27 (.050)	9,53 (.375)
Face Grooving	width	3,18 (.125)	9,53 (.375)
	depth	3,81 (.150)	6,35 (.250)
Internal Grooving Dia.		11,2 (.440)	–
Face Grooving Diameter	standard	23,9 (.940)	–
	deep	47,6 (1.875)	–
Deep OD / ID Grooving	width	1,57 (.062)	6,35 (.250)
	depth	3,18 (.125)	12,70 (.500)
Deep Face Grooving	width	3,18 (.125)	6,35 (.250)
	depth	6,35 (.250)	12,70 (.500)

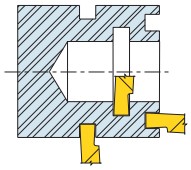
2nd Step—Choose Your Toolholder Based on the Application

NOTE: Toolholders are available as conventional square shank versions as well as quick-change versions. The insert size must match the gage insert of your toolholder selection.

OD and face grooving applications see pages D119–D121.
ID grooving applications see pages D123–D124.

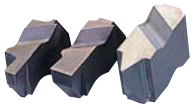
3rd Step—Select Chipbreaker Style and Feed Rate

Chipbreaker and Feed Rates—mm/rev (in/rev)

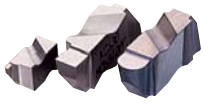
Workpiece Material and Application		Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
	First Choice	**NG-K** 0,08–0,28 (.003–.011)	**NG-K** 0,07–0,20 (.0025–.008)	**NG** 0,01–0,30 (.004–.012)	**NGP** 0,01–0,30 (.004–.012)	**NG-K** 0,07–0,20 (.0025–.008)	**NG** (CBN tipped) 0,05–0,10 (.002–.004)
	Alternative Choice	**NG** 0,10–0,30 (.004–.012)	**NGP** 0,10–0,23 (.004–.009)	**NG-K** 0,08–0,28 (.003–.011)	**NG-K** 0,08–0,30 (.003–.012)	**NGP** 0,10–0,20 (.004–.008)	–

-K Chipbreaker Inserts

Flat-Top Inserts



Positive Rake Inserts



4th Step—Select Grade and Speed

Recommendations for Grade and Speed Selection — m/min (sfm)

	Machining Condition	Workpiece Material: Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
KENNA PERFECT	**high-performance for optimal conditions** (clean cuts, good machine condition, higher speed capability)	**KC9110** 120–370 (400–1200)	**KC5010** 80–230 (250–750)	**KC9320** 120–370 (400–1200)	**KD1425** 240–3050 (800–10000)	**KC5010** 20–120 (50–400)	**KC5010** 20–60 (50–200)
		KT315 100–230 (330–750)	**KT315** 70–200 (230–650)	**KC5010** 80–230 (250–750)	-	-	-
	general purpose (first choice for general machining)	**KC9110** 120–300 (400–1000)	**KC5025** 50–120 (160–400)	**KC9110** 120–300 (400–1000)	**KC5410** 150–910 (500–3000)	**KC5025** 10–60 (35–200)	-
	unfavorable conditions (roughing, poor machine condition, interrupted cuts, low speed, I.D. grooving)	**KC5025** 50–140 (180–450)	**KC5025** 40–90 (130–300)	**KC5025** 60–150 (200–500)	**KC5025** 60–300 (200–1000)	**KC5025** 10–50 (35–150)	**KB1630** 60–110 (200–350)

5th Step—Select Insert and Holder from Catalog Pages

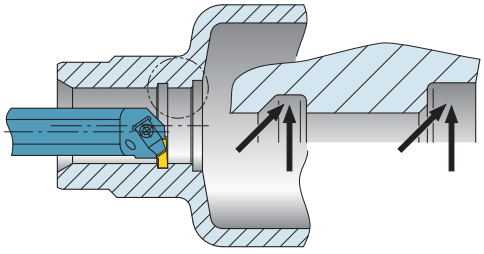
NOTE: The insert size must match the gage insert size of your toolholder selection.

Example for TOP NOTCH—Grooving:

Material: Low-Alloyed Steel
Groove Depth: 2mm (.079 in.)
Groove Width: 3mm (.118 in.)
Operation:
I.D. cut, Limited Speed Capability, Plunge Groove and Chamfer

Recommendation:

Insert: NG2M300RK
Grade: KC5025
Insert Width: 3mm (.118 in.)
Insert Size: 2
Toolholder: A20QNNTOL2 (metric)
A12NEL2 (inch)
Gage Insert: N.2R



speed: 120 m/min (400 sfm)
feed: 0,15mm (.006 ipr)

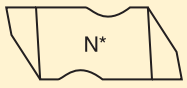
Congratulations!

You have successfully maximized your productivity by selecting the best TOP NOTCH insert geometry, grade, and cutting specifications for your application!

TOP NOTCH™ Grooving Insert Identification System

KENNAMETAL

N -TOP NOTCH



1. Type of Insert

D – Deep Grooving
P – Positive
C – Groove and Chamfer

3. Additional Information

M – Metric insert groove width
C – Circlip groove insert width is nominal circlip size
□ – Blank indicates inch width insert

5. Size Identification

L – Left
R – Right

7. Hand of Insert

E – Hone only
K – Standard chip control

9. Chipbreaker Design

N	G	P	3		125	R		K	

2. Insert Style

B – Blank (for special forms)
F – Face Grooving
G – Grooving
P – Back Turning
R – Full Radius
U – Undercutting (or relieving)
V – Poly Vee

4. Insert Size

insert number	W1 (mm)	W1 (in)
1	2,54	.100
2	3,81	.150
3	4,95	.195
4	6,48	.255
5	9,65	.380
6	9,73	.383

6. Groove Size**

Position pertains to groove width for F, G, and U-style inserts; radii for R-style grooving inserts; and circlip size for groove and chamfer inserts. Dimension in 0,01mm or .001 inch
Metric example: 3,25mm width groove or radius equals "325" catalog position number.
Inch example: 1/32" width groove or radius equals "031" catalog position number.
Width Tolerance: ± 0,025mm (± .001 inch) unless otherwise specified

8. Cutting Depth

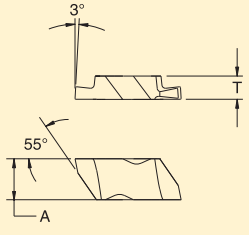
Shown for groove and chamfer inserts in 0,01mm increments

10. Definition of Inserts

groove size "J" or "L" — for Poly Vee inserts "I" indicates internal face grooving insert

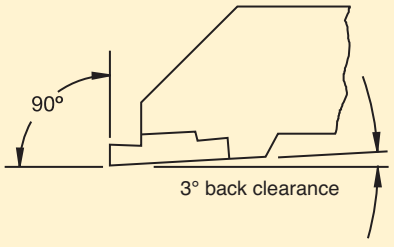
*Kennametal proprietary identification system.
**Omit position for Top Notch NB-style blanks.

TOP NOTCH Threading and Grooving Insert Dimensions



insert size	S		W1	
	mm	inch	mm	inch
1	2,54	.100	2,54	.100
2	5,56	.219	3,81	.150
3	8,74	.344	4,95	.195
4	11,51	.453	6,48	.255
5	17,48	.688	9,65	.380
6	11,51	.453	9,73	.383
8	7,93	.312	11,13	.438

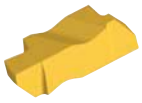
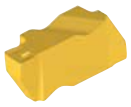
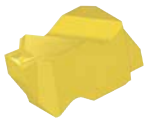
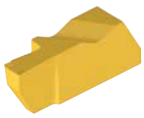
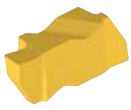
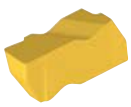
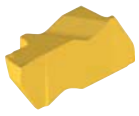
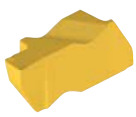
TOP NOTCH Holder Design

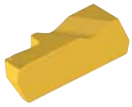
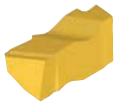
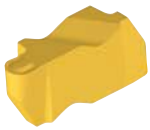
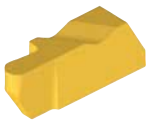
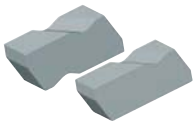


NOTE: Holders are designed to locate insert inclined to 3° to provide back clearance down open side.

Kennametal and TOP NOTCH tooling technology combine to bring you the very best threading and grooving system available in the world today.

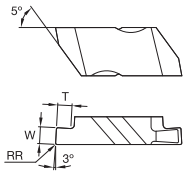
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

Insert Style	Application	Rake Angle	Page
NG 	• General purpose grooving. • O-ring grooving. • Circlip grooving.	neutral	D104
NG-K 	• Chip control geometry. • General purpose grooving. • O-ring grooving. • Circlip grooving. • Light turning.	10° positive	D106
NGC-K 	• Combined groove & chamfered edge break in one positive plunge with chip control. • Designed for DIN 471/472 standard circlip grooves.	10° positive	D109
NGD	• Deep grooving.	neutral	D109
NGD-K 	• Chip control geometry. • Deep grooving. • Light turning.	10° positive	D110
NGP 	• General purpose grooving. • O-ring grooving. • Circlip grooving.	5° positive	D111
NF 	• Face grooving. • Additional side clearance.	neutral	D112
NF-K 	• Face grooving with chip control. • Additional side clearance.	10° positive	D112
NFD-K 	• Deep face grooving with chip control. • Additional side clearance.	10° positive	D112

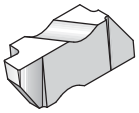
Insert Style	Application	Rake Angle	Page
NFD-KI 	• Internal deep face grooving with chip control. • For use in boring bars for internal face grooves.	10° positive	D113
NP-K **NPD-K** 	• Turning. • Back turning positive. • Profiling with chip control.	10° positive	D113
NR	• Full radius grooving. • Turning profiling.	neutral	D114
NR-K 	• Chip control geometry. • Full radius grooving turning profiling.	10° positive	D115
NRD 	• Deep grooving. • Full radius endform.	neutral	D115
NRP	• Full radius grooving. • Light-turning profiling.	5° positive	D116
NU	• Undercutting.	neutral	D116
NV	• Poly Vee grooving.	neutral	D116
NB/NBD 	• Blanks. • Blanks for deep grooving. • Available only in uncoated grades.	– –	D117

TOP NOTCH™ Grooving Inserts

KENNAMETAL



NG

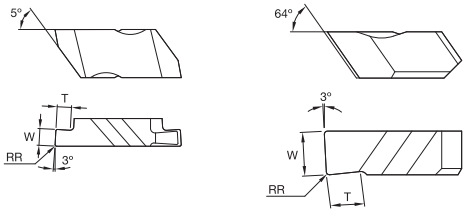


● first choice
○ alternate choice

H					○					●								
S				●	●	●	○											
N				●	○	○	●									●		
K		○	○	●	●			○	●									○
M		●			●	●			○									
P		●			●	●			●	○								

insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
2	0,79	.031	NG2031R	–	–	0,09	.0035	1,27	.050		●	●	●					
2	1,04	.041	NG2041R	–	–	0,09	.0035	1,27	.050		●	●	●					
2	1,19	.047	NG2047R	–	–	0,09	.0035	1,27	.050			●	●					
2	1,47	.058	NG2058R	–	–	0,19	.0075	1,27	.050				●					
2	1,58	.062	NG2062R	–	–	0,19	.0075	2,79	.110		●	●	●					
2	2,39	.094	NG2094R	–	–	0,19	.0075	2,79	.110		●	●	●					
2	3,18	.125	NG2125R	–	–	0,19	.0075	2,79	.110			●	●					
3	1,19	.047	NG3047R	–	–	0,19	.0075	1,91	.075		●	●	●		●			
3	1,58	.062	NG3062R	–	–	0,19	.0075	2,39	.094		●	●	●		●		●	●
3	1,83	.072	NG3072R	–	–	0,19	.0075	2,39	.094			●						
3	1,98	.078	NG3078R	–	–	0,19	.0075	2,39	.094			●						
3	2,24	.088	NG3088R	–	–	0,19	.0075	2,39	.094		●	●	●					
3	2,39	.094	NG3094R	–	–	0,19	.0075	3,81	.150		●	●	●		●		●	●
3	2,46	.097	NG3097R	–	–	0,32	.0125	3,81	.150			●	●					
3	2,67	.105	NG3105R	–	–	0,19	.0075	3,81	.150			●	●					
3	2,79	.110	NG3110R	–	–	0,32	.0125	3,81	.150				●					
3	3,10	.122	NG3122R	–	–	0,19	.0075	3,81	.150				●					
3	3,18	.125	NG3125R	–	–	0,19	.0075	3,81	.150		●	●	●		●		●	●
3	3,61	.142	NG3142R	–	–	0,32	.0125	3,81	.150			●	●					
3	3,96	.156	NG3156R	–	–	0,19	.0075	3,81	.150			●	●					
3	4,52	.178	NG3178R	–	–	0,19	.0075	3,81	.150				●					
3	4,70	.185	NG3185R	–	–	0,57	.0225	3,81	.150				●					
3	4,80	.189	NG3189R	–	–	0,57	.0225	3,81	.150		●	●	●		●		●	
4	3,18	.125	NG4125R	–	–	0,19	.0075	3,81	.150		●	●	●		●			
4	4,80	.189	NG4189R	–	–	0,57	.0225	6,35	.250		●	●	●		●			●
4	5,41	.213	NG4213R	–	–	0,19	.0075	6,35	.250				●					
4	5,56	.219	NG4219R	–	–	0,57	.0225	6,35	.250				●					
4	6,35	.250	NG4250R	–	–	0,57	.0225	6,35	.250		●	●	●		●			
5	6,35	.250	NG5250R	–	–	0,57	.0225	9,52	.375				●					
5	7,14	.281	NG5281R	–	–	0,83	.0325	9,52	.375				●					
5	7,93	.312	NG5312R	–	–	0,83	.0325	9,52	.375				●					
5	9,53	.375	NG5375R	–	–	0,83	.0325	9,52	.375				●					
6	7,14	.281	NG6281R	–	–	0,83	.0325	6,35	.250				●					
			left hand															
2	0,79	.031	NG2031L	–	–	0,09	.0035	1,27	.050		●	●	●					
2	1,04	.041	NG2041L	–	–	0,09	.0035	1,27	.050			●	●					
2	1,19	.047	NG2047L	–	–	0,09	.0035	1,27	.050			●	●					
2	1,47	.058	NG2058L	–	–	0,19	.0075	1,27	.050			●	●					
2	1,58	.062	NG2062L	–	–	0,19	.0075	2,79	.110		●	●	●					
2	2,39	.094	NG2094L	–	–	0,19	.0075	2,79	.110		●	●	●					
2	3,18	.125	NG2125L	–	–	0,19	.0075	2,79	.110			●	●					
3	1,19	.047	NG3047L	–	–	0,19	.0075	1,91	.075		●	●	●		●			
3	1,58	.062	NG3062L	–	–	0,19	.0075	2,39	.094		●	●	●		●		●	●
3	1,83	.072	NG3072L	–	–	0,19	.0075	2,39	.094			●						
3	1,98	.078	NG3078L	–	–	0,19	.0075	2,39	.094			●						
3	2,24	.088	NG3088L	–	–	0,19	.0075	2,39	.094			●	●					
3	2,39	.094	NG3094L	–	–	0,19	.0075	3,81	.150		●	●	●		●		●	●
3	2,46	.097	NG3097L	–	–	0,32	.0125	3,81	.150			●	●					
3	2,67	.105	NG3105L	–	–	0,19	.0075	3,81	.150			●	●					

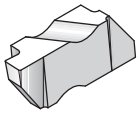
(continued on next page)



● first choice
○ alternate choice

H				○						●
S			●	●	●	○				
N			●	○	○	●			●	
K	○	○	●	●		○	●			○
M	●		●	●		○				
P	●		●	●		●	○			

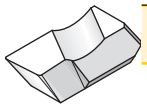
NG (continued from previous page)



insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
3	2,79	.110	NG3110L	–	–	0,32	.0125	3,81	.150				●					
3	3,10	.122	NG3122L	–	–	0,19	.0075	3,81	.150				●					
3	3,18	.125	NG3125L	–	–	0,19	.0075	3,81	.150		●	●	●		●		●	●
3	3,61	.142	NG3142L	–	–	0,32	.0125	3,81	.150			●	●					
3	3,96	.156	NG3156L	–	–	0,19	.0075	3,81	.150			●	●					
3	4,52	.178	NG3178L	–	–	0,19	.0075	3,81	.150				●					
3	4,70	.185	NG3185L	–	–	0,57	.0225	3,81	.150				●					
3	4,80	.189	NG3189L	–	–	0,57	.0225	3,81	.150		●	●	●		●		●	
4	3,18	.125	NG4125L	–	–	0,19	.0075	3,81	.150		●	●	●		●			
4	4,80	.189	NG4189L	–	–	0,57	.0225	6,35	.250		●	●	●		●			●
4	6,35	.250	NG4250L	–	–	0,57	.0225	6,35	.250		●	●	●		●			
5	7,93	.312	NG5312L	–	–	0,83	.0325	9,52	.375				●					
6	9,53	.375	NG6375L	–	–	0,83	.0325	6,35	.250				●					

NOTE: All KD... grades are single-ended tipped inserts.

NG-1L

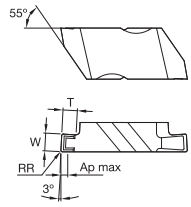


insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			left hand															
1	0,79	.031	NG1031L	–	–	0,19	.0075	1,27	.050				●					
1	1,19	.047	NG1047L	–	–	0,19	.0075	1,91	.075				●					
1	1,58	.062	NG1062L	–	–	0,19	.0075	1,91	.075				●					
1	2,39	.094	NG1094L	–	–	0,19	.0075	1,91	.075				●					

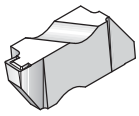
* These inserts have 1 cutting edge.

NOTE: Width tolerance is +/- .003 on NG-1L inserts.

NOTE: Right-hand insert shown; left-hand insert is mirror image.
Order example:
Catalog number: NG1031L
Insert grade: KC5025



NG-K

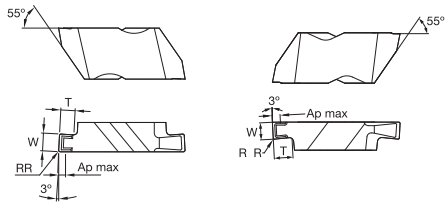


● first choice
○ alternate choice

H				○						●
S			●	●	●	○				
N			●	○	○	●			●	
K	○	○	●	●		○	●			○
M	●		●	●		○				
P	●		●	●		●	○			

insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
2	0,79	.031	NG2031RK	0,76	.030	0,09	.0035	1,27	.050	●		●	●					
2	1,19	.047	NG2047RK	0,76	.030	0,09	.0035	1,27	.050	●		●	●					
2	1,58	.062	NG2062RK	1,09	.043	0,19	.0075	2,79	.110	●		●	●					
2	2,39	.094	NG2094RK	1,09	.043	0,19	.0075	2,79	.110	●		●	●					
2	3,18	.125	NG2125RK	1,09	.043	0,19	.0075	2,79	.110	●		●	●					
2	0,50	.020	NG2M050RK	0,64	.025	0,09	.0035	0,64	.025			●	●					
2	0,80	.032	NG2M080RK	0,76	.030	0,09	.0035	1,27	.050			●	●					
2	1,00	.039	NG2M100RK	0,76	.030	0,09	.0035	1,27	.050			●	●					
2	1,20	.047	NG2M120RK	0,76	.030	0,09	.0035	1,27	.050			●	●					
2	1,40	.055	NG2M140RK	0,76	.030	0,09	.0035	1,27	.050			●	●					
2	1,50	.059	NG2M150RK	1,09	.043	0,19	.0075	2,79	.110				●					
2	1,70	.067	NG2M170RK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	1,75	.069	NG2M175RK	1,09	.043	0,19	.0075	2,79	.110				●					
2	1,95	.077	NG2M195RK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	2,00	.079	NG2M200RK	1,09	.043	0,19	.0075	2,79	.110	●		●	●					
2	2,20	.087	NG2M220RK	1,09	.043	0,19	.0075	2,79	.110				●					
2	2,25	.088	NG2M225RK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	2,50	.098	NG2M250RK	1,09	.043	0,19	.0075	2,79	.110				●					
2	2,75	.108	NG2M275RK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	3,00	.118	NG2M300RK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	3,25	.128	NG2M325RK	1,09	.043	0,19	.0075	2,79	.110				●					
3	1,19	.047	NG3047RK	0,76	.030	0,19	.0075	1,91	.075			●	●		●			
3	1,58	.062	NG3062RK	1,02	.040	0,19	.0075	2,39	.094	●		●	●		●	●		
3	1,83	.072	NG3072RK	1,02	.040	0,19	.0075	2,39	.094			●	●					
3	1,98	.078	NG3078RK	1,02	.040	0,19	.0075	2,39	.094			●	●		●			
3	2,39	.094	NG3094RK	1,02	.040	0,19	.0075	3,81	.150	●		●	●		●			
3	3,18	.125	NG3125RK	1,02	.040	0,19	.0075	3,81	.150	●		●	●		●			
3	3,96	.156	NG3156RK	2,92	.115	0,19	.0075	3,81	.150			●	●					
3	4,80	.189	NG3189RK	2,92	.115	0,57	.0225	3,81	.150	●		●	●		●	●		
3	1,00	.039	NG3M100RK	0,76	.030	0,19	.0075	1,91	.075				●					
3	1,20	.047	NG3M120RK	0,76	.030	0,19	.0075	1,91	.075			●	●					
3	1,50	.059	NG3M150RK	1,02	.040	0,19	.0075	2,39	.094	●			●		●	●		
3	1,75	.069	NG3M175RK	1,02	.040	0,19	.0075	2,39	.094				●					
3	2,00	.079	NG3M200RK	1,02	.040	0,19	.0075	2,39	.094	●			●		●	●		
3	2,20	.087	NG3M220RK	1,02	.040	0,19	.0075	2,39	.094				●					
3	2,25	.088	NG3M225RK	1,02	.040	0,19	.0075	2,39	.094			●	●		●	●		
3	2,50	.098	NG3M250RK	1,02	.040	0,19	.0075	3,81	.150	●			●		●	●		
3	2,75	.108	NG3M275RK	1,02	.040	0,19	.0075	3,81	.150			●	●					
3	3,00	.118	NG3M300RK	1,02	.040	0,19	.0075	3,81	.150	●		●	●		●	●		
3	3,20	.126	NG3M320RK	1,02	.040	0,19	.0075	3,81	.150				●					
3	3,25	.128	NG3M325RK	1,02	.040	0,19	.0075	3,81	.150				●					
3	3,50	.138	NG3M350RK	2,92	.115	0,32	.0125	3,81	.150	●			●					
3	4,00	.158	NG3M400RK	2,92	.115	0,32	.0125	3,81	.150	●		●	●		●	●		
3	4,25	.167	NG3M425RK	2,92	.115	0,32	.0125	3,81	.150			●	●					
3	4,50	.177	NG3M450RK	2,92	.115	0,32	.0125	3,81	.150				●					
4	3,18	.125	NG4125RK	1,02	.040	0,19	.0075	3,81	.150			●	●		●			
4	4,80	.189	NG4189RK	2,92	.115	0,57	.0225	6,35	.250			●	●		●			
4	6,35	.250	NG4250RK	3,81	.150	0,57	.0225	6,35	.250			●	●		●			
4	3,00	.118	NG4M300RK	1,02	.040	0,19	.0075	3,81	.150				●					

(continued on next page)



● first choice
○ alternate choice

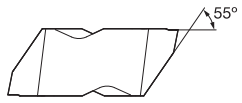
H				○						●
S			●	●	●	○				
N			●	○	○	●			●	
K	○	○	●	●		○	●			○
M	●		●	●		○				
P	●		●	●		●	○			

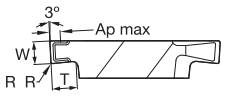
NG-K (continued from previous page)

insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
4	3,50	.138	NG4M350RK	2,92	.115	0,57	.0225	6,35	.250				●		●	●		
4	4,00	.158	NG4M400RK	2,92	.115	0,57	.0225	6,35	.250			●	●		●	●		
4	4,50	.177	NG4M450RK	2,92	.115	0,57	.0225	6,35	.250				●					
4	5,00	.197	NG4M500RK	2,92	.115	0,32	.0125	6,35	.250			●	●		●	●		
4	5,50	.217	NG4M550RK	3,81	.150	0,57	.0225	6,35	.250				●					
4	6,00	.236	NG4M600RK	3,81	.150	0,57	.0225	6,35	.250				●		●	●		

insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			left hand															
2	0,79	.031	NG2031LK	0,76	.030	0,09	.0035	1,27	.050	●		●	●					
2	1,19	.047	NG2047LK	0,76	.030	0,09	.0035	1,27	.050			●	●					
2	1,58	.062	NG2062LK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	2,39	.094	NG2094LK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	3,18	.125	NG2125LK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	0,50	.020	NG2M050LK	0,64	.025	0,09	.0035	0,64	.025			●	●					
2	0,80	.032	NG2M080LK	0,76	.030	0,09	.0035	1,27	.050			●	●					
2	1,00	.039	NG2M100LK	0,76	.030	0,09	.0035	1,27	.050			●	●					
2	1,20	.047	NG2M120LK	0,76	.030	0,09	.0035	1,27	.050			●	●					
2	1,40	.055	NG2M140LK	0,76	.030	0,09	.0035	1,27	.050			●	●					
2	1,50	.059	NG2M150LK	1,09	.043	0,19	.0075	2,79	.110				●					
2	1,70	.067	NG2M170LK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	1,75	.069	NG2M175LK	1,09	.043	0,19	.0075	2,79	.110				●					
2	1,95	.077	NG2M195LK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	2,00	.079	NG2M200LK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	2,20	.087	NG2M220LK	1,09	.043	0,19	.0075	2,79	.110				●					
2	2,25	.088	NG2M225LK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	2,50	.098	NG2M250LK	1,09	.043	0,19	.0075	2,79	.110				●					
2	2,75	.108	NG2M275LK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	3,00	.118	NG2M300LK	1,09	.043	0,19	.0075	2,79	.110			●	●					
2	3,25	.128	NG2M325LK	1,09	.043	0,19	.0075	2,79	.110				●					
3	1,19	.047	NG3047LK	0,76	.030	0,19	.0075	1,91	.075			●	●		●			
3	1,58	.062	NG3062LK	1,02	.040	0,19	.0075	2,39	.094	●		●	●		●	●		
3	1,83	.072	NG3072LK	1,02	.040	0,19	.0075	2,39	.094			●	●					
3	1,98	.078	NG3078LK	1,02	.040	0,19	.0075	2,39	.094			●	●		●			
3	2,39	.094	NG3094LK	1,02	.040	0,19	.0075	3,81	.150	●		●	●		●			
3	3,18	.125	NG3125LK	1,02	.040	0,19	.0075	3,81	.150	●		●	●		●			
3	3,96	.156	NG3156LK	2,92	.115	0,19	.0075	3,81	.150			●	●					
3	4,80	.189	NG3189LK	2,92	.115	0,57	.0225	3,81	.150			●	●		●	●		
3	1,00	.039	NG3M100LK	0,76	.030	0,19	.0075	1,91	.075				●					
3	1,20	.047	NG3M120LK	0,76	.030	0,19	.0075	1,91	.075			●	●					
3	1,50	.059	NG3M150LK	1,02	.040	0,19	.0075	2,39	.094				●		●	●		
3	1,75	.069	NG3M175LK	1,02	.040	0,19	.0075	2,39	.094				●					
3	2,00	.079	NG3M200LK	1,02	.040	0,19	.0075	2,39	.094	●			●		●	●		
3	2,20	.087	NG3M220LK	1,02	.040	0,19	.0075	2,39	.094				●					
3	2,25	.088	NG3M225LK	1,02	.040	0,19	.0075	2,39	.094			●	●		●	●		
3	2,50	.098	NG3M250LK	1,02	.040	0,19	.0075	3,81	.150				●		●	●		

(continued on next page)





● first choice
○ alternate choice

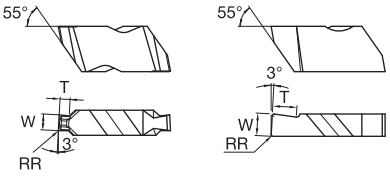
H				○					●
S			●	●	●	○			
N			●	○	○	●		●	
K	○	○	●	●		○	●		○
M	●		●	●		○			
P	●		●	●		●	○		

NG-K (continued from previous page)

insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
3	2,75	.108	NG3M275LK	1,02	.040	0,19	.0075	3,81	.150			●	●					
3	3,00	.118	NG3M300LK	1,02	.040	0,19	.0075	3,81	.150	●		●	●		●	●		
3	3,20	.126	NG3M320LK	1,02	.040	0,19	.0075	3,81	.150				●					
3	3,25	.128	NG3M325LK	1,02	.040	0,19	.0075	3,81	.150				●					
3	3,50	.138	NG3M350LK	2,92	.115	0,32	.0125	3,81	.150				●					
3	4,00	.158	NG3M400LK	2,92	.115	0,32	.0125	3,81	.150	●		●	●		●	●		
3	4,25	.167	NG3M425LK	2,92	.115	0,32	.0125	3,81	.150			●	●					
3	4,50	.177	NG3M450LK	2,92	.115	0,32	.0125	3,81	.150				●					
4	3,18	.125	NG4125LK	1,02	.400	0,19	.0075	3,81	.150			●	●		●			
4	4,80	.189	NG4189LK	2,92	.115	0,57	.0225	6,35	.250			●	●		●			
4	6,35	.250	NG4250LK	3,81	.150	0,57	.0225	6,35	.250			●	●		●			
4	3,00	.118	NG4M300LK	1,02	.040	0,19	.0075	3,81	.150				●					
4	3,50	.138	NG4M350LK	2,92	.115	0,57	.0225	6,35	.250				●		●	●		
4	4,00	.158	NG4M400LK	2,92	.115	0,57	.0225	6,35	.250			●	●		●	●		
4	4,50	.177	NG4M450LK	2,92	.115	0,57	.0225	6,35	.250				●					
4	5,00	.197	NG4M500LK	2,92	.115	0,32	.0125	6,35	.250			●	●		●	●		
4	5,50	.217	NG4M550LK	3,81	.150	0,57	.0225	6,35	.250				●					
4	6,00	.236	NG4M600LK	3,81	.150	0,57	.0225	6,35	.250				●		●	●		

NOTE: Right-hand insert shown; left-hand insert is mirror image.
Order example:
Catalog number: NG3M275LK
Insert grade: KC5010

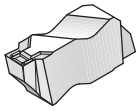
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



● first choice
○ alternate choice

H				○					●
S			●	●	●	○			
N			●	○	○	●		●	
K	○	○	●	●		○	●		○
M	●		●	●		○			
P	●		●	●		●	○		

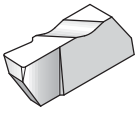
NGC-K



insert size	circlip size mm	circlip size in	catalog number	W mm	W in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
2	1,10	.043	NGC2C110R040K	1,19	.047	0,08	.0031	0,40	.016				●					
2	1,30	.051	NGC2C130R055K	1,39	.055	0,08	.0031	0,55	.022				●					
2	1,60	.063	NGC2C160R070K	1,69	.067	0,08	.0031	0,70	.028				●					
2	1,85	.073	NGC2C185R100K	1,94	.076	0,08	.0031	1,00	.039				●					
2	1,85	.073	NGC2C185R125K	1,94	.076	0,08	.0031	1,25	.049				●					
2	2,15	.085	NGC2C215R150K	2,24	.088	0,08	.0031	1,50	.059				●					
2	2,65	.104	NGC2C265R150K	2,74	.108	0,08	.0031	1,50	.059				●					
2	3,15	.124	NGC2C315R175K	3,27	.129	0,08	.0031	1,75	.069				●					
			left hand															
2	1,10	.043	NGC2C110L040K	1,19	.047	0,08	.0031	0,40	.016				●					
2	1,30	.051	NGC2C130L055K	1,39	.055	0,08	.0031	0,55	.022				●					
2	1,85	.073	NGC2C185L125K	1,94	.076	0,08	.0031	1,25	.049				●					
2	2,15	.085	NGC2C215L150K	2,24	.088	0,08	.0031	1,50	.059				●					

NOTE: Groove and chamfer inserts for circlip grooves to DIN 471/472 specification.

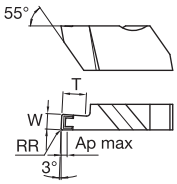
NGD



insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	4,80	.189	NGD3189R	–	–	0,57	.0225	6,35	.250		●	●						
4	6,35	.250	NGD4250R	–	–	0,57	.0225	12,70	.500		●	●						
			left hand															
3	4,80	.189	NGD3189L	–	–	0,57	.0225	6,35	.250		●	●						
4	6,35	.250	NGD4250L	–	–	0,57	.0225	12,70	.500		●	●						

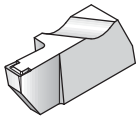
* These inserts have 1 cutting edge.

NOTE: Right-hand insert shown; left-hand insert is mirror image.
Order example:
Catalog number: NGD3189R
Insert grade: K313



● first choice
○ alternate choice

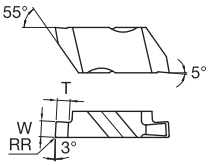
NGD-K



insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
2	1,50	.059	NGD2M150RK	1,09	.043	0,19	.0075	4,06	.160			●	●					
2	2,00	.079	NGD2M200RK	1,09	.043	0,19	.0075	5,08	.200			●	●					
2	2,50	.098	NGD2M250RK	1,09	.043	0,19	.0075	5,08	.200			●	●					
3	1,58	.062	NGD3062RK	1,02	.040	0,19	.0075	3,18	.125		●	●	●					
3	2,39	.094	NGD3094RK	1,02	.040	0,19	.0075	6,35	.250		●	●	●					
3	3,18	.125	NGD3125RK	1,02	.040	0,19	.0075	6,35	.250		●	●	●					
3	4,80	.189	NGD3189RK	2,92	.115	0,57	.0225	6,35	.250			●	●					
3	2,00	.079	NGD3M200RK	1,02	.040	0,19	.0075	4,06	.160			●	●					
3	2,50	.098	NGD3M250RK	1,02	.040	0,19	.0075	6,35	.250			●	●					
3	3,00	.118	NGD3M300RK	1,02	.040	0,19	.0075	6,35	.250			●	●					
3	3,50	.138	NGD3M350RK	2,92	.115	0,32	.0125	6,35	.250			●	●					
3	4,00	.157	NGD3M400RK	2,92	.115	0,32	.0125	6,35	.250			●	●					
4	3,18	.125	NGD4125RK	1,02	.040	0,19	.0075	6,35	.250			●	●					
4	4,80	.189	NGD4189RK	2,92	.115	0,57	.0225	9,53	.375		●	●	●					
4	6,35	.250	NGD4250RK	3,81	.150	0,57	.0225	12,70	.500		●	●	●					
4	4,00	.157	NGD4M400RK	2,92	.115	0,57	.0225	9,53	.375			●	●					
4	4,50	.177	NGD4M450RK	2,92	.115	0,57	.0225	12,70	.500			●	●					
4	5,00	.197	NGD4M500RK	2,92	.115	0,57	.0225	12,70	.500			●	●					
4	5,50	.217	NGD4M550RK	3,81	.150	0,57	.0225	12,70	.500			●	●					
			left hand															
2	1,50	.059	NGD2M150LK	1,09	.043	0,19	.0075	4,06	.160			●	●					
2	2,00	.079	NGD2M200LK	1,09	.043	0,19	.0075	5,08	.200			●	●					
2	2,50	.098	NGD2M250LK	1,09	.043	0,19	.0075	5,08	.200			●	●					
3	1,58	.062	NGD3062LK	1,02	.040	0,19	.0075	3,18	.125			●	●					
3	2,39	.094	NGD3094LK	1,02	.040	0,19	.0075	6,35	.250		●	●	●					
3	3,18	.125	NGD3125LK	1,02	.040	0,19	.0075	6,35	.250		●	●	●					
3	4,80	.189	NGD3189LK	2,92	.115	0,57	.0225	6,35	.250			●	●					
3	2,00	.079	NGD3M200LK	1,02	.040	0,19	.0075	4,06	.160			●	●					
3	2,50	.098	NGD3M250LK	1,02	.040	0,19	.0075	6,35	.250			●	●					
3	3,00	.118	NGD3M300LK	1,02	.040	0,19	.0075	6,35	.250			●	●					
3	3,50	.138	NGD3M350LK	2,92	.115	0,32	.0125	6,35	.250			●	●					
3	4,00	.157	NGD3M400LK	2,92	.115	0,32	.0125	6,35	.250			●	●					
4	3,18	.125	NGD4125LK	1,02	.040	0,19	.0075	6,35	.250			●	●					
4	4,80	.189	NGD4189LK	2,92	.115	0,57	.0225	9,53	.375			●	●					
4	6,35	.250	NGD4250LK	3,81	.150	0,57	.0225	12,70	.500			●	●					
4	4,00	.157	NGD4M400LK	2,92	.115	0,57	.0225	9,53	.375			●	●					
4	4,50	.177	NGD4M450LK	2,92	.115	0,57	.0225	12,70	.500			●	●					
4	5,00	.197	NGD4M500LK	2,92	.115	0,57	.0225	12,70	.500			●	●					
4	5,50	.217	NGD4M550LK	3,81	.150	0,57	.0225	12,70	.500			●	●					

NOTE: All KD... grades are single-ended tipped inserts.

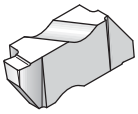
NOTE: Right-hand insert shown; left-hand insert is mirror image.
Order example:
Catalog number: NGD2M150RK
Insert grade: KC5010



● first choice
○ alternate choice

H				○															●
S			●	●	●	○													
N			●	○	○	●											●		
K		○	○	●	●		○	●											○
M		●		●	●		○												
P		●		●	●		●	○											

■ NGP



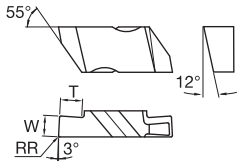
insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
2	0,79	.031	NGP2031R	–	–	0,09	.0035	1,27	.050			●		●				
2	1,58	.062	NGP2062R	–	–	0,19	.0075	2,79	.110			●		●				
2	3,18	.125	NGP2125R	–	–	0,19	.0075	2,79	.110			●		●				
2	1,50	.059	NGP2M150R	–	–	0,19	.0075	2,79	.110		●	●						
2	2,00	.079	NGP2M200R	–	–	0,19	.0075	2,79	.110		●	●						
2	2,50	.098	NGP2M250R	–	–	0,19	.0075	2,79	.110		●	●						
2	3,00	.118	NGP2M300R	–	–	0,19	.0075	2,79	.110		●	●						
3	2,24	.088	NGP3088R	–	–	0,19	.0075	2,39	.094			●		●			●	
3	3,18	.125	NGP3125R	–	–	0,19	.0075	3,81	.150			●		●			●	
3	3,96	.156	NGP3156R	–	–	0,19	.0075	3,81	.150			●						
3	4,80	.189	NGP3189R	–	–	0,57	.0225	3,81	.150			●		●				
3	1,50	.059	NGP3M150R	–	–	0,19	.0075	1,90	.075		●	●						
3	2,00	.079	NGP3M200R	–	–	0,19	.0075	2,79	.110		●	●						
3	2,50	.098	NGP3M250R	–	–	0,19	.0075	3,81	.150		●	●						
3	3,00	.118	NGP3M300R	–	–	0,19	.0075	3,81	.150		●	●						
4	4,80	.189	NGP4189R	–	–	0,57	.0225	6,35	.250			●		●				
4	6,35	.250	NGP4250R	–	–	0,57	.0225	6,35	.250			●						
			left hand															
2	0,79	.031	NGP2031L	–	–	0,09	.0035	1,27	.050			●		●				
2	1,58	.062	NGP2062L	–	–	0,19	.0075	2,79	.110			●		●				
2	3,18	.125	NGP2125L	–	–	0,19	.0075	2,79	.110			●		●				
2	1,50	.059	NGP2M150L	–	–	0,19	.0075	2,79	.110		●	●						
2	2,00	.079	NGP2M200L	–	–	0,19	.0075	2,79	.110		●	●						
2	2,50	.098	NGP2M250L	–	–	0,19	.0075	2,79	.110		●	●						
2	3,00	.118	NGP2M300L	–	–	0,19	.0075	2,79	.110		●	●						
3	2,24	.088	NGP3088L	–	–	0,19	.0075	2,39	.094			●					●	
3	3,18	.125	NGP3125L	–	–	0,19	.0075	3,81	.150			●		●			●	
3	3,96	.156	NGP3156L	–	–	0,19	.0075	3,81	.150			●						
3	4,80	.189	NGP3189L	–	–	0,57	.0225	3,81	.150			●		●				
3	1,50	.059	NGP3M150L	–	–	0,19	.0075	1,90	.075		●	●						
3	2,00	.079	NGP3M200L	–	–	0,19	.0075	2,79	.110		●	●						
3	2,50	.098	NGP3M250L	–	–	0,19	.0075	3,81	.150		●	●						
3	3,00	.118	NGP3M300L	–	–	0,19	.0075	3,81	.150		●	●						
4	4,80	.189	NGP4189L	–	–	0,57	.0225	6,35	.250			●						
4	6,35	.250	NGP4250L	–	–	0,57	.0225	6,35	.250			●						

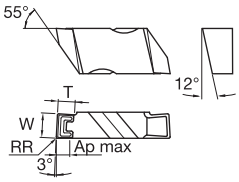
NOTE: All KD... grades are single-ended tipped inserts.

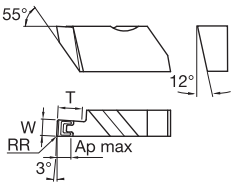
NOTE: Right-hand insert shown; left-hand insert is mirror image.
Order example:
Catalog number: NGP2031R
Insert grade: KC5010

TOP NOTCH™ Grooving Inserts

KENNAMETAL



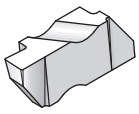




● first choice
○ alternate choice

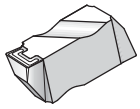
	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
H			○						●
S		●	●	●	○				
N		●	○	○	●			●	
K	○	○	●	●		○	●		○
M	●		●	●		○			
P	●		●	●		●	○		

NF



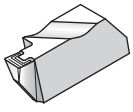
insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	3,18	.125	NF3125R	–	–	0,19	.0075	3,81	.150		●							
3	4,78	.188	NF3188R	–	–	0,57	.0225	3,81	.150				●					
			left hand															
3	3,18	.125	NF3125L	–	–	0,19	.0075	3,81	.150		●							
3	4,78	.188	NF3188L	–	–	0,57	.0225	3,81	.150				●					

NF-K



insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	2,00	.079	NF3M200RK	1,02	.040	0,19	.0075	1,78	.070				●					
3	3,00	.118	NF3M300RK	1,02	.040	0,19	.0075	3,81	.150				●					
3	3,18	.125	NF3125RK	1,02	.040	0,19	.0075	3,81	.150				●					
3	3,96	.156	NF3156RK	2,92	.115	0,19	.0075	3,81	.150				●					
			left hand															
3	2,00	.079	NF3M200LK	1,02	.040	0,19	.0075	1,78	.070				●					
3	3,00	.118	NF3M300LK	1,02	.040	0,19	.0075	3,81	.150				●					
3	3,18	.125	NF3125LK	1,02	.040	0,19	.0075	3,81	.150				●					
3	3,96	.156	NF3156LK	2,92	.115	0,19	.0075	3,81	.150				●					

NFD-K



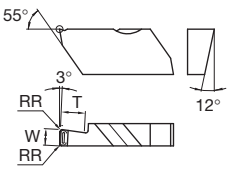
insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	3,00	.118	NFD3M300RK	1,02	.040	0,19	.0075	6,35	.250				●					
3	3,18	.125	NFD3125RK	1,02	.040	0,19	.0075	6,35	.250				●					
4	4,80	.189	NFD4189RK	2,92	.115	0,57	.0225	9,53	.375				●					
4	6,35	.250	NFD4250RK	3,81	.150	0,57	.0225	12,70	.500				●					
			left hand															
3	3,00	.118	NFD3M300LK	1,02	.040	0,19	.0075	6,35	.250				●					
3	3,18	.125	NFD3125LK	1,02	.040	0,19	.0075	6,35	.250				●					
4	4,80	.189	NFD4189LK	2,92	.115	0,57	.0225	9,53	.375				●					
4	6,35	.250	NFD4250LK	3,81	.150	0,57	.0225	12,70	.500				●					

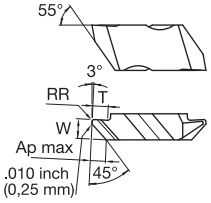
* These inserts have 1 cutting edge.

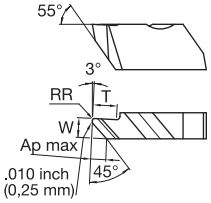
NOTE: Right-hand insert shown; left-hand insert is mirror image.

Order example:
Catalog number: NFD3M300RK
Insert grade: KC5025

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



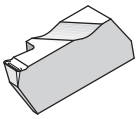




● first choice
○ alternate choice

H			○							●
S			●	●	●	○				
N			●	○	○	●			●	
K	○	○	●	●		○	●			○
M	●		●	●		○				
P	●		●	●		●	○			

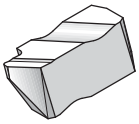
NFD-KI



insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	3,18	.125	NFD3125RKI	1,02	.040	0,19	.0075	6,35	.250				●					
3	4,80	.189	NFD3189RKI	2,92	.115	0,57	.0225	6,35	.250				●					
			left hand															
3	3,18	.125	NFD3125LKI	1,02	.040	0,19	.0075	6,35	.250				●					
3	4,80	.189	NFD3189LKI	2,92	.115	0,57	.0225	6,35	.250				●					

* These inserts have 1 cutting edge.

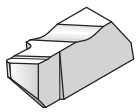
NP-K



insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
2	3,68	.145	NP2002RK	–	–	0,09	.0035	2,79	.110			●	●					
2	3,68	.145	NP2012RK	–	–	0,34	.0135	2,79	.110				●					
3	4,83	.190	NP3012RK	–	–	0,34	.0135	5,08	.200				●					
3	4,83	.190	NP3002RK	–	–	0,09	.0035	5,08	.200			●	●					

Tolerance on W: (± 0,13mm) ± .005 inch.

NPD-K

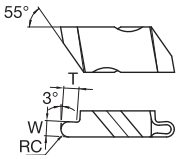


insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RR mm	RR in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
2	3,68	.145	NPD2002RK	–	–	0,09	.0035	5,08	.200			●	●					
2	3,68	.145	NPD2012RK	–	–	0,25	.0100	5,08	.200			●						
3	4,83	.190	NPD3012RK	–	–	0,34	.0135	6,35	.250			●	●					
3	4,83	.190	NPD3002RK	–	–	0,09	.0035	6,35	.250				●					

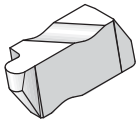
Tolerance on W: (± 0,13mm) ± .005 inch.

NOTE: Right-hand insert shown; left-hand insert is mirror image.

Order example:
Catalog number: NPD2002RK
Insert grade: KC5010



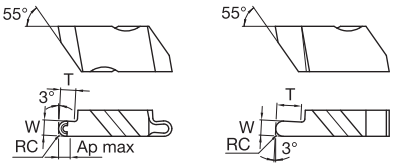
NR



● first choice
○ alternate choice

	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
H			○						●
S		●	●	●	○				
N		●	○	○	●			●	
K	○	○	●	●		○	●		○
M	●		●	●		○			
P	●		●	●		●	○		

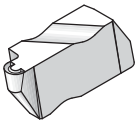
insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RC mm	RC in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
2	1,00	.039	NR2M050R	–	–	0,50	.0197	1,27	.050			●	●		●	●		
2	1,50	.059	NR2M075R	–	–	0,75	.0295	2,79	.110			●	●		●	●		
2	1,58	.062	NR2031R	–	–	0,79	.0310	2,79	.110			●	●					
2	2,00	.079	NR2M100R	–	–	1,00	.0394	2,79	.110			●	●		●	●		
2	2,39	.094	NR2047R	–	–	1,19	.0470	2,79	.110				●					
2	2,50	.098	NR2M125R	–	–	1,25	.0492	2,79	.110			●	●		●	●		
2	3,00	.118	NR2M150R	–	–	1,50	.0591	2,79	.110			●	●		●	●		
2	3,18	.125	NR2062R	–	–	1,59	.0625	2,79	.110			●	●					
2	3,50	.138	NR2M175R	–	–	1,75	.0689	2,79	.110			●	●		●	●		
3	1,58	.062	NR3031R	–	–	0,79	.0310	2,39	.094		●	●	●					
3	2,00	.079	NR3M100R	–	–	1,00	.0394	2,39	.094			●	●		●	●		
3	2,39	.094	NR3047R	–	–	1,19	.0470	3,81	.150		●	●	●					
3	2,50	.098	NR3M125R	–	–	1,25	.0492	3,81	.150			●	●		●	●		
3	3,00	.118	NR3M150R	–	–	1,50	.0591	3,81	.150			●	●		●	●		
3	3,18	.125	NR3062R	–	–	1,59	.0625	3,81	.150		●	●	●					
3	3,50	.138	NR3M175R	–	–	1,75	.0689	3,81	.150			●	●		●	●		
3	3,96	.156	NR3078R	–	–	1,98	.0780	3,81	.150		●							
3	4,00	.157	NR3M200R	–	–	2,00	.0787	3,81	.150			●	●		●	●		
3	4,50	.177	NR3M225R	–	–	2,25	.0886	3,81	.150			●	●		●	●		
3	4,78	.188	NR3094R	–	–	2,39	.0940	3,81	.150		●	●	●					
4	4,00	.157	NR4M200R	–	–	2,00	.0787	6,35	.250			●	●		●	●		
4	4,50	.177	NR4M225R	–	–	2,25	.0886	6,35	.250			●	●		●	●		
4	4,78	.188	NR4094R	–	–	2,39	.0940	6,35	.250		●							
4	5,00	.197	NR4M250R	–	–	2,50	.0984	6,35	.250			●	●		●	●		
4	6,35	.250	NR4125R	–	–	3,18	.1250	6,35	.250		●	●	●					
			left hand															
2	1,00	.039	NR2M050L	–	–	0,50	.0197	1,27	.050			●	●		●	●		
2	1,50	.059	NR2M075L	–	–	0,75	.0295	2,79	.110			●	●		●	●		
2	1,58	.062	NR2031L	–	–	0,79	.0310	2,79	.110			●	●					
2	2,00	.079	NR2M100L	–	–	1,00	.0394	2,79	.110			●	●		●	●		
2	2,39	.094	NR2047L	–	–	1,19	.0470	2,79	.110				●					
2	2,50	.098	NR2M125L	–	–	1,25	.0492	2,79	.110			●	●		●	●		
2	3,00	.118	NR2M150L	–	–	1,50	.0591	2,79	.110			●	●		●	●		
2	3,18	.125	NR2062L	–	–	1,59	.0625	2,79	.110			●	●					
2	3,50	.138	NR2M175L	–	–	1,75	.0689	2,79	.110			●	●		●	●		
3	1,58	.062	NR3031L	–	–	0,79	.0310	2,39	.094		●	●	●					
3	2,00	.079	NR3M100L	–	–	1,00	.0394	2,39	.094			●	●		●	●		
3	2,39	.094	NR3047L	–	–	1,19	.0470	3,81	.150		●	●	●					
3	2,50	.098	NR3M125L	–	–	1,25	.0492	3,81	.150			●	●		●	●		
3	3,00	.118	NR3M150L	–	–	1,50	.0591	3,81	.150			●	●		●	●		
3	3,18	.125	NR3062L	–	–	1,59	.0625	3,81	.150		●	●	●					
3	3,50	.138	NR3M175L	–	–	1,75	.0689	3,81	.150			●	●		●	●		
3	4,00	.157	NR3M200L	–	–	2,00	.0787	3,81	.150			●	●		●	●		
3	4,50	.177	NR3M225L	–	–	2,25	.0886	3,81	.150			●	●		●	●		
3	4,78	.188	NR3094L	–	–	2,39	.0940	3,81	.150		●	●	●					
4	4,00	.157	NR4M200L	–	–	2,00	.0787	6,35	.250			●	●		●	●		
4	4,50	.177	NR4M225L	–	–	2,25	.0886	6,35	.250			●	●		●	●		
4	5,00	.197	NR4M250L	–	–	2,50	.0984	6,35	.250			●	●		●	●		
4	6,35	.250	NR4125L	–	–	3,18	.1250	6,35	.250			●	●					



● first choice
○ alternate choice

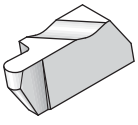
H				○						●
S			●	●	●	○				
N			●	○	○	●			●	
K	○	○	●	●		○	●			○
M	●		●	●		○				
P	●		●	●		●	○			

NR-K



insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RC mm	RC in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	1,58	.062	NR3031RK	1,98	.078	0,79	.0310	2,39	.094			●	●					
3	2,39	.094	NR3047RK	1,91	.075	1,19	.0470	3,81	.150			●	●					
3	3,18	.125	NR3062RK	2,92	.115	1,59	.0625	3,81	.150			●	●					
3	3,96	.156	NR3078RK	2,54	.100	1,98	.0780	3,81	.150			●	●					
4	3,18	.125	NR4062RK	2,92	.115	1,59	.0625	3,81	.150			●	●		●			
4	4,78	.188	NR4094RK	3,81	.150	2,39	.0940	6,35	.250			●	●		●			
4	6,35	.250	NR4125RK	3,81	.150	3,18	.1250	6,35	.250			●	●		●			
			left hand															
3	1,58	.062	NR3031LK	1,98	.078	0,79	.0310	2,39	.094			●	●					
3	2,39	.094	NR3047LK	1,91	.075	1,19	.0470	3,81	.150			●	●					
3	3,18	.125	NR3062LK	2,92	.115	1,59	.0625	3,81	.150			●	●					
3	3,96	.156	NR3078LK	2,54	.100	1,98	.0780	3,81	.150			●	●					
4	3,18	.125	NR4062LK	2,92	.115	1,59	.0625	3,81	.150			●	●		●			
4	4,78	.188	NR4094LK	3,81	.150	2,39	.0940	6,35	.250			●	●		●			
4	6,35	.250	NR4125LK	3,81	.150	3,18	.1250	6,35	.250			●	●		●			

NRD

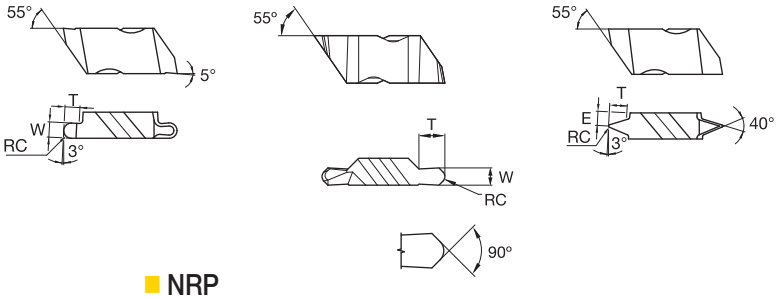


insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RC mm	RC in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	1,58	.062	NRD3031R	–	–	0,79	.0310	3,18	.125			●	●					
3	3,18	.125	NRD3062R	–	–	1,59	.0625	6,35	.250			●	●					
4	3,18	.125	NRD4062R	–	–	1,59	.0625	6,35	.250			●	●					
4	4,78	.188	NRD4094R	–	–	2,39	.0940	12,70	.500			●						
4	6,35	.250	NRD4125R	–	–	3,18	.1250	12,70	.500			●	●					
			left hand															
3	1,58	.062	NRD3031L	–	–	0,79	.0310	3,18	.125			●	●					
3	3,18	.125	NRD3062L	–	–	1,59	.0625	6,35	.250			●	●					
4	3,18	.125	NRD4062L	–	–	1,59	.0625	6,35	.250			●	●					
4	4,78	.188	NRD4094L	–	–	2,39	.0940	12,70	.500			●	●					
4	6,35	.250	NRD4125L	–	–	3,18	.1250	12,70	.500			●	●					

* These inserts have 1 cutting edge.

NOTE: Right-hand insert shown; left-hand insert is mirror image.
Order example:
Catalog number: NRD3031R
Insert grade: KC5010

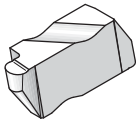
TOP NOTCH™ Grooving Inserts



● first choice
○ alternate choice

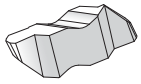
	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
H			○						●
S		●	●	●	○				
N		●	○	○	●			●	
K	○	○	●	●		○	●		○
M	●		●	●		○			
P	●		●	●	●	○			

NRP



insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RC mm	RC in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	1,58	.062	NRP3031R	–	–	0,79	.0310	2,39	.094			●		●				
3	2,39	.094	NRP3047R	–	–	1,19	.0470	3,81	.150		●	●						
3	3,18	.125	NRP3062R	–	–	1,59	.0625	3,81	.150			●		●				
3	4,78	.188	NRP3094R	–	–	2,39	.0940	3,81	.150			●						
4	6,35	.250	NRP4125R	–	–	3,18	.1250	6,35	.250					●				
			left hand															
3	1,58	.062	NRP3031L	–	–	0,79	.0310	2,39	.094			●		●				
3	2,39	.094	NRP3047L	–	–	1,19	.0470	3,81	.150			●						
3	3,18	.125	NRP3062L	–	–	1,59	.0625	3,81	.150			●						
3	4,78	.188	NRP3094L	–	–	2,39	.0940	3,81	.150			●						

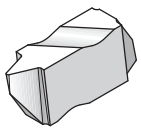
NU



insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RC mm	RC in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	2,39	.094	NU3094R	–	–	0,51	.0200	3,18	.125				●					
3	3,18	.125	NU3125R	–	–	1,19	.0470	4,78	.188				●					
3	3,96	.156	NU3156R	–	–	1,19	.0470	4,78	.188				●					
			left hand															
3	2,39	.094	NU3094L	–	–	0,51	.0200	3,18	.125				●					
3	3,18	.125	NU3125L	–	–	1,19	.0470	4,78	.188				●					
3	3,96	.156	NU3156L	–	–	1,19	.0470	4,78	.188				●					

Tolerance on W: ± 0,13mm (± .005 inch).

NV

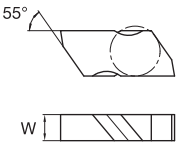


insert size	W mm	W in	catalog number	Ap max mm	Ap max in	RC mm	RC in	T mm	T in	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand															
3	–	–	NV3RJ	–	–	0,32	.0125	2,21	.087				●					
4	–	–	NV4RL	–	–	0,32	.0125	5,11	.201				●					
			left hand															
3	–	–	NV3LJ	–	–	0,32	.0125	2,21	.087				●					
4	–	–	NV4LL	–	–	0,32	.0125	5,11	.201				●					

For size 3: E = 3,18mm (.125 inch).
For size 4: E = 3,00mm (.118 inch).

NOTE: Right-hand insert shown; left-hand insert is mirror image.
Order example:
Catalog number: NV3RJ
Insert grade: K5025

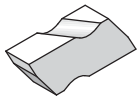
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



● first choice
○ alternate choice

	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
H		○			○				●
S		●	●	●	○				
N		●	○	○	●			●	
K	○	○	●	●		○	●		○
M	●		●	●		○			
P	●		●	●		●	○		

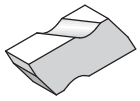
NB



insert size	W mm	W in	catalog number	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand									
2	3,81	.150	NB2R		●							
3	4,95	.195	NB3R		●							
4	6,48	.255	NB4R		●							
			left hand									
2	3,81	.150	NB2L		●							
3	4,95	.195	NB3L		●							
4	6,48	.255	NB4L		●							

NOTE: NB and NBD blanks are designed to allow modification of the W-dimension and end form. W-dimension is provided to indicate maximum possible width. Available only in uncoated grades.

NBD

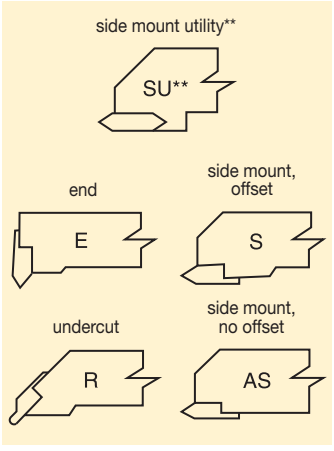


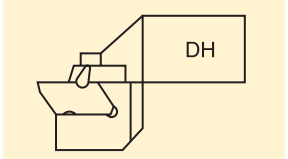
insert size	W mm	W in	catalog number	KT315	K313	KC5010	KC5025	KC5410	KC9110	KC9320	KD1425	KB1630
			right hand									
2	3,81	.150	NBD2R		●							
3	4,95	.195	NBD3R		●							
			left hand									
3	4,95	.195	NBD3L		●							

NOTE: Right-hand insert shown; left-hand insert is mirror image.
Order example:
Catalog number: NBD2R
Insert grade: K313

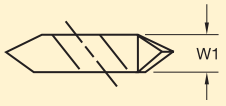
TOP NOTCH™ Grooving Toolholder Identification System

KENNAMETAL





L1	ISO
32	A
40	B
50	C
60	D
70	E
80	F
90	G
100	H
110	J
125	K
140	L
150	M
160	N
170	P
180	Q
200	R
250	S
300	T
350	U
400	V
450	W
500	Y
special length	x

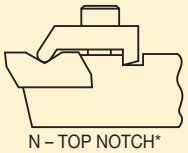


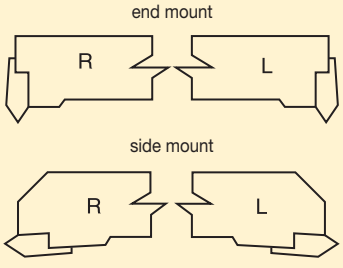
inch insert size	W1 inch	W1 mm
2	.150	3,81
3	.195	4,95
4	.255	6,98
5	.380	9,65
6	.383	9,73
8	.438	11,13

2. Insert Mounting Location	4. Drop Head	6. Tool Length	7. Insert Size

N	S	R		2525	M	4	Q

1. Insert Holding Method	3. Hand of Tool	5. Shank Size	8. Qualified Surface and Length



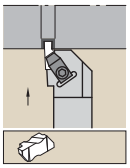


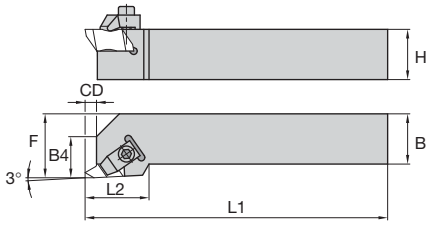
metric:
Shank height and width in mm and holder length according to ISO standard.
inch:
This position will show a significant two-digit number that indicates the holder cross section. For shanks 5/8" square and larger, the number will represent the number of sixteenths of width and height. For shanks under 5/8" square, the number of sixteenths of cross section will be preceded by a zero. For rectangular holders, the first digit represents the number of eighths of width and the second digit the number of quarters of height, except for a toolholder 1 1/4" x 1 1/2", which is given the number 91.

Q – qualified metric holder

* Kennametal proprietary standard only.
**Side mount utility holder can only use NTU inserts.

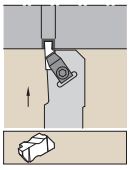
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

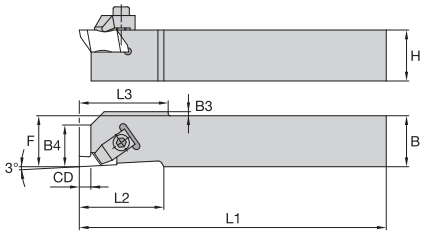




NS

gage insert	catalog number	H	B	F	L1	L2	B4	CD	clamp	clamp screw	Hex(mm)/Torx Plus
	right hand										
N.2R	NSR1010E2	10	10	14	70	19	9	3,5	CM74	MS1200	T10
N.2R	NSR1212F2	12	12	16	80	19	9	3,5	CM74	MS1200	T10
N.2R	NSR1616H2	16	16	20	100	19	9	3,5	CM74	MS1200	T10
N.2R	NSR2020K2	20	20	25	125	19	9	3,5	CM74	MS1200	T10
N.2R	NSR2525M2	25	25	32	150	19	9	3,5	CM74	MS1200	T10
N.3R	NSR2020K3	20	20	25	125	32	13	5,3	CM72LP	MS2111	25 IP
N.3R	NSR2525M3	25	25	32	150	32	13	5,3	CM72LP	MS2111	25 IP
N.3R	NSR3225P3	32	25	32	170	32	13	5,3	CM72LP	MS2111	25 IP
N.3R	NSR3232P3	32	32	40	170	32	13	5,3	CM72LP	MS2111	25 IP
N.4R	NSR2525M4	25	25	32	150	35	14	7,5	CM72LP	MS2111	25 IP
N.4R	NSR3225P4	32	25	32	170	35	14	7,5	CM72LP	MS2111	25 IP
N.4R	NSR3232P4	32	32	40	170	35	14	7,5	CM72LP	MS2111	25 IP
N.5R	NSR3232P5	32	32	40	170	51	16	10,5	CM80	MS352	6 MM
	left hand										
N.2L	NSL1010E2	10	10	14	70	19	9	3,5	CM75	MS1200	T10
N.2L	NSL1212F2	12	12	16	80	19	9	3,5	CM75	MS1200	T10
N.2L	NSL1616H2	16	16	20	100	19	9	3,5	CM75	MS1200	T10
N.2L	NSL2020K2	20	20	25	125	19	9	3,5	CM75	MS1200	T10
N.2L	NSL2525M2	25	25	32	150	19	9	3,5	CM75	MS1200	T10
N.3L	NSL2020K3	20	20	32	125	32	13	5,3	CM73LP	MS2111	25 IP
N.3L	NSL2525M3	25	25	32	150	32	13	5,3	CM73LP	MS2111	25 IP
N.3L	NSL3225P3	32	25	32	170	32	13	5,3	CM73LP	MS2111	25 IP
N.3L	NSL3232P3	32	32	40	170	32	13	5,3	CM73LP	MS2111	25 IP
N.4L	NSL2525M4	25	25	32	150	35	14	7,5	CM73LP	MS2111	25 IP
N.4L	NSL3225P4	32	25	32	170	35	14	7,5	CM73LP	MS2111	25 IP
N.4L	NSL3232P4	32	32	40	170	35	14	7,5	CM73LP	MS2111	25 IP
N.5L	NSL3232P5	32	32	40	170	51	16	10,5	CM81	MS352	6 MM

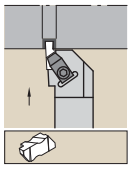


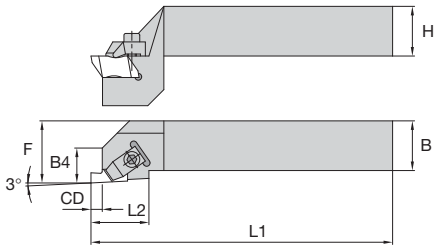


NAS

gage insert	catalog number	H	B	F	L1	L2	B4	CD	B3	L3	clamp	clamp screw	Hex(mm)/Torx Plus
	right hand												
N.2R	NASR1010M2Q	10	10	10	150	19	9	3,5	2,03	19	CM182	MS1200	T10
N.2R	NASR1212M2Q	12	12	12	150	19	9	3,5	–	–	CM182	MS1200	T10
N.3R	NASR1616K3Q	16	16	16	125	32	12	5,3	–	–	CM184LP	MS2111	25 IP
	left hand												
N.2L	NASL1010M2Q	10	10	10	150	19	9	3,5	2,03	19	CM183	MS1200	T10
N.2L	NASL1212M2Q	12	12	12	150	19	9	3,5	–	–	CM183	MS1200	T10
N.3L	NASL1616K3Q	16	16	16	125	32	12	5,3	–	–	CM185LP	MS2111	25 IP

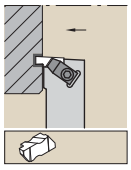
Order example:
Right hand: NASR1010M2Q Left hand: NASL1010M2Q

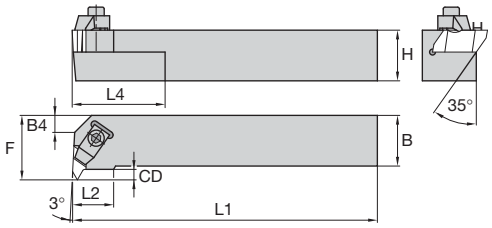




NS-DH

gage insert	catalog number	H	B	F	L1	L2	B4	CD	B3	L3	clamp	clamp screw	Hex(mm)/Torx Plus
	right hand												
N.2R	NSRDH2020K2	20	20	25	125	19	9	3,5	–	–	CM74	MS1200	T10
N.2R	NSRDH2525M2	25	25	32	150	19	9	3,5	–	–	CM74	MS1200	T10
N.3R	NSRDH2525M3	25	25	32	150	32	13	5,3	–	–	CM72LP	MS2111	25 IP
N.3R	NSRDH3232P3	32	32	40	170	32	13	5,3	–	–	CM72LP	MS2111	25 IP



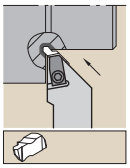


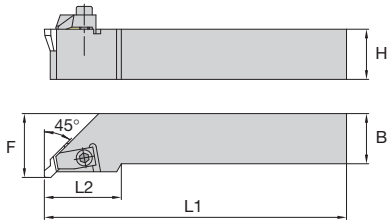
NE

gage insert	catalog number	H	B	F	L1	L2	B4	CD	B3	clamp	clamp screw	Hex(mm)/Torx Plus
	right hand											
N.2L	NER1616H2	16	16	20	100	15	–	3,5	–	CM75	MS1200	T10
N.2L	NER2020K2	20	20	25	125	15	–	3,5	–	CM75	MS1200	T10
N.2L	NER2525M2	25	25	32	150	15	–	3,5	–	CM75	MS1200	T10
N.3L	NER2525M3	25	25	32	150	22	–	5,3	–	CM73LP	MS2111	25 IP
N.3L	NER3225P3	32	25	32	170	22	–	3,8	–	CM73LP	MS2111	25 IP
N.4L	NER2525M4	25	25	35	150	24	–	7,5	–	CM73LP	MS2111	25 IP
N.4L	NER3225P4	32	25	35	170	24	–	7,5	–	CM73LP	MS2111	25 IP
N.4L	NER3232P4	32	32	40	170	24	–	6,4	–	CM73LP	MS2111	25 IP
N.5L	NER3232P5	32	32	50	170	35	–	10,5	–	CM81	MS352	6 MM
	left hand											
N.2R	NEL1616H2	16	16	20	100	15	–	3,5	–	CM74	MS1200	T10
N.2R	NEL2020K2	20	20	25	125	15	–	3,5	–	CM74	MS1200	T10
N.2R	NEL2525M2	25	25	32	150	15	–	3,5	–	CM74	MS1200	T10
N.3R	NEL2525M3	25	25	32	150	22	–	5,3	–	CM72LP	MS2111	25 IP
N.3R	NEL3225P3	32	25	32	170	22	–	3,8	–	CM72LP	MS2111	25 IP
N.4R	NEL2525M4	25	25	35	150	24	–	7,5	–	CM72LP	MS2111	25 IP
N.4R	NEL3225P4	32	25	35	170	24	–	7,5	–	CM72LP	MS2111	25 IP
N.4R	NEL3232P4	32	32	40	170	24	–	6,4	–	CM72LP	MS2111	25 IP
N.5R	NEL3232P5	32	32	50	170	35	–	10,5	–	CM80	MS352	6 MM

Order example:
Right hand: NER1616H2 Left hand: NEL1616H2

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



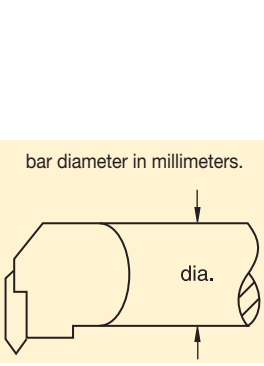


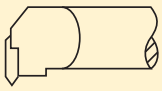
NR

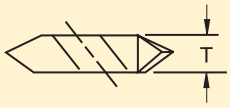
gage insert	catalog number	H	B	F	L1	L2	B4	CD	B3	clamp	clamp screw	Torx Plus
	right hand											
NU3125L	NRR2020K3	20	20	25	125	32	–	–	–	CM73LP	MS2111	K25IP
NU3125L	NRR2525M3	25	25	32	150	32	–	–	–	CM73LP	MS2111	K25IP
NU3125L	NRR3225P3	32	25	32	170	32	–	–	–	CM73LP	MS2111	K25IP
	left hand											
NU3125R	NRL2020K3	20	20	25	125	32	–	–	–	CM72LP	MS2111	K25IP
NU3125R	NRL2525M3	25	25	32	150	32	–	–	–	CM72LP	MS2111	K25IP
NU3125R	NRL3225P3	32	25	32	170	32	–	–	–	CM72LP	MS2111	K25IP

NOTE: NR style toolholders are compatible with "NU" style inserts only.

Order example:
Right hand: NRR2020K3 Left hand: NRL2020K3

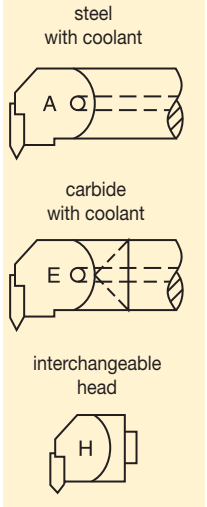


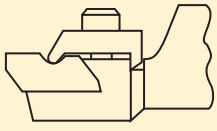


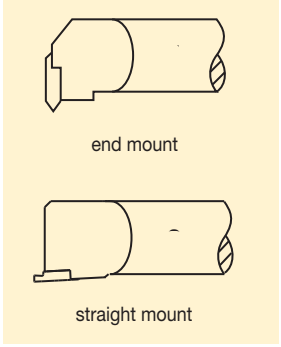


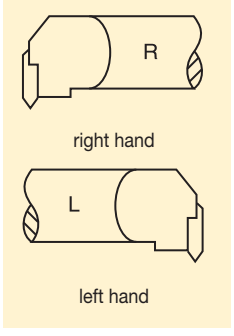
insert number	(mm)	T
1	3,54	.100
2	3,81	.150
3	5,35	.195
4	6,40	.255
5	9,65	.380
6	9,73	.383
8	11,13	.438

1. Bar Type	2. Bar Diameter	3. Bar Length	4. Insert Holding Method	5. Insert Shape	6. Insert Location	7. Rake Angle	8. Hand of Bar	9. Insert Size
A	25	R	N	N	T	O	R	2

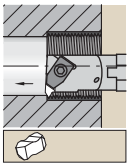




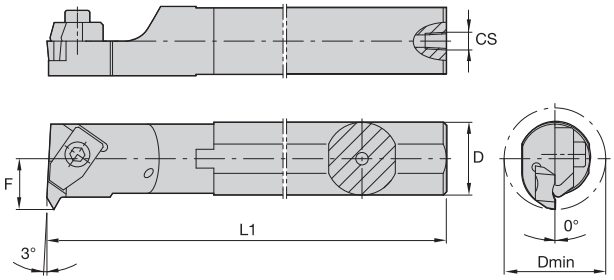




*Kennematal standard only.

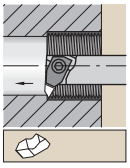


Steel shank with through coolant

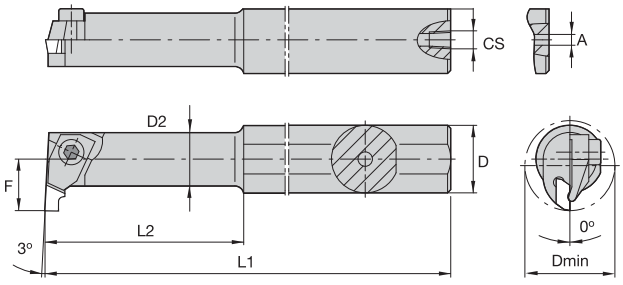


A-NNT

gage insert	catalog number	D min	D	L1	F	CS	clamp	clamp screw	Hex(mm)/Torx plus
	right hand								
N.2L	A12MNNTOR2	18,5	12	150	11	1/16-27 NPT	CM147	MS1025	2.5 MM
N.2L	A16MNNTOR2	22,0	16	150	11	1/8-27 NPT	CM75	MS1025	2.5 MM
N.2L	A20QNNTOR2	26,0	20	180	13	1/8-27 NPT	CM75	MS1025	2.5 MM
N.2L	A25RNNTOR2	34,0	25	200	17	1/4-18 NPT	CM75	MS1025	2.5 MM
N.3L	A25RNNTOR3	34,0	25	200	17	1/4-18 NPT	CM73LP	MS2111	25 IP
N.3L	A32SNNTOR3	44,0	32	250	22	1/4-18 NPT	CM73LP	MS2111	25 IP
N.3L	A40TNNTOR3	54,0	40	300	27	1/4-18 NPT	CM73LP	MS2111	25 IP
N.4L	A40TNNTOR4	54,0	40	300	27	1/4-18 NPT	CM73LP	MS2111	25 IP
N.4L	A50UNNTOR4	70,0	50	350	35	1/4-18 NPT	CM73LP	MS2111	25 IP
	left hand								
N.2R	A12MNNTOL2	18,5	12	150	11	1/16-27 NPT	CM146	MS1025	2.5 MM
N.2R	A16MNNTOL2	22,0	16	150	11	1/8-27 NPT	CM74	MS1025	2.5 MM
N.2R	A20QNNTOL2	26,0	20	180	13	1/8-27 NPT	CM74	MS1025	2.5 MM
N.2R	A25RNNTOL2	34,0	25	200	17	1/4-18 NPT	CM74	MS1025	2.5 MM
N.3R	A25RNNTOL3	34,0	25	200	17	1/4-18 NPT	CM72LP	MS2111	25 IP
N.3R	A32SNNTOL3	44,0	32	250	22	1/4-18 NPT	CM72LP	MS2111	25 IP
N.3R	A40TNNTOL3	54,0	40	300	27	1/4-18 NPT	CM72LP	MS2111	25 IP
N.4R	A40TNNTOL4	54,0	40	300	27	1/4-18 NPT	CM72LP	MS2111	25 IP
N.4R	A50UNNTOL4	70,0	50	350	35	1/4-18 NPT	CM72LP	MS2111	25 IP



Necked steel shank with through coolant



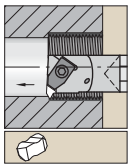
A-NNT -1

gage insert	catalog number	D min	D	D2	L1	L2	F	A	CS	clamp	clamp screw	Hex (mm)
	right hand											
N.1L	A10KNNTOR1	11,5	10	8,7	125	31,75	7	3,2	–	CM109	MS1034	1.5 MM
N.1L	A12MNNTOR1	11,5	12	8,7	150	31,75	7	–	1/16-27 NPT	CM109	MS1034	1.5 MM

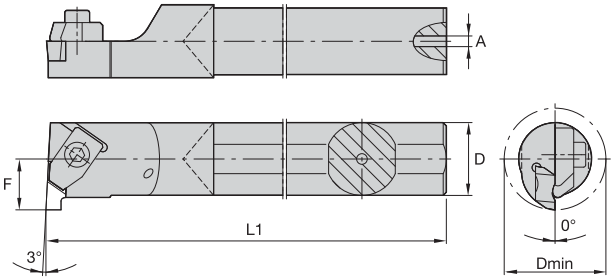
*Minimum bore capability varies with depth of groove. See page D129 for details.

Order example:

Right hand: A10KNNTOR1



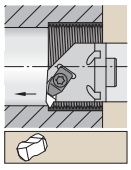
Carbide shank with through coolant



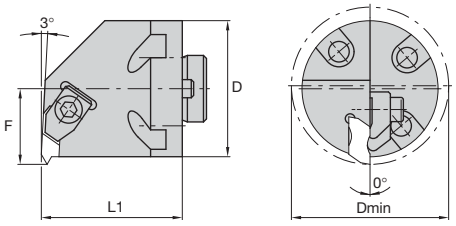
E-NNT

gage insert	catalog number	D min	D	L1	F	A	CS	clamp	clamp screw	Hex (mm) / Torx Plus
	right hand									
N.2L	E16RNNTOR2	22	16	200	11	5,537	–	CM75	MS1200	T10
N.2L	E20SNNTOR2	26	20	250	13	7,137	–	CM75	MS1200	T10
N.3L	E25TNNTOR3	34	25	300	17	7,935	–	CM73LP	MS2111	25 IP
	left hand									
N.2R	E16RNNTOL2	22	16	200	11	5,537	–	CM74	MS1200	T10
N.2R	E20SNNTOL2	26	20	250	13	7,137	–	CM74	MS1200	T10
N.3R	E25TNNTOL3	34	25	300	17	7,935	–	CM72LP	MS2111	25 IP

*Minimum bore capability varies with depth of groove. See page D129 for details.



With through coolant



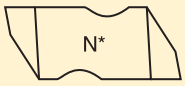
H-NNT

gage insert	catalog number	D	D min	F	L1	clamp	clamp screw	Torx Plus
	right hand							
N.3L	H32NNTOR3	32,0	44,0	22	41,3	CM73LP	MS2111	K25IP
N.3L	H40NNTOR3	40,0	54,0	27	41,3	CM73LP	MS2111	K25IP
N.4L	H60NNTOR4	60,0	73,2	43	41,3	CM73LP	MS2111	K25IP
	left hand							
N.3R	H32NNTOL3	32,0	44,0	22	41,3	CM72LP	MS2111	K25IP
N.3R	H40NNTOL3	40,0	54,0	27	41,3	CM72LP	MS2111	K25IP

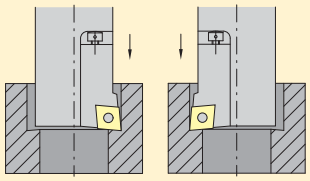
Order example:
Right hand: H32NNTOR3 Left hand: H32NNTOL3

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

N - TOP NOTCH



R L



C - Cartridge

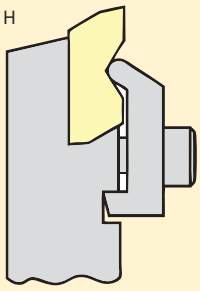
N E R 20 C A 2

1. Type of Insert
2. Insert Mounting Location
3. Hand of Tool
4. Cartridge Size
5. Cartridge Identification
6. Cartridge Mounting
7. Insert Size

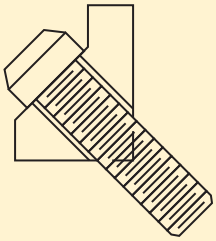
end

*Kennametal standard only

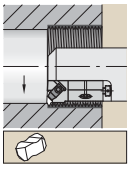
H



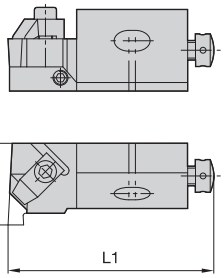
H - cutting edge height of cartridge, in millimeters.



A - angular acc. ISO 5611



See page D103 for inserts



NE-CA

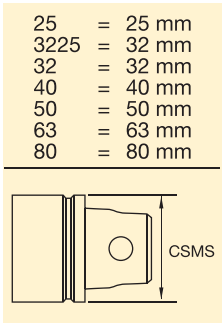
gage insert	catalog number	D min	F	L1	clamp	clamp screw	Hex (mm) / Torx Plus	radial adjusting screw	Hex (mm) / Torx Plus	axial screw	hold down screw	Hex (mm) / Torx Plus	washer
	right hand												
N.2L	NER12CA2	50	20	55,670	CM75	MS1025	2.5MM	KUAM23	2.5MM	KUAM31	191.406	4MM	CSWM 060 050
N.2L	NER20CA2	70	25	70,000	CM75	MS1025	2.5MM	KUAM25	2.5MM	KUAM33	191.407	5 MM	CSWM 080 050
N.3L	NER25CA3	100	32	100,000	CM73LP	MS412	4 MM	KUAM27	4 MM	KUAM33	MS364	6 MM	CSWM 100 080
N.4L	NER25CA4	100	32	100,000	CM73LP	MS412	4 MM	KUAM27	4 MM	KUAM33	MS364	6 MM	CSWM 100 080
	left hand												
N.2R	NEL12CA2	50	20	55,000	CM74	MS1025	2.5 MM	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
N.3R	NEL25CA3	100	32	100,000	CM72LP	MS412	4 MM	KUAM26	4 MM	KUAM33	MS364	6 MM	CSWM 100 080

*NOTE: Minimum bore diameter (Dmin) capability varies with groove type.

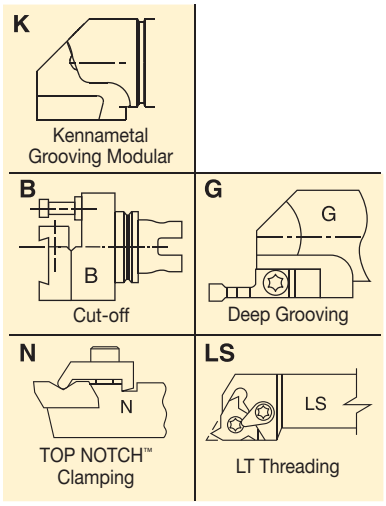
NOTE: F dimension measured over flat point of TOP NOTCH-style grooving insert.

Order example:
Right Hand: NER12CA2 Left Hand: NEL12CA2

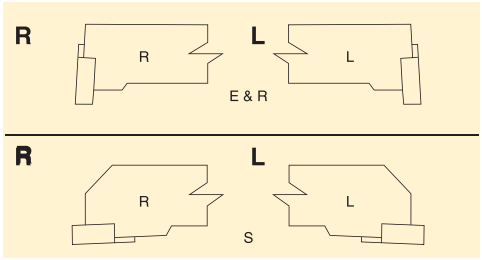
Identification System



2. System Size



4. Insert Holding Method



6. Hand of Tool

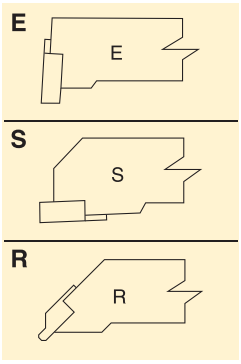
KM 63 - UT N S R 3 E

1. Kennametal Modular

3. Feature

ATC
UT
XMZ
XTS

5. Insert Location



9. Special Feature

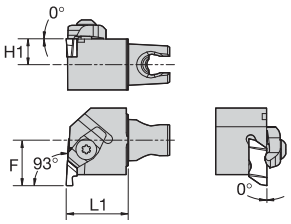
Y = Mazak Integrex

8. Additional Information

E - External only
N - Internal only
C - GC-style insert

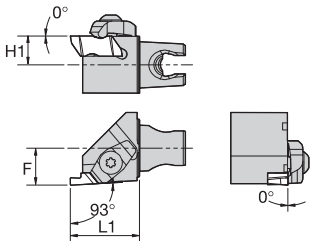
7. Insert Cutting Edge Length

N - insert size		LT - cutting edge length		KGM blade size
s		l	d (IC)	
2	3,18	l	d (IC)	50
3	4,95	16	9,52	50
4	6,48	22	12,70	50
5	9,65	–	–	50
6	11,13	–	–	50



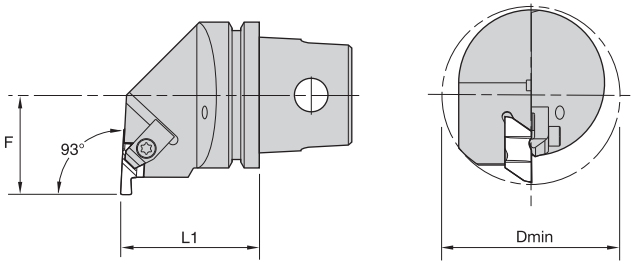
NE 93°

order number	catalog number	L1		F		H1		gage insert	clamp	clamp screw
	right hand									
2399462	KM25NER230	30	1.181	22	.866	12,5	.492	NG2L	CM75	MS1200
2399494	KM25NER330	30	1.181	22	.866	12,5	.492	NG3L	CM73LP	MS2111
2399496	KM25NER430	30	1.181	24	.945	12,5	.492	NG4L	CM73LP	MS2111
	left hand									
2399493	KM25NEL230	30	1.181	22	.866	12,5	.492	NG2R	CM74	MS1200
2399495	KM25NEL330	30	1.181	22	.866	12,5	.492	NG3R	CM72LP	MS2111
2399497	KM25NEL430	30	1.181	24	.945	12,5	.492	NG4R	CM72LP	MS2111



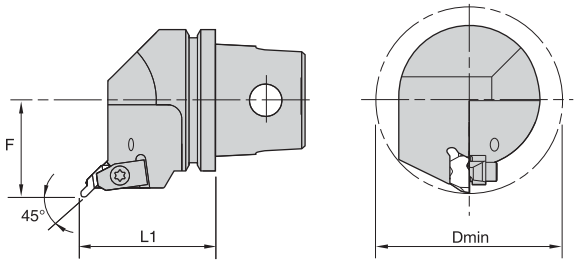
NS 93°

order number	catalog number	L1		F		H1		gage insert	clamp	clamp screw
	right hand									
2399498	KM25NSR230	30	1.181	16	.630	12,5	.492	NG2R	CM74	MS1200
2399500	KM25NSR330	30	1.181	16	.630	12,5	.492	NG3R	CM72LP	MS2111
2399502	KM25NSR430	30	1.181	16	.630	12,5	.492	NG4R	CM212LP	MS2111
	left hand									
2399499	KM25NSL230	30	1.181	16	.630	12,5	.492	NG2L	CM75	MS1200
2399501	KM25NSL330	30	1.181	16	.630	12,5	.492	NG3L	CM73LP	MS2111
2399503	KM25NSL430	30	1.181	16	.630	12,5	.492	NG4L	CM213LP	MS2111



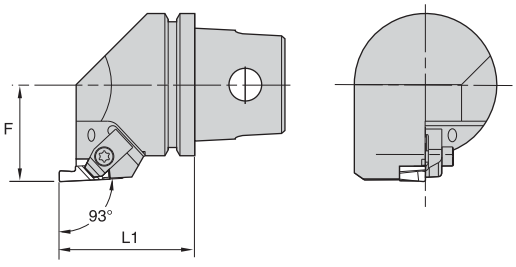
NE 93°

order number	catalog number		L1		F	D min	gage insert	clamp	clamp screw
	right hand								
1019569	KM40NER2	40	1.575	27	1.063	54	NG2L	CM75	MS1488
1019627	KM40NER3	40	1.575	27	1.063	54	NG3L	CM73	MS1489
1019631	KM40NER4	40	1.575	27	1.063	54	NG4L	CM73	MS1489
	left hand								
1019571	KM40NEL2	40	1.575	27	1.063	54	NG2R	CM74	MS1488
1019629	KM40NEL3	40	1.575	27	1.063	54	NG3R	CM72	MS1489
1019682	KM40NEL4	40	1.575	27	1.063	54	NG4R	CM72	MS1489



NR 45°

order number	catalog number		L1		F	D min	gage insert	clamp	clamp screw
	right hand								
1019073	KM40NRR3	40	1.575	27	1.063	54	NU3L	CM73	MS1489
	left hand								
1019124	KM40NRL3	40	1.575	27	1.063	54	NU3R	CM72	MS1489



NS 93°

order number	catalog number		L1		F	D min	gage insert	clamp	clamp screw
	right hand								
1019570	KM40NSR2	40	1.575	27	1.063	–	NG2R	CM74	MS1488
1019628	KM40NSR3	47	1.850	27	1.063	–	NG3R	CM72	MS1489
1019734	KM40NSR4	47	1.850	27	1.063	–	NG4R	CM72	MS1489
	left hand								
1019572	KM40NSL2	40	1.575	27	1.063	–	NG2L	CM75	MS1488
1019630	KM40NSL3	47	1.850	27	1.063	–	NG3L	CM73	MS1489
1019683	KM40NSL4	47	1.850	27	1.063	–	NG4L	CM73	MS1489

Machining Guidelines for Chip Control — Grooving

- Center height of insert should be positioned at the center of the workpiece, or up to 0,13mm (.005 inch) above.
- Dwell time in the bottom of the groove, more than three revolutions, is not recommended.
- Chip control is feed rate related, and should be adjusted to fit the particular situation. Recommended feed range is 0,08-0,3mm/rev (.003- 0.012 ipr).

Machining Guidelines for Chip Control — Turning/Profiling

- Maximum depth-of-cut for side cutting (turning/profiling) depends upon material being cut and width of the tool. However, some general guidelines are:

  1) 0,79–1,6mm (.031–062 inch) wide insert can cut up to 0,6mm (.025 inch) deep.

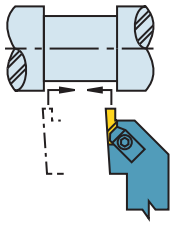
  2) 1,7–3,3mm (.067–.128 inch) wide insert can cut up to 1,0mm (.040 inch) deep.

  3) 3,5–4,8mm (.138–.189 inch) wide insert can cut up to 2,0mm (.080 inch) deep.

  4) 5,0–9,5mm (.197–.375 inch) wide insert can cut up to 3,0mm (.120 inch) deep.

Finish turning the groove

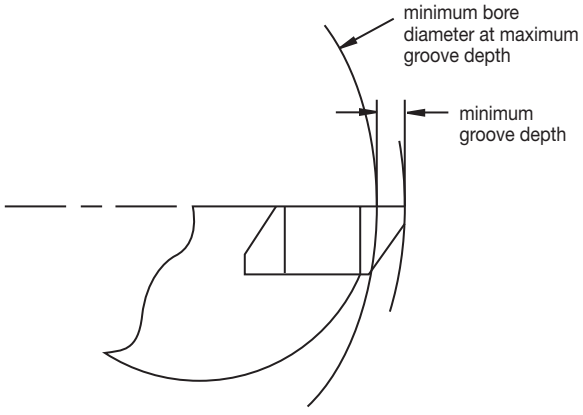
1. Plunge both sides of groove width.
2. Plunge center area to remove web of material remaining.
3. To avoid insert chipping and to achieve groove wall perpendicularity, follow the tool path outlined here.
4. Use the lightest depth of cut that still allows good chip breaking, tool life, and surface finish.



Groove Limits (Maximum Internal Groove Depth vs. Minimum Bore Diameter)

insert	maximum groove depth mm	maximum groove depth inch	minimum bore diameter mm	minimum bore diameter inch
NG-1094L	1,91	.075	20,32	.800
	1,02	.040	11,18	.440
NG-2031R/L	1,27	.050	18,54	.730
NG-2041R/L				
NG-2047R/L				
NG-2058R/L				
	2,79	.110	63,5	2.500
NG-2062R/L	2,59	.102	44,45	1.750
NG-2094R/L	2,49	.098	38,10	1.500
NG-2125R/L	2,03	.080	25,40	1.000
	1,40	.055	18,54	.730
NG-3047R/L				
NG-3062R/L	2,39	.094	44,45	1.750
NG-3072R/L	2,29	.090	41,28	1.625
NG-3078R/L	1,91	.075	34,93	1.375
NG-3088R/L				
NG-3094R/L				
NG-3097R/L	3,81	.150	60,33	2.375
NG-3105R/L				
NG-3110R/L	3,68	.145	53,98	2.125
NG-3122R/L				
NG-3125R/L	3,51	.138	47,63	1.875
NG-3142R/L				
NG-3156R/L	3,18	.125	41,28	1.625
NG-3178R/L				
NG-3185R/L	2,79	.110	34,93	1.375
NG-3189R/L				
NG-4125R/L	3,81	.150	69,85	2.750
	6,35	.250	146,05	5.750
NG-4189R/L	6,22	.245	127,00	5.000
NG-4213R/L	6,10	.240	114,30	4.500
NG-4219R/L	5,54	.218	82,55	3.250
NG-4250R/L	5,08	.200	63,50	2.500
	9,53	.375	731,82	28.812
NG-5250R/L	9,17	.361	401,62	15.812
NG-5281R/L	8,74	.344	274,62	10.812
NG-5312R/L	8,31	.327	185,72	7.312
NG-5344R/L	7,47	.294	122,22	4.812
NG-5375R/L	6,53	.257	90,47	3.562
	5,46	.215	71,42	2.812
NG-6250R/L	6,35	.250	146,05	5.750
NG-6281R/L	6,22	.245	127,00	5.000
NG-6312R/L	6,10	.240	114,30	4.500
NG-6344R/L	5,54	.218	82,55	3.250
NG-6375R/L	5,08	.200	63,50	2.500

Internal Groove Depth vs. Bar Interference



NOTE: Internal grooving depth limits are a function of bar clearance versus bore diameters.

*The same maximum groove depth and minimum bore diameter values also apply to metric, NG-K (chip control), and NR (full radius) inserts of similar size.

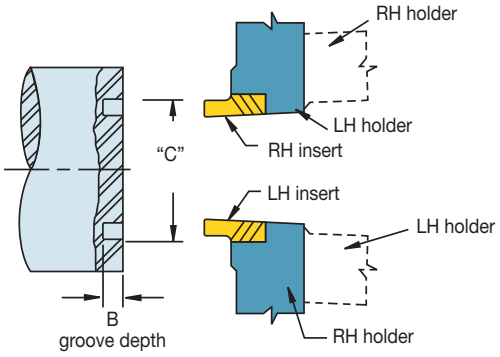
Machining Guidelines

Machining Guidelines for Face Grooving Operations — External

Standard NF/NFD Inserts

insert family	maximum groove depth "B" mm	maximum groove depth "B" inch	minimum groove diameter "C" mm	minimum groove diameter "C" inch
NF-3	1,52	.060	23,9	.94
NF-3	2,39	.094	30,5	1.20
NF-3	3,18	.125	36,1	1.42
NF-3	3,81	.150	41,3	1.63
NFD-3	6,35	.250	47,6	1.88
NF-4/6	1,52	.060	23,9	.94
NF-4/6	2,39	.094	30,5	1.20
NF-4/6	3,18	.125	36,1	1.42
NF-4/6	3,81	.150	41,3	1.63
NF-4/6	4,78	.188	47,6	1.88
NF-4/6	6,35	.250	57,2	2.25
NFD-4	9,53	.375	57,2	2.25
NFD-4	12,70	.500	57,2	2.25

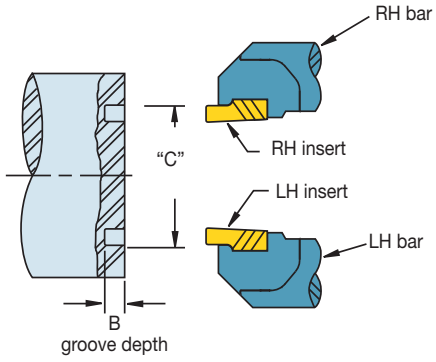
Toolholders



Standard NG/NGD Inserts

insert family	maximum groove depth "B" mm	maximum groove depth "B" inch	minimum groove diameter "C" mm	minimum groove diameter "C" inch
NG-2	1,27	.050	54,0	2.13
NG-2	2,79	.110	88,9	3.50
NG-3	2,39	.094	101,6	4.00
NG-3	3,18	.125	127,0	5.00
NG-3	3,81	.150	139,7	5.50
NGD-3	6,35	.250	174,6	6.88
NG-4	3,81	.150	152,4	6.00
NG-4	6,35	.250	209,6	8.25
NGD-4	9,53	.375	222,3	8.75
NGD-4	12,70	.500	222,3	8.75
NG-5	9,53	.375	333,0	13.00

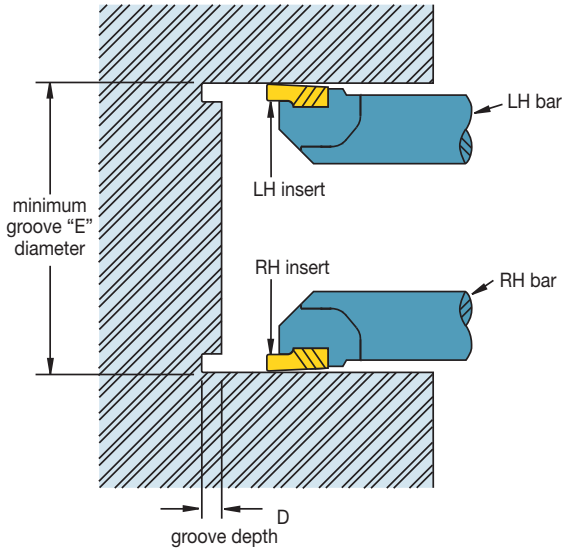
Boring bars



Machining Guidelines for Face Grooving Operations — Internal

insert family	maximum groove depth "D" mm	maximum groove depth "D" inch	minimum groove diameter "E" mm	minimum groove diameter "E" inch
NFD-3-KI	6,35	.250	57,2	2.25

Boring bars



NOTE: For internal applications, use only NFD-KI inserts.

KENNAMETAL®

Threading

Table of Contents

Threading Tools.....E1–E84

Threading Application Guide.....E2–E3

TOP NOTCH™ Threading.....E4–E27

KENNA PERFECT™ Selection Guide.....E6–E7

Inserts.....E10–E17

Toolholders.....E18–E20

Boring Bars and Heads.....E21–E23

Cartridges.....E24

Indentification System.....E25

KM25™.....E26

KM40™.....E27

LT Threading.....E28–E57

KENNA PERFECT™ Selection Guide.....E30–E31

Inserts.....E32–E51

Toolholders.....E52–E54

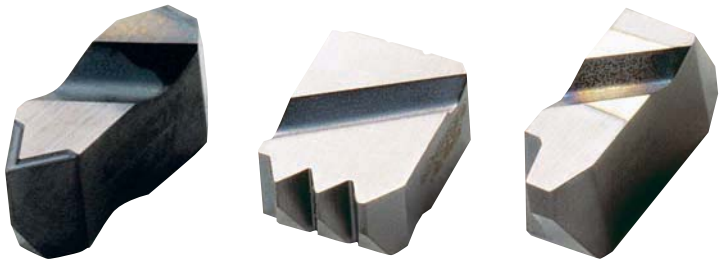
Boring Bars and Heads.....E55–E57

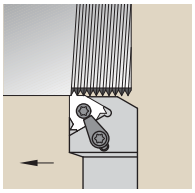
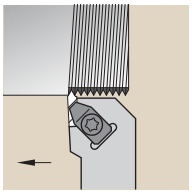
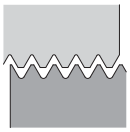
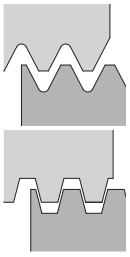
Identification System.....E58

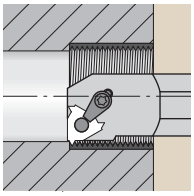
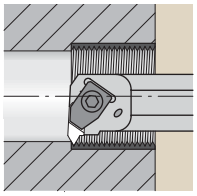
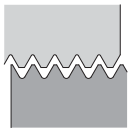
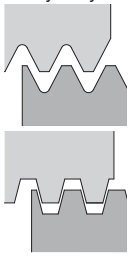
KM25™ Cutting Units.....E59

KM40™ Cutting Units.....E60

Technical Data.....E62–E84



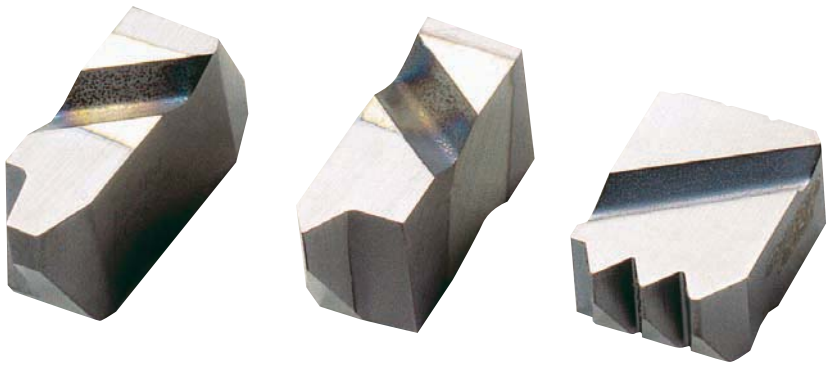
Application	LT Laydown Triangle Threading	TOP NOTCH™ Threading
External Threading	Square Shank Toolholder Sizes: • inch–.500–1.25 inch available • metric–12mm–32mm available Also available in KM™ and KM Micro™ Quick-Change tooling. 	Square Shank Toolholder Sizes: • inch – .375–1.5 inch available • metric – 10mm–32mm available Also available in KM and KM Micro Quick-Change tooling. 
Fine Pitch 	Cresting (Full Profile) and Partial Profile: UN maximum TPI of 48 ISO minimum pitch of 0,5mm Advantages: • Chip control in full profile cresting inserts (available to 32 TPI and 0,5mm pitch). • Shims allow adjustment of insert inclination for left-handed and small-diameter threads.	Cresting (Full Profile): UN maximum TPI of 32 ISO minimum pitch of 1,5mm Partial Profile – Flat Top (NTF and NTK): UN maximum TPI of 44 ISO minimum pitch of 0,6mm Partial Profile – Chip Control (NT-K): UN maximum TPI of 36 ISO minimum pitch of 0,7mm Advantages: • Simple system does not require shim selection. • Rigid clamping allows fewer passes and ensures reliable performance even on difficult-to-machine materials.
Coarse Pitch/ Heavy Duty 	Cresting (Full Profile): UN minimum TPI of 8 ISO maximum pitch of 5,0mm Partial Profile: UN minimum TPI of 5 ISO maximum pitch of 5,0mm Advantages: • Chip control in full profile cresting inserts (available to 8 TPI and 3,0mm pitch). • Shims allow adjustment of insert inclination for left-handed and coarse-pitch or multi-start threads.	Cresting (Full Profile): UN minimum TPI of 7 ISO maximum pitch of 3,0mm Partial Profile – Flat Top and Chip Control (NT-C and NT-CK): UN minimum TPI of 4.5 ISO maximum pitch of 5,5mm Advantages: • Simple system does not require shim selection. • Rigid clamping allows fewer passes and ensures reliable performance even on difficult-to-machine materials. • Ideal for heavy-duty forms like Acme, American Buttress, API, and multi–tooth threading.

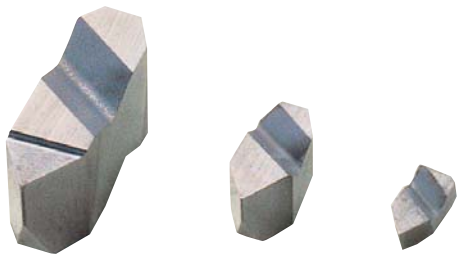
Application	LT Laydown Triangle Threading	TOP NOTCH™ Threading
Internal Threading	Boring Bar Diameters: • inch — .375–1.25 inch • metric — 12mm–32mm • steel and carbide • min. bore — .500 inch (13 mm) Boring Head Sizes: • inch — 1.0–2.0 inch • metric — 40 mm–50 mm • min. bore — 1.20 inch (45mm)  Also available in KM™ Quick-Change tooling.	Boring Bar Diameters: • inch – .312–2.5 inch • metric – 7,9mm–50mm • steel, carbide, and heavy metal (inch only) • min. bore – .440 inch (11,5mm) Boring Head Sizes: • inch – 1.25-2.5 inch • metric – 32mm-60mm • min. bore – 1.75 inch (44mm)  Also available in KM™ Quick-Change tooling.
Fine Pitch 	Cresting (Full Profile) and Partial Profile: UN maximum TPI of 48 ISO minimum pitch of 0,5mm Advantages: • Chip control in full profile cresting inserts (available to 36 TPI and 0,5mm pitch). • Shims allow adjustment of insert inclination for left-handed and small-diameter threads on boring bars larger than .625 inch (16mm).	Cresting (Full Profile): UN maximum TPI of 16 ISO minimum pitch of 1,5mm Partial Profile – Flat Top (NT-1L, NTF and NTK): UN maximum TPI of 24 ISO minimum pitch of 1,0mm Partial Profile – Chip Control (NT-K): UN maximum TPI of 20 ISO minimum pitch of 1,25mm Advantages: • Simple system does not require shim selection. • Rigid clamping allows fewer passes and ensures reliable performance even on difficult-to-machine materials.
Coarse Pitch/ Heavy Duty 	Cresting (Full Profile): UN minimum TPI of 8 ISO maximum pitch of 5,0mm Partial Profile: UN minimum TPI of 5 ISO maximum pitch of 5,0mm Advantages: • Chip control in full profile cresting inserts (available to 8 TPI and 2,5mm pitch). • Shims allow adjustment of insert inclination for left-handed and coarse-pitch or multi-start threads on boring bars larger than .625 inch (16mm).	Cresting (Full Profile): UN minimum TPI of 8 ISO maximum pitch of 3,0mm Partial Profile – Flat Top and Chip Control (NT-C and NT-CK): UN minimum TPI of 4.5 ISO maximum pitch of 5,5mm Advantages: • Simple system does not require shim selection. • Rigid clamping allows fewer passes and ensures reliable performance even on difficult-to-machine materials. • Ideal for heavy duty forms like Acme, American Buttress, API, and multi–tooth threading.

KENNAMETAL®

Threading

TOP NOTCH™ Threading...

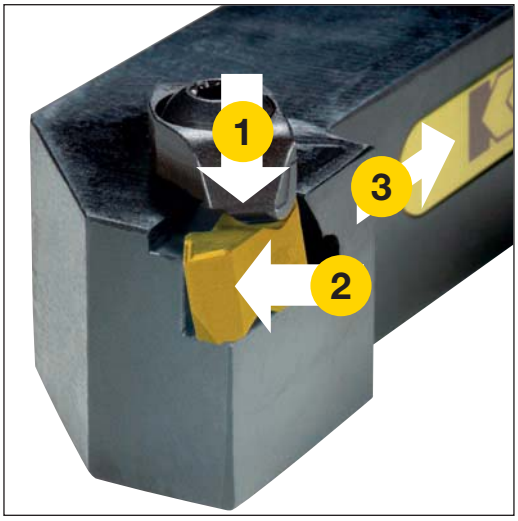




...the proven high-productivity threading solution!

Choosing the TOP NOTCH™ Threading System

- A superior choice for heavy-duty applications like machining of Acme, Buttress, and API threads. Top Notch is also the best system for coarse pitch and multi-tooth threading applications.
- Largest selection of insert geometries and grades in the industry.
- A very rigid insert clamping design assures best tool life, surface finish, and workpiece quality.
- Simplicity of the Top Notch design does not require shim selection for thread helix angles. This helps to avoid mistakes on the shop floor.
- Reduces inventory by using the same Top Notch toolholders and boring bars with either threading or grooving inserts.
- Top Notch chipbreaker inserts eliminate long troublesome coils.
- An excellent choice for special thread forms and toolholder designs.



Precision-Ground Thread Form

- Minimizes built-up edge.
- Precisely cuts most common materials.
- Reduces cutting forces.
- Ensures accurate high-quality threads.

Superior Chip Control

- Eliminates long, troublesome coils.
- Excellent for internal threading operations.
- Available in partial profile inserts for 60° thread forms.

Premium Kenna Perfect™ Grades

- KC5010™ and KC5025™ PVD TiAlN-coated, and KC5410™ TiB2 coated.
- Increase speed and reduce passes for optimum threading productivity.
- Produce high-quality threads longer and faster than with any other tools.

Our rigid clamping design prevents insert movement during high infeed threading applications.

KENNA PERFECT™ – TOP NOTCH™ Threading

KENNAMETAL

4 Easy Steps to Improve Productivity

Required Information:

- External/internal operation.
- Spindle rotation/hand of thread.
- Feed direction.

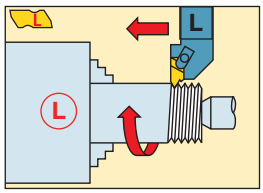
1st Step — Select Threading Method and Hand of Tooling

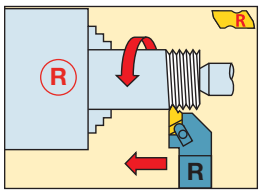
(L) or (R) – hand of thread

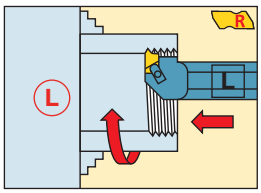
[L] or [R] – hand of toolholder

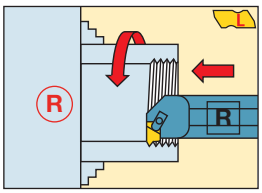
L or R – hand of insert

- Feed direction toward the chuck — standard helix

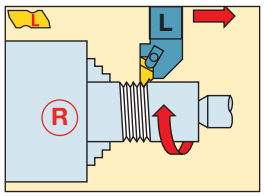

external left-hand thread

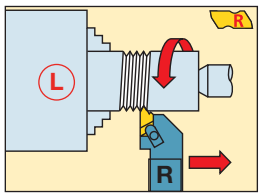

external right-hand thread

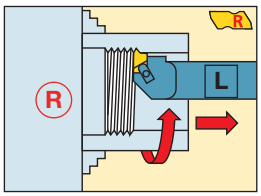

internal left-hand thread

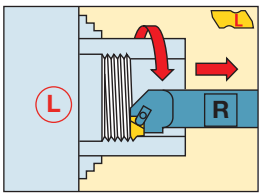

internal right-hand thread

- Feed direction away from the chuck — reverse helix


external right-hand thread

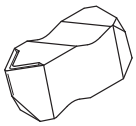

external left-hand thread


internal right-hand thread


internal left-hand thread

2nd Step — Choose Insert for Application

- See threading insert overview on E9.
- Select cresting inserts for fully controlled thread form including diameter control. Cresting inserts eliminate the need for deburring.
- Non-cresting partial profile inserts can cut a variety of thread pitches. Chip control is only available with partial profile inserts.
- Note insert size for toolholder selection.



insert size	catalog number	KC5025	KC5010
2	NT-2RK	●	●
3	NT-3RK	●	●
4	NT-4RK	●	●

3rd Step — Select Grade and Speed

Recommendations for Grade and Speed Selection – sfm (m/min)

	Workpiece Material	Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys
KENNA PERFECT	Insert Style	chip control or neutral	chip control or positive	neutral	positive	positive
	Optimum Cutting Conditions	KC5010 160–750 (50–230)	KC5010 160–600 (50–185)	KC5010 230–700 (70–210)	KC5410 230–1300 (70–390)	KC5010 65–400 (20–120)
	First Choice	KC5025 130–650 (40–200)	KC5025 130–450 (40–135)	KC5025 200–475 (60–145)	KC5025 160–1150 (50–360)	KC5025 35–330 (10–100)

* Note: Also available as an optimum cutting tool for steel and stainless steel for partial profile threading. Increase speed by 15% over the recommendations above.

Examples:
Chip Control: NT-K or NT-CK (partial profile only)
Neutral: NT, NT-C, NTF, NTC, NJ, NJF, NDC-V, NA, NDC, NTB-A/B
Positive: NTP, NTK, NJP, NJK

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

4th Step — Select Holder from Catalog Page

Note: The insert size must match the gage insert size of your toolholder selection:

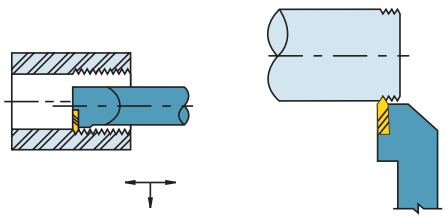
catalog number	gage insert
NSR-163D	N.3R
NSR-164D	N.4R

NOTE: TOP NOTCH toolholders and boring bars are listed with a gage insert to indicate the size and hand required. They are compatible with both grooving and threading inserts of the same size.

Required Information:

- External/internal operation.
- Minimum bore diameter (for internal operations).
- Hand of tool.
- Insert size (gage insert).

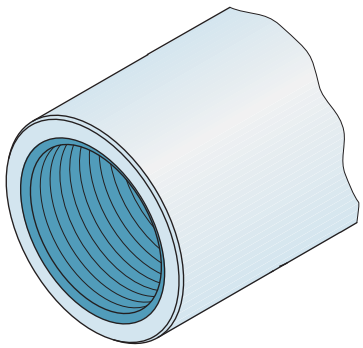
Select the appropriate holder for the insert size and hand



NOTE: Optimize your threading operation by using the proper infeed angle and the recommended infeed values.
See the Technical section on pages E65-E67 of this catalog.
For internal threading, min. bore varies depending on thread type — see E75 for details.

TOP NOTCH Threading Example:

application: 8 TPI Acme internal
right-hand thread
material: alloy steel
workpiece dia.: 4.5 inch (114,3 mm)
good cutting conditions
feed toward the chuck



Recommendation:

insert: NA3L8
grade: KC5010
insert size:: 3

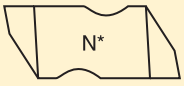
boring bar: A40NER3 (metric: A50UNNTOR4)
gage insert: N.3L

speed: 500 sfm (150 m/min)
infeed passes*: 12 passes

* Infeed recommendations given in technical data section on pages E65-E67.

TOP NOTCH Threading – Insert Identification System

*TOP NOTCH



1. Type of Insert

N

2. Insert Style

- A – Acme
- D – API or NPT
- J – UNJ thread
- T – 60° V thread
- W – 55° V Whitworth

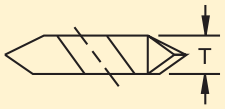
J

3. Additional Information

- B – Buttress
- F – fine pitch
- S – Stub Acme
- C – cresting
- P – positive rake
- K – fine pitch, positive
- U – utility**

F

4. Insert Size



insert size	T (inch)	T (mm)
1	.100	2,54
2	.150	3,81
3	.195	4,95
4	.255	6,48
5	.380	9,65
6	.383	9,73
8	.438	11,13

See full dimension chart below

3

5. Industry Thread Identification

Position indicates API or drilling industry form designation (e.g.—10RD, 8RD, .038)

or

controlled root radius threading inserts indicate the root radius in .001 inch increments (NJ, NJF, NJP, NJK)

or

M indicates metric ISO thread

6. Hand of Insert

- R – right
- L – left

R

7. Definition of Insert

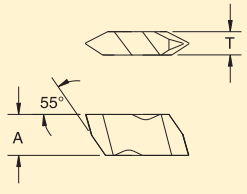
- threads per inch or pitch (for metric)
- "A" or "B" type Buttress insert
- taper per foot – API threads

12

8. Additional Information

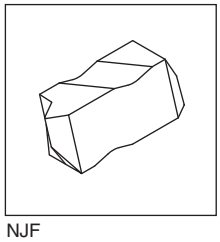
- I – internal thread
- E – external thread (used only if internal and external thread forms are different)
- M – multiple tooth
- K – standard chip control
- C – coarse pitch
- D – dryseal

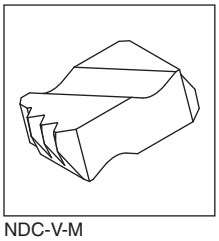
*Kennametal proprietary standard only.
**Utility threading insert can only be used in NSUR/L utility holders.

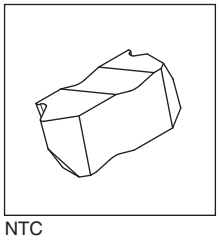


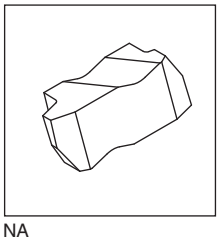
Top Notch Threading and Grooving Insert Dimensions

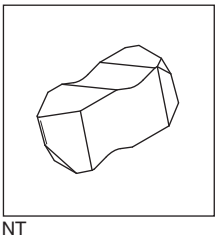
insert size	A		T	
	inch	mm	inch	mm
1	.100	2,54	.100	2,54
2	.219	5,56	.150	3,81
3	.344	8,74	.195	4,95
4	.453	11,51	.255	6,48
5	.688	17,48	.380	9,65
6	.453	11,51	.383	9,73
8	.312	7,93	.438	11,13

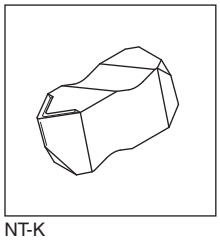

NJF


NDC-V-M


NTC

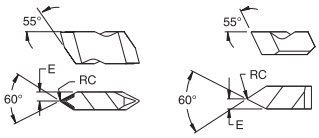

NA


NT


NT-K

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

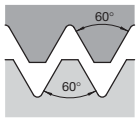
Style								
Chip Control - K	Neutral	Positive	Thread Profile	Standard	Tolerance Class	Cresting	Application	Page
NT-K	NT	NTP	Partial Profile 60°	–	–	N	general use for 60° thread forms such as ISO and UN where non-cresting inserts are desired to cut a variety of pitches	E10
NT-CK			Partial Profile 60° -coarse pitch	–	–	N	coarse pitch 60° thread forms such as ISO and UN where non-cresting inserts are desired to cut a variety of pitches	E11
	NTF	NTK	Partial Profile 60° -fine pitch	–	–	N	fine pitch 60° thread forms such as ISO and UN where non-cresting inserts are desired to cut a variety of pitches – able to thread close to shoulders	E11
	NTU		Partial Profile 60° -four-edged insert	–	–	N	four-edged insert for 60° partial profile threading – requires NSU-style toolholder for size 4U insert	E11
	NTC-M		Metric ISO	ISO R262, DIN 13	6g / 6H	Y	widely used metric 60° V-form for all industries	E12
	NTC		American UN	ANSI B1.1:74	2A / 2B	Y	widely used inch-based 60° V-form for all industries	E12
	NJ	NJP	UNJ	MIL-S-8879C	3A / 3B	N	controlled root radius on external threads for military and aerospace industries	E13
	NJF	NJK	UNJ -fine pitch	MIL-S-8879C	3A / 3B	N	controlled root radius on external threads for military and aerospace industries – able to thread close to shoulders	E13
	NDC-V		NPT	USAS B2.1:1968	Standard NPT	Y	National Pipe Thread standard forms for pipe fittings	E14
	NDC-V-M		NPT - multitooth	USAS B2.1:1968	Standard NPT	Y	high productivity multitooth threading inserts for NPT threads	E14
	NWC		Whitworth, BSW, BSP	BS 84:1956, ISO 228/1:1982, DIN 259	Medium Class A	Y	widely used 55° form for gas and water connections	E15
	ND		API Rotary Shoulder Connections - partial profile	API SPEC. 7:1990	Standard API	N	60° V-form used for rotary shoulder pipe connections in the oil and gas industry including V-.038R, V-.040, and V-.050 forms	E15
	NDC		API Rotary Shoulder Connections - cresting	API SPEC. 7:1990	Standard API	Y	60° V-form used for rotary shoulder pipe connections in the oil and gas industry including V-.038R, V-.040, and V-.050 forms – complete cresting form including taper	E15
	NDC-RD		API Round	API STD. 5B:1979	Standard API RD	Y	60° V-form with large radius for casing, tubing and line pipe in the oil and gas industry including 8 and 10 round forms	E16
	NDC-RD-M		API Round - multitooth	API STD. 5B:1979	Standard API RD	Y	high productivity multitooth threading inserts for API round threads	E16
	NA		Acme	ANSI B1.5:1988	3G	N	29° truncated thread form for motion applications in a wide variety of industries	E16
	NAS		Stub Acme	ANSI B1.8:1988	2G	N	shallow depth 29° truncated thread form for motion applications in a wide variety of industries	E17
	NTB-A		American Buttress · 7° pressure flank leading (Push)	ANSI B1.9:1973	Class 2	N	sawtooth form for axial load bearing applications in a variety of industries – use the "A" style when the 7° pressure flank is the leading edge	E17
	NTB-B		American Buttress · 45° clearance flank leading (Pull)	ANSI B1.9:1973	Class 2	N	sawtooth form for axial load bearing applications in a variety of industries – use the "B" style when the 45° clearance flank is the leading edge	E17



● first choice
○ alternate choice

H			○	
S	●	●	●	○
N	●	○	○	●
K	○	●	●	
M		●	●	
P		●	●	

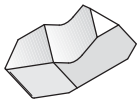
NT-K

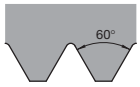


Partial Profile 60°

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
2	NT2RK	0,70-3,00	1,25-3,50	8-36	7-20	0,10	.0040	1,91	.075		●	●	
3	NT3RK	1,25-4,00	2,00-5,00	6-20	5-12	0,17	.0065	2,49	.098		●	●	
4	NT4RK	1,25-6,25	2,00-6,25	4-20	4-12	0,17	.0065	3,25	.128		●	●	
	left hand												
2	NT2LK	0,70-3,00	1,25-3,50	8-36	7-20	0,10	.0040	1,91	.075		●	●	
3	NT3LK	1,25-4,00	2,00-5,00	6-20	5-12	0,17	.0065	2,49	.098		●	●	
4	NT4LK	1,25-6,25	2,00-6,25	4-20	4-12	0,17	.0065	3,25	.128		●	●	

NT-1L

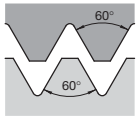




Partial Profile 60° Internal

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	left hand												
1	NT1L	–	1,00-2,00	–	12-24	0,08	.0030	1,09	.043	●	●	●	

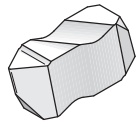
NT

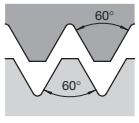


Partial Profile 60°

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
2	NT2R	0,70-3,00	1,25-3,50	8-36	7-20	0,10	.0040	1,91	.075	●	●	●	
3	NT3R	1,25-4,00	2,00-5,00	6-20	5-12	0,17	.0065	2,49	.098	●	●	●	
4	NT4R	1,25-6,25	2,00-6,25	4-20	4-12	0,17	.0065	3,25	.128	●	●	●	
	left hand												
2	NT2L	0,70-3,00	1,25-3,50	8-36	7-20	0,10	.0040	1,91	.075	●	●	●	
3	NT3L	1,25-4,00	2,00-5,00	6-20	5-12	0,17	.0065	2,49	.098	●	●	●	
4	NT4L	1,25-6,25	2,00-6,25	4-20	4-12	0,17	.0065	3,25	.128	●	●	●	

NTP



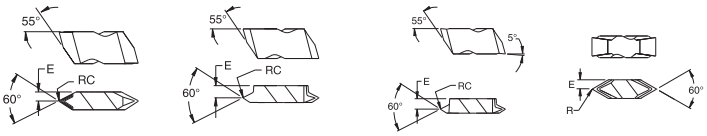


Partial Profile 60°

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
2	NTP2R	0,70-3,00	1,25-3,50	8-36	7-20	0,10	.0040	1,91	.075	●	●	●	●
3	NTP3R	1,25-4,00	2,00-5,00	6-20	5-12	0,17	.0065	2,49	.098	●	●	●	●
4	NTP4R	1,25-6,25	2,00-6,25	4-20	4-12	0,17	.0065	3,25	.128		●	●	
	left hand												
2	NTP2L	0,70-3,00	1,25-3,50	8-36	7-20	0,10	.0040	1,91	.075	●	●	●	
3	NTP3L	1,25-4,00	2,00-5,00	6-20	5-12	0,17	.0065	2,49	.098	●	●	●	●
4	NTP4L	1,25-6,25	2,00-6,25	4-20	4-12	0,17	.0065	3,25	.128		●	●	

Order example:
Catalog number: NTP2R
Insert grade: KC5025

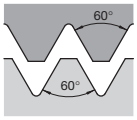
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



● first choice
○ alternate choice

H			○		
S	●	●	●	○	
N	●	○	○	●	
K	○	●	●		
M		●	●		
P		●	●		

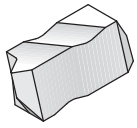
NT-CK

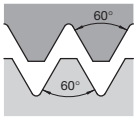


Partial Profile 60°

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NT3RCK	2,50-4,00	4,00	6-11	6	0,34	.0135	2,46	.097		●	●	
4	NT4RCK	2,50-5,50	4,00-5,50	4.5-11	4.5-6	0,34	.0135	3,23	.127		●	●	
	left hand												
3	NT3LCK	2,50-4,00	4,00	6-11	6	0,34	.0135	2,46	.097		●	●	
4	NT4LCK	2,50-5,50	4,00-5,50	4.5-11	4.5-6	0,34	.0135	3,23	.127		●	●	

NTF

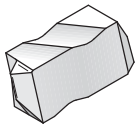


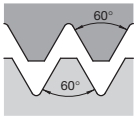


Partial Profile 60°

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
2	NTF2R	0,60-1,75	1,00-2,00	14-44	12-24	0,08	.0030	2,79	.110	●	●	●	
3	NTF3R	0,60-2,50	1,00-2,50	10-44	9-24	0,08	.0030	3,58	.141	●	●	●	
4	NTF4R	0,60-2,50	1,00-2,50	10-44	9-24	0,08	.0030	5,11	.201	●		●	
	left hand												
2	NTF2L	0,60-1,75	1,00-2,00	14-44	12-24	0,08	.0030	2,79	.110	●	●	●	
3	NTF3L	0,60-2,50	1,00-2,50	10-44	9-24	0,08	.0030	3,58	.141	●	●	●	

NTK

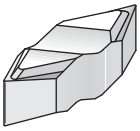


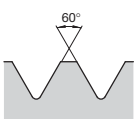


Partial Profile 60°

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
2	NTK2R	0,60-1,75	1,00-2,00	14-44	12-24	0,08	.0030	2,79	.110	●	●	●	
3	NTK3R	0,60-2,50	1,00-2,50	10-44	9-24	0,08	.0030	3,58	.141	●	●	●	
	left hand												
2	NTK2L	0,60-1,75	1,00-2,00	14-44	12-24	0,08	.0030	2,79	.110	●	●	●	
3	NTK3L	0,60-2,50	1,00-2,50	10-44	9-24	0,08	.0030	3,58	.141	●	●	●	

NTU

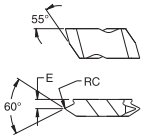




Partial Profile
60° External

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
4U	NTU4R	1,25-6,25	–	4-20	–	0,11	.0045	3,18	.125			●	

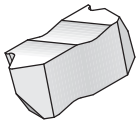
Order example:
Catalog number: NTU4R
Insert grade: KC5025

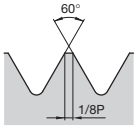


● first choice
○ alternate choice

H				○										
S		●	●	●	○									
N		●	○	○	●									
K		○	●	●										
M			●	●										
P			●	●										

NTC-M-E

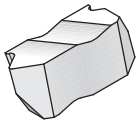


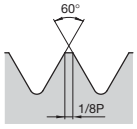


ISO Metric-External

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NTC3MR150E	1,50	–	–	–	0,2	.0080	3,68	.145		●	●	
3	NTC3MR200E	2,00	–	–	–	0,3	.0106	3,68	.145		●		
	left hand												
3	NTC3ML150E	1,50	–	–	–	0,2	.0080	3,68	.145		●		
3	NTC3ML200E	2,00	–	–	–	0,3	.0106	3,68	.145			●	

NTC-E

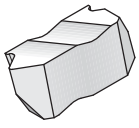


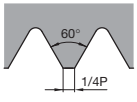


American UN-External

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NTC3R32E	–	–	32	–	0,10	.0040	3,76	.148		●	●	
3	NTC3R28E	–	–	28	–	0,12	.0046	3,76	.148			●	
3	NTC3R24E	–	–	24	–	0,13	.0053	3,76	.148		●	●	
3	NTC3R20E	–	–	20	–	0,16	.0062	3,76	.148		●	●	
3	NTC3R18E	–	–	18	–	0,18	.0070	3,76	.148		●	●	
3	NTC3R16E	–	–	16	–	0,19	.0075	3,76	.148		●	●	
3	NTC3R14E	–	–	14	–	0,22	.0088	3,76	.148		●	●	
3	NTC3R13E	–	–	13	–	0,24	.0096	3,76	.148		●	●	
3	NTC3R12E	–	–	12	–	0,25	.0100	3,76	.148		●	●	
3	NTC3R11E	–	–	11	–	0,28	.0111	2,72	.107		●	●	
3	NTC3R10E	–	–	10	–	0,32	.0124	2,72	.107		●	●	
3	NTC3R9E	–	–	9	–	0,36	.0140	2,72	.107		●	●	
3	NTC3R8E	–	–	8	–	0,41	.0160	2,72	.107		●	●	
3	NTC3R7E	–	–	7	–	0,47	.0186	2,72	.107			●	
	left hand												
3	NTC3L16E	–	–	16	–	0,19	.0075	3,76	.148		●	●	
3	NTC3L12E	–	–	12	–	0,25	.0100	3,76	.148		●	●	
3	NTC3L8E	–	–	8	–	0,41	.0160	2,72	.107		●		

NTC-I



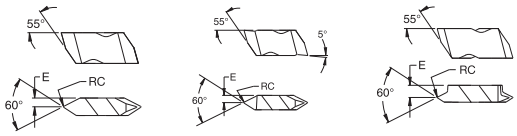


American UN-Internal

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NTC3R12I	–	–	–	12	0,10	.0040	3,76	.148			●	
3	NTC3R8I	–	–	–	8	0,18	.0070	2,72	.107			●	
	left hand												
3	NTC3L10I	–	–	–	10	0,13	.0052	2,72	.107			●	
3	NTC3L12I	–	–	–	12	0,10	.0040	3,76	.148			●	
3	NTC3L14I	–	–	–	14	0,09	.0037	3,76	.148			●	
3	NTC3L16I	–	–	–	16	0,08	.0030	3,76	.148			●	
3	NTC3L8I	–	–	–	8	0,18	.0070	2,72	.107			●	

Order example:
Catalog number: NTC3R12I
Insert grade: KC5025

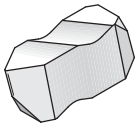
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

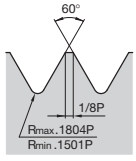


● first choice
○ alternate choice

H			○			
S	●	●	●	○		
N	●	○	○	●		
K	○	●	●			
M		●	●			
P		●	●			

NJ

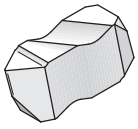


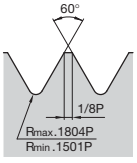


UNJ External

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NJ3010R16	–	–	16	–	0,25	.0099	2,49	.098	●		●	
3	NJ3014R12	–	–	12	–	0,33	.0130	2,49	.098	●	●	●	
3	NJ3020R8	–	–	8	–	0,49	.0193	2,49	.098		●	●	
	left hand												
3	NJ3010L16	–	–	16	–	0,25	.0099	2,49	.098			●	
3	NJ3014L12	–	–	12	–	0,33	.0130	2,49	.098		●	●	
3	NJ3020L8	–	–	8	–	0,49	.0193	2,49	.098			●	

NJP

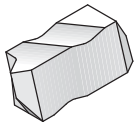


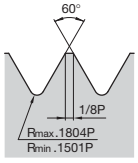


UNJ External

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NJP3010R16	–	–	16	–	0,25	.0099	2,49	.098		●	●	
3	NJP3014R12	–	–	12	–	0,33	.0130	2,49	.098	●	●	●	
3	NJP3020R8	–	–	8	–	0,49	.0193	2,49	.098		●	●	
	left hand												
3	NJP3010L16	–	–	16	–	0,25	.0099	2,49	.098			●	
3	NJP3014L12	–	–	12	–	0,33	.0130	2,49	.098		●	●	
3	NJP3020L8	–	–	8	–	0,49	.0193	2,49	.098			●	

NJF

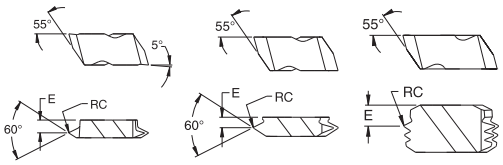




UNJ External

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NJF3005R32	–	–	32	–	0,13	.0052	3,58	.141		●		
3	NJF3006R28	–	–	28	–	0,15	.0059	3,58	.141	●	●	●	
3	NJF3007R24	–	–	24	–	0,17	.0068	3,58	.141		●	●	
3	NJF3008R20	–	–	20	–	0,20	.0078	3,58	.141		●	●	
3	NJF3009R18	–	–	18	–	0,22	.0088	3,58	.141	●	●	●	
3	NJF3010R16	–	–	16	–	0,25	.0099	3,58	.141	●	●	●	
3	NJF3012R14	–	–	14	–	0,28	.0112	3,58	.141		●	●	
	left hand												
3	NJF3006L28	–	–	28	–	0,15	.0059	3,58	.141		●		
3	NJF3007L24	–	–	24	–	0,17	.0068	3,58	.141		●		
3	NJF3010L16	–	–	16	–	0,25	.0099	3,58	.141		●		

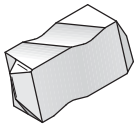
Order example:
Catalog number: NJF3005R32
Insert grade: KC5010

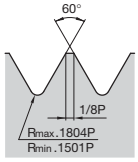


● first choice
○ alternate choice

H				○										
S		●	●	●	○									
N		●	○	○	●									
K		○	●	●										
M			●	●										
P			●	●										

NJK

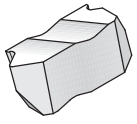


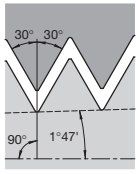


UNJ External

insert size	catalog number	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NJK3005R32	–	–	32	–	0,13	.0052	3,58	.141		●	●	
3	NJK3006R28	–	–	28	–	0,15	.0059	3,58	.141		●	●	
3	NJK3007R24	–	–	24	–	0,17	.0068	3,58	.141		●	●	
3	NJK3008R20	–	–	20	–	0,20	.0078	3,58	.141	●	●	●	
3	NJK3009R18	–	–	18	–	0,22	.0088	3,58	.141		●	●	
3	NJK3010R16	–	–	16	–	0,25	.0099	3,58	.141	●	●	●	
3	NJK3012R14	–	–	14	–	0,28	.0112	3,58	.141		●	●	
	left hand												
3	NJK3005L32	–	–	32	–	0,13	.0052	3,58	.141			●	
3	NJK3008L20	–	–	20	–	0,20	.0078	3,58	.141			●	
3	NJK3012L14	–	–	14	–	0,28	.0112	3,58	.141		●		

NDC-V

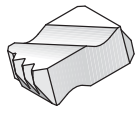


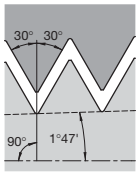


NPT

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NDC327VR75	27	.750	0,05	.002	–	–	3,66	.144		●		
3	NDC314VR75	14	.750	0,08	.003	–	–	3,66	.144		●		
3	NDC3115VR75	11.5	.750	0,10	.004	–	–	3,66	.144		●		
3	NDC38VR75	8	.750	0,13	.005	–	–	2,54	.100		●		
	left hand												
3	NDC3115VL75	11.5	.750	0,10	.004	–	–	3,66	.144		●		
3	NDC38VL75	8	.750	0,13	.005	–	–	2,54	.100		●		

NDC-V-M (Multi-Tooth)



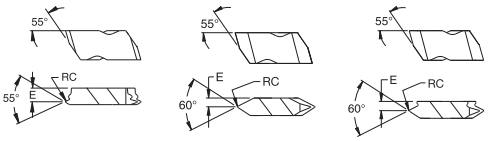


NPT

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
8	NDC8115VR75M	11.5	.750	0,10	.004	–	–	2,59	.102		●		
8	NDC88VR75M	8	.750	0,13	.005	–	–	2,41	.095		●		
	left hand												
8	NDC8115VL75M	11.5	.750	0,10	.004	–	–	2,59	.102		●		
8	NDC88VL75M	8	.750	0,13	.005	–	–	2,41	.095		●		

Order example:
Catalog number: NDC8115VR75M
Insert grade: KC5010

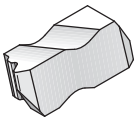
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

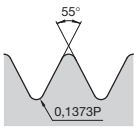


● first choice
○ alternate choice

H			○		
S	●	●	●	○	
N	●	●	○	○	●
K	○	●	●		
M			●	●	
P			●	●	

NWC-E

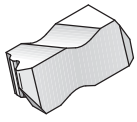


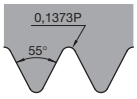


Whitworth BSW, BSP-External

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NWC3R14E	14	–	0,235	.0093	–	–	3,43	.135		●	●	
3	NWC3R11E	11	–	0,300	.0118	–	–	3,43	.135		●	●	

NWC-I

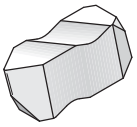


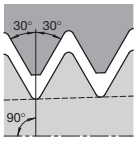


Whitworth BSW, BSP-Internal

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	left hand												
3	NWC3L11I	11	–	0,300	.0118	–	–	3,43	.135			●	

ND (Partial Profile)

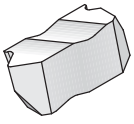


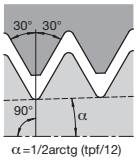


API Rotary Shoulder Connections

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	ND3040R	5	–	0,445	.0175	–	–	2,08	.082			●	
3	ND3038R	4	–	0,902	.0355	–	–	2,08	.082			●	
4	ND4050R	4	–	0,572	.0225	–	–	3,25	.128			●	
	left hand												
3	ND3038L	4	–	0,902	.0355	–	–	2,08	.082		●	●	
4	ND4040L	5	–	0,445	.0175	–	–	3,25	.128			●	

NDC (Cresting)



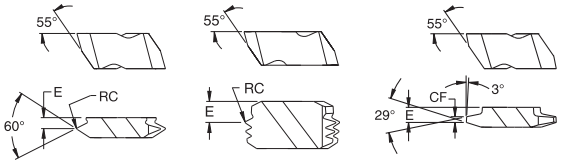


α=1/2arctg (tpf/12)

API Rotary Shoulder Connections

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NDC3040R3	5	3.000	0,445	.0175	–	–	3,73	.147			●	
4	NDC4038R2	4	2.000	0,902	.0355	–	–	4,65	.183		●	●	
4	NDC4050R2	4	2.000	0,572	.0225	–	–	4,65	.183		●	●	
4	NDC4050R3	4	3.000	0,572	.0225	–	–	4,65	.183		●	●	
	left hand												
3	NDC3040L3	5	3.000	0,445	.0175	–	–	3,73	.147		●		
4	NDC4038L2	4	2.000	0,902	.0355	–	–	4,65	.183		●	●	
4	NDC4050L2	4	2.000	0,572	.0225	–	–	4,65	.183			●	
4	NDC4050L3	4	3.000	0,572	.0225	–	–	4,65	.183		●		

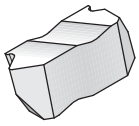
Order example:
Catalog number: NDC3040R3
Insert grade: KC5025

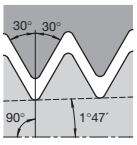


● first choice
○ alternate choice

	K68	KC5010	KC5025	KC5410
H		○		
S	●	●	●	○
N	●	○	○	●
K	○	●	●	
M		●	●	
P		●	●	

NDC-RD

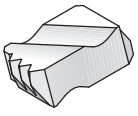


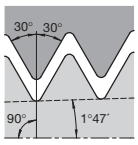


API Round

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NDC310RDR75	10	.750	0,36	.014	–	–	3,18	.125		●	●	
3	NDC38RDR75	8	.750	0,43	.017	–	–	3,18	.125		●	●	
	left hand												
3	NDC310RDL75	10	.750	0,36	.014	–	–	3,18	.125		●	●	
3	NDC38RDL75	8	.750	0,43	.017	–	–	3,18	.125		●	●	

NDC-RD-M (Multi-Tooth)

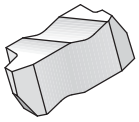


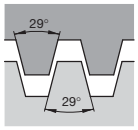


API Round

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
6	NDC68RDR75M	8	.750	0,41	.016	–	–	2,62	.103		●		
	left hand												
6	NDC68RDL75M	8	.750	0,41	.016	–	–	2,62	.103		●		

NA

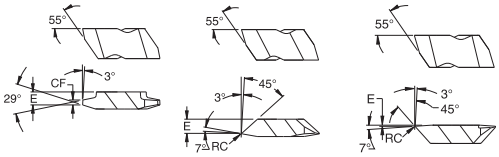




Acme

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NA3R16	16	–	–	–	0,523	.0206	3,79	.149		●		
3	NA3R14	14	–	–	–	0,607	.0239	3,79	.149		●	●	
3	NA3R12	12	–	–	–	0,719	.0283	3,79	.149		●	●	
3	NA3R10	10	–	–	–	0,810	.0319	3,79	.149		●	●	
3	NA3R8	8	–	–	–	1,044	.0411	3,79	.149		●	●	
3	NA3R6	6	–	–	–	1,438	.0566	3,79	.149		●	●	
3	NA3R5	5	–	–	–	1,750	.0689	3,79	.149	●	●	●	
3	NA3R4	4	–	–	–	2,223	.0875	3,38	.133		●	●	
4	NA4R8	8	–	–	–	1,044	.0411	5,13	.202			●	
4	NA4R6	6	–	–	–	1,438	.0566	5,13	.202			●	
4	NA4R5	5	–	–	–	1,750	.0689	5,13	.202			●	
4	NA4R4	4	–	–	–	2,223	.0875	5,13	.202		●	●	
6	NA6R3	3	–	–	–	3,007	.1184	7,19	.283			●	
6	NA6R25	2.5	–	–	–	3,635	.1431	7,19	.283			●	
6	NA6R2	2	–	–	–	4,577	.1802	7,19	.283		●	●	
	left hand												
3	NA3L12	12	–	–	–	0,719	.0283	3,79	.149		●	●	
3	NA3L10	10	–	–	–	0,810	.0319	3,79	.149		●	●	
3	NA3L8	8	–	–	–	1,044	.0411	3,79	.149		●	●	
3	NA3L6	6	–	–	–	1,438	.0566	3,79	.149		●	●	
3	NA3L5	5	–	–	–	1,750	.0689	3,79	.149		●	●	
3	NA3L4	4	–	–	–	2,223	.0875	3,38	.133	●	●	●	
4	NA4L10	10	–	–	–	0,810	.0319	5,13	.202			●	
4	NA4L8	8	–	–	–	1,044	.0411	5,13	.202			●	
4	NA4L6	6	–	–	–	1,438	.0566	5,13	.202			●	
4	NA4L5	5	–	–	–	1,750	.0689	5,13	.202		●	●	
4	NA4L4	4	–	–	–	2,223	.0875	5,13	.202		●	●	
6	NA6L3	3	–	–	–	3,007	.1184	7,19	.283			●	
6	NA6L25	2.5	–	–	–	3,635	.1431	7,19	.283			●	
6	NA6L2	2	–	–	–	4,577	.1802	7,19	.283		●	●	

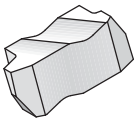
Order example:
Catalog number:
NA3R16
Insert grade:
KC5010

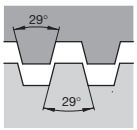


● first choice
○ alternate choice

H			○		
S	●	●	●	○	
N	●	○	○	●	
K	○	●	●		
M		●	●		
P		●	●		

NAS

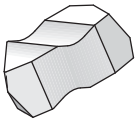


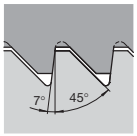


Stub Acme

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
3	NAS3R16	16	–	–	–	0,605	.0238	3,79	.149			●	
3	NAS3R14	14	–	–	–	0,701	.0276	3,79	.149			●	
3	NAS3R12	12	–	–	–	0,828	.0326	3,79	.149			●	
3	NAS3R10	10	–	–	–	0,940	.0370	3,79	.149		●	●	
3	NAS3R8	8	–	–	–	1,209	.0476	3,79	.149		●	●	
3	NAS3R6	6	–	–	–	1,656	.0652	3,79	.149		●	●	
3	NAS3R5	5	–	–	–	2,014	.0793	3,79	.149		●	●	
	left hand												
3	NAS3L16	16	–	–	–	0,605	.0238	3,79	.149			●	
3	NAS3L12	12	–	–	–	0,828	.0326	3,79	.149			●	
3	NAS3L10	10	–	–	–	0,940	.0370	3,79	.149		●	●	
3	NAS3L8	8	–	–	–	1,209	.0476	3,79	.149		●	●	
3	NAS3L6	6	–	–	–	1,656	.0652	3,79	.149		●	●	
3	NAS3L5	5	–	–	–	2,014	.0793	3,79	.149		●	●	

NTB-A

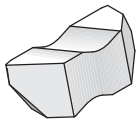


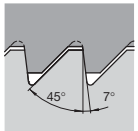


American Buttress-Push

insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
2	NTB2RA	16-20	–	0,076	.0030	–	–	3,20	.126	●	●		
3	NTB3RA	8-16	–	0,165	.0065	–	–	4,17	.164		●	●	
4	NTB4RA	4-6	–	0,254	.0100	–	–	5,23	.206		●		
	left hand												
2	NTB2LA	16-20	–	0,076	.0030	–	–	3,20	.126			●	
3	NTB3LA	8-16	–	0,165	.0065	–	–	4,17	.164	●	●	●	
4	NTB4LA	4-6	–	0,254	.0100	–	–	5,23	.206		●	●	

NTB-B

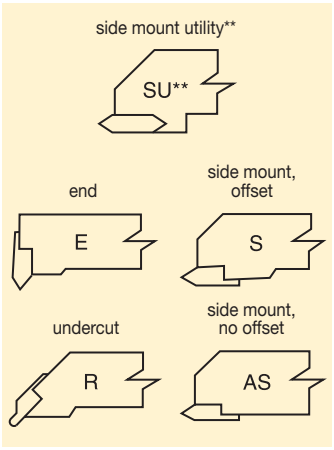


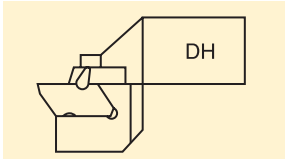


American Buttress-Pull

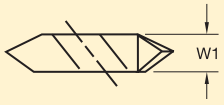
insert size	catalog number	TPI	TPF	RC mm	RC in	CF mm	CF in	E mm	E in	K68	KC5010	KC5025	KC5410
	right hand												
2	NTB2RB	16-20	–	0,076	.0030	–	–	0,25	.010		●	●	
3	NTB3RB	8-16	–	0,165	.0065	–	–	0,31	.012	●	●	●	
4	NTB4RB	4-6	–	0,254	.0100	–	–	0,41	.016		●	●	
	left hand												
2	NTB2LB	16-20	–	0,076	.0030	–	–	0,25	.010		●		
3	NTB3LB	8-16	–	0,165	.0065	–	–	0,31	.012	●	●	●	
4	NTB4LB	4-6	–	0,254	.0100	–	–	0,41	.016		●	●	

Order example:
Catalog number: NTB2RB
Insert grade: KC5010 NOTE: For details on American Buttress insert selection, see pages E78-E79.





L1	ISO
32	A
40	B
50	C
60	D
70	E
80	F
90	G
100	H
110	J
125	K
140	L
150	M
160	N
170	P
180	Q
200	R
250	S
300	T
350	U
400	V
450	W
500	Y
special length	x



inch insert size	W1 inch	W1 mm
2	.150	3,81
3	.195	4,95
4	.255	6,98
5	.380	9,65
6	.383	9,73
8	.438	11,13

2. Insert Mounting Location

4. Drop Head

6. Tool Length

7. Insert Size

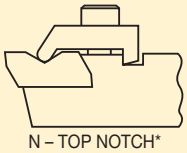
N	S	R		2525	M	4	Q

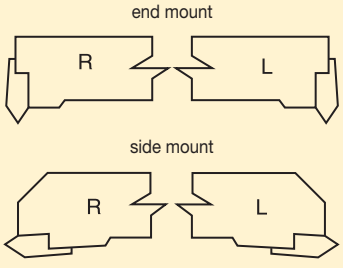
1. Insert Holding Method

3. Hand of Tool

5. Shank Size

8. Qualified Surface and Length

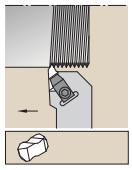




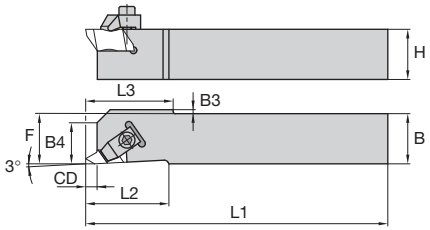
metric:
Shank height and width in mm and holder length according to ISO standard.
inch:
This position will show a significant two-digit number that indicates the holder cross section. For shanks 5/8" square and larger, the number will represent the number of sixteenths of width and height. For shanks under 5/8" square, the number of sixteenths of cross section will be preceded by a zero. For rectangular holders, the first digit represents the number of eighths of width and the second digit the number of quarters of height, except for a toolholder 1 1/4" x 1 1/2", which is given the number 91.

Q – qualified metric holder

* Kennametal proprietary standard only.
**Side mount utility holder can only use NTU inserts.



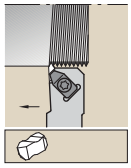
See page E9 for inserts



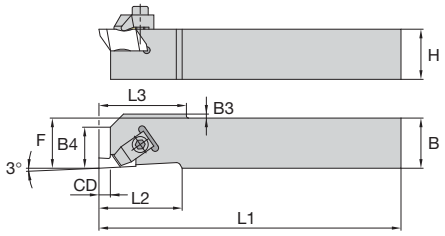
NS

gage insert	catalog number	H	B	F	L1	L2	B4	CD	clamp	clamp screw	Hex (mm) / Torx Plus
	right hand										
N.2R	NSR1010E2	10	10	14	70	19	9	3,5	CM74	MS1200	T10
N.2R	NSR1212F2	12	12	16	80	19	9	3,5	CM74	MS1200	T10
N.2R	NSR1616H2	16	16	20	100	19	9	3,5	CM74	MS1200	T10
N.2R	NSR2020K2	20	20	25	125	19	9	3,5	CM74	MS1200	T10
N.2R	NSR2525M2	25	25	32	150	19	9	3,5	CM74	MS1200	T10
N.3R	NSR2020K3	20	20	25	125	32	13	5,3	CM72LP	MS2111	25 IP
N.3R	NSR2525M3	25	25	32	150	32	13	5,3	CM72LP	MS2111	25 IP
N.3R	NSR3225P3	32	25	32	170	32	13	5,3	CM72LP	MS2111	25 IP
N.3R	NSR3232P3	32	32	40	170	32	13	5,3	CM72LP	MS2111	25 IP
N.4R	NSR2525M4	25	25	32	150	35	14	7,5	CM72LP	MS2111	25 IP
N.4R	NSR3225P4	32	25	32	170	35	14	7,5	CM72LP	MS2111	25 IP
N.4R	NSR3232P4	32	32	40	170	35	14	7,5	CM72LP	MS2111	25 IP
N.5R	NSR3232P5	32	32	40	170	51	16	10,5	CM80	MS352	6 MM
	left hand										
N.2L	NSL1010E2	10	10	14	70	19	9	3,5	CM75	MS1200	T10
N.2L	NSL1212F2	12	12	16	80	19	9	3,5	CM75	MS1200	T10
N.2L	NSL1616H2	16	16	20	100	19	9	3,5	CM75	MS1200	T10
N.2L	NSL2020K2	20	20	25	125	19	9	3,5	CM75	MS1200	T10
N.2L	NSL2525M2	25	25	32	150	19	9	3,5	CM75	MS1200	T10
N.3L	NSL2020K3	20	20	32	125	32	13	5,3	CM73LP	MS2111	25 IP
N.3L	NSL2525M3	25	25	32	150	32	13	5,3	CM73LP	MS2111	25 IP
N.3L	NSL3225P3	32	25	32	170	32	13	5,3	CM73LP	MS2111	25 IP
N.3L	NSL3232P3	32	32	40	170	32	13	5,3	CM73LP	MS2111	25 IP
N.4L	NSL2525M4	25	25	32	150	35	14	7,5	CM73LP	MS2111	25 IP
N.4L	NSL3225P4	32	25	32	170	35	14	7,5	CM73LP	MS2111	25 IP
N.4L	NSL3232P4	32	32	40	170	35	14	7,5	CM73LP	MS2111	25 IP
N.5L	NSL3232P5	32	32	40	170	51	16	10,5	CM81	MS352	6 MM

NOTE: F dimension measured over sharp point of TOP NOTCH-style threading and grooving insert.
Order example:
NSR1010E2

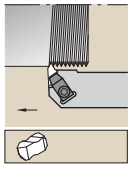


See page E9 for inserts

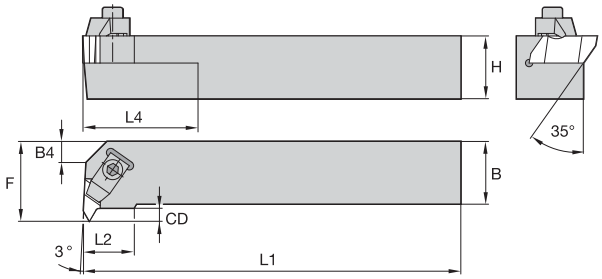


NAS

gage insert	catalog number	H	B	F	L1	L2	B4	CD	B3	L3	clamp	clamp screw	Hex (mm) / Torx plus
	right hand												
N.2R	NASR1010M2Q	10	10	10	150	19	9	3,5	2,03	19	CM182	MS1200	T10
N.2R	NASR1212M2Q	12	12	12	150	19	9	3,5	–	–	CM182	MS1200	T10
N.3R	NASR1616K3Q	16	16	16	125	32	12	5,3	–	–	CM184LP	MS2111	25 IP
	left hand												
N.2L	NASL1010M2Q	10	10	10	150	19	9	3,5	2,03	19	CM183	MS1200	T10
N.2L	NASL1212M2Q	12	12	12	150	19	9	3,5	–	–	CM183	MS1200	T10
N.3L	NASL1616K3Q	16	16	16	125	32	12	5,3	–	–	CM185LP	MS2111	25 IP



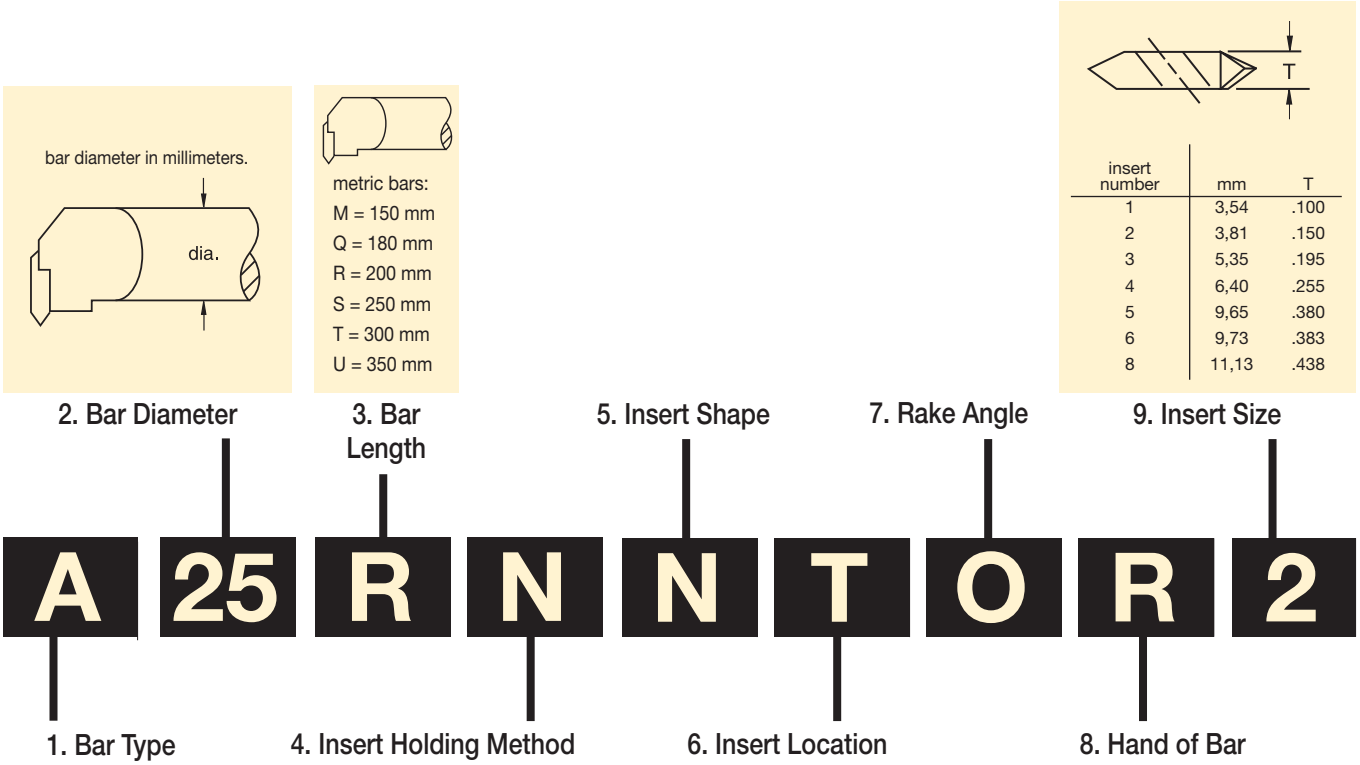
See page E9 for inserts



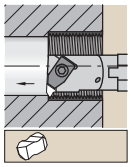
NE

gage insert	catalog number	H	B	F	L1	L2	B4	CD	clamp	clamp screw	Hex (mm) / Torx plus
	right hand										
N.2L	NER1616H2	16	16	20	100	15	–	3,5	CM75	MS1200	T10
N.2L	NER2020K2	20	20	25	125	15	–	3,5	CM75	MS1200	T10
N.2L	NER2525M2	25	25	32	150	15	–	3,5	CM75	MS1200	T10
N.3L	NER2525M3	25	25	32	150	22	–	5,3	CM73LP	–	25 IP
N.3L	NER3225P3	32	25	32	170	22	–	3,8	CM73LP	–	25 IP
N.4L	NER2525M4	25	25	35	150	24	–	7,5	CM73LP	–	25 IP
N.4L	NER3225P4	32	25	35	170	24	–	7,5	CM73LP	–	25 IP
N.4L	NER3232P4	32	32	40	170	24	–	6,4	CM73LP	–	25 IP
N.5L	NER3232P5	32	32	50	170	35	–	10,5	CM81	MS352	6 MM
	left hand										
N.2R	NEL1616H2	16	16	20	100	15	–	3,5	CM74	MS1200	T10
N.2R	NEL2020K2	20	20	25	125	15	–	3,5	CM74	MS1200	T10
N.2R	NEL2525M2	25	25	32	150	15	–	3,5	CM74	MS1200	T10
N.3R	NEL2525M3	25	25	32	150	22	–	5,3	CM72LP	–	25 IP
N.3R	NEL3225P3	32	25	32	170	22	–	3,8	CM72LP	–	25 IP
N.4R	NEL2525M4	25	25	35	150	24	–	7,5	CM72LP	–	25 IP
N.4R	NEL3225P4	32	25	35	170	24	–	7,5	CM72LP	–	25 IP
N.4R	NEL3232P4	32	32	40	170	24	–	6,4	CM72LP	–	25 IP
N.5R	NEL3232P5	32	32	50	170	35	–	10,5	CM80	MS352	6 MM

NOTE: F dimension measured over sharp point of TOP NOTCH-style threading insert.
Order example:
NER1616H2

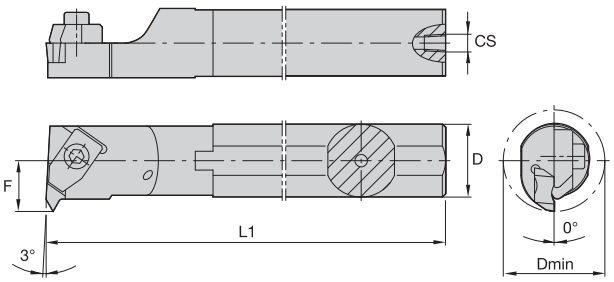


*Kennametal standard only.



Steel shank with through coolant

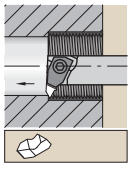
See page E9 for inserts



A-NNT

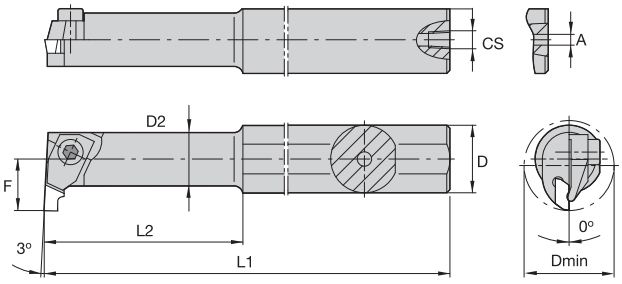
gage insert	catalog number	D min	D	L1	F	CS	clamp	clamp screw	Hex (mm) / Torx plus
	right hand								
N.2L	A12MNNTOR2	18,5	12	150	11	1/16-27 NPT	CM147	MS1025	2.5 MM
N.2L	A16MNNTOR2	22,0	16	150	11	1/8-27 NPT	CM75	MS1025	2.5 MM
N.2L	A20QNNTOR2	26,0	20	180	13	1/8-27 NPT	CM75	MS1025	2.5 MM
N.2L	A25RNNTOR2	34,0	25	200	17	1/4-18 NPT	CM75	MS1025	2.5 MM
N.3L	A25RNNTOR3	34,0	25	200	17	1/4-18 NPT	CM73LP	MS2111	25 IP
N.3L	A32SNNTOR3	44,0	32	250	22	1/4-18 NPT	CM73LP	MS2111	25 IP
N.3L	A40TNNTOR3	54,0	40	300	27	1/4-18 NPT	CM73LP	MS2111	25 IP
N.4L	A40TNNTOR4	54,0	40	300	27	1/4-18 NPT	CM73LP	MS2111	25 IP
N.4L	A50UNNTOR4	70,0	50	350	35	1/4-18 NPT	CM73LP	MS2111	25 IP
	left hand								
N.2R	A12MNNTOL2	18,5	12	150	11	1/16-27 NPT	CM146	MS1025	2.5 MM
N.2R	A16MNNTOL2	22,0	16	150	11	1/8-27 NPT	CM74	MS1025	2.5 MM
N.2R	A20QNNTOL2	26,0	20	180	13	1/8-27 NPT	CM74	MS1025	2.5 MM
N.2R	A25RNNTOL2	34,0	25	200	17	1/4-18 NPT	CM74	MS1025	2.5 MM
N.3R	A25RNNTOL3	34,0	25	200	17	1/4-18 NPT	CM72LP	MS2111	25 IP
N.3R	A32SNNTOL3	44,0	32	250	22	1/4-18 NPT	CM72LP	MS2111	25 IP
N.3R	A40TNNTOL3	54,0	40	300	27	1/4-18 NPT	CM72LP	MS2111	25 IP
N.4R	A40TNNTOL4	54,0	40	300	27	1/4-18 NPT	CM72LP	MS2111	25 IP
N.4R	A50UNNTOL4	70,0	50	350	35	1/4-18 NPT	CM72LP	MS2111	25 IP

*NOTE: Minimum bore diameter (Dmin) capability varies with thread type and pitch. See page E75 for details.



Necked Steel shank with through coolant

See page E9 for inserts

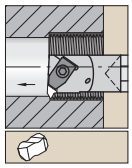


A-NNT -1

gage insert	catalog number	D min	D	D2	L1	L2	F	A	CS	clamp	clamp screw	Hex (mm)
	right hand											
N.1L	A10KNNTOR1	11,5	10	8,7	125	31,75	7	3,2	–	CM109	MS1034	1.5 MM
N.1L	A12MNNTOR1	11,5	12	8,7	150	31,75	7	–	1/16-27 NPT	CM109	MS1034	1.5 MM

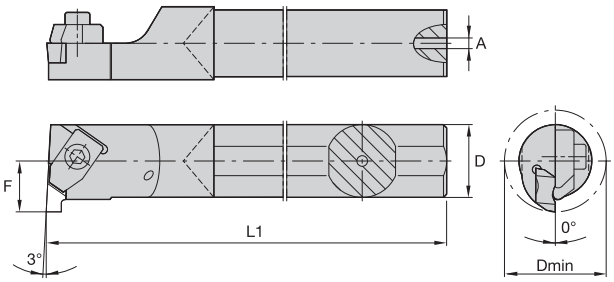
NOTE: F dimension measured over sharp point of TOP NOTCH-style threading insert.
Order example:
A10KNNTOR1

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



Carbide shank with through coolant

See page E9 for inserts

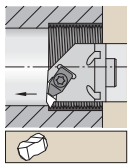


E-NNT

gage insert	catalog number	D min	D	L1	F	A	CS	clamp	clamp screw	Hex (mm) / Torx Plus
	right hand									
N.2L	E16RNNTOR2	22	16	200	11	5,5	–	CM75	MS1200	T10
N.2L	E20SNNTOR2	26	20	250	13	7,1	–	CM75	MS1200	2.5 MM
N.3L	E25TNNTOR3	34	25	300	17	7,9	–	CM73LP	MS2111	25 IP
	left hand									
N.2R	E16RNNTOL2	22	16	200	11	5,5	–	CM74	MS1200	T10
N.2R	E20SNNTOL2	26	20	250	13	7,1	–	CM74	MS1200	2.5 MM
N.3R	E25TNNTOL3	34	25	300	17	7,9	–	CM72LP	MS2111	25 IP

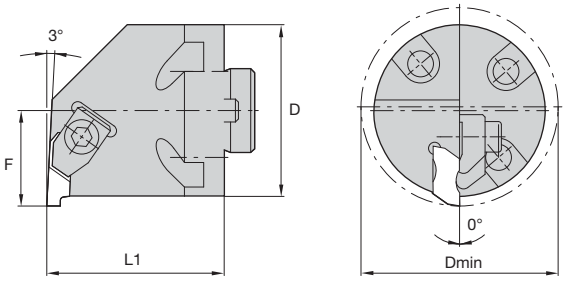
*NOTE: Minimum bore diameter (Dmin) capability varies with thread type and pitch. See page E75 for details.

NOTE: F dimension measured over sharp point of TOP NOTCH-style threading insert.



With through coolant

See page E9 for inserts



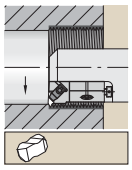
H-NNT

gage insert	catalog number	D	D min	F	L1	clamp	clamp screw	Hex (mm) / Torx plus
	right hand							
N.3L	H32NNTOR3	32,0	44	22	41,3	CM73LP	MS2111	25 IP
N.3L	H40NNTOR3	40,0	54	27	41,3	CM73LP	MS2111	25 IP
N.4L	H60NNTOR4	60,0	73	43	41,3	CM73LP	MS2111	25 IP
	left hand							
N.3R	H32NNTOL3	32,0	44	22	41,3	CM72LP	MS2111	25 IP
N.3R	H40NNTOL3	40,0	54	27	41,3	CM72LP	MS2111	25 IP

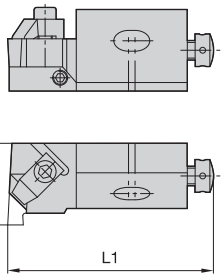
NOTE: For boring adapters, see page B103.

NOTE: *Minimum bore capability varies with depth of thread. See page E75 for details.

Order example:
H32NNTOR3



See page E9 for inserts



NE-CA

gage insert	catalog number	D min	F	L1	clamp	clamp screw	Hex (mm) / Torx plus	radial adjusting screw	Hex (mm) / Torx plus	axial screw	hold down screw	Hex (mm) / Torx plus	washer
	right hand												
N.2L	NER12CA2	50	20	55,670	CM75	MS1025	2.5MM	KUAM23	2.5MM	KUAM31	191.406	4MM	CSWM 060 050
N.2L	NER20CA2	70	25	70,000	CM75	MS1025	2.5MM	KUAM25	2.5MM	KUAM33	191.407	5 MM	CSWM 080 050
N.3L	NER25CA3	100	32	100,000	CM73LP	MS412	4 MM	KUAM27	4 MM	KUAM33	MS364	6 MM	CSWM 100 080
N.4L	NER25CA4	100	32	100,000	CM73LP	MS412	4 MM	KUAM27	4 MM	KUAM33	MS364	6 MM	CSWM 100 080
	left hand												
N.2R	NEL12CA2	50	20	55,000	CM74	MS1025	2.5 MM	KUAM23	2.5 MM	KUAM31	191.406	4 MM	CSWM 060 050
N.3R	NEL25CA3	100	32	100,000	CM72LP	MS412	4 MM	KUAM26	4 MM	KUAM33	MS364	6 MM	CSWM 100 080

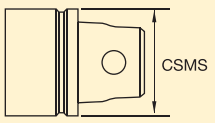
*NOTE: Minimum bore diameter (Dmin) capability varies with thread type and pitch. See page E75 for details.

NOTE: F dimension measured over sharp point of TOP NOTCH-style threading insert.

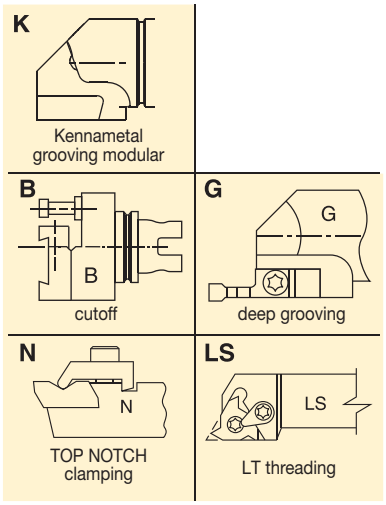
Order example:
NER12CA2

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

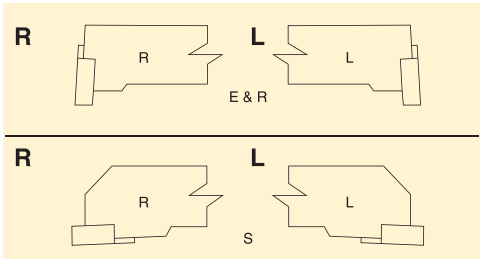
25	=	25 mm
3225	=	32 mm
32	=	32 mm
40	=	40 mm
50	=	50 mm
63	=	63 mm
80	=	80 mm



2. System Size



4. Insert Holding Method



6. Hand of Tool

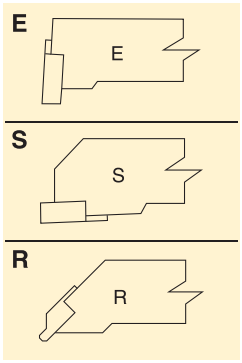
KM 63 - UT N S R 3 E

1. Kennametal Modular

3. Feature

ATC
UT
XMZ
XTS

5. Insert Location



9. Special Feature

Y = Mazak Integrex

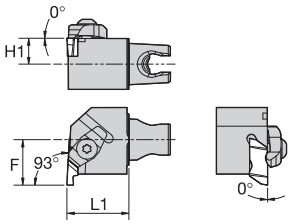
8. Additional Information

E -	external only
N -	internal only
C -	GC-style insert

7. Insert Cutting Edge Length

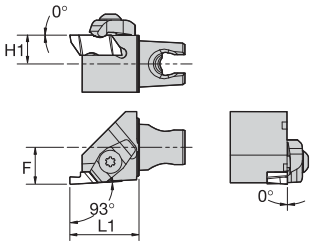
N - insert size		LT - cutting edge length		KGM blade size
2	3,18	l	d (IC)	50
3	4,95	16	9,52	50
4	6,48	22	12,70	50
5	9,65	–	–	50
6	11,13	–	–	50

TOP NOTCH™ Threading



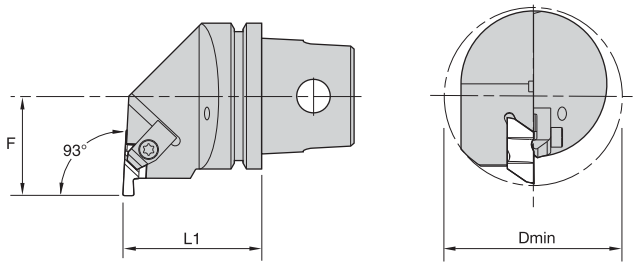
NE 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	gage insert	clamp	clamp screw
	right hand									
2399462	KM25NER230	30	1.181	22	.866	12,5	.492	N.2L	CM75	MS1200
2399494	KM25NER330	30	1.181	22	.866	12,5	.492	N.3L	CM73LP	MS2111
2399496	KM25NER430	30	1.181	24	.945	12,5	.492	N.4L	CM73LP	MS2111
	left hand									
2399493	KM25NEL230	30	1.181	22	.866	12,5	.492	N.2R	CM74	MS1200
2399495	KM25NEL330	30	1.181	22	.866	12,5	.492	N.3R	CM72LP	MS2111
2399497	KM25NEL430	30	1.181	24	.945	12,5	.492	N.4R	CM72LP	MS2111



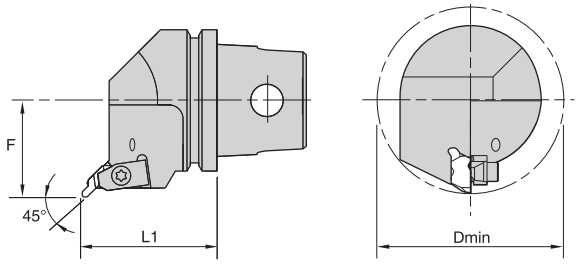
NS 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	gage insert	clamp	clamp screw
	right hand									
2399498	KM25NSR230	30	1.181	16	.630	12,5	.492	N.2R	CM74	MS1200
2399500	KM25NSR330	30	1.181	16	.630	12,5	.492	N.3R	CM72LP	MS2111
2399502	KM25NSR430	30	1.181	16	.630	12,5	.492	N.4R	CM212LP	MS2111
	left hand									
2399499	KM25NSL230	30	1.181	16	.630	12,5	.492	N.2L	CM75	MS1200
2399501	KM25NSL330	30	1.181	16	.630	12,5	.492	N.3L	CM73LP	MS2111
2399503	KM25NSL430	30	1.181	16	.630	12,5	.492	N.4L	CM213LP	MS2111



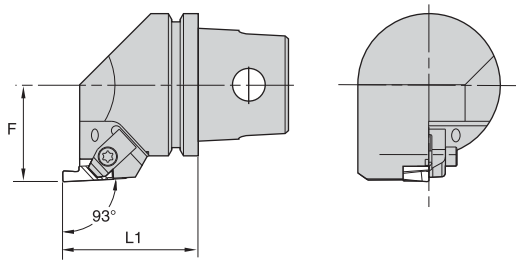
NE 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	clamp	clamp screw
	right hand									
1019569	KM40NER2	40	1.575	27	1.063	54	2.13	N.2L	CM75	MS1488
1019627	KM40NER3	40	1.575	27	1.063	54	2.13	N.3L	CM73	MS1489
1019631	KM40NER4	40	1.575	27	1.063	54	2.13	N.4L	CM73	MS1489
	left hand									
1019571	KM40NEL2	40	1.575	27	1.063	54	2.13	N.2R	CM74	MS1488
1019629	KM40NEL3	40	1.575	27	1.063	54	2.13	N.3R	CM72	MS1489
1019682	KM40NEL4	40	1.575	27	1.063	54	2.13	N.4R	CM72	MS1489



NR 45°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	clamp	clamp screw
	right hand									
1019073	KM40NRR3	40	1.575	27	1.063	54	2.13	N.3L	CM73	MS1489
	left hand									
1019124	KM40NRL3	40	1.575	27	1.063	54	2.13	N.3R	CM72	MS1489



NS 93°

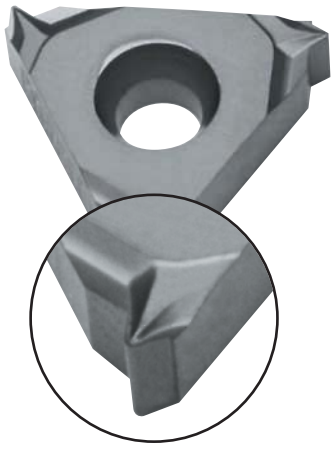
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	clamp	clamp screw
	right hand									
1019570	KM40NSR2	40	1.575	27	1.063	–	–	N.2R	CM74	MS1488
1019628	KM40NSR3	47	1.850	27	1.063	–	–	N.3R	CM72	MS1489
1019734	KM40NSR4	47	1.850	27	1.063	–	–	N.4R	CM72	MS1489
	left hand									
1019572	KM40NSL2	40	1.575	27	1.063	–	–	N.2L	CM75	MS1488
1019630	KM40NSL3	47	1.850	27	1.063	–	–	N.3L	CM73	MS1489
1019683	KM40NSL4	47	1.850	27	1.063	–	–	N.4L	CM73	MS1489

LT – Laydown Triangle Threading...

...inserts and tools that provide the highest accuracy and quality level for daily production needs!

Choosing the LT Threading System

- LT is the system of choice for fine-pitch threads, high-helix/multi-start threads, and single-point threading in small-diameter bores.
- A wide selection of CB-style chip control inserts provide superior management of the chip for excellent surface finishes and minimal operator intervention.
- This system offers an extensive selection of metric (ISO) and common European thread forms.
- The low-profile design of the LT tooling system enables unrestricted chip flow — ideal for ID threads.
- Variable shim angles enable proper cutting geometry for high–helix angle and reverse helix angle threading. This maximizes tool life and improves thread quality.
- Get more parts per insert with the economy of the LT insert's three cutting edges.



Precision-Ground Thread Form on LT and LT-CB

- Minimizes built-up edge.
- Precisely cuts most common materials.
- Reduces cutting forces.
- Ensures accurate, high-quality threads.

Superior Chip Control

- Eliminates long, troublesome coils.
- Excellent for internal threading operations.
- Available in both partial and full profile inserts for all common thread forms.

KC5010 + KC5025 Premium PVD TiAlN-Coated Grades

- Increase tool life at existing machining conditions.
- Increase productivity by outperforming conventional PVD grades with up to a 30% advantage in cutting speeds.

Kenna Universal Inserts

- Precision molded LT-K thread form provides outstanding utility and value.
- Excellent chip control combined with the new KU25T grade enables trouble-free threading on a variety of workpiece materials.

5 Easy Steps to Improve Productivity

Required Information:

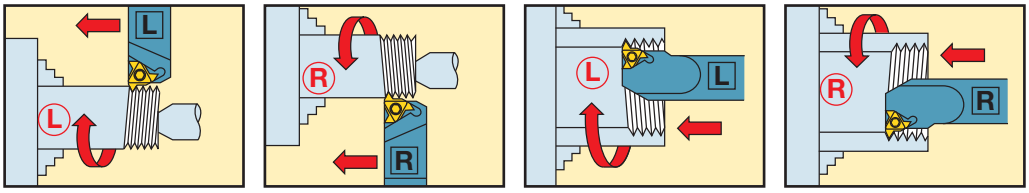
- External/internal operation.
- Spindle rotation/hand of thread.
- Feed direction.

1st Step — Select Threading Method and Hand of Tooling

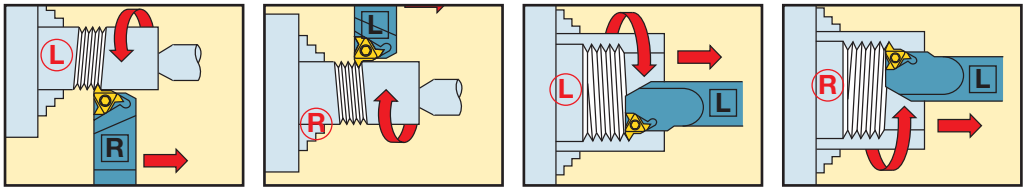
(L) or (R) – hand of thread

[L] or [R] – hand of holder/insert

- Feed direction toward the chuck — standard helix



- Feed direction away from the chuck — reverse helix



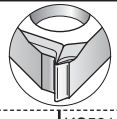
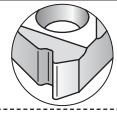
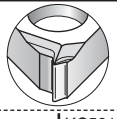
2nd Step — Choose Insert for Application

- See threading insert overview on page E33.
- Select cresting inserts for fully controlled thread form including diameter.
- Cresting inserts eliminate the need for deburring and are optimized for the best tool life at that pitch.
- Non-cresting partial profile inserts offer the flexibility to cut a variety of thread pitches with one insert.
- Note insert size for toolholder selection.

insert size	catalog number	KC5025	KC5010
11	LT11NRA60	●	●
16	LT16NRAG60	●	●

3rd Step — Select Grade and Speed

Recommendations for Grade and Speed Selection – sfm (m/min)

	Workpiece Material	Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys
KENNA PERFECT	Insert Style	CB Chipbreaker 		Flat Top 	CB Chipbreaker 	
	Optimum Cutting Conditions	KC5010 160-750 (50-230)	KC5010 160-600 (50-185)	KC5010 230-700 (70-210)	KC5010 230-1300 (70-390)	KC5010 65-400 (20-120)
	First Choice	KC5025 130-650 (40-200)	KC5025 130-450 (40-135)	KC5025 200-475 (60-145)	KC5025 160-1150 (50-360)	KC5025 35-330 (10-100)
KENNA UNIVERSAL™	Insert Style	-K Chipbreaker				
	Selection	KU25T 80-450 (25-140)	KU25T 80-350 (25-100)	KU25T 100-360 (30-110)	KU25T 100-1000 (30-300)	KU25T 35-280 (10-85)

CB-style chip control inserts are not available with some thread forms.
In those cases, flat top inserts can be substituted.

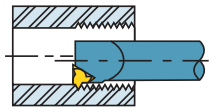
4th Step — Select Holder from Catalog Page

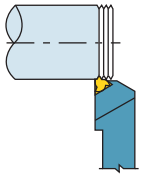
NOTE: The insert size must match the gage insert size of your toolholder selection:

Required Information:

- External/internal operation.
- Minimum bore diameter (for internal operations).
- Hand of tool.
- Insert size (gage insert).

Select the appropriate holder for the insert size and hand





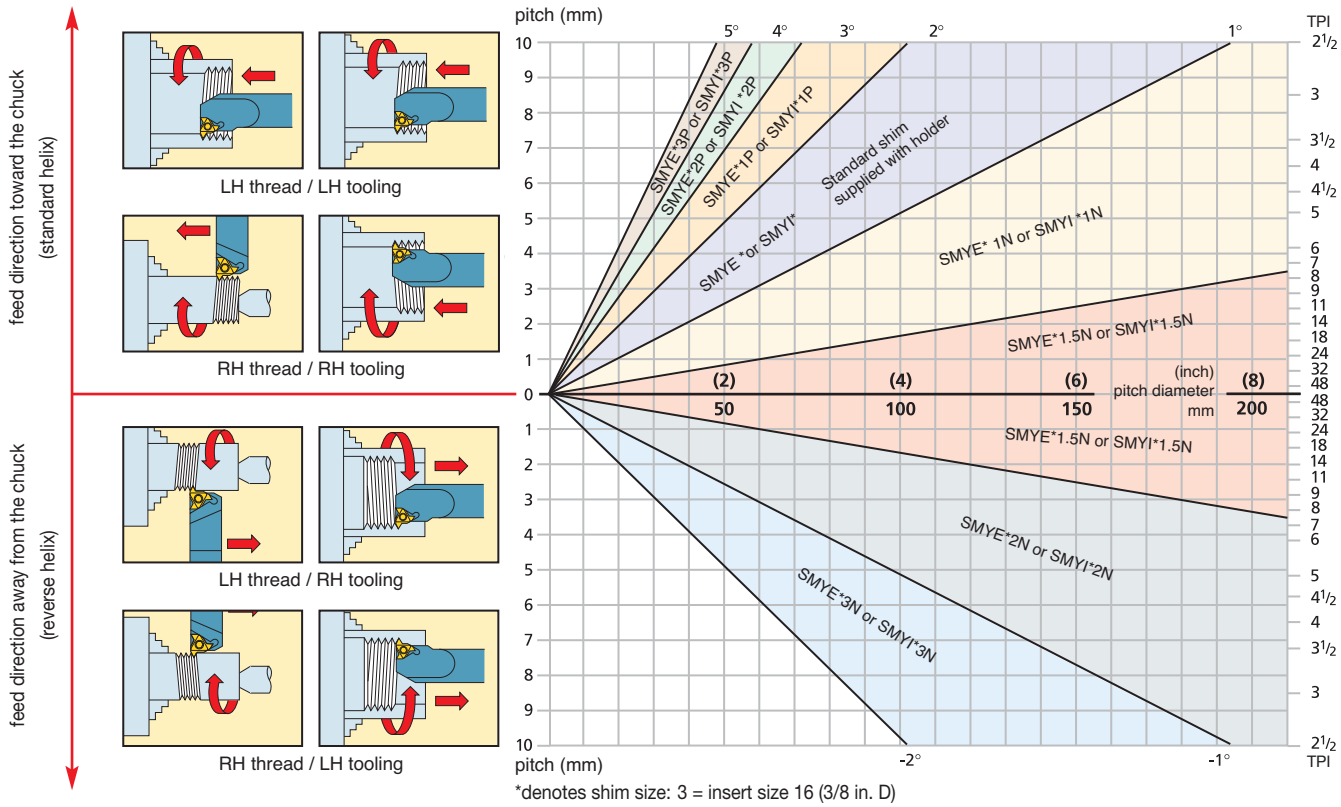
catalog number	gage insert	min. bore diameter	shim
S1212LSER3	LT11NRA60	.90 in	SM-YI3
A2020LSER16	LT16NR	16 mm	SM-YI3

5th Step — Select Appropriate Shim

Required Information:

- Thread form (tpi or pitch).
- Pitch diameter.
- Helix method (hand of tool, feed direction, hand of thread).

Select the proper shim: SMYE... for external RH or internal LH
SMYI... for internal RH or external LH

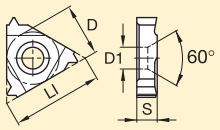


*denotes shim size: 3 = insert size 16 (3/8 in. D)
4 = insert size 22 (1/2 in. D)

If recommended shim is different from shim supplied with toolholder, order shim separately.

NOTE: Optimize your threading operation by using the proper infeed angle and the recommended infeed values. See the Technical Section on pages E65-E67 of this catalog. Also see detailed shim selection information on pages E83-E84.

insert size	LI (mm)	D inch	D mm	S inch	S mm	D1 inch	D1 mm
11	11,0	.250	6,35	.126	3,20	.128	3,25
16	16,5	.375	9,52	.143	3,63	.155	3,94
22	22,0	.500	12,70	.188	4,78	.192	4,88

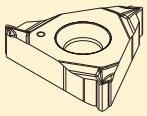


2. Cutting Edge Length (Size)

ER– external right hand
EL– external left hand
NR– internal right hand
NL– internal left hand

3. Hand of Insert

□ – flat top
CB – chipbreaker
K – KENNA UNIVERSAL™ chipbreaker

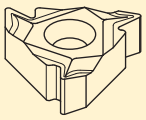


6. Chip Control

LT 16 ER 20 UN CB

1. Type of Insert

LT-laydown triangle threading



4. Thread Pitch

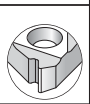
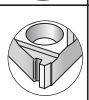
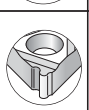
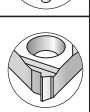
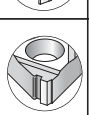
partial profile designation	thread pitch (mm)	TPI
A	0,50-1,5	48-16
AG	0,50-3,0	48-8
G	1,75-3,0	14-8
N	3,50-5,0	7-5
	full profile	
actual TPI or pitch in mm is designated	0,5-4,0	48-8

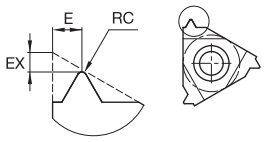
5. Thread Profile

ISO – ISO metric 60°
UN – American UN 60°
60 – Partial Profile non-cresting 60°
55 – Partial Profile non-cresting 55°
W – Whitworth 55°
BSPT – British Standard Pipe Thread 55°
NPT – American National Pipe Thread 60°
ACME – American Acme
STACME – American Stub Acme
TR – Trapez DIN 103
RD – Round DIN 405
UNJ – Controlled root radius 60°
NPTF – Dryseal 60°
API – American Petroleum Institute Threads
BUT – API Buttress Casing
APIRD – API Round

The Kennametal LT Advantage:

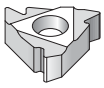
Every box of 10 inserts includes a free Torx wrench and spare locking screw, except LT-K inserts.

CB	Style -K	Flat Top	Thread Profile	Standard	Tolerance Class	Cresting	Application	Page
LT-60CB	LT-60K	LT-60	Partial Profile 60°	–	–	N	general use for 60° thread forms such as ISO and UN where non-cresting inserts are desired to cut a variety of pitches	E34–E35
LT-ISOCB	LT-ISOK	LT-ISO	Metric ISO	ISO R262, DIN 13	6g / 6H	Y	widely used metric 60° V-form for all industries	E37
LT-UNCB		LT-UN	American UN	ANSI B1.1:74	2A / 2B	Y	widely used inch-based 60° V-form for all industries	E40
	LT-UNK	LT-UNJ	UNJ	MIL-S-8879C	3A / 3B	Y	controlled root radius on external threads for military and aerospace industries, 60° thread form	E41–E42
LT-NPTCB		LT-NPT	NPT	USAS B2.1:1968	Standard NPT	Y	National Pipe thread standard 60° thread form for pipe fittings	E42–E43
LT-NPTFCB		LT-NPTF	NPTF	ANSI B1.20.3-1976	Class 2	Y	dryseal-type NPT 60° thread form for pipe fittings	E43–E44
	LT-55K	LT-55 	Partial Profile 55°	–	–	N	general use for 55° thread forms such as Whitworth, BSW, and BSP where non-cresting inserts are desired to cut a variety of pitches	E44–E45
		LT-BSPT 	BSPT	BS 21:1985	Standard BSPT	Y	55° form for pipe fittings	E45
LT-WCB	LT-WK	LT-W	Whitworth, BSW, BSF, BSP	BS 84:1956, ISO 228/1:1982, DIN 259	Medium Class A	Y	widely used 55° form for gas and water connections	E46–E47
		LT-API 	API Rotary Shoulder Connections	API SPEC. 7:1990	Standard API	Y	60° V-form used for rotary shoulder pipe connections in the oil and gas industry including V-.038R, V-.040, and V-.050 forms	E47
		LT-APIRD 	API Round	API STD. 5B:1979	Standard API RD	Y	60° V-form with large radius for casing, tubing, and line pipe in the oil and gas industry including 8 and 10 round forms	E48
		LT-BUT 	API Buttress Casing	API SPEC. 7:1990	Standard API	Y	45° buttress-style form used for pipe casing connections in the oil and gas industry	E48–E49
		LT-ACME	Acme	ANSI B1.5:1988	3G	N	29° truncated thread form for motion applications in a wide variety of industries	E49
		LT-STACME	Stub Acme	ANSI B1.8:1988	2G	N	shallow depth 29° truncated thread form for motion applications in a wide variety of industries	E50
		LT-RD	Round	DIN 405	7h / 7H	Y	round thread form for tube fittings in the chemical and food industries	E50
		LT-TR	Trapez	DIN 103	7e / 7H	N	30° truncated metric thread form for motion applications	E51

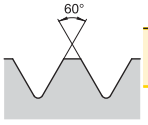


● first choice
○ alternate choice

H	○			
S	●	●	●	
N	○	○	○	
K	●	●	●	
M	●	●	●	
P	●	●	●	

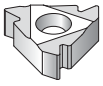


LT-ER/L-60

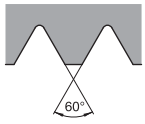


Partial Profile
60° External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ERA60	0,50-1,5	48-16	–	0,05	.002	0,8	.031	0,9	.035	●	●	
16	LT16ERAG60	0,50-3,0	48-8	–	0,08	.003	1,2	.047	1,7	.067	●	●	
16	LT16ERG60	1,75-3,0	14-8	–	0,28	.011	1,2	.047	1,7	.067	●	●	
22	LT22ERN60	3,5-5,0	7-5	–	0,53	.021	1,7	.067	2,5	.098		●	
	left hand												
16	LT16ELA60	0,50-1,5	48-16	–	0,05	.002	0,8	.031	0,9	.035		●	
16	LT16ELAG60	0,50-3,0	48-8	–	0,08	.003	1,2	.047	1,7	.067		●	
16	LT16ELG60	1,75-3,0	14-8	–	0,28	.011	1,2	.047	1,7	.067		●	
22	LT22ELN60	3,5-5,0	7-5	–	0,53	.021	1,7	.067	2,5	.098		●	



LT-NR/L-60

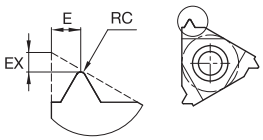


Partial Profile
60° Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NRA60	0,50-1,5	48-16	–	0,05	.002	0,8	.031	0,9	.035	●	●	
16	LT16NRA60	0,50-1,5	48-16	–	0,05	.002	0,8	.031	0,9	.035	●	●	
16	LT16NRAG60	0,50-3,0	48-8	–	0,05	.002	1,2	.047	1,7	.067	●	●	
16	LT16NRG60	1,75-3,0	14-8	–	0,15	.006	1,2	.047	1,7	.067	●	●	
22	LT22NRN60	3,5-5,0	7-5	–	0,31	.012	1,7	.067	2,5	.098		●	
	left hand												
11	LT11NLA60	0,50-1,5	48-16	–	0,05	.002	0,8	.031	0,9	.035		●	
16	LT16NLA60	0,50-1,5	48-16	–	0,05	.002	0,8	.031	0,9	.035		●	
16	LT16NLAG60	0,50-3,0	48-8	–	0,05	.002	1,2	.047	1,7	.067		●	
16	LT16NLG60	1,75-3,0	14-8	–	0,15	.006	1,2	.047	1,7	.067		●	
22	LT22NLN60	3,5-5,0	7-5	–	0,31	.012	1,7	.067	2,5	.098		●	

Order example:
Catalog number: LT16ERAG60CB
Insert grade: KC5010

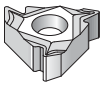
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

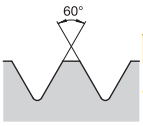


● first choice
○ alternate choice

H		○		
S		●	●	●
N		○	○	○
K		●	●	●
M		●	●	●
P		●	●	●

LT-ER-60CB

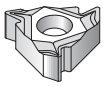


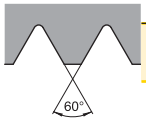


Partial Profile
60° External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16,497	LT16ERAG60CB	0,50-3,0	48-8	–	0,076	.0030	0,889	.0350	1,499	.0590	●	●	

LT-NR-60CB

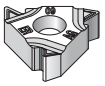


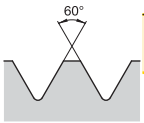


Partial Profile
60° Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NRA60CB	0,50-1,5	48-16	–	0,05	.002	0,6	.024	0,8	.031		●	
16	LT16NRAG60CB	0,50-3,0	48-8	–	0,05	.002	0,9	.035	1,5	.059		●	
16	LT16NRG60CB	1,75-3,0	14-8	–	0,16	.006	1,0	.039	1,5	.059		●	

LT-ER-60K

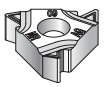


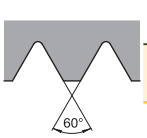


Partial Profile
60° External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ERAG60K	0,50-3,0	48-8	–	0,08	.003	1,2	.047	1,7	.067			●
16	LT16ERG60K	1,75-3,0	14-8	–	0,18	.007	1,2	.047	1,7	.067			●

LT-NR-60K

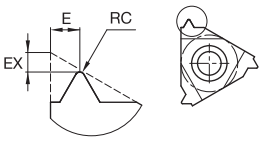


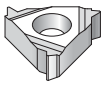


Partial Profile
60° Internal

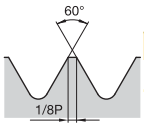
insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NRA60K	0,50-1,5	48-16	–	0,03	.001	0,8	.031	0,9	.035			●
16	LT16NRAG60K	0,50-3,0	48-8	–	0,04	.002	1,2	.047	1,7	.067			●
16	LT16NRG60K	1,75-3,0	14-8	–	0,08	.003	1,2	.047	1,7	.067			●

Order example:
Catalog number: LT11NRA60K
Insert grade: KU25T





LT-ER/L-ISO



ISO Metric-External

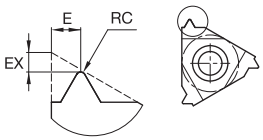
● first choice
○ alternate choice

H		○											
S		●	●	●									
N		○	○	○									
K		●	●	●									
M		●	●	●									
P		●	●	●									

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER05ISO	0,50	–	–	–	–	0,6	.024	0,4	.016		●	
16	LT16ER075ISO	0,75	–	–	–	–	0,6	.024	0,6	.024		●	
16	LT16ER10ISO	1,0	–	–	–	–	0,7	.027	0,7	.027	●	●	
16	LT16ER125ISO	1,25	–	–	–	–	0,8	.031	0,9	.035	●	●	
16	LT16ER15ISO	1,5	–	–	–	–	0,8	.031	1,0	.039	●	●	
16	LT16ER175ISO	1,75	–	–	–	–	0,9	.035	1,2	.047	●	●	
16	LT16ER20ISO	2,0	–	–	–	–	1,0	.039	1,3	.051	●	●	
16	LT16ER25ISO	2,5	–	–	–	–	1,1	.043	1,5	.059	●	●	
16	LT16ER30ISO	3,0	–	–	–	–	1,2	.047	1,6	.063	●	●	
22	LT22ER35ISO	3,5	–	–	–	–	1,6	.063	2,3	.090		●	
22	LT22ER40ISO	4,0	–	–	–	–	1,6	.063	2,3	.090		●	
22	LT22ER45ISO	4,5	–	–	–	–	1,7	.067	2,4	.094		●	
22	LT22ER50ISO	5,0	–	–	–	–	1,7	.067	2,5	.098		●	
	left hand												
16	LT16EL05ISO	0,50	–	–	–	–	0,6	.024	0,4	.016		●	
16	LT16EL075ISO	0,75	–	–	–	–	0,6	.024	0,6	.024		●	
16	LT16EL10ISO	1,0	–	–	–	–	0,7	.027	0,7	.027		●	
16	LT16EL125ISO	1,25	–	–	–	–	0,8	.031	0,9	.035		●	
16	LT16EL15ISO	1,5	–	–	–	–	0,8	.031	1,0	.039	●	●	
16	LT16EL175ISO	1,75	–	–	–	–	0,9	.035	1,2	.047		●	
16	LT16EL20ISO	2,0	–	–	–	–	1,0	.039	1,3	.051		●	
16	LT16EL25ISO	2,5	–	–	–	–	1,1	.043	1,5	.059		●	
16	LT16EL30ISO	3,0	–	–	–	–	1,2	.047	1,6	.063		●	
22	LT22EL35ISO	3,5	–	–	–	–	1,6	.063	2,3	.090		●	
22	LT22EL40ISO	4,0	–	–	–	–	1,6	.063	2,3	.090		●	

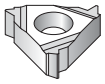
Order example:
Catalog number: LT16ER05ISO
Insert grade: KC5025

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

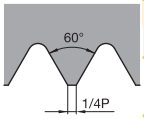


		KC5010	KC5025	KU25T
H		○		
S		●	●	●
N		○	○	○
K		●	●	●
M		●	●	●
P		●	●	●

● first choice
○ alternate choice

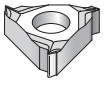


LT-NR/L-ISO

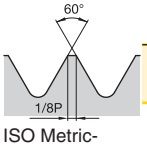


ISO Metric-
Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR05ISO	0,50	–	–	–	–	0,6	.024	0,4	.016		●	
11	LT11NR075ISO	0,75	–	–	–	–	0,6	.024	0,6	.024		●	
11	LT11NR10ISO	1,0	–	–	–	–	0,6	.024	0,7	.027		●	
11	LT11NR125ISO	1,25	–	–	–	–	0,8	.031	0,9	.035		●	
11	LT11NR15ISO	1,5	–	–	–	–	0,8	.031	1,0	.039	●	●	
11	LT11NR175ISO	1,75	–	–	–	–	0,9	.035	1,1	.043		●	
11	LT11NR20ISO	2,0	–	–	–	–	0,9	.035	1,1	.043		●	
16	LT16NR05ISO	0,50	–	–	–	–	0,6	.024	0,4	.016		●	
16	LT16NR075ISO	0,75	–	–	–	–	0,6	.024	0,6	.024		●	
16	LT16NR10ISO	1,0	–	–	–	–	0,6	.024	0,7	.027	●	●	
16	LT16NR125ISO	1,25	–	–	–	–	0,8	.031	0,9	.035		●	
16	LT16NR15ISO	1,5	–	–	–	–	0,8	.031	1,0	.039	●	●	
16	LT16NR175ISO	1,75	–	–	–	–	0,9	.035	1,2	.047		●	
16	LT16NR20ISO	2,0	–	–	–	–	1,0	.039	1,3	.051	●	●	
16	LT16NR25ISO	2,5	–	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NR30ISO	3,0	–	–	–	–	1,1	.043	1,5	.059	●	●	
22	LT22NR35ISO	3,5	–	–	–	–	1,6	.063	2,3	.090		●	
22	LT22NR40ISO	4,0	–	–	–	–	1,6	.063	2,3	.090		●	
22	LT22NR45ISO	4,5	–	–	–	–	1,6	.063	2,4	.094		●	
22	LT22NR50ISO	5,0	–	–	–	–	1,6	.063	2,3	.090		●	
	left hand												
11	LT11NL075ISO	0,75	–	–	–	–	0,6	.024	0,6	.024		●	
11	LT11NL10ISO	1,0	–	–	–	–	0,6	.024	0,7	.027		●	
11	LT11NL15ISO	1,5	–	–	–	–	0,8	.031	1,0	.039		●	
16	LT16NL10ISO	1,0	–	–	–	–	0,6	.024	0,7	.027		●	
16	LT16NL15ISO	1,5	–	–	–	–	0,8	.031	1,0	.039		●	
16	LT16NL20ISO	2,0	–	–	–	–	1,0	.039	1,3	.051		●	
16	LT16NL30ISO	3,0	–	–	–	–	1,1	.043	1,5	.059		●	
22	LT22NL40ISO	4,0	–	–	–	–	1,6	.063	2,3	.090		●	



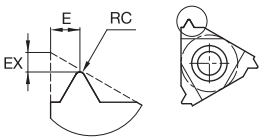
LT-ER-ISOCB



ISO Metric-
External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER05ISOCB	0,50	–	–	–	–	1,2	.047	0,5	.020	●	●	
16	LT16ER075ISOCB	0,75	–	–	–	–	1,2	.047	0,6	.024	●	●	
16	LT16ER10ISOCB	1,0	–	–	–	–	0,7	.028	0,8	.031	●	●	
16	LT16ER125ISOCB	1,25	–	–	–	–	0,7	.028	0,8	.031	●	●	
16	LT16ER15ISOCB	1,5	–	–	–	–	0,7	.028	0,8	.031	●	●	
16	LT16ER175ISOCB	1,75	–	–	–	–	1,2	.047	1,5	.059	●	●	
16	LT16ER20ISOCB	2,0	–	–	–	–	1,2	.047	1,5	.059	●	●	
16	LT16ER25ISOCB	2,5	–	–	–	–	1,2	.047	1,5	.059		●	
16	LT16ER30ISOCB	3,0	–	–	–	–	1,3	.051	1,5	.059	●	●	

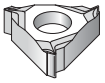
Order example:
Catalog number: LT16ER05ISOCB
Insert grade: KC5025

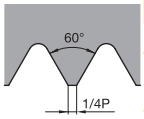


● first choice
○ alternate choice

H	○			
S	●	●	●	
N	○	○	○	
K	●	●	●	
M	●	●	●	
P	●	●	●	

LT-NR-ISOCB

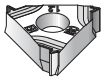


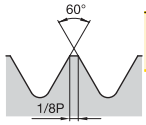


ISO Metric-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR075ISOCB	0,75	–	–	–	–	1,194	.0	0,500	.0		●	
11	LT11NR10ISOCB	1,0	–	–	–	–	0,711	.0	0,787	.0		●	
11	LT11NR15ISOCB	1,5	–	–	–	–	0,711	.0	0,787	.0		●	
16	LT16NR10ISOCB	1,0	–	–	–	–	0,711	.0	0,787	.0		●	
16	LT16NR15ISOCB	1,5	–	–	–	–	0,711	.0	0,787	.0		●	
16	LT16NR20ISOCB	2,0	–	–	–	–	1,100	.0	1,499	.1		●	
16	LT16NR25ISOCB	2,5	–	–	–	–	1,100	.0	1,499	.1		●	

LT-ER-ISOK

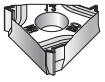


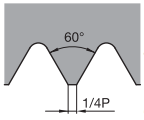


ISO Metric-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER10ISOK	1,0	–	–	0,14	.005	0,7	.028	0,7	.028			●
16	LT16ER125ISOK	1,25	–	–	0,16	.006	1,1	.043	0,8	.031			●
16	LT16ER15ISOK	1,5	–	–	0,20	.008	0,8	.031	1,0	.039			●
16	LT16ER175ISOK	1,75	–	–	0,22	.009	1,2	.047	1,5	.059			●
16	LT16ER20ISOK	2,0	–	–	0,27	.011	1,0	.039	1,3	.051			●
16	LT16ER25ISOK	2,5	–	–	0,32	.013	1,2	.047	1,5	.059			●
16	LT16ER30ISOK	3,0	–	–	0,38	.015	1,3	.051	1,5	.059			●

LT-NR-ISOK



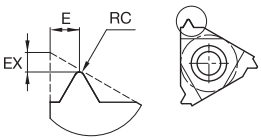


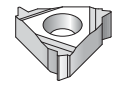
ISO Metric-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR10ISOK	1,0	–	–	0,06	.002	0,7	.028	0,8	.031			●
11	LT11NR125ISOK	1,25	–	–	0,07	.003	0,7	.028	0,8	.031			●
16	LT16NR10ISOK	1,0	–	–	0,05	.002	0,7	.028	0,7	.028			●
16	LT16NR15ISOK	1,5	–	–	0,08	.003	0,8	.031	1,0	.039			●
16	LT16NR175ISOK	1,75	–	–	0,10	.004	1,2	.047	1,5	.059			●
16	LT16NR20ISOK	2,0	–	–	0,10	.004	1,0	.039	1,3	.051			●
16	LT16NR25ISOK	2,5	–	–	0,14	.005	1,2	.047	1,5	.059			●
16	LT16NR30ISOK	3,0	–	–	0,17	.007	1,3	.051	1,5	.059			●

Order example:
Catalog number: LT11NR10ISOK
Insert grade: KU25T

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

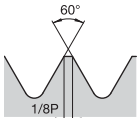




● first choice
○ alternate choice

		KC5010	KC5025	KU25T
H		○		
S		●	●	●
N		○	○	○
K		●	●	●
M		●	●	●
P		●	●	●

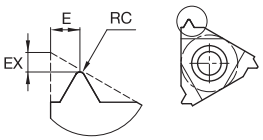
LT-ER/L-UN



American
UN-External

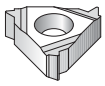
insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER48UN	–	48	–	–	–	0,6	.024	0,6	.024		●	
16	LT16ER40UN	–	40	–	–	–	0,6	.024	0,6	.024		●	
16	LT16ER36UN	–	36	–	–	–	0,6	.024	0,6	.024		●	
16	LT16ER32UN	–	32	–	–	–	0,6	.024	0,6	.024	●	●	
16	LT16ER28UN	–	28	–	–	–	0,6	.024	0,7	.027	●	●	
16	LT16ER24UN	–	24	–	–	–	0,7	.027	0,8	.031	●	●	
16	LT16ER20UN	–	20	–	–	–	0,8	.031	0,9	.035	●	●	
16	LT16ER18UN	–	18	–	–	–	0,8	.031	1,0	.039	●	●	
16	LT16ER16UN	–	16	–	–	–	0,9	.035	1,1	.043	●	●	
16	LT16ER14UN	–	14	–	–	–	1,0	.039	1,2	.047	●	●	
16	LT16ER12UN	–	12	–	–	–	1,1	.043	1,4	.055	●	●	
16	LT16ER10UN	–	10	–	–	–	1,1	.043	1,5	.059		●	
16	LT16ER8UN	–	8	–	–	–	1,2	.047	1,6	.063		●	
	left hand												
16	LT16EL40UN	–	40	–	–	–	0,6	.024	0,6	.024		●	
16	LT16EL28UN	–	28	–	–	–	0,6	.024	0,7	.027		●	
16	LT16EL24UN	–	24	–	–	–	0,7	.027	0,8	.031		●	
16	LT16EL20UN	–	20	–	–	–	0,8	.031	0,9	.035		●	
16	LT16EL18UN	–	18	–	–	–	0,8	.031	1,0	.039		●	
16	LT16EL16UN	–	16	–	–	–	0,9	.035	1,1	.043		●	
16	LT16EL14UN	–	14	–	–	–	1,0	.039	1,2	.047		●	
16	LT16EL12UN	–	12	–	–	–	1,1	.043	1,4	.055		●	
16	LT16EL10UN	–	10	–	–	–	1,1	.043	1,5	.059		●	
16	LT16EL8UN	–	8	–	–	–	1,2	.047	1,6	.063		●	

Order example:
Catalog number: LT16ER10UN
Insert grade: KC5025

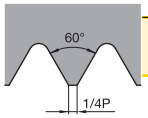


● first choice
○ alternate choice

H		○			
S		●	●	●	
N		○	○	○	
K		●	●	●	
M		●	●	●	
P		●	●	●	

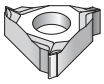


LT-NR/L-UN

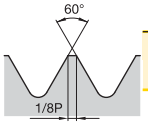


American UN-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR40UN	–	40	–	–	–	0,6	.024	0,6	.024		●	
11	LT11NR32UN	–	32	–	–	–	0,6	.024	0,6	.024		●	
11	LT11NR28UN	–	28	–	–	–	0,6	.024	0,7	.027		●	
11	LT11NR24UN	–	24	–	–	–	0,7	.027	0,8	.031		●	
11	LT11NR20UN	–	20	–	–	–	0,8	.031	0,9	.035		●	
11	LT11NR18UN	–	18	–	–	–	0,8	.031	1,0	.039		●	
11	LT11NR16UN	–	16	–	–	–	0,9	.035	1,1	.043	●	●	
16	LT16NR28UN	–	28	–	–	–	0,6	.024	0,7	.027		●	
16	LT16NR32UN	–	32	–	–	–	0,6	.024	0,6	.024		●	
16	LT16NR24UN	–	24	–	–	–	0,7	.027	0,8	.031		●	
16	LT16NR20UN	–	20	–	–	–	0,8	.031	0,9	.035		●	
16	LT16NR18UN	–	18	–	–	–	0,8	.031	1,0	.039		●	
16	LT16NR16UN	–	16	–	–	–	0,9	.035	1,1	.043		●	
16	LT16NR14UN	–	14	–	–	–	0,9	.035	1,2	.047		●	
16	LT16NR12UN	–	12	–	–	–	1,1	.043	1,4	.055	●	●	
16	LT16NR10UN	–	10	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NR8UN	–	8	–	–	–	1,1	.043	1,5	.059		●	
	left hand												
11	LT11NL32UN	–	32	–	–	–	0,6	.024	0,6	.024		●	
11	LT11NL16UN	–	16	–	–	–	0,9	.035	1,1	.043		●	
16	LT16NL16UN	–	16	–	–	–	0,9	.035	1,1	.043		●	
16	LT16NL14UN	–	14	–	–	–	0,9	.035	1,2	.047		●	
16	LT16NL12UN	–	12	–	–	–	1,1	.043	1,4	.055		●	
16	LT16NL10UN	–	10	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NL8UN	–	8	–	–	–	1,1	.043	1,5	.059		●	



LT-ER-UNCB

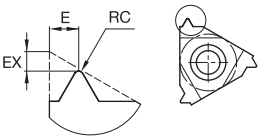


American UN-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER32UNCB	–	32	–	–	–	1,2	.047	0,5	.020	●	●	
16	LT16ER28UNCB	–	28	–	–	–	0,7	.028	0,8	.031	●	●	
16	LT16ER24UNCB	–	24	–	–	–	0,7	.028	0,8	.031	●	●	
16	LT16ER20UNCB	–	20	–	–	–	0,7	.028	0,8	.031	●	●	
16	LT16ER18UNCB	–	18	–	–	–	0,7	.028	0,8	.031	●	●	
16	LT16ER16UNCB	–	16	–	–	–	0,8	.032	0,8	.031	●	●	
16	LT16ER14UNCB	–	14	–	–	–	1,2	.047	1,5	.059	●	●	
16	LT16ER12UNCB	–	12	–	–	–	1,2	.047	1,5	.059	●	●	
16	LT16ER10UNCB	–	10	–	–	–	1,2	.047	1,5	.059	●	●	
16	LT16ER8UNCB	–	8	–	–	–	1,3	.051	1,5	.059	●	●	

Order example:
Catalog number: LT16ER16UNCB
Insert grade: KC5025

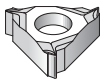
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

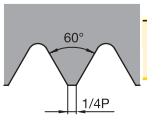


● first choice
○ alternate choice

H	○		
S	●	●	●
N	○	○	○
K	●	●	●
M	●	●	●
P	●	●	●

LT-NR-UNCB

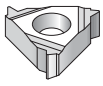


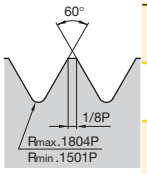


American
UN-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR32UNCB	–	32	–	–	–	1,2	.047	0,5	.020		●	
11	LT11NR24UNCB	–	24	–	–	–	0,7	.028	0,8	.031		●	
16	LT16NR20UNCB	–	20	–	–	–	0,7	.028	0,6	.024		●	
11	LT11NR20UNCB	–	20	–	–	–	0,6	.024	0,8	.031		●	
16	LT16NR18UNCB	–	18	–	–	–	0,6	.024	0,8	.031		●	
11	LT11NR18UNCB	–	18	–	–	–	0,6	.024	0,8	.031		●	
11	LT11NR16UNCB	–	16	–	–	–	0,7	.028	0,8	.031		●	
16	LT16NR16UNCB	–	16	–	–	–	0,7	.028	0,8	.031		●	
16	LT16NR14UNCB	–	14	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NR12UNCB	–	12	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NR10UNCB	–	10	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NR8UNCB	–	8	–	–	–	1,1	.043	1,5	.059		●	

LT-ER/L-UNJ

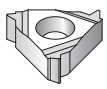


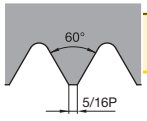


UNJ-
External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER32UNJ	–	32	–	–	–	0,6	.024	0,7	.027		●	
16	LT16ER28UNJ	–	28	–	–	–	0,7	.027	0,7	.027		●	
16	LT16ER24UNJ	–	24	–	–	–	0,7	.027	0,8	.031		●	
16	LT16ER20UNJ	–	20	–	–	–	0,8	.031	0,9	.035	●	●	
16	LT16ER18UNJ	–	18	–	–	–	0,8	.031	1,0	.039	●	●	
16	LT16ER16UNJ	–	16	–	–	–	0,9	.035	1,1	.043	●	●	
16	LT16ER14UNJ	–	14	–	–	–	1,0	.039	1,2	.047	●	●	
16	LT16ER12UNJ	–	12	–	–	–	1,1	.043	1,3	.051	●	●	
16	LT16ER10UNJ	–	10	–	–	–	1,2	.047	1,5	.059		●	
	left hand												
16	LT16EL16UNJ	–	16	–	–	–	0,9	.035	1,1	.043		●	

LT-NR/L-UNJ

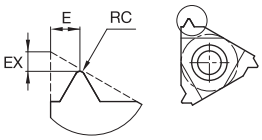




UNJ-
Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR18UNJ	–	18	–	–	–	0,8	.031	1,0	.039		●	
11	LT11NR16UNJ	–	16	–	–	–	0,9	.035	1,1	.043		●	
11	LT11NR14UNJ	–	14	–	–	–	1,0	.039	1,2	.047		●	
16	LT16NR16UNJ	–	16	–	–	–	0,9	.035	1,1	.043		●	
16	LT16NR14UNJ	–	14	–	–	–	1,0	.039	1,2	.047		●	
16	LT16NR12UNJ	–	12	–	–	–	1,1	.043	1,3	.051		●	

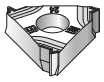
Order example:
Catalog number: LT16NR10UNJ
Insert grade: KC5025

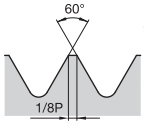


● first choice
○ alternate choice

H		○			
S		●	●	●	
N		○	○	○	
K		●	●	●	
M		●	●	●	
P		●	●	●	

LT-ER-UNK

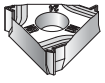


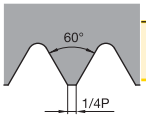


American UN-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER24UNK	–	24	–	–	–	0,7	.028	0,8	.031			●
16	LT16ER20UNK	–	20	–	–	–	0,7	.028	0,8	.031			●
16	LT16ER18UNK	–	18	–	–	–	0,7	.028	0,8	.031			●
16	LT16ER16UNK	–	16	–	0,19	.008	0,9	.035	1,1	.043			●
16	LT16ER14UNK	–	14	–	–	–	1,2	.047	1,5	.059			●
16	LT16ER12UNK	–	12	–	0,25	.010	1,1	.043	1,4	.055			●
16	LT16ER8UNK	–	8	–	–	–	1,3	.051	1,5	.059			●

LT-NR-UNK

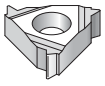


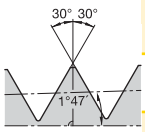


American UN-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR32UNCB	–	32	–	–	–	1,2	.047	0,5	.020		●	
11	LT11NR24UNCB	–	24	–	–	–	0,7	.028	0,8	.031		●	
16	LT16NR20UNCB	–	20	–	–	–	0,7	.028	0,6	.024		●	
11	LT11NR20UNCB	–	20	–	–	–	0,6	.024	0,8	.031		●	
16	LT16NR18UNCB	–	18	–	–	–	0,6	.024	0,8	.031		●	
11	LT11NR18UNCB	–	18	–	–	–	0,6	.024	0,8	.031		●	
11	LT11NR16UNCB	–	16	–	–	–	0,7	.028	0,8	.031		●	
16	LT16NR16UNCB	–	16	–	–	–	0,7	.028	0,8	.031		●	
16	LT16NR14UNCB	–	14	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NR12UNCB	–	12	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NR10UNCB	–	10	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NR8UNCB	–	8	–	–	–	1,1	.043	1,5	.059		●	

LT-ER/L-NPT



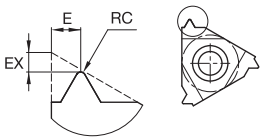


NPT-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER27NPT	–	27	.75	–	–	0,7	.027	0,8	.031		●	
16	LT16ER18NPT	–	18	.75	–	–	0,8	.031	1,0	.039	●	●	
16	LT16ER14NPT	–	14	.75	–	–	0,9	.035	1,2	.047	●	●	
16	LT16ER115NPT	–	11.5	.75	–	–	1,1	.043	1,5	.059	●	●	
16	LT16ER8NPT	–	8	.75	–	–	1,3	.051	1,8	.071		●	
	left hand												
16	LT16EL8NPT	–	8	.75	–	–	1,3	.051	1,8	.071		●	

Order example:
Catalog number: LT16ER115NPT
Insert grade: KC5010

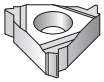
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

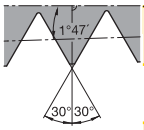


● first choice
○ alternate choice

H		○		
S		●	●	●
N		○	○	○
K		●	●	●
M		●	●	●
P		●	●	●

LT-NR/L-NPT

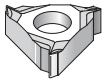


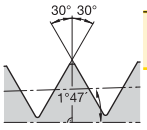


NPT-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR18NPT	–	18	.75	–	–	0,8	.031	1,0	.039		●	
11	LT11NR14NPT	–	14	.75	–	–	0,8	.031	1,0	.039	●	●	
16	LT16NR14NPT	–	14	.75	–	–	0,9	.035	1,2	.047	●	●	
16	LT16NR115NPT	–	11.5	.75	–	–	1,1	.043	1,5	.059	●	●	
16	LT16NR8NPT	–	8	.75	–	–	1,3	.051	1,8	.071		●	
	left hand												
16	LT16NL8NPT	–	8	.75	–	–	1,3	.051	1,8	.071		●	

LT-ER-NPTCB

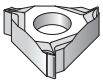


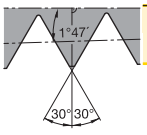


NPT-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER14NPTCB	–	14	.75	–	–	1,1	.043	1,5	.059	●	●	

LT-NR-NPTCB

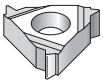


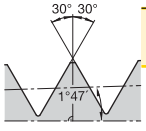


NPT-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16,497	LT16NR14NPTCB	–	14	.75	–	–	1,350	.0531	1,200	.0472		●	
16,497	LT16NR115NPTCB	–	11.5	.75	–	–	1,100	.0433	1,499	.0590		●	

LT-ER/L-NPTF

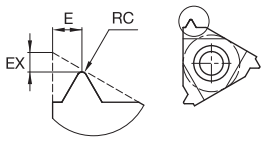




NPTF-External

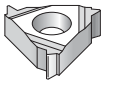
insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER14NPTF	–	14	.75	–	–	0,9	.035	1,2	.047		●	
16	LT16ER115NPTF	–	11.5	.75	–	–	1,1	.043	1,5	.059		●	

Order example:
Catalog number: LT16ER115NPTF
Insert grade: KC5025

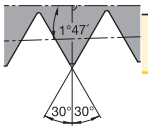


● first choice
○ alternate choice

H	○					
S	●	●	●			
N	○	○	○			
K	●	●	●			
M	●	●	●			
P	●	●	●			

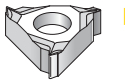


LT-NR/L-NPTF

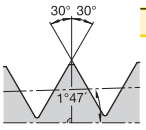


NPTF-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR14NPTF	–	14	.75	–	–	0,8	.031	1,0	.039		●	
16	LT16NR14NPTF	–	14	.75	–	–	0,9	.035	1,2	.047		●	
16	LT16NR115NPTF	–	11.5	.75	–	–	1,1	.043	1,5	.059		●	

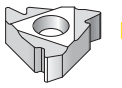


LT-ER-NPTFCB

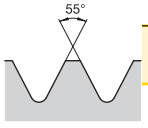


NPTF-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
16,497	LT16ER115NPTFCB	–	11.5	.75	–	–	1,1	.043	1,5	.059		●	

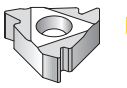


LT-ER/L-55

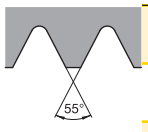


Partial Profile
55° External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ERA55	0,50-1,5	48-16	–	0,05	.002	0,8	.031	0,9	.035		●	
16	LT16ERAG55	0,50-3,0	48-8	–	0,08	.003	1,2	.047	1,7	.067	●	●	
16	LT16ERG55	1,75-3,0	14-8	–	0,20	.008	1,2	.047	1,7	.067		●	
22	LT22ERN55	3,5-5,0	7-5	–	0,43	.017	1,7	.067	2,5	.098		●	
	left hand												
16	LT16ELAG55	0,50-3,0	48-8	–	0,08	.003	1,2	.047	1,7	.067		●	



LT-NR/L-55

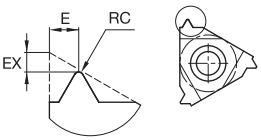


Partial Profile
55° Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NRA55	0,50-1,5	48-16	–	0,05	.002	0,8	.031	0,9	.035		●	
16	LT16NRA55	0,50-1,5	48-16	–	0,05	.002	0,8	.031	0,9	.035		●	
16	LT16NRAG55	0,50-3,0	48-8	–	0,07	.003	1,2	.047	1,7	.067		●	
16	LT16NRG55	1,75-3,0	14-8	–	0,21	.008	1,2	.047	1,7	.067		●	
22	LT22NRN55	3,5-5,0	7-5	–	0,43	.017	1,7	.067	2,5	.098		●	
	left hand												
16	LT16NLG55	1,75-3,0	14-8	–	0,21	.008	1,2	.047	1,7	.067		●	

Order example:
Catalog number: LT11NRA55
Insert grade: KC5025

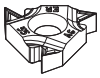
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

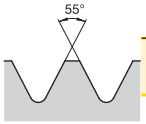


● first choice
○ alternate choice

H		○		
S		●	●	●
N		○	○	○
K		●	●	●
M		●	●	●
P		●	●	●

LT-ER-55K

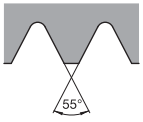




Partial Profile
55° External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	Right hand												
16	LT16ERAG55K	0,50-3,0	48-8	–	0,07	.003	1,2	.047	1,7	.067			●

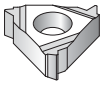
LT-NR-55K

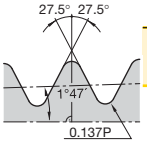


Partial Profile
55° Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	Right hand												
16,497	LT16NRAG55K	0,50-3,0	48-8	–	0,07	.003	1,2	.047	1,7	.067			●

LT-ER/L-BSPT

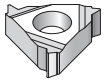


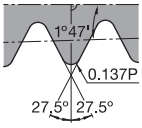


BSPT-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER14BSPT	–	14	.75	–	–	1,0	.039	1,2	.047		●	
16	LT16ER11BSPT	–	11	.75	–	–	1,1	.043	1,5	.059		●	

LT-NR/L-BSPT

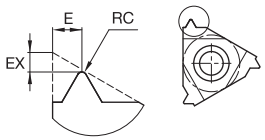




BSPT-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR14BSPT	–	14	.75	–	–	0,9	.035	1,0	.039		●	
16	LT16NR14BSPT	–	14	.75	–	–	1,0	.039	1,2	.047		●	
16	LT16NR11BSPT	–	11	.75	–	–	1,1	.043	1,5	.059		●	

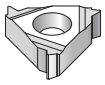
Order example:
Catalog number: LT11NR14BSPT
Insert grade: KC5025

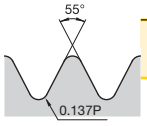


● first choice
○ alternate choice

H		○				
S		●	●	●		
N		○	○	○		
K		●	●	●		
M		●	●	●		
P		●	●	●		

LT-ER/L-W

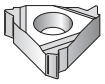


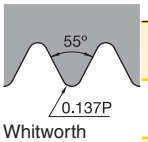


Whitworth
BSW, BSF,
BSP-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER28W	–	28	–	–	–	0,6	.024	0,7	.027		●	
16	LT16ER20W	–	20	–	–	–	0,8	.031	0,9	.035		●	
16	LT16ER19W	–	19	–	–	–	0,8	.031	1,0	.039	●	●	
16	LT16ER18W	–	18	–	–	–	0,8	.031	1,0	.039		●	
16	LT16ER16W	–	16	–	–	–	0,9	.035	1,1	.043		●	
16	LT16ER14W	–	14	–	–	–	1,0	.039	1,2	.047	●	●	
16	LT16ER12W	–	12	–	–	–	1,1	.043	1,4	.055		●	
16	LT16ER11W	–	11	–	–	–	1,1	.043	1,5	.059	●	●	
16	LT16ER10W	–	10	–	–	–	1,1	.043	1,5	.059		●	
16	LT16ER9W	–	9	–	–	–	1,2	.047	1,7	.067		●	
16	LT16ER8W	–	8	–	–	–	1,2	.047	1,5	.059		●	
22	LT22ER6W	–	6	–	–	–	1,6	.063	2,3	.090		●	
22	LT22ER7W	–	7	–	–	–	1,6	.063	2,3	.090		●	
	left hand												
16	LT16EL14W	–	14	–	–	–	1,0	.039	1,2	.047		●	
16	LT16EL11W	–	11	–	–	–	1,1	.043	1,5	.059		●	

LT-NR/L-W

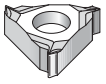


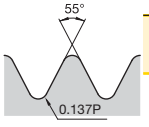


Whitworth
BSW, BSF,
BSP-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
11	LT11NR19W	–	19	–	–	–	0,8	.031	1,0	.039		●	
11	LT11NR14W	–	14	–	–	–	0,9	.035	1,1	.043		●	
16	LT16NR20W	–	20	–	–	–	0,8	.031	0,9	.035		●	
16	LT16NR19W	–	19	–	–	–	0,8	.031	1,0	.039		●	
16	LT16NR16W	–	16	–	–	–	0,9	.035	1,1	.043		●	
16	LT16NR14W	–	14	–	–	–	1,0	.039	1,2	.047		●	
16	LT16NR12W	–	12	–	–	–	1,1	.043	1,4	.055		●	
16	LT16NR11W	–	11	–	–	–	1,1	.043	1,5	.059	●	●	
16	LT16NR10W	–	10	–	–	–	1,1	.043	1,5	.059		●	
16	LT16NR8W	–	8	–	–	–	1,2	.047	1,5	.059		●	
22	LT22NR7W	–	7	–	–	–	1,6	.063	2,3	.090		●	
22	LT22NR6W	–	6	–	–	–	1,6	.063	2,3	.090		●	
	left hand												
16	LT16NL11W	–	11	–	–	–	1,1	.043	1,5	.059		●	

LT-ER-WCB



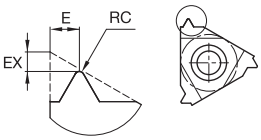


Whitworth
BSW, BSF, BSP-
External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER14WCB	–	14	–	–	–	1,3	.051	1,5	.059	●	●	
16	LT16ER11WCB	–	11	–	–	–	1,3	.051	1,5	.059		●	

Order example:
Catalog number: LT16ER11WCB
Insert grade: KC5025

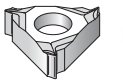
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

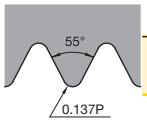


● first choice
○ alternate choice

H		○		
S		●	●	●
N		○	○	○
K		●	●	●
M		●	●	●
P		●	●	●

LT-NR-WCB

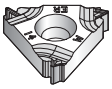


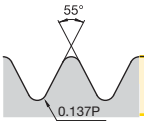


Whitworth BSW, BSF, BSP-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16NR14WCB	–	14	–	–	–	1,3	.051	1,5	.059		●	
16	LT16NR11WCB	–	11	–	–	–	1,3	.051	1,5	.059		●	

LT-ER/L-WK

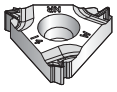


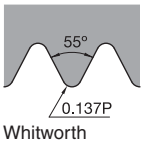


Whitworth BSW, BSF, BSP-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER19WK	–	19	–	0,18	.007	0,7	.028	0,8	.032			●
16	LT16ER14WK	–	14	–	0,25	.010	1,0	.039	1,2	.047			●
16	LT16ER11WK	–	14	–	0,29	.012	1,1	.043	1,5	.059			●

LT-NR/L-WK

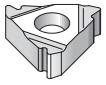


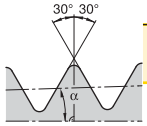


Whitworth BSW, BSF, BSP-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16NR14WK	–	14	–	0,25	.010	1,0	.039	1,2	.047			●
16	LT16NR11WK	–	11	–	0,28	.011	1,1	.043	1,5	.059			●

LT-ER/L-API



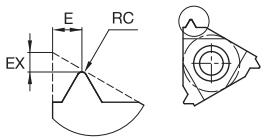


API Rotary Shoulder Connections-External

α=1/2 arctan (tpf/12)

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
22	LT22ER5API403	–	5	3.00	–	–	1,8	.071	2,6	.102	●		
22	LT22ER4API502	–	4	2.00	–	–	2,0	.079	2,9	.114	●	●	
22	LT22ER4API503	–	4	3.00	–	–	2,0	.079	2,9	.114	●		
22	LT22ER4API382	–	4	2.00	–	–	2,1	.083	2,8	.110		●	

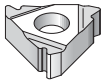
Order example:
Catalog number: LT22ER4API382
Insert grade: KC5025

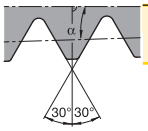


● first choice
○ alternate choice

H		○		
S		●	●	●
N		○	○	○
K		●	●	●
M		●	●	●
P		●	●	●

LT-NR/L-API



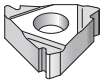


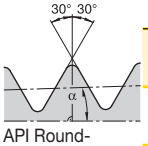
API Rotary Shoulder Connections-Internal

α=1/2 arctan (tpf/12)

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
22	LT22NR5API403	–	5	3.00	–	–	1,8	.071	2,6	.102		●	
22	LT22NR4API382	–	4	2.00	–	–	2,1	.083	2,8	.110		●	
22	LT22NR4API502	–	4	2.00	–	–	2,1	.083	3,1	.122		●	

LT-ER/L-APIRD

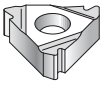


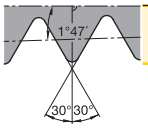


API Round-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER10APIRD	–	10	.75	–	–	1,2	.047	1,4	.055		●	
16	LT16ER8APIRD	–	8	.75	–	–	1,3	.051	1,5	.059		●	
	left hand												
16	LT16EL8APIRD	–	8	.75	–	–	1,3	.051	1,5	.059		●	

LT-NR/L-APIRD

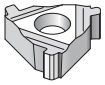


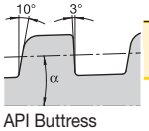


API Round-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16NR10APIRD	–	10	.75	–	–	1,2	.047	1,4	.055		●	
16	LT16NR8APIRD	–	8	.75	–	–	1,3	.051	1,5	.059		●	

LT-ER/L-BUT



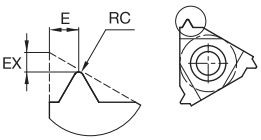


API Buttress Casing-External

α=1/2 arctan (tpf/12)

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
22	LT22ER5BUT75	–	5	.75	–	–	3,1	.122	1,9	.075		●	

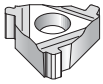
Order example:
Catalog number: LT22ER5BUT75
Insert grade: KC5025

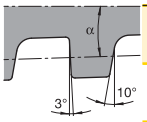


● first choice
○ alternate choice

H		○		
S		●	●	●
N		○	○	○
K		●	●	●
M		●	●	●
P		●	●	●

LT-NR/L-BUT



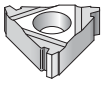


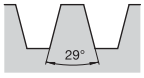
API Buttress Casing-Internal

α=1/2 arctan (tpf/12)

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
22	LT22NR5BUT1	–	5	1.00	–	–	2,8	.110	1,9	.075		●	
	left hand												
22	LT22NL5BUT75	–	5	.75	–	–	1,5	.061	1,9	.075		●	
22	LT22NL5BUT1	–	5	1.00	–	–	2,8	.110	1,9	.075		●	

LT-ER/L-ACME

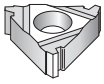




Acme External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER16ACME	–	16	–	–	–	1,0	.039	1,1	.043		●	
16	LT16ER12ACME	–	12	–	–	–	1,1	.043	1,2	.047		●	
16	LT16ER10ACME	–	10	–	–	–	1,3	.051	1,4	.055		●	
16	LT16ER8ACME	–	8	–	–	–	1,4	.055	1,5	.059		●	
22	LT22ER6ACME	–	6	–	–	–	1,8	.071	2,1	.083		●	
22	LT22ER5ACME	–	5	–	–	–	2,0	.079	2,3	.090		●	
	left hand												
22	LT22EL5ACME	–	5	–	–	–	2,0	.079	2,3	.090		●	

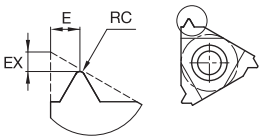
LT-NR/L-ACME



Acme Internal

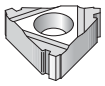
insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
22	LT22NR5ACME	–	5	–	–	–	2,0	.079	2,3	.090		●	
22	LT22NR6ACME	–	6	–	–	–	1,8	.071	2,1	.083		●	
16	LT16NR8ACME	–	8	–	–	–	1,4	.055	1,5	.059		●	
16	LT16NR12ACME	–	12	–	–	–	1,2	.047	1,3	.051		●	
16	LT16NR10ACME	–	10	–	–	–	1,2	.047	1,3	.051		●	
	left hand												
16	LT16NL10ACME	–	10	–	–	–	1,2	.047	1,3	.051		●	

Order example:
Catalog number: LT16NR12ACME
Insert grade: KC5025

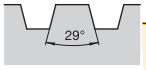


H		○											
S		●	●	●									
N		○	○	○									
K		●	●	●									
M		●	●	●									
P		●	●	●									

● first choice
○ alternate choice

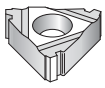


LT-ER/L-STACME

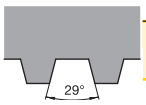


Stub Acme-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER16STACME	–	16	–	–	–	1,0	.039	1,0	.039		●	
16	LT16ER10STACME	–	10	–	–	–	1,2	.047	1,3	.051		●	
16	LT16ER12STACME	–	12	–	–	–	1,2	.047	1,2	.047		●	
16	LT16ER8STACME	–	8	–	–	–	1,4	.055	1,5	.059		●	
16	LT16ER6STACME	–	6	–	–	–	1,7	.067	1,8	.071		●	
22	LT22ER5STACME	–	5	–	–	–	2,1	.083	2,3	.090		●	

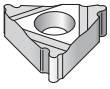


LT-NR/L-STACME

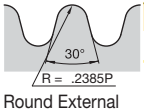


Stub Acme-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16NR16STACME	–	16	–	–	–	1,0	.039	1,0	.039		●	
16	LT16NR14STACME	–	14	–	–	–	1,1	.043	1,1	.043		●	
16	LT16NR12STACME	–	12	–	–	–	1,1	.043	1,2	.047		●	
16	LT16NR10STACME	–	10	–	–	–	1,2	.047	1,3	.051		●	
16	LT16NR8STACME	–	8	–	–	–	1,4	.055	1,5	.059		●	
16	LT16NR6STACME	–	6	–	–	–	1,7	.067	1,8	.071		●	

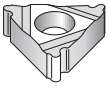


LT-ER/L-RD

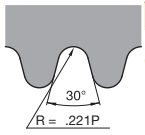


Round External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER8RD	–	8	–	0,76	.030	1,4	.055	1,3	.051		●	
22	LT22ER6RD	–	6	–	1,01	.040	1,5	.059	1,7	.067		●	



LT-NR/L-RD

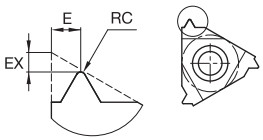


Round-Internal

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16NR8RD	–	8	–	0,70	.028	1,4	.055	1,4	.055		●	
22	LT22NR6RD	–	6	–	0,93	.037	1,5	.059	1,7	.067		●	

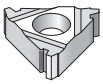
Order example:
Catalog number: LT16NR8RD
Insert grade: KC5025

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

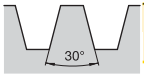


● first choice
○ alternate choice

H	○		
S	●	●	●
N	○	○	○
K	●	●	●
M	●	●	●
P	●	●	●

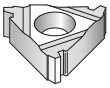


LT-ER/L-TR

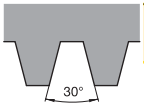


Trapez-External

insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16ER2TR	2,0	–	–	–	–	1,1	.043	1,3	.051		●	
16	LT16ER3TR	3,0	–	–	–	–	1,3	.051	1,5	.059		●	
22	LT22ER4TR	4,0	–	–	–	–	1,7	.067	1,9	.075		●	
22	LT22ER5TR	5,0	–	–	–	–	2,1	.083	2,5	.098		●	



LT-NR/L-TR

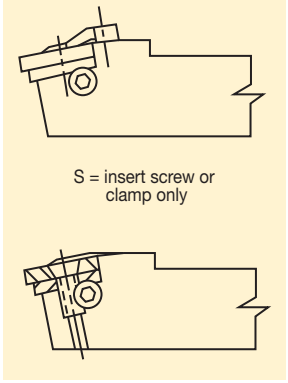


Trapez-Internal

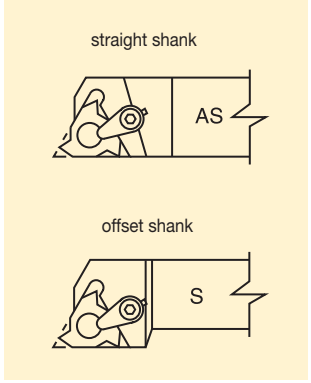
insert size	catalog number	thread pitch mm	TPI	TPF	RC mm	RC in	EX mm	EX in	E mm	E in	KC5010	KC5025	KU25T
	right hand												
16	LT16NR3TR	3,0	–	–	–	–	1,3	.051	1,5	.059		●	
22	LT22NR4TR	4,0	–	–	–	–	1,7	.067	1,9	.075		●	
22	LT22NR5TR	5,0	–	–	–	–	2,1	.083	2,5	.098		●	

Order example:
Catalog number: LT16NR3TR
Insert grade: KC5025

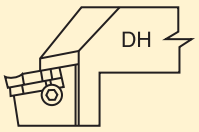
LT Threading – Toolholder Identification System



2. Insert Holding Method



3. Tool Style

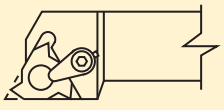


5. Drop Head

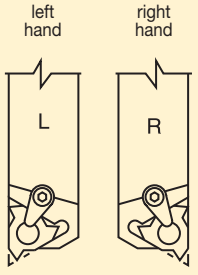
C – qualified back and end, 5" long
D – qualified back and end, 6" long
E – qualified back and end, 7" long
T – qualified back and end, 3.250" long
Q – qualified metric holder

8. Qualified Surface and Length

	1. Insert Style	2. Insert Holding Method	3. Tool Style	4. Hand of Tool	5. Drop Head	6. Shank Size	7. Insert Size	8. Qualified Surface and Length
METRIC	L	S	AS	R		2525K	16	D
INCH	L	S	AS	R		16	3	D



1. Insert Style

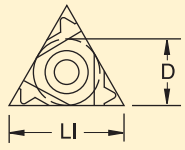


4. Hand of Tool

metric:
Shank height and width in mm and holder length according to ISO standard
inch:
This position will show a significant two-digit number that indicates the holder cross section. For shanks 5/8" square and over, the number will represent the number of sixteenths of width and height. For shanks under 5/8" square, the number of sixteenths of cross section will be preceded by a zero. For rectangular holders, the first digit represents the number of eighths of width, and the second digit the number of quarters of height, except for a toolholder 1 1/4" x 1 1/2", which is given the number 91.

6. Shank Size

Size equals number of 1/8-inch increments of IC.



inch insert size	metric insert size	D (inch)	LI (mm)
2	11	1/4	11,0
3	16	3/8	16,5
4	22	1/2	22,0

7. Insert Size

*NOTE: Toolholders with primary shank sizes larger than 1/2-inch or 12mm are supplied with clamp and insert screw. Secure the insert with either the clamp or insert screw. Do not use both.

LT Threading — Shim Identification System

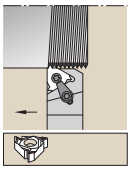
1. Shim	2. Y – Shim for LT Standard Inserts	3. E – External I – Internal	4. Insert Size	5. Shim Angle
SM	Y	E	3	2P

4. Insert Size: D value in 1/8ths inch

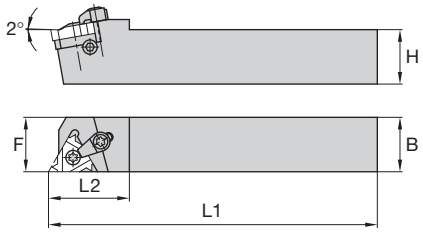
2P– 2° positive
1P– 1° positive
__– 0° neutral
1N– 1° negative
2N– 2° negative
3N– 3° negative

NOTE: For shims and shim kits, see pages E83-E84.

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

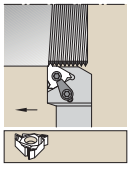


See page E33 for inserts

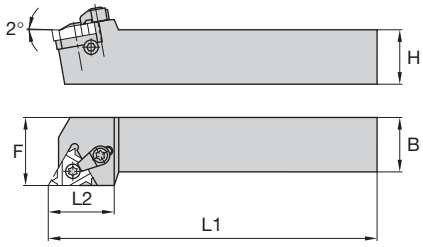


LSA

gage insert	catalog number	H	B	F	L1	L2	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx
	right hand												
LT16ER	LSASR1212N16	12	12	16	85	22	–	–	–	–	–	SSA3T	T10
LT16ER	LSASR1616H16	16	16	16	100	25	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16ER	LSASR2020K16	20	20	20	125	30	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16ER	LSASR2525M16	25	25	25	150	30	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16ER	LSASR3232P16	32	32	32	170	30	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22ER	LSASR2525M22	25	25	25	150	36	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22ER	LSASR3232P22	32	32	32	170	36	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
	left hand												
LT16EL	LSASL1212N16	12	12	16	85	22	–	–	–	–	–	SSA3T	T10
LT16EL	LSASL1616H16	16	16	16	100	25	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16EL	LSASL2020K16	20	20	20	125	30	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16EL	LSASL2525M16	25	25	25	150	30	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22EL	LSASL2525M22	25	25	25	150	36	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20



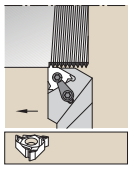
See page E33 for inserts



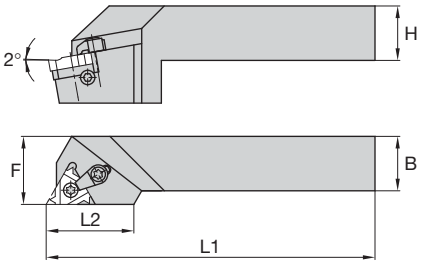
LSS

gage insert	catalog number	H	B	F	L1	L2	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx
	right hand												
LT16ER	LSSR2020K16Q	20	20	25	125	25	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16ER	LSSR2525M16Q	25	25	32	150	25	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16ER	LSSR3232P16Q	32	32	40	170	32	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22ER	LSSR2525M22Q	25	25	32	150	30	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22ER	LSSR3232P22Q	32	32	40	170	30	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
	left hand												
LT16EL	LSSL2020K16Q	20	20	25	125	25	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16EL	LSSL2525M16Q	25	25	32	150	25	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16EL	LSSL3232P16Q	32	32	40	170	32	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22EL	LSSL2525M22Q	25	25	32	150	30	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20

Order example:
LSSR2020K16Q



See page E33 for inserts



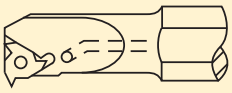
LSS-DH

gage insert	catalog number	H	B	F	L1	L2	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx
	right hand												
LT16ER	LSSRDH2020K16Q	20	20	25	125	38	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16ER	LSSRDH2525M16	25	25	32	150	38	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16ER	LSSRDH3232P16	32	32	40	170	38	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22ER	LSSRDH2525M22Q	25	25	32	150	38	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22ER	LSSRDH3232P22	32	32	40	170	38	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
	left hand												
LT16EL	LSSLDH2525M16	25	25	32	150	38	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22EL	LSSLDH2525M22Q	25	25	32	150	38	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20

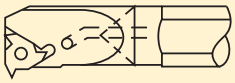
Order example:
LSSRDH2020K16Q

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

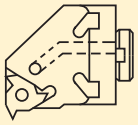
A – steel with coolant



E – carbide with coolant

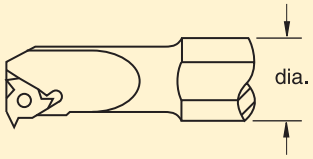


H – interchangeable head with coolant

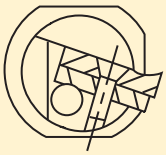


1. Bar Type

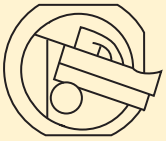
A two-digit number that indicates the secondary bar diameter in 1/16-inch increments.
Metric diameter in mm.



3. Secondary (Mounting) Bar Diameter

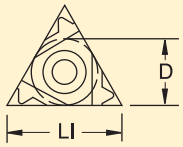


S = insert screw or clamp



5. Insert Holding Method

Size equals number of 1/8-inch increments of IC.

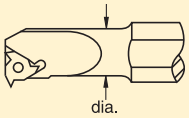


inch insert size	metric insert size	D (inch)	LI (mm)
2	11	1/4	11,0
3	16	3/8	16,5
4	22	1/2	22,0

8. Insert Size

A	10	10	L	S	E	R	11

2. Primary Necked-Shank Bar Diameter



A two-digit number that indicates the primary bar diameter in 1/16-inch increments.
Metric diameter in mm.

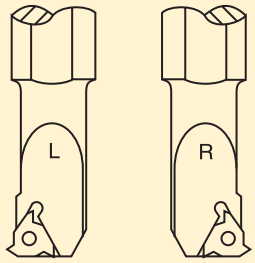
4. Insert Style

L – laydown triangle

6. Bar Style

end cutting edge mount

7. Hand of Bar



left hand right hand

*NOTE: Boring bars with primary bar diameters larger than 5/8-inch or 16 mm are supplied with clamp and insert screw. Secure the insert with either the clamp or insert screw. **Do not use both.**

LT Threading – Shim Identification System

2P– 2° positive
1P– 1° positive
__– 0° neutral
1N– 1° negative
2N– 2° negative
3N– 3° negative

5. Shim Angle

1. Shim

3. E – External I – Internal

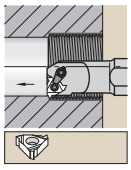
SM	Y	E	3	2P

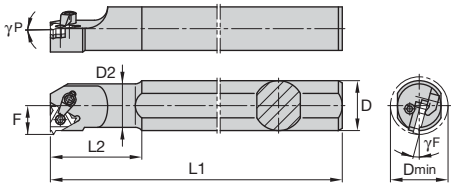
2. Y – Shim for LT Standard Inserts

4. Insert Size

D value in 1/8ths inch

NOTE: For shims and shim kits, see pages E83-E84.





Steel shank without through coolant

See page E33 for inserts

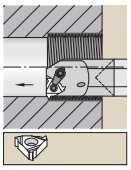
A-LSE

gage insert	catalog number	D	D min	D2	F	L1	L2	A	γF°	γP°	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx
	right hand																
LT11NR	A1010LSER11	10	13	10,0	7,3	100	100	4,5	-15.0	-1.5	–	–	–	–	–	SSN2T	T8
LT11NR	A1020LSER11	20	13	10,0	7,3	180	25	4,5	-15.0	-1.5	–	–	–	–	–	SSN2T	T8
LT11NR	A1320LSER11	20	16	13,0	8,9	180	32	4,5	-15.0	-1.5	–	–	–	–	–	SSN2T	T8
LT16NR	A1616LSER16	16	20	16,0	11,3	150	32	4,5	-15.0	-1.5	–	–	–	–	–	SSA3T	T10
LT16NR	A1320LSER16	20	17	12,7	10,3	180	32	4,5	-15.0	-1.5	–	–	–	–	–	SSA3T	T10
LT16NR	A1620LSER16	20	20	16,0	11,5	180	40	4,5	-15.0	-1.5	–	–	–	–	–	SSA3T	T10
LT16NR	A2020LSER16	20	24	20,0	13,4	180	40	4,5	-15.0	-1.5	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16NR	A2525LSER16	25	29	24,6	16,1	200	45	8,0	-15.0	-1.5	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16NR	A2532LSER16	32	29	25,0	16,3	250	60	8,0	-15.0	-1.5	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22NR	A2020LSER22	20	27	20,0	15,6	180	50	8,0	-15.0	-1.5	–	–	–	CKC4	T20	SSA4T	T20
LT22NR	A2525LSER22	25	32	24,6	17,2	200	45	8,0	-15.0	-1.5	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22NR	A2532LSER22	32	32	25,0	17,4	250	60	8,0	-15.0	-1.5	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22NR	A3232LSER22	32	39	32,0	21,5	250	60	8,0	-15.0	-1.5	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22NR	A4040LSER22	40	47	40,0	25,8	300	60	8,0	-15.0	-1.5	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20
	left hand																
LT11NL	A1010LSEL11	10	13	10,0	7,3	100	100	4,5	-15.0	-1.5	–	–	–	–	–	SSN2T	T8
LT11NL	A1020LSEL11	20	13	10,0	7,3	180	25	4,5	-15.0	-1.5	–	–	–	–	–	SSN2T	T8
LT11NL	A1320LSEL11	20	16	13,0	8,9	180	32	4,5	-15.0	-1.5	–	–	–	–	–	SSN2T	T8
LT16NL	A1616LSEL16	16	20	16,0	11,3	150	32	4,5	-15.0	-1.5	–	–	–	–	–	SSA3T	T10
LT16NL	A1320LSEL16	20	17	12,7	10,3	180	32	4,5	-15.0	-1.5	–	–	–	–	–	SSA3T	T10
LT16NL	A1620LSEL16	20	20	16,0	11,5	180	40	4,5	-15.0	-1.5	–	–	–	–	–	SSA3T	T10
LT16NL	A2020LSEL16	20	24	20,0	13,4	180	40	4,5	-15.0	-1.5	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16NL	A2525LSEL16	25	29	24,6	16,1	200	45	8,0	-15.0	-1.5	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16NL	A2532LSEL16	32	29	25,0	16,3	250	60	8,0	-15.0	-1.5	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22NL	A2020LSEL22	20	27	20,0	15,6	180	50	8,0	-15.0	-1.5			–	CKC4	T20	SSA4T	T20
LT22NL	A2525LSEL22	25	32	24,6	17,2	200	45	8,0	-15.0	-1.5	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22NL	A3232LSEL22	32	39	32,0	21,5	250	60	8,0	-15.0	-1.5	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22NL	A4040LSEL22	40	47	40,0	25,8	300	60	8,0	-15.0	-1.5	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20

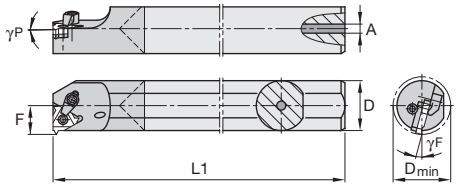
NOTE: Items listed without a shim are designed for a 1.5° inclination angle.
Be advised that certain boring bars are shipped without the clamp assembly.

Order example:
Right hand: A1010LSER11

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



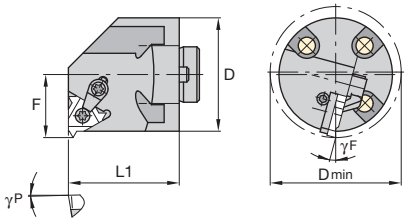
Carbide shank with through coolant
See page E33 for inserts



E-LSE

gage insert	catalog number	D	D min	F	L1	A	γF°	γP°	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx
	right hand														
LT16NR	E16RLSER16	16	20	11,5	200	5,5	-15.0	-1.5	–	–	–	–	–	SSA3T	T10
LT16NR	E20SLSER16	20	24	13,4	250	7,1	-15.0	-1.5	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT16NR	E25TLSER16	25	29	15,8	300	7,9	-15.0	-1.5	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10

Wiith through coolant
See page E33 for inserts

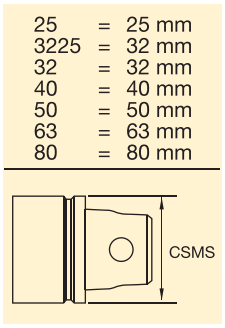


H-LSE

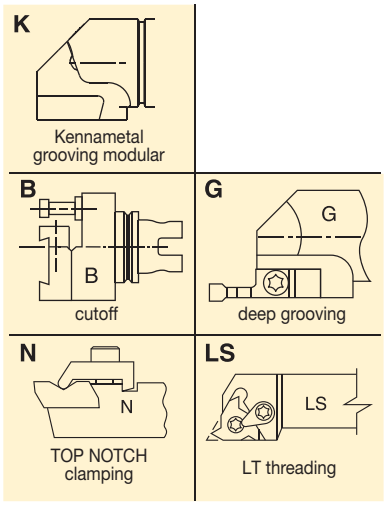
gage insert	catalog number	D	D min	L1	F	γF°	γP°	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx
	right hand													
LT16NR	H50LSER16	50	54,0	41,3	27,2	-15.0	-1.5	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22NR	H40LSER22	40	47,0	41,3	24,1	-15.0	-1.5	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22NR	H50LSER22	50	56,0	41,3	28,7	-15.0	-1.5	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20
	left hand													
LT16NL	H50LSEL16	50	54,0	41,3	27,2	-15.0	-1.5	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
LT22NL	H40LSEL22	40	47,0	41,3	24,1	-15.0	-1.5	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
LT22NL	H50LSEL22	50	56,0	41,3	28,7	-15.0	-1.5	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20

NOTE: For boring adapters, see page B103.

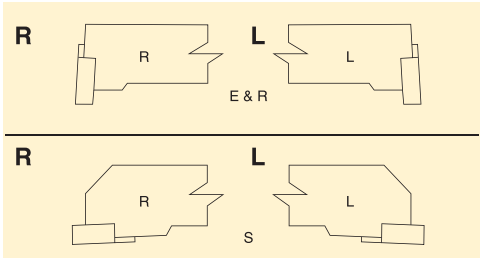
Order example:
H50LSER16



2. System Size



4. Insert Holding Method



6. Hand of Tool

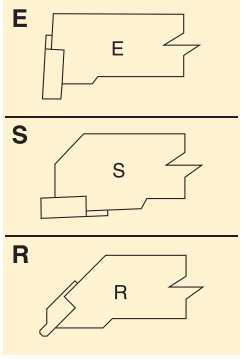
KM 63 - UT N S R 3 E

1. Kennametal Modular

3. Feature

ATC
UT
XMZ
XTS

5. Insert Location



9. Special Feature

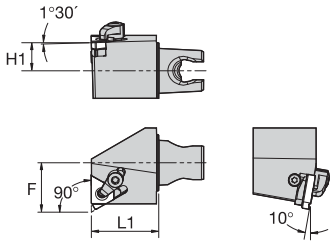
Y = Mazak Integrex

8. Additional Information

E -	external only
N -	internal only
C -	GC-style insert

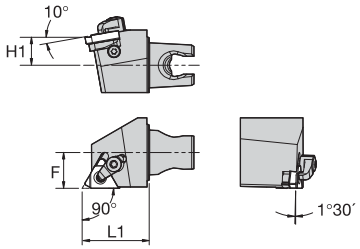
7. Insert Cutting Edge Length

N - insert size		LT - cutting edge length		KGM blade size
s		l	d (IC)	
2	3,18			50
3	4,95	16	9,52	50
4	6,48	22	12,70	50
5	9,65	–	–	50
6	11,13	–	–	50



LSE — End Mount

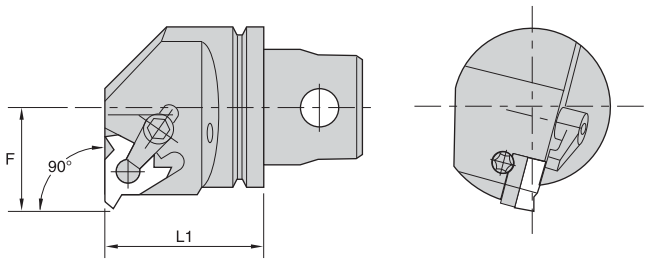
order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	gage insert	insert screw	shim	shim screw	clamp assembly
	right hand											
2399506	KM25LSER1630	30	1.181	22	.866	12,5	.492	LT16EL	SSA3T	SMYI3	SSY3T	CKC3
	left hand											
2399507	KM25LSEL1630	30	1.181	22	.866	12,5	.492	LT16ER	SSA3T	SMYE3	SSY3T	CKC3



LSS — Side Mount

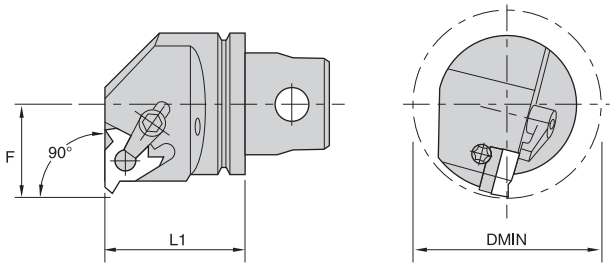
order number	catalog number	L1 mm	L1 inch	F mm	F inch	H1 mm	H1 inch	gage insert	insert screw	shim	shim screw	clamp assembly
	right hand											
2399504	KM25LSSR1630	30	1.181	16	.630	12,5	.492	LT16ER	SSA3T	SMYE3	SSY3T	CKC3
3176219	KM25LSSR2230	30	1.181	16	.630	12,5	.492	LT22ER	SSA4T	SMYE4	SSY4T	CKC4
	left hand											
2399505	KM25LSSL1630	30	1.181	16	.630	12,5	.492	LT16EL	SSA3T	SMYI3	SSY3T	CKC3
3176220	KM25LSSL2230	30	1.181	16	.630	12,5	.492	LT22EL	SSA4T	SMYI4	SSY4T	CKC4

LT Threading



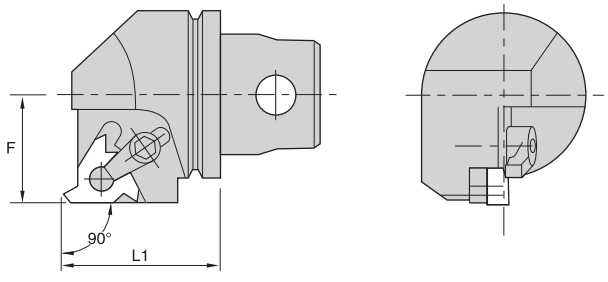
LSE-E 90° — External Only

order number	catalog number	L1 mm	L1 inch	F mm	F inch	gage insert	insert screw	shim	shim screw	clamp assembly
	right hand									
1144373	KM40LSER16E	40	1.575	27	1.063	LT16EL	SSA3T	SMYI3	SSY3T	CKC3
	left hand									
1144374	KM40LSEL16E	40	1.575	27	1.063	LT16ER	SSA3T	SMYE3	SSY3T	CKC3



LSE-N 90° — Internal Only

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	insert screw	shim	shim screw	clamp assembly
	right hand											
1144359	KM40LSER16N	40	1.575	27	1.063	54	2.13	LT16NR	SSA3T	SMYI3	SSY3T	CKC3
1144361	KM40LSER22N	40	1.575	27	1.063	54	2.13	LT22NR	SSA4T	SMYI4	SSY4T	CKC4



LSS 90°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	gage insert	insert screw	shim	shim screw	clamp assembly
	right hand									
1019300	KM40LSSR16	40	1.575	27	1.063	LT16ER	SSA3T	SMYE3	SSY3T	CKC3
1019302	KM40LSSR22	40	1.575	27	1.063	LT22ER	SSA4T	SMYE4	SSY4T	CKC4
	left hand									
1019301	KM40LSSL16	40	1.575	27	1.063	LT16EL	SSA3T	SMYI3	SSY3T	CKC3
1019303	KM40LSSL22	40	1.575	27	1.063	LT22EL	SSA4T	SMYI4	SSY4T	CKC4

Suggested Grades and Speeds for Threading Various Workpiece Materials

workpiece group	workpiece material	recommended surface speed (m/min)				
		uncoated	PVD coated			
		K68	KC5010	KC5025	KC5410	KU25T
free-machining carbon steel	10L18, 10L45, 1213, 12L13, 12L14, 1140, 1141, 11L44, 1151, 10L50	—	91–198	45–198	—	91–137
plain carbon steel	10063, 1008, 1010, 1015, 1018, 1020, 1025, 1026, 1108, 1117	—	76–198	45–175	—	76–122
alloy steels/tool steels 150–325 HB up to 35 HRC	1042, 1045, 1070, 1080, 1085, 1090, 1095, 1541, 1561, 1572, 5140, 8620, W1, O1, S1, P20, H13, D2, A6, H13, L6	—	76–198	38–167	—	73–122
alloy steels/tool steels 330—450 HB 36—47 HRC		—	61–160	—	—	61–106
martensitic/ferritic stainless/precipitation hardening	416, 420F, 440F, 405, 409, 429, 430, 434, 436, 442, PH	—	45–160	30–122	—	24–61
austenitic stainless steel	201, 202, 301, 302, 303, 304, 304, 305, 321, 347, 348, 310, 314, 316, 316L, 330	61–106	61–198	46–137	—	24–106
gray cast iron 135–270 HB	class 20, 30, 35, 45	61–91	61–237	46–122	—	30–110
gray cast iron 275–450 HB	class 50, 55, 60	45–76	45–175	15–76	—	30–110
alloy/ductile iron	A536, J434C, 60-40-18, 80-55-06, 100-70-03	45–76	45–198	30–160	—	30–110
free-machining aluminum alloys	2024-T4, 2014-T6, 6061-T6 2011-T3, 3003-H18, A2, Alcan, Alcoa 510, Duralumin	122–244	122–365	—	152–457	30–305
high-silicon aluminum alloys	A380, A390, A380-1, A390-1, A380-2	—	—	—	—	—
copper/zinc/brass		76–183	76–304	46–236	—	30–244
non-metallics	Graphite, Nylon, Plastics, Rubbers, Phenolics, Carbon	122–457	122–396	46–305	—	30–304
high-temperature alloys 125–269 HB (up to 27 HRC)	Nickel 200, Monel, R405, Monel K500, Inconel 600, Inconel 625/901x750/718, Waspaloy, Hastelloy C	24–37	24–122	13–76	—	11–85
high-temperature alloys 260–450 HB (26–47 HRC)	Rene 95, Waspaloy A286, Incoloy 800, Haynes 188, Stellite F, Haynes 25	24–30	30–76	6–61	—	11–61
titanium alloys	Ti-6Al-4V, TI-5Al-2.5Sn	34–55	34–99	—	—	11–76

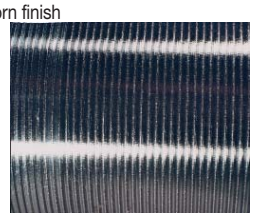
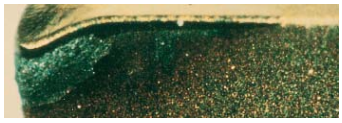
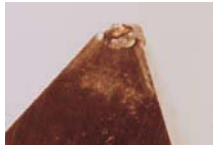
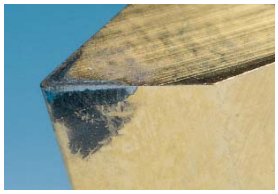
NOTE: *When workpiece hardness levels are at the top of a range, starting m/min should be at the lower end. Regularly inspect insert clamps for worn flats.*

Edge preparation:

Uncoated — sharp.

PVD coated — light hone except positive top rake, top rake-sharp.

Tool Detective

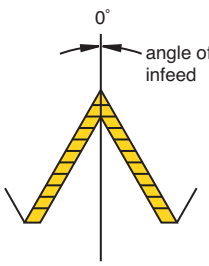
problem	cause	possible solution
thread with torn finish 	• Burrs • Torn finish • Steps	• Use positive rake or full profile insert. • Increase coolant concentration. • Alter infeed. • Increases sfm. • Check machine “Z” travel axis. • Check insert form. • Check for correct shim in LT system. • Use CB inserts.
chatter	• Poor rigidity. • Incorrect speed. • Insert movement. • Improper infeed. • Off centerline. • Wrong edge prep.	• Minimize tool overhang. • Check for workpiece deflection. • Adjust sfm. • Check insert and clamp. • Use modified feed angle. • Verify that tool cutting position is at workpiece centerline. • Adjust hone level by ordering special insert.
built-up edge	• Speed too low. • Insufficient coolant. • Chip load. • Wrong edge prep.	• Increase sfm. • Increase coolant concentration and/or flow. • Adjust infeed angle. • Increase depth-of-cut per pass. • Adjust hone level by ordering special insert.
deformation 	• Wrong grade. • Speed too high. • Improper infeed angle. • Insufficient coolant.	• Use a more wear-resistant grade (i.e. KC5010). • Reduce sfm. • Alter infeed method/angle. • Increase coolant flow.
chipping	• Improper infeed. • Chip load. • Wrong grade. • Incorrect speed. • Poor rigidity. • Wrong edge prep.	• Alter infeed to modified flank. • Adjust chip load. • Increase or decrease number of passes. • Eliminate spring passes. • Use tougher grade (i.e. KC5025). • Increase sfm if chipping on trailing edge. • Decrease sfm if chipping on leading edge. • Minimize tool overhang. • Check for insert movement/check clamp. • Check for possible part deflection. • Adjust hone size by ordering special insert.
broken nose 	• Heavy chip load. • Small nose radius. • Wrong grade. • Improper infeed. • Wrong edge prep.	• Decrease chip load. • Use large nose radius if allowable. • Use tougher grade (i.e. KC5025). • Alter infeed to modified flank. • Adjust hone size by ordering special insert.
flank wear 	• Wrong grade. • Insufficient coolant. • Off centerline.	• Use a more wear-resistant grade (i.e. KC5025). • Increase coolant flow. • Check the centerline height of the tool (the smaller the diameter, the more critical the need for centerline accuracy).

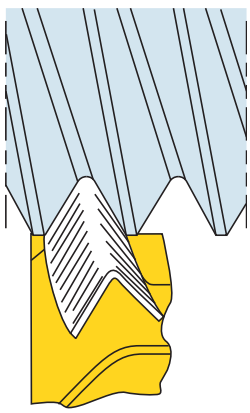
Tool Detective — Troubleshooting Matrix

problems	solutions to threading problems																
	increase sfm	reduce sfm	increase chip load	decrease chip load where failure occurs	use tougher carbide grade	use harder carbide grade	apply coolant	use coated carbide	use topping insert	change infeed angle	check for insert movement and reseat	reduce tool overhang	reselect shim	apply chipbreaker style	reduce doc	adjust center height	begin cutting threads 12mm before workpiece
chatter	●			●							●	●				●	
burr on crest	●								●								
short tool life		●	●	●		●		●									
chipped leading edge			●	●	●												
chipped trailing edge					●					●							
broken nose (first pass)	●														●	●	
broken nose (after first pass)				●	●					●			●				
build-up on cutting edge	●		●				●	●									
premature topping													●				
splitting threads																	●
poor chip evacuation														●			

preferred methods

radial





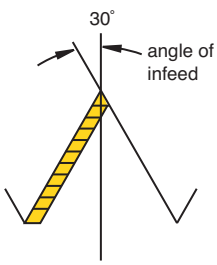
advantage –

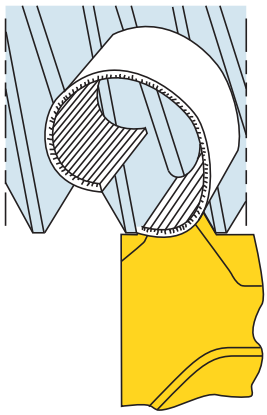
- Cutting on both sides of the thread form places all of the cutting edge in the cut and protects edge from chipping.

disadvantage –

- Tool develops a channel chip that may be difficult to handle.
- Tip chipping occurs when cutting high-tensile materials.
- Burr condition is increased.
- Entire cutting edge is engaged at finish of thread, causing increased tendency to chatter.

flank





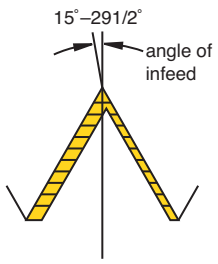
advantage –

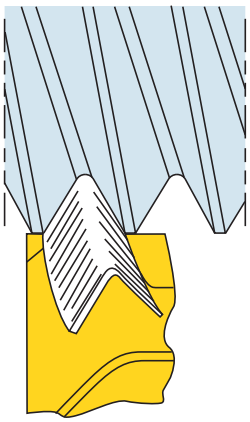
- Cutting with the leading edge of the threading tool gives the chip a definite flow out of the thread form area. This reduces the burr problem on the trailing edge of the tool. To avoid bad surface finish, chipping, or excessive flank wear due to rubbing of the trailing edge, the infeed angle should be 3˚ to 5˚ smaller than the angle of the thread. This is a type of modified flank.

disadvantage –

- Trailing edge of threading insert may drag or rub and tends to chip.
- Torn or poor surface finish threads result when cutting soft, gummy materials like low-carbon steels, aluminum, and stainless steels.

modified flank





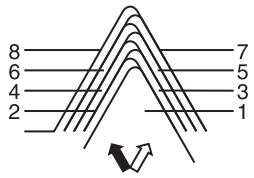
advantage –

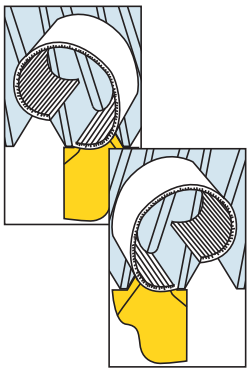
- Tool cuts both sides of thread form so it is protected from chipping similar to 0˚ infeed. Channel-type chip develops, but uneven chip thickness helps remove the chip similar to flank infeed.
- This is the preferred method, especially when used with a chip control insert.

disadvantage –

- Similar disadvantages as with 0˚ infeed, although reduced somewhat in magnitude as cutting forces are better equalized and chip flow is much less of a problem.

alternating flank





advantage –

- Increased tool life because both edges are used equally.
  NOTE: Some machine tools may require special programming techniques to achieve this method of infeed.

disadvantage –

- Difficult to cut on conventional machinery.

Machining Guidelines When Using Chip Control Inserts

Kennametal insert technology brings chip control to your TOP NOTCH™ and laydown threading operations. The specially-designed geometries effectively break the chip in most applications. Our positive rake design lowers cutting pressures, which in turn lowers damaging heat generation. The result is better tool life. Long, stringy chips no longer mar the workpiece surface finish. The danger to operators when removing long chips from the workpiece and chuck is eliminated. All of these benefits combine to improve the productivity of your threading operations.

Machine Programming

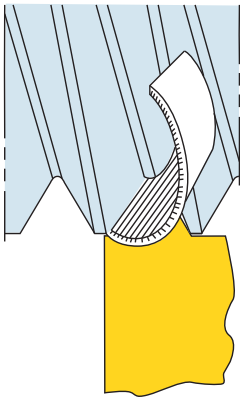
Modern CNC controls allow the programmer to easily adjust infeed angle, the number of passes, and depth-of-cut for each pass.

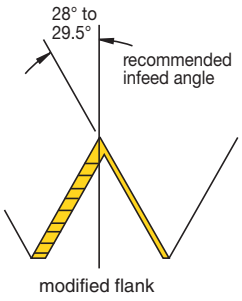
The chip-control threading insert performs best at an infeed angle of 28° to 29.5°, although 20° to 30° is acceptable. Also, it is important to maintain a minimum 0,13mm (.005 inch) depth-of-cut on every pass. For more consistent chip control, it is recommended that a constant value between 0,13–0,25mm (.005–010 inch) be used.

The Last Pass

Some CNC controls require the last pass to be at a 0° infeed angle. The chip will not break on the last pass at a 0° infeed angle. On most carbon and alloy steels, the last pass can remain at 0,13mm (.005 inch) depth of cut and produce an acceptable finish. For some materials, a 0,02–0,08mm (.001–.003 inch) spring pass may be used to improve surface finish, however, chipbreaking action may be compromised.

Infeed Angle

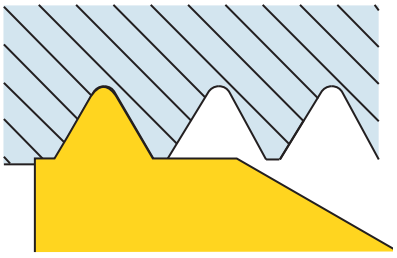




In order to effectively and consistently break the chip, it is important to use an infeed angle between 28° and 29.5°. Do not apply chip-control inserts at infeed angles less than 20°.

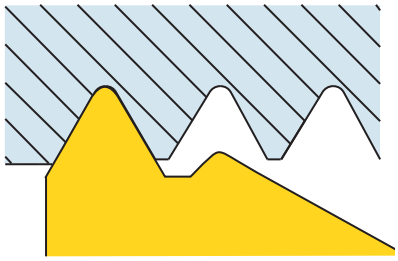
Full vs. Partial Profile — Available for Both TOP NOTCH™ and LT Insert Styles

full profile



- Thread dimensions are according to established standards.
- High thread concentricity is obtained since the major and minor diameters are machined concurrently.
- Machining costs are reduced since the final threading pass machines the crest exactly, eliminating the need for an extra operation or deburring.

partial profile



- The same insert can be used for various pitches within a defined range.
- Provides flexibility for non-standard thread forms.

Formulas

	to find	given	formula
metric	m/min	D (mm) rpm	m/min = $\frac{\pi \times D}{1000}$ x rpm
	rpm	D (mm) m/min	rpm = $\frac{\text{sfm} \times 1000}{D \times \pi}$
inch	sfm	D (inch) rpm	sfm = $\frac{\pi \times D}{12"}$ x rpm
	rpm	D (inch) sfm	rpm = $\frac{\text{sfm} \times 12"}{D \times \pi}$

legend

m/min = meters per minute
sfm = surface feet per minute
rpm = revolutions per minute
D = part diameter
π = 3.1416

maximum cutting speeds

Maximum cutting speed is often limited by the maximum travel speed (ipm or mm/min) of the tool allowed by the machine. Check your maximum speed with the following formulas.

metric maximum cutting speed (m/min.) =
formula: part diameter (mm) x 3.14 x (1/pitch) x $\frac{\text{max mm/min.}}{1000\text{mm}}$

inch maximum cutting speed (sfm) =
formula: part diameter (inch) x 3.14 x tpi x $\frac{\text{max ipm (inch/min.)}}{12"}$

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

Recommendation for Threading Infeed Passes

metric pitch (mm)	0,50–0,75	0,80–1,0	1,25–1,5	1,75–2,0	2,5–3,0	3,5–4,0	4,5–6,0	8,0
TPI	48–32	28–24	20–16	14–12	11.5–9	8–6	5–4	3–2

Thread Type	recommended number of passes							
common V-thread forms ISO, UN, UNJ, NPT, Whitworth, BSPT, API Rotary Shoulder	4–5	5–6	6–8	8–10	9–12	12–15	14–16	15–25
Acme, Trapez, Round, API Round	–	–	5–6	7–8	10–11	12–13	13–15	18–20
Stub Acme, API Buttress	–	–	5	5–6	7–8	8–10	10–12	14–16
American Buttress	–	–	7–8	9–10	11–12	13–15	17–19	22–24

Maintain minimum 0,05mm (.002 inch) infeed on last passes to avoid workhardening and excessive abrasion of the threading tool.
For more detailed recommendations, see technical data on our website at www.kennametal.com.

Constant Volume Infeed Values for Threading Operations

In most applications, use of CNC canned cycles produce only marginally successful results. This is the case as these programs do not satisfy the 0,05mm (.002 inch) minimum depth-of-cut specification recommended.

Example:

Infeed per pass formula: accumulated depth = initial doc x √—# pass
For example, an 8-pitch external thread has a depth of 2,00mm.
Twenty-five percent of 2,00mm = approximately 0,50mm.
(This is the infeed /doc for the first pass.)

0,5 x √—2 = 0,7
0,7 - 0,5 = 0,2 (This is the infeed /doc for the second pass.)

0,5 x √—3 = 0,87
0,87 - 0,7 = 0,17 (This is the infeed / doc for the third pass.)

0,5 x √—4 = 1,0
1,0 - 0,87 = 0,13 (This is the infeed /doc for the fourth pass.)

Using Radial Infeed

Bending stress on the sutting edge caused by V-shaped chips from long-chippping steel workpiece materials.

High cutting forces with small cutting thicknesses require sharp edges with high strength.

Its application is recommended for tough and hard, wear-resistant carbides with good resistance to thermal and mechanical shocks.

Using Flank Infeed

Less bending stress and stabilized cutting edges produce more favorable chip shapes and larger cutting thicknesses.

Carbides with high hardness, good wear resistance, and temperature stability are advantageous.

When turning short threads with short engagement times, there is a good resistance to thermal and mechanical shocks.

Guidelines for Infeeds

How to determine the number and the size of passes

The number of passes “s” per thread is decisive for successfull threading and crest turning. The following tables give standard values for the application condition when machining steel. The proper number of passes must be determined empirically.

If insert breakage occurs the number of passes must be increased. With increased wear we recommend decreasing the number of passes.

The chip thickness should not be less than 0,05mm. The allowance at the diameter should not exceed 0,2mm.

Infeed Tables

Metric ISO, External Thread Cutting

thread pitch P (mm)	0,50	0,75	1,00	1,25	1,50	1,75	2,00	2,50	3,00	3,50	4,00	4,50	5,00
depth h3	0,307	0,460	0,613	0,767	0,920	1,074	1,227	1,534	1,840	2,147	2,454	2,760	3,067
no. of passes	4	4	5	6	6	8	8	10	12	14	15	15	16
	values for radial infeed (X) and flank infeed (X/Z)												
order of passes	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0,117/-	0,176/-	0,195/-	0,206/-	0,248/-	0,216/-	0,247/-	0,238/-	0,223/-	0,204/-	0,205/-	0,231/-	0,226/-
2	0,078/0,045	0,118/0,068	0,140/0,081	0,160/0,092	0,192/0,111	0,194/0,112	0,222/0,128	0,248/0,143	0,272/0,157	0,294/0,170	0,324/0,187	0,362/0,211	0,391/0,227
3	0,060/0,035	0,090/0,052	0,108/0,062	0,123/0,071	0,147/0,085	0,149/0,986	0,170/0,098	0,190/0,110	0,209/0,120	0,225/0,130	0,249/0,144	0,280/0,162	0,301/0,174
4	0,052/0,029	0,076/0,044	0,090/0,052	0,104/0,060	0,124/0,072	0,126/0,073	0,144/0,083	0,161/0,093	0,176/0,102	0,190/0,110	0,210/0,121	0,236/0,136	0,254/0,147
5			0,080/0,046	0,091/0,053	0,110/0,063	0,111/0,064	0,126/0,073	0,141/0,082	0,155/0,089	0,167/0,097	0,185/0,107	0,208/0,120	0,224/0,129
6				0,083/0,048	0,099/0,057	0,100/0,058	0,114/0,066	0,128/0,074	0,140/0,081	0,151/0,087	0,167/0,096	0,188/0,108	0,202/0,117
7						0,092/0,053	0,105/0,061	0,118/0,068	0,129/0,074	0,139/0,080	0,154/0,089	0,173/0,100	0,186/0,107
8						0,087/0,049	0,098/0,057	0,109/0,063	0,120/0,069	0,129/0,075	0,143/0,083	0,161/0,093	0,173/0,100
9								0,103/0,059	0,113/0,065	0,122/0,070	0,134/0,078	0,151/0,087	0,163/0,094
10								0,098/0,056	0,106/0,061	0,115/0,066	0,127/0,073	0,143/0,082	0,154/0,089
11									0,101/0,058	0,109/0,063	0,121/0,070	0,136/0,078	0,146/0,084
12									0,097/0,056	0,105/0,060	0,115/0,067	0,130/0,075	0,140/0,081
13										0,100/0,058	0,111/0,064	0,125/0,072	0,134/0,077
14										0,097/0,056	0,107/0,061	0,120/0,069	0,129/0,074
15											0,102/0,059	0,116/0,067	0,124/0,072
16													0,120/0,069

Metric ISO, Internal Thread Cutting

thread pitch P (mm)	0,50	0,75	1,00	1,25	1,50	1,75	2,00	2,50	3,00	3,50	4,00	4,50	5,00
depth h1	0,271	0,406	0,541	0,677	0,812	0,947	1,083	1,353	1,624	1,894	2,165	2,436	2,706
no. of passes	4	4	5	6	6	8	8	10	11	12	14	15	16
	values for radial infeed (X) and flank infeed (X/Z)												
order of passes	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0,108/-	0,162/-	0,182/-	0,196/-	0,235/-	0,212/-	0,243/-	0,243/-	0,263/-	0,277/-	0,261/-	0,269/-	0,277/-
2	0,067/0,039	0,102/0,058	0,120/0,069	0,137/0,079	0,165/0,095	0,166/0,096	0,190/0,110	0,213/0,123	0,243/0,140	0,272/0,157	0,288/0,166	0,313/0,180	0,336/0,194
3	0,052/0,030	0,077/0,045	0,092/0,053	0,105/0,061	0,126/0,073	0,128/0,074	0,146/0,084	0,163/0,094	0,187/0,108	0,209/0,120	0,221/0,127	0,240/0,138	0,258/0,149
4	0,044/0,025	0,065/0,038	0,078/0,045	0,089/0,051	0,107/0,062	0,108/0,062	0,123/0,071	0,138/0,079	0,157/0,091	0,176/0,102	0,186/0,107	0,202/0,117	0,218/0,126
5			0,069/0,040	0,078/0,045	0,94/0,054	0,095/0,055	0,108/0,063	0,121/0,070	0,139/0,080	0,155/0,089	0,164/0,095	0,178/0,103	0,192/0,111
6				0,072/0,041	0,085/0,049	0,086/0,050	0,098/0,057	0,110/0,063	0,125/0,072	0,140/0,081	0,148/0,086	0,161/0,093	0,173/0,100
7						0,079/0,046	0,090/0,052	0,101/0,058	0,115/0,067	0,129/0,074	0,136/0,079	0,148/0,086	0,159/0,092
8						0,073/0,042	0,084/0,048	0,094/0,054	0,107/0,062	0,120/0,069	0,127/0,073	0,138/0,080	0,148/0,086
9								0,088/0,051	0,101/0,058	0,113/0,065	0,119/0,069	0,129/0,075	0,139/0,080
10								0,082/0,048	0,095/0,055	0,106/0,061	0,113/0,065	0,122/0,071	0,132/0,076
11									0,092/0,052	0,101/0,058	0,107/0,062	0,116/0,067	0,125/0,072
12										0,097/0,056	0,102/0,059	0,111/0,064	0,120/0,069
13											0,098/0,057	0,107/0,062	0,115/0,066
14											0,095/0,055	0,103/0,059	0,111/0,064
15												0,099/0,057	0,107/0,062
16													0,103/0,060

UN Thread, External Thread Cutting

thread pitch, TPI	24	20	18	16	14	12	11	10	9	8	7	6	5
depth	0,649	0,779	0,866	0,974	1,113	1,299	1,416	1,558	1,731	1,948	2,226	2,597	3,116
no. of passes	5	6	6	7	9	9	10	11	12	13	14	15	16
	values for radial infeed (X) and flank infeed (X/Z)												
order of passes	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0,206/-	0,210/-	0,233/-	0,226/-	0,196/-	0,229/-	0,220/-	0,214/-	0,210/-	0,211/-	0,213/-	0,218/-	0,229/-
2	0,148/0,086	0,163/0,094	0,181/0,104	0,188/0,109	0,189/0,110	0,222/0,128	0,228/0,132	0,240/0,139	0,256/0,148	0,276/0,160	0,304/0,176	0,343/0,198	0,399/0,230
3	0,114/0,066	0,125/0,072	0,139/0,080	0,145/0,083	0,146/0,084	0,170/0,098	0,176/0,102	0,184/0,106	0,196/0,113	0,212/0,122	0,234/0,135	0,263/0,152	0,306/0,177
4	0,096/0,055	0,105/0,061	0,117/0,068	0,122/0,070	0,123/0,071	0,143/0,083	0,148/0,086	0,155/0,090	0,165/0,095	0,179/0,103	0,197/0,114	0,222/0,128	0,258/0,149
5	0,085/0,049	0,093/0,054	0,103/0,059	0,107/0,062	0,108/0,062	0,126/0,073	0,131/0,075	0,137/0,079	0,146/0,084	0,158/0,091	0,173/0,100	0,195/0,113	0,227/0,131
6		0,084/0,048	0,093/0,054	0,097/0,056	0,098/0,056	0,114/0,066	0,118/0,068	0,124/0,072	0,132/0,076	0,142/0,082	0,157/0,091	0,177/0,102	0,205/0,119
7				0,089/0,052	0,090/0,052	0,105/0,061	0,109/0,063	0,114/0,066	0,121/0,070	0,131/0,076	0,144/0,083	0,163/0,094	0,189/0,109
8					0,084/0,048	0,098/0,056	0,101/0,058	0,106/0,061	0,113/0,065	0,122/0,070	0,134/0,078	0,151/0,087	0,176/0,101
9					0,079/0,045	0,092/0,053	0,095/0,055	0,100/0,057	0,106/0,061	0,114/0,066	0,126/0,073	0,142/0,082	0,165/0,095
10							0,090/0,052	0,094/0,054	0,100/0,058	0,108/0,063	0,119/0,069	0,134/0,078	0,156/0,090
11								0,090/0,052	0,095/0,055	0,103/0,059	0,113/0,065	0,128/0,074	0,149/0,086
12									0,091/0,053	0,098/0,057	0,108/0,063	0,122/0,071	0,142/0,082
13										0,094/0,054	0,104/0,060	0,117/0,068	0,136/0,079
14											0,100/0,058	0,113/0,065	0,131/0,076
15												0,109/0,063	0,126/0,073
16													0,122/0,071

UN Thread, Internal Thread Cutting

thread pitch, TPI	24	20	18	16	14	12	11	10	9	8	7	6	5
depth	0,573	0,687	0,764	0,860	0,982	1,146	1,250	1,375	1,528	1,719	1,964	2,291	2,750
no. of passes	5	6	6	7	8	9	9	10	11	12	13	14	15
	values for radial infeed (X) and flank infeed (X/Z)												
order of passes	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0,193/-	0,200/-	0,222/-	0,219/-	0,220/-	0,228/-	0,250/-	0,247/-	0,246/-	0,252/-	0,262/-	0,278/-	0,302/-
2	0,127/0,073	0,239/0,081	0,155/0,089	0,161/0,093	0,173/0,100	0,190/0,110	0,207/0,120	0,216/0,125	0,229/0,132	0,247/0,142	0,271/0,156	0,304/0,176	0,353/0,204
3	0,098/0,056	0,107/0,062	0,119/0,069	0,124/0,072	0,132/0,076	0,146/0,084	0,159/0,092	0,166/0,096	0,176/0,101	0,189/0,109	0,208/0,120	0,234/0,135	0,271/0,156
4	0,082/0,048	0,090/0,052	0,100/0,058	0,104/0,060	0,112/0,064	0,123/0,071	0,134/0,077	0,140/0,081	0,148/0,086	0,160/0,092	0,175/0,101	0,197/0,114	0,228/0,132
5	0,073/0,042	0,072/0,041	0,088/0,051	0,092/0,053	0,098/0,057	0,108/0,062	0,118/0,068	0,123/0,071	0,130/0,075	0,141/0,081	0,154/0,089	0,173/0,100	0,201/0,116
6			0,080/0,046	0,083/0,048	0,089/0,051	0,098/0,056	0,107/0,062	0,111/0,064	0,118/0,068	0,127/0,073	0,140/0,081	0,157/0,091	0,182/0,105
7				0,077/0,044	0,082/0,047	0,090/0,052	0,098/0,057	0,102/0,059	0,108/0,063	0,117/0,067	0,128/0,074	0,144/0,083	0,167/0,097
8					0,076/0,044	0,084/0,048	0,091/0,053	0,095/0,055	0,101/0,058	0,109/0,063	0,119/0,069	0,134/0,078	0,156/0,090
9						0,079/0,045	0,086/0,050	0,090/0,052	0,095/0,055	0,102/0,059	0,112/0,065	0,126/0,073	0,146/0,084
10								0,085/0,049	0,090/0,052	0,097/0,056	0,106/0,061	0,119/0,069	0,138/0,080
11									0,085/0,049	0,092/0,053	0,101/0,058	0,113/0,065	0,131/0,076
12										0,088/0,051	0,096/0,056	0,108/0,063	0,126/0,073
13											0,092/0,053	0,104/0,060	0,121/0,070
14												0,100/0,058	0,116/0,067
15													0,112/0,065

Infeed Tables

NPT Thread, External and Internal Machining

pitch, Gg/Z	27,0	18,0	14,0	11,5	8,0
depth	0,0750	1,129	1,451	1,767	2,540
no. of passes	6	8	10	12	14
	values for radial (X) and flank (X/Y)				
order of passes	X/Z	X/Z	X/Z	X/Z	X/Z
1	0,19/–	0,22/–	0,240/–	0,24/–	0,255/–
2	0,15/0,087	0,181/0,104	0,200/0,115	0,208/0,120	0,250/0,144
3	0,13/0,075	0,152/0,088	0,170/0,098	0,182/0,105	0,245/0,141
4	0,11/0,063	0,141/0,081	0,150/0,086	0,168/0,097	0,230/0,133
5	0,09/0,052	0,131/0,075	0,140/0,081	0,155/0,089	0,210/0,121
6	0,08/0,046	0,121/0,070	0,130/0,075	0,145/0,084	0,195/0,112
7		0,101/0,058	0,120/0,069	0,138/0,079	0,180/0,104
8		0,082/0,047	0,110/0,063	0,124/0,072	,175/0,101
9			0,100/0,058	0,117/0,067	0,170/0,098
10			0.091/0,052	0,105/0,060	0,155/0,089
11				0,095/0,055	0,140/0,080
12				0,090/0,052	0,125/0,072
13					0,110/0,063
14					0,100/0,058

BSPT Thread, External and Internal Machining

pitch, Gg/Z	28	19	14	11
depth	0,581	0,856	1,162	BSPT thread
no. of passes	5	6	8	10
	values for radial infeed (X) and the flank infeed (X/Y)			
order of passes	X/Z	X/Z	X/Z	X/Z
1	0,179/–	0,223/–	0,222/–	0,214/–
2	0,134/0,070	0,181/0,094	0,213/0,111	0,242/0/0,126
3	0,103/0,054	0,139/0,072	0,163/0,085	0,186/0,097
4	0,087/0,045	0,1171/0,061	0,138/0,072	0,157/0,082
5	0,078/0,040	0,103/0,054	0,121/0,063	0,138/0,072
6		0,093/0,049	0,110/0,057	0,125/0,065
7			0,101/0,052	0,115/0,060
8			0,094/0,049	0,107/0,056
9				0,100/0,052
10				0,095/0,049

Trapezoid Thread to DIN 103, External and Internal Machining

pitch	1,5	2,0	3,0	4,0	5,0
depth	0,090	1,25	1,75	2,25	2,75
no. of passes	6	8	10	12	14
	values for radial infeed (X) and flank infeed (X/Y)				
order of passes	X/Z	X/Z	X/Z	X/Z	X/Z
1	0,240/–	0,250/–	0,260/–	0,265/–	0,285/–
2	0,190/0,051	0,230/0,062	,245/0,066	0,270/0,072	0,295/0,079
3	0,137/0,037	0,175/0,047	0,220/0,059	0,250/0,067	0,275/0,074
4	0,124/0,033	0,149/0,040	0,200/0,054	0,230/0,062	0,255/0,068
5	0,110/0,029	0,126/0,034	0,175/0,047	0,210/0,056	0,235/0,063
6	0,099/0,027	0,114/0,031	0,160/0,043	0,190/0,051	0,215/0,058
7		0,106/0,028	0,145/0,039	0,175/0,047	0,200/0,054
8		0,100/0,028	0,103/0,035	0,160/0,043	0,185/0,050
9			0,115/0,031	0,145/0,039	0,170/0,046
10			0,100/0,027	0,130/0,035	0,155/0,042
11				0,120/0,032	0,140/0,038
12				0,105/0,028	0,125/0,033
13					0,115/0,031
14					0,100/0,027

Round Thread to DIN 405, External and Internal Machining

pitch, Gg/Z	10	8	6
depth	1,31	1,63	2,17
no. of passes	8	10	12
	values of radial infeed (X) and flank infeed (X/Y)		
order of passes	X/Z	X/Z	X/Z
1	0,210/–	0,220/–	0,206/–
2	0,205/0,055	0,210/0,058	0,250/0,067
3	0,195/0,052	0,200/0,055	0,024/0,064
4	0,180/0,048	0,190/0,051	0,230/0,062
5	0,160/0,042	0,175/0,047	0,215/0,059
6	0,140/0m037	0,160/0,043	0,195/0,54
7	0,115/0,031	0,145/0,039	0,180/0,048
8	0,090/0,024	0,1360/0,035	0,160/0,043
9		0,110/0,029	0,140/0,038
10		0,140/0,038	0,120/0,032
11			0,100/0,027
12			0,080/0,024

Whitworth, External and Internal Thread Cutting

pitch, TPI	28	20	19	16	14	12	11	10	9	8	7	6	5
depth	0,581	0,813	0,813	0,856	1,017	1,355	1,479	1,626	1,807	2,033	2,324	2,711	
no. of passes	5	6	6	8	8	9	9	10	11	12	14	15	16
	values for radial (X) and flank (X/Y)												
order of passes	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0,179/–	0,211/–	0,223/–	0,196/–	0,223/–	0,226/–	0,246/–	0,236/–	0,230/–	0,255/–	0,195/–	0,197/–	0,204/–
2	0,134/0,070	0,172/0,089	0,181/0,0,094	0,186/0,097	0,213/0,111	0,234/0,122	0,255/0133	0,266/0,139	0,282/0,147	0,304/0,158	0,322/0,167	0,361/0,189	0,421/0,219
3	0,104/0,054	0,132/0,069	0,139/0,072	0,142/0,074	0,163/0,085	0,180/0,093	0,197/0,102	0,206/0,106	0,216/0,113	0,233/0,121	0,247/0,128	0,278/0,145	0,323/0,168
4	0,087/0,045	0,111/0,058	0,117/0,061	0,120/0,063	0,138/0,072	0,15/0,079	0,165/0,086	0,172/0,090	0,182/0,095	0,197/0,102	0,208/0,108	0,234/0,122	0,272/0,0,142
5	0,077/0,040	0,098/0,051	0,103/0,054	0,160/0,055	,121/0,063	0,133/0,069	0,1450,076	0,152/0,079	0,161/0,084	0,173/0,090	0,183/0,095	0,207/0,108	0,240/0,125
6		0,098/0,051	0,093/0,049	0,096/0,050	0,110/0,057	0,121/0,063	0,131/0,068	0,137/0,071	0,145/0,076	0,157/0,082	0,166/0,086	0,187/0,097	0,217/0,113
7				0,088/0,046	0,101/0,052	0,111/0,058	0,121/0,063	0,126/0,066	0,134/0,070	0,144/0,075	0,152/0,079	0,172/0,089	0,200/0,104
8				0,082/0,043	0,093/0,049	0,103/0,054	0,113/0,059	0,117/0,061	0,124/0,0065	0,134/0,070	0,142/0,074	0,160/0,083	0,186/0,097
9						0,97/0,050	0,106/0,055	0,110/0,057	0,117/0,061	0,126/0,066	0,133/0,069	,150/0,078	0,174/0,091
10								0,104/0,054	0,111/0,058	0,119/0,062	0,126/0,066	0,135/0,074	0,165/0,086
11									0,105/0,055	0,113/0,059	0,120/0,062	,135/0,070	0,157/0,082
12										0,108/0,056	0,114/0,060	0,129/0,067	0,150/0,078
13											0,110/0,057	,124/0,064	0,144/0,075
14											0,106/0,055	0,119/0,062	0,138/0,072
15												,115/0,060	0,133/0,069
16													0,129/0,067

Multi-Tooth Threads, Internal

	ISO metric						ISO UN					Whitworth	NPT		
type	3M	2M	3M	2M	3M	2M	2M	3M	2M	3M	2M	2M	2M	3M	2M
pitch (mm)	1,0	1,5	1,5	2,0	2,0	3,0	–	–	–	–	–	–	–	–	–
TPI	–	–	–	–	–	–	16	16	12	12	8	11	11.5	11.5	8
total depth (mm)	0,609	0,838	0,838	11,684	11,684	1,778	0,939	0,939	12,446	12,446	18,796	15,748	17,526	17,526	2,540
pass 1mm	0,330	0,381	0,508	0,508	0,711	0,558	0,431	0,558	0,558	0,762	0,584	0,736	0,584	0,812	0,889
2	0,279	0,254	0,330	0,381	0,457	0,482	0,304	0,381	0,406	0,482	0,508	0,482	0,508	0,558	0,635
3	–	0,203	–	0,279	–	0,431	0,203	–	0,279	–	0,431	0,355	0,355	0,381	0,558
4	–	–	–	–	–	0,304	–	–	–	–	0,355	–	0,304	–	0,457

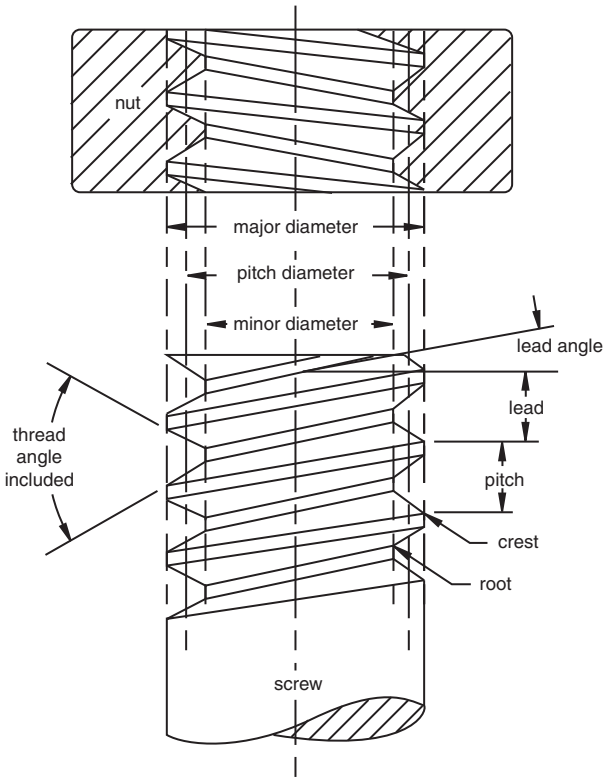
Recommendations for Steel Workpieces (<300 BHN)

			total depth – on radius		
catalog number	insert size	TPI profile	1st pass	2nd pass	3rd pass
NTC-8R/L8EM	8	8 UN	1,21	16,25	2,00
NTC-8R/L8IM	8	8 UN	1,19	15,36	1,88
NTC-8R/L10EM	8	10 UN	0,92	1,27	1,60
NTC-8R/L10IM	8	10 UN	0,90	12,06	1,52
NTC-8R/L12EM	8	12 UN	0,76	10,41	1,32
NTC-8R/L12IM	8	12 UN	0,76	0,93	1,20
NTC-8R/L14EM	8	14 UN	0,68	0,95	1,12
NTC-8R/L14IM	8	14 UN	0,60	0,78	1,04
NTC-8R/L16EM	8	16 UN	0,58	0,81	0,96
NTC-8R/L16IM	8	16 UN	0,50	0,68	0,93
NTC-8R/L18EM	8	18 UN	0,48	0,66	0,86
NTC-8R/L18IM	8	18 UN	0,48	0,60	0,83
NDC-68RDR/L-75M	8	8 round	1,47	1,65	1,85
NDC-61RDR/L-75M	8	10 round	1,11	1,29	1,45
NDC-88RDRD/L-75M	8	8 round	1,29	1,75	1,85
NDC-88VR/L-75M	8	8 NPT	1,01	1,72	2,45
NDC-8115VR/L-75M	8	11.5 NPT	0,96	1,37	1,70
NDN-814VR/L-75M	8	14 NPT	0,96	1,22	1,36

Screw Thread Definitions

1. **major diameter:** The largest diameter of a straight screw thread. This applies to both internal and external threads.
2. **pitch diameter:** On a straight thread, it is the diameter which passes through the thread profiles at such points which make the thread width of the groove equal to one-half of the basic pitch. On a "perfect thread," this occurs at the point where the widths of the thread and groove are equal.
3. **thread angle** (included): The included angle between the individual flanks of the thread form.

NOTE: **threads per inch — TPI (not shown):** The number of threads per inch measured axially. The terms pitch and TPI are often used interchangeably. TPI=1/pitch (pitch in inches).



4. **minor diameter:** The smallest diameter of a straight screw thread. This applies to both internal and external threads.
5. **lead angle:** On a straight thread, the lead angle is the angle created by the helix of the thread at the pitch diameter with a plane perpendicular to the axis.
6. **lead:** The distance a screw thread advances axially in one revolution. On a single start, the pitch and lead are identical. The lead is equal to the pitch times the number of starts.
7. **pitch:** The distance from a point on a screw thread to a corresponding point on the next thread measured parallel to the thread axis.
8. **crest:** The outer most surface of the thread form which joins the flanks.
9. **root:** The inner most surface of the thread form which joins the flanks.

ANSI/ACME Thread Designations

nominal size diameter or screw number... decimal equivalent optional

1. thread size

1 1/4 | 8 | UNX | 2 | A | LH | (21)

4. thread class

1 — allowance and tolerance
2 — allowance and tolerance
3 — tolerance only
4 — interference fit

7. thread gaging system

21, 22, 23 } per ANSI B1.3

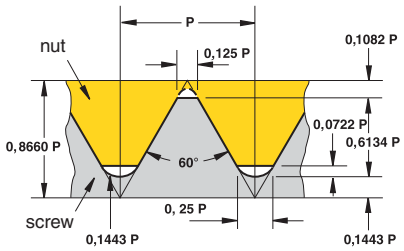
2. number of threads per inch

3. thread form, series, and tolerance formulation symbol

5.
A — external thread
B — internal thread

6.
LH — left-hand thread... (threads are right hand unless specified)

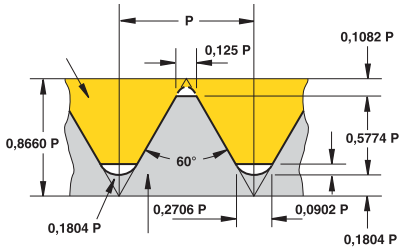
Common Thread Forms



ISO

M (Metric) and UN (Unified National)

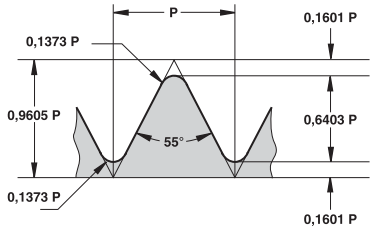
Use: all branches of mechanical industry



UNJ

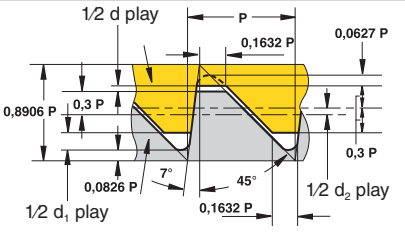
(controlled root radius)

Use: aircraft and space industry



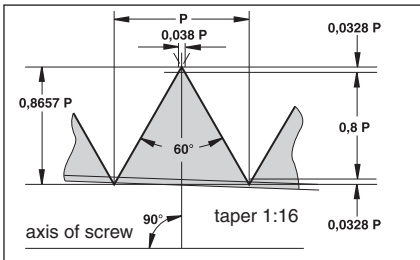
Whitworth (BSW)

Use: fittings and pipe couplings for gas, water, and sewer lines (replaced by ISO)



American Buttress

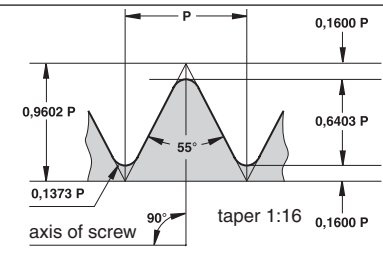
Use: fittings and pipe couplings



NPT

(American National Pipe Thread)

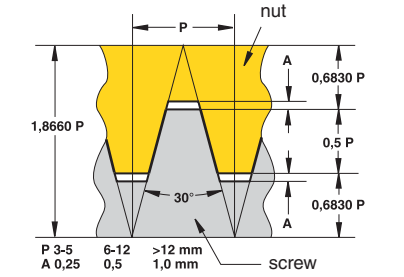
Use: fittings and pipe couplings



BSPT

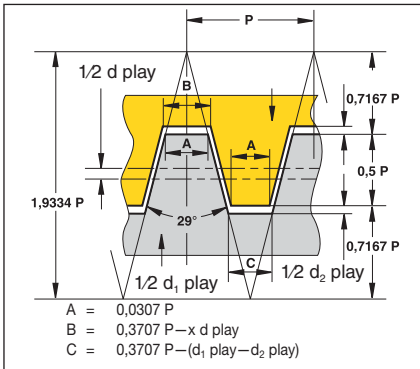
(British Standard Pipe Thread)

Use: pipe thread for steam, gas, and water lines



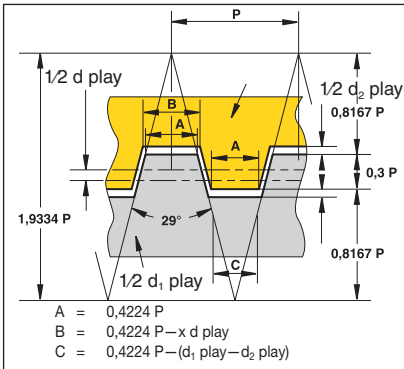
TR DIN 103

Use: mechanical industry for motion transmission screws



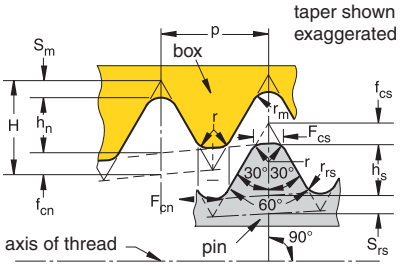
Acme

Use: Acme-General is used in mechanical industry for motion transmission screws

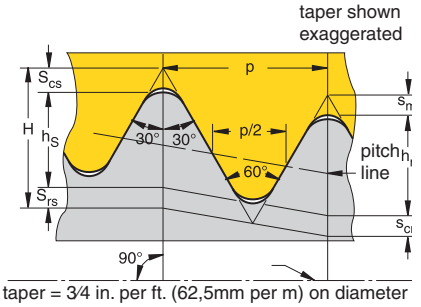


Acme, truncated (Stub)

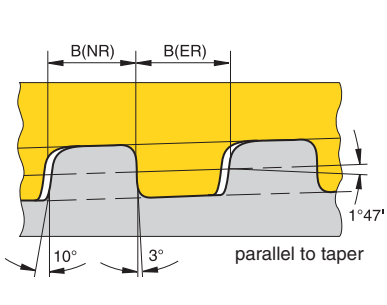
Use: where normal Acme is too deep



API Rotary Shoulder Connection



API Casing and Tubing Round Thread Form



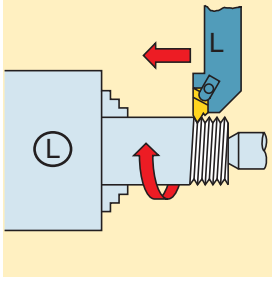
API Buttress

NOTE: P=1/TPI

Kennametal Threading Calculator

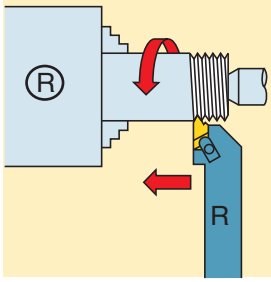
Feed Direction Towards the Chuck

- Clockwise rotation.
- Left-hand toolholder.
- Left-hand insert and clamp.



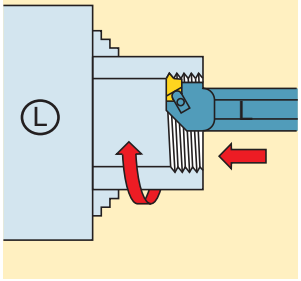
external left-hand thread

- Counterclockwise rotation.
- Right-hand toolholder.
- Right-hand insert and clamp.



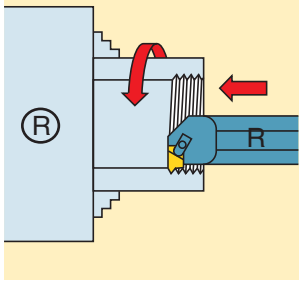
external right-hand thread

- Clockwise rotation
- Left-hand bar.
- Right-hand insert and clamp.



internal left-hand thread

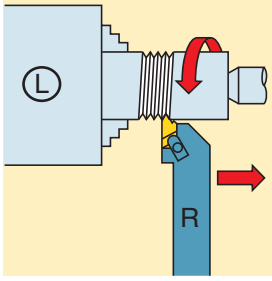
- Counterclockwise rotation.
- Right-hand bar.
- Left-hand insert and clamp.



internal right-hand thread

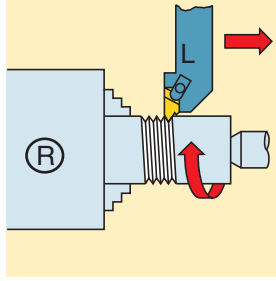
Feed Direction Away from the Chuck

- Counterclockwise rotation.
- Right-hand toolholder.
- Right-hand insert and clamp.



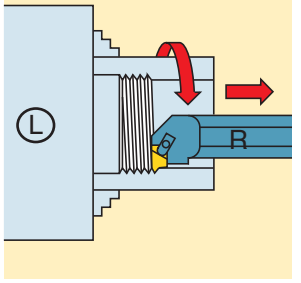
external left-hand thread

- Clockwise rotation
- Left-hand toolholder.
- Left-hand insert and clamp.



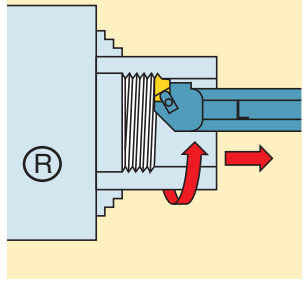
external right-hand thread

- Counterclockwise rotation.
- Right-hand bar.
- Left-hand insert and clamp.



internal left-hand thread

- Clockwise rotation
- Left-hand bar.
- Right-hand insert and clamp.



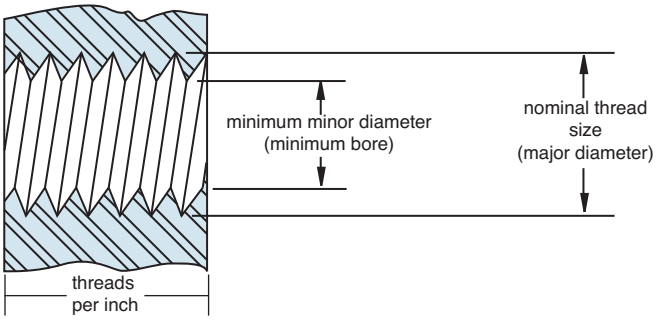
internal right-hand thread

NOTE: TOP NOTCH™ threading bars require opposite hand insert and clamp.

Right-hand bar requires left-hand insert and clamp.

Left-hand bar requires right-hand insert and clamp.

The following charts list the largest thread pitch that can be applied on internal applications using TOP NOTCH threading inserts for 60° V-threading and Acme threading. For Buttress threading, see pages E78-E79.



Inch-Sized 60° V-Threading Limits

internal threading limitations NT-1 and NT-2 V-threading inserts

threads per inch	nominal thread size		minimum minor diameter (inch)	
	NT-2	NT-1	NT-2	NT-1
6	1 7/8	—	1.695	—
7	1 3/4	—	1.595	—
8	1 5/8	—	1.490	—
9	1 9/16	—	1.442	—
10	1 1/2	15/16	1.392	.830
11	1 7/16	15/16	1.339	.830
11 1/2	1 3/8	15/16	1.281	.830
12	1 3/8	9/16	1.285	.472
13	1 5/16	9/16	1.229	.472
14	1 1/4	9/16	1.173	.472
16	1 1/4	9/16	1.182	.472
18	1 1/8	9/16	1.065	.472
20	1 1/8	1/2	1.071	.440
24*	1 1/16	1/2	1.017	

**Can Cut 24 threads per inch and finer with an NT-2 insert provided the minor diameter is 25mm inch or larger (11,18mm or larger with NT-1).*

internal threading limitations NT-3 and NT-4 V-threading inserts

threads per inch	nominal thread size	minimum minor diameter (inch)
4**	3	2.729
4 1/2**	2 7/8	2.634
5	2 3/4	2.534
6	2 1/2	2.320
7	2 1/4	2.095
8	2	1.865
9	1 15/16	1.817
10	1 7/8	1.767
11	1 13/16	1.714
11 1/2	1 3/4	1.656
12	1 3/4	1.660
13	1 5/8	1.542
14	1 9/16	1.485
16*	1 7/16	1.370

**Can Cut 16 threads per inch and finer provided minor diameter is 34,8mm or larger.*
***NT-4 insert only.*

Metric 60° V-Threading Limits

internal threading limitations NT-1 and NT-2 60° V-threading

thread pitch (mm)	nominal thread size		minimum minor thread diameter (mm)	
	NT-2	NT-1	NT-2	NT-1
4,00	M48 x 4.00	—	43,67	—
3,00	M42 x 3.00	—	38,75	—
2,50	M39 x 2.50	M24 x 2,50	36,29	21,29
2,00	M33 x 2.00	M15 x 2,00	30,84	12,84
1,75	M32 x 1.75	M15 x 1,75	30,11	13,11
1,50	M32 x 1.50	M15 x 1,50	30,38	13,38
1,25	M29 x 1.29	M14 x 1,25	27,65	12,65
1,00*	M27 x 1.00	M14 x 1,00	25,92	12,92
0,75	M22 x 0.75	M12 x 0,75	21,19	11,19

**Thread pitch of 1mm and less can be cut with an NT-2 insert provided the core thread diameter is 25mm or larger (11mm or larger with NT-1).*

internal threading limitations NT-3 and NT-4 60° V-threading

thread pitch (mm)	nominal thread size	minimum minor thread diameter (mm)
6,00**	M76 x 6.00	69,50
5,50**	M73 x 5.50	67,05
5,00	M70 x 5.00	64,59
4,00	M64 x 4.00	59,67
3,00	M52 x 3.00	48,75
2,50	M48 x 2.50	45,29
2,00	M42 x 2.00	39,84
1,75	M40 x 1.75	38,11
1,50*	M38 x 1.50	36,38

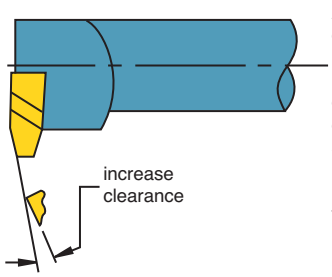
**Thread pitch of 1,5mm and less can be cut provided core thread diameter is 35mm or larger.*
***NT-4-insert only.*

Acme Threading Limits

internal threading limitations NA and NAS-2, 3, 4, and 6 Acme threading inserts

threads per inch	nominal thread size	minimum minor diameter	
		mm	inch
2**	5	114,3	4.500
2 1/2**	4 1/2	104,1	4.100
3**	4	93,1	3.665
4	3 1/2	82,6	3.250
5	3	71,1	2.800
6	2 1/2	59,3	2.333
8	2 1/4	54,0	2.125
10	2	48,3	1.900
12	1 3/4	42,4	1.667
14	1 5/8	39,5	1.554
16*	1 1/2	36,5	1.438

**Can Cut 16 threads per inch and finer provided minor diameter is 36,5mm (1.438) or larger.*
***NA-6 insert only.*

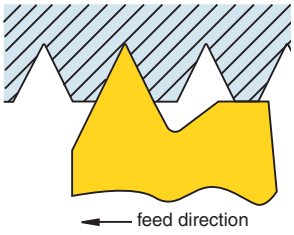


Additional secondary clearance can be ground on leading edge of insert to provide sufficient helical clearance for machining coarser threads and multiple start threads.Modified standard inserts may be furnished for machining threads outside of the limits shown.

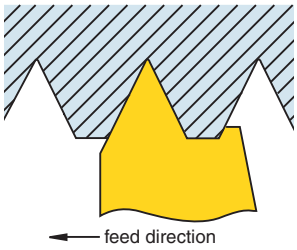
Threading Limits with Standard Inserts — TOP NOTCH™ System

Acme Threading Limits

60° V-Thread Crest Turning Application Data



NTC crest turning insert for 12 threads per inch and finer (P ≤ 2,0mm)



NTC crest turning insert for 11 threads per inch and coarser (P ≥ 3,0mm)

NOTE: *NTC inserts automatically control root to crest dimensions. Therefore, when setting up threading operations with NTC inserts, only check the OD or ID at the thread crest for correct dimensions.*

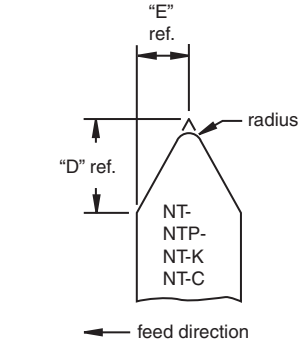
"J" thread note for catalog

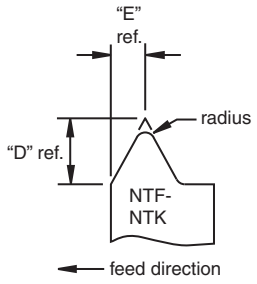
The controlled root radius thread form (MIL-S-8879A) is defined for the external thread only. To machine the corresponding internal thread, choose any insert that will cut a unified class 2B thread, then bore the minor diameter to size. Refer to MIL-S-8879A for the correct "J" thread minor diameter values.

Controlled Root Radius Specifications for UNJ Threads

insert catalog number	nose radius on insert (mm)	thread radius per MIL-S-8879A (mm)
NJ-3020R/L8 NJP-3020R/L8	0,477/0,502	0,477/0,574
NJ-3014R/L12 NJP-3014R/L12	0,317/0,342	0,317/0,381
NJ-3010R/L16 NJP-3010R/L16	0,238/0,264	0,238/0,287
NJF-3012R/L14 NJK-3012R/L14	0,271/0,297	0,271/0,327
NJF-3010R/L16 NJK-3010R/L16	0,238/0,264	0,238/0,287
NJF-3009R/L18 NJK-3009R/L18	0,210/0,236	0,210/0,254
NJF-3008R/L20 NJK-3008R/L20	0,190/0,215	0,190/0,228
NJF-3007R/L24 NJK-3007R/L24	0,160/0,185	0,160/0,190
NJF-3006R/L28 NJK-3006R/L28	0,137/0,162	0,137/0,162
NJF-3005R/L32 NJK-3005R/L32	0,119/0,142	0,119/0,142

60° V-Thread Application Data





insert description	insert	"D" ref.** (mm)	"E" ref.** (mm)	recommended metric thread pitch (mm)		recommended threads per inch* (TPI)	
				external	internal	external	internal
	NT-1	1,90	1,11	–	1,00 to 2,00	–	24 TPI to 12 TPI
	NT-2	28,70	1,9	0,70 to 3,00	1,25 to 3,50	36 TPI to 8 TPI	20 TPI to 7 TPI
	NT-2-K	28,70	1,9	0,70 to 3,00	1,25 to 3,50	36 TPI to 8 TPI	20 TPI to 7 TPI
	NTF-2	15,75	1,01	0,60 to 1,75	1,00 to 2,00	44 TPI to 14 TPI	24 TPI to 12 TPI
	NTK-2	15,75	1,01	0,60 to 1,75	1,00 to 2,00	44 TPI to 14 TPI	24 TPI to 12 TPI
	NTP-2	28,70	1,9	0,70 to 3,00	1,25 to 3,50	36 TPI to 8 TPI	20 TPI to 7 TPI
	NT-3	37,59	2,46	1,25 to 4,00	2,00 to 5,00	20 TPI to 6 TPI	12 TPI to 5 TPI
	NT-3-K	37,59	2,46	1,25 to 4,00	2,00 to 5,00	.097 20 TPI to 6 TPI	12TPI to 5 TPI
	NT-3-C	37,59	2,46	2,50 to 4,00	4,00 only	11 TPI to 6 TPI	6 TPI (only)
	NT-3-CK	37,59	2,46	2,50 to 4,00	4,00 only	11 TPI to 6 TPI	6 TPI (only)
	NTF-3	21,08	1,37	0,60 to 2,50	1,00 to 2,50	44 TPI to 10 TPI	24 TPI to 9 TPI
	NTK-3	21,08	1,37	0,60 to 2,50	1,00 to 2,50	44 TPI to 10 TPI	24 TPI to 9 TPI
	NTP-3	37,59	2,46	1,25 to 4,00	2,00 to 5,00	20 TPI to 6 TPI	12 TPI to 5 TPI
	NT-4	49,78	3,22	1,25 to 6,25	2,00 to 6,25	20 TPI to 4 TPI	12 TPI to 4 TPI
	NT-4-K	49,78	3,22	1,25 to 6,25	2,00 to 6,25	20 TPI to 4 TPI	12 TPI to 4 TPI
	NT-4-C	49,78	3,22	2,50 to 5,50	4,00 to 5,50	11 TPI to 4 1/2 TPI	6 TPI to 4 1/2 TPI
	NT-4-CK	49,78	3,22	2,50 to 5,50	4,00 to 5,50	11 TPI to 4 1/2 TPI	6 TPI to 4 1/2 TPI
	NTF-4	21,08	1,37	0,60 to 2,50	1,00 to 2,50	44 TPI to 10 TPI	24 TPI to 9 TPI
	NTK-4	21,08	.054	0,60 to 2,50	1,00 to 2,50	44 TPI to 10 TPI	24 TPI to 9 TPI
	NTP-4	49,78	3,22	1,25 to 6,25	2,00 to 6,25	20 TPI to 4 TPI	12 TPI to 4 TPI

API Thread Forms

Insert Applications Chart for API Rotary Shouldered Connections

thread form	Kennametal insert		tool joint application	minimum box size*
	cresting	non-cresting		
V-.038R 2" TPF 4 TPI	NDC-4038R/L2 LT22-E/NR4API382	ND-3038R/L	2-3/8 API internal flush 2-7/8 API internal flush 3-1/2 API internal flush 4 API internal flush 4-1/2 API internal flush 5-1/2 API internal flush 6-5/8 API internal flush 4 API full hole API #23 API #26 API #31 API #35 API #38 API #40 API #44 API #46 API #50	API #31 2-7/8 IF
V-.038R 3" TPF 4 TPI	NDC-4038R/L3 LT22-E/NR4API383	ND-3038R/L	API #56 API #61 API #70 API #77	API #56
V-.050 2" TPF 4 TPI	NDC-4050R/L2 LT22-E/NR4API502	ND-4050R/L	5-1/2 API full hole 6-5/8 API regular 6-5/8 API full hole	5-1/2 API full hole
V-.050 3" TPF 4 TPI	NDC-4050R/L3 LT22-E/NR4API503	ND-4050R/L	5-1/2 API regular 7-5/8 API regular 8-5/8 API regular	5-1/2 API regular
V-.040 3" TPF 5 TPI	NDC-3040R/L3 NDC-4040R/L3 LT22-E/NR5API403	ND-3040R/L ND-4040R/L	2-3/8 API regular 2-7/8 API regular 3-1/2 API regular 4-1/2 API regular	3-1/2 API regular

*Minimum box size that can be threaded with a standard TOP NOTCH insert due to minimum bore equipment.

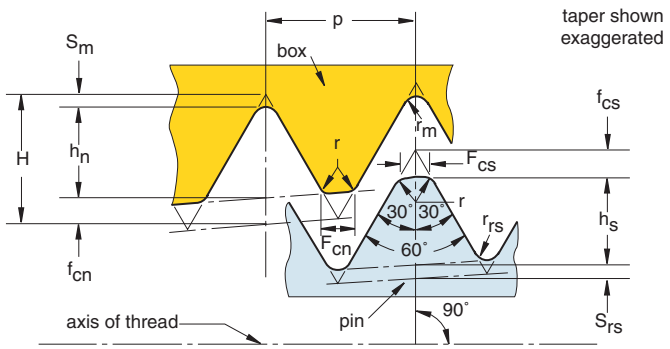
API Thread Forms

Product Thread Dimensions — Rotary Shouldered Connections (Inch)

thread form	taper in. per ft.	thread height, not truncated H	thread height, truncated $h_n = h_s$	root truncation $S_m = S_{rs}$ $f_m = f_{rs}$	crest truncation $f_{cn} = f_{cs}$	width of flat		root radius $r_m = r_{rs}$	radius at thread corners r	pitch p
						crest $f_{cn} = f_{cs}$	crest $f_m = f_{rs}$			
V-.038R	2	.216005	.121844	.038000	.056161	.065	–	.038	.015	.250
V-.038R	3	.215379	.121381	.038000	.055998	.065	–	.038	.015	
V-.040	3	.172303	.117842	.020000	.034461	.040	–	.020	.015	.250
V-.050	3	.215379	.147303	.025000	.043076	.050	–	.025	.015	.250
V-.050	2	.216005	.147804	.025000	.043201	.050	–	.025	.015	

NOTE: all dimensions in inches

V-.040 and V-.050 Product Thread Form

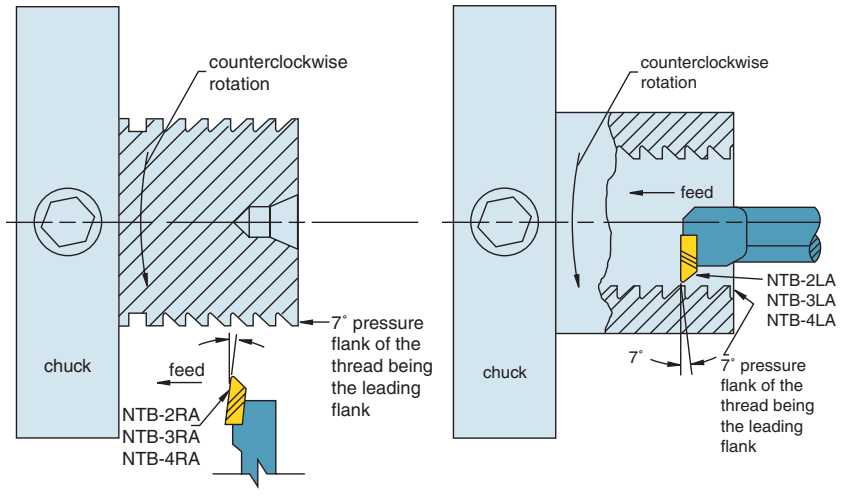


Casing and Tubing Round Thread (Height Dimensions)

thread element		10 threads per inch p = .1000	8 threads per inch p = .1250
H	= .866p	.08660	.10825
Hs = hn	= .626p - .007	.05560	.07125
Srs = Sm	= .120p + .002	.01400	.01700
Scs = Scn	= .120p + .005	.01700	.02000

American Buttress Application Guidelines for the TOP NOTCH™ Threading System

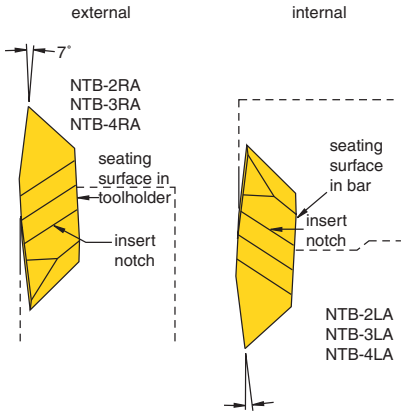
American Buttress (7° Pressure Flank Leading) NTB-A Inserts – PUSH-Type



External Buttress
7° pressure flank leading

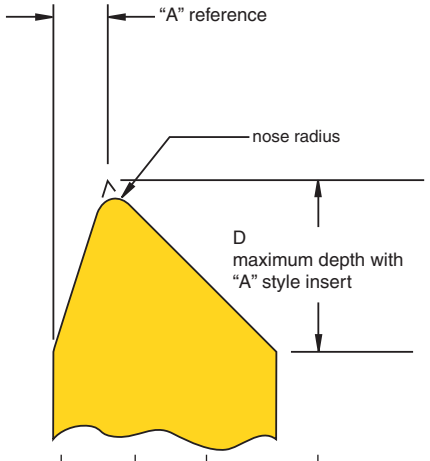
Internal Buttress
7° pressure flank leading

Insert vs. Toolholder Orientation



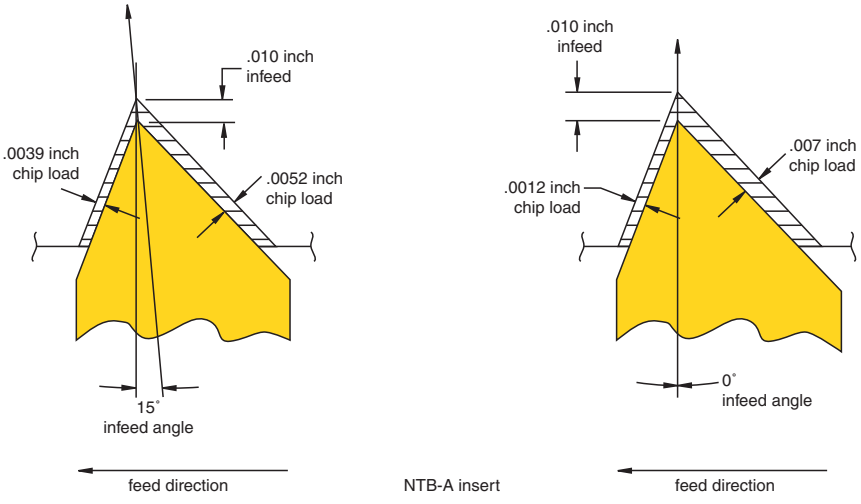
7° pressure flank leading

Reference Dimensions



insert	D (inch)	"A" ref. (inch)	nose radius (inch)	pitch based on maximum radius
NTB-2A	.133	.024	.002–.004	16–20 TPI
NTB-3A	.171	.031	.005–.008	8–16 TPI
NTB-4A	.218	.049	.008–.012	4–6 TPI

Infeed Angle vs. Chip load: 7° Pressure Flank Leading



NOTE: *For balanced chip load, 15° infeed angle is suggested.*

Internal Threading Limitations

internal threading limitations
NTB-2A Buttress threading inserts

threads per inch	nominal thread size	minimum minor diameter (inch)
8	1 3/4	1.600
10	1 5/8	1.505
12	1 1/2	1.400
16	1 1/4	1.175
20	1 1/16	1.002

internal threading limitations
NTB-3 and NTB-4A Buttress threading inserts

threads per inch	nominal thread size	minimum minor diameter (inch)
4*	2 1/2	2.200
5	2 1/4	2.010
6	2	1.800
8	1 3/4	1.600
10	1 5/8	1.505
12**	1 1/2	1.400

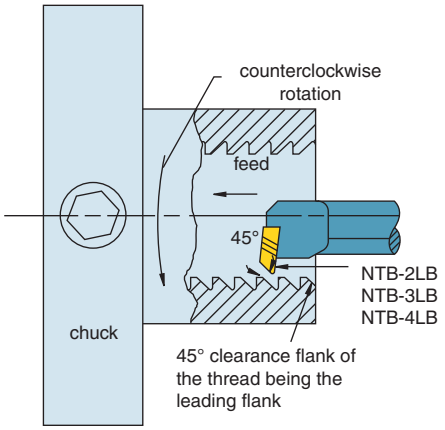
*NTB-4A insert only.
**can cut 16 or 20 threads per inch provided minor diameter is 1.375 inch or larger.

Threads per Inch vs. Maximum Root Radius Chart (Inch)

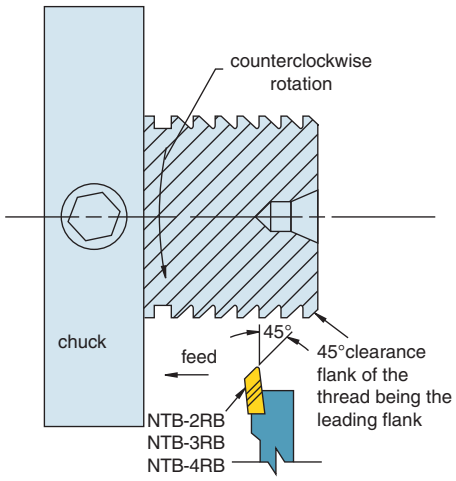
threads per inch	20	16	12	10	8	6	5	4	3	2 1/2	2	1 1/2	1 1/4	1
maximum root radius	.0036	.0045	.0059	.0071	.0089	.0119	.0143	.0179	.0238	.0286	.0357	.0476	.0572	.0714

NOTE: *Special Buttress forms are available upon request.*

American Buttress (45° Clearance Flank Leading): NTB-B Inserts — PULL-type

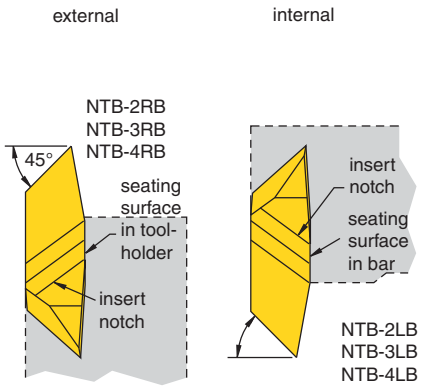


Internal Buttress
45° clearance flank leading



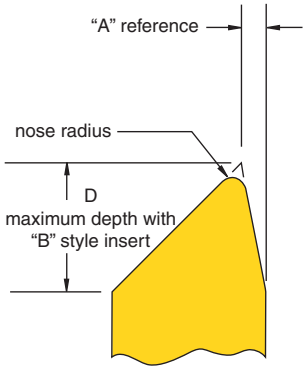
External Buttress
45° clearance flank leading

Insert vs. Toolholder Orientation



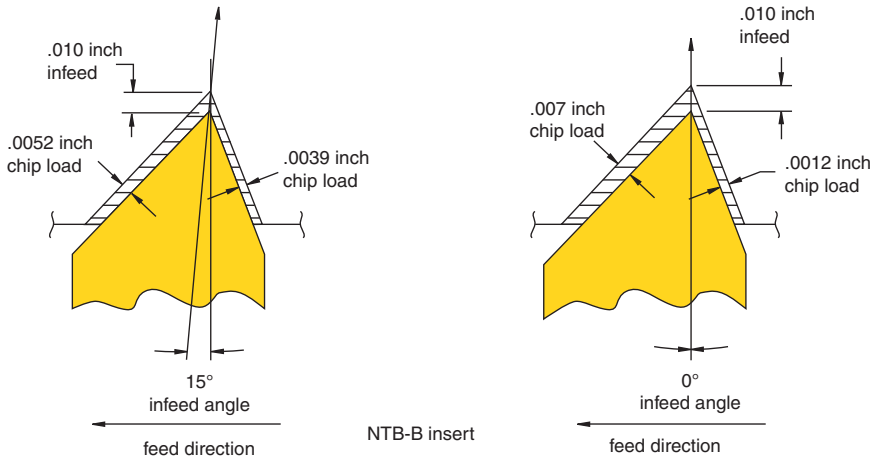
45° clearance flank leading

Reference Dimensions



insert	D (inch)	"A"ref. (inch)	nose radius (inch)	pitch based on maximum radius
NTB-2B	.133	.024	.002–.004	16–20 TPI
NTB-3B	.171	.031	.005–.008	8–16 TPI
NTB-4B	.218	.049	.008–.012	4–6 TPI

Infeed Angle vs. Chip Load: 45° Clearance Flank Leading



NOTE: For balanced chip load, a reverse 15° infeed angle is suggested.

Internal Threading Limitations

internal threading limitations
NTB-2B Buttress threading insert

threads per inch	nominal thread size	minimum minor diameter (inch)
8	1 3/4	1.600
10	1 5/8	1.505
12	1 1/2	1.400
16	1 1/4	1.175
20	1 1/16	1.002

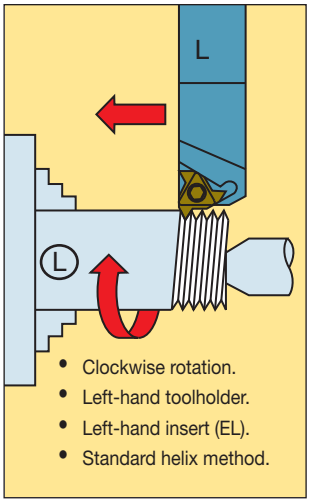
internal threading limitations
NTB-3 and NTB-4B Buttress threading insert

threads per inch	nominal thread size	minimum minor diameter (inch)
4*	2 7/8	2.575
5	2 3/4	2.510
6	2 3/8	2.175
8	2 1/8	1.975
10	1 7/8	1.755
12	1 5/8	1.525
16	1 1/2	1.407
20	1 7/16	1.378

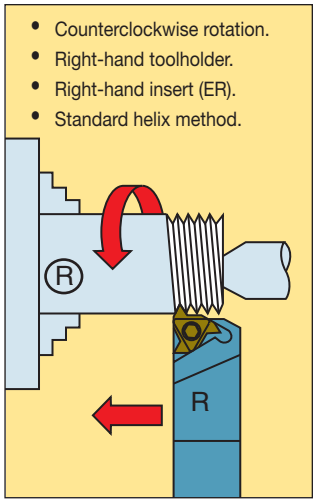
*NTB-4B insert only.

Threading Rotation/Feed Direction — LT (Laydown Threading) System

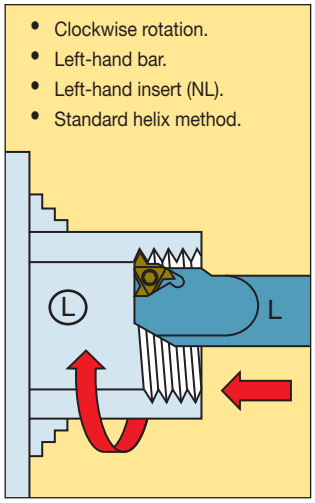
Feed Direction towards the Chuck — Standard Helix



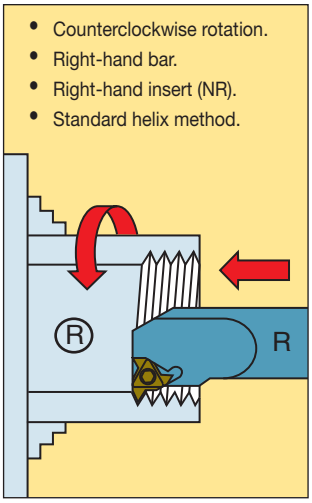
external left-hand thread



external right-hand thread

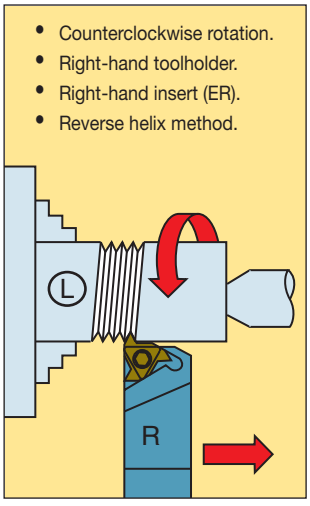


internal left-hand thread

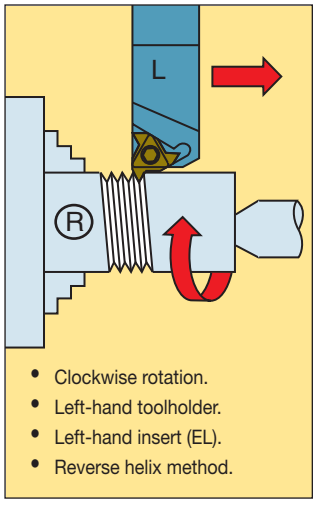


internal right-hand thread

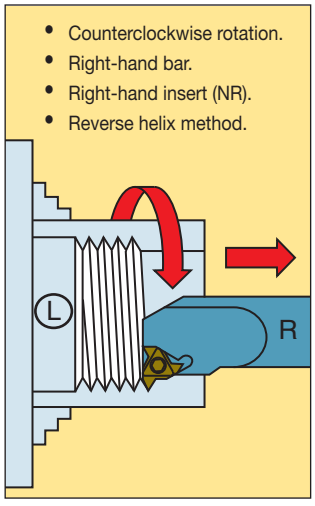
Feed Direction Away from the Chuck — Reverse Helix



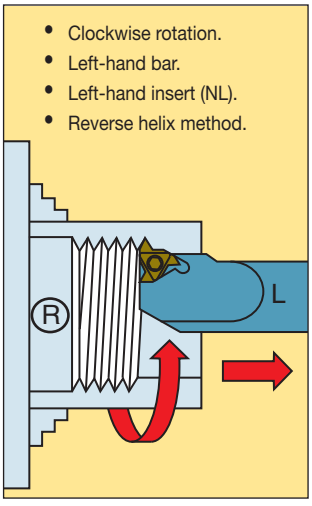
external left-hand thread



external right-hand thread



internal left-hand thread



internal right-hand thread

NOTE: *Right-hand toolholders and bars use right-hand inserts.*
Left-hand toolholders and bars use left-hand inserts.

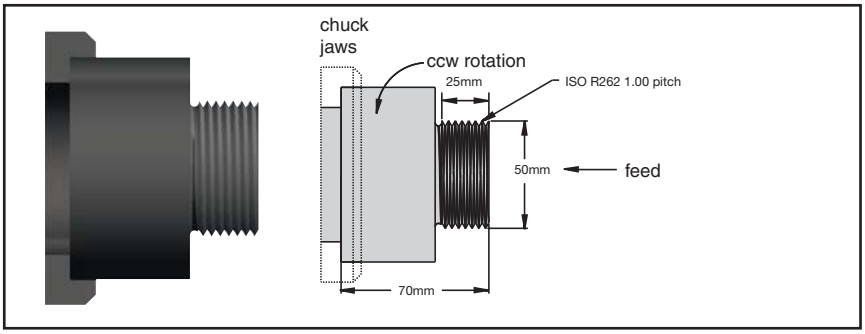
First, obtain required information.
For example:

From Part Drawing

material: . . . . . 316SS, 200 HB
thread form: . . . . . ISO R262 1,00 Pitch
operation: . . . . . external threading
pitch diameter: . . . . 50mm x 25mm deep

From Machine Set-Up Data

tooling: . . . . . 20 x 20mm
spindle rotation: . . . counterclockwise
feed: . . . . . toward chuck

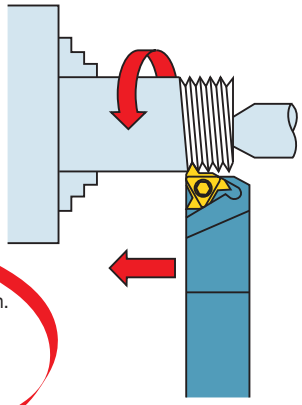


KENNA PERFECT™ Steps for a Succesful Threading Operation

1 Determine Threading Method

Need to Know

- **Operation** (external).
- **Spindle rotation** (CCW).
- **Feed direction** (toward chuck).



- counterclockwise rotation.
- right-hand tooldholder.
- right-hand insert (ER).
- standard helix method.

2 Select Insert

Need to know:

- **Thread form** (ISO R262 1,00 Pitch).
- **Hand of insert** (right-hand — ER).

Choose the High-Performance Solution

catalog number	IC	KC5025	KC5010
LT-16ER-10ISOCB	16	●	●
LT-16ER-10ISOK	16	●	●

High-Performance Selection

NOTE: Use insert with largest IC available

insert: LT-16ER-10ISOCB
grade: KC5010
speed: 150 m/min

3 Select the Grade and Speed

Need to know:

- **Workpiece material** (316SS-200HB).
- **Operation** (external).

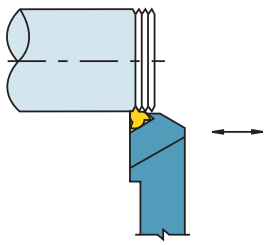
Options: Grade and Speed Selection Guidelines

threading operation	stainless steel	
external	general purpose	style
	KC5025	CB
	50–360 m/min	
	high-performance	style
	KC5010	CB
	70–390 m/min	

4 Select Toolholder

Need to Know:

- **External or internal operation** (external).
- **Pitch diameter to determine minimum bore diameter** (N/A).
- **Type of tooling — toolholder, boring bar, KM unit** (toolholder).
- **Hand of tool** (right hand).
- **Insert size** (16).



Options:

catalog number	gage insert	shim
LSASR2020K16	LT-16ER	SM-YE3-1N
LSSR2020K16Q	LT-16ER	SM-YE3-1N

First choice: LSASR2020K16 holder

5 Select Shim

Need to know:

- **Thread form — TPI or pitch** (1,00mm).
- **Pitch diameter** (50mm).
- **Helix method** (standard).
  See LT shim selection chart.

Select SM-YE3-1N shim

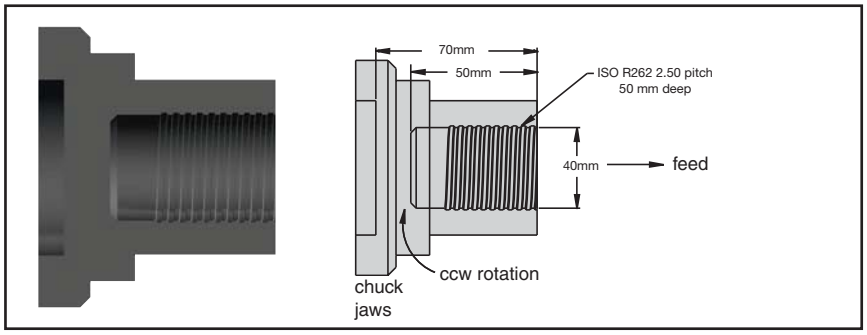
NOTE: The SM-YE3-1N shim is supplied with the selected toolholder.

LT Internal Threading Example

First, obtain required information.
For example:

From Part Drawing
material: . . . . . 4140 steel
thread form: . . . . . ISO R262 2,50 pitch
operation: . . . . . internal threading
pitch diameter: . . . . 40mm x 50mm deep

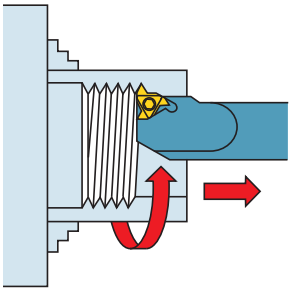
From Machine Set-Up Data
tooling: . . . . . 20mm boring bar
spindle rotation: . . . clockwise
feed: . . . . . away from chuck



KENNA PERFECT™ Steps for a Succesful Threading Operation

1 Determine Threading Method

Need to Know
- **Operation** (internal).
- **Spindle rotation** (CW).
- **Feed direction** (away from chuck).



- clockwise rotation.
- left-hand toolholder.
- left-hand insert (NL).
- reverse helix method.

2 Select Insert

Need to know:
- **Thread form** (ISO Metric Class 6G/6H).
- **Hand of insert** (left-hand — NL).

Choose the High-Performance Solution

catalog number	IC	KC5025	KC5010
LT-16NL-25ISO	16	●	

High-Performance Selection
NOTE: Use insert with largest possible IC to go into the bore.
insert: LT-16NL-25ISO
grade KC5025
speed: 130m/min

3 Select the Grade and Speed

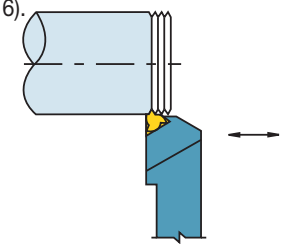
Need to know:
- **Workpiece material** (4010 steel).
- **Operation** (internal).

Options: Grade and Speed Selection Guidelines

threading operation	steel	
internal	general purpose	style
	KC5025	ISO Metric
	40—200 m/min	

4 Select Toolholder

Need to Know:
- **External or internal operation** (internal).
- **Pitch diameter to determine minimum bore diameter for internal operations** (40mm).
- **Type of tooling — toolholder, boring bar, KM unit** (boring bar).
- **Hand of tool** (left hand).
- **Insert size** (16).



Options:

catalog number	gage insert	min. bore dia.	shim
A2020LSEL16	LT-16NL	24	SM-YE4

First choice: A2020LSEL16

5 Select Shim

Need to know:
- **Thread form — TPI or pitch** (16 TPI).
- **Pitch diameter** (40mm).
- **Helix method** (reverse).

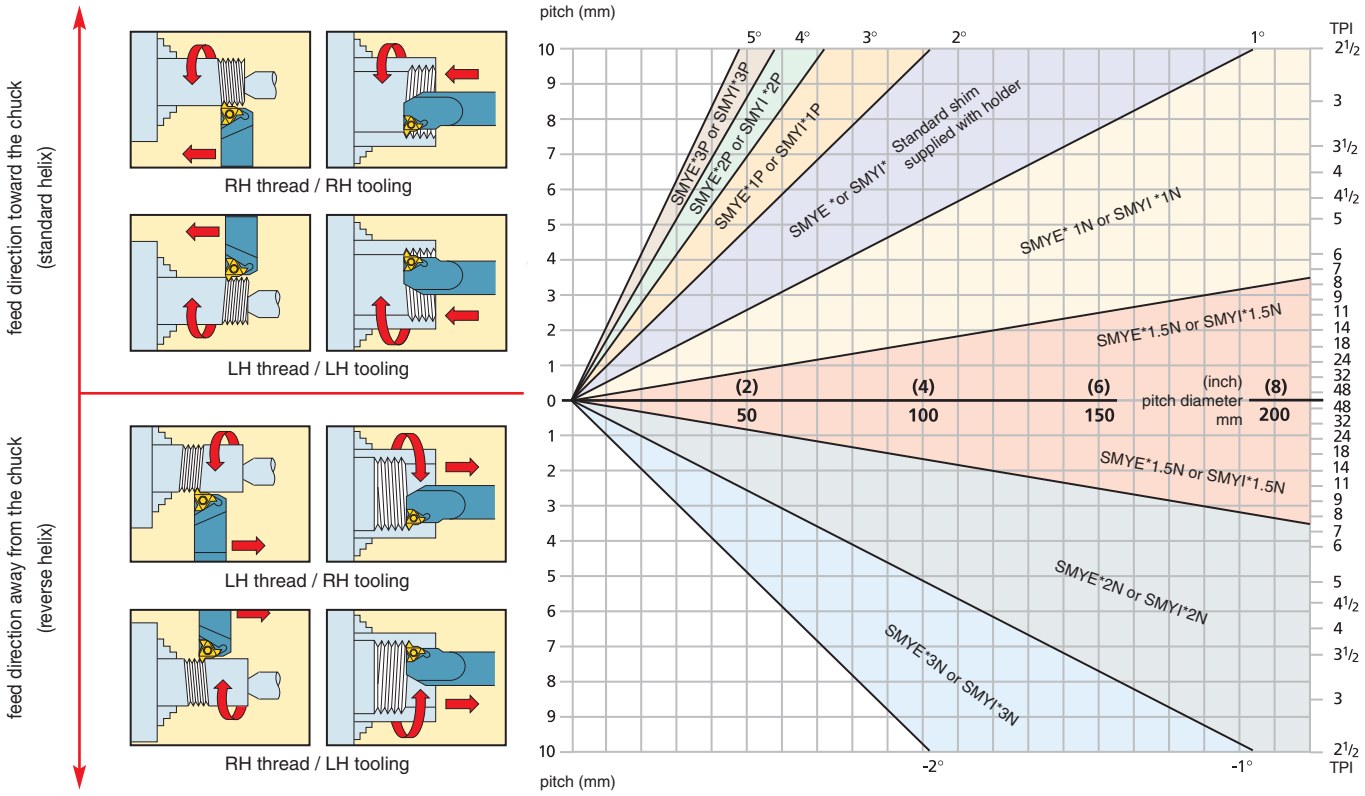
See LT shim selection chart.

Select SM-YE4 shim

NOTE: Shim supplied with selected boring bar is correct.

Optimize your operation by using a constant infeed or the constant volume method with a minimum infeed of .005 and an infeed angle of 29-1/2°

Optimize your operation by using a constant infeed of .005 and an infeed angle of 29-1/2°



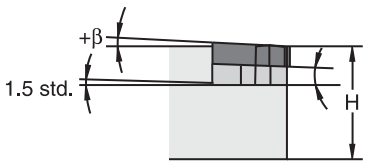
*denotes shim size: 3 = insert size 16 (3/8 in. D)
4 = insert size 22 (1/2 in. D)

NOTE: For multi-start threads, use the lead value instead of the pitch.

Helix Methods

standard helix method:

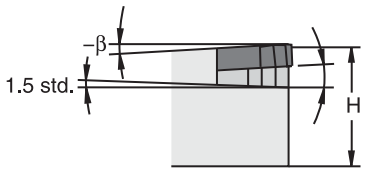
Used when RH thread is cut with RH tool or LH thread with LH tool.



reverse helix method:

Used when RH thread is cut with LH tool or when LH thread is cut with RH tool.

Dimension "H" is constant at every shim and insert combination. All toolholders are supplied with 1.5° lead angle.



Selection of Shims — LT System
Diagram of Thread Lead Angles

To calculate the lead angle of a given thread, use this formula:

$$\beta = \text{Arctan} \frac{P \times S}{\pi \, De}$$

ß = thread lead angle

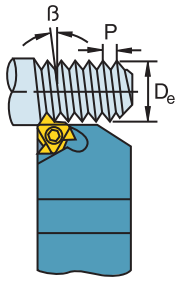
De = effective pitch diameter of thread (where P = 1/TPI for inch dimensions)

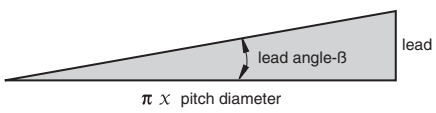
TPI = threads per inch

S = number of starts (= #1 for standard thread)

P = pitch

multiple-start, lead = P x S





Slanted Shim Kit

insert size	shim size (D)	ordering code	contains slanted shims
16	3/8"	ABY3	SM-YE4-2P,1P,1N,2N,3N SM-YI4-2P,1P,1N,2N,3N
22	1/2"	ABY4	SM-YE4-2P,1P,1N,2N,3N SM-YI4-2P,1P,1N,2N,3N

Since you might occasionally need different shims other than those supplied with our standard toolholders, we strongly recommend that shim kits be readily available in every tool shop.

LT Shim Selection Table – Metric

insert size	toolholder		Shim Ordering Code (metric mm)							
	external	internal				standard				
LT-16 (3/8")	RH	LH	SM-YE3-3P	SM-YE3-2P	SM-YE3-1P	SM-YE3	SM-YE3-1N	SM-YE3-1.5N	SM-YE3-2N	SM-YE3-3N
	LH	RH	SM-YI3-3P	SM-YI3-2P	SM-YI3-1P	SM-YI3	SM-YI3-1N	SM-YI3-1.5N	SM-YI3-2N	SM-YI3-3N
LT-22 (1/2")	RH	LH	SM-YE4-3P	SM-YE4-2P	SM-YE4-1P	SM-YE4	SM-YE4-1N	SM-YE4-1.5N	SM-YE4-2N	SM-YE4-3N
	LH	RH	SM-YI4-3P	SM-YI4-2P	SM-YI4-1P	SM-YI4	SM-YI4-1N	SM-YI4-1.5N	SM-YI4-2N	SM-YI4-3N
TPI		pitch (mm)	Pitch Diameter (mm)							
72						3,1 - 8	8 - 21,4	> 21,4	21,4 - 8	8 - 3,1
		0,35				3 - 8	8 - 21,3	> 21,3	21,3 - 8	3 - 8
64						3,4 - 9	9 - 24,1	> 24,1	24,1 - 9	9 - 3,4
		0,40				3,5 - 9,1	9,1 - 24,3	> 24,3	24,3 - 9,1	9,1 - 3,5
56		0,45				3,9 - 10,3	10,3 - 27,6	> 27,6	27,6 - 10,3	10,3 - 3,9
		0,50			2,8 - 4,3	4,3 - 11,4	11,4 - 30,4	> 30,4	30,4 - 11,4	11,4 - 4,3
48					3 - 4,6	4,6 - 12,1	12,1 - 32,2	> 32,2	32,2 - 12,1	12,1 - 4,6
44					3,3 - 5	5 - 13,2	13,2 - 35,1	> 35,1	35,1 - 13,2	13,2 - 5
		0,60		2,6 - 3,4	3,4 - 5,2	5,2 - 13,7	13,7 - 36,5	> 36,5	36,5 - 13,7	13,7 - 5,2
40				2,8 - 3,6	3,6 - 5,5	5,5 - 14,5	14,5 - 38,6	> 38,6	38,6 - 14,5	14,5 - 5,5
		0,70		3 - 4	4 - 6,1	6,1 - 16	16 - 42,6	> 42,6	42,6 - 16	16 - 6,1
36				3,1 - 4	4 - 6,1	6,1 - 16,1	16,1 - 42,9	> 42,9	42,9 - 16,1	16,1 - 6,1
		0,75	2,8 - 3,2	3,3 - 4,3	4,3 - 6,5	6,5 - 17,1	17,1 - 45,6	> 45,6	45,6 - 17,1	17,1 - 6,5
32			3 - 3,4	3,4 - 4,5	4,5 - 6,9	6,9 - 18,1	18,1 - 48,3	> 48,3	48,3 - 18,1	18,1 - 6,9
		0,80	3 - 3,5	3,5 - 4,6	4,6 - 6,9	6,9 - 18,2	18,2 - 48,6	> 48,6	48,6 - 18,2	18,2 - 6,9
28			3,4 - 3,9	3,9 - 5,2	5,2 - 7,9	7,9 - 20,7	20,7 - 55,1	> 55,1	55,1 - 20,7	20,7 - 7,9
27			3,6 - 4,1	4,1 - 5,4	5,4 - 8,2	8,2 - 21,4	21,4 - 57,2	> 57,2	57,2 - 21,4	21,4 - 8,2
		1,00	3,8 - 4,3	4,3 - 5,7	5,7 - 8,7	8,7 - 22,8	22,8 - 60,8	> 60,8	60,8 - 22,8	22,8 - 8,7
24			4 - 4,6	4,6 - 6	6 - 9,2	9,2 - 24,1	24,1 - 64,3	> 64,3	64,3 - 24,1	24,1 - 9,2
		1,25	4,7 - 5,4	5,4 - 7,1	7,1 - 10,8	10,9 - 28,5	28,5 - 76	> 76	76 - 28,5	28,5 - 10,8
20			4,8 - 5,5	5,5 - 7,2	7,2 - 11	11 - 28,9	29 - 77,2	> 77,2	77,2 - 28,9	29 - 11
18			5,3 - 6,1	6,1 - 8	8 - 12,2	12,2 - 32,2	32,2 - 85,8	> 5,8	85,8 - 32,2	32,2- 12,2
		1,50	5,7 - 6,5	6,5 - 8,5	8,5 - 13	13 - 34,2	34.2 - 91.2	> 91,2	91,2 - 34,2	34,2 - 13
16			6 - 6,9	6,9 - 9	9 - 13,8	13,8 - 36,2	36,2 - 96,5	> 96,5	96,5 - 36,2	36,2 - 13,8
		1,75	6,6 - 7,6	7,6 - 10	10 - 15,2	15,2 - 39,9	39,9 - 106,4	> 106,4	106,4 - 39,9	39,9 - 15,2
14			6,9 - 7,9	7,9 - 10,3	10,3 - 15,7	15,7 - 41,4	41,4 - 110,3	> 110,3	110,3 - 41,4	41,4 - 15,7
13			7,4 - 8,5	8,5 - 11,1	11,1 - 17	17 - 44,5	44,5 - 118,8	> 118,8	118,8 - 44,5	44,5 - 17
		2,00	7,6 - 8,7	8,7 - 11,4	11,4 - 17,4	17,4 - 45,6	45,6 - 121,6	> 121,6	121,6 - 45,6	45,6 - 17,4
12			8 - 9,2	9,2 - 12	12,1 - 18,4	18,4 - 48,2	48,3 - 128,7	> 128,7	128,7 - 48,2	48,3 - 18,4
11.5			8,4 - 9,6	9,6 - 12,6	12,6 - 19,2	19,2 - 50,3	50,3 - 134,3	> 134,3	134,3 - 50,3	50,3 - 19,2
11			8,8 - 10	10 - 13,1	13,1 - 20	20 - 52,6	52,6 - 140,4	> 140,4	140,4 - 52,6	52,6 - 20
		2,50	9,5 - 10,8	10,8 - 14,2	14,2 - 21,7	21,7 - 57	57 - 152	> 152	152 - 57	57 - 21,7
10			9,6 - 11	11 - 14,5	14,5 - 22	22 - 57,9	57,9 - 154,4	> 154,4	154,4 - 57,9	57,9 - 22
9			10,7 - 12,2	12,2 - 16,1	16,1 - 24,5	24,5 - 64,3	64,3 - 171,6	> 171,6	171,6 - 64,3	64,3 - 24,5
		3,00	11,4 - 13	13 - 17,1	17,1 - 26	26 - 68,4	68,4 - 182,4	> 182,4	182,4 - 68,4	68,4 - 26
8			12 - 13,8	13,8 - 18,1	18,1 - 27,6	27,6 - 72,4	72,4 - 193	> 193	193 - 72,4	72,4 - 27,6
		3,50	13,3 - 15,2	15,2 - 19,9	19,9 - 30,4	30,4 - 79,8	79,8 - 212,8	> 212,8	212,8 - 79,8	79,8 - 30,4
7			13,8 - 15,7	15,7 - 20,7	20,7 - 31,5	31,5 - 82,7	82,7 - 220,6	> 220,6	220,6 - 82,7	82,7 - 31,5
		4,00	15,2 - 17,3	17,3 - 22,8	22,8 - 34,7	34,7 - 91,2	91,2 - 243,2	> 243,2	243,2 - 91,2	91,2 - 34,7
6			16 - 18,3	18,3 - 24,1	24,1 - 36,7	36,7 - 96,5	96,5 - 257,4	> 257,4	257,4 - 96,5	96,5 - 36,7
		5,00	19 - 21,7	21,7 - 28,5	28,5 - 43,4	43,4 - 114	114 - 304	> 304	304 - 114	114 - 43,4
5			19,3 - 22	22 - 28,9	28,9 - 44,1	44,1 - 115,8	115,8 - 308,8	> 308,8	308,8 - 115,8	115,8 - 44,1
4.5			21,4 - 24,5	24,5 - 32,1	32,1 - 49	49 - 128,7	128,7 - 343,1	> 343,1	343,1 - 128,7	128,7 - 49
		6,00	22,7 - 26	26 - 34,2	34,2 - 52,1	52,1 - 136,8	136,8 - 364,8	> 364,8	364,8 - 136,8	136,8 - 52,1
4			24,1 - 27,5	27,5 - 36,2	36,2 - 55,1	55,1 - 144,8	144,8 - 386	> 386	386 - 144,8	144,8 - 55,1
inclination angle			4.5	3.5	2.5	1.5	0.5	0	-0.5	-1.5
feed direction			standard helix (feed toward the chuck)						reverse helix (feed away from the chuck)	

1. Select TPI or pitch from the left-hand columns.

2. Follow row to specified pitch diameter and the correct feed direction.

3. Follow the column to the top for the required shim based on the toolholder and insert size.

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNAMETAL®

Application Specific

Table of Contents

Application Specific Tools F1-F26

TOP NOTCH® Profiling F2-F21

- KENNA PERFECT® F2-F3
- Inserts F4-F7
- Chip Control F8
- Toolholders F9-F13
- Boring Bars and Heads F14-F18
- KM40™ Cutting Units F19-F21

K-LOCK™ F22-F23

- Inserts F22
- Toolholders and Modular Blades F23

KENDEX® Mini F24-F26

- Inserts F24
- Boring Bars F25-F26

1st Step—Select the Insert Geometry

Negative Inserts

▼ Roughing

K..X-32

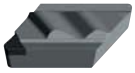
▼▼ Medium Machining

K..X-25, K..X-20, K..X-15

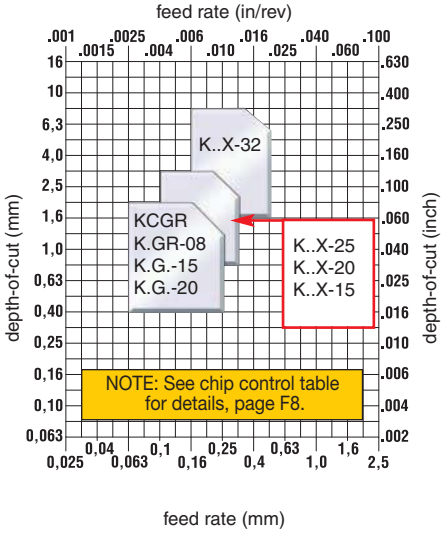
▼▼▼ Finishing

KCGR

▼▼▼ Finishing



K.GR-08, K.G.-15, K.G.-20



Positive Inserts

▼▼ Medium Machining

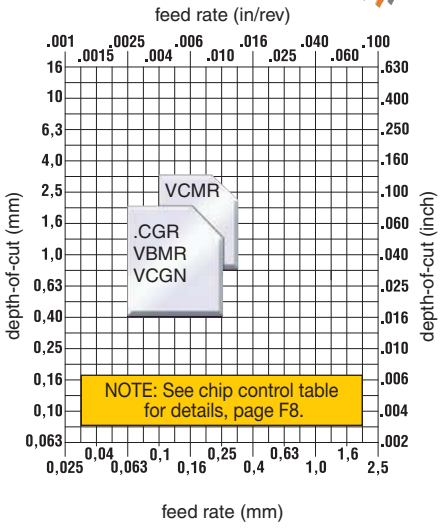
VCMR

▼▼▼ Finishing

.CGR, VBMR

▼▼▼ Finishing

VCGN



2nd Step—Select the Grade

Cutting Condition	Steel ▼▼▼	Steel ▼▼	Steel ▼	Stainless Steel ▼▼▼	Stainless Steel ▼▼	Stainless Steel ▼
heavily interrupted cut	KC9125	KC8050	KC8050	KC9225	KC8050	KC8050
lightly interrupted cut	KC9110	KC9125	KC8050	KC5010	KC5025	KC5025
varying depth-of-cut, casting, or forging skin	KT315	KC9125	KC9125	KT315	KC9225	KC9225
smooth cut, pre-turned surface	KT315	KC9110	KC9110	KT315	KC5010	KC9225

Cutting Condition	Cast Iron ▼▼▼	Cast Iron ▼▼	Cast Iron ▼	Non-Ferrous ▼▼▼	Non-Ferrous ▼▼	Non-Ferrous ▼
heavily interrupted cut	KC9315/KB1345	KC8050	KC8050	KC5010	KC5010	KC5010
lightly interrupted cut	KC9315/KB1345	KC9315	KC8050	KC5410/KD1425	KC5010	KC5010
varying depth-of-cut, casting, or forging skin	KC5010/KB1345	KC9315	KC9315	KD1425	KC5410	KC5410
smooth cut, pre-turned surface	KT315/KB1345	KC5010	KC5010	KD1425	KC5410	KC5410

Cutting Condition	High-Temperature Alloys ▼▼▼	High-Temperature Alloys ▼▼	High-Temperature Alloys ▼
heavily interrupted cut	KC5025	K68	K68
lightly interrupted cut	KC5010	KC5010	KC8050
varying depth-of-cut, casting, or forging skin	KC5010	KC5010	KC5010
smooth cut, pre-turned surface	KC5010	KC5010	KC5010

3rd Step—Select the Cutting Speed

Steel

KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 50 (170)	100 (330)	150 (490)	200 (655)	250 (820)	300 (980)	350 (1150)	400 (1300)	Starting Conditions m/min	sfm
P	KT315					◁▷				260	850
	KC9110					◁▷				240	800
	KC9125				◁▷					180	600
	KC8050				◁▷					165	550

Stainless Steel

KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 50 (170)	100 (330)	150 (490)	200 (655)	250 (820)	300 (980)	350 (1150)	400 (1300)	Starting Conditions m/min	sfm
M	KT315				◁▷					230	750
	KC5010				◁▷					180	600
	KC5025			◁▷						120	400
	KC9225				◁▷					170	550
	KC8050				◁▷					150	500

Cast Iron

KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 150 (490)	200 (655)	250 (820)	300 (980)	350 (1150)	400 (1300)	500 (1600)	750 (2400)	Starting Conditions m/min	sfm
K	KB1345								◁▷	760	2520
	KT315				◁▷					275	900
	KC5010			◁▷						245	800
	KC9315				◁▷					245	800
	KC8050			◁▷						230	750

Non-Ferrous

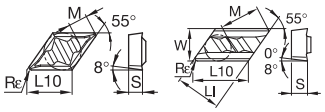
KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 250 (800)	500 (1600)	750 (2400)	1000 (3200)	1250 (4000)	1500 (4800)	1750 (5600)	2000 (6400)	Starting Conditions m/min	sfm
N	K01425			◁▷						765	2500
	KC5410		◁▷							550	1800
	KC5010		◁▷							460	1500
	K68	◁▷								150	500

High-Temperature Alloys

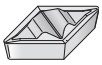
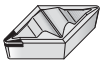
KENNA PERFECT Material Group	grade	Speed - m/min (sfm) 15 (50)	40 (120)	55 (180)	80 (250)	100 (330)	170 (550)	200 (655)	230 (750)	Starting Conditions m/min	sfm
S	KC5010			◁▷						60	200
	KC5025			◁▷						50	170
	KC8050			◁▷						70	230
	K68		◁▷							30	100

◁▷ Represents the recommended starting conditions. Optimize for your specific application.

Inserts

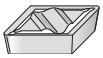
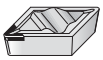


DCGR

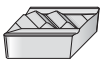
ISO catalog number	ANSI catalog number	D mm	D in	W mm	W in	L10 mm	L10 in	LI mm	LI in	S mm	S in	M mm	M in	Rε mm	Rε in
DCGR150404	DPGR431	12,70	1/2	–	–	15,50	.610	–	–	4,76	3/16	6,94	.273	0,4	1/64
DCGR150408	DPGR432	12,70	1/2	–	–	15,50	.610	–	–	4,76	3/16	6,48	.255	0,8	1/32
DCGR150412	DPGR433	12,70	1/2	–	–	15,50	.610	–	–	4,76	3/16	6,01	.237	1,2	3/64

KCGR

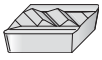
	right hand														
KCGR110304R08	NPGR51R	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	9,10	.358	0,4	1/64
KCGR110308R08	NPGR52R	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	8,66	.341	0,8	1/32
	left hand														
KCGR110304L08	NPGR51L	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	9,10	.358	0,4	1/64
KCGR110308L08	NPGR52L	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	8,66	.341	0,8	1/32

KNGX



	right hand														
KNGX150401R15	NPR1305	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	13,76	.542	0,1	0.0050
KNGX150402R15	NPR1308	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	13,67	.538	0,2	.0080
KNGX150404R20	NPR131F	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	13,44	.529	0,4	1/64
KNGX150408R20	NPR132F	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	12,98	.511	0,8	1/32
KNGX150408R25	NPR132N	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	12,98	.511	0,8	1/32
KNGX220404R25	NPR331N	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,91	.784	0,4	1/64
KNGX220408R32	NPR332	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,47	.767	0,8	1/32
KNGX220408R20	NPR332F	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,47	.767	0,8	1/32
KNGX220408R25	NPR332N	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,47	.767	0,8	1/32
	left hand														
KNGX150401L15	NPL1305	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	13,76	.542	0,1	0.0050
KNGX150404L20	NPL131F	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	13,44	.529	0,4	1/64
KNGX150408L20	NPL132F	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	12,98	.511	0,8	1/32
KNGX150408L25	NPL132N	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	12,98	.511	0,8	1/32
KNGX220404L25	NPL331N	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,91	.784	0,4	1/64
KNGX220408L32	NPL332	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,47	.767	0,8	1/32
KNGX220408L20	NPL332F	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,47	.767	0,8	1/32
KNGX220408L25	NPL332N	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,47	.767	0,8	1/32

KNUX



	right hand														
KNUX150405R20	NPR13M05F	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	13,32	.525	0,5	.020
KNUX150405R25	NPR13M05N	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	13,32	.525	0,5	.020
KNUX150410R25	NPR13M10N	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	12,74	.502	1,0	.039
KNUX220405R25	NPR33M05N	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,79	.779	0,5	.020
KNUX220410R25	NPR33M10N	–	–	9,53	.375	22,73	.895	18,62	.733	4,76	3/16	19,20	.756	1,0	.039
	left hand														
KNUX150405L20	NPL13M05F	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	13,32	.525	0,5	.020
KNUX150405L25	NPL13M05N	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	13,32	.525	0,5	.020
KNUX150410L25	NPL13M10N	–	–	9,53	.375	15,44	.608	12,70	.500	4,76	3/16	12,74	.502	1,0	.039

Order example:
ISO catalog number: KNUX150405R20
Insert grade: KC9225

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

ISO catalog number	KENNA PERFECT P KT315	P KC9105	P KC9110	P KC9125	P KC8050	M KT315	M KC5010	M KC5025	M KC9225	M KC8050	K KT315	K KC5010	K KC9315	K KC9320	K KC8050	K KB1645	N K68	N KC5010	N KC5410	N KD1425	S K68	S KC5010	S KC5525	S KC9225	S KC8050
DCGR150404	●		●	●		●	●	●			●	●					●	●	●	●	●	●			
DCGR150408	●	●	●	●	●	●	●	●	●	●	●	●			●		●	●	●	●	●	●		●	●
DCGR150412			●				●	●				●					●	●	●		●	●			
KCGR110304R08	●		●	●		●	●	●	●		●	●					●	●	●	●	●	●		●	
KCGR110308R08	●		●	●	●	●	●	●	●	●	●	●			●		●	●		●	●	●		●	●
KCGR110304L08	●		●	●	●	●	●	●	●	●	●	●			●		●	●	●	●	●	●		●	●
KCGR110308L08	●		●	●		●	●	●	●		●	●					●	●		●	●	●		●	
KNGX150401R15							●					●					●	●			●	●			
KNGX150402R15							●					●						●				●			
KNGX150404R20			●	●			●	●				●					●	●			●	●			
KNGX150408R20			●	●			●	●				●					●	●			●	●			
KNGX150408R25																	●				●				
KNGX220404R25				●				●									●				●				
KNGX220408R32				●			●					●					●	●			●	●			
KNGX220408R20			●																						
KNGX220408R25				●																					
KNGX150401L15							●					●					●	●			●	●			
KNGX150404L20				●			●	●				●					●	●			●	●			
KNGX150408L20			●	●			●	●				●					●	●			●	●			
KNGX150408L25				●													●				●				
KNGX220404L25							●	●				●						●				●			
KNGX220408L32			●	●													●				●				
KNGX220408L20							●					●						●				●			
KNGX220408L25				●			●					●						●				●			
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KNUX150405R25							●					●	●				●	●			●	●			
KNUX150410R25							●					●					●	●			●	●			
KNUX220405R25																	●				●				
KNUX220410R25																	●				●				
KNUX150405L20									●								●				●			●	
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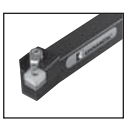
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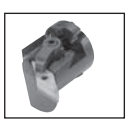
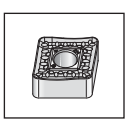
B72-B80


B106-B109

B114-B130

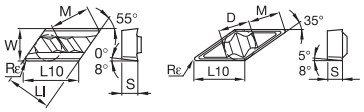
8-23

24-31


33-39

KENNAMETAL

Inserts



KCGX

ISO catalog number	ANSI catalog number	D mm	D in	W mm	W in	L10 mm	L10 in	LI mm	LI in	S mm	S in	M mm	M in	Rε mm	Rε in
	right hand														
KCGX110301R15	NPR505	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	9,29	.366	0,1	0.0050
KCGX110302R15	NPR508	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	9,21	.362	0,2	.0080
KCGX110304R15	NPR51	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	8,98	.354	0,4	1/64
KCGX110308R15	NPR52	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	8,52	.335	0,8	1/32
	left hand														
KCGX110301L15	NPL505	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	9,29	.366	0,1	0.0050
KCGX110302L15	NPL508	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	9,21	.362	0,2	.0080
KCGX110304L15	NPL51	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	8,98	.354	0,4	1/64
KCGX110308L15	NPL52	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	8,52	.335	0,8	1/32

KCUX

ISO catalog number	ANSI catalog number	D mm	D in	W mm	W in	L10 mm	L10 in	LI mm	LI in	S mm	S in	M mm	M in	Rε mm	Rε in
	right hand														
KCUX110310L15	NPL5M10	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	8,39	.330	1,0	.039
KCUX110302R15	NPR5M02	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	9,32	.367	0,2	.0080
KCUX110305R15	NPR5M05	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	8,97	.353	0,5	.020
KCUX110310R15	NPR5M10	–	–	6,35	.250	11,60	.457	9,50	.375	3,18	1/8	8,39	.330	1,0	.039
	left hand														
KCUX110302L15	NPL5M02	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	9,32	.367	0,2	.0080
KCUX110305L15	NPL5M05	–	–	6,35	.250	11,60	.457	9,53	.375	3,18	1/8	8,97	.353	0,5	.020

VBMR

VBMR110302	VBMR2205	6,35	1/4	–	–	11,07	.436	–	–	3,18	1/8	6,91	.272	0,2	.0080
VBMR110304	VBMR221	6,35	1/4	–	–	11,07	.436	–	–	3,18	1/8	6,46	.254	0,4	1/64
VBMR110308	VBMR222	6,35	1/4	–	–	11,07	.436	–	–	3,18	1/8	5,54	.218	0,8	1/32

VCMR

VCMR160404	VCMR331	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	10,15	.400	0,4	1/64
VCMR160408	VCMR332	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	9,23	.363	0,8	1/32

VCGN

VCGN160404	VPGN331	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	10,15	.400	0,4	1/64
VCGN160408	VPGN332	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	9,23	.363	0,8	1/32
VCGN160412	VPGN333	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	8,31	.327	1,2	3/64

VPGR

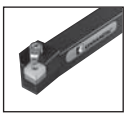
VCGR160402	VPGR3305	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	10,60	.417	0,2	.0080
VCGR160404	VPGR331	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	10,15	.400	0,4	1/64
VCGR160408	VPGR332	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	9,23	.363	0,8	1/32
VCGR160412	VPGR333	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	8,31	.327	1,2	3/64
VCGR160416	VPGR334	9,53	3/8	–	–	16,61	.654	–	–	4,76	3/16	7,38	.291	1,6	1/16

Order example:
ISO catalog number: VCGR160402
Insert Grade: KC5410

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNA PERFECT

ISO catalog number	P					M					K						N				S				
	KT315	KC9105	KC9110	KC9125	KC8050	KT315	KC5010	KC5025	KC9225	KC8050	KT315	KC5010	KC9315	KC9320	KC8050	KB1645	K68	KC5010	KC5410	KD1425	K68	KC5010	KC5525	KC9225	KC8050
KCGX110301R15	●		●	●		●	●	●			●	●				●	●	●		●	●	●			
KCGX110302R15	●					●	●	●			●	●						●	●	●		●			
KCGX110304R15	●		●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●		●	●
KCGX110308R15	●			●		●	●	●			●	●	●				●	●			●	●			
KCGX110301L15	●					●	●	●			●	●				●	●	●		●	●	●			
KCGX110302L15	●			●		●	●	●	●		●	●						●		●		●		●	
KCGX110304L15	●		●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●		●	●
KCGX110308L15			●	●			●	●				●					●	●			●	●			
KCUX110310L15					●				●						●										●
KCUX110302R15					●		●	●	●			●			●		●	●			●	●		●	●
KCUX110305R15							●	●				●	●				●	●			●	●		●	
KCUX110310R15					●				●						●										●
KCUX110302L15					●		●	●	●			●			●		●	●			●	●		●	●
KCUX110305L15	●				●	●	●	●	●		●	●	●		●		●	●			●	●		●	●
VBMR110302			●				●	●	●			●						●				●		●	
VBMR110304	●		●	●		●	●	●	●		●	●						●				●		●	
VBMR110308	●		●	●		●	●		●		●	●						●				●		●	
VCMR160404	●					●	●	●	●	●	●	●	●		●			●				●		●	●
VCMR160408	●					●	●	●	●	●	●	●	●		●			●				●		●	●
VCGN160404																				●					
VCGN160408																				●					
VCGN160412																				●					
VCGR160402	●		●	●	●	●	●	●	●	●	●	●			●		●	●	●		●	●		●	●
VCGR160404	●	●	●	●	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●		●	●
VCGR160408	●	●	●	●	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●		●	●
VCGR160412	●	●	●	●	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●		●	●
VCGR160416		●			●		●		●	●		●			●			●				●		●	●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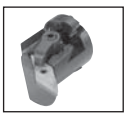
B72-B80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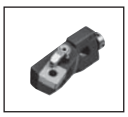
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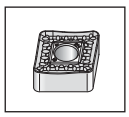
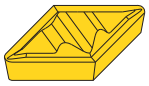
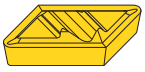
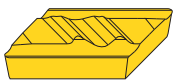
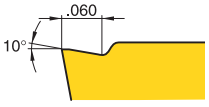
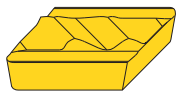
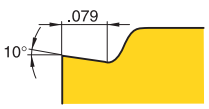
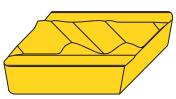
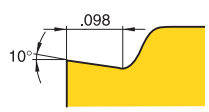
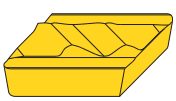
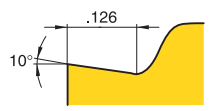
8-23

24-31

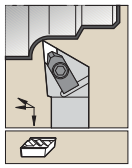

33-39

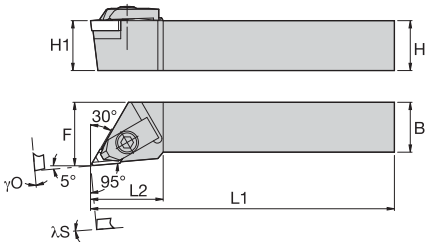
TOP NOTCH Profiling

operation	insert style application	insert geometry	profile	feed rate — (mm) / depth-of-cut — (mm)
finishing ▼▼▼	**DCGR** precision ground			.004 - .012 (0,1 - 0,3) / .010 - .070 (0,3 - 1,8)
finishing ▼▼▼	**KCGR** precision ground			004 - .012 (0,1 - 0,3) / .010 - .070 (0,3 - 1,8)
finishing ▼▼▼	**VBMR**			.004 - .014 (0,1 - 0,4) / .010 - .080 (0,3 - 2,0)
finishing ▼▼▼	**VCGR** precision ground			.004 - .014 (0,1 - 0,4) / .010 - .080 (0,3 - 2,0)
finishing ▼▼▼	**KNGX-15**			.006 - .016 (0,2 - 0,4) / .030 - .110 (0,8 - 2,8)
medium machining ▼▼	**KNGX-20**			.008 - .018 (0,2 - 0,5) / .040 - .120 (1,0 - 3,0)
medium machining ▼▼	**KNGX-25**			.010 - .022 (0,3 - 0,6) / .045 - .140 (1,1 - 3,6)
roughing ▼	**KNGX-32**			.012 - .026 (0,3 - 0,7) / .060 - .200 (1,5 - 5,1)

feed rate — (mm)
0,04 0,063 0,01 0,16 0,25 0,4 0,63 1,0 1,6 2,5 5,0
0,1 0,16 0,25 0,4 0,63 1,0 1,6 2,5 4,0 6,3 10,0
depth-of-cut — (mm)

feed rate — inches
.0015 .0025 .004 .006 .010 .016 .025 .040 .060 .100 .200
.004 .006 .010 .016 .025 .040 .060 .100 .160 .250 .500
depth-of-cut — inches

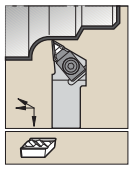


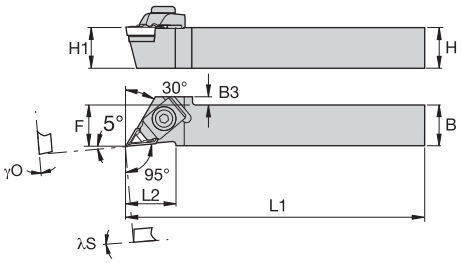


NOTE: H = H1

NKLC 95°

catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
NKLCR1212F11	12	12	16,0	80	24,0	.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM
NKLCR1616H11	16	16	20,0	100	24,0	.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM
NKLCR2020K11	20	20	25,0	125	24,0	.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM
NKLCR2525M11	25	25	32,0	150	24,0	.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM
left hand														
NKLCL1212F11	12	12	16,0	80	24,0	.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM
NKLCL1616H11	16	16	20,0	100	24,0	.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM
NKLCL2020K11	20	20	25,0	125	24,0	.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM
NKLCL2525M11	25	25	32,0	150	24,0	.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM

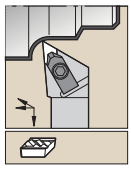


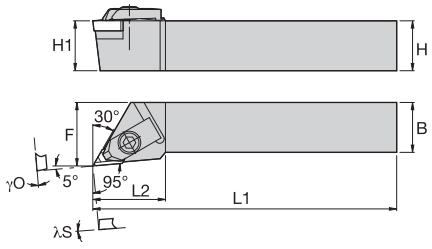


NOTE: H = H1

NKLC-F 95°

catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
NKLCRF1212M11Q	12	12	12,0	150	24,0	.0	.0	KC..110305R	SM885	MS959	3 MM	CM180	MS524	3 MM
NKLCRF1616K11Q	16	16	16,0	125	24,0	.0	.0	KC..110305R	SM885	MS959	3 MM	CM180	MS524	3 MM
left hand														
NKLCLF1616K11Q	16	16	16,0	125	24,0	.0	.0	KC..110305L	SM886	MS959	3 MM	CM180	MS524	3 MM





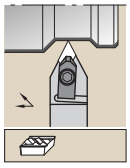
NOTE: H = H1

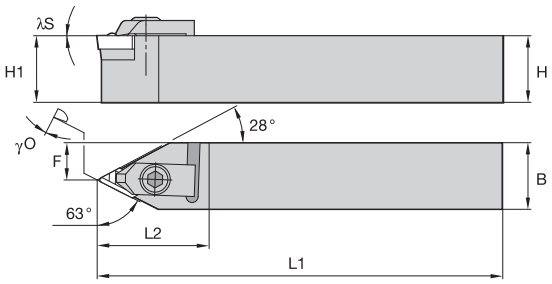
NKLN 95°

catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
NKLNR2020K15	20	20	25,0	125	32,0	-2.0	-5.0	KN..150410R	SM872	MS111	2 MM	CM66	MS625	4 MM
NKLNR2525M15	25	25	32,0	150	32,0	-2.0	-5.0	KN..150410R	SM872	MS111	2 MM	CM66	MS625	4 MM
NKLNR3225P15	32	25	32,0	170	32,0	-2.0	-5.0	KN..150410R	SM872	MS111	2 MM	CM66	MS625	4 MM
left hand														
NKLNL2020K15	20	20	25,0	125	32,0	-2.0	-5.0	KN..150410L	SM871	MS111	2 MM	CM66	MS625	4 MM
NKLNL2525M15	25	25	32,0	150	32,0	-2.0	-5.0	KN..150410L	SM871	MS111	2 MM	CM66	MS625	4 MM

Order example:
Right hand: NKLNR2020K15 Left hand: NKLNL2020K15

Toolholders

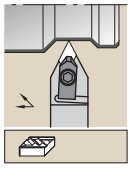


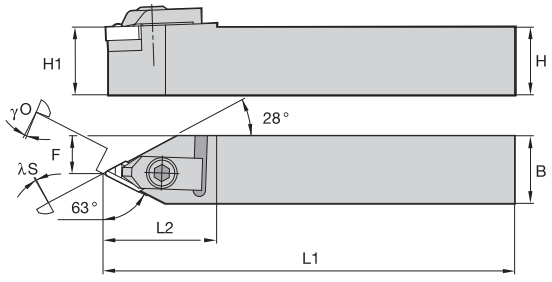


NOTE: H = H1

NKNC 63°

catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
NKNCR1616H11	16	16	9,0	100	27,0	.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM
left hand														
NKNCL1616H11	16	16	9,0	100	27,0	.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM

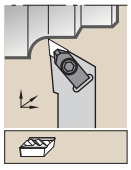


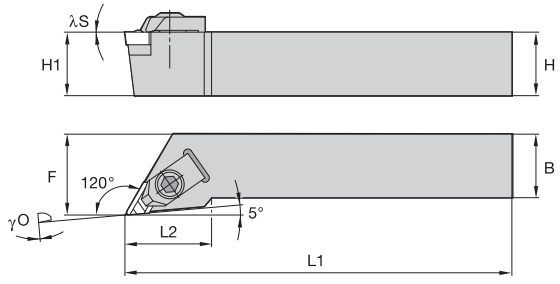


NOTE: H = H1

NKNN 63°

catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
NKNNR2020K15	20	20	12,0	125	37,0	-2.0	-5.0	KN..150410R	SM872	MS111	2 MM	CM66	MS625	4 MM
NKNNR2525M15	25	25	12,0	150	37,0	-2.0	-5.0	KN..150410R	SM872	MS111	2 MM	CM66	MS625	4 MM
left hand														
NKNNL2020K15	20	20	12,0	125	37,0	-2.0	-5.0	KN..150410L	SM871	MS111	2 MM	CM66	MS625	4 MM
NKNNL2525M15	25	25	12,0	150	37,0	-2.0	-5.0	KN..150410L	SM871	MS111	2 MM	CM66	MS625	4 MM





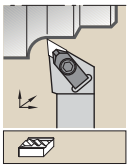
NOTE: H = H1

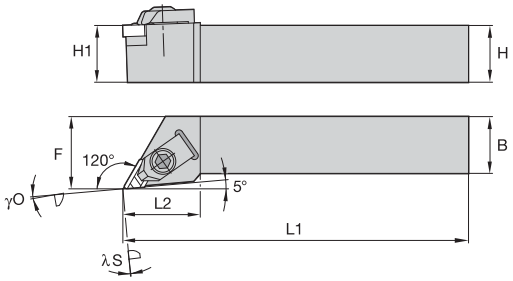
NKXC 120°

catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
NKXCR1212F11	12	12	16,0	80	27,0	.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM
NKXCR1616H11	16	16	20,0	100	27,0	.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM
left hand														
NKXCL1616H11	16	16	20,0	100	27,0	.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM

Order example:
Right hand: NKXCR1616H11 Left hand: NKXCL1616H11

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

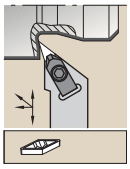


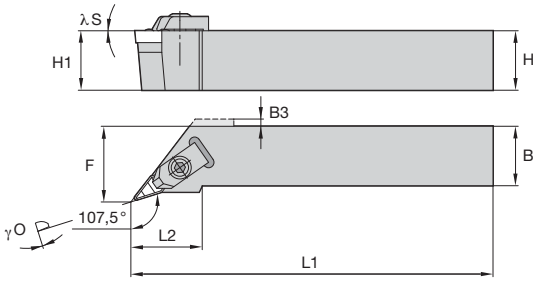


NOTE: H = H1

NKXN 120°

catalog number	H	B	F	L1	L2	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
NKXNR2525M15	25	25	32,0	150	35,0	-2.0	-5.0	KN..150410L	SM871	MS111	2 MM	CM66	MS625	4 MM
left hand														
NKXNL2525M15	25	25	32,0	150	35,0	-2.0	-5.0	KN..150410R	SM872	MS111	2 MM	CM66	MS625	4 MM

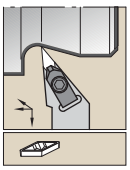


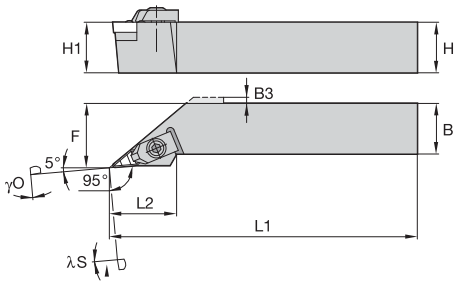


NOTE: H = H1

NVHB 107,5°

catalog number	H	B	F	L1	L2	B3	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
NVHBR1616H11	16	16	20,0	100	25,0	3,0	.0	.0	VB..110304	SM813	MS959	4 MM	CM158	MS518	4 MM
NVHBR2020K11	20	20	25,0	125	30,0	–	.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM
NVHBR2525M11	25	25	32,0	150	30,0	–	.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM
left hand															
NVHBL1616H11	16	16	20,0	100	25,0	3,0	.0	.0	VB..110304	SM813	MS959	4 MM	CM159	MS518	4 MM
NVHBL2020K11	20	20	25,0	125	30,0	–	.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM
NVHBL2525M11	25	25	32,0	150	30,0	–	.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM





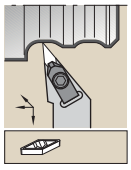
NOTE: H = H1

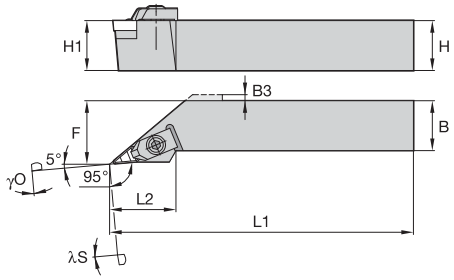
NVLB 95°

catalog number	H	B	F	L1	L2	B3	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
NVLBR1616H11	16	16	20,0	100	25,0	–	.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM
NVLBR2020K11	20	20	25,0	125	30,0	–	.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM
NVLBR2525M11	25	25	32,0	150	32,0	–	.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM
left hand															
NVLBL2020K11	20	20	25,0	125	30,0	–	.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM
NVLBL2525M11	25	25	32,0	150	32,0	–	.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM

Order example:
Right hand: NVLBR2020K11 Left hand: NVLBL2020K11

Toolholders

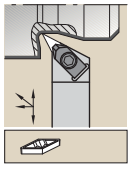


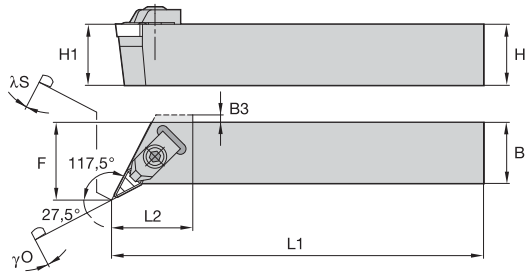


NOTE: H = H1

NVLC 95°

catalog number	H	B	F	L1	L2	B3	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
NVLCR1616H16	16	16	20,0	100	37,0	5,0	.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
NVLCR2020K16	20	20	25,0	125	37,0	–	.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
NVLCR2525M16	25	25	32,0	150	37,0	–	.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
NVLCR3225P16	32	25	32,0	170	37,0	–	.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
left hand															
NVLCL1616H16	16	16	20,0	100	37,0	5,0	.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM
NVLCL2020K16	20	20	25,0	125	37,0	–	.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM
NVLCL2525M16	25	25	32,0	150	37,0	–	.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM
NVLCL3225P16	32	25	32,0	170	37,0	–	.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM



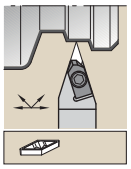


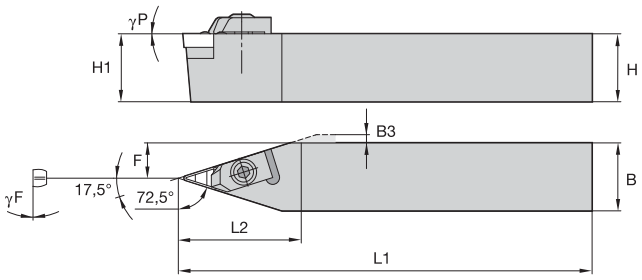
NOTE: H = H1

NVOC 117,5°

catalog number	H	B	F	L1	L2	B3	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
NVOCR2020K16	20	20	32,0	125	29,0	3,0	.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
NVOCR2525M16	25	25	32,0	150	29,0	3,0	.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
left hand															
NVOCL2020K16	20	20	32,0	125	29,0	3,0	.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM
NVOCL2525M16	25	25	32,0	150	29,0	3,0	.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM

Order example:
Right hand: NVOCR2020K16 Left hand: NVOCL2020K16

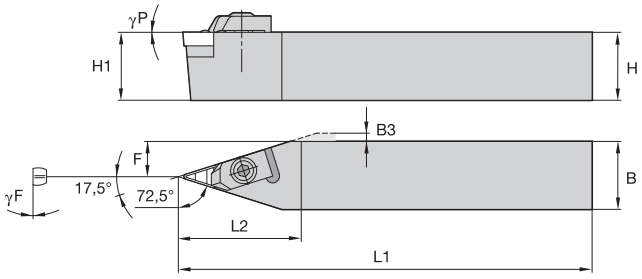




NOTE: H = H1

NVVB 72,5°

catalog number	H	B	F	L1	L2	B3	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
NVVBN2020K11	20	20	10,0	125	30,0	–	0.0	0.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM
NVVBN2525M11	25	25	12,5	150	30,0	–	0.0	0.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM



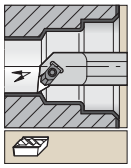
NOTE: H = H1

NVVC 72,5°

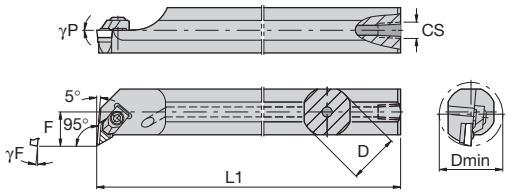
catalog number	H	B	F	L1	L2	B3	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
NVVCN1616H16	16	16	8,0	100	42,0	4,0	0.0	0.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
NVVCN2020K16	20	20	10,0	125	42,0	2,0	0.0	0.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
NVVCN2525M16	25	25	12,5	150	42,0	–	0.0	0.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM

Order example:
NVVCN1616H16

Boring Bars

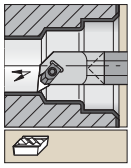


Steel shank with through coolant

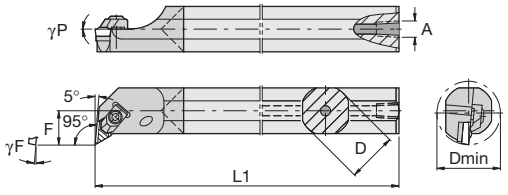


A-NKLC 95°

catalog number	D	D min	F	L1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
A12MNKLCR11	12	16,0	9,0	150	1/16-27 NPT	-5.0	.0	KC..110305L	—	—	2.5 MM	CM106	MS518	2.5 MM
A16MNKLCR11	16	20,0	11,0	150	1/8-27 NPT	-7.0	.0	KC..110305L	SM886	MS959	2.5 MM	CM106	MS518	2.5 MM
A20QNKLCR11	20	25,0	13,0	180	1/8-27 NPT	-5.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM
A25RNKLCR11	25	32,0	16,0	200	1/4-18 NPT	-5.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM
A32SNKLCR11	32	40,0	22,0	250	1/4-18 NPT	-5.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM
left hand														
A12MNKLCL11	12	16,0	9,0	150	1/16-27 NPT	-5.0	.0	KC..110305R	—	—	2.5 MM	CM106	MS518	2.5 MM
A16MNKLCL11	16	20,0	11,0	150	1/8-27 NPT	-7.0	.0	KC..110305R	SM885	MS959	2.5 MM	CM105	MS518	2.5 MM
A20QNKLCL11	20	25,0	13,0	180	1/8-27 NPT	-5.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM
A25RNKLCL11	25	32,0	16,0	200	1/4-18 NPT	-5.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM
A32SNKLCL11	32	40,0	22,0	250	1/4-18 NPT	-5.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM



Carbide shank with through coolant

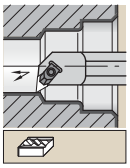


E-NKLC 95°

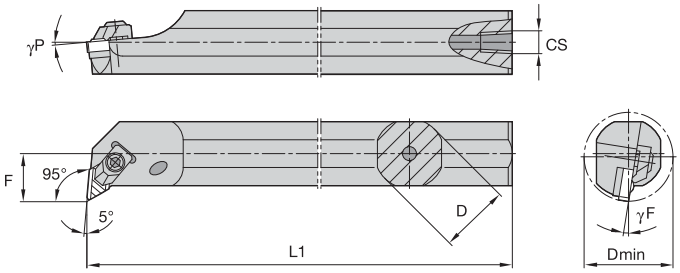
catalog number	D	D min	F	L1	A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
E12QNKLCR11	12	16,0	9,0	180	4,8	–	-5.0	.0	KC..110308L	—	—	2.5 MM	CM106	MS518	2.5 MM
E16RNKLCR11	16	20,0	11,0	200	5,5	–	-5.0	.0	KC..110308L	SM886	MS959	2.5 MM	CM106	MS518	2.5 MM
E20SNKLCR11	20	25,0	13,0	250	7,1	–	-5.0	.0	KC..110308L	SM886	MS959	3 MM	CM68	MS524	3 MM
left hand															
E12QNKLCL11	12	16,0	9,0	180	4,8	–	-5.0	.0	KC..110308R	—	—	2.5 MM	CM105	MS518	2.5 MM
E16RNKLCL11	16	20,0	11,0	200	5,5	–	-5.0	.0	KC..110308R	SM885	MS959	2.5 MM	CM105	MS518	2.5 MM
E20SNKLCL11	20	25,0	13,0	250	7,1	–	-5.0	.0	KC..110308R	SM885	MS959	3 MM	CM68	MS524	3 MM

Order example:
Right hand: E12QNKLCR11 Left hand : E12QNKLCL11

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

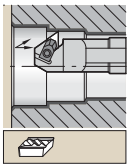


Steel shank with through coolant

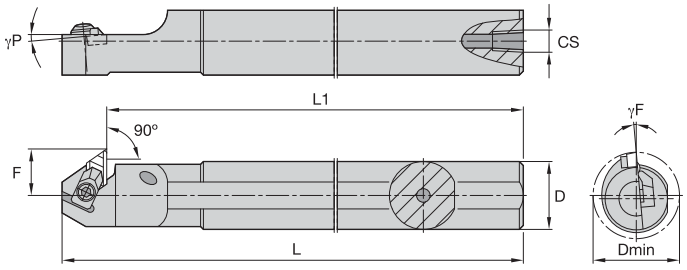


A-NKLN 95°

catalog number	D	D min	F	L1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
A25RNKLNR15	25	32,0	17,0	200	1/4-18 NPT	-9.0	-5.0	KN..150410L	SM871	MS111	2 MM	CM77	MS1221	T25
A32SNKLNR15	32	40,0	22,0	250	1/4-18 NPT	-9.0	-5.0	KN..150410L	SM871	MS111	2 MM	CM66	MS624	4 MM
A40TNKLNR15	40	50,0	27,0	300	1/4-18 NPT	-5.0	-5.0	KN..150410L	SM871	MS111	2 MM	CM66	MS624	4 MM
left hand														
A25RNKLNL15	25	32,0	17,0	200	1/4-18 NPT	-9.0	-5.0	KN..150410R	SM872	MS111	2 MM	CM69	MS1221	T25
A32SNKLNL15	32	40,0	22,0	250	1/4-18 NPT	-9.0	-5.0	KN..150410R	SM872	MS111	2 MM	CM66	MS624	4 MM
A40TNKLNL15	40	50,0	27,0	300	1/4-18 NPT	-5.0	-5.0	KN..150410R	SM872	MS111	2 MM	CM66	MS624	4 MM

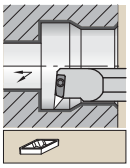


Steel shank with through coolant

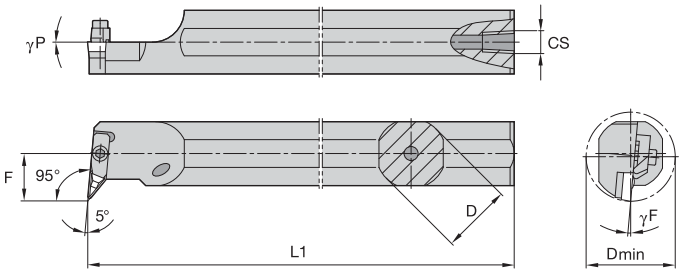


A-NKXC 90°

catalog number	D	D min	F	L1	L	CS	γF°	γP°	gage insert	shim	shim screw	clamp	clamp screw	Hex (mm)
left hand														
A20QNKXCL11	20	25,0	13,0	180	199	1/8-27 NPT	-5.0	-5.0	KC..110305R	SM886	MS959	CM79	MS1220	T25



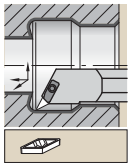
Steel shank with through coolant



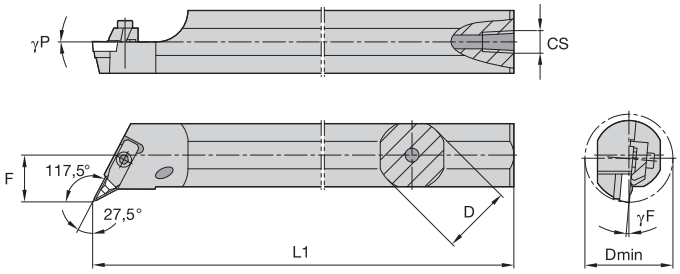
A-NVLB 95°

catalog number	D	D min	F	L1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
A20SNVLBR11	20	26,0	13,0	250	1/8-27 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM
A25TNVLBR11	25	32,0	17,0	300	1/4-18 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM
left hand														
A20SNVLBL11	20	26,0	13,0	250	1/8-27 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM
A25TNVLBL11	25	32,0	17,0	300	1/4-18 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM

Order example:
Right hand: A20SNVLBR11 Left hand : A20SNVLBL11

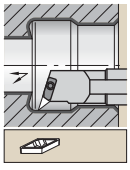


Steel shank with through coolant

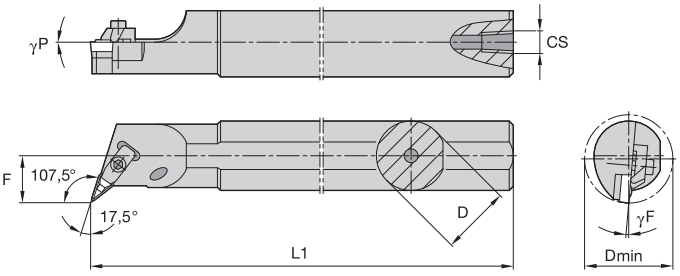


A-NVOC 117,5°

catalog number	D	D min	F	L1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
A32SNVOCR16	32	40,0	22,0	250	1/4-18 NPT	-2.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
A40TNVOCR16	40	50,0	27,0	300	1/4-18 NPT	-2.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
A50UNVOCR16	50	63,0	35,0	350	1/4-18 NPT	-2.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
left hand														
A32SNVOCL16	32	40,0	22,0	250	1/4-18 NPT	-2.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM
A40TNVOCL16	40	50,0	27,0	300	1/4-18 NPT	-2.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM



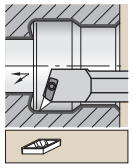
Steel shank with through coolant



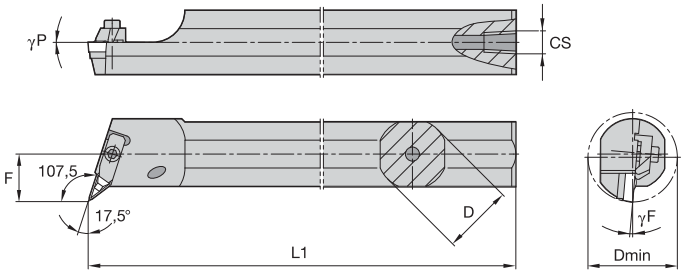
A-NVQB 107,5°

catalog number	D	D min	F	L1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
A16RNVQBR11	16	20,0	11,0	200	1/8-27 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM
A20SNVQBR11	20	25,0	13,0	250	1/8-27 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM
A25TNVQBR11	25	32,0	17,0	300	1/4-18 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM
left hand														
A20SNVQBL11	20	25,0	13,0	250	1/8-27 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM
A25TNVQBL11	25	32,0	17,0	300	1/4-18 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM

Order example:
Right hand: A20SNVQBR11 Left hand : A20SNVQBL11

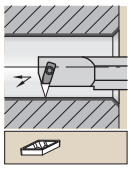


Steel shank with through coolant

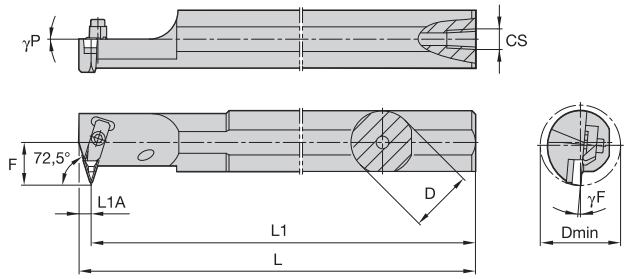


A-NVQC 107,5°

catalog number	D	D min	F	L1	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand														
A32SNVQCR16	32	40,00	22,0	250	1/4-18 NPT	-2.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
A40TNVQCR16	40	50,00	27,0	300	1/4-18 NPT	-2.0	.0	VC..160408	SM812	MS959	4 MM	CM113	MS412	4 MM
left hand														
A32SNVQCL16	32	40,00	22,0	250	1/4-18 NPT	-2.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM
A40TNVQCL16	40	50,00	27,0	300	1/4-18 NPT	-2.0	.0	VC..160408	SM812	MS959	4 MM	CM114	MS412	4 MM



Steel shank with through coolant

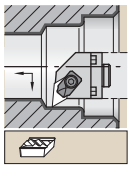


A-NVVB 72,5°

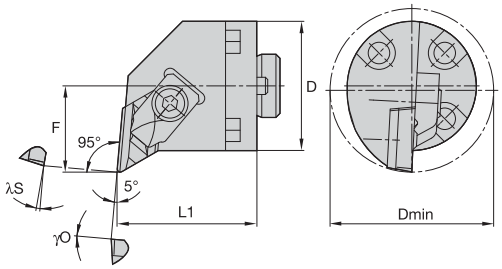
catalog number	D	D min	F	L1	L	L1A	CS	γF°	γP°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand																
A25TNVVBR11	25	32,0	17,0	300	306,6	6,6	1/4-18 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM159	MS518	2.5 MM
left hand																
A25TNVVBL11	25	32,0	17,0	300	306,6	6,6	1/4-18 NPT	-5.0	.0	VB..110304	SM813	MS959	2.5 MM	CM158	MS518	2.5 MM

Order example:
Right hand: A25TNVVBR11 Left hand : A25TNVVBL11

Boring Heads

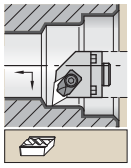


With through coolant

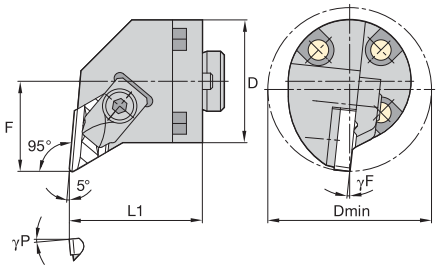


H-NKLC 95°

catalog number	D	D min	F	L1	λS°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand													
H25NKLCR11	25	32	17	41	-5.0	.0	KC..110305L	SM886	MS959	3 MM	CM68	MS524	3 MM
left hand													
H25NKLCL11	25	32	17	41	-5.0	.0	KC..110305R	SM885	MS959	3 MM	CM68	MS524	3 MM



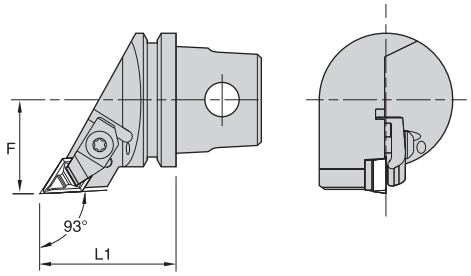
With through coolant



H-NKLN 95°

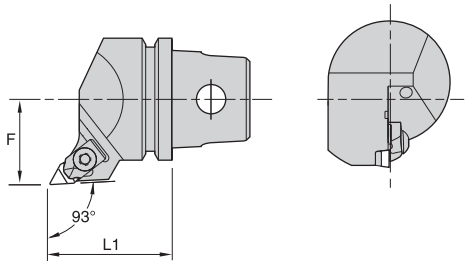
catalog number	D	D min	F	L1	λS°	γF°	γP°	γO°	gage insert	shim	shim screw	Hex (mm)	clamp	clamp screw	Hex (mm)
right hand															
H32NKLNR15	32	40	22	41	–	-6.0	-5.0	–	KN..150410L	SM871	MS111	2 MM	CM66	MS624	4 MM
left hand															
H32NKLNL15	32	40	22	41	–	-6.0	-5.0	–	KN..150410R	SM872	MS111	2 MM	CM66	MS624	4 MM

Order example:
Right hand: H32NKLNR15 Left hand:H32NKLNL15



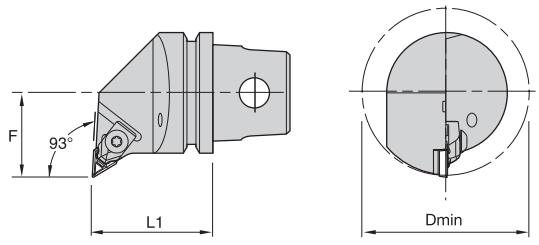
NDJ 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	shim	shim screw	clamp	clamp screw
	right hand											
1019800	KM40NDJCR15	47	1.850	27	1.063	–	–	DCGR150408/DPGR432	SM414	MS1222	CM119	MS1221
	left hand											
1019845	KM40NDJCL15	47	1.850	27	1.063	–	–	DCGR150408/DPGR432	SM414	MS1222	CM118	MS1221



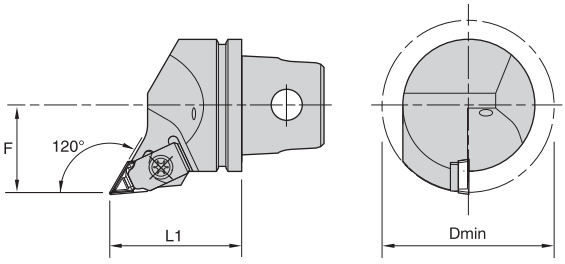
NKJ 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	shim	shim screw	clamp	clamp screw
	right hand											
1144458	KM40NKJCR11	40	1.575	27	1.063	–	–	KC..110304R08/NP..51R	SM885	MS959	CM71	MS1220
	left hand											
1144463	KM40NKJCL11	40	1.575	27	1.063	–	–	KC..110304L08/NP..51L	SM886	MS959	CM79	MS1220



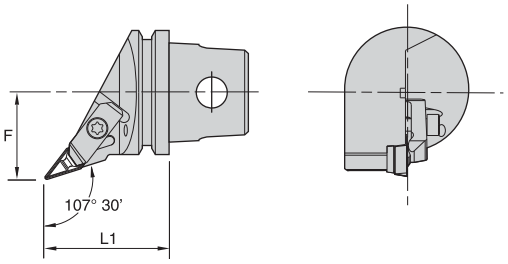
NKU 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	shim	shim screw	clamp	clamp screw
	left hand											
1144464	KM40NKUCL11	40	1.575	27	1.063	54	2.13	KC..110304R08/NP..51R	SM885	MS959	CM68	MS1220



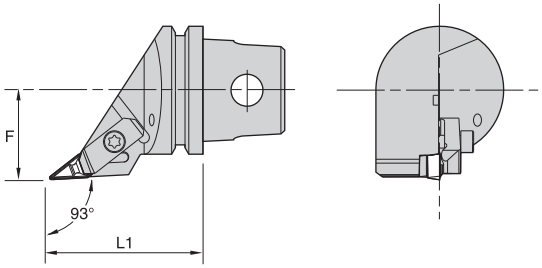
NKX 120°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	shim	shim screw	clamp	clamp screw
	left hand											
1144465	KM40NKXCL11	40	1.575	27	1.063	54	2.13	KC..110304R08/NP..51R	SM885	MS959	CM68	MS1220



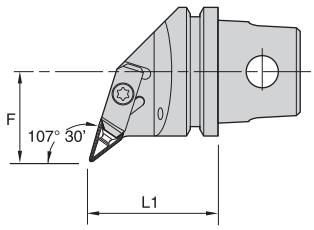
NVH 107° 30'

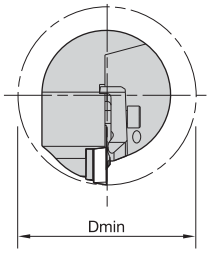
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	shim	shim screw	clamp	clamp screw
	right hand											
1019737	KM40NVHBR11	40	1.575	27	1.063	–	–	VBMR110304/VBMR221	SM813	MS959	CM158	MS1375
1019798	KM40NVHCR16	47	1.850	27	1.063	–	–	VCGR160408/VPGR332	SM812	MS959	CM113	MS1489
	left hand											
1019740	KM40NVHBL11	40	1.575	27	1.063	–	–	VBMR110304/VBMR221	SM813	MS959	CM159	MS1375
1019799	KM40NVHCL16	47	1.850	27	1.063	–	–	VCGR160408/VPGR332	SM812	MS959	CM114	MS1489



NVJ 93°

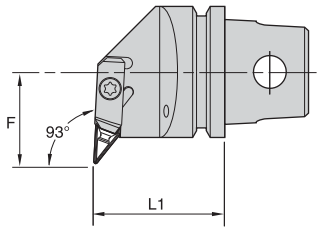
order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	shim	shim screw	clamp	clamp screw
	right hand											
1019738	KM40NVJBR11	40	1.575	27	1.063	–	–	VBMR110304/VBMR221	SM813	MS959	CM158	MS1375
1144478	KM40NVJCR16	47	1.850	27	1.063	–	–	VCGR160408/VPGR332	SM812	MS959	CM113	MS1489
	left hand											
1019741	KM40NVJBL11	40	1.575	27	1.063	–	–	VBMR110304/VBMR221	SM813	MS959	CM159	MS1375
1144485	KM40NVJCL16	47	1.850	27	1.063	–	–	VCGR160408/VPGR332	SM812	MS959	CM114	MS1489

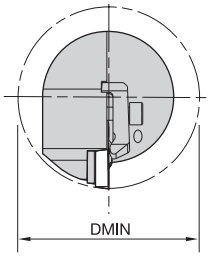




NVQ 107° 30'

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	shim	shim screw	clamp	clamp screw
	right hand											
1144405	KM40NVQCR16	40	1.575	27	1.063	54	2.13	VCGR160408/VPGR332	SM812	MS959	CM113	MS1489
	left hand											
1144406	KM40NVQCL16	40	1.575	27	1.063	54	2.13	VCGR160408/VPGR332	SM812	MS959	CM114	MS1489

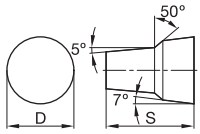




NVU 93°

order number	catalog number	L1 mm	L1 inch	F mm	F inch	D min mm	D min inch	gage insert	shim	shim screw	clamp	clamp screw
	right hand											
1019739	KM40NVUBR11	40	1.575	27	1.063	54	2.13	VBMR110304/VBMR221	SM813	MS959	CM159	
1144479	KM40NVUCR16	40	1.575	27	1.063	54	2.13	VCGR160408/VPGR332	SM812	MS959	CM113	MS1489
	left hand											
1144486	KM40NVUCL16	40	1.575	27	1.063	54	2.13	VCGR160408/VPGR332	SM812	MS959	CM114	MS1489

Order example:
Right hand: KM40NVUCR16 Left hand: KM40NVUCL16



● first choice
○ alternate choice

H			○			
S	●	●	●	○		
N	●	○	○	●		
K	○	●	●			
M		●	●			●
P		●	●			

RCGK-FS

ISO catalog number	ANSI catalog number	D mm	D in	S mm	S in	K313	KC5010	KC5025	KC5410	KC9225
RCGK040300FS	RCGK152FS	4,76	3/16	6,38	.251	●	●			
RCGK060400FS	RCGK23FS	6,35	1/4	9,09	.358	●	●			●
RCGK090700FS	RCGK35FS	9,53	3/8	13,23	.521	●	●	●		●
RCGK120800FS	RCGK46FS	12,70	1/2	16,61	.654		●			●

RCGK-HP

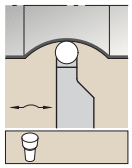
ISO catalog number	ANSI catalog number	D mm	D in	S mm	S in	K313	KC5010	KC5025	KC5410	KC9225
RCGK040300HP	RCGK152HP	4,76	3/16	6,38	.251	●	●		●	
RCGK060400HP	RCGK23HP	6,35	1/4	9,09	.358	●				
RCGK060400HP	RCGK23HP	6,35	1/4	9,09	.358		●		●	
RCGK090700HP	RCGK35HP	9,53	3/8	13,23	.521		●		●	
RCGK120800HP	RCGK46HP	12,70	1/2	16,61	.654		●		●	

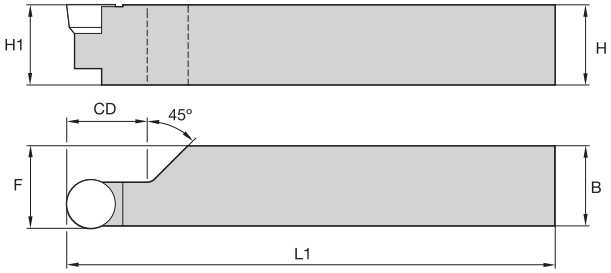
RCMK

ISO catalog number	ANSI catalog number	D mm	D in	S mm	S in	K313	KC5010	KC5025	KC5410	KC9225
RCMK040300	RCMK152	4,76	3/16	6,38	.251	●	●			
RCMK060400	RCMK23	6,35	1/4	9,09	.358	●	●			
RCMK090700	RCMK35	9,53	3/8	13,23	.521	●	●			
RCMK120800	RCMK46	12,70	1/2	16,61	.654	●	●			

Order example:
ISO catalog number: RCMK040300
Insert grade: KC5010

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

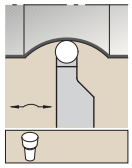


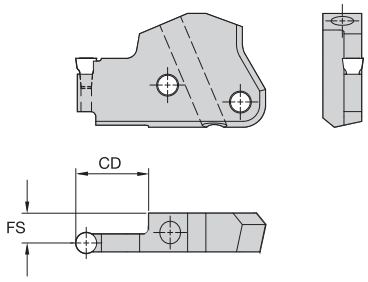


NOTE: H = H1

TRAO

catalog number	H1	B	F	L1	CD	gage insert
right hand						
TRAOR2525M04	25	25	25,4	150	20	RC..040300
TRAOR2525M06	25	25	25,5	150	20	RC..060400
TRAOR3225P06	32	25	25,5	170	20	RC..060400
TRAOR3232P12	32	32	33,0	170	25	RC..120800
left hand						
TRAOL2525M06	25	25	25,5	150	20	RC..060400
TRAOL3225P06	32	25	25,5	170	20	RC..060400
TRAOL3225P09	32	25	25,8	170	25	RC..090700

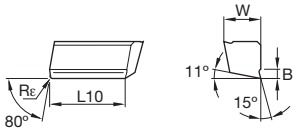




TRM

catalog number	CD	FS	cartridge size	gage insert
right hand				
TRM50R0620M	20	8,98	50	RCMK23
TRM50R0920M	20	7,64	50	RC_K35
TRM50R0432M	32	9,62	50	RCMK152
TRM50R0640M	40	8,98	50	RCGK23
TRM50R0940M	40	7,64	50	RC_K35
TRM50R1250M	50	6,25	50	RC_K46
left hand				
TRM50L0620M	20	8,98	50	RCMK23
TRM50L0920M	20	7,64	50	RC_K35
TRM50L0432M	32	9,62	50	RCMK152
TRM50L0640M	40	8,98	50	RCGK23
TRM50L0940M	40	7,64	50	RC_K35
TRM50L1250M	50	6,25	50	RC_K46

Order example:
Right hand: TRM50R0620M Left hand: TRM50L0620M



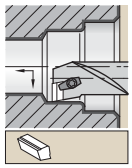
● first choice
○ alternate choice

H		
S	●	●
N	●	
K	○	○
M		●
P		○

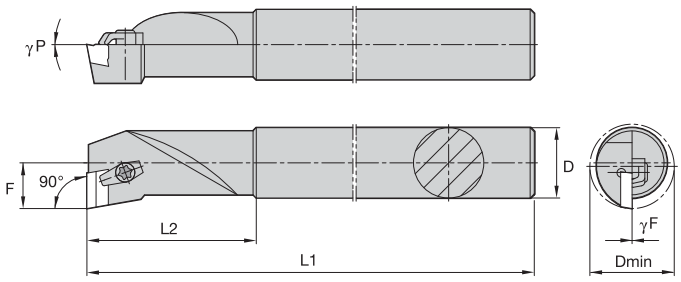
BPGF

ISO catalog number	ANSI catalog number	L10 mm	L10 in	W mm	W in	Rε mm	Rε in	B mm	B in	K68	KC720
right hand											
BPGF030202R14	BPGF030202R	3,00	.118	2,00	.079	0,20	.008	1,40	.055	●	●
BPGF050302R12	BPGF050302R	4,50	.177	2,50	.098	0,20	.008	1,20	.047	●	●
left hand											
BPGF030201L14	BPGF030201L	3,00	.118	2,00	.079	0,05	.002	1,40	.055	●	●
BPGF030202L14	BPGF030202L	3,00	.118	2,00	.079	0,20	.008	1,40	.055	●	●
BPGF050301L12	BPGF050301L	4,50	.177	2,50	.098	0,05	.002	1,20	.047	●	●
BPGF050302L12	BPGF050302L	4,50	.177	2,50	.098	0,20	.008	1,20	.047	●	●
BPGF050304L16	BPGF050304L	4,50	.177	2,50	.098	0,40	.016	1,60	.063	●	●
BPGF070304L18	BPGF070304L	7,00	.276	2,50	.098	0,40	.016	1,80	.071	●	●
BPGF080404L22	BPGF080404L	8,00	.315	4,00	.157	0,40	.016	2,20	.087		●

Order example:
ISO catalog number: BPGF030202R14
Insert grade: KC720

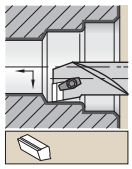


Steel shank with through coolant

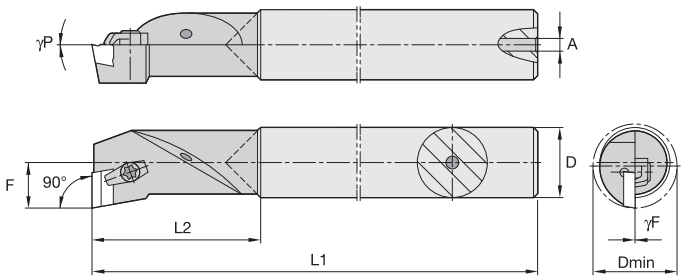


S-CBFP 90°

catalog number	D	D min	F	L1	L2	γF°	γP°	gage insert	clamp assembly	Torx
right hand										
S06DCBFPR03	6	6	3,3	60	16,0	.0	.0	BP..030202L	E1031	T6
S06DCBFPR05	6	8	4,5	60	16,0	.0	.0	BP..050302L	E1014	T8
S08FCBFPR05	8	10	5,5	80	20,0	.0	.0	BP..050302L	E1014	T8
S10HCBFPR05	10	12	6,5	100	24,0	.0	.0	BP..050302L	E1014	T8
S12KCBFPR08	12	15	8,5	125	30,0	.0	.0	BP..080404L	E1010	T8
left hand										
S06DCBFPL03	6	6	3,3	60	16,0	.0	.0	BP..030202R	E1031	T6



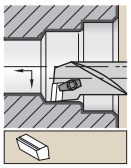
Carbide shank with through coolant



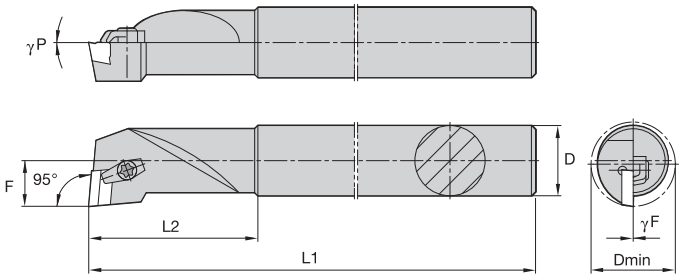
E-CBFP 90°

catalog number	D	D min	F	L1	L2	A	γF°	γP°	gage insert	clamp assembly	Torx
right hand											
E06HCBFPR03	6	6	3,3	100	16,0	1,0	0.0	0.0	BP..030202L	E1031	T6
E06HCBFPR05	6	8	4,5	100	16,0	1,0	0.0	0.0	BP..050304L	E1014	T8
E08KCBFPR05	8	10	5,5	125	20,0	2,0	0.0	0.0	BP..050304L	E1014	T8
E10MCBFPR05	10	12	6,5	150	24,0	2,0	0.0	0.0	BP..050304L	E1014	T8
left hand											
E06HCBFPL05	6	8	4,5	100	30,0	1,0	0.0	0.0	BP..050304R	E1014	T8

Order example:
Right hand: E06HCBFPR05 Left hand: E06HCBFPL05

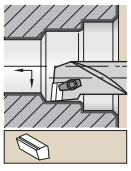


Steel shank with through coolant

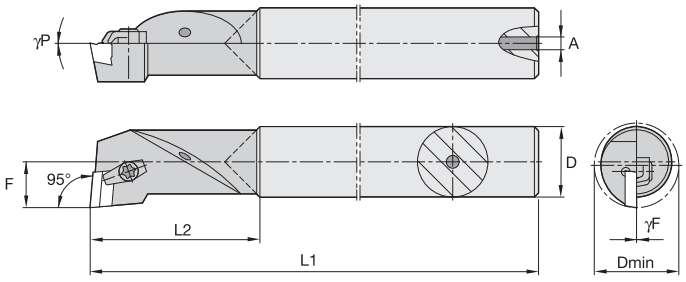


S-CBLP 95°

catalog number	D	D min	F	L1	L2	γF°	γP°	gage insert	clamp assembly	Torx
right hand										
S06DCBLPR03	6	6	3,3	60	16,0	.0	.0	BP..030202L	CE1031	T6
S06DCBLPR05	6	8	4,5	60	16,0	.0	.0	BP..050302L	CE1014	T8
S08FCBLPR05	8	10	5,5	80	20,0	.0	.0	BP..050302L	CE1014	T8
S10HCBLPR05	10	12	6,5	100	24,0	.0	.0	BP..050302L	CE1014	T8
S12KCBLPR08	12	15	8,5	125	30,0	.0	.0	BP..080404L	E1010	T8
left hand										
S06DCBLPL03	6	6	3,3	60	16,0	.0	.0	BP..030202R	CE1031	T6
S06DCBLPL05	6	8	4,5	60	16,0	.0	.0	BP..050302R	CE1014	T8
S08FCBLPL05	8	10	5,5	80	20,0	.0	.0	BP..050302R	CE1014	T8



Carbide shank with through coolant



E-CBLP 95°

catalog number	D	D min	F	L1	L2	A	γF°	γP°	gage insert	clamp assembly	Torx
right hand											
E06HCBLPR03	6	6	3,3	100	16,0	1,0	0.0	0.0	BP..030202L	CE1031	T6
E06HCBLPR05	6	8	4,5	100	16,0	1,0	0.0	0.0	BP..050304L	CE1014	T8
E08KCBLPR05	8	10	5,5	125	20,0	2,0	0.0	0.0	BP..050304L	CE1014	T8
E10MCBLPR05	10	12	6,5	150	24,0	2,0	0.0	0.0	BP..050304L	CE1014	T8
E12QCBLPR08	12	15	8,5	180	30,0	3,0	0.0	0.0	BP..080404L	E1010	T8
left hand											
E06HCBLPL03	6	6	3,3	100	30,0	1,0	0.0	0.0	BP..030202R	CE1031	T6
E06HCBLPL05	6	8	4,5	100	30,0	1,0	0.0	0.0	BP..050304R	CE1014	T8
E08KCBLPL05	8	10	5,5	125	20,0	2,0	0.0	0.0	BP..050304R	CE1014	T8
E10MCBLPL05	10	12	6,5	150	24,0	2,0	0.0	0.0	BP..050304R	CE1014	T8

Order example:
Right hand: E06HCBLPR03 Left hand: E06HCBLPL03

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENNAMETAL®

KM® Quick-Change Tools

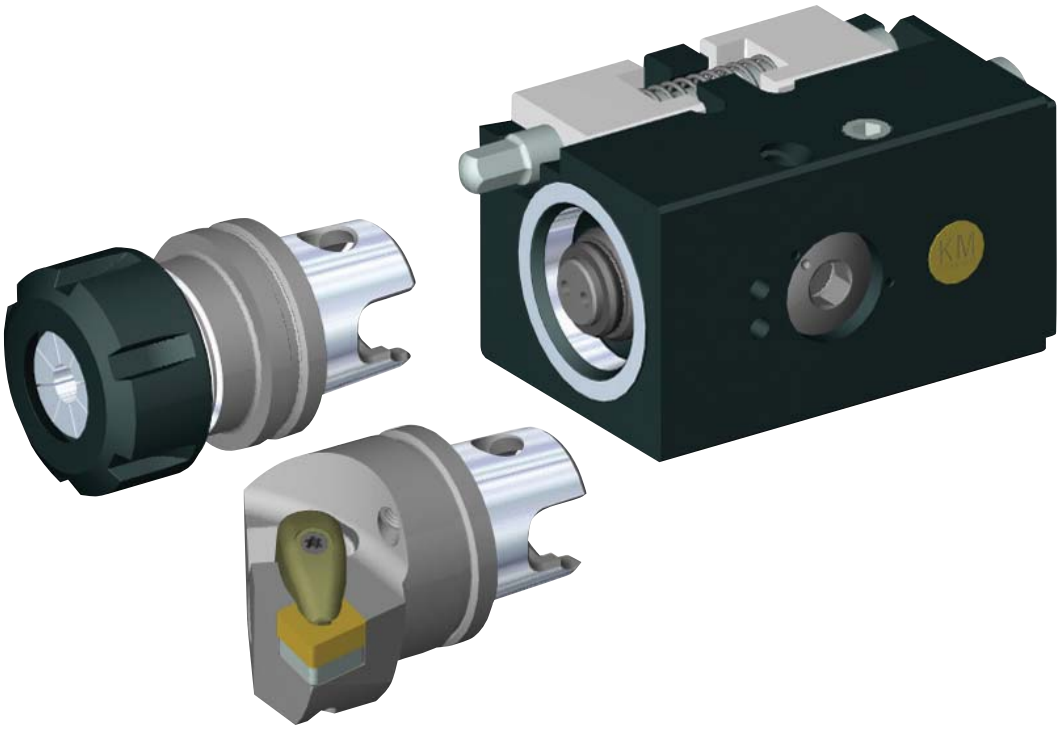


Table of Contents

KM® Quick-Change Tools G1-G13

Machine Utilization Strategy.....G2
KM Tooling System Overview G3
KM25 Clamping Units G4
KM Manual Clamping Units.....G5–G6, G9–G10
KM-LOC II Clamping Units.....G7–G8, G11–G12
KM-LOC Clamping Units.....G13

Machine Utilization Strategy

Finding ways to increase machine tool cutting time is one of the greatest challenges businesses face today.

Two tool-related activities — tool change and setup/gaging — consume 25% to 40% of available production time. To reduce this down time, Kennametal recommends the implementation of a Machine Utilization Strategy (MUS). This strategy includes the products, technologies, and procedures that produce the greatest amount of utility from capital equipment.

Listed below are the products and services recommended by Kennametal to provide the most significant cost savings as part of an MUS implementation:

1. KM™ Quick-Change Tooling — reduces downtime by reducing tool change and set-up time.

2. Advanced Cutting Tool Materials — increase production by utilizing the most advanced cutting tools that enable you to run faster and longer between tool changes.

3. Tool Kitting — provides all the tooling necessary (including fixturing) to complete a production run or shift of operation.

4. Pre-Gaged Tooling — eliminates time spent measuring cuts during the set-up process, reduces the risk of human error at the machine control, and provides a quick and efficient method for changing worn tools.

5. Kennametal Advanced Tool Management System (KATMS) — specifically designed to facilitate the effective management of cutting tools but is equally effective in controlling other types of inventory and consumable goods.

With this manufacturing strategy, you can transfer tool maintenance from the machine tool to the tool room. This will improve tool maintenance, increase machine up time and productivity, and decrease nonconforming percentages.

Refer to the Kennametal Machine Utilization Strategy handbook for more information.

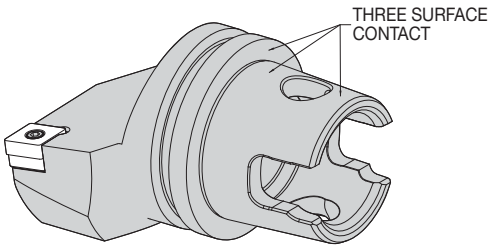
The Kennametal KM Quick-Change Clamping System is the first step in achieving maximum machine output. Please refer to the Kennametal Machine Utilization Strategy for more information on how KM can help you to increase your machine throughput.

KM Coupling

The rigidity and stiffness of the patented KM joint is achieved through a combination of unique design elements incorporated in both the shank of the tool and the clamping mechanism. The KM joint was developed as a system and takes full advantage of both the tool shank and the mechanism to obtain maximum benefit from the space utilized.

Taper Shank

All KM tooling is designed around a short 10:1 tapered shank. Extensive testing of many different lengths and angles proves this combination provides maximum stiffness and input forces required for locking/unlocking. The taper is self-centering to promote easy tool loading and unloading in both manual and automatic applications.



Face and Taper Contact

KM tooling is designed to have simultaneous face and taper contact. Two alternate methods provide metal-to-metal contact.

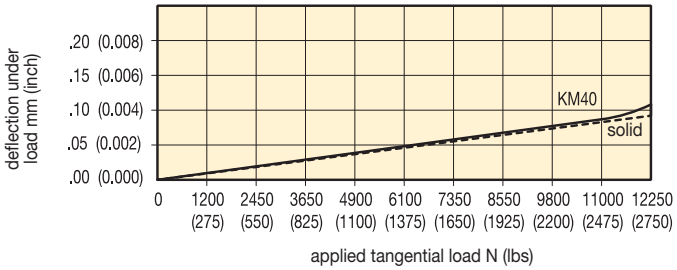
One method is to manufacture both halves of the coupling holding very close tolerances. The other is to design a small amount of elastic deformation into the assembly. With KM tooling, elastic deformation takes the form of expansion of the female taper (on the clamping unit) as the larger male taper (on the cutting unit) is pulled back during lockup. Our testing proved that an optimum combination of pull-back force and elastic deformation (rather than a close tolerance) provides greater static and dynamic stiffness, achieves a metal-to-metal fit, and is less costly to manufacture. The simultaneous face and taper contact enables a very close radial and axial repeatability of +/-.0001 inch (+/- 0,0025mm) for a specific cutting unit in a specific clamping unit. When more than one cutting unit is used, the accuracy of each cutting unit must be considered. Pre-gaging (when changing tools) measures the deviations of each tool from the nominal. These deviations can then be compensated for through-the-machine tool control offsets.

Clamping Mechanism

The KM clamping mechanism fits inside the taper shank of the KM unit and utilizes two angled holes, called ball tracks, machined through the shank. In order to produce a system with a high mechanical advantage and low frictional losses, precision-hardened steel balls enable the pull-back force to the KM units. These locking balls are forced radially outward by a wedge-shaped piece called the lock rod. The combination of angles on the lock rod and in the ball tracks results in a 3.5:1 mechanical advantage. High clamping forces are produced with minimal input forces. The side activation design also permits the clamping mechanism to fit in a length and diameter equal to the respective system size.

Locking Sequence

The clamping sequence starts with the insertion of the cutting unit into the female taper of the clamping unit. The cutting unit first makes contact at a standoff from the face of approximately .010 inch (0,25mm). A small amount of elastic deformation takes place at the front of the female taper as the locking force is applied. The cutting unit advances until the gageline face makes contact with the face of the clamping unit. The final amount of torque applied to the clamping mechanism allows the tail of the cutting unit to clamp securely between the clamping balls and the clamping unit inside diameter.

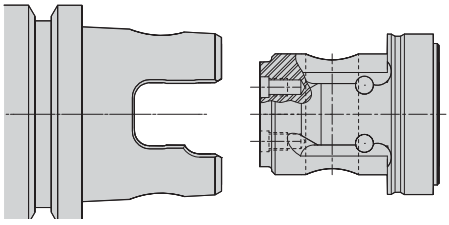


Rigidity

The unique combination of the three-zone contact and the Ball Track™ clamping mechanism produces a coupling that closely approaches the ultimate rigidity of a solid piece. The graph shown here compares the static load deflection of a solid model, machined to the same external dimensions as the KM cutting unit and clamping unit assembly, with the KM cutting unit and clamping unit assembly. As the graph indicates, using a 2700 lb (12,kN) applied load, the difference in deflection is only .0002 inch (0,005mm).

Sealed Coolant

Sealed through-the-tool coolant is offered on all standard KM tooling and clamping units. The coolant is sealed via o-rings in both the cutting units and clamping units. This feature ensures that coolant is directed as close as possible to the cutting edge while preventing contaminants from entering the clamping mechanism.

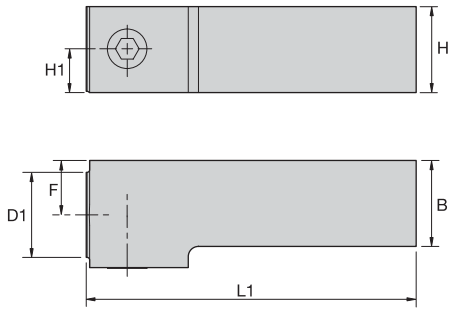


Fail-Safe Tool Orientation

A unique feature of KM clamping units is the ability to install the KM tool only one way. To allow greater flexibility, standard KM clamping units are shipped without this feature installed.

Summary

The KM coupling offers a very rigid joint with a high-degree of repeatability while maintaining a very compact envelope. This permits a high-degree of versatility without sacrificing cutting performance.



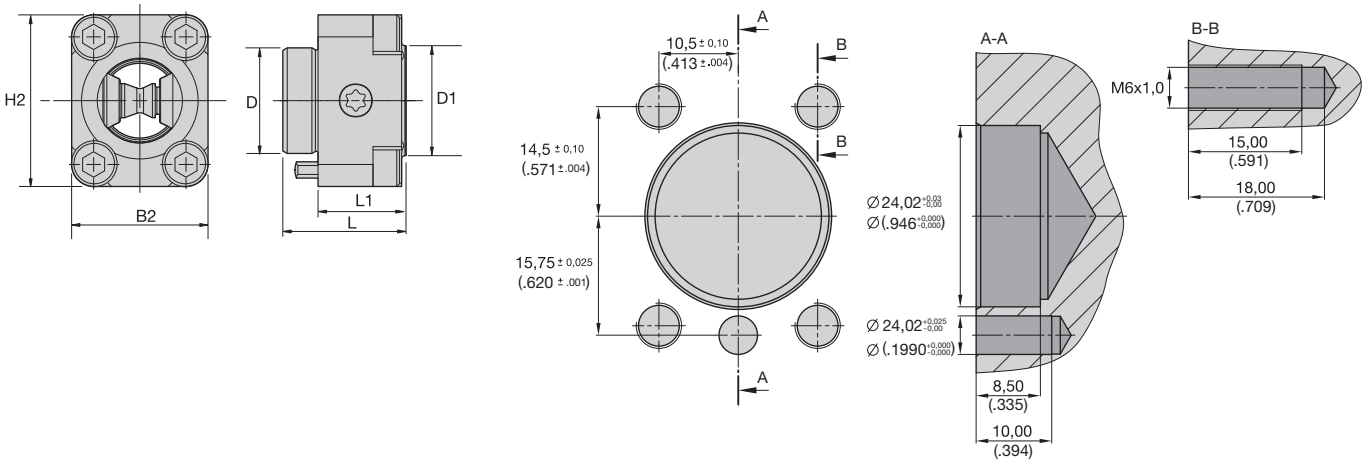
Metric

order number	catalog number	D1	B	H	L1	F	H1	wrench size-actuation screw	Nm
2277879	KM25NCM2525120	25	25	25	120	16	12,5	6 MM	34-40

Inch

order number	catalog number	D1	B	H	L1	F	H1	wrench size-actuation screw	ft.lbs
	right hand								
2385942	KM25RCM16382	25	1.0	1.0	3.819	.630	.508	6 MM	25-30
2386034	KM25RCM16482	25	1.0	1.0	4.819	.630	.508	6 MM	25-30
	left hand								
2386033	KM25LCM16382	25	1.0	1.0	3.819	.630	.508	6 MM	25-30
2265206	KM25LCM16482	25	1.0	1.0	4.819	.630	.508	6 MM	25-30

Nut — KM25NA (order number 3063075).
Screw — MS2171 (order number 3063453).
New Style — KM25NAPKG (order number 3645145).
NOTE: Torque wrench **TW628R** must be used to achieve required clamping force.
See Kennametal's Tooling Systems Catalog for complete details.



Flange Mounting Details

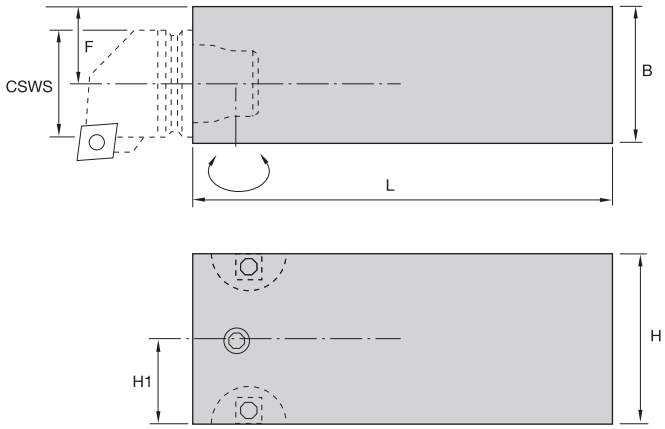
NCM — Flange Mount

order number	catalog number	D1	D		L		L1		B2		H2	
		mm	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
2386035	KM25NCMSF3140	25	24	.945	28	1.102	20	.787	31	1.221	39	1.535

Spare Parts

catalog number	KM spare parts pkg	wrench size-actuation screw	Nm	ft.lbs
KM25NCMSF3140	KM25NRPKG	6 MM	34-40	25-30

NOTE: Torque wrench **TW628R** must be used to achieve required clamping force.
See Kennametal's Tooling Systems Catalog for complete details.



NCM — Square Shank Replacement

Metric

order number	catalog number	CSWS system size	B	F	H	H1	L	wrench size-actuation screw	KM spare parts pkg	Nm
1021641	KM40NCM5044	KM40	44,000	23,000	50,000	25,000	150,000	6 MM	KM40PKG3S	12-16
1021640	KM40NCM6444	KM40	44,000	23,000	64,000	32,000	150,000	6 MM	KM40PKG3S	12-16

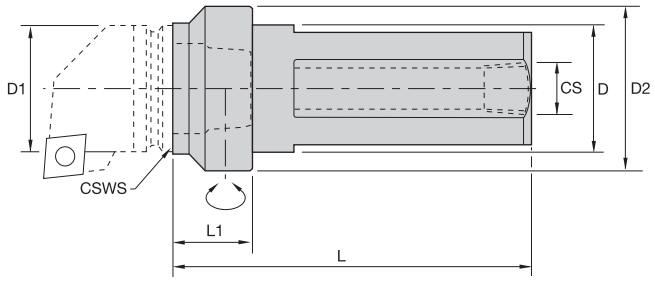
Inch

order number	catalog number	CSWS system size	B	F	H	H1	L	wrench size-actuation screw	KM spare parts pkg	ft.lbs
1021637	KM40NCM3228	KM40	1.7500	.9370	2.0000	1.0000	6.0000	6 MM	KM40PKG3S	9-12
1021638	KM40NCM4028	KM40	1.7500	.9370	2.5000	1.2500	6.0000	6 MM	KM40PKG3S	9-12

Wedge Tightening Torque

KM size	torque range (ft.lbs)	torque range (Nm)
32	12	16
40	25	34
50	35	48

See Kennametal's Tooling Systems Catalog for complete details.



NCM-SS — Round Shank — Standard Length

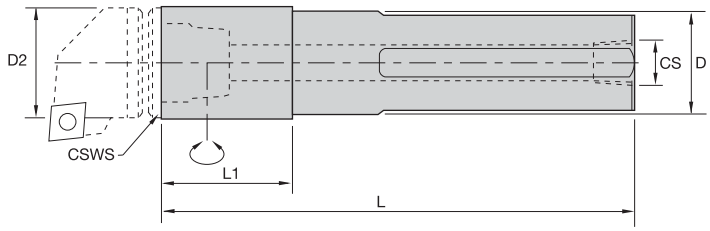
Metric

order number	catalog number	CSWS system size	D	D1	D2	L1	L	CS	wrench size-actuation screw	KM spare part pkg	Nm
1144830	KM40NCMSS4025	KM40	40,000	40,000	50,000	25,000	110,000	RP3/8	6 MM	KM40PKG3L	12-16
1144831	KM40NCMSS5025	KM40	50,000	40,000	63,000	25,000	110,000	RP3/8	6 MM	KM40PKG3L	12-16

Inch

order number	catalog number	CSWS system size	D	D1	D2	L1	L	CS	wrench size-actuation screw	KM spare parts pkg	ft.lbs
1144829	KM40NCMSS24100	KM40	1.50	1.575	1.97	1.000	4.33	3/8-18NPT	6 MM	KM40PKG3L	9-12
1148349	KM40NCMSS28100	KM40	1.75	1.575	2.48	1.000	4.33	3/8-18NPT	6 MM	KM40PKG3L	9-12
1117705	KM40NCMSS32100	KM40	2.00	1.575	2.48	1.000	4.33	3/8-18NPT	6 MM	KM40PKG3L	9-12

See Kennametal's Tooling Systems Catalog for complete details.



NCM-S — Round Shank — Extended Length

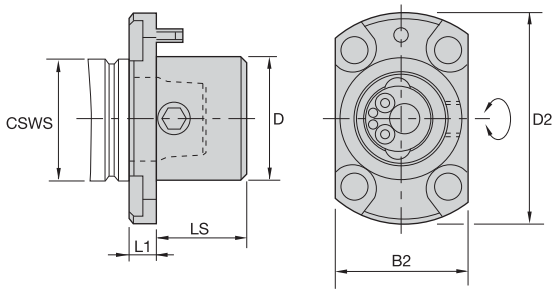
Metric

order number	catalog number	CSWS system size	D2	D	L1	L	CS	wrench size-actuation screw	KM spare parts pkg	Nm
1021635	KM40NCMS40S	KM40	40,00	40,00	44,45	250,000	RP3/8	6 MM	KM40PKG3S	12-16

Inch

order number	catalog number	CSWS system size	D2	D	L1	L	CS	wrench size-actuation screw	KM spare parts pkg	ft.lbs
1021636	KM40NCMS24	KM40	1.575	1.500	1.750	10.0000	3/8-18NPT	6 MM	KM40PKG3S	9-12

See Kennametal's Tooling Systems Catalog for complete details.



NCM-F — Flange Mount — Standard Length

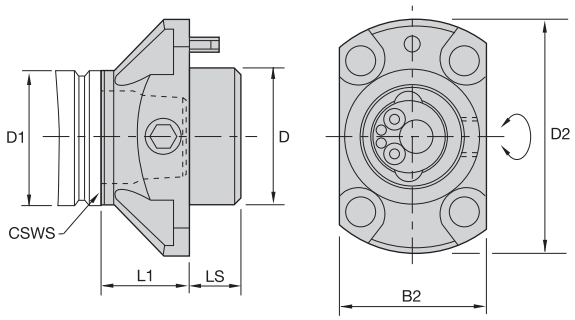
Metric

order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size-actuation screw	mounting screw	KM spare parts pkg	Nm
1013675	KM40NCMF	KM40	40	68	44	10,0	30,0	6 MM	MS1217	KM40PKG3S	12-16

Inch

order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size-actuation screw	mounting screw	KM spare parts pkg	ft.lbs
1013675	KM40NCMF	KM40	1.575	2.68	1.73	.394	1.18	6 MM	MS1217	KM40PKG3S	9-12

See Kennametal's Tooling Systems Catalog for complete details.



KM-EF — Flange Mount — Extended Length

Metric

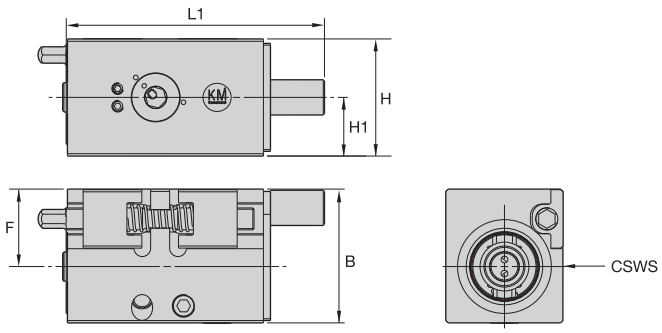
order number	catalog number	CSWS system size	D1	D	D2	B2	L1	LS	wrench size-actuation screw	mounting screw	KM spare parts pkg	Nm
1021642	KM40NCMEF	KM40	40	40	68	44	25	15	6 MM	MS1217	KM40PKG3L	12-16

Inch

order number	catalog number	CSWS system size	D1	D	D2	B2	L1	LS	wrench size-actuation screw	mounting screw	KM spare parts pkg	ft.lbs
1021642	KM40NCMEF	KM40	1.575	1.575	2.68	1.73	.984	.59	6 MM	MS1217	KM40PKG3L	9-12

See Kennametal's Tooling Systems Catalog for complete details.

NEW!



CL2S — Square Shank

Metric

order number	catalog number	CSWS system size	B	F	H	H1	L1	wrench size-actuation screw
	right hand							
1785187	KM40CL2SR2560M	KM40	57	33	50	25	110	8 MM
1785188	KM40CL2SR3260P	KM40	57	33	64	32	130	8 MM
	left hand							
1785189	KM40CL2SL2560M	KM40	57	33	50	25	110	8 MM
1785190	KM40CL2SL3260P	KM40	57	33	64	32	130	8 MM

Inch

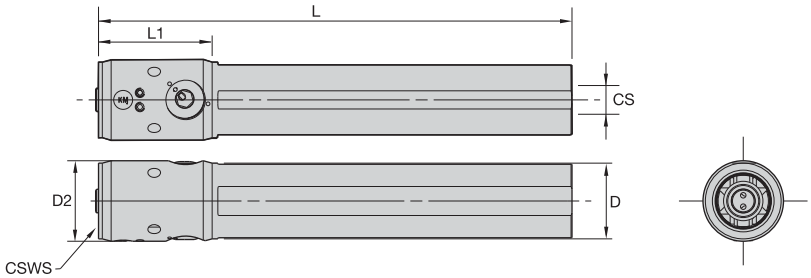
order number	catalog number	CSWS system size	B	F	H	H1	L1	wrench size-actuation screw
	right hand							
1785156	KM40CL2SR1260B	KM40	2.244	1.299	1.50	.75	2.925	8 MM
1785157	KM40CL2SR1660C	KM40	2.244	1.299	2.00	1.00	3.425	8 MM
1785158	KM40CL2SR1660D	KM40	2.244	1.299	2.00	1.00	4.425	8 MM
1785159	KM40CL2SR2060D	KM40	2.244	1.299	2.50	1.25	4.425	8 MM
2044920	KM50CL2SR1675D	KM50	2.756	1.575	2.00	1.00	4.032	10 MM
2044922	KM50CL2SR2075D	KM50	2.756	1.575	2.50	1.25	4.032	10 MM
2044938	KM63CL2SR2090E	KM63	3.347	1.850	2.50	1.25	4.638	10 MM
	left hand							
1785161	KM40CL2SL1260B	KM40	2.244	1.299	1.50	.75	2.925	8 MM
1785162	KM40CL2SL1660C	KM40	2.244	1.299	2.00	1.00	3.425	8 MM
1785183	KM40CL2SL1660D	KM40	2.244	1.299	2.00	1.00	4.425	8 MM
1785184	KM40CL2SL2060D	KM40	2.244	1.299	2.50	1.25	4.425	8 MM
2044921	KM50CL2SL1675D	KM50	2.756	1.575	2.00	1.00	4.032	10 MM
2044923	KM50CL2SL2075D	KM50	2.756	1.575	2.50	1.25	4.032	10 MM
2044939	KM63CL2SL2090E	KM63	3.347	1.850	2.50	1.25	4.638	10 MM

Wedge Tightening Torque

catalog number	KM size	torque range (ft.lbs)	torque range (Nm)	wedge Hex size
KM40CL2SR/L1260B	40	30-34	40,6-46,1	6 MM
KM40CL2SR/L...	40	43-47	58,3-63,7	7 MM
KM50CL2SR/L1675D KM50CL2SR/L2575M	50	43-47	58,3-63,7	7 MM
KM50CL2SR/L2075D KM50CL2SR/L3275P	50	58-62	78,6-84,0	8 MM
KM63CL2SR/L.....	63	58-62	78,6-84,0	8 MM

See Kennametal's Tooling Systems Catalog for complete details.

NEW!



CL2N-SS — Round Shank

Metric

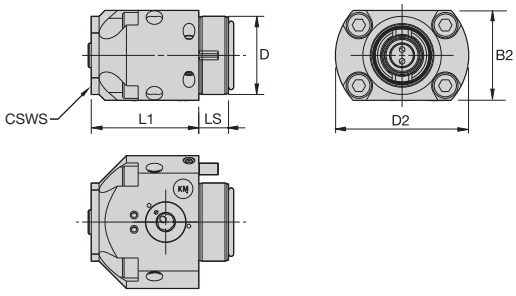
order number	catalog number	CSWS system size	D	D2	L1	L	CS	wrench size-actuation screw
1785191	KM40CL2NSS4060	KM40	40	43	60	250	RP3/8	8 MM

Inch

order number	catalog number	CSWS system size	D	D2	L1	L	CS	wrench size-actuation screw
1785185	KM40CL2NSS24236	KM40	1.500	1.673	2.362	10.000	3/8-18 NPSC	8 MM

See Kennametal's Tooling Systems Catalog for complete details.

NEW!



CL2NS-EF — Flange Mount — Side Access

Metric

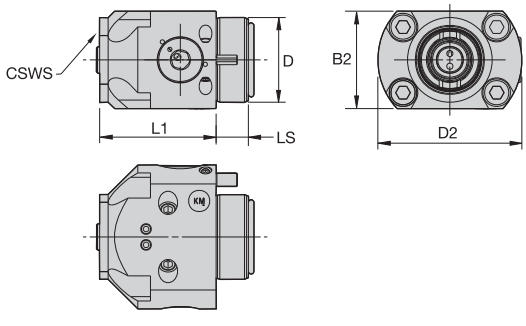
order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size-actuation screw	mounting screw
1785153	KM40CL2NSEF	KM40	40	68	46	55	15	8 MM	DWG MS1277

Inch

order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size-actuation screw	mounting screw
1785153	KM40CL2NSEF	KM40	1.575	2.68	1.81	2.165	.60	8 MM	DWG MS1277

See Kennametal's Tooling Systems Catalog for complete details.

NEW!



CL2NT-EF — Flange Mount — Top Access

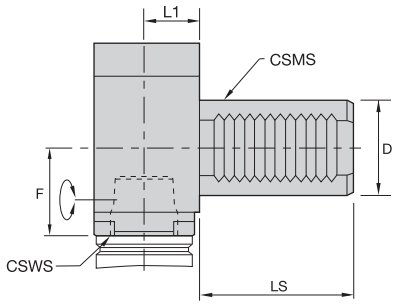
Metric

order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size-actuation screw	mounting screw
1785032	KM40CL2NTEF	KM40	40	68	46	55	15	8 MM	DWG MS1277

Inch

order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size-actuation screw	mounting screw
1785032	KM40CL2NTEF	KM40	1.57	2.677	1.811	2.165	.600	8 MM	DWG MS1277

See Kennametal's Tooling Systems Catalog for complete details.



R/LCM — Right-Angle VDI

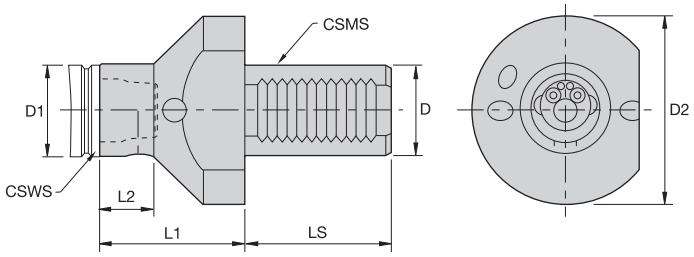
Metric

order number	catalog number	CSWS system size	CSMS system size	D	F	L1	LS	wrench size-actuation screw	KM spare parts pkg	Nm
	right hand									
2420312	KM40RCMVDI3035	KM40	VDI30	30	35	25	55	6 MM	KM40PKG3L	12-16
1144824	KM40RCMVDI4040	KM40	VDI40	40	40	25	63	6 MM	KM40PKG3S	12-16
1144825	KM40RCMVDI5040	KM40	VDI50	50	40	25	78	6 MM	KM40PKG3S	12-16
	left hand									
2420363	KM40LCMVDI3035	KM40	VDI30	30	35	25	55	6 MM	KM40PKG3L	12-16
1144827	KM40LCMVDI4040	KM40	VDI40	40	40	25	63	6 MM	KM40PKG3S	12-16
2420370	KM40LCMVDI4060	KM40	VDI40	40	60	25	63	6 MM	KM40PKG3L	12-16
1144828	KM40LCMVDI5040	KM40	VDI50	50	40	25	78	6 MM	KM40PKG3S	12-16

Inch

order number	catalog number	CSWS system size	CSMS system size	D	F	L1	LS	wrench size-actuation screw	KM spare parts pkg	ft.lbs
	right hand									
2420312	KM40RCMVDI3035	KM40	VDI30	1.181	1.378	.984	2.17	6 MM	KM40PKG3L	9-12
1144824	KM40RCMVDI4040	KM40	VDI40	1.575	1.575	.984	2.48	6 MM	KM40PKG3S	9-12
1144825	KM40RCMVDI5040	KM40	VDI50	1.969	1.575	.984	3.07	6 MM	KM40PKG3S	9-12
	left hand									
2420363	KM40LCMVDI3035	KM40	VDI30	1.181	1.378	.984	2.17	6 MM	KM40PKG3L	9-12
1144827	KM40LCMVDI4040	KM40	VDI40	1.575	1.575	.984	2.48	6 MM	KM40PKG3S	9-12
2420370	KM40LCMVDI4060	KM40	VDI40	1.575	2.362	.984	2.48	6 MM	KM40PKG3L	9-12
1144828	KM40LCMVDI5040	KM40	VDI50	1.969	1.575	.984	3.07	6 MM	KM40PKG3S	9-12

See Kennametal's Tooling Systems Catalog for complete details.



R/L CMI — Axial VDI

Metric

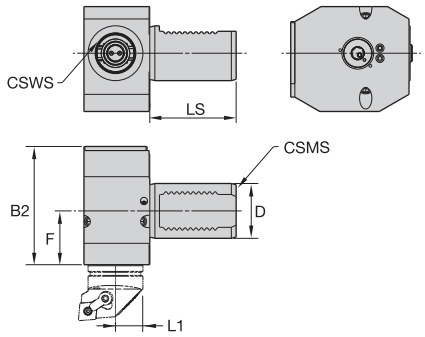
order number	catalog number	CSWS system size	CSMS system size	D1	D	L1	L2	LS	D2	wrench size-actuation screw	KM spare part pkg	Nm
	right hand											
2420364	KM40RCMIVDI3050	KM40	VDI30	40	30	50	23	55	68	6 MM	KM40PKG3S	12-16
1144840	KM40RCMIVDI40120	KM40	VDI40	40	40	120	83	63	83	6 MM	KM40PKG3S	12-16
1144837	KM40RCMIVDI4060	KM40	VDI40	40	40	60	23	63	83	6 MM	KM40PKG3S	12-16
1144839	KM40RCMIVDI50120	KM40	VDI50	40	50	120	83	78	98	6 MM	KM40PKG3S	12-16
1144838	KM40RCMIVDI5060	KM40	VDI50	40	50	60	23	78	98	6 MM	KM40PKG3S	12-16
	left hand											
1144836	KM40LCMIVDI40120	KM40	VDI40	40	40	120	83	63	83	6 MM	KM40PKG3S	12-16
1144833	KM40LCMIVDI4060	KM40	VDI40	40	40	60	23	63	83	6 MM	KM40PKG3S	12-16
1144835	KM40LCMIVDI50120	KM40	VDI50	40	50	120	83	78	98	6 MM	KM40PKG3S	12-16
1144834	KM40LCMIVDI5060	KM40	VDI50	40	50	60	23	78	98	6 MM	KM40PKG3S	12-16

Inch

order number	catalog number	CSWS system size	CSMS system size	D1	D	L1	L2	LS	D2	wrench size-actuation screw	KM spare part pkg	ft.lbs
	right hand											
2420364	KM40RCMIVDI3050	KM40	VDI30	1.57	1.181	1.969	.91	2.17	2.68	6 MM	KM40PKG3S	9-12
1144840	KM40RCMIVDI40120	KM40	VDI40	1.57	1.575	4.724	3.27	2.48	3.27	6 MM	KM40PKG3S	9-12
1144837	KM40RCMIVDI4060	KM40	VDI40	1.57	1.575	2.362	.91	2.48	3.27	6 MM	KM40PKG3S	9-12
1144839	KM40RCMIVDI50120	KM40	VDI50	1.57	1.969	4.724	3.27	3.07	3.86	6 MM	KM40PKG3S	9-12
1144838	KM40RCMIVDI5060	KM40	VDI50	1.57	1.969	2.362	.91	3.07	3.86	6 MM	KM40PKG3S	9-12
	left hand											
1144836	KM40LCMIVDI40120	KM40	VDI40	1.57	1.575	4.724	3.27	2.48	3.27	6 MM	KM40PKG3S	9-12
1144833	KM40LCMIVDI4060	KM40	VDI40	1.57	1.575	2.362	.91	2.48	3.27	6 MM	KM40PKG3S	9-12
1144835	KM40LCMIVDI50120	KM40	VDI50	1.57	1.969	4.724	3.27	3.07	3.86	6 MM	KM40PKG3S	9-12
1144834	KM40LCMIVDI5060	KM40	VDI50	1.57	1.969	2.362	.91	3.07	3.86	6 MM	KM40PKG3S	9-12

See Kennametal's Tooling Systems Catalog for complete details.

NEW!



CL2RR/L — VDI Right Angle

Metric

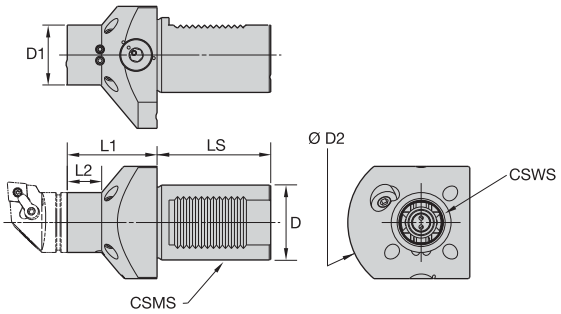
order number	catalog number	CSWS system size	CSMS system size	D	F	B2	L1	LS	wrench size-actuation screw
	right hand								
1785233	KM40CL2RRVDI4040	KM40	VDI40	40	40	87,0	25	63,000	8 MM
1785236	KM40CL2RRVDI5040	KM40	VDI50	50	40	87,0	25	78,000	8 MM
	left hand								
1785234	KM40CL2RLVDI4040	KM40	VDI40	40	40	87,0	25	63,000	8 MM
1785240	KM40CL2RLVDI5040	KM40	VDI50	50	40	87,0	25	78,000	8 MM

Inch

order number	catalog number	CSWS system size	CSMS system size	D	F	B2	L1	LS	wrench size-actuation screw
	right hand								
1785233	KM40CL2RRVDI4040	KM40	VDI40	1.575	1.575	3.43	.984	2.48	8 MM
1785236	KM40CL2RRVDI5040	KM40	VDI50	1.969	1.575	3.43	.984	3.07	8 MM
	left hand								
1785234	KM40CL2RLVDI4040	KM40	VDI40	1.575	1.575	3.43	.984	2.48	8 MM
1785240	KM40CL2RLVDI5040	KM40	VDI50	1.969	1.575	3.43	.984	3.07	8 MM

See Kennametal's Tooling Systems Catalog for complete details.

NEW!



CL2AN/V – VDI Axial

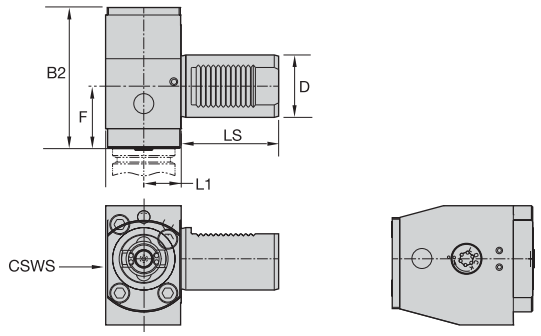
Metric

order number	catalog number	CSWS system size	CSMS system size	D1	D	L1	L2	LS	D2	wrench size-actuation screw
	right hand									
1785241	KM40CL2ANVDI4060	KM40	VDI40	40	40	60	23	63	83	8 MM
1785243	KM40CL2ANVDI5060	KM40	VDI50	40	50	60	23	78	98	8 MM
	left hand									
1785242	KM40CL2AVVDI4060	KM40	VDI40	40	40	60	23	63	83	8 MM
1785244	KM40CL2AVVDI5060	KM40	VDI50	40	50	60	23	78	98	8 MM

Inch

order number	catalog number	CSWS system size	CSMS system size	D1	D	L1	L2	LS	D2	wrench size-actuation screw
	right hand									
1785241	KM40CL2ANVDI4060	KM40	VDI40	1.575	1.575	2.362	.91	2.48	3.27	8 MM
1785243	KM40CL2ANVDI5060	KM40	VDI50	1.575	1.969	2.362	.91	3.07	3.86	8 MM
	left hand									
1785242	KM40CL2AVVDI4060	KM40	VDI40	1.575	1.575	2.362	.91	2.48	3.27	8 MM
1785244	KM40CL2AVVDI5060	KM40	VDI50	1.575	1.969	2.362	.91	3.07	3.86	8 MM

See Kennametal's Tooling Systems Catalog for complete details.



CLRR/L – VDI Right Angle

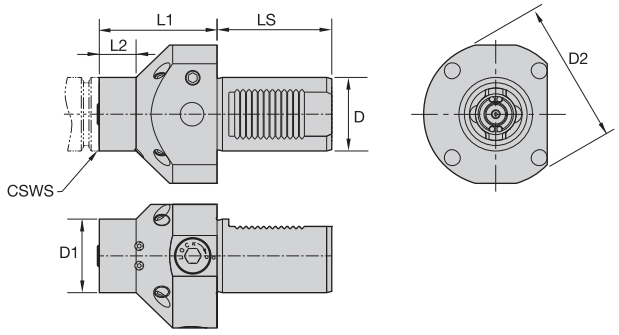
Metric

order number	catalog number	CSWS system size	D	F	B2	L1	LS	wrench size-actuation screw
	right hand							
1145076	KM40CLRRVDI4040	KM40	40	40	88,5	25	63	8 MM
	left hand							
1145077	KM40CLRLVDI4040	KM40	40	40	88,5	25	63	8 MM

Inch

order number	catalog number	CSWS system size	D	F	B2	L1	LS	wrench size-actuation screw
	right hand							
1145076	KM40CLRRVDI4040	KM40	1.575	1.575	3.48	.984	2.48	8 MM
	left hand							
1145077	KM40CLRLVDI4040	KM40	1.575	1.575	3.48	.984	2.48	8 MM

See Kennametal's Tooling Systems Catalog for complete details.



CLAN/V — VDI Axial

Metric

order number	catalog number	CSWS system size	D1	D	L1	L2	LS	D2	wrench size-actuation screw
	right hand								
1145074	KM40CLANVDI4070	KM40	40	40	70	23	63	83	8 MM
	left hand								
1145075	KM40CLAVVDI4070	KM40	40	40	70	23	63	83	8 MM

Inch

order number	catalog number	CSWS system size	D1	D	L1	L2	LS	D2	wrench size-actuation screw
	right hand								
1145074	KM40CLANVDI4070	KM40	1.57	1.575	2.756	.91	2.48	3.27	8 MM
	left hand								
1145075	KM40CLAVVDI4070	KM40	1.57	1.575	2.756	.91	2.48	3.27	8 MM

See Kennametal's Tooling Systems Catalog for complete details.

KENNAMETAL®

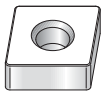
Classic Products

Table of Contents

Classic Products H1–H55

KENLOC™ Inserts H2–H19
KENDEX™ Inserts H20–H24
SCREW-ON Inserts H25–H32
Application Specific Inserts H33–H34
TOP NOTCH™ Grooving Inserts H36–H43
KENDEX Deep Grooving Inserts H44
SEPARATOR Cut-Off Inserts H45
LT Threading Inserts H46–H47
TOP NOTCH Threading Inserts H48–H55

CNGA

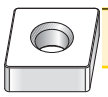


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNGA120412	CNGA433		●											

CNGA-SM

CNGA120404S01020M CNGA120408S01020M	CNGA431S0420M CNGA432S0420M									● ●				
CNGA120412S01020M	CNGA433S0420M									●				

CNGA-T



CNGA120408T02020 CNGA120412T02020	CNGA432T0820 CNGA433T0820							● ●						
CNGA120416T02020 CNGA160612T02020	CNGA434T0820 CNGA543T0820							● ●	●					
CNGA160616T02020 CNGA190608T02020	CNGA544T0820 CNGA642T0820							● ●						
CNGA190612T CNGA190612T02020	CNGA643T CNGA643T0820							 ●	●					

CNGG-LF

CNGG120402LF CNGG120401LF	CNGG4305LF CNGG430LF		● ●											
CNGG120404LF CNGG120408LF	CNGG431LF CNGG432LF		● ●											
CNGG120412LF CNGG120416LF	CNGG433LF CNGG434LF		● ●											
CNGG160612LF	CNGG543LF		●											

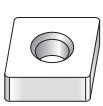
CNGP

CNGP090404 CNGP090408	CNGP331 CNGP332		● ●											
CNGP120401 CNGP120402	CNGP430 CNGP4305		● ●											
CNGP120404 CNGP120408	CNGP431 CNGP432		● ●											
CNGP120412 CNGP120416	CNGP433 CNGP434		● ●											

CNGP-K

CNGP120408K CNGP160604K	CNGP432K CNGP541K		● ●											
CNGP160608K	CNGP542K		●											

CNMA



CNMA120408 CNMA120412	CNMA432 CNMA433		● ●											

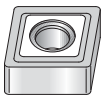
CNMA-SM

CNMA120404S01020M CNMA120408S01020M	CNMA431S0420M CNMA432S0420M									● ●				

Order example:
ISO catalog number: CNMA120404S01020M
Insert grade: KD050

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

CNMG

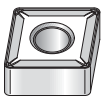


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG120404	CNMG120404					●								
CNMG160608	CNMG160608					●								
CNMG090308	CNMG322						●							
CNMG120404B	CNMG431		●			●	●							
CNMG120408	CNMG432	●	●		●	●	●							
CNMG120412	CNMG433		●		●	●	●							
CNMG120416	CNMG434					●	●							
CNMG160608B	CNMG542					●	●							
CNMG160612	CNMG543					●	●							
CNMG160616	CNMG544					●	●							
CNMG190608	CNMG642		●			●	●							
CNMG190612	CNMG643		●			●	●							
CNMG190616	CNMG644					●	●							
CNMG250924	CNMG866					●								

CNMG-FP

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG120408FP	CNMG432FP			●										

CNMG-K



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG120404K	CNMG431K		●		●	●	●							
CNMG120408K	CNMG432K					●	●							
CNMG120412K	CNMG433K					●	●							
CNMG160608K	CNMG542K					●								
CNMG160612K	CNMG543K						●							
CNMG190608K	CNMG642K					●								
CNMG190612K	CNMG643K					●								

CNMG-LF

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG120402LF	CNMG4305LF						●							
CNMG120404LF	CNMG431LF		●				●							
CNMG120408LF	CNMG432LF		●				●							
CNMG120412LF	CNMG433LF						●							

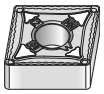
CNMG-MG

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG090308MG	CNMG322MG						●							
CNMG120404MG	CNMG431MG					●	●							
CNMG120408MG	CNMG432MG		●			●	●							
CNMG120412MG	CNMG433MG					●	●							
CNMG120416MG	CNMG434MG						●							
CNMG160608MG	CNMG542MG						●							
CNMG160612MG	CNMG543MG		●			●	●							
CNMG190608MG	CNMG642MG						●							
CNMG190612MG	CNMG643MG					●	●							
CNMG190616MG	CNMG644MG						●							

Order example:
ISO catalog number: CNMG090308MG
Insert grade: KC935

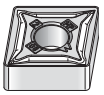
KENLOC™ Inserts

CNMG-MN



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG090304MN	CNMG321MN			●										
CNMG090308MN	CNMG322MN			●										
CNMG120404MN	CNMG431MN			●										
CNMG120408MN	CNMG432MN			●										
CNMG120412MN	CNMG433MN			●										
CNMG160608MN	CNMG542MN			●										
CNMG160612MN	CNMG543MN			●										
CNMG190608MN	CNMG642MN			●										
CNMG190612MN	CNMG643MN			●										
CNMG190616MN	CNMG644MN			●										

CNMG-MP



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG090308MP	CNMG322MP			●										
CNMG120404MP	CNMG431MP			●										
CNMG120408MP	CNMG432MP			●										
CNMG120412MP	CNMG433MP			●										
CNMG160608MP	CNMG542MP			●										
CNMG160612MP	CNMG543MP			●										
CNMG190608MP	CNMG642MP			●										
CNMG190612MP	CNMG643MP			●										
CNMG190616MP	CNMG644MP			●										

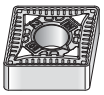
CNMG-MW

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG120408MW	CNMG432MW			●										

CNMG-P

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG090308P	CNMG322P		●											
CNMG120404P	CNMG431P		●			●	●							
CNMG120408P	CNMG432P	●	●			●	●							
CNMG120412P	CNMG433P					●	●							
CNMG120416P	CNMG434P					●								
CNMG160608P	CNMG542P						●							
CNMG160612P	CNMG543P					●	●							
CNMG190612P	CNMG643P					●	●							
CNMG190616P	CNMG644P					●								

CNMG-RN



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG120408RN	CNMG432RN			●										
CNMG120412RN	CNMG433RN			●										
CNMG120416RN	CNMG434RN			●										
CNMG160608RN	CNMG542RN			●										
CNMG160612RN	CNMG543RN			●										
CNMG190608RN	CNMG642RN			●										
CNMG190612RN	CNMG643RN			●										
CNMG190616RN	CNMG644RN			●										

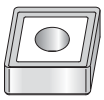
CNMG-RP

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMG120408RP	CNMG432RP			●										
CNMG120412RP	CNMG433RP			●										
CNMG160608RP	CNMG542RP			●										
CNMG160612RP	CNMG543RP			●										
CNMG190612RP	CNMG643RP			●										

Order example:
ISO catalog number: CNMG120408RP
Insert grade: KC8050

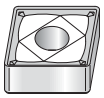
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

CNMM



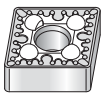
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMM120408	CNMM432					●								
CNMM190608	CNMM642					●								
CNMM190612	CNMM643					●								
CNMM190616	CNMM644					●								

CNMM-M



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMM120408M	CNMM432M					●								
CNMM160616M	CNMM544M					●								
CNMM190612M	CNMM643M					●								
CNMM190616M	CNMM644M					●								
CNMM190624M	CNMM646M					●								

CNMM-MR

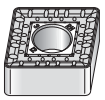


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMM120408MR	CNMM432MR					●	●							
CNMM120412MR	CNMM433MR					●	●							
CNMM160612MR	CNMM543MR					●	●							
CNMM160616MR	CNMM544MR						●							
CNMM190612MR	CNMM643MR					●	●							
CNMM190616MR	CNMM644MR					●	●							

CNMM-P

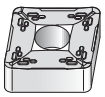
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMM120408P	CNMM432P					●								
CNMM120412P	CNMM433P					●								
CNMM190612P	CNMM643P					●								
CNMM190616P	CNMM644P					●								

CNMG-RH



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMM190616RH	CNMM644RH			●										
CNMM250924RH	CNMM866RH			●										

CNMM-RM



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMM120408RM	CNMM432RM			●										
CNMM120412RM	CNMM433RM			●										
CNMM120416RM	CNMM434RM			●										
CNMM160612RM	CNMM543RM			●										
CNMM190612RM	CNMM643RM			●										
CNMM190616RM	CNMM644RM			●										
CNMM190624RM	CNMM646RM			●										

CNMM-RW

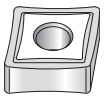
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMM190624RW	CNMM646RW			●										

Order example:
ISO catalog number: CNMM190624RW
Insert grade: KC850

KENLOC™ Inserts

KENNAMETAL

CNMP

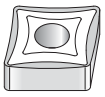


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
CNMP120404	CNMP431		●		●	●	●							
CNMP120408	CNMP432		●		●	●	●							
CNMP120412	CNMP433		●			●	●							
CNMP160608	CNMP542					●	●							
CNMP160612	CNMP543					●	●							
CNMP190608	CNMP642					●	●							
CNMP190612	CNMP643		●			●	●							

CNMP-K

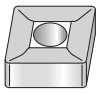
CNMP120404K	CNMP431K					●	●							
CNMP120408K	CNMP432K				●	●	●							
CNMP190612K	CNMP643K					●	●							

CNMS



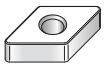
CNMS120408	CNMS432		●		●	●	●							
CNMS160608	CNMS542		●			●	●							
CNMS190608	CNMS642		●			●								
CNMS190612	CNMS643		●			●								

CNMX



CNMX120408	CNMX120408					●								

DNGA



DNGA150408	DNGA432											●	●	
DNGA150408S01020	DNGA432S0420												●	
DNGA150408T	DNGA432T							●						
DNGA150412	DNGA433											●		
DNGA150412S02020	DNGA433S0820												●	
DNGA150412T02020	DNGA433T0820							●						
DNGA150608T02020	DNGA442T0820							●						

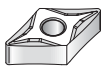
DNGA-SM

DNGA150404S01020M	DNGA431S0420M									●				
DNGA150608S01020M	DNGA442S0420M									●	●			

DNGG-LF

DNGG150402LF	DNGG4305LF		●											
DNGG150404LF	DNGG431LF		●											
DNGG150408LF	DNGG432LF		●											
DNGG150412LF	DNGG433LF		●											

DNGP

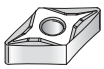


DNGP110404	DNGP331		●											
DNGP110408	DNGP332		●											
DNGP150401	DNGP430		●											
DNGP150402	DNGP4305		●											
DNGP150404	DNGP431		●											
DNGP150408	DNGP432		●											

Order example:
ISO catalog number: DNGP110404
Insert grade: KC730

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

DNGP-K



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
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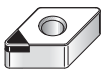
DNGP150408K	DNGP432K		●											
DNGP150412K	DNGP433K		●											

DNMA-SM

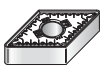


DNMA150404S01020M	DNMA431S0420M									●				
DNMA150408S01020M	DNMA432S0420M									●				

DNMG

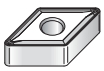
DNMG150404	DNMG150404					●								
DNMG150408	DNMG150408					●								
DNMG150608	DNMG150608					●								
DNMG150612	DNMG150612					●								
DNMG110408B	DNMG332						●							
DNMG110412B	DNMG333					●								
DNMG150404B	DNMG431					●	●							
DNMG150408B	DNMG432		●		●	●	●							
DNMG150412B	DNMG433					●	●							
DNMG150604B	DNMG441					●								
DNMG150608B	DNMG442					●	●							
DNMG190408B	DNMG532					●								
DNMG190608B	DNMG542					●								
DNMG190612	DNMG543					●	●							

DNMG-FP



DNMG110408FP	DNMG332FP			●										
DNMG150404FP	DNMG431FP			●										
DNMG150408FP	DNMG432FP			●										
DNMG150604FP	DNMG441FP			●										

DNMG-K



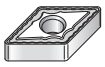
DNMG110404K	DNMG331K						●							
DNMG150404K	DNMG431K		●			●	●							
DNMG150408K	DNMG432K		●			●	●							
DNMG150412K	DNMG433K						●							
DNMG150604K	DNMG441K					●								
DNMG150608K	DNMG442K					●	●							
DNMG150612K	DNMG443K						●							
DNMG190608K	DNMG542K						●							
DNMG190612K	DNMG543K						●							

DNMG-LF

DNMG150404LF	DNMG431LF		●				●							
DNMG150408LF	DNMG432LF		●				●							
DNMG190608LF	DNMG542LF						●							

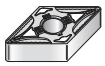
Order example:
ISO catalog number: DNMG150404LF
Insert grade: KC730

DNMG-MG



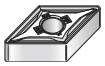
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD90	KY2000	KD050	KD081	KD100	KD120	KD200
DNMG110404MG	DNMG331MG						●							
DNMG110408MG	DNMG332MG						●							
DNMG150404MG	DNMG431MG						●							
DNMG150408MG	DNMG432MG					●	●							
DNMG150412MG	DNMG433MG						●							
DNMG150604MG	DNMG441MG						●							
DNMG150608MG	DNMG442MG					●	●							
DNMG150612MG	DNMG443MG					●	●							
DNMG150616MG	DNMG444MG						●							
DNMG190612MG	DNMG543MG						●							

DNMG-MN



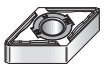
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD90	KY2000	KD050	KD081	KD100	KD120	KD200
DNMG110404MN	DNMG331MN			●										
DNMG110408MN	DNMG332MN			●										
DNMG150404MN	DNMG431MN			●										
DNMG150408MN	DNMG432MN			●										
DNMG150412MN	DNMG433MN			●										
DNMG150416MN	DNMG434MN			●										
DNMG150604MN	DNMG441MN			●										
DNMG150608MN	DNMG442MN			●										
DNMG190612MN	DNMG543MN			●										

DNMG-MP



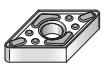
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD90	KY2000	KD050	KD081	KD100	KD120	KD200
DNMG110408MP	DNMG332MP			●										
DNMG150404MP	DNMG431MP			●										
DNMG150408MP	DNMG432MP			●										
DNMG150604MP	DNMG441MP			●										
DNMG150608MP	DNMG442MP			●										

DNMG-MW



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD90	KY2000	KD050	KD081	KD100	KD120	KD200
DNMG150408MW	DNMG432MW			●										

DNMG-P

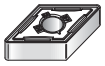


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD90	KY2000	KD050	KD081	KD100	KD120	KD200
DNMG110408P	DNMG332P						●							
DNMG150404P	DNMG431P		●			●	●							
DNMG150408P	DNMG432P		●			●	●							
DNMG150604P	DNMG441P					●	●							
DNMG150608P	DNMG442P					●	●							
DNMG150612P	DNMG443P					●								

DNMG-RN

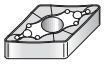
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD90	KY2000	KD050	KD081	KD100	KD120	KD200
DNMG150408RN	DNMG432RN			●										
DNMG150608RN	DNMG442RN			●										
DNMG190608RN	DNMG542RN			●										
DNMG190612RN	DNMG543RN			●										

DNMG-RP



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD90	KY2000	KD050	KD081	KD100	KD120	KD200
DNMG150608RP	DNMG442RP			●										

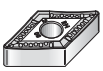
DNMM-MR



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KD90	KY2000	KD050	KD081	KD100	KD120	KD200
DNMM150612MR	DNMM443MR						●							

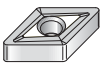
Order example:
ISO catalog number: DNMM150612MR
Insert grade: KC935

DNMM-RM



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
DNMM150408RM	DNMM432RM			●										
DNMM150608RM	DNMM442RM			●										
DNMM150612RM	DNMM443RM			●										

DNMP

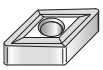


DNMP150404	DNMP431		●		●	●	●							
DNMP150408	DNMP432		●		●	●	●							
DNMP150612	DNMP443					●								
DNMP190608	DNMP542					●								

DNMP-K

DNMP110404K	DNMP331K		●			●								
DNMP110408K	DNMP332K		●				●							
DNMP150404K	DNMP431K				●		●							
DNMP150408K	DNMP432K				●	●	●							
DNMP150412K	DNMP433K						●							
DNMP150604K	DNMP441K				●									
DNMP150608K	DNMP442K					●	●							

DNMS

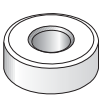


DNMS150408	DNMS432		●		●	●								
DNMS190608	DNMS542		●			●								

RCMA-T

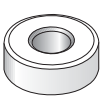
RCMA251200T	RCMA88T						●							

RNGA-T



RNGA120400T02020	RNGA43T0820						●							

RNMA



RNMA250900	RNMA86					●								

RNMG

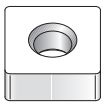
RNMG090300	RNMG32					●								
RNMG120400	RNMG43					●	●							
RNMG190600	RNMG64					●								
RNMG250900	RNMG86					●								

RNMG-RN

RNMG120400RN	RNMG43RN			●										
RNMG150600RN	RNMG54RN			●										
RNMG190600RN	RNMG64RN			●										
RNMG250900RN	RNMG86RN			●										

Order example:
ISO catalog number: RNMG120400RN
Insert grade: KC8050

SNGA-T



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNGA120408S02020	SNGA432S0820												●	
SNGA120408T02020	SNGA432T0820							●						
SNGA120412T02020	SNGA433T0820							●						

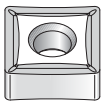
SNGG-LF

SNGG090308LF	SNGG322LF		●											

SNGP

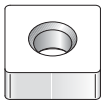
SNGP120408	SNGP432		●											

SNGP-K



SNGP150612K	SNGP543K		●											

SNMA

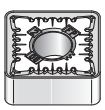


SNMA090308. SNMA150612	SNMA322 SNMA543					● ●								
SNMA190612 SNMA190616	SNMA643 SNMA644					● ●								

SNMG

SNMG190616 SNMG070312B	SNMG190616 SNMG2523					● ●								
SNMG090308B SNMG090312B	SNMG322 SNMG323					● ●	●							
SNMG090412B SNMG110416B	SNMG333 SNMG3534					● ●	●							
SNMG120408 SNMG120412	SNMG432 SNMG433		● ●		●	● ●	● ●							
SNMG120416B SNMG140416B	SNMG434 SNMG4534					● ●	●							
SNMG140616B SNMG150612	SNMG4544 SNMG543					● ●	 ●							
SNMG150616B SNMG170616B	SNMG544 SNMG5544					● ●	●							
SNMG190612 SNMG190616B	SNMG643 SNMG644					● ●	● ●							
SNMG250724 SNMG250924	SNMG856 SNMG866					● ●								

SNMG-FP



SNMG120408FP	SNMG432FP			●										

Order example:
ISO catalog number: SNMG120408FP
Insert grade: KC8050

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

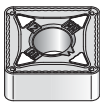
SNMG-K

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNMG090308K	SNMG322K		●			●								
SNMG120408K	SNMG432K					●	●							
SNMG120412K	SNMG433K						●							
SNMG150612K	SNMG543K					●								
SNMG190612K	SNMG643K					●								

SNMG-MG

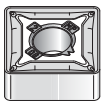
SNMG120408MG	SNMG432MG					●	●							
SNMG120412MG	SNMG433MG						●							
SNMG150612MG	SNMG543MG						●							
SNMG190612MG	SNMG643MG					●	●							
SNMG190616MG	SNMG644MG						●							

SNMG-MN



SNMG090308MN	SNMG322MN			●										
SNMG120404MN	SNMG431MN			●										
SNMG120408MN	SNMG432MN			●										
SNMG120412MN	SNMG433MN			●										
SNMG120416MN	SNMG434MN			●										
SNMG190612MN	SNMG643MN			●										

SNMG-MP

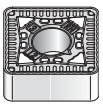


SNMG120408MP	SNMG432MP			●										
SNMG120412MP	SNMG433MP			●										
SNMG150608MP	SNMG542MP			●										
SNMG190612MP	SNMG643MP			●										

SNMG-P

SNMG120408P	SNMG432P		●			●	●							
SNMG120412P	SNMG433P	●				●								
SNMG190612P	SNMG643P					●								

SNMG-RN

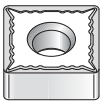


SNMG120408RN	SNMG432RN			●										
SNMG120416RN	SNMG434RN			●										
SNMG150612RN	SNMG543RN			●										
SNMG190608RN	SNMG642RN			●										
SNMG190612RN	SNMG643RN			●										
SNMG190616RN	SNMG644RN			●										
SNMG190624RN	SNMG646RN			●										

SNMG-RP

SNMG120408RP	SNMG432RP			●										
SNMG120412RP	SNMG433RP			●										
SNMG150612RP	SNMG543RP			●										
SNMG150616RP	SNMG544RP			●										
SNMG190612RP	SNMG643RP			●										

SNMG-UF

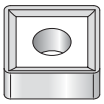


SNMG090308UF	SNMG322UF		●											
SNMG120408UF	SNMG432UF	●												

Order example:
ISO catalog number: SNMG090308UF
Insert grade: KC730

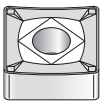
KENLOC™ Inserts

SNMM



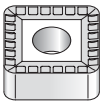
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNMM070312	SNMM2523					●								
SNMM090312	SNMM323					●								
SNMM090412	SNMM333					●								
SNMM110416	SNMM3534					●								
SNMM120408	SNMM432				●									
SNMM120408P	SNMM432P					●								
SNMM140416	SNMM4534					●								
SNMM150616	SNMM544					●								
SNMM170616	SNMM5544					●								
SNMM190612P	SNMM643P					●								
SNMM190616	SNMM644					●								
SNMM190616P	SNMM644P					●								

SNMM-M



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNMM190612M	SNMM643M					●								
SNMM190616M	SNMM644M					●								

SNMM-ND

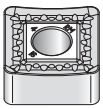


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNMM090412ND	SNMM333ND					●								
SNMM110416ND	SNMM3534ND					●								
SNMM120416ND	SNMM434ND					●								
SNMM140416ND	SNMM4534ND					●								
SNMM150616ND	SNMM544ND					●								
SNMM170616ND	SNMM5544ND					●								
SNMM190616ND	SNMM644ND					●								

SNMM-RH

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNMM190616RH	SNMM644RH			●										
SNMM250724RH	SNMM856RH			●										
SNMM250732RH	SNMM858RH			●										
SNMM250924RH	SNMM866RH			●										

SNMM-RM

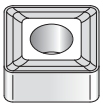


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNMM120408RM	SNMM432RM			●										
SNMM120416RM	SNMM434RM			●										
SNMM150616RM	SNMM544RM			●										
SNMM190612RM	SNMM643RM			●										
SNMM190616RM	SNMM644RM			●										
SNMM190624RM	SNMM646RM			●										
SNMM250724RM	SNMM856RM			●										
SNMM250924RM	SNMM866RM			●										

SNMM-RW

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNMM190624RW	SNMM646RW			●										
SNMM250724RW	SNMM856RW			●										

SNMM-SP

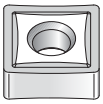


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNMM250724SP	SNMM250724SP					●								

Order example:
ISO catalog number: SNMM250724SP
Insert grade: KC850

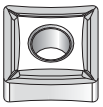
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

SNMP



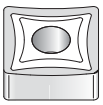
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
SNMP120404	SNMP431						●							
SNMP120408	SNMP432					●								
SNMP120412	SNMP433				●	●								
SNMP120416	SNMP434					●								
SNMP120424	SNMP436				●									
SNMP150608	SNMP542					●	●							
SNMP150612	SNMP543					●								
SNMP190612	SNMP643					●	●							

SNMP-K



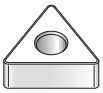
SNMP120408K	SNMP432K				●	●								
SNMP120412K	SNMP433K					●								

SNMS



SNMS120408	SNMS432		●		●	●	●							
SNMS120412	SNMS433		●			●								
SNMS190612	SNMS643		●		●	●								

TNGA-T

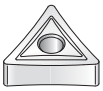


TNGA160308T	TNGA322T						●							
TNGA160404S02020	TNGA331S0820												●	
TNGA160408S01020D	TNGA332S0420D									●				
TNGA160408S02020	TNGA332S0820												●	
TNGA160408T02020	TNGA332T0820						●							
TNGA160412T02020	TNGA333T0820						●							
TNGA220408T02020	TNGA432T0820						●							
TNGA220412T02020	TNGA433T0820						●							

TNGG-LF

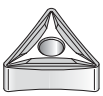
TNGG160402LF	TNGG3305LF		●											
TNGG160404LF	TNGG331LF		●											
TNGG220404LF	TNGG431LF		●											
TNGG220408LF	TNGG432LF		●											

TNGP



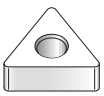
TNGP160402	TNGP3305		●											
TNGP160404	TNGP331		●											
TNGP160408	TNGP332		●											

TNGP-K



TNGP160404K	TNGP331K		●											
TNGP160408K	TNGP332K		●											

TNMA



TNMA160408	TNMA332					●								
TNMA220408	TNMA432		●			●								
TNMA270616	TNMA544		●			●								

Order example:
ISO catalog number: TNMA160408
Insert grade: KC850

TNMA-S

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMA160408	TNMA332					●								
TNMA220408	TNMA432		●			●								
TNMA220408S01020	TNMA432S0420									●			●	
TNMA270616	TNMA544		●			●								

TNMA-SM

TNMA160408S01020M	TNMA332S0420M									●				

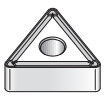
TNMG

TNMG160408 TNMG220404	TNMG160408 TNMG220404					● ●								
TNMG110308B TNMG160304B	TNMG222 TNMG321					● ●								
TNMG160404B TNMG160408B	TNMG331 TNMG332		● ●			● ●	● ●							
TNMG160412 TNMG220404B	TNMG333 TNMG431		 ●			● ●	 ●							
TNMG220408 TNMG220412	TNMG432 TNMG433		●		●	● ●	● ●							
TNMG220416 TNMG220424	TNMG434 TNMG436				●	● ●								
TNMG220432 TNMG270608	TNMG438 TNMG542					● ●								
TNMG270612 TNMG270616	TNMG543 TNMG544					● ●	● ●							
TNMG270632 TNMG330924	TNMG548 TNMG666					● ●								

TNMG-FP

TNMG160404FP TNMG220404FP	TNMG331FP TNMG431FP			● ●										

TNMG-K



TNMG160312K TNMG160408K	TNMG323K TNMG332K					● ●	 ●							
TNMG160416K TNMG220408K	TNMG334K TNMG432K					● ●	 ●							

TNMG-LF

TNMG160408LF TNMG220412LF	TNMG332LF TNMG433LF						● ●							

Order example:
ISO catalog number: TNMG160408LF
Insert grade: KC935

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

TNMG-MG

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMG160404MG	TNMG331MG						●							
TNMG160408MG	TNMG332MG					●	●							
TNMG220408MG	TNMG432MG					●	●							
TNMG220412MG	TNMG433MG						●							
TNMG270612MG	TNMG543MG						●							

TNMG-MN

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMG160404MN	TNMG331MN			●										
TNMG160408MN	TNMG332MN			●										
TNMG160412MN	TNMG333MN			●										
TNMG220404MN	TNMG431MN			●										
TNMG220408MN	TNMG432MN			●										
TNMG220412MN	TNMG433MN			●										

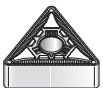
TNMG-MP

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMG160404MP	TNMG331MP			●										
TNMG160408MP	TNMG332MP			●										
TNMG220408MP	TNMG432MP			●										
TNMG220416MP	TNMG434MP			●										

TNMG-P

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMG160404P	TNMG331P					●	●							
TNMG160408P	TNMG332P		●			●	●							
TNMG220404P	TNMG431P					●								
TNMG220408P	TNMG432P		●			●	●							
TNMG220412P	TNMG433P		●			●								
TNMG270612P	TNMG543P					●								

TNMG-RN

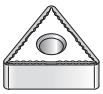


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMG160408RN	TNMG332RN			●										
TNMG220408RN	TNMG432RN			●										
TNMG220412RN	TNMG433RN			●										
TNMG270608RN	TNMG542RN			●										
TNMG270612RN	TNMG543RN			●										
TNMG270616RN	TNMG544RN			●										
TNMG330924RN	TNMG666RN			●										

TNMG-RP

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMG220408RP	TNMG432RP			●										
TNMG220432RP	TNMG438RP			●										

TNMG-UF



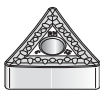
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMG160408UF	TNMG332UF		●				●							

TNMM-MR

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMM160408MR	TNMM332MR						●							
TNMM220408MR	TNMM432MR					●								
TNMM330924MR	TNMM666MR					●								

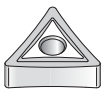
Order example:
ISO catalog number: TNMM160408MR
Insert grade: KC935

TNMM-RM



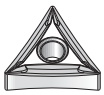
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMM160408RM	TNMM332RM			●										
TNMM220408RM	TNMM432RM			●										
TNMM220412RM	TNMM433RM			●										
TNMM270612RM	TNMM543RM			●										
TNMM270616RM	TNMM544RM			●										

TNMP



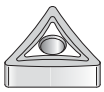
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMP160404	TNMP331				●	●								
TNMP160408	TNMP332				●	●								
TNMP160412	TNMP333					●								
TNMP220404	TNMP431		●			●	●							
TNMP220408	TNMP432		●			●	●							
TNMP220412	TNMP433					●								
TNMP220416	TNMP434					●								
TNMP220432	TNMP438				●									
TNMP270608	TNMP542					●								
TNMP270612	TNMP543					●								
TNMP270616	TNMP544					●								

TNMP-K



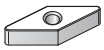
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMP160404K	TNMP331K				●	●	●							
TNMP160408K	TNMP332K				●	●	●							
TNMP220408K	TNMP432K					●								

TNMS



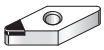
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
TNMS160404	TNMS331		●		●	●								
TNMS160408	TNMS332		●		●	●								
TNMS220404	TNMS431		●			●								
TNMS220408	TNMS432		●		●	●								
TNMS220412	TNMS433					●								

VNGA



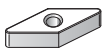
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
VNGA160408	VNGA332					●						●	●	
VNGA160408T02020	VNGA332T0820							●						
VNGA160412T02020	VNGA333T0820							●						
VNGA220408	VNGA432											●		
VNGA220408T02020	VNGA432T0820							●						

VNGA-SM



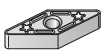
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
VNGA160404S01020M	VNGA331S0420M									●	●			
VNGA160408S01020M	VNGA332S0420M									●	●			

VNGA-T



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
VNGA160404T	VNGA331T							●						

VNGG-LF



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
VNGG160402LF	VNGG3305LF		●											
VNGG160404LF	VNGG331LF		●											
VNGG160408LF	VNGG332LF		●											

Order example:
ISO catalog number: VNGG160402LF
Insert grade: KC730

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

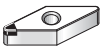
VNGP

ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
VNGP160401	VNGP330		●				●							
VNGP160402	VNGP3305		●											
VNGP220404	VNGP431		●			●								
VNGP220408	VNGP432		●			●	●							
VNGP220412	VNGP433		●											

VNGP-K

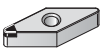
VNGP160404K	VNGP331K		●											
VNGP160408K	VNGP332K		●											

VNMA-SM



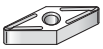
VNMA160404S01020M	VNMA331S0420M									●				
VNMA160408S01020M	VNMA332S0420M									●				

VNMA



VNMA160408S01020	VNMA332S0420												●	

VNMG

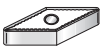


VNMG160404	VNMG331						●							
VNMG160408	VNMG332		●		●	●	●							
VNMG220404	VNMG431						●							
VNMG220408	VNMG432					●	●							
VNMG220412	VNMG433					●								

VNMG-FP

VNMG160404FP	VNMG331FP			●										
VNMG160408FP	VNMG332FP			●										

VNMG-LF



VNMG160404LF	VNMG331LF						●							
VNMG160408LF	VNMG332LF		●				●							
VNMG220408LF	VNMG432LF						●							

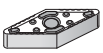
VNMG-MN

VNMG160404MN	VNMG331MN			●										
VNMG160408MN	VNMG332MN			●										
VNMG160412MN	VNMG333MN			●										

VNMG-MP

VNMG160404MP	VNMG331MP			●										
VNMG160408MP	VNMG332MP			●										

VNMG-P

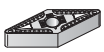


VNMG160404P	VNMG331P		●			●	●							
VNMG160408P	VNMG332P		●			●	●							

Order example:
ISO catalog number: VNMG160404P
Insert grade: KC935

KENLOC™ Inserts

VNMG-RN

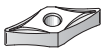


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	KC90	KY2000	KD050	KD081	KD100	KD120	KD200
VNMG160408RN	VNMG332RN			●										
VNMG220408RN	VNMG432RN			●										
VNMG220412RN	VNMG433RN			●										

VNMG-UF

VNMG160404UF	VNMG331UF		●				●							
VNMG160408UF	VNMG332UF						●							

VNMP

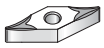


VNMP160404	VNMP331				●	●	●							
VNMP160408	VNMP332				●	●	●							

VNMP-K

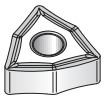
VNMP160404K	VNMP331K				●	●	●							
VNMP160408K	VNMP332K				●		●							

VNMS



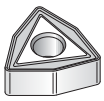
VNMS160404	VNMS331		●		●	●	●							
VNMS160408	VNMS332		●		●	●								

WNGP-K



WNGP080408K	WNGP432K		●											

WNMG



WNMG060408	WNMG332						●							
WNMG080404	WNMG431		●											
WNMG080408	WNMG432		●			●	●							

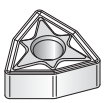
WNMG-FP

WNMG080404FP	WNMG431FP			●										

WNMG-LF

WNMG080408LF	WNMG432LF		●				●							

WNMG-MG



WNMG06T308MG	WNMG3252MG						●							
WNMG080408MG	WNMG432MG					●	●							
WNMG080412MG	WNMG433MG					●	●							

WNMG-MN

WNMG060408MN	WNMG332MN			●										
WNMG080408MN	WNMG432MN			●										

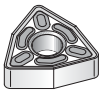
Order example:
ISO catalog number: WNMG060408MN
Insert grade: KC8050

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

WNMG-MP

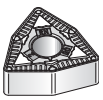
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
WNMG080408MP	WNMG432MP			●										

WNMG-P



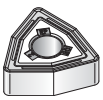
ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
WNMG060408P	WNMG332P						●							
WNMG080404P	WNMG431P		●				●							
WNMG080408P	WNMG432P		●			●	●							

WNMG-RN



ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
WNMG080408RN	WNMG432RN			●										

WNMG-RP

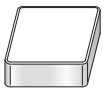


ISO catalog number	ANSI catalog number	KC720	KC730	KC8050	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120	KD200
WNMG080408RP	WNMG432RP			●										

Order example:
ISO catalog number: WNMG080408RP
Insert grade: KC8050

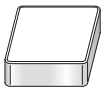
KENDEX™ Inserts

CNG



ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
CNGN120408T01020	CNG432T0420								●				
CNGN120408T02020	CNG432T0820							●					
CNGN120412T01020	CNG433T0420								●	●			
CNGN120412T02020	CNG433T0820							●					
CNGN120416T01020	CNG434T0420								●	●			
CNGN120708T02020	CNG452T0820							●					
CNGN120712T01020	CNG453T0420								●				
CNGN120712T02020	CNG453T0820							●					
CNGN120716T01020	CNG454T0420								●				
CNGN120716T02020	CNG454T0820							●					

CNM



CNMN090312T02020	CNM323T0820											●	

RNG

RNGN090300T01020	RNG32T0420								●				
RNGN090300T02020	RNG32T0820							●					
RNGN120300T02020	RNG42T0820							●					
RNGN120400	RNG43					●							
RNGN120400E	RNG43E									●			
RNGN120400T01020	RNG43T0420								●	●			
RNGN120400T02020	RNG43T0820							●					
RNGN120700E	RNG45E								●	●			
RNGN120700T01020	RNG45T0420								●	●			
RNGN120700T02020	RNG45T0820							●					
RNGN120700T15015	RNG45T6015								●				
RNGN190700E	RNG65E								●				
RNGN190700T01020	RNG65T0420								●				
RNGN190700T02020	RNG65T0820							●					
RNGN190700T20015	RNG65T8015								●				

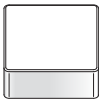
RNM

RNMN090300T02020	RNM32T0820												●
RNMN120300	RNM42												●
RNMN120300T02020	RNM42T0820												●

Order example:
ISO catalog number: RNMN090300T02020
Insert grade: KD240

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

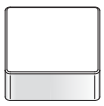
SNG



ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
SNGN090308	SNG322						●						
SNGN090308T02020	SNG322T0820							●					
SNGN120308	SNG422				●		●						
SNGN120408	SNG432				●								
SNGN120408T02020	SNG432T0820							●					
SNGN120412E	SNG433									●			
SNGN120412T01020	SNG433T0420								●				
SNGN120412T02020	SNG433T0820	●						●					
SNGN120416E	SNG434					●				●			
SNGN120416T01020	SNG434T0420								●				
SNGN120416T02020	SNG434T0820							●					
SNGN120424T02020	SNG436T0820							●					
SNGN120432T02020	SNG438T0820							●					
SNGN120708T02020	SNG452T0820	●						●					
SNGN120712T01020	SNG453T0420								●	●			
SNGN120712T02020	SNG453T0820							●					
SNGN120716T01020	SNG454T0420								●				
SNGN190408	SNG632				●								
SNGN190412	SNG633				●	●							
SNGN190412T02020	SNG633T0820							●					
SNGN190416	SNG634					●							
SNGN190416T02020	SNG634T0820							●					
SNGN190432	SNG638				●								
SNGN190616E	SNG644									●			
SNGN190616T02020	SNG644T0820							●					
SNGN190716T02020	SNG654T0820							●					
SNGN190724E	SNG656E								●				
SNGN250724T20015	SNG856T8015								●				

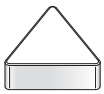
Order example:
ISO catalog number: SNGN090308
Insert grade: KC935

SNU



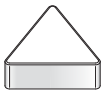
ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
SNUN120408	SNU432					●							
SNUN120412	SNU433			●		●							
SNUN190412	SNU633				●	●							
SNUN190416	SNU634					●							

TNG



ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
TNGN110308	TNG222					●							
TNGN160308	TNG322				●	●							
TNGN220408	TNG432					●							
TNGN160308T02020	TNG322T0820							●					
TNGN160408T02020	TNG332T0820							●					
TNGN160416T02020	TNG334T0820							●					
TNGN220408T02020	TNG432T0820							●					
TNGN220412T02020	TNG433T0820							●					

TNU



ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
TNUN160412	TNU333					●							
TNUN270616	TNU544					●							

CPG

ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
CPGN120304	CPG421			●	●	●							
CPGN120308	CPG422			●	●	●							
CPGN190412	CPG633					●							

CPGF-K

ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
CPGR120304K	CPGF421					●							
CPGR120308K	CPGF422					●							

RCGV

ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
RCGV060400	RCGV23						●						
RCGX060400E	RCGV23E									●			
RCGV090700	RCGV35			●			●						
RCGX090700E	RCGV35E									●			
RCGX090700T01020	RCGV35T0420								●	●			
RCGX120700E	RCGV45E									●			
RCGX120700T01020	RCGV45T0420								●	●			

RPG

ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
RPGN090300T01020	RPG32T0420							●					
RPGN120400	RPG43			●									
RPGN120400E	RPG43E								●	●			

Order example:
ISO catalog number: RPGN090300T01020
Insert grade: K090

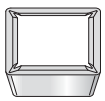
SPG

ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
SPGN090308	SPG322			●	●	●							
SPGN120304	SPG421			●		●							
SPGN120308	SPG422		●	●	●	●							
SPGN120312	SPG423			●		●							
SPGN120316	SPG424			●		●							
SPGN120408	SPG432					●							
SPGN120412	SPG433			●		●							
SPGN150408	SPG532			●									
SPGN190402	SPG6305					●							
SPGN190408	SPG632					●							
SPGN190412	SPG633		●	●		●							
SPGN190416	SPG634					●							
SPGN190432	SPG638					●							

SPGF

SPGR090308K	SPGF322				●	●							
SPGR120308K	SPGF422					●							

SPMR



SPMR090304	SPMR321					●							
SPMR090308	SPMR322					●							
SPMR120304	SPMR421				●	●							
SPMR120308	SPMR422				●	●							
SPMR120312	SPMR423					●							

SPU

SPUN120308	SPU422					●							
SPUN190412	SPU633				●	●							
SPUN190416	SPU634					●							

Order example:
ISO catalog number: SPUN120308
Insert grade: KC850

KENDEX™ Inserts

KENNAMETAL

TPG

ISO catalog number	ANSI catalog number	AC5	KC720	KC730	KC810	KC850	KC935	K090	KY1525	KY2100	KD050	KD200	KD240
TPGN110301	TPG220			●									
TPGN110304	TPG221			●	●	●							
TPGN110308	TPG222			●	●	●							
TPGN160301	TPG320			●									
TPGN160302	TPG3205			●	●								
TPGN160304	TPG321			●	●	●	●						
TPGN160308	TPG322		●	●	●	●	●						
TPGN160308S01020M	TPG322S0420M										●		
TPGN160312	TPG323			●	●	●							
TPGN160316	TPG324			●	●	●							
TPGN220401	TPG430			●									
TPGN220402	TPG4305			●									
TPGN220404	TPG431			●	●	●	●						
TPGN220408	TPG432		●	●	●	●	●						
TPGN220412	TPG433			●	●	●							
TPGN220416	TPG434			●	●	●							
TPGN220432	TPG438					●							
TPGN270608	TPG542				●	●							
TPGN270612	TPG543					●							
TPGN270616	TPG544					●							

TPGF

TPGR110204K	TPGF2151			●									
TPGR110304K	TPGF221			●		●							
TPGR110308K	TPGF222					●							
TPGR160304K	TPGF321				●	●	●						
TPGR160308K	TPGF322			●	●	●							
TPGR220404K	TPGF431					●							
TPGR220408K	TPGF432					●							

TPG-M

TPGN110308S01020M	TPG222S0420M										●		

TPMR

TPMR110304	TPMR221				●	●							
TPMR110308	TPMR222				●	●							
TPMR160304	TPMR321				●	●	●						
TPMR160308	TPMR322				●	●	●						
TPMR160312	TPMR323					●							
TPMR220408	TPMR432			●	●								
TPMR220412	TPMR433					●							

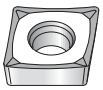
TPU

TPUN160304	TPU321				●	●							
TPUN160308	TPU322			●	●	●							
TPUN160312	TPU323					●							
TPUN220404	TPU431				●								
TPUN220408	TPU432				●	●							
TPUN220412	TPU433				●	●							

Order example:
ISO catalog number: TPUN160304
Insert grade: KC810

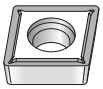
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

CCGT-HP



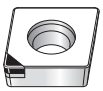
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
CCGT060202HP	CCGT21505HP		●									
CCGT060204HP	CCGT2151HP		●									
CCGT09T302HP	CCGT32505HP		●									
CCGT09T304HP	CCGT3251HP	●	●									
CCGT120404HP	CCGT431HP		●									
CCGT120408HP	CCGT432HP		●									

CCGT-LF



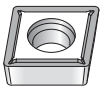
CCGT060202LF	CCGT21505LF		●									
CCGT060201LF	CCGT2150LF		●									
CCGT060204LF	CCGT2151LF		●									
CCGT060208LF	CCGT2152LF		●									
CCGT09T302LF	CCGT32505LF		●									
CCGT09T301LF	CCGT3250LF		●									
CCGT09T304LF	CCGT3251LF		●									
CCGT09T308LF	CCGT3252LF		●									

CCGW-M



CCGW060204S01015M	CCGW2151S0415M							●				
CCGW09T304S01015M	CCGW3251S0415M							●				
CCGW09T308S01015M	CCGW3252S0415M							●				

CCMT-LF



CCMT060202LF	CCMT21505LF		●	●	●	●						
CCMT060204LF	CCMT2151LF	●	●	●	●	●						
CCMT060208LF	CCMT2152LF		●		●	●						
CCMT09T302LF	CCMT32505LF		●		●	●						
CCMT09T304LF	CCMT3251LF	●	●	●	●	●						
CCMT09T308LF	CCMT3252LF	●	●	●	●	●						
CCMT120404LF	CCMT431LF	●	●		●	●						
CCMT120408LF	CCMT432LF	●	●		●	●						
CCMT120412LF	CCMT433LF				●	●						

CCMT-MF

CCMT060204MF	CCMT2151MF		●			●						
CCMT09T304MF	CCMT3251MF		●			●						
CCMT09T308MF	CCMT3252MF		●			●						
CCMT120408MF	CCMT432MF		●			●						

CCMT-UF

CCMT060204UF	CCMT2151UF		●									
CCMT09T302UF	CCMT32505UF		●									
CCMT09T304UF	CCMT3251UF		●									

CDHB

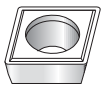
CDHBS4T000	CDHB120601		●								●	
CDHBS4T002	CDHB120605		●			●					●	
CDHBS4T004	CDHB12061		●			●					●	

Order example:
ISO catalog number: CDHBS4T000
Insert grade: KC730

CPGB

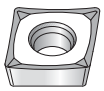
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
CPGB09T302 CPGB09T302F	CPGB32505 CPGB32505F										● ●	●
CPGB09T304 CPGB09T304F	CPGB3251 CPGB3251F										● ●	●
CPGB09T308 CPGB09T308F	CPGB3252 CPGB3252F								● ●		● ●	●

CPGM



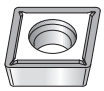
CPGT060201K CPGT060202K	CPGM2150 CPGM21505	● ●	● ●		● ●	 ●						
CPGT060202KF CPGT060204K	CPGM21505F CPGM2151	 ●	 ●	 ●	 ●	 ●					● 	
CPGT060204KF CPGT060208K	CPGM2151F CPGM2152	 	 ●	 ●	 ●	 ●					● 	
CPGT060208KF CPGH09T301	CPGM2152F CPGM3250	 ●	 ●								● 	
CPGH09T302 CPGH09T302F	CPGM32505 CPGM32505F	● 	● 		● 	● 					 ●	
CPGH09T304 CPGH09T304F	CPGM3251 CPGM3251F	● 	● 	● 	● 	● 					 ●	
CPGH09T308 CPGH09T308F	CPGM3252 CPGM3252F	● 	● 	● 	● 	● 					 ●	

CPGT-HP



CPGT060202HP CPGT060204HP	CPGT21505HP CPGT2151HP		● ●									
CPGT09T302HP CPGT09T304HP	CPGT32505HP CPGT3251HP		● ●									

CPGT-LF



CPGT060202LF CPGT060201LF	CPGT21505LF CPGT2150LF		● ●									
CPGT060204LF CPGT09T302LF	CPGT2151LF CPGT32505LF	● 	● ●	●								
CPGT09T304LF	CPGT3251LF	●	●		●							

CPGW

CPGW060202 CPGW060202F	CPGW21505 CPGW21505F										● 	●
CPGW060204 CPGW060204F	CPGW2151 CPGW2151F								● 		 ●	●
CPGW060208 CPGW060208F	CPGW2152 CPGW2152F								● 		 ●	●
CPGW09T304 CPGW09T304F	CPGW3251 CPGW3251F								● 		 ●	●
CPGW09T308 CPGW09T308F	CPGW3252 CPGW3252F								● 		 ●	●

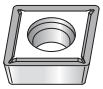
CPGW-M

CPGW060202EM CPGW060204S01015M	CPGW21505EM CPGW2151S0415M								● ●			
CPGW060208S01015M	CPGW2152S0415M								●			

Order example:
ISO catalog number: CPGW060202EM
Insert grade: KD050

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

CPMT-LF

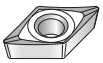


ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
CPMT050202LF	CPMT181505LF		●									
CPMT050204LF	CPMT18151LF		●	●	●	●						
CPMT060202LF	CPMT21505LF		●	●	●	●						
CPMT060204LF	CPMT2151LF	●	●	●	●	●						
CPMT060208LF	CPMT2152LF		●		●	●						
CPMT09T302LF	CPMT32505LF		●		●							
CPMT09T304LF	CPMT3251LF	●	●	●	●	●						
CPMT09T308LF	CPMT3252LF	●	●	●	●	●						

CPMT-MF

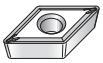
CPMT060208MF	CPMT2152MF		●			●						
CPMT09T308MF	CPMT3252MF		●			●						

DCGT-HP



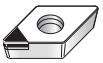
DCGT070202HP	DCGT21505HP		●									
DCGT070204HP	DCGT2151HP		●									
DCGT11T302HP	DCGT32505HP		●									
DCGT11T304HP	DCGT3251HP	●	●									
DCGT11T308HP	DCGT3252HP		●									

DCGT-LF



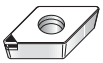
DCGT070201LF	DCGT2150LF		●									
DCGT11T301LF	DCGT3250LF		●									
DCGT150408LF	DCGT432LF		●									

DCGW



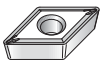
DCGW11T304S01015	DCGW3251S0415								●			●
DCGW11T308S01015	DCGW3252S0415											●
DCMW11T304F	DCMW3251F										●	

DCGW-M



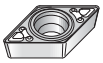
DCGW070204S01015M	DCGW2151S0415M								●			

DCMT-LF



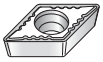
DCMT070202LF	DCMT21505LF		●		●	●						
DCMT070204LF	DCMT2151LF		●	●	●	●						
DCMT11T302LF	DCMT32505LF		●		●	●						
DCMT11T304LF	DCMT3251LF	●	●	●	●	●						
DCMT11T308LF	DCMT3252LF		●	●	●	●						
DCMT11T312LF	DCMT3253LF		●									
DCMT150404LF	DCMT431LF				●	●						
DCMT150408LF	DCMT432LF		●		●	●						

DCMT-MF



DCMT11T304MF	DCMT3251MF		●			●						
DCMT11T308MF	DCMT3252MF		●			●						
DCMT11T312MF	DCMT3253MF		●									

DCMT-UF



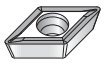
DCMT070204UF	DCMT2151UF		●									
DCMT11T302UF	DCMT32505UF		●									
DCMT11T304UF	DCMT3251UF		●									
DCMT11T308UF	DCMT3252UF		●									

Order example:
ISO catalog number: DCMT070204UF
Insert grade: KC730

DPGT-HP

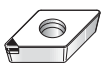
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
DPGT070202HP	DPGT21505HP		●									
DPGT070204HP	DPGT2151HP		●									
DPGT11T304HP	DPGT3251HP		●									
DPGT11T308HP	DPGT3252HP		●									

DPGT-LF



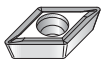
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
DPGT070202LF	DPGT21505LF		●									
DPGT070201LF	DPGT2150LF		●									
DPGT070204LF	DPGT2151LF		●									
DPGT11T302LF	DPGT32505LF		●									
DPGT11T301LF	DPGT3250LF		●									
DPGT11T304LF	DPGT3251LF		●									
DPGT11T308LF	DPGT3252LF		●									

DPGW-M



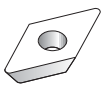
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
DPGW11T304S01015M	DPGW3251S0415M								●			
DPGW11T308S01015M	DPGW3252S0415M								●			

DPMT-LF



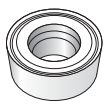
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
DPMT070202LF	DPMT21505LF		●									
DPMT070204LF	DPMT2151LF		●	●	●	●						
DPMT11T302LF	DPMT32505LF		●									
DPMT11T304LF	DPMT3251LF		●		●	●						
DPMT11T308LF	DPMT3252LF		●		●	●						

FFEW



FFEW533R	FFEW533R		●							●		

RCGM

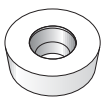


RCGH09T300	RCGM325			●								

RCGT-HP

ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
RCGT0803M0HP	RCGT0803M0HP		●									
RCGT10T3M0HP	RCGT10T3M0HP		●									
RCGT1204M0HP	RCGT1204M0HP		●									

RCGW



RCGW060200	RCGW215		●									

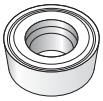
RCMT

ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
RCMT0602M0	RCMT0602M0		●		●							
RCMT0803M0	RCMT0803M0		●		●							
RCMT10T3M0	RCMT10T3M0		●		●							
RCMT1204M0	RCMT1204M0		●		●							
RCMT1605M0	RCMT1605M0		●		●							
RCMT2006M0	RCMT2006M0		●		●							
RCMT060200	RCMT215		●		●							
RCMT09T300	RCMT325		●		●							

Order example:
ISO catalog number: RCMT0602M0
Insert grade: KC730

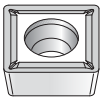
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

RCMX



ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
RCMX100300	RCMX100300				●							
RCMX120400	RCMX120400				●							
RCMX160600	RCMX160600				●							
RCMX200600	RCMX200600				●							
RCMX250700	RCMX250700				●							

SCMT-LF

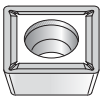


ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
SCMT09T304LF	SCMT3251LF		●	●	●							
SCMT09T308LF	SCMT3252LF	●	●		●	●						
SCMT120404LF	SCMT431LF				●							
SCMT120408LF	SCMT432LF	●	●		●	●						
SCMT120412LF	SCMT433LF				●	●						

SCMT-MF

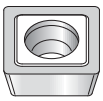
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
SCMT09T308MF	SCMT3252MF		●			●						
SCMT120408MF	SCMT432MF		●			●						

SPGH



ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
SPGH070208	SPGH25152				●							
SPGH090308	SPGH322				●							

SPGM

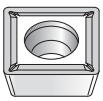


ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
SPGT060212K	SPGM2153				●							
SPGT070312K	SPGM2523				●							

SPGT-LF

ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
SPGT09T304LF	SPGT3251LF		●		●							
SPGT09T308LF	SPGT3252LF	●	●									
SPGT120408LF	SPGT432LF		●									

SPMT-LF

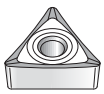


ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
SPMT09T304LF	SPMT3251LF		●		●	●						
SPMT09T308LF	SPMT3252LF		●		●	●						

SPMT-MF

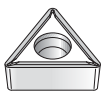
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
SPMT09T308MF	SPMT3252MF		●									
SPMT120408MF	SPMT432MF		●			●						

TCGT-HP



ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
TCGT110202HP	TCGT21505HP		●									
TCGT110204HP	TCGT2151HP		●									
TCGT16T304HP	TCGT3251HP		●									
TCGT16T308HP	TCGT3252HP		●									

TCGT-LF



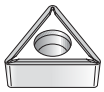
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
TCGT110201LF	TCGT2150LF		●									

Order example:
ISO catalog number: TCGT110201LF
Insert grade: KC730

TCGW-M

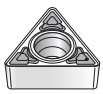
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
TCGW110204S01015M	TCGW2151S0415M								●			

TCMT-LF



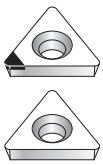
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
TCMT110202LF	TCMT21505LF		●		●							
TCMT110204LF	TCMT2151LF		●		●	●						
TCMT110208LF	TCMT2152LF		●	●	●	●						
TCMT16T302LF	TCMT32505LF		●									
TCMT16T304LF	TCMT3251LF	●	●	●	●	●						
TCMT16T308LF	TCMT3252LF	●	●	●	●	●						
TCMT16T312LF	TCMT3253LF	●	●		●							
TCMT220408LF	TCMT432LF	●	●		●	●						

TCMT-MF



ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
TCMT110208MF	TCMT2152MF		●			●						
TCMT16T308MF	TCMT3252MF		●			●						

TDHB

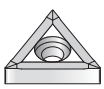


ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
TDHB07T1200	TDHB12807501		●									
TDHB07T1202	TDHB12807505		●								●	
TDHB07T1204	TDHB1280751		●								●	
TDHB07T1208	TDHB1280752										●	

TDHH

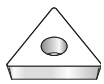
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
TDHH07T1202L	TDHH12807505L		●									
TDHH07T1202R	TDHH12807505R		●									
TDHH07T1204L	TDHH1280751L		●									
TDHH07T1204R	TDHH1280751R		●									

T-F



ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
T110301F	T220F		●	●								

TP



ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
TPGA110204	TP41		●		●						●	
TPGA110208	TP42				●							
TPGA160304	TP61			●								
TPGA160308	TP62			●	●							

T-P

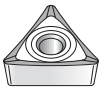
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
T110304P	T221P			●	●	●						
T160304P	T321P			●	●	●						
T160308P	T322P				●							

TPGM

ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
TPGT110201K	TPGM2150		●									
TPGT110202K	TPGM21505		●									
TPGT110204K	TPGM2151	●	●	●	●	●						
TPGT110208K	TPGM2152		●		●							
TPGH16T308	TPGM3252		●									

Order example:
ISO catalog number: TPGT110201K
Insert grade: KC730

TPGT-HP



ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	KC990	KY2000	KD050	KD081	KD100	KD120
TPGT110202HP	TPGT21505HP		●									
TPGT110204HP	TPGT2151HP		●									
TPGT16T302HP	TPGT32505HP		●									
TPGT16T304HP	TPGT3251HP		●									
TPGT16T308HP	TPGT3252HP		●									

TPGT-LF

ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	KC990	KY2000	KD050	KD081	KD100	KD120
TPGT090204LF	TPGT18151LF		●									
TPGT110202LF	TPGT21505LF		●									
TPGT110201LF	TPGT2150LF		●									
TPGT110204LF	TPGT2151LF		●		●							
TPGT16T304LF	TPGT3251LF		●									
TPGT16T308LF	TPGT3252LF		●									

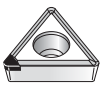
TPGW-M

ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	KC990	KY2000	KD050	KD081	KD100	KD120
TPGW110204S01015M	TPGW2151S0415M								●			
TPGW110208S01015M	TPGW2152S0415M								●			

TPMT-LF

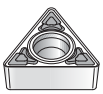
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	KC990	KY2000	KD050	KD081	KD100	KD120
TPMT090202LF	TPMT181505LF		●									
TPMT090204LF	TPMT18151LF	●	●	●	●	●						
TPMT110202LF	TPMT21505LF		●									
TPMT110204LF	TPMT2151LF		●	●	●	●						
TPMT110208LF	TPMT2152LF		●	●	●	●						
TPMT16T304LF	TPMT3251LF	●	●		●	●						
TPMT16T308LF	TPMT3252LF	●	●		●	●						
TPMT16T312LF	TPMT3253LF				●							
TPMT220408LF	TPMT432LF		●		●							

TPMT-M



ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	KC990	KY2000	KD050	KD081	KD100	KD120
TPMT090204S01015M	TPMT18151S0415M								●			
TPMT110204S01015M	TPMT2151S0415M								●			
TPMT110208S01015M	TPMT2152S0415M								●			

TPMT-MF



ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	KC990	KY2000	KD050	KD081	KD100	KD120
TPMT110208MF	TPMT2152MF		●									
TPMT16T312MF	TPMT3253MF		●			●						

TPMT-UF

ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	KC990	KY2000	KD050	KD081	KD100	KD120
TPMT110204UF	TPMT2151UF		●									

VBGT-HP

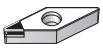
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	KC990	KY2000	KD050	KD081	KD100	KD120
VBGT160404HP	VBGT331HP		●									
VBGT160408HP	VBGT332HP		●									

VBGT-LF

ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	KC990	KY2000	KD050	KD081	KD100	KD120
VBGT110302LF	VBGT2205LF		●									
VBGT110301LF	VBGT220LF		●									
VBGT110304LF	VBGT221LF		●									
VBGT160402LF	VBGT3305LF		●									
VBGT160401LF	VBGT330LF		●									
VBGT160404LF	VBGT331LF		●									

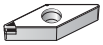
Order example:
ISO catalog number: VBGT110302LF
Insert grade: KC730

VBGW



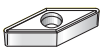
ISO catalog number	ANSI catalog number	KC720	KC730	KC810	KC850	KC935	K090	KY2000	KD050	KD081	KD100	KD120
VBGW160408S01015	VBGW332S0415								●			

VBGW-M



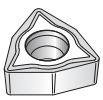
VBGW160404S01015M	VBGW331S0415M								●			

VBMT-LF



VBMT110302LF VBMT110304LF	VBMT2205LF VBMT221LF		● ●		● ●	● ●						
VBMT110308LF VBMT160402LF	VBMT222LF VBMT3305LF	 ●	● ●		● ●	● ●						
VBMT160404LF VBMT160408LF	VBMT331LF VBMT332LF	● ●	● ●	● ●	● ●	● ●						

WCMT-LF



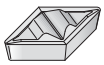
WCMT040204LF WCMT06T308LF	WCMT2151LF WCMT3252LF		● ●		●	 ●						

WPMT-LF

WPMTS3T104LF WPMT040204LF	WPMT15121LF WPMT2151LF		● ●		● ●	● ●						
WPMT06T304LF WPMT06T308LF	WPMT3251LF WPMT3252LF		● ●		● ●	 ●						

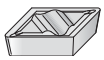
Order example:
ISO catalog number: WPMTS3T104LF
Insert grade: KC850

DCGR 8°



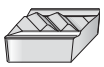
ISO catalog number	ANSI catalog number	KC730	KC850	KC935
DCGR150404	DPGR431	●	●	●
DCGR150408	DPGR432	●	●	●

KCGR 8°



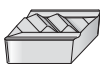
KCGR110304R08	NPGR51R	●	●	●
KCGR110308R08	NPGR52R	●	●	●
KCGR110304L08	NPGR51L	●	●	●
KCGR110308L08	NPGR52L	●	●	●

KNGX 0° Inch



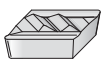
KNGX150401R15	NPR1305	●		●
KNGX150404R20	NPR131F	●	●	●
KNGX150408R20	NPR132F		●	●
KNGX150408R25	NPR132N		●	●
KNGX220404R25	NPR331N			●
KNGX220408R32	NPR332		●	●
KNGX220408R20	NPR332F		●	●
KNGX150404L20	NPL131F	●	●	●
KNGX150408L20	NPL132F		●	●
KNGX150408L25	NPL132N		●	
KNGX220408L32	NPL332		●	
KNGX220408L25	NPL332N		●	

KNUX 0° Metric



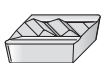
KNUX150405R20	NPR13M05F		●	
KNUX150405R25	NPR13M05N		●	
KNUX150410R25	NPR13M10N		●	
KNUX150405L20	NPL13M05F		●	
KNUX150405L25	NPL13M05N		●	
KNUX150410L25	NPL13M10N		●	

KCGX 8° Inch



KCGX110301R15	NPR505	●	●	●
KCGX110302R15	NPR508	●		●
KCGX110304R15	NPR51	●	●	●
KCGX110308R15	NPR52	●	●	●
KCGX110301L15	NPL505	●	●	●
KCGX110302L15	NPL508	●		
KCGX110304L15	NPL51	●	●	●
KCGX110308L15	NPL52	●	●	●

KCUX 8° Metric



KCUX110302R15	NPR5M02		●	
KCUX110305R15	NPR5M05		●	
KCUX110302L15	NPL5M02		●	
KCUX110305L15	NPL5M05		●	

VBMR 5°

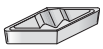
VBMR110304	VBMR221		●	
VBMR110308	VBMR222		●	

VCMR 8°

VCMR160404	VCMR331		●	
VCMR160408	VCMR332		●	

Order example:
ISO catalog number: VCMR160404
Insert grade: KC850

VCGR 8°



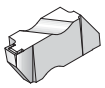
ISO catalog number	ANSI catalog number	KC730	KC850	KC935
VCGR160402	VPGR3305	●		●
VCGR160404	VPGR331	●	●	●
VCGR160408	VPGR332	●	●	●
VCGR160412	VPGR333	●	●	●
VCGR160416	VPGR334	●	●	●

RCMK

RCMK040300	RCMK152	●		
RCMK060400	RCMK23	●		●
RCMK090700	RCMK35	●		●
RCMK120800	RCMK46	●		●

Order example:
ISO catalog number: RCMK040300
Insert grade: KC730

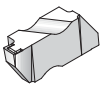
NG-K



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NG2031RK	NG2031RK	2	0,79	.031	1,27	.050	●	●	●	●
NG2047RK	NG2047RK	2	1,19	.047	1,27	.050		●		
NG2062RK	NG2062RK	2	1,58	.062	2,79	.110	●	●	●	●
NG2094RK	NG2094RK	2	2,39	.094	2,79	.110	●	●	●	●
NG2125RK	NG2125RK	2	3,18	.125	2,79	.110		●	●	●
NG2M080RK	NG2M080RK	2	0,80	.032	1,27	.050		●		
NG2M100RK	NG2M100RK	2	1,00	.039	1,27	.050	●	●		
NG2M120RK	NG2M120RK	2	1,20	.047	1,27	.050		●		
NG2M140RK	NG2M140RK	2	1,40	.055	1,27	.050	●	●		
NG2M150RK	NG2M150RK	2	1,50	.059	2,79	.110		●		
NG2M170RK	NG2M170RK	2	1,70	.067	2,79	.110	●	●		
NG2M175RK	NG2M175RK	2	1,75	.069	2,79	.110		●		
NG2M195RK	NG2M195RK	2	1,95	.077	2,79	.110		●		
NG2M200RK	NG2M200RK	2	2,00	.079	2,79	.110	●	●		
NG2M225RK	NG2M225RK	2	2,25	.088	2,79	.110	●	●		
NG2M250RK	NG2M250RK	2	2,50	.098	2,79	.110		●		
NG2M300RK	NG2M300RK	2	3,00	.118	2,79	.110	●	●		
NG2M320RK	NG2M320RK	2	3,20	.126	2,79	.110		●		
NG2M325RK	NG2M325RK	2	3,25	.128	2,79	.110		●		
NG3047RK	NG3047RK	3	1,19	.047	1,91	.075	●	●	●	●
NG3062RK	NG3062RK	3	1,58	.062	2,39	.094	●	●	●	●
NG3072RK	NG3072RK	3	1,83	.072	2,39	.094		●	●	●
NG3078RK	NG3078RK	3	1,98	.078	2,39	.094		●	●	●
NG3094RK	NG3094RK	3	2,39	.094	3,81	.150	●	●	●	●
NG3125RK	NG3125RK	3	3,18	.125	3,81	.150	●	●	●	●
NG3156RK	NG3156RK	3	3,96	.156	3,81	.150	●	●	●	●
NG3189RK	NG3189RK	3	4,80	.189	3,81	.150	●	●	●	●
NG3M100RK	NG3M100RK	3	1,00	.039	1,91	.075		●		
NG3M120RK	NG3M120RK	3	1,20	.047	1,91	.075		●		
NG3M150RK	NG3M150RK	3	1,50	.059	2,39	.094		●		
NG3M175RK	NG3M175RK	3	1,75	.069	2,39	.094		●		
NG3M200RK	NG3M200RK	3	2,00	.079	2,39	.094		●		
NG3M220RK	NG3M220RK	3	2,20	.087	2,39	.094		●		
NG3M225RK	NG3M225RK	3	2,25	.088	2,39	.094	●	●	●	
NG3M250RK	NG3M250RK	3	2,50	.098	3,81	.150		●		
NG3M275RK	NG3M275RK	3	2,75	.108	3,81	.150		●		
NG3M300RK	NG3M300RK	3	3,00	.118	3,81	.150	●	●	●	
NG3M320RK	NG3M320RK	3	3,20	.126	3,81	.150		●		
NG3M325RK	NG3M325RK	3	3,25	.128	3,81	.150		●		
NG3M350RK	NG3M350RK	3	3,50	.138	3,81	.150		●		
NG3M400RK	NG3M400RK	3	4,00	.158	3,81	.150		●		
NG3M425RK	NG3M425RK	3	4,25	.167	3,81	.150	●	●	●	
NG3M450RK	NG3M450RK	3	4,50	.177	3,81	.150		●		
NG4125RK	NG4125RK	4	3,18	.125	3,81	.150		●	●	●
NG4189RK	NG4189RK	4	4,80	.189	6,35	.250		●	●	●
NG4250RK	NG4250RK	4	6,35	.250	6,35	.250	●	●	●	●
NG4M500RK	NG4M500RK	4	5,00	.197	6,35	.250		●	●	
NG4M550RK	NG4M550RK	4	5,50	.217	6,35	.250		●		

(continued on next page)

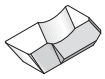
NG-K (continued from previous page)



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
left hand										
NG2031LK	NG2031LK	2	0,79	.031	1,27	.050		●	●	●
NG2047LK	NG2047LK	2	1,19	.047	1,27	.050		●		
NG2062LK	NG2062LK	2	1,58	.062	2,79	.110	●	●	●	●
NG2094LK	NG2094LK	2	2,39	.094	2,79	.110		●	●	●
NG2125LK	NG2125LK	2	3,18	.125	2,79	.110	●	●	●	●
NG2M080LK	NG2M080LK	2	0,80	.032	1,27	.050		●		
NG2M100LK	NG2M100LK	2	1,00	.039	1,27	.050		●		
NG2M120LK	NG2M120LK	2	1,20	.047	1,27	.050		●		
NG2M140LK	NG2M140LK	2	1,40	.055	1,27	.050	●	●		
NG2M150LK	NG2M150LK	2	1,50	.059	2,79	.110		●		
NG2M170LK	NG2M170LK	2	1,70	.067	2,79	.110	●	●		
NG2M175LK	NG2M175LK	2	1,75	.069	2,79	.110		●		
NG2M195LK	NG2M195LK	2	1,95	.077	2,79	.110		●		
NG2M200LK	NG2M200LK	2	2,00	.079	2,79	.110	●	●		
NG2M220LK	NG2M220LK	2	2,20	.087	2,79	.110		●		
NG2M225LK	NG2M225LK	2	2,25	.088	2,79	.110	●	●		
NG2M250LK	NG2M250LK	2	2,50	.098	2,79	.110		●		
NG2M275LK	NG2M275LK	2	2,75	.108	2,79	.110		●		
NG2M300LK	NG2M300LK	2	3,00	.118	2,79	.110		●		
NG2M325LK	NG2M325LK	2	3,25	.128	2,79	.110		●		
NG3047LK	NG3047LK	3	1,19	.047	1,91	.075		●	●	
NG3062LK	NG3062LK	3	1,58	.062	2,39	.094		●	●	●
NG3072LK	NG3072LK	3	1,83	.072	2,39	.094	●	●	●	
NG3078LK	NG3078LK	3	1,98	.078	2,39	.094		●	●	●
NG3094LK	NG3094LK	3	2,39	.094	3,81	.150	●	●	●	●
NG3125LK	NG3125LK	3	3,18	.125	3,81	.150	●	●	●	●
NG3156LK	NG3156LK	3	3,96	.156	3,81	.150		●	●	●
NG3189LK	NG3189LK	3	4,80	.189	3,81	.150		●	●	●
NG3M100LK	NG3M100LK	3	1,00	.039	1,91	.075		●		
NG3M120LK	NG3M120LK	3	1,20	.047	1,91	.075		●		
NG3M150LK	NG3M150LK	3	1,50	.059	2,39	.094		●		
NG3M175LK	NG3M175LK	3	1,75	.069	2,39	.094		●		
NG3M200LK	NG3M200LK	3	2,00	.079	2,39	.094		●		
NG3M220LK	NG3M220LK	3	2,20	.087	2,39	.094		●		
NG3M225LK	NG3M225LK	3	2,25	.088	2,39	.094		●		
NG3M250LK	NG3M250LK	3	2,50	.098	3,81	.150		●		
NG3M275LK	NG3M275LK	3	2,75	.108	3,81	.150		●	●	
NG3M300LK	NG3M300LK	3	3,00	.118	3,81	.150		●		
NG3M325LK	NG3M325LK	3	3,25	.128	3,81	.150		●		
NG3M350LK	NG3M350LK	3	3,50	.138	3,81	.150		●		
NG3M400LK	NG3M400LK	3	4,00	.158	3,81	.150		●		
NG3M425LK	NG3M425LK	3	4,25	.167	3,81	.150		●	●	
NG4125LK	NG4125LK	4	3,18	.125	3,81	.150		●	●	●
NG4189LK	NG4189LK	4	4,80	.189	6,35	.250		●	●	●
NG4250LK	NG4250LK	4	6,35	.250	6,35	.250	●	●	●	●
NG4M450LK	NG4M450LK	4	4,50	.177	6,35	.250		●		
NG4M500LK	NG4M500LK	4	5,00	.197	6,35	.250		●	●	

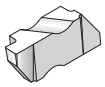
Order example:
ISO catalog number: NG2031LK
Insert grade: KC850

NG-1L



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
NG1031L	NG1031L	1	0,79	.031	1,27	.050		●		
NG1047L	NG1047L	1	1,19	.047	1,91	.075	●	●		
NG1062L	NG1062L	1	1,58	.062	1,91	.075	●	●		
NG1094L	NG1094L	1	2,39	.094	1,91	.075	●	●		

NG



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NG2031R	NG2031R	2	0,79	.031	1,27	.050	●	●	●	
NG2041R	NG2041R	2	1,04	.041	1,27	.050		●	●	
NG2047R	NG2047R	2	1,19	.047	1,27	.050		●	●	
NG2058R	NG2058R	2	1,47	.058	1,27	.050		●	●	
NG2062R	NG2062R	2	1,58	.062	2,79	.110	●	●	●	
NG2094R	NG2094R	2	2,39	.094	2,79	.110		●	●	
NG2125R	NG2125R	2	3,18	.125	2,79	.110		●	●	
NG3047R	NG3047R	3	1,19	.047	1,91	.075	●	●	●	
NG3062R	NG3062R	3	1,58	.062	2,39	.094	●	●	●	●
NG3072R	NG3072R	3	1,83	.072	2,39	.094		●	●	
NG3078R	NG3078R	3	1,98	.078	2,39	.094		●	●	
NG3088R	NG3088R	3	2,24	.088	2,39	.094		●	●	
NG3094R	NG3094R	3	2,39	.094	3,81	.150	●	●	●	●
NG3097R	NG3097R	3	2,46	.097	3,81	.150		●	●	
NG3105R	NG3105R	3	2,67	.105	3,81	.150		●	●	
NG3110R	NG3110R	3	2,79	.110	3,81	.150		●	●	
NG3125R	NG3125R	3	3,18	.125	3,81	.150	●	●	●	●
NG3142R	NG3142R	3	3,61	.142	3,81	.150		●	●	
NG3156R	NG3156R	3	3,96	.156	3,81	.150		●	●	
NG3178R	NG3178R	3	4,52	.178	3,81	.150			●	
NG3185R	NG3185R	3	4,70	.185	3,81	.150		●	●	
NG3189R	NG3189R	3	4,80	.189	3,81	.150		●	●	●
NG4125R	NG4125R	4	3,18	.125	3,81	.150		●	●	
NG4189R	NG4189R	4	4,80	.189	6,35	.250		●	●	
NG4213R	NG4213R	4	5,41	.213	6,35	.250		●		
NG4250R	NG4250R	4	6,35	.250	6,35	.250		●	●	

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NG

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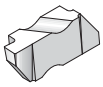
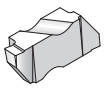


ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
left hand										
NG2031L	NG2031L	2	0,79	.031	1,27	.050		●	●	
NG2041L	NG2041L	2	1,04	.041	1,27	.050		●	●	
NG2047L	NG2047L	2	1,19	.047	1,27	.050		●	●	
NG2058L	NG2058L	2	1,47	.058	1,27	.050		●	●	
NG2062L	NG2062L	2	1,58	.062	2,79	.110	●	●	●	
NG2094L	NG2094L	2	2,39	.094	2,79	.110		●	●	
NG2125L	NG2125L	2	3,18	.125	2,79	.110		●	●	
NG3047L	NG3047L	3	1,19	.047	1,91	.075		●	●	
NG3062L	NG3062L	3	1,58	.062	2,39	.094		●	●	●
NG3072L	NG3072L	3	1,83	.072	2,39	.094		●	●	
NG3078L	NG3078L	3	1,98	.078	2,39	.094		●	●	
NG3088L	NG3088L	3	2,24	.088	2,39	.094		●	●	
NG3094L	NG3094L	3	2,39	.094	3,81	.150	●	●	●	●
NG3097L	NG3097L	3	2,46	.097	3,81	.150		●		
NG3105L	NG3105L	3	2,67	.105	3,81	.150		●	●	
NG3110L	NG3110L	3	2,79	.110	3,81	.150			●	
NG3122L	NG3122L	3	3,10	.122	3,81	.150		●	●	
NG3125L	NG3125L	3	3,18	.125	3,81	.150		●	●	●
NG3142L	NG3142L	3	3,61	.142	3,81	.150		●	●	
NG3156L	NG3156L	3	3,96	.156	3,81	.150		●	●	
NG3178L	NG3178L	3	4,52	.178	3,81	.150		●	●	
NG3185L	NG3185L	3	4,70	.185	3,81	.150		●	●	
NG3189L	NG3189L	3	4,80	.189	3,81	.150		●	●	
NG4125L	NG4125L	4	3,18	.125	3,81	.150		●	●	
NG4189L	NG4189L	4	4,80	.189	6,35	.250		●	●	
NG4213L	NG4213L	4	5,41	.213	6,35	.250		●		
NG4250L	NG4250L	4	6,35	.250	6,35	.250		●	●	

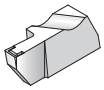
NGP



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NGP2031R	NGP2031R	2	0,79	.031	1,27	.050		●	●	
NGP2062R	NGP2062R	2	1,58	.062	2,79	.110		●	●	
NGP3088R	NGP3088R	3	2,24	.088	2,39	.094		●	●	
NGP3125R	NGP3125R	3	3,18	.125	3,81	.150		●	●	
NGP3189R	NGP3189R	3	4,80	.189	3,81	.150			●	
NGP4189R	NGP4189R	4	4,80	.189	6,35	.250		●		
NGP4250R	NGP4250R	4	6,35	.250	6,35	.250			●	
left hand										
NGP2031L	NGP2031L	2	0,79	.031	1,27	.050			●	
NGP2062L	NGP2062L	2	1,58	.062	2,79	.110		●	●	
NGP2125L	NGP2125L	2	3,18	.125	2,79	.110			●	
NGP3088L	NGP3088L	3	2,24	.088	2,39	.094		●	●	
NGP3125L	NGP3125L	3	3,18	.125	3,81	.150		●	●	
NGP3156L	NGP3156L	3	3,96	.156	3,81	.150		●		
NGP3189L	NGP3189L	3	4,80	.189	3,81	.150			●	

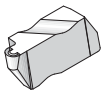
Order example:
ISO catalog number: NGP2031R
Insert grade: KC850

NGD-K



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NGD3062RK	NGD3062RK	3	1,58	.062	3,18	.125		●	●	●
NGD3094RK	NGD3094RK	3	2,39	.094	6,35	.250		●	●	●
NGD3125RK	NGD3125RK	3	3,18	.125	6,35	.250		●	●	●
NGD3189RK	NGD3189RK	3	4,80	.189	6,35	.250		●	●	●
NGD4125RK	NGD4125RK	4	3,18	.125	6,35	.250		●	●	●
NGD4189RK	NGD4189RK	4	4,80	.189	9,53	.375		●	●	●
NGD4250RK	NGD4250RK	4	6,35	.250	12,70	.500		●	●	●
left hand										
NGD3062LK	NGD3062LK	3	1,58	.062	3,18	.125		●	●	●
NGD3094LK	NGD3094LK	3	2,39	.094	6,35	.250		●	●	●
NGD3125LK	NGD3125LK	3	3,18	.125	6,35	.250		●	●	●
NGD3189LK	NGD3189LK	3	4,80	.189	6,35	.250		●	●	●
NGD4125LK	NGD4125LK	4	3,18	.125	6,35	.250		●	●	●
NGD4189LK	NGD4189LK	4	4,80	.189	9,53	.375		●	●	●
NGD4250LK	NGD4250LK	4	6,35	.250	12,70	.500		●	●	●

NR-K

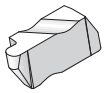


ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NR3047RK	NR3047RK	3	2,39	.094	3,81	.150		●	●	●
NR3062RK	NR3062RK	3	3,18	.125	3,81	.150		●	●	●
NR3078RK	NR3078RK	3	3,96	.156	3,81	.150		●		●
NR4094RK	NR4094RK	4	4,78	.188	6,35	.250		●		
NR4125RK	NR4125RK	4	6,35	.250	6,35	.250		●	●	●
left hand										
NR3047LK	NR3047LK	3	2,39	.094	3,81	.150		●	●	●
NR3062LK	NR3062LK	3	3,18	.125	3,81	.150		●	●	●
NR3078LK	NR3078LK	3	3,96	.156	3,81	.150			●	
NR4094LK	NR4094LK	4	4,78	.188	6,35	.250		●		●
NR4125LK	NR4125LK	4	6,35	.250	6,35	.250		●		●

Order example:
ISO catalog number: NR3047RK
Insert grade: KC730

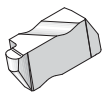
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

NR



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NR2031R	NR2031R	2	1,58	.062	2,79	.110		●	●	
NR2047R	NR2047R	2	2,39	.094	2,79	.110		●		
NR2062R	NR2062R	2	3,18	.125	2,79	.110		●	●	
NR3031R	NR3031R	3	1,58	.062	2,39	.094		●	●	
NR3047R	NR3047R	3	2,39	.094	3,81	.150		●	●	
NR3062R	NR3062R	3	3,18	.125	3,81	.150		●	●	
NR3078R	NR3078R	3	3,96	.156	3,81	.150		●	●	
NR3094R	NR3094R	3	4,78	.188	3,81	.150		●	●	
NR4062R	NR4062R	4	3,18	.125	3,81	.150		●	●	
NR4094R	NR4094R	4	4,78	.188	6,35	.250		●	●	
NR4125R	NR4125R	4	6,35	.250	6,35	.250		●	●	
left hand										
NR2031L	NR2031L	2	1,58	.062	2,79	.110		●	●	
NR2047L	NR2047L	2	2,39	.094	2,79	.110		●	●	
NR2062L	NR2062L	2	3,18	.125	2,79	.110		●	●	
NR3031L	NR3031L	3	1,58	.062	2,39	.094		●	●	
NR3047L	NR3047L	3	2,39	.094	3,81	.150		●	●	
NR3062L	NR3062L	3	3,18	.125	3,81	.150		●	●	
NR3078L	NR3078L	3	3,96	.156	3,81	.150		●	●	
NR3094L	NR3094L	3	4,78	.188	3,81	.150		●	●	
NR4062L	NR4062L	4	3,18	.125	3,81	.150		●	●	
NR4094L	NR4094L	4	4,78	.188	6,35	.250		●	●	
NR4125L	NR4125L	4	6,35	.250	6,35	.250		●	●	

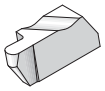
NRP



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NRP3031R	NRP3031R	3	1,58	.062	2,39	.094		●	●	
NRP3047R	NRP3047R	3	2,39	.094	3,81	.150		●	●	
NRP3062R	NRP3062R	3	3,18	.125	3,81	.150		●	●	
NRP3078R	NRP3078R	3	3,96	.156	3,81	.150			●	
NRP3094R	NRP3094R	3	4,78	.188	3,81	.150		●	●	
NRP4062R	NRP4062R	4	3,18	.125	3,81	.150		●		
NRP4094R	NRP4094R	4	4,78	.188	6,35	.250		●		
NRP4125R	NRP4125R	4	6,35	.250	6,35	.250		●	●	
left hand										
NRP3031L	NRP3031L	3	1,58	.062	2,39	.094		●	●	
NRP3047L	NRP3047L	3	2,39	.094	3,81	.150		●	●	
NRP3062L	NRP3062L	3	3,18	.125	3,81	.150		●	●	
NRP3094L	NRP3094L	3	4,78	.188	3,81	.150		●	●	

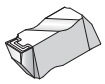
Order example:
ISO catalog number: NRP3031R
Insert grade: KC730

NRD



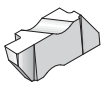
ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NRD3031R	NRD3031R	3	1,58	.062	3,18	.125		●	●	
NRD3062R	NRD3062R	3	3,18	.125	6,35	.250		●	●	
NRD4062R	NRD4062R	4	3,18	.125	6,35	.250		●	●	
NRD4094R	NRD4094R	4	4,78	.188	12,70	.500		●	●	
NRD4125R	NRD4125R	4	6,35	.250	12,70	.500		●	●	
left hand										
NRD3031L	NRD3031L	3	1,58	.062	3,18	.125		●	●	
NRD3062L	NRD3062L	3	3,18	.125	6,35	.250		●	●	
NRD4062L	NRD4062L	4	3,18	.125	6,35	.250		●		
NRD4094L	NRD4094L	4	4,78	.188	12,70	.500		●	●	
NRD4125L	NRD4125L	4	6,35	.250	12,70	.500		●	●	

NF-K



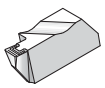
ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NF3125RK	NF3125RK	3	3,18	.125	3,81	.150			●	
NF3156RK	NF3156RK	3	3,96	.156	3,81	.150			●	
NF4250RK	NF4250RK	4	6,35	.250	6,35	.250			●	
left hand										
NF3125LK	NF3125LK	3	3,18	.125	3,81	.150	●		●	
NF3156LK	NF3156LK	3	3,96	.156	3,81	.150			●	
NF4189LK	NF4189LK	4	4,80	.189	6,35	.250			●	
NF4250LK	NF4250LK	4	6,35	.250	6,35	.250			●	

NF



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
NF3125R	NF3125R	3	3,18	.125	3,81	.150		●	●	
NF3125L	NF3125L	3	3,18	.125	3,81	.150		●	●	

NFD-K

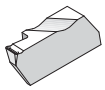


ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NFD3125RK	NFD3125RK	3	3,18	.125	6,35	.250		●	●	
NFD4189RK	NFD4189RK	4	4,80	.189	9,53	.375		●	●	
NFD4250RK	NFD4250RK	4	6,35	.250	12,70	.500		●	●	
left hand										
NFD3125LK	NFD3125LK	3	3,18	.125	6,35	.250		●	●	
NFD4189LK	NFD4189LK	4	4,80	.189	9,53	.375		●	●	
NFD4250LK	NFD4250LK	4	6,35	.250	12,70	.500		●	●	

Order example:
ISO catalog number: NFD3125RK
Insert grade: KC730

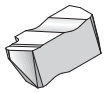
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

NFD-KI



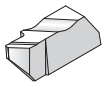
ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NFD3125RKI	NFD3125RKI	3	3,18	.125	6,35	.250		●		
NFD3156RKI	NFD3156RKI	3	3,96	.156	6,35	.250	●			

NP-K



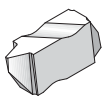
ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NP2002RK	NP2002RK	2	3,68	.145	2,79	.110		●		●
NP2012RK	NP2012RK	2	3,68	.145	2,79	.110		●		
NP3001RK	NP3001RK	3	3,15	.124	6,35	.250		●	●	
NP3002RK	NP3002RK	3	4,83	.190	5,08	.200		●		●
NP3012RK	NP3012RK	3	4,83	.190	5,08	.200		●		
NP3014RK	NP3014RK	3	3,15	.124	6,35	.250		●	●	

NPD-K



ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
right hand										
NPD2002RK	NPD2002RK	2	3,68	.145	5,08	.200		●		
NPD3002RK	NPD3002RK	3	4,83	.190	6,35	.250		●		
NPD3012RK	NPD3012RK	3	4,83	.190	6,35	.250		●		●

NV



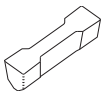
ISO catalog number	ANSI catalog number	insert size	W mm	W in	T mm	T in	KC720	KC730	KC850	KC935
NV3RJ	NV3RJ	3	–	–	2,21	.087		●		
NV4RL	NV4RL	4	–	–	5,11	.201		●		

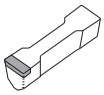
Order example:
ISO catalog number: NV3RJ
Insert grade: KC730

KENDEX™ Deep Grooving Inserts

KENNAMETAL

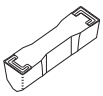
GC





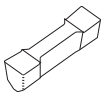
ISO catalog number	ANSI catalog number	insert size	W mm	W in	RR mm	RR in	LI	S	K68	KC730	KC850	KC935	KD100	KD120
GC4125	GC4125	4	3,18	.125	–	–	1.000	.188	●	●	●	●	●	●
GC4156	GC4156	4	3,96	.156	–	–	1.000	.188		●		●		
GC4187	GC4187	4	4,76	.187	–	–	1.000	.328	●	●	●	●	●	●
GC4250	GC4250	4	6,35	.250	–	–	1.000	.328	●	●	●	●	●	●
GC4312	GC4312	4	7,93	.312	–	–	1.000	.328	●	●				
GC4375	GC4375	4	9,53	.375	–	–	1.000	.328	●	●	●			
GC6187	GC6187	6	4,76	.187	–	–	1.500	.328	●		●			
GC6250	GC6250	6	6,35	.250	–	–	1.500	.328	●		●			
GC6312	GC6312	6	7,93	.312	–	–	1.500	.328		●				
GC9125A	GC9125A	–	3,18	.125	–	–	1.125	.250		●				
GC9187A	GC9187A	–	4,76	.187	–	–	1.125	.250		●				
GC9250A	GC9250A	–	6,35	.250	–	–	1.125	.250		●				
GC9250B	GC9250B	–	6,35	.250	–	–	1.125	.337		●				

GC-K



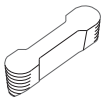
ISO catalog number	ANSI catalog number	insert size	W mm	W in	RR mm	RR in	LI	S	K68	KC730	KC850	KC935	KD100	KD120
GC4125K	GC4125K	4	3,18	.125	–	–	1.000	.188		●	●	●		
GC4187K	GC4187K	4	4,76	.187	–	–	1.000	.328		●	●	●		
GC4250K	GC4250K	4	6,35	.250	–	–	1.000	.328		●	●	●		
GC4312K	GC4312K	4	7,93	.312	–	–	1.000	.328				●		
GC4375K	GC4375K	4	9,53	.375	–	–	1.000	.328		●	●	●		

GCP



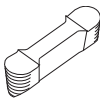
ISO catalog number	ANSI catalog number	insert size	W mm	W in	RR mm	RR in	LI	S	K68	KC730	KC850	KC935	KD100	KD120
GCP4125	GCP4125	4	3,18	.125	–	–	1.000	.188		●				
GCP4187	GCP4187	4	4,76	.187	–	–	1.000	.328		●				

GR



ISO catalog number	ANSI catalog number	insert size	W mm	W in	RR mm	RR in	LI	S	K68	KC730	KC850	KC935	KD100	KD120
GR4125	GR4125	–	3,18	.125	–	–	1.000	.188		●				
GR4187	GR4187	–	4,76	.187	–	–	1.000	.328		●				
GR4250	GR4250	–	6,35	.250	–	–	1.000	.328		●				
GR9125A	GR9125A	–	3,18	.125	–	–	1.125	.250		●				
GR9187A	GR9187A	–	4,76	.187	–	–	1.125	.250		●				
GR9250B	GR9250B	–	6,35	.250	–	–	1.125	.337		●				

GRP

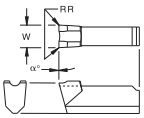


ISO catalog number	ANSI catalog number	insert size	W mm	W in	RR mm	RR in	LI	S	K68	KC730	KC850	KC935	KD100	KD120
GRP4125	GRP4125	–	3,18	.125	–	–	1.000	.188		●				
GRP4187	GRP4187	–	4,76	.187	–	–	1.000	.328		●				
GRP4250	GRP4250	–	6,35	.250	–	–	1.000	.328		●				

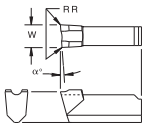
Order example:
ISO catalog number: GRP4125
Insert grade: KC730

NOTE: See full selection of KENDEX Deep Grooving Toolholders at www.kennametal.com

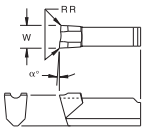
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



GS-N

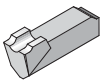


GS-R



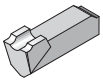
GS-L

GS-N



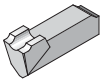
ISO catalog number	ANSI catalog number	W mm	W in	R max mm	R max in	α	KC720	KC722	KC935
GS24N	GS094N	2,39	.094	0,08	.003	–	●	●	●
GS32N	GS125N	3,20	.126	0,08	.003	–	●	●	●
GS40N	GS160N	4,06	.160	0,08	.003	–		●	●
GS48N	GS188N	4,78	.188	0,08	.003	–	●	●	●
GS64N	GS250N	6,35	.250	0,08	.003	–	●		

GS-R



ISO catalog number	ANSI catalog number	W mm	W in	R max mm	R max in	α	KC720	KC722	KC935
GS24R	GS094R	2,39	.094	0,08	.003	4	●	●	●
GS24R12	GS094R12	2,36	.093	0,05	.002	12		●	
GS24R18	GS094R18	2,34	.092	0,05	.002	18		●	
GS32R	GS125R	3,18	.125	0,08	.003	4	●	●	●
GS32R12	GS125R12	3,18	.125	0,05	.002	12	●	●	
GS32R18	GS125R18	3,15	.124	0,05	.002	18		●	
GS40R	GS160R	4,04	.159	0,08	.003	4		●	
GS48R	GS188R	4,75	.187	0,08	.003	4	●	●	●

GS-L

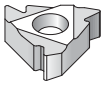


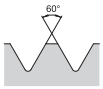
ISO catalog number	ANSI catalog number	W mm	W in	R max mm	R max in	α	KC720	KC722	KC935
GS24L	GS094L	2,39	.094	0,08	.003	4	●	●	●
GS32L	GS125L	3,18	.125	0,08	.003	4	●	●	●
GS32L12	GS125L12	3,18	.125	0,05	.002	12		●	
GS48L	GS188L	4,75	.187	0,08	.003	4	●		

Order example:
ISO catalog number: GS24L
Insert grade: KC720

NOTE: See full selection of Kendex Deep Grooving Inserts at www.kennametal.com

LT-ER/L-60

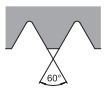




Partial Profile
60° External

ISO catalog number	ANSI catalog number	insert size	thread pitch mm	TPI	TPF	RC mm	RC in	KC730
LT16ERA60	LT16ERA60	16	0,50-1,5	48-16	–	0,05	.002	●
LT16ERAG60	LT16ERAG60	16	0,50-3,0	48-8	–	0,08	.003	●
LT16ERG60	LT16ERG60	16	1,75-3,0	14-8	–	0,28	.011	●
LT22ERN60	LT22ERN60	22	3,5-5,0	7-5	–	0,53	.021	●

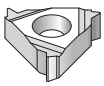
LT-NR/L-60

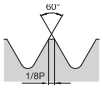


Partial Profile
60° Internal

LT11NRA60	LT11NRA60	11	0,000	48-16	–	0,05	.002	●
LT16NRAG60	LT16NRAG60	16	0,000	48-8	–	0,05	.002	●
LT16NRA60	LT16NRA60	16	0,000	48-16	–	0,05	.002	●
LT16NRG60	LT16NRG60	16	1,000	14-8	–	0,15	.006	●
LT22NRN60	LT22NRN60	22	3,000	7-5	–	0,31	.012	●

LT-ER/L-ISO

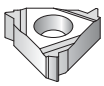


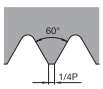


ISO Metric-
External

right hand								
LT16ER05ISO	LT16ER05ISO	16	0,50	–	–	–	–	●
LT16ER075ISO	LT16ER075ISO	16	0,75	–	–	–	–	●
LT16ER10ISO	LT16ER10ISO	16	1,0	–	–	–	–	●
LT16ER15ISO	LT16ER15ISO	16	1,5	–	–	–	–	●
LT16ER20ISO	LT16ER20ISO	16	2,0	–	–	–	–	●
LT16ER25ISO	LT16ER25ISO	16	2,5	–	–	–	–	●
LT16ER30ISO	LT16ER30ISO	16	3,0	–	–	–	–	●
LT22ER35ISO	LT22ER35ISO	22	3,5	–	–	–	–	●
LT22ER40ISO	LT22ER40ISO	22	4,0	–	–	–	–	●
LT22ER45ISO	LT22ER45ISO	22	4,5	–	–	–	–	●
LT22ER50ISO	LT22ER50ISO	22	5,0	–	–	–	–	●
left hand								
LT16EL20ISO	LT16EL20ISO	16	2,0	–	–	–	–	●

LT-NR/L-ISO





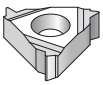
ISO Metric-
Internal

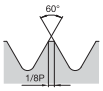
LT11NR10ISO	LT11NR10ISO	11	1,0	–	–	–	–	●
LT11NR15ISO	LT11NR15ISO	11	1,5	–	–	–	–	●
LT16NR10ISO	LT16NR10ISO	16	1,0	–	–	–	–	●
LT16NR15ISO	LT16NR15ISO	16	1,5	–	–	–	–	●
LT16NR20ISO	LT16NR20ISO	16	2,0	–	–	–	–	●
LT16NR25ISO	LT16NR25ISO	16	2,5	–	–	–	–	●
LT16NR30ISO	LT16NR30ISO	16	3,0	–	–	–	–	●
LT22NR40ISO	LT22NR40ISO	22	4,0	–	–	–	–	●

Order example:
ISO catalog number: LT11NR10ISO
Insert grade: KC730

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

LT-ER/L-UN

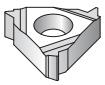


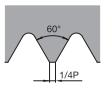


American
UN-External

ISO catalog number	ANSI catalog number	insert size	thread pitch mm	TPI	TPF	RC mm	RC in	KC730
LT16ER8UN	LT16ER8UN	16	–	8	–	–	–	●
LT16ER10UN	LT16ER10UN	16	–	10	–	–	–	●
LT16ER12UN	LT16ER12UN	16	–	12	–	–	–	●
LT16ER14UN	LT16ER14UN	16	–	14	–	–	–	●
LT16ER16UN	LT16ER16UN	16	–	16	–	–	–	●
LT16ER18UN	LT16ER18UN	16	–	18	–	–	–	●
LT16ER20UN	LT16ER20UN	16	–	20	–	–	–	●

LT-NR/L-UN

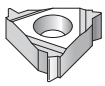


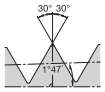


American
UN-Internal

ISO catalog number	ANSI catalog number	insert size	thread pitch mm	TPI	TPF	RC mm	RC in	KC730
LT16NR8UN	LT16NR8UN	16	–	8	–	–	–	●
LT16NR10UN	LT16NR10UN	16	–	10	–	–	–	●
LT16NR12UN	LT16NR12UN	16	–	12	–	–	–	●
LT16NR14UN	LT16NR14UN	16	–	14	–	–	–	●
LT16NR16UN	LT16NR16UN	16	–	16	–	–	–	●
LT16NR18UN	LT16NR18UN	16	–	18	–	–	–	●
LT16NR20UN	LT16NR20UN	16	–	20	–	–	–	●

LT-ER/L-NPT

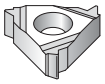


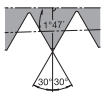


NPT-External

ISO catalog number	ANSI catalog number	insert size	thread pitch mm	TPI	TPF	RC mm	RC in	KC730
LT16ER115NPT	LT16ER115NPT	16	–	11.5	.750	–	–	●
LT16ER14NPT	LT16ER14NPT	16	–	14	.750	–	–	●
LT16ER18NPT	LT16ER18NPT	16	–	18	.750	–	–	●
LT16ER27NPT	LT16ER27NPT	16	–	27	.750	–	–	●

LT-NR/L-NPT



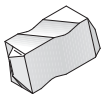


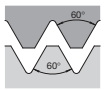
NPT-Internal

ISO catalog number	ANSI catalog number	insert size	thread pitch mm	TPI	TPF	RC mm	RC in	KC730
LT16NR115NPT	LT16NR115NPT	16	–	11.5	.750	–	–	●
LT16NR14NPT	LT16NR14NPT	16	–	14	.750	–	–	●

Order example:
ISO catalog number: LT16NR14NPT
Insert grade: KC730

NT-K

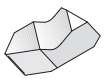


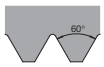


Partial Profile 60°

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	inernal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NT2RK	NT2RK	2	0,70-3,0	1,25-3,5	8.0-36.0	7.0-20.0	0,10	.004	●		●	●
NT3RK	NT3RK	3	1,25-4,0	2,0-5,0	6.0-20.0	5.0-12.0	0,17	.007	●	●	●	●
NT4RK	NT4RK	4	1,25-6,25	2,0-6,25	4.0-20.0	4.0-12.0	0,17	.007	●		●	●
left hand												
NT2LK	NT2LK	2	0,70-3,0	1,25-3,5	8.0-36.0	7.0-20.0	0,10	.004	●		●	●
NT3LK	NT3LK	3	1,25-4,0	2,0-5,0	6.0-20.0	5.0-12.0	0,17	.007	●		●	●
NT4LK	NT4LK	4	1,25-6,25	2,0-6,25	4.0-20.0	4.0-12.0	0,17	.007	●		●	●

NT-1L

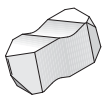


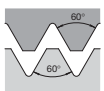


Partial Profile 60° Internal

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
NT1L	NT1L	1	–	1,0-2,0	–	12.0	0,08	.003	●	●		

NT

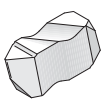


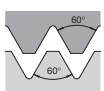


Partial Profile 60°

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NT2R	NT2R	2	0,70-3,0	1,25-3,5	8.0-36.0	7.0-20.0	0,10	.004	●	●	●	●
NT3R	NT3R	3	1,25-4,0	2,0-5,0	6.0-20.0	5.0-12.0	0,17	.007	●	●	●	●
NT4R	NT4R	4	1,25-6,25	2,0-6,25	4.0-20.0	4.0-12.0	0,17	.007	●	●	●	●
left hand												
NT2L	NT2L	2	0,70-3,0	1,25-3,5	8.0-36.0	7.0-20.0	0,10	.004	●	●	●	●
NT3L	NT3L	3	1,25-4,0	2,0-5,0	6.0-20.0	5.0-12.0	0,17	.007	●	●	●	●
NT4L	NT4L	4	1,25-6,25	2,0-6,25	4.0-20.0	4.0-12.0	0,17	.007	●	●	●	●

NTP





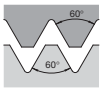
Partial Profile 60°

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NTP2R	NTP2R	2	0,70-3,0	1,25-3,5	8.0-36.0	7.0-20.0	0,10	.004	●	●	●	
NTP3R	NTP3R	3	1,25-4,0	2,0-5,0	6.0-20.0	5.0-12.0	0,17	.007	●	●	●	
NTP4R	NTP4R	4	1,25-6,25	2,0-6,25	4.0-20.0	4.0-12.0	0,17	.007	●	●	●	
left hand												
NTP2L	NTP2L	2	0,70-3,0	1,25-3,5	8.0-36.0	7.0-20.0	0,10	.004	●	●	●	
NTP3L	NTP3L	3	1,25-4,0	2,0-5,0	6.0-20.0	5.0-12.0	0,17	.007	●	●	●	
NTP4L	NTP4L	4	1,25-6,25	2,0-6,25	4.0-20.0	4.0-12.0	0,17	.007	●		●	

Order example:
ISO catalog number: NTP2R
Insert grade: KC730

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

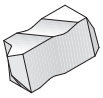
NT-CK

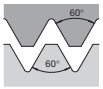


Partial Profile 60°

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NT3RCK	NT3RCK	3	2,5-4,0	4,00	6.0-11.0	6.0	0,34	.014	●		●	
NT4RCK	NT4RCK	4	2,5-5,5	4,00	4.5-11.0	4.5	0,34	.014	●		●	
left hand												
NT3LCK	NT3LCK	3	2,5-4,0	4,00	6.0-11.0	6.0	0,34	.014	●			

NT-C

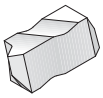


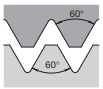


Partial Profile 60°

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NT3RC	NT3RC	3	2,5-4,0	4,0	6.0-11.0	6.0	0,34	.014	●		●	
NT4RC	NT4RC	4	2,5-5,5	4,0-5,5	4.5-11.0	4.5-6.0	0,34	.014	●		●	
left hand												
NT3LC	NT3LC	3	2,5-4,0	4,0	6.0-11.0	6.0	0,10	.004	●		●	
NT4LC	NT4LC	4	2,5-5,5	4,0-5,5	4.5-11.0	4.5-6.0	0,34	.014	●			

NTF

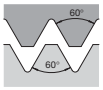




Partial Profile 60°

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NTF2R	NTF2R	2	0,60-1,75	1,0-2,0	14.0-44.0	12.0-24.0	0,08	.003	●	●	●	
NTF3R	NTF3R	3	0,60-2,5	1,0-2,5	10.0-44.0	9.0-24.0	0,08	.003	●	●	●	
NTF4R	NTF4R	4	0,60-2,5	1,0-2,5	10.0-44.0	9.0-24.0	0,08	.003	●		●	
left hand												
NTF2L	NTF2L	2	0,60-1,75	1,0-2,0	14.0-44.0	12.0-24.0	0,08	.003	●	●	●	
NTF3L	NTF3L	3	0,60-2,5	1,0-2,5	10.0-44.0	9.0-24.0	0,08	.003	●	●	●	

NTK

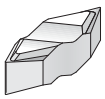


Partial Profile 60°

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NTK2R	NTK2R	2	0,60-1,75	1,0-2,0	14.0-44.0	12.0-24.0	0,08	.003	●		●	
NTK3R	NTK3R	3	0,60-2,5	1,0-2,5	10.0-44.0	9.0-24.0	0,08	.003	●	●	●	
NTK4R	NTK4R	4	0,60-2,5	1,0-2,5	10.0-44.0	9.0-24.0	0,08	.003	●			
left hand												
NTK2L	NTK2L	2	0,60-1,75	1,0-2,0	14.0-44.0	12.0-24.0	0,08	.003	●		●	
NTK3L	NTK3L	3	0,60-2,50	1,0-2,5	10.0-44.0	9.0-24.0	0,08	.003	●		●	

Order example:
ISO catalog number: NTK2R
Insert grade: KC730

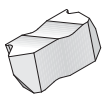
NTU

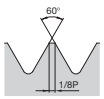


Partial Profile
60° External

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NTU4R	NTU4R	4U	1,25-6,25	–	4.0-20.0	–	0,11	.005			●	
left hand												
NTU4L	NTU4L	4U	1,25-6,25	–	4.0-20.0	–	0,11	.005			●	

NTC-E



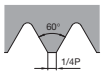


American
UN-External

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NTC3R7E	NTC3R7E	3	–	–	7	–	0,47	.019	●			
NTC3R8E	NTC3R8E	3	–	–	8	–	0,41	.016	●			
NTC3R10E	NTC3R10E	3	–	–	10	–	0,32	.012	●			
NTC3R11E	NTC3R11E	3	–	–	11	–	0,28	.011	●			
NTC3R12E	NTC3R12E	3	–	–	12	–	0,25	.010	●	●		
NTC3R13E	NTC3R13E	3	–	–	13	–	0,24	.010	●			
NTC3R14E	NTC3R14E	3	–	–	14	–	0,22	.009	●			
NTC3R16E	NTC3R16E	3	–	–	16	–	0,19	.008	●	●		
NTC3R18E	NTC3R18E	3	–	–	18	–	0,18	.007	●	●	●	
NTC3R20E	NTC3R20E	3	–	–	20	–	0,16	.006	●	●		
NTC3R24E	NTC3R24E	3	–	–	24	–	0,13	.005	●			
NTC3R28E	NTC3R28E	3	–	–	28	–	0,12	.005	●			
NTC3R32E	NTC3R32E	3	–	–	32	–	0,10	.004	●			
left hand												
NTC3L8E	NTC3L8E	3	–	–	8	–	0,41	.016	●			
NTC3L12E	NTC3L12E	3	–	–	12	–	0,25	.010	●			

Order example:
ISO catalog number: NTC3R7E
Insert grade: KC730

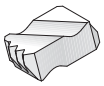
NTC-I

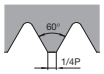


American
UN-Internal

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
NTC3L8I	NTC3L8I	3	–	–	–	8	0,18	.007	●			
NTC3L10I	NTC3L10I	3	–	–	–	10	0,13	.005	●			
NTC3L12I	NTC3L12I	3	–	–	–	12	0,10	.004	●	●		
NTC3L16I	NTC3L16I	3	–	–	–	16	0,08	.003	●			

NTC-IM (Multi-Tooth)

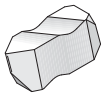


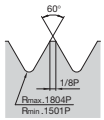


American
UN-Internal

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
NTC8L12IM	NTC8L12IM	8	–	–	–	12	0,13	.005	●			

NJ

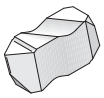


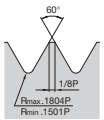


UNJ
External

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NJ3020R8	NJ3020R8	3	–	–	8	–	0,49	.019	●		●	
NJ3014R12	NJ3014R12	3	–	–	12	–	0,33	.013	●	●	●	
NJ3010R16	NJ3010R16	3	–	–	16	–	0,25	.010	●	●	●	
left hand												
NJ3020L8	NJ3020L8	3	–	–	8	–	0,49	.019	●		●	
NJ3014L12	NJ3014L12	3	–	–	12	–	0,33	.013			●	
NJ3010L16	NJ3010L16	3	–	–	16	–	0,25	.010		●		

NJP



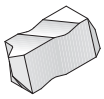


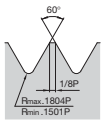
UNJ
External

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NJP3020R8	NJP3020R8	3	–	–	8	–	0,49	.019	●		●	
NJP3014R12	NJP3014R12	3	–	–	12	–	0,33	.013	●		●	
NJP3010R16	NJP3010R16	3	–	–	16	–	0,25	.010	●		●	
left hand												
NJP3020L8	NJP3020L8	3	–	–	8	–	0,49	.019	●		●	
NJP3014L12	NJP3014L12	3	–	–	12	–	0,33	.013	●		●	
NJP3010L16	NJP3010L16	3	–	–	16	–	0,25	.010	●		●	

Order example:
ISO catalog number: NJP3020R8
Insert grade: KC730

NJF

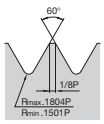




UNJ
External

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NJF3012R14	NJF3012R14	3	–	–	14	–	0,28	.011	●			
NJF3010R16	NJF3010R16	3	–	–	16	–	0,25	.010	●			
NJF3009R18	NJF3009R18	3	–	–	18	–	0,22	.009	●			
NJF3008R20	NJF3008R20	3	–	–	20	–	0,20	.008	●			
NJF3007R24	NJF3007R24	3	–	–	24	–	0,17	.007	●			
NJF3006R28	NJF3006R28	3	–	–	28	–	0,15	.006	●			
NJF3005R32	NJF3005R32	3	–	–	32	–	0,13	.005	●			
left hand												
NJF3010L16	NJF3010L16	3	–	–	16	–	0,25	.010	●			
NJF3009L18	NJF3009L18	3	–	–	18	–	0,22	.009	●			
NJF3008L20	NJF3008L20	3	–	–	20	–	0,20	.008	●			
NJF3005L32	NJF3005L32	3	–	–	32	–	0,13	.005	●			

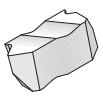
NJK

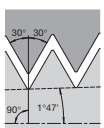


UNJ
External

ISO catalog number	ANSI catalog number	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand												
NJK3012R14	NJK3012R14	3	–	–	14	–	0,28	.011	●		●	
NJK3010R16	NJK3010R16	3	–	–	16	–	0,25	.010	●		●	
NJK3009R18	NJK3009R18	3	–	–	18	–	0,22	.009	●		●	
NJK3008R20	NJK3008R20	3	–	–	20	–	0,20	.008	●		●	
NJK3007R24	NJK3007R24	3	–	–	24	–	0,17	.007	●		●	
NJK3006R28	NJK3006R28	3	–	–	28	–	0,15	.006	●			
NJK3005R32	NJK3005R32	3	–	–	32	–	0,13	.005	●			
left hand												
NJK3010L16	NJK3010L16	3	–	–	16	–	0,25	.010	●			
NJK3009L18	NJK3009L18	3	–	–	18	–	0,22	.009	●			
NJK3008L20	NJK3008L20	3	–	–	20	–	0,20	.008	●			
NJK3007L24	NJK3007L24	3	–	–	24	–	0,17	.007	●			
NJK3005L32	NJK3005L32	3	–	–	32	–	0,13	.005	●			

NDC-V





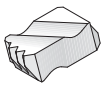
NPT

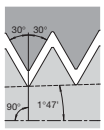
ISO catalog number	ANSI catalog number	insert size	TPI	TPF	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand										
NDC38VR75	NDC38VR75	3	8	.75	0,13	.005	●			
NDC3115VR75	NDC3115VR75	3	11.5	.75	0,10	.004	●			
NDC314VR75	NDC314VR75	3	14	.75	0,08	.003	●			
NDC318VR75	NDC318VR75	3	18	.75	0,08	.003	●			
left hand										
NDC38VL75	NDC38VL75	3	8	.75	0,13	.005	●			
NDC3115VL75	NDC3115VL75	3	11.5	.75	0,10	.004	●			

Order example:
ISO Catalog number: NDC38VR75
Insert grade: KC730

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

NDC-V-M (Multi-Tooth)

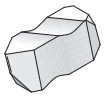


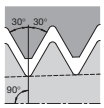


NPT

ISO catalog number	ANSI catalog number	insert size	TPI	TPF	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand										
NDC88VR75M	NDC88VR75M	8	8	.75	0,13	.005	●			
NDC8115VR75M	NDC8115VR75M	8	11.5	.75	0,10	.004	●			
left hand										
NDC88VL75M	NDC88VL75M	8	8	.75	0,13	.005	●			
NDC8115VL75M	NDC8115VL75M	8	11.5	.75	0,10	.004	●			

ND (Partial Profile)

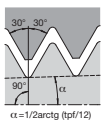




API Rotary Shoulder Connections

ISO catalog number	ANSI catalog number	insert size	TPI	internal TPI	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand										
ND3040R	ND3040R	3	5	–	0,45	.018			●	
ND4050R	ND4050R	4	4	–	0,57	.023			●	
ND4040R	ND4040R	4	5	–	0,45	.018	●			
left hand										
ND3040L	ND3040L	3	5	–	0,45	.018			●	

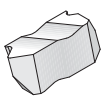
NDC (Cresting)

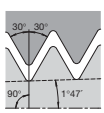


API Rotary Shoulder Connections

ISO catalog number	ANSI catalog number	insert size	TPI	TPF	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand										
NDC3040R3	NDC3040R3	3	5	3.0	0,45	.018	●			
NDC4038R2	NDC4038R2	4	4	2.0	0,90	.036	●	●		
NDC4050R2	NDC4050R2	4	4	2.0	0,57	.023	●			
left hand										
NDC3040L3	NDC3040L3	3	5	3.0	0,45	.018	●			
NDC4038L2	NDC4038L2	4	4	2.0	0,90	.036	●	●		
NDC4050L2	NDC4050L2	4	4	2.0	0,57	.023	●			

NDC-RD



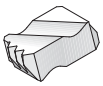


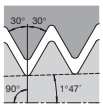
API Round

ISO catalog number	ANSI catalog number	insert size	TPI	TPF	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand										
NDC38RDR75	NDC38RDR75	3	8	.75	0,43	.017	●	●	●	
NDC310RDR75	NDC310RDR75	3	10	.75	0,36	.014	●	●	●	
left hand										
NDC38RDL75	NDC38RDL75	3	8	.75	0,43	.017	●	●	●	
NDC310RDL75	NDC310RDL75	3	10	.75	0,36	.014	●		●	

Order example:
Catalog number: NDC38RDR75
Insert grade: KC730

NDC-RD-M (Multi-Tooth)

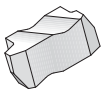


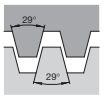


API Round

ISO catalog number	ANSI catalog number	insert size	TPI	TPF	RC mm	RC in	KC730	KC810	KC850	KU25T
NDC88RDR75M	NDC88RDR75M	8	8	.75	0,41	.016	●			

NA





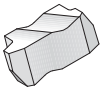
Acme

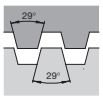
ISO catalog number	ANSI catalog number	insert size	TPI	TPF	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand										
NA3R4	NA3R4	3	4	–	–	–	●		●	
NA3R5	NA3R5	3	5	–	–	–	●		●	
NA3R6	NA3R6	3	6	–	–	–	●		●	
NA3R8	NA3R8	3	8	–	–	–	●		●	
NA3R10	NA3R10	3	10	–	–	–	●		●	
NA3R12	NA3R12	3	12	–	–	–	●		●	
NA3R14	NA3R14	3	14	–	–	–	●			
NA3R16	NA3R16	3	16	–	–	–	●			
NA4R4	NA4R4	4	4	–	–	–	●	●	●	
NA4R5	NA4R5	4	5	–	–	–	●			
NA6R2	NA6R2	6	2	–	–	–	●	●		
NA6R25	NA6R25	6	2.5	–	–	–	●			
NA6R3	NA6R3	6	3	–	–	–	●	●		
left hand										
NA3L4	NA3L4	3	4	–	–	–	●		●	
NA3L5	NA3L5	3	5	–	–	–	●		●	
NA3L6	NA3L6	3	6	–	–	–	●		●	
NA3L8	NA3L8	3	8	–	–	–	●		●	
NA3L10	NA3L10	3	10	–	–	–	●		●	
NA3L12	NA3L12	3	12	–	–	–			●	
NA3L16	NA3L16	3	16	–	–	–	●			
NA4L4	NA4L4	4	4	–	–	–	●		●	
NA6L2	NA6L2	6	2	–	–	–	●	●		
NA6L3	NA6L3	6	3	–	–	–	●	●		

Order example:
ISO Catalog number: NA3R4
Insert grade: KC850

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

NAS

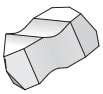


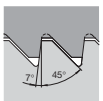


Stub Acme

ISO catalog number	ANSI catalog number	insert size	TPI	TPF	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand										
NAS3R5	NAS3R5	3	5	–	–	–	●			
NAS3R6	NAS3R6	3	6	–	–	–	●		●	
NAS3R8	NAS3R8	3	8	–	–	–	●	●	●	
NAS3R10	NAS3R10	3	10	–	–	–	●			
NAS3R12	NAS3R12	3	12	–	–	–	●			
NAS3R16	NAS3R16	3	16	–	–	–	●			
left hand										
NAS3L5	NAS3L5	3	5	–	–	–	●			
NAS3L6	NAS3L6	3	6	–	–	–	●		●	
NAS3L8	NAS3L8	3	8	–	–	–	●	●	●	
NAS3L10	NAS3L10	3	10	–	–	–	●			
NAS3L12	NAS3L12	3	12	–	–	–	●			

NTB-A

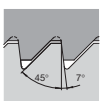




American Buttress-Push

ISO catalog number	ANSI catalog number	insert size	TPI	TPF	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand										
NTB3RA	NTB3RA	3	8-16	–	0,17	.007	●			
left hand										
NTB3LA	NTB3LA	3	8-16	–	0,17	.007	●			

NTB-B



American Buttress-Pull

ISO catalog number	ANSI catalog number	insert size	TPI	TPF	RC mm	RC in	KC730	KC810	KC850	KU25T
right hand										
NTB2RB	NTB2RB	2	16-20	–	0,08	.003	●			
NTB3RB	NTB3RB	3	8-16	–	0,17	.007	●	●		
NTB4RB	NTB4RB	4	4-6	–	0,25	.010	●			
left hand										
NTB2LB	NTB2LB	2	16-20	–	0,08	.003	●			
NTB3LB	NTB3LB	3	8-16	–	0,17	.007	●			
NTB4LB	NTB4LB	4	4-6	–	0,25	.010	●			

Order example:
ISO catalog number: NTB2RB
Insert grade: KC730

Table of Contents

Technical Section I1–I43

Wiper Technology I2

Positive Wiper Inserts I3

Negative Wiper Inserts I4–I5

Failure Mechanism Analysis I6

Nose Radius Selection and Surface Finish Guide I7

Troubleshooting Guide I8

Technical Data I9–I28

Wrenches I29–I31

Torque Recommendations I32–I37

Material Grade Comparison Tables I38–I43

Wiper Technology – Improve your turning operations!

Surface Finish
Carbide and Ceramic Inserts

Theoretical Surface Finish – Ra

insert	µ. m. (µ in.) feed rate — mm/rev (ipr)									
FW, MW D	0,05 (.002)	0,10 (.004)	0,15 (.006)	0,20 (.008)	0,25 (.010)	0,30 (.012)	0,35 (.014)	0,40 (.016)	0,45 (.018)	0,50 (.020)
6, 35mm (1/4")	0,03 (1)	0,15 (6)	0,35 (14)	0,55 (22)	0,90 (35)	1,25 (49)	—	—	—	—
9,53mm (3/8")	0,02 (1)	0,10 (4)	0,20 (8)	0,35 (14)	0,55 (22)	0,75 (30)	1,00 (39)	—	—	—
12,7mm (1/2")	0,02 (1)	0,06 (2)	0,15 (6)	0,25 (10)	0,40 (16)	0,60 (24)	0,80 (31)	1,00 (39)	1,30 (51)	1,60 (63)

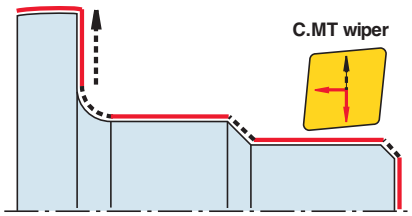
Tipped CBN Inserts

Theoretical Surface Finish – Ra

insert	µ. m. (µ in.) feed rate — mm/rev (ipr)			
Insert Size and Type D	0,10 (.004)	0,15 (.006)	0,20 (.008)	0,30 (.012)
FW 6,35mm (1/4")	0,14 (6)	0,32 (13)	0,58 (22)	—
MW 9,53mm (3/8")	0,11 (4)	0,24 (9)	0,43 (17)	0,97 (38)

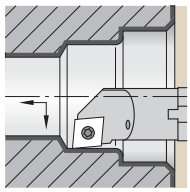
CCMT and CPMT Inserts

- surface with wiper effect
- surface with designated insert nose radius

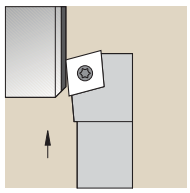


SCREW-ON Toolholders and Boring Bars

SCL.

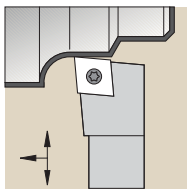


SCL.

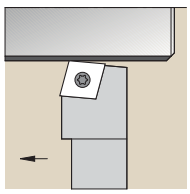


C.MT 80° corner inserts for 95° SCL. toolholders or boring bars

SCK.



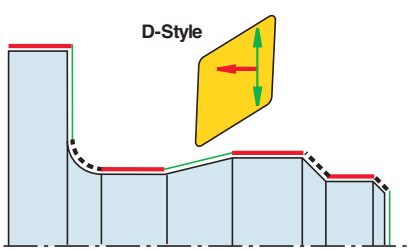
SCR.



C.MT 100° corner insert for 75° SCK. toolholders

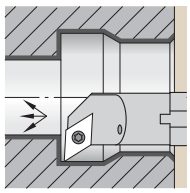
DCMT- and DPMT-Style Inserts

- surface finish with wiper effect
- surface with designated insert nose radius
- surface finish with 0,41mm (.016") radius

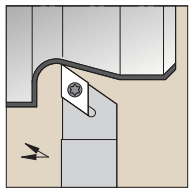


SCREW-ON Toolholders and Boring Bars

SDU.



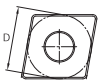
SDJ.



D.MT 55° inserts require a 93° lead angle and can be used in SDU and SDJ style toolholders and boring bars

Surface Finish

Carbide and Ceramic Inserts

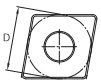


Theoretical Surface Finish – Ra

µ m (µ in.)

insert	feed rate – mm/rev (ipr)										
FW, MW & RW D	0,2 (.008)	0,3 (.012)	0,4 (.016)	0,5 (.020)	0,6 (.024)	0,7 (.028)	0,8 (.032)	0,9 (.036)	1 (.040)	1,1 (.044)	1,2 (.048)
9,53mm (3/8")	0,3 (14)	0,75 (30)	1,3 (50)	2 (80)	–	–	–	–	–	–	–
12,7mm (1/2")	–	0,6 (23)	1 (41)	1,6 (63)	2,2 (91)	3 (120)	4 (160)	5 (200)	6,2 (250)	–	–
19,05mm + 25,4mm (3/4") (1")	–	–	–	–	(2,6) 103	(3,5) 141	(4,6) 184	(5,8) 232	(7,2) 287	(8,7) 347	(10,3) 413

Solid and Tipped CBN Inserts



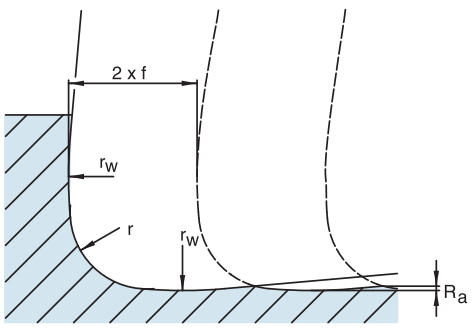
Theoretical Surface Finish – Ra

µ m (µ in.)

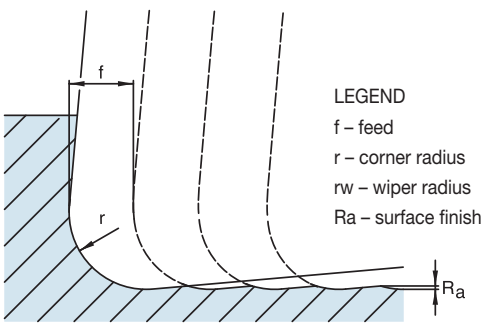
insert	feed rate – mm/rev (ipr)				
Insert Size and Type D	0,1 (.004)	0,15 (.006)	0,2 (.008)	0,3 (.012)	0,4 (.016)
FW 12,7mm (1/2")	0,06 (3)	0,14 (6)	0,26 (10)	0,6 (23)	1,0 (41)
MW 12,7mm (1/2")	0,05 (2)	0,11 (4)	0,19 (7)	0,42 (17)	0,75 (29)

How It Works

Wiper Insert

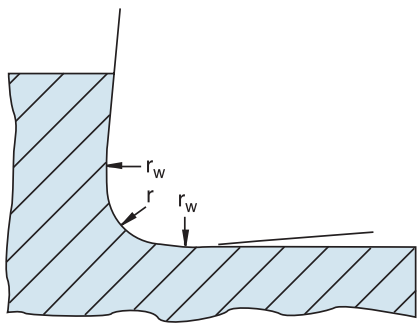


Standard Insert

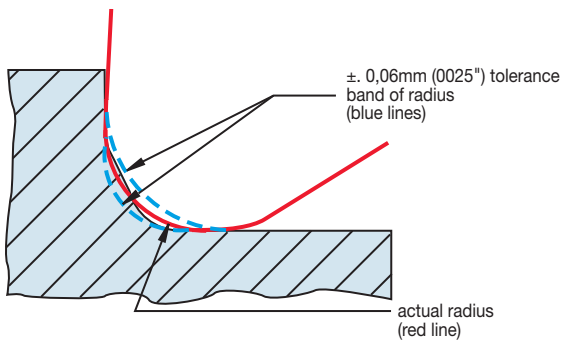


Corner Radius Configuration

CNMG and WNMG wiper inserts create a true corner radius on the workpiece, just as a standard insert does.



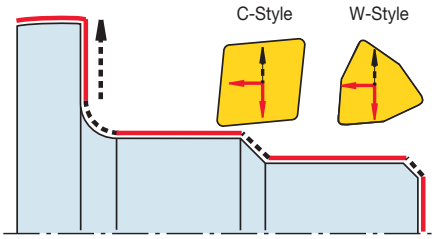
DNMG and TNMG wiper inserts do not provide an exact corner radius on the workpiece. The radius produced falls within a ±0,06mm (.0025") tolerance band. (blue lines)



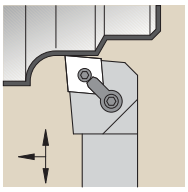
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

C- and W-Style Inserts

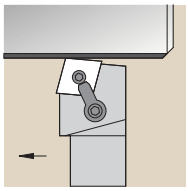
surface with wiper effect
surface with standard insert edge



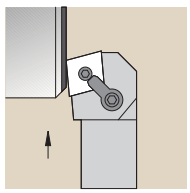
Toolholders



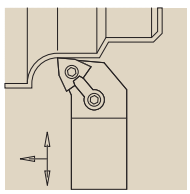
CN..80° corner insert
for DCLN, PCLN, MCLN, CCLN,
95° toolholders



CN..100° corner insert
for DCRN, PCRN, MCRN,
75° toolholders



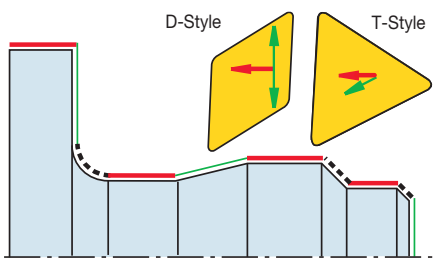
CN..100° corner insert
for DCKN, PCKN, MCKN,
75° toolholders



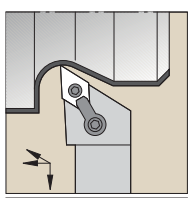
WN..80° corner insert
for DWLN, PWLN, MWLN,
CWLN, 95° toolholders

D- and T-Style Inserts

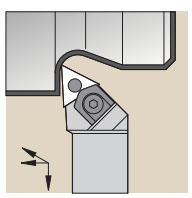
surface finish with wiper effect
surface with designated insert nose radius
surface finish with 0,41mm (.016") radius



Toolholders



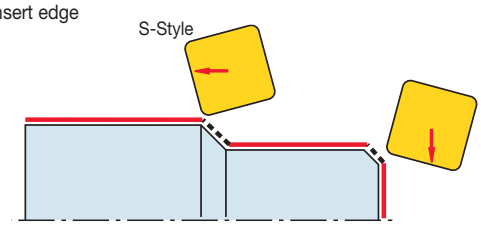
DN..55° corner insert
for DDJN, PDJN, MDJN,
93° toolholders



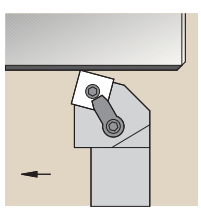
TN..60° corner insert
for DTJN, MTJN,
93° toolholders

S-Style Inserts

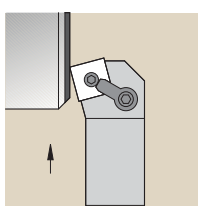
surface with wiper effect
surface with standard insert edge



Toolholders



SN..90° corner insert
for DSBN, DSRN, PSBN, PSDN,
CSRN, 75° toolholders

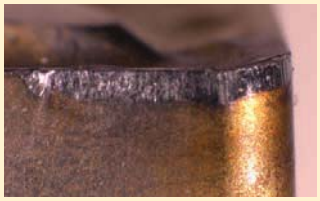


SN..90° corner insert
for DSKN, PSKN, MSKN, CSKN,
75° toolholders

NOTE: The holder guidelines above also apply to ceramic/PCBN wiper inserts in similar insert shapes, i.e., CNGA, CNGX, DNGA, etc.

Failure Mechanism Analysis

Failure: Edge Wear

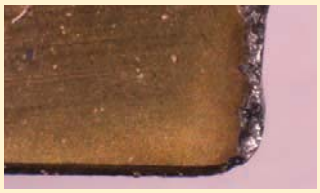


Effect:
Gradual change in part size or deterioration of surface finish.

Corrective Actions:
- Apply grades with thicker coating (more wear resistance, i.e., lower ISO range, P05, K10).
- Reduce speed.
- Use more wear-resistant grade.

This is the most predictable mechanism!

Failure: Chipping



Effect:
Sudden change in part size or surface finish, sparking, or fuzzing of surface.

Corrective Actions:
- Use higher ISO range (i.e., P40, K25, etc.).
- Use larger edge preparation.
- Check rigidity of system.
- Increase lead angle.

Failure: Heat Deformation

Effect:
Accelerating loss of part size, poor cutting action, and power increase may result in breakage if allowed to progress.

Corrective Actions:
- Reduce speed.
- Reduce feed.
- Apply coolant with correct pressure, direction, and flow rate.
- Reduce depth-of-cut.
- Use grade with higher hardness (lower ISO range, i.e., P05, K15,etc.).

Failure: Depth-of-Cut Notching

Effect:
Large burr is likely to form — may result in breakage if notch grows too large.

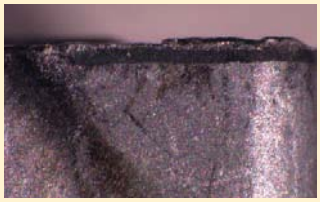
Corrective Actions:
- Increase lead angle.
- Change to smaller T-land or hone edge preparation.
- Apply different grade.
- Decrease feed.
- Decrease depth-of-cut (round insert).
- Program multiple passes with varying depths.
- Use more positive geometry.

Failure: Thermal Cracking

Effect:
Can lead to chipping and breakage; common for interrupted cutting.

Corrective Actions:
- Switch to dry machining or coolant to ensure high volume of properly directed coolant.
- Reduce speed.

Failure: Built-Up Edge



Effect:
Varying part sizes, poor surface finish, and fuzz or hairs adhering to part surface.

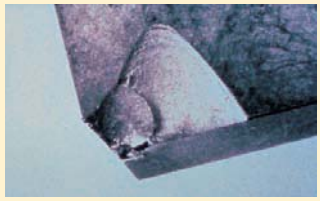
Corrective Actions:
- Increase speed.
- Increase feed rate.
- Switch from roughing to medium or medium to finishing insert.
- Apply newest coated grades or cermets.
- Use more lubricious coolant or higher concentration.
- Switch to smaller edge preparation (i.e., smaller hone size).

Failure: Crater Wear

Effect:
Sudden change in chip formation and a decrease in power consumption will result in chipping, breakage, or heat deformation if allowed to progress.

Corrective Actions:
- Use grade with thicker coating.
- Reduce speed.

Failure: Catastrophic Breakage

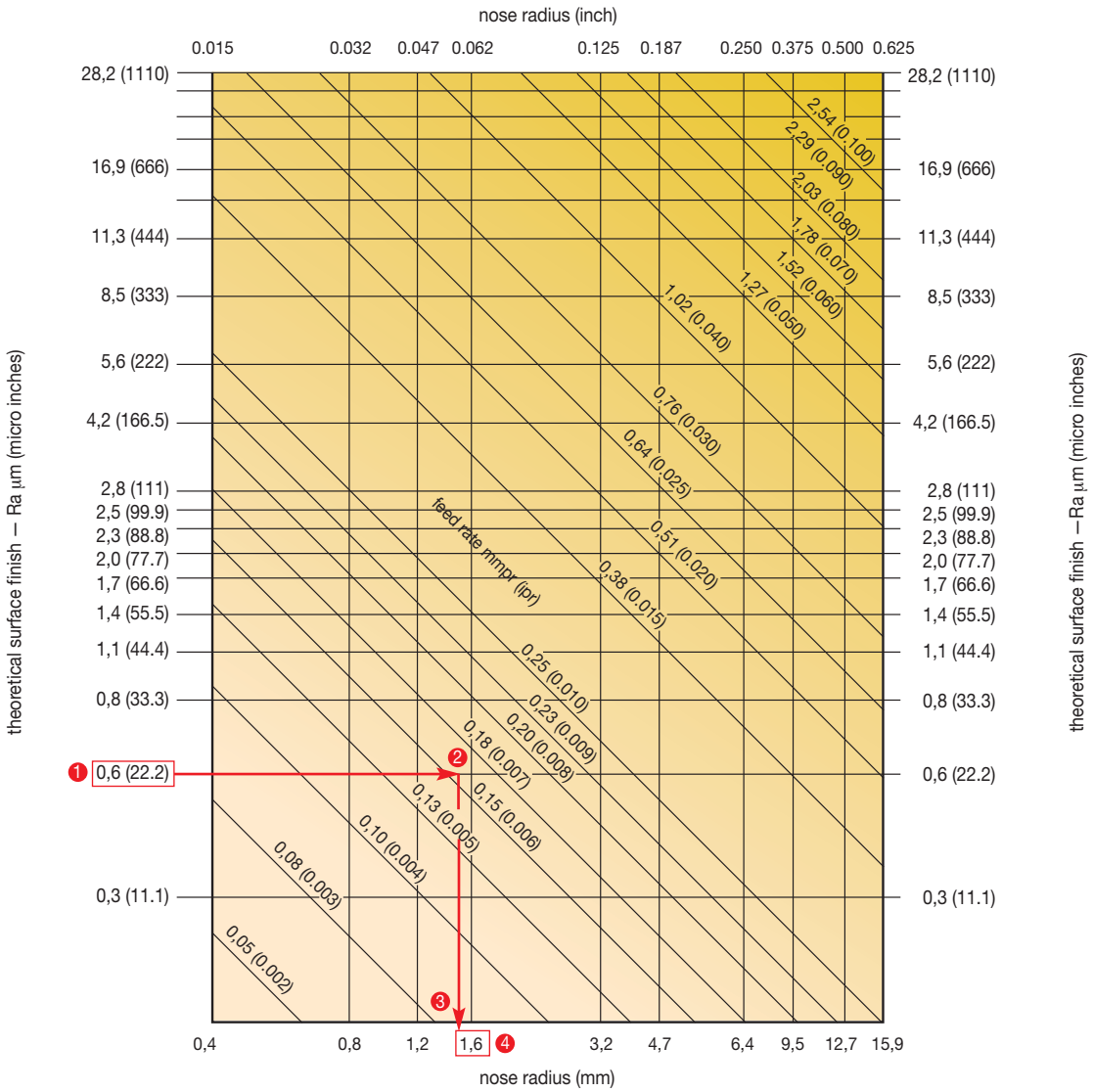


Effect:
Sudden unpredictable loss of cutting action resulting in scrap or damaged parts and possibly a damaged holder.

Corrective Actions:
- Use stronger insert geometry.
- Reduce feed rate.
- Inspect toolholder and replace hardware.
- Reduce depth-of-cut.
- Check rigidity of system.
- Reduce tool overhang.
- Eliminate vibrations.
- Use a grade with a higher ISO range (i.e., P40, K25, 2TC).

NOTE: Generally, edge wear is the most predictable and desirable mechanism. Inserts should be indexed when .030 inch (0,75mm) edge wear is reached. For finishing operations, index at .015 inch (0,38mm) flank wear or sooner.

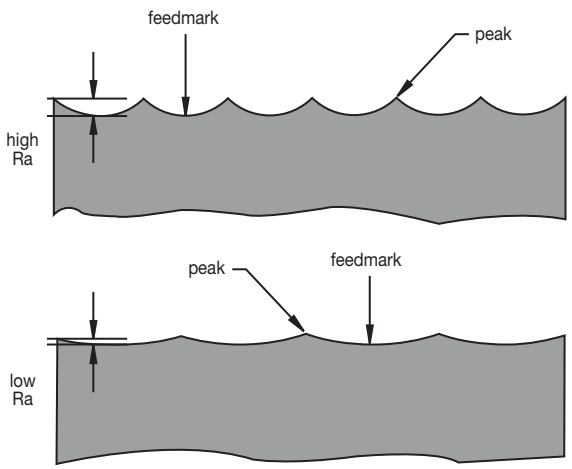
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



feed rate mmpr (ipr)

Nose radius and feed rate have the greatest impact on surface finish. To determine the nose radius required for a theoretical surface finish, use the following procedure and the chart above:

1. Locate the required surface finish (Ra) on the vertical axis.
2. Follow the horizontal line corresponding to the desired theoretical finish to where it intersects the diagonal line corresponding to the intended feed rate.
3. Project a line downward to the nose radius scale and read the required nose radius.
4. If this line falls between two values, choose the larger value:
   - If no available nose radius will produce the required finish, feed rate must be reduced.
   - Reverse the procedure to obtain surface finish from a given nose radius.



NOTE:
Peaks produced with a small radii insert (top) compared to those produced with a large radius insert (bottom).

*NOTE: See pages I3–I5 for radius and surface finish specifications using wiper-style inserts.

Tool Detective — Turning Troubleshooting Matrix

	Problem/Concern												
	Unacceptable Chips		Workplace Concerns		Machine Concerns	Insert Failure Modes							
Possible Causes and Areas of Investigation	stringer/ribbons (light silver color)	corrugated/tight (dark blue or black color)	finish/rms tolerance	interrupted cuts	areas of investigation	edge wear	heat deformation (up-set)	thermal cracking	crater	chipping	depth-of-cut notching	built-up edge	catastrophic breakage
speeds (sfm)	P↑	●	P	P↑	●	P	P↓	●	P↓	●	●	P↑	●
feed	P↑	P↓	P	P↓	●	P	P↓	●	P↓	●	●	P↑	●
depth-of-cut	●	●	—	P↓	—	●	P↓	●	—	—	—	—	●
grade	—	—	●	●	—	P	●	P	●	P	●	●	●
coolant	●	●	●	—	●	●	●	P	●	●	—	●	●
rake angle	●	●	●	●	—	—	●	●	●	●	●	●	●
edge preparation	●	●	●	●	—	—	—	—	—	P	●	—	●
material (type/condition)	●	●	●	●	—	—	—	—	—	●	P	P	●
center height	—	—	●	—	●	●	—	—	—	●	—	●	—
geometry (insert)	P	P	—	●	—	—	—	—	●	●	—	●	●
insert finish	—	—	●	—	—	—	—	—	—	—	—	●	—
insert thickness	—	—	—	●	—	—	●	●	—	●	●	—	●
nose radius	●	●	P	●	—	—	●	—	—	●	—	—	●
lead angle	●	●	—	↑	—	—	—	—	—	●	P	—	●
holder (type/condition)	—	—	—	—	—	—	—	—	—	●	—	—	●
machine condition	—	—	●	●	●	—	—	—	—	●	—	—	●
chip flow direction	●	—	●	—	—	—	—	—	●	—	—	—	—
horsepower	—	—	—	●	●	—	—	—	—	—	—	—	—
excessive overhang	—	—	—	●	●	—	—	—	—	—	—	—	●
gibs (worn/out of adjust.)	—	—	—	●	●	—	—	—	—	—	—	—	—
spindle bearings	—	—	—	●	●	—	—	—	—	—	—	—	—
turret	—	—	—	—	●	—	—	—	—	—	—	—	—
head stock	—	—	—	—	●	—	—	—	—	—	—	—	—
machine level	—	—	—	—	●	—	—	—	—	—	—	—	—
machine anchored	—	—	—	—	●	—	—	—	—	—	—	—	—
workholding	—	—	—	●	●	—	—	—	—	●	—	—	●
lead screw	—	—	—	—	●	—	—	—	—	—	—	—	—
rigidity	—	—	—	●	P	—	—	—	—	●	—	—	P
chatter	—	—	—	●	—	—	—	—	—	●	—	—	P

↑↓ Arrows indicate direction of adjustment.
"P" indicates areas of primary investigation.

Indexing

Before indexing to a new cutting edge, check for the following:

1. Be sure holder pocket supports shim completely. If not, replace the holder.

2. Inspect shim to be sure it adequately supports cutting edge/nose radius. If not, replace the shim. Should this be required, be certain the proper thickness of shim is used to maintain proper cutting height.

Two common errors associated with shim changes are using improper thickness and failure to use a negative or positive shim that matches the insert.

NOTE: Kendex™ and Kenloc™ shims cannot be interchanged.

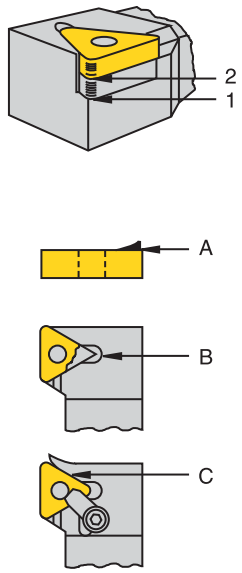
3. When indexing the insert, common errors are:

A. Not removing build-up when turning insert over, which results in insert not seating properly on shim.

B. Attempting to use remaining edges on severely damaged insert. Insert pocket contact area is reduced and will not be adequate for supporting insert in the cut.

C. Continuing to use worn pockets which do not seat insert properly.

NOTE: When excessive tool forces are generated, pocket deformation can occur.



Clamping

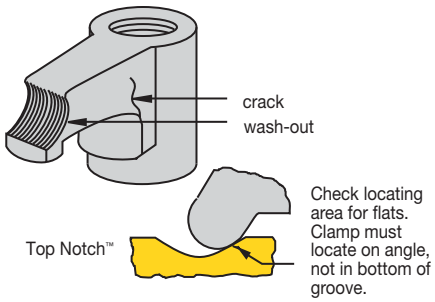
To ensure proper performance, good clamping is essential.

Common errors observed are:

A. Failure to replace worn, chip-washed, or otherwise damaged clamps.

B. Overtightening, which can damage clamp and screw and freeze clamp to clamp screw.

C. Bottoming of clamp prior to engaging face of insert and chipbreaker plate.

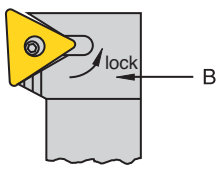


Pin

Common problems associated with pinlock-type holders are:

A. Failure to replace broken, worn, or damaged pins.

B. Failure to rotate and lock insert in proper direction.



Maximum metal removal can only be achieved with a good, continuing toolholder program that includes:

1. Indexing inserts at proper intervals to prevent major damage to holder.

2. Periodic inspection and replacement of worn holders and parts.

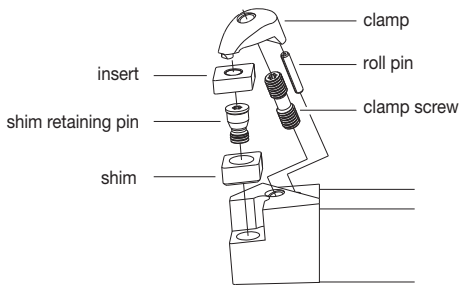
3. Maintaining adequate inventory of backup holders and related hardware.

4. Continued development of standardization of insert shape and holders. This will result in lower inventory of holder styles and related hardware.

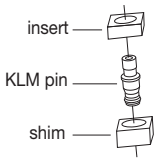
KENCLAMP™ Toolholders and Boring Bars

Based on insert size and shape, each line defines standard or optional hardware that can be assembled in a toolholder or boring bar.

STANDARD HARDWARE



OPTIONAL HARDWARE



insert size and shape	insert thickness size (mm)	ANSI	ISO	shim	thickness (mm)	shim screw	clamp	clemp screw	lock pin
80° diamond CN..12	4,76	3	04	ICSN-433	4,76	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	4,76	3	04	ICSN-433	4,76	–	–	–	KLM-46-15IP
	4,76	3	04	ICSN-443	6,35	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	4,76	3	04	ICSN-443	6,35	–	–	–	KLM-46L-15IP
CN..16	6,35	4	06	ICSN-533	4,76	KMSP-5-15IP	CM-209	STCM-11-15IP	–
	6,35	4	06	ICSN-533	4,76	–	–	–	KLM-58-15IP
	6,35	4	06	ICSN-543	6,35	KMSP-5-15IP	CM-209	STCM-11-15IP	–
	6,35	4	06	ICSN-543	6,35	–	–	–	KLM-58L-15IP
100° diamond CN..12	4,76	3	04	ICSN-433	4,76	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	4,76	3	04	ICSN-433	4,76	–	–	–	KLM-46-15IP
	4,76	3	04	ICSN-443	6,35	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	4,76	3	04	ICSN-443	6,35	–	–	–	KLM-46L-15IP
CN..16	6,35	4	06	ICSN-533	4,76	KMSP-5-15IP	CM-209	STCM-11-15IP	–
	6,35	4	06	ICSN-533	4,76	–	–	–	KLM-58-15IP
	6,35	4	06	ICSN-543	6,35	KMSP-5-15IP	CM-209	STCM-11-15IP	–
	6,35	4	06	ICSN-543	6,35	–	–	–	KLM-58L-15IP
55° diamond DN..15	4,76	3	04	IDSN-443	6,35	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	4,76	3	04	IDSN-443	6,35	–	–	–	KL-46L-15IP
	6,35†	4	06	IDSN-433	4,76	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	6,35	4	06	IDSN-433	4,76	–	–	–	KL-46L-15IP
DN..19	6,35	4	06	IDSN-543	6,35	KMSP-5-15IP	CM-209	STCM-11-15IP	–
	6,35	4	06	IDSN-543	6,35	–	–	–	KLM-58L-15IP
square SN..12	4,76	3	04	ISSN-433	4,76	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	4,76	3	04	ISSN-433	4,76	–	–	–	KLM-46-15IP
	4,76	3	04	ISSN-443	6,35	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	4,76	3	04	ISSN-443	6,35	–	–	–	KLM-46L-15IP
SN..15	6,35	4	06	ISSN-543	6,35	KMSP-5-15IP	CM-209	STCM-11-15IP	–
	6,35	4	06	ISSN-543	6,35	–	–	–	KLM-58L-15IP
triangle TN..22	4,76	3	04	ITSN-443	6,35	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	4,76	3	04	ITSN-443	6,35	–	–	–	KLM-46L-15IP
trigon WN..08	4,76	3	04	IWSN-433	4,76	KMSP-4-15IP	CM-234	STCM-11-15IP	–
	4,76	3	04	IWSN-433	4,76	–	–	–	KLM-46-15IP

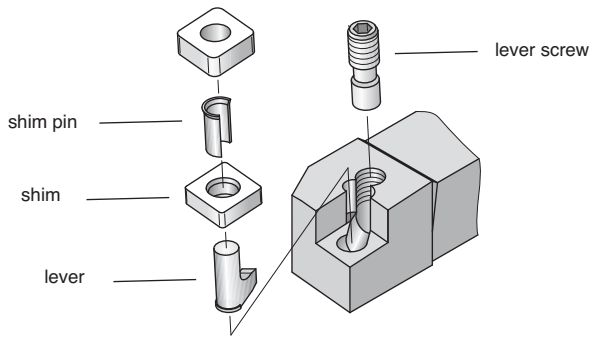
*Standard for inch shank tools, optional for metric shank tools.

†Standard for metric shank tools, optional for inch shank tools.

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

KENLEVER™ Turning Toolholders and Boring Bars

STANDARD HARDWARE

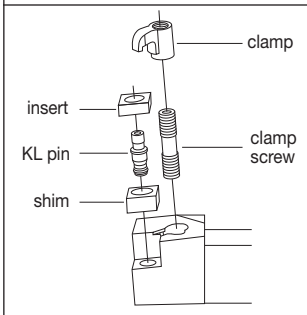


insert size and shape	insert thickness			shim	shim thickness (mm)	shim pin	pin punch	lever	lever screw	Torx Plus
	size	ANSI	ISO							
80° diamond										
CN..1204..	4,76	3	04	512.112	3,18	513.023	515.018	511.023	514.123	15 IP
CN..1606..	6,35	4	06	512.117	4,76	513.025	515.022	511.025	514.125	15 IP
CN..1906..	6,35	4	06	512.123	4,76	513.033	515.022	511.033	514.133	25 IP
55° diamond										
DN..1104..	4,76	3	04	512.060	3,18	513.060	515.018	511.060	514.118	0 IP
DN..1506..	6,35	4	06	512.153	3,18	513.023	15.018	511.024	514.128	15 IP
square										
SN..0903..	3,18	2	03	512.023	3,18	513.019	515.018	511.018	514.118	10 IP
SN..1204..	4,76	3	04	512.063	3,18	513.023	515.018	511.023	514.123	15 IP
SN..1506..	6,35	4	06	512.025	4,76	513.025	515.022	511.025	514.125	15 IP
SN..1906..	6,35	4	06	512.083	4,76	513.033	515.022	511.033	514.133	25 IP
SN..2507..	7,94	5	07	512.092	6,35	513.038	515.038	511.038	514.138	30 IP
triangle										
TN..1103..	3,18	2	03					511.011	514.111	8 IP
TN..1604..	4,76	3	04	512.013	2,70	513.018	515.018	511.018	514.118	10 IP
TN..2204..	4,76	3	04	512.023	3,18	513.023	515.018	511.023	514.123	15 IP
trigon										
WN..0604..	4,76	3	04	512.134	2,70	513.018	515.018	511.018	514.118	10 IP
WN..0804..	4,76	3	04	512.135	3,18	513.023	515.018	511.023	514.123	15 IP

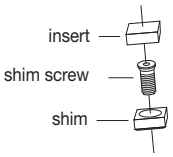
KENLOC™ Toolholders and Boring Bars with KL Clamping

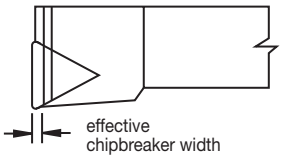
Based on insert size and shape, each defines standard or optional hardware that can be assembled in a toolholder or boring bar.

STANDARD HARDWARE



OPTIONAL HARDWARE





insert size and shape	insert thickness size (mm)	insert thickness ANSI	insert thickness ISO	shim	shim thickness (mm)	KL pin	shim screw	clamp	clamp screw	chipbreaker	effective chipbreaker width (mm)	chipbreaker thickness (mm)
80° diamond CN..C9	3,18	2	03	–	–	KL–33	–	CK–6	STC–5	CBD–12F	1,96	1,5
	3,18	2	03	ICSN–332	4,76	KL–34L	–					
	3,18	2	03	ICSN–332	4,76	–	KAS–3					
	4,76	3	04	ICSN–332	3,18	KL–34L	–					
	4,76	3	04	ICSN–332	3,18	–	KAS–3					
CN..12	4,76	3	04	–	–	KL–44	–	CK–20	STC–11	CBD–16F	2,9	2,3
	4,76	3	04	ICSN–433	4,76	KL–46	–				1,96	
	4,76	3	04	ICSN–433	4,76	–	KAS–4					
CN..16	6,35	4	06	ICSN–533	4,76	KL–58	–	CK–12	STC–4	CBD–5N	2,9	2,3
	6,35	4	06	ICSN–533	4,76	–	KAS–5			CBD–5F	1,96	
CN..19	6,35	4	06	ICSN–633	4,76	KL–68	–	CK–12	STC–4	CBD–6N	2,9	2,3
	6,35	4	06	ICSN–633	4,76	–	KAS–6			CBD–6F	1,96	
	4,76	3	04	ICSN–643	6,35	KL–68	–KAS–6					
	4,76	3	04	ICSN–643	6,35	–						
100° diamond CN..09	3,18	2	03	–	–			CK–6	STC–5	CBD–12C	1,96	1,5
	3,18	2	03	ICSN–332	4,76	KL–33	–					
	3,18	2	03	ICSN–332	4,76	KL–34L	–					
	4,76	3	04	ICSN–322	3,18	–	KAS–3					
	4,76	3	04	ICSN–322	3,18	KL–34L	–					
						–	KAS–3					
CN..12	4,76	3	04	–	–	KL–44	–	CK–20	STC–11	CBD–16C	1,96	2,3
	4,76	3	04	ICSN–433	4,76	KL–46	–					
	4,76	3	04	ICSN–433	4,76	–	KAS–4					
CN..16	6,35	4	06	ICSN–533	4,76	KL–58	–	CK–12	STC–4	CBD–5C	3,6	2,3
	6,35	4	06	ICSN–533	4,76	–	KAS–5					
CN..19	6,35	4	06	ICSN–633	4,76	KL–68	–	CK–12	STC–4	CBD–6C	3,6	2,3
	6,35	4	06	ICSN–633	4,76	–	KAS–6					
	4,76	3	04	ICSN–643	6,35	KL–68	–					
	4,76	3	04	ICSN–643	6,35	–	KAS–6					
55° diamond DN..11		2						CK–7	STC–5	CBL–18 (R)*	1,9	1,5
	4,76		04	–	–	KL–33L	–			CBL–19 (L)*	1,9	
	4,76		04	IDSN–322	3,18	KL–34L	–					
	4,76		04	IDSN–322	3,18	–	KAS–3					
	3,18		03	IDSN–332	4,76	KL–34L	–					
	3,18		03	IDSN–332	4,76	–	KAS–3					
DN..15	4,76	3	04	IDSN–443	6,35	KL–46L	–	CK–20	STC–20	CBL–6 (R)*	2,3	2,3
	4,76	3	04	IDSN–443	6,35	–	KAS–4	CK–23		CBL–7 (L)*	2,3	
	6,35	4	06	IDSN–433	4,76	KL–46L	–	(3/4)				
	6,35	4	06	IDSN–433	4,76	–	KAS–4					
DN..19	6,35	4	06	IDSN–533	4,76	KL–58	–	CK–12	STC–4	CBL–12 (R)*	2,9	2,3
	6,35	4	06	IDSN–533	4,76	–	KAS–5			CBL–13 (L)*	2,9	
	4,76	3	04	IDSN–543	6,35	KL–58	–					
	4,76	3	04	IDSN–543	6,35	–	KAS–5					

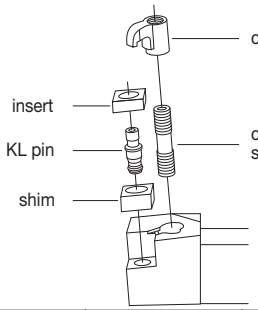
*Use right-handed chipbreakers on right-handed side cutting tools and on left-handed end cutting tools.
Use left-handed chipbreakers on left-handed side cutting tools and on right-handed end cutting tools.

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

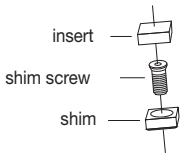
KENLOC™ Toolholders and Boring Bars with KL Clamping

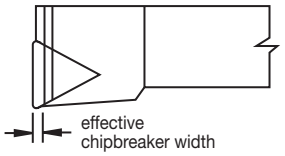
Based on insert size and shape, each line defines standard or optional hardware that can be assembled in a toolholder or boring bar.

STANDARD HARDWARE



OPTIONAL HARDWARE



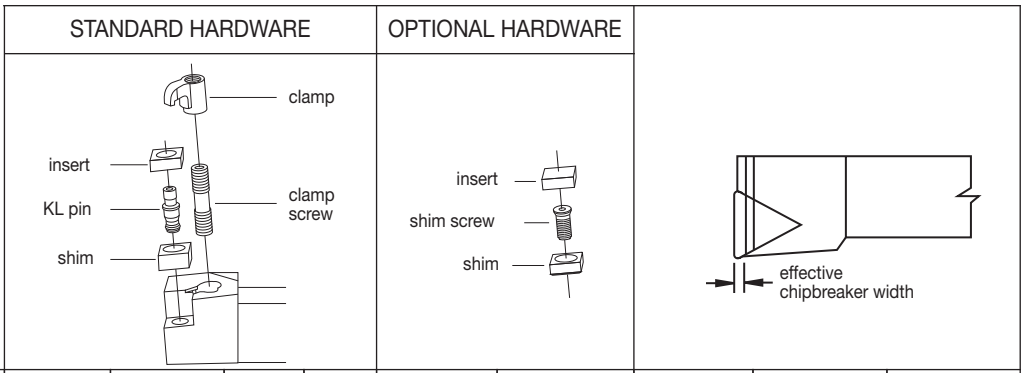


insert size and shape	insert thickness size (mm)	ANSI	ISO	shim	shim thickness (mm)	KL pin	shim screw	clamp	clamp screw	chipbreaker	effective chipbreaker width (mm)	chipbreaker thickness (mm)
round												
RN..09	3,18	2	03	–	–	KL-33	–	CK-6	STC-5	CBR-12	1,78	1,5
	3,18	2	03	IRSN-33	4,76	KL-34L	–					
	3,18	2	03	IRSN-33	4,76	–	KAS-3					
RN..12	4,76	3	04	IRSN-43	4,76	KL-46	–	CK-9	STC-4	CBR-16	1,9	2,3
	4,76	3	04	IRSN-43	4,76	–	KAS-4					
	3,18	2	03	IRSN-44	6,35	KL-46	–					
	3,18	2	03	IRSN-44	6,35	–	KAS-4					
RN..15	6,35	4	06	IRSN-53	4,76	KL-58	–	CK-12	STC-4	CBR-20	2,1	2,3
	6,35	4	06	IRSN-53	4,76	–	KAS-5					
RN..19	6,35	4	06	IRSN-63	4,76	KL-68	–	CK-12	STC-4	CBR-24	2,3	2,3
	6,35	4	06	IRSN-63	4,76	–	KAS-6					
square												
SN..09	3,18	2	03	ISSN-322	3,18	KL-34	–	CK-6	STC-5	CBS-12	2,0	1,5
	3,18	2	03	ISSN-322	3,18	–	KAS-3			CBS-12N	1,6	
										CBS-12F	1,17	
										CBS-12D*	2,0	
SN..12	4,76	3	04	ISSN-433	4,76	KL-46	–	CK-9	STC-4	CBS-16	4,4	2,3
	4,76	3	04	ISSN-433	4,76	–	KAS-4			CBS-16N	2,9	
	3,18	2	03	ISSN-433	6,35	KL-46	–			CBS-16F	2,0	
	3,18	2	03	ISSN-433	6,35	–	KAS-4			CBS-16D*	2,7	
SN..15	6,35	4	06	ISSN-533	4,76	KL-58	–	CK-12	STC-4	CBS-20	4,4	2,3
	6,35	4	06	ISSN-533	4,76	–	KAS-5			CBS-20D*	4,4	
	4,76	3	04	ISSN-543	6,35	KL-58	–					
	4,76	3	04	ISSN-543	6,35	–	KAS-5					
SN..19	6,35	4	06	ISSN-633	4,76	KL-68	–	CK-12	STC-4	CBS-24	5,2	2,3
	6,35	4	06	ISSN-633	4,76	–	KAS-6			CBS-24N	2,9	
	4,76	3	04	ISSN-643	6,35	KL-68	–			CBS-24F	2,0	
	4,76	3	04	ISSN-643	6,35	–	KAS-6			CBS-24D*	3,6	

*For double cutting edges.

KENLOC™ Toolholders and Boring Bars with KL Clamping

Based on insert size and shape, each line defines standard or optional hardware that can be assembled in a toolholder or boring bar.



insert size and shape	insert thickness size (mm)	ANSI	ISO	shim	shim thickness mm	KL pin	shim screw	clamp	clamp screw	chipbreaker	effective chipbreaker width (mm)	chipbreaker thickness (mm)
triangle TN..11	3,18	2	03	–	–	KL-23	–	CK-19	STC-5 STC-9 (1/2)	CBT-8 CBT-8N	2,3 1,78	1,5
TN..16	**toolholders**											
	3,18	2	03	ITSN-333	4,76	KL-34L	–	CK-6	STC-5	CBT-12*	4,1	1,5
	3,18	2	03	ITSN-333	4,76	–	KAS-3			CBT-12N*	2,8	
	4,76	3	04	ITSN-323	3,18	KL-34L	–			CBT-12F*	2,2	
	4,76	3	04	ITSN-323	3,18	–	KAS-3					
	boring bars											
	4,76	3	04	–	–	KL-33L	–	CK-7	STC-9	CBT-12*	4,1	1,5
	4,76	3	04	ITSN-323	3,18	KL-34L	–			CBT-12N*	2,8	
	4,76	3	04	ITSN-323	3,18	–	KAS-3			CBT-12F*	2,2	
	3,18	2	03	ITSN-333	4,76	KL-34L	–					
	3,18	2	03	ITSN-333	4,76	–	KAS-3					
TN..22	4,76	3	04	ITSN-433	4,76	KL-46	–	CK-9	STC-4	CBT-16	5,6	2,3
	4,76	3	04	ITSN-433	4,76	–	KAS-4			CBT-16N	3,3	
	6,35	4	06	ITSN-423	3,18	–	KAS-4			CBT-16F	2,1	
TN..27	6,35	4	06	ITSN-534	4,76	KL-58	–	CK-9	STC-4	CBT-20	5,6	2,3
	6,35	4	06	ITSN-534	4,76	–	KAS-5			CBT-20N	3,3	
TN..33	9,53	6	09	ITSN-636	4,76	KL-68L	–	CK-12	STC-4	CBT-24	7,1	4,1
	9,53	6	09	ITSN-636	4,76	–	KAS-6					
35° diamond VN..16	4,76	3	04	IVSN-322	3,18	KL-34L	–	CK-43	STC-4	CBL-10 (R)*	1,6	
	4,76	3	04	IVSN-322	3,18	–	KAS-3			CBL-11 (L)*	1,6	1,5
VN..22	4,76	3	04	IVSN-433	4,76	KL-46	–	CK-43	STC-4	CBL-16 (R)*	2,9	
	4,76	3	04	IVSN-433	4,76	–	KAS-4			CBL-17 (L)*	2,9	
trigon WN..06	3,18	2	03	–	–	KL-33	–	CK-6	STC-5	–	–	–
	3,18	2	03	IWSN-332	4,76	KL-34L	–					
	3,18	2	03	IWSN-332	4,76	–	KAS-3					
	4,76	3	04	IWSN-322	3,18	KL-34L	–					
	4,76	3	04	IWSN-322	3,18	–	KAS-3					
WN..08	4,76	3	04	–	–	KL-44	–	CK-20	STC-11	–	–	–
	4,76	3	04	IWSN-433	4,76	KL-46	–	CK-9	STC-4			
	4,76	3	04	IWSN-433	4,76	–	KAS-4	CK-21(3/4) CK-20(bars)	STC-20 (3/4) STC-20 (bars)			

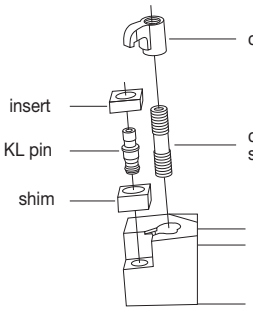
*Use right-handed chipbreakers on right-handed side cutting tools and on left-handed end cutting tools.
Use left-handed chipbreakers on left-handed side cutting tools and on right-handed end cutting tools.

†KL-46 is not used with 1/8" thick shims, must use KAS-4.

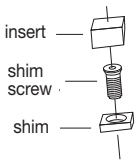
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

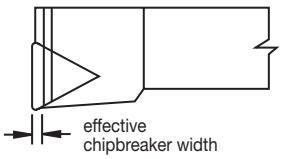
KENLOC™ Toolholders and Boring Bars with KL Lock Pins for Ceramic Inserts

STANDARD HARDWARE



OPTIONAL HARDWARE



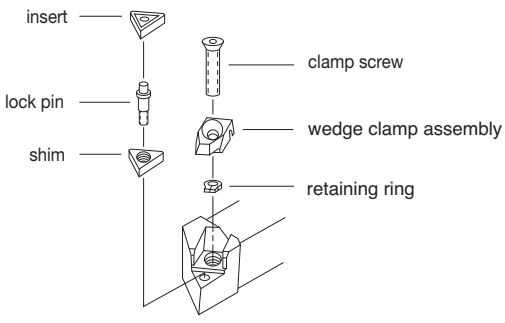


insert size and shape	insert thickness size (mm)	ANSI	ISO	shim	shim thickness (mm)	KL pin	shim screw	clamp	clamp screw	chipbreaker	effective chipbreaker width (mm)	chipbreaker tickness (mm)
80° diamond CN..12	4,76	3	04	ICSN–442	6,35	KL–46L	–	CK–21	STC–20	CBD–16N	2,9	2,3
	4,76	3	04	ICSN–442	6,35	–	KAS–4			CBD–16F	2,0	
	6,35	4	06	ICSN–432	4,76	KL–46L	–					
	6,35	4	06	ICSN–432	4,76	–	KAS–4					
	7,94	5	07	ICSN–422*	3,18	–	KAS–4					
round RN..12	4,76	3	04	IRSN–44	6,35	KL–46L	–	CK21	STC–20	CBR–16	1,9	2,3
	4,76	3	04	IRSN–44	6,35	–	KAS–4			CBS–16N		
	6,35	4	06	IRSN–43	7,94	KL–46L	–			CBS–16F		
	6,35	4	06	IRSN–43	7,94	–	KAS–4					
	7,94	5	07	IRSN–42*	3,18	–	KAS–4					
square SN..12	4,76	3	04	ISSN–442	6,35	KL–46L	–	CK–21	STC–20	CBS–16	4,4	2,3
	4,76	3	04	ISSN–442	6,35	–	KAS–4			CBS–16N	2,9	
	6,35	4	06	ISSN–432	4,76	KL–46L	–			CBS–16F	2,0	
	6,35	4	06	ISSN–432	4,76	–	KAS–4					
	7,94	5	07	ISSN–422*	3,18	–	KAS–4					
triangle TN..22				ITSN–443				CK–9	STC–4	CBT–16	5,6	2,3
	4,76	3	04		6,35	KL–46L	–			CBT–16N	3,3	
	4,76	3	04		6,35	–	KAS–4			CBT–16F	2,1	
	6,35	4	06		4,76	KL–46l	–					
	6,35	4	06		4,76	–	KAS–4					
	7,94	5	07		3,18	–	KAS–4					

*KL-46L is not used with 3,18mm thick shims, must use KAS-4.

Hardware

Wedgelock Cutting Units

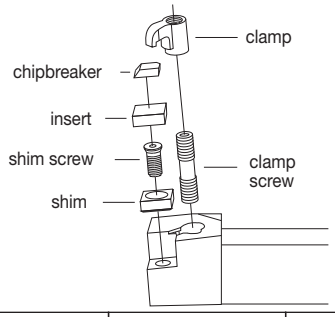


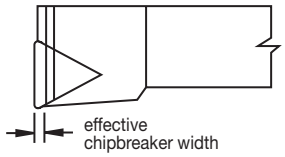
insert size and style	insert thickness (mm)	shim	lock pin	wedge clamp	clamp screw	retaining ring
triangle TN..16	9,53	SM–290	FPE–4	WC–4	S–988	RA–15
TN..22	4,76	SM–391	FPE–5	WC–5	S–986	RA–21
	6,35	SM–370	FPE–6	WC–6	S–987	RA–31
trigon WN.08	4,76	SM–443	FP–453 (3/4) FP–477	MWW–4	MS–1372	–

KENDEX™ Positive Rake Toolholders

This chart lists the effective width of the chipbreaker land when using a standard chipbreaker plate in a positive rake Kendex tool.

STANDARD HARDWARE





insert size and style	insert thickness (mm)	shim	shim screw	clamp	clamp screw	chipbreaker	effective width (mm)
80° diamond							
CP..12	3,18	SM-369	S-19	CK-7	STC-9	CBD-16F	2,2
			S-111	CK-20 (3/4) CK-21	STC-20 (3/4) STC-20	CBD-16N	3,0
CP..19	4,76	SM-190	S-125	CK-12	STC-4	CBD-6N	2,9
						CBD-6F	2,0
square							
SP..09	3,18	SM-120	SL-344	CK-7	STC-5	CBS-12 CBS-12D†	2,1 2,1
SP..12	3,18	SM-40	S-111	CK-10 (3/4) CK-9	STC-4 STC-8 (3/4)	CBS-16D† CBS-16 CBS-16N CBS-16F	2,8 4,4 3,0 2,1
SP..19	4,76	SM-36	S-125	CK-9 CK-29 (3/4)	STC-4 STC-19	CBS-24 CBS-24N CBS-24F CBS-24D†	5,2 3,0 2,1 3,6
triangle							
TP..11	3,18	SM-119	SL-344	CK-19	STC-5 STC-9	CBT-8	2,2
TP..16	3,18	SM-41	S-111	CK-10 (3/4) CK-9 CK-23	STC-8 (3/4) STC-4 STC-11	CBT-12* CBT-12* CBT-12*	4,0 2,7 2,2
TP..22	4,76	SM-37	S-125	CK-9 CK-13*	STC-4 STC-8 (3/4)	CBT-16 CBT-16N CBT-16F	5,5 3,2 2,1
TP..27	6,35	SM-99	S-132	CK-24 CK-29*	STC-19	CBT-20 CBT-20N	5,6 3,3

*Use with CTC toolholder only.

†For chip breaking on both primary and secondary cutting edges.

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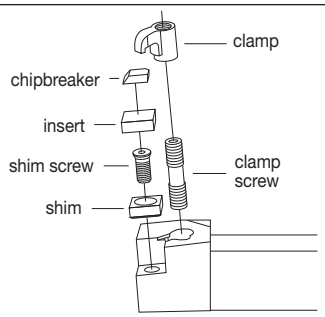
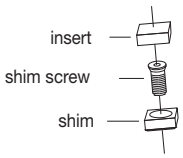
KENDEX™ Negative Rake Toolholders and Boring Bars

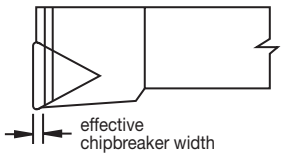
Based on insert size and shape, each line defines standard or optional hardware that can be assembled in a toolholder or boring bar.

STANDARD HARDWARE



OPTIONAL HARDWARE





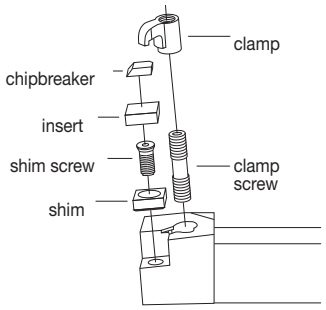
insert size and shape	insert thickness size (mm)	ANSI	ISO	shim	shim thickness (mm)	shim screw	clamp	clamp screw	chipbreaker	effective chipbreaker width (mm)	chipbreaker thickness (mm)
80° diamond CN..12						3					
	3,18	2	3	SM-396	4,76	S-111	CK-21	STC-20	CBD-16N	2,9	2.3
	4,76	3	04	SM-393	3,18	S-111			CBD-16F	2,0	
CN..19	4,76	3	04	SM-219	4,76	S-125	CK-12	STC-4	CBD-6N	2,9	2,3
	6,35	4	06	SM-118	3,18	S-125			CBD-6F	2,0	
round RN..07	3,18	2	03	SM-46	3,18	S-111	CK-6	STC-5	CBR-12	1,78	1,5
RN..12	3,18	2	03	SM-218	4,76	S-111	CK-12	STC-4	CBR-16	1,9	2,3
	4,76	3	04	SM-45	3,18	S-111					
square SN..09	3,18	2	03	SM-87	3,18	SL-344	CK-7	STC-5	CBS-12	2,0	1,5
									CBS-12N	1,6	
									CBS-12F	1,2	
									CBS-12D*	2,0	
SN..12	3,18	2	03	SM-47	4,76	S-111	CK-10 (3/4)	STC-4	CBS-16	4,4	2,3
	4,76	3	04	SM-43	3,18	S-111	CK-9		CBS-16N	2,9	
									CBS-16F	2,0	
									CBS-16D*	2,8	
SN..19	4,76	3	04	SM-216	4,76	S-125	CK-9	STC-4	CBS-24	5,2	2,3
	6,35	4	06	SM-27	3,18	S-125			CBS-24N	2,9	
									CBS-24F	2,0	
									CBS-24D*	3,6	
triangle TN..11	3,18	2	03	SM-88	3,18	SL-344	CK-19	STC-5	CBT-8	2,3	1,5
									CBT-8N	1,78	
TN..16	toolholders										
	3,18	2	03	SM-48	4,76	S-111	CK-9	STC-4	CBT-12	4,0	1,5
	4,76	3	4	SM-42	3,18	S-111	CK-10 (3/4)		CBT-12N	2,8	
									CBT-12F	2,2	
TN..22	4,76	3	04	SM026	3,18	S-125	CK-9	STC-4	CBT-16	5,6	2,3
									CBT-16N	3,3	
									CBT-16F	2,2	
TN..27	6,35	4	06	SM-72	4,76	S-132	CK-24	STC-19	CBT-20	5,6	2,3
									CBT-20N	3,3	

*For double cutting edges.

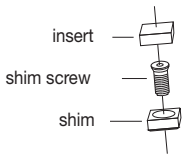
KENDEX™ Negative Rake Toolholders and Boring Bars for Polycrystalline Inserts

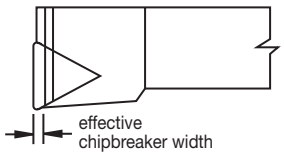
Based on insert size and shape, each line defines standard or optional hardware that can be assembled in a toolholder or boring bar.

STANDARD HARDWARE



OPTIONAL HARDWARE





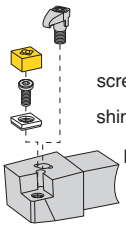
insert size and shape	insert thickness size (mm)	ANSI	ISO	shim	shim thickness (mm)	shim nose radius	shim screw	clamp	clamp screw	chipbreaker	effective chipbreaker width (mm)	chipbreaker thickness (mm)
80° diamond CN..09	3,18	2	03	–	–	–	–	CK-7LP	STC-9	CBD-12F	2,0	1,5
	3,18	2	03	SM-432	3,18	0,8	SL-344	CK-7	STC-5			
	3,18	2	03	SM-433	3,18	1,5						
100° diamond CN..09	3,18	2	03	–	–	–	–	CK-7LP	STC-9	CBD-12C	2,0	1,5
	3,18	2	03	SM-432	3,18	0,8	SL-344	CK-7	STC-5			
	3,18	2	03	SM-433	3,18	1,5						
round RN..09	3,18	2	03	–	–	–	–	CK-7LP	STC-9	CBR-12	1,78	1,5
	3,18	2	03	SM-434	3,18	–	SL-344	CK-6	STC-5			
RN..12	3,18	2	03	–	–	–	–	CK-7LP	STC-9	CBR-16	1,9	2,3
	3,18	2	03	SM-437	7,94	–	SL-344	CK-28	STC-4			
square SN..09	3,18	2	03	–	–	–	–	CK-7LP	STC-9	CBS-12	2,0	
	3,18	2	03	SM-87	3,18	0,8	SL-344	CK-7	STC-5	CBS-12N	1,6	
	3,18	2	03	SM-428	3,18	1,5				CBS-12F	1,2	1,5
SN..12	3,18	2	03	–	–	–	–	CK-7LP	STC-9	CBS-16	4,4	2,3
	3,18	2	03	SM-435	7,94	1,5	SL-344	CK-28	STC-4	CBS-16N	2,9	
	3,18	2	03	SM-436	7,94	1,5				CBS-16F	2,0	
triangle TN..11	3,18	2	03	–	–	–	–	CK-27	STC-27	CBT-8	2,3	
	3,18	2	03	SM-429	3,18	0,4	SL-342	CK-7LP	STC-9	CBT-8N	1,78	1,5
	3,18	2	03	SM-430	3,18	0,8	SL-342	CK-19	STC-5			
	3,18	2	03	SM-431	3,18	1,5	SL-342					

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

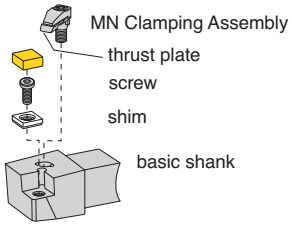
TOP NOTCH™ Turning Toolholders and Boring Bars

STANDARD HARDWARE

-MX

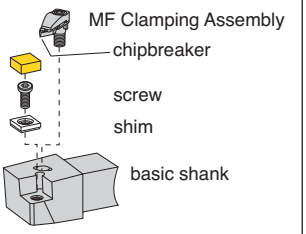


-MN

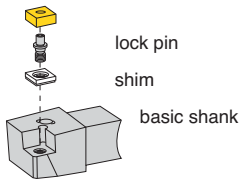


OPTIONAL HARDWARE

-MF



-MA

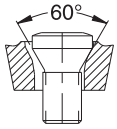


insert style and size		insert thickness (mm)	shim	shim screw	shim screw drive	clamp assembly	clamp assembly drive	thrust plate	chipbreaker	lock pin	lock pin drive
80° diamond CN..12	-MX	7,94	552.221	554.260	T20 Torx	551.326	T25 Torx	–	–	–	–
	-MN	4,76	552.220	554.260	T20 Torx	551.275	T25 Torx	557.111	–	–	–
		7,94	552.221	554.260	T20 Torx	551.275	T25 Torx	557.111	–	–	–
	-MF	4,76	552.220	554.260	T20 Torx	551.252	4 mm Hex	–	557.125	–	–
		7,94	552.221	554.260	T20 Torx	551.252	4 mm Hex	–	557.125	–	–
	-MA	4,76	552.220	–	–	–	–	–	–	554.016	2,5 mm Hex
CN..16	-MX	7,94	552.223	554.253	3 mm Hex	551.332	4 mm Hex	–	–	–	–
	-MN	4,76	552.222	554.253	3 mm Hex	551.275	T25 Torx	557.111	–	–	–
		7,94	552.223	554.253	3 mm Hex	551.275	T25 Torx	557.111	–	–	–
	-MF	4,76	552.222	554.253	3 mm Hex	551.256	4 mm Hex	–	557.120	–	–
		7,94	552.223	554.253	3 mm Hex	551.256	4 mm Hex	–	557.120	–	–
	-MA	6,35	552.242	–	–	–	–	–	–	554.017	3 mm Hex
100° diamond CN..16	-MX	7,94	552.223	554.253	3 mm Hex	551.316	4 mm Hex	–	–	–	–
	-MN	4,76	552.222	554.253	3 mm Hex	551.275	T25 Torx	557.111	–	–	–
		7,94	552.223	554.253	3 mm Hex	551.275	T25 Torx	557.111	–	–	–
	-MF	4,76	552.222	554.253	3 mm Hex	551.256	4 mm Hex	–	557.120	–	–
		7,94	552.233	554.253	3 mm Hex	551.256	4 mm Hex	–	557.120	v	–
	-MA	6,35	552.242	–	–	–	–	–	–	554.017	3 mm Hex
55° diamond DN..12	-MX	7,94	552.225	554.254	2,5 mm Hex	551.316	4 mm Hex	–	–	–	–
DN..15	-MX	7,94	552.228	554.260	T20 Torx	551.342	T25 Torx	–	–	–	–
	-MN	7,94	552.228	554.260	T20 Torx	551.275	T25 Torx	557.111	–	–	–
	-MF	7,94	552.228	554.260	T20 Torx	551.260	4 mm Hex	–	557.123	–	–
						551.261	4 mm Hex	–	557.124	–	–
	-MA	6,35	552.247	–	–	–	–	–	–	554.016	2,5 mm Hex
75° diamond EN..13	-MX	7,94	552.240	554.260	T20 Torx	551.326	T25 Torx	–	–	–	–
	-MN	4,76	552.239	554.260	T20 Torx	551.275	T25 Torx	557.111	–	–	–
		7,94	552.240	554.260	T20 Torx	551.275	T25 Torx	557.111	–	–	–
	-MF	4,76	552.239	554.260	T20 Torx	551.252	4 mm Hex	–	557.125	–	–
		7,94	552.240	554.260	T20 Torx	551.252	4 mm Hex	–	557.125	–	–
round RN..12	-MN	4,76	552.229	554.260	T20 Torx	551.343	T25 Torx	557.111	–	–	–
		7,94	552.230	554.260	T20 Torx	551.343	T25 Torx	557.111	–	–	–
square SN..12	-MX	7,94	552.232	554.260	T20 Torx	551.326	T25 Torx	–	–	–	–
	-MN	4,76	552.231	554.260	T20 Torx	551.275	T25 Torx	557.111	–	–	–
		7,94	552.232	554.260	T20 Torx	551.275	T25 Torx	557.111	–	–	–
	-MF	4,76	552.231	554.260	T20 Torx	551.253	4 mm Hex	–	557.126	–	–
						551.245	4 mm Hex				
		7,94	552.232	554.260	T20 Torx	551.253	4 mm Hex	–	557.126	–	–
						551.254	4 mm Hex				
	-MA	4,76	552.231	–	–	–	–	–	–	554.016	2,5 mm Hex
SN..15	-MX	7,94	552.234	554.253	3 mm Hex	551.326	T25 Torx	–	–	–	–
	-MN	4,76	552.233	554.253	3 mm Hex	551.275	T25 Torx	557.111	–	–	–
		7,94	552.234	554.253	3 mm Hex	551.275	T25 Torx	557.111	–	–	–
	-MF	4,76	552.233	554.253	3 mm Hex	551.257	4 mm Hex	–	557.121	–	–
						551.258	4 mm Hex	–	557.122	–	–
		7,94	552.234	554.253	3 mm Hex	551.257	4 mm Hex	–	557.121		–
						551.258	4 mm Hex		557.122		
	-MA	6,35	552.253	–	–	–	–	–	–	554.017	3 mm Hex

NOTE: Torx drive hardware shown where available. Hex drive hardware is supplied with metric shank tools.

Hardware (SCREW-ON Insert Interchangeability)

60° Countersink Inserts



NOTE: Tools that use 60° countersink inserts will not accept 90° countersink inserts.

ANSI catalog number*	ISO catalog number*	screw
CDHB–1.2.6_	CDHB S4T0__	MS–1454
CPMT–1.81.5_ CPMW–1.81.5_	CPMT 0502__ CPMW 0502__	MS–1152
CCMT-21.5_ CCGT-21.5_	CCMT 0602__ CCGT 0602__	MS–1153
CPMT-21.5_ CPGM-21.5_ CPGT-21.5_ CPGW-21.5_	CPMT 0602__ CPGM 0602__K CPGT 0602__ CPGW 0602__	MS–1153
CCMT-32.5_ CCGT-32.5_ CCMW-32.5_	CCMT 09T3__ CCGT 09T3__ CCMW 09T3__	MS–1155 MS–1156
CPMT-32.5_ CPGT-32.5_ CPGW-32.5_	CPMT 09T3__ CPGT 09T3__ CPGW 09T3__	MS–1155
CCMT-43_ CCGT-43_ CCMW-43_	CCMT 1204__ CCGT 1204__ CCMW 1204__	MS–1157
DCMT-21.5_ DCGT-21.5_	DCMT 0702__ DCGT 0702__	MS–1153
DPMT-21.5_ DPGT-21.5_ DPMW-21.5_ DPGW-21.5_	DPMT 0702__ DPGT 0702__ DPMW 0702__ DPGW 0702	MS–1153
DCMT-32.5_ DCGT-32.5_ DCMW-32.5_	DCMT 11T3__ DCGT 11T3__ DCMW 0702__	MS–1155 MS–1156
DPMT-32.5_ DPGT-32.5_ DPMW-32.5_ DPGW-32.5_	DPMT 11T3__ DPGT 11T3__ DPMW 11T3__ DPGW 11T3__	MS–1155
DCMT-43_ DCGT-43_	DCMT 1504__ DCGT 1504__	MS–1157
SPGM–21.5_	SPGT 0602_K	MS–1017
SPGM–2.21.5_	SPGT 7.102_K	MS–1017
SPGM–2.52_	SPGT 0703_K	MS–1022
SCMT-32.5_	SCMT 09T3_	MS–1155
SPGT-32.5_ SPMT-32.5_	SPGT 09T3_ SPMT 09T3_	MS–1155
SCMT-43_ SCGT-43_	SCMT 1204_ SCGT 1204_	MS–1157
SPMT-43_ SPGT-43_	SPMT 1204_ SPGT 1204_	MS–1157
TPMT–1.81.5_	TPMT 0902_	MS–1152, MS–1933
TCMT-21.5_ TCGT-21.5_	TCMT 1102_ TCGT 1102_	MS–1153
TPMT-21.5_ TPGM-21.5_ TPGT-21.5_ TPGW-21.5_	TPMT 1102_ TPGT 1102_K TPGT 1102_ TPGW 1102_	MS–1153
TCMT-32.5_ TCGT-32.5_	TCMT 16T3_ TCGT 16T3_	MS–1156

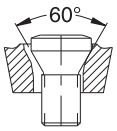
(continued on next page)

*For chip control designs, add two letters after nose radius size CCMT-21.50 UF or CCMT 060201 UF (UF, LF, MF, HP).

(continued from previous page)

ANSI catalog number*	ISO catalog number*	screw
TPMT-32.5_ TPGT-32.5_ TPGW-32.5_	TPMT 16T3_ TPGT 16T3_ TPGW 16T3_	MS–1155
TCMT-43_	TCMT 2204_	MS–1156
TPMT-43_	TPMT 2204_	MS–1156
VBMT-22_ VBGT-22_	VBMT 1103_ VBGT 1103_	MS–1153
VBMT-33_ VBGT-33_ VBGW-33_	VBMT 1604_ VBGT 1604_ VBGW 1604_	MS–1155 MS1156

60° Countersink Inserts

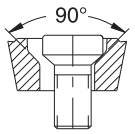


NOTE: Tools that use 60° countersink inserts will not accept 90° countersink inserts.

ANSI catalog number*	ISO catalog number*	screw
WPMT-1.51.2_	WPMT S3T1_	MS-1438
WCMT-21.5_	WCMT 0402_	MS-1153
WPMT-21.5_	WPMT 0402_	MS-1153
WCMT-32.5_	WCMT 06T3_	MS-1156
WPMT-32.5_	WPMT 06T3_	MS-1155 MS-1156
RCMT-21.5 RCGW-21.5	RCMT 060200 RCGW 060200	MS-1153
RCMT-32.5	RCMT 09T300	MS-1156
RCMT 0602M0	RCMT 0602M0	MS-1153
RCMT 0803M0 RCGT 0803M0HP	RCMT 0803M0 RCGT 0803M0HP	MS-1154
RCMT 10T3M0 RCGT 10T3M0HP	RCMT 10T3M0 RCGT 10T3M0HP	MS-1155 MS-1156
RCMT 1204M0 RCGT 1204M0HP	RCMT 1204M0 RCGT 1204M0HP	MS-1156
RCMT 1605M0	RCMT 1605M0	MS-1160
RCMT 2006MO	RCMT 2006M0	MS-1162

*For chip control designs, add two letters after radius size CCMT-21.50 UF or CCMT 060201 UF (UF, LF, MF, HP)

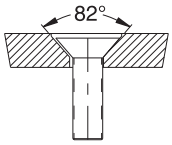
90° Countersink Inserts



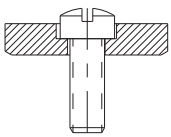
NOTE: Tools that use 90° countersink inserts will not accept 60° countersink inserts.

ANSI catalog number*	ISO catalog number	screw
CPGM-32.5_ CPGB-32.5_	CPGH 09T3_ CPGB 09T3_	MS-1027
TPGM-32.5_ TPGB-32.5_	TPGH 16T3_ TPGB 16T3_	MS-1027
RCGM-32.5	RCGM 09T300	MS-1027

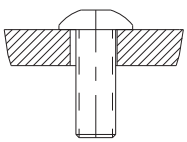
*For chip control designs, add two letters after nose radius size CCMT-21.50 UF or CCMT 060201 UF (UF, LF, MF, HP).



ANSI catalog number	ISO catalog number	screw
RD-8C	–	S-111
RD-8P	–	S-11
RD-10P	–	S-125
RD-12P	–	S-133
TD-6P	–	S-111



ANSI catalog number	ISO catalog number	screw
T-220-F	T110301F	S-1990
T-221-N	T110304N	S-1990
T-221-NT	T110304NT	S-1990
T-221-P	T110304P	S-1990
T-221-S	T110304S	S-1990
T-320-F	T1600301F	S-944
T-321-N	T160304N	S-944
T-321-NT	T160304NT	S-944
T-32_-P	T16030_P	S-944
T-321-S	T160304S	S-944



ANSI catalog number	ISO catalog number	screw
SPGH-2.51.5_	SPGH 0702_	1-69-086-011
SPGH-32_	SPGH 0903_	1-69-086-022
TP-4_	TPGA 1102_	S-32 S-510
TP-6_	TPGA 1603_	S-514

KENCLAMP™ Toolholders

insert size and style	shim	nose radius (mm)	shim thickness (mm)	negative insert options
CN..12..	ICSN-433 ICSN-443	1,2 1,2	4,89 6,48	120401, 120402, 120404, 120408, 120412, 120416 120401, 120402, 120404, 120408, 120412, 120416
CN..16..	ICSN-533 ICSN-543	1,2 1,2	4,89 6,48	160604, 160608, 160612, 160616 160604, 160608, 160612, 160616
100°				
CN..12..	ICSN-433 ICSN-443	1,2 1,2	4,89 6,48	120401, 120402, 120404, 120408, 120412, 120416 120401, 120402, 120404, 120408, 120412, 120416
100°				
CN..16..	ICSN-533 ICSN-543	1,2 1,2	4,89 6,48	160604, 160608, 160612, 160616 160604, 160608, 160612, 160616
DN..1506..	IDSN-433	1,2	4,89	150604, 150608, 150612, 150616
DN..1504..	IDSN-443	1,2	6,48	150401, 150402, 150404,150408, 150412, 150416
DN..19..	IDSN-543	1,2	6,48	190608, 190612, 190616
SN..12..	ISSN-433 ISSN-443	1,2 1,2	4,89 6,48	120404, 120408, 120412, 120416 120404, 120408, 120412, 120416
SN..15..	ISSN-543	1,2	6,48	150608, 150612, 150616
TN..22..	ITSN-443 ITSN-446	1,2 2,4	6,48 6,48	220404, 220408, 220412, 220416 220424
WN..08..	IWSN-433	1,2	4,89	080404, 080408, 080412, 080416

Shim Radii

KENLOC™ Toolholders with KL and KLM Lock Pins

insert size and style	shim	nose radius (mm)	shim thickness (mm)	negative insert options
CN..09..	ICSN-322 ICSN-332	0,8 0,8	3,30 4,89	090404, 090408, 090412 090304, 090308, 090312
CN..12..ceramic	ICSN-433	1,2	4,89	120401, 120402, 120404, 120408, 120412, 120416
CN..1207..	ICSN-422	0,8	3,30	120704, 120708, 120712
CN..1204..	ICSN-442	0,8	6,48	120404, 120408, 120412
CN..16..	ICSN-533	1,2	4,89	160604, 160608, 160612, 160616
CN..19..	ICSN-633 ICSN-643	1,2 1,2	4,89 6,48	190608, 190612, 190616 190412
CN..09..	ICSN-322 ICSN-332	0,8 0,8	3,30 4,89	090404, 090408, 090412 090304, 090308, 090312
CN..12..	ICSN-433	1,2	4,89	120401, 120402, 120404, 120408, 120412, 120416
CN..16..	ICSN-533	1,2	4,89	160604, 160608, 160612, 160616
CN..19..	ICSN-633 ICSN-643	1,2 1,2	4,89 6,48	190608, 190612, 190616 190412
DN..11..	IDSN-322 IDSN-332	0,8 0,8	3,30 4,89	110404, 110408, 110412 110304, 110308, 110312
DN..15..	IDSN-433 IDSN-443	1,2 1,2	4,89 6,48	150604, 150608, 150612, 150616 150401, 150402, 150404, 150408, 150412, 150416
DN..19..	IDSN-533 IDSN-543	1,2 1,2	4,89 6,48	190608, 190612, 190616 190408, 190412, 190416
RN..09..	IRSN-33	–	4,89	090300
RN..12..	IRSN-43 IRSN-44	–	4,89 6,48	120400 120300
RN..19..	IRSN-63	–	4,89	190600
SN..09..	ISSN-322	0,8	3,30	090304, 090308, 090312
SN..12..	ISSN-433 ISSN-443	1,2 1,2	4,89 6,48	120404, 120408, 120412, 120416 120308
SN..12..ceramic	ISSN-422 ISSN-442 ISSN-443	0,8 0,8 1,2	3,30 6,48 6,48	120708, 120712 120408 120412, 120416
SN..15..	ISSN-533 ISSN-543	1,2 1,2	4,89 6,48	150608, 150612, 150616 150412
SN..19..	ISSN-633 ISSN-643	1,2 1,2	4,89 4,89	190608, 190612, 190616 190412
TN..16..	ITSN-323 ITSN-333	1,2 1,2	3,30 4,89	160408, 160412 160304, 160308, 160312
TN..22..	ITSN-423 ITSN-426 ITSN-433 ITSN-436	1,2 2,4 1,2 2,4	3,30 3,30 4,89 4,89	220608, 220612, 220616 220624 220404, 220408, 220412, 220416 220424
TN..22..ceramic	ITSN-423 ITSN-443	1,2 1,2	3,30 6,48	220712, 220716 220404, 220408, 220412, 220416
TN..27..	ITSN-534 ITSN-536	1,6 2,4	4,89 4,89	270608, 270612, 270616 270624
TN..33..	ITSN-636	2,4	4,89	330912, 330916, 330924
VN..16..	IVSN-322 IVSN-323	0,8 1,2	3,30 3,30	160401, 160402, 160404, 160408 160412
VN..22..	IVSN-433	1,2	4,89	220404, 220408, 220412
WN..06..	IWSN-322 IWSN322	0,8 0,8	3,30 4,89	060404, 060408, 060412 060304, 060308, 060312
WN..08..	IWSN-433	1,2	4,89	080404, 080408, 080412, 080416

KENLOC™ Toolholders with KL Lock Pins for Ceramic Inserts

insert size and style	shim	nose radius (mm)	shim thickness (mm)	negative ceramic insert options
CN..12..	ICSN–422	0,8	3,30	120704, 120708, 120712
CN..12..	ICSN–442	0.8	6,48	120404, 120408, 120412
SN..12..	ISSN–422	0,8	3,30	120708, 120712
SN..12..	ISSN–422	1,2	6,48	120408
SN..12..	ISSN–422	1,2	6,48	120412, 120416
TN..22..	ITSN–423	1,2	3,30	220712, 220716
TN..22..	ITSN–443	1,2	6,48	220404, 220408, 20412, 220416

Wedgelock™ Toolholders

insert size and style	shim	nose radius (mm)	shim thickness (mm)	negative insert options
TN..16..	512.125	1,2	3.5	160408, 160412, 160416
TN..22..	512.126	1,6	5.06	220408, 220412, 220416
WN..08..	512.131	1,2	5.06	080404, 080408, 080412, 080416

SCREW-ON Toolholders

insert size and style	shim	nose radius (mm)	shim thickness (mm)	SCREW-ON insert options
C...09T..	SKCP–343	0,8	3,18	09T302, 09T304, 09T308
CC..12..	SKCC–453	0,8	3,96	120404, 120408
C...09T..	SKCP–343	0,8	3,18	09T302, 09T304, 09T308
CC..12..	SKCC–453	0,8	3,96	120404, 120408
D...11T..	SKDP–343	0,8	3,18	11T302, 11T304, 11T308
DC..15..	SKDC–453	0,8	3,96	150404, 150408
RC..10T..	SKRN100300	–	3,18	RC..10T3M00
RC..12..	SKRN120300	–	3,18	RC..1204MO
RC..16..	SKRN160400	–	4,76	RC..1606M0
SC..09T..	SKSP–343	0,8	3,18	09T304,09T308
S...12..	SKSC–453	0,8	3,96	120404, 120408, 120412
T...16T..	SKTP–343	0,8	3,18	16T304, 16T308, 16T312
T...22..	SKTC–453	0,8	3,96	220408
VB..16..	SKVN–343	0,4	3,18	160402, 160404, 160408
W...06T..	SKWP–343	0,8	3,18	06T308

KENDEX™ Positive Toolholders

insert size and style	shim	nose radius (mm)	shim thickness (mm)	positive insert options
SC..09..	SM-120	0,8	2,38	090304, 090308, 090312
SC..12..	SM-40	0,8	3,18	120304, 120308, 120312, 120316
TP..11..	SM-119	0,4	2,38	110304, 110308
TP..16..	SM-41	0,4	3,18	160302, 160304, 160308,160312
TP..22..	SM-37	1,2	3,18	220404, 220408, 220412, 220416

TOP NOTCH™ Profiling Toolholders

insert size and style	shim	nose radius (mm)	shim thickness (mm)	TOP NOTCH profiling insert options
KC..11.. (RH) KC..11.. (LH)	SM-885 SM-886	0,25 0,25	2,39 2,39	110304, 110308 110304, 110308
KN..15.. (RH) KN..15.. (LH)	SM-872 SM-871	0,8 0,8	4,76 4,76	150401, 150404, 150408 150401, 150404, 150408
VB..11..	SM-813	0,4	2,39	110302, 110304, 110308
VC..16..	SM-812	0,25	3,18	160402, 160404, 160408

MTS and KENDEX™ — MN Toolholders for Ceramic Inserts

insert size and style	shim	nose radius (mm)	shim thickness (mm)	negative ceramic insert options
CN..12..	552.221 552.220	1,6 1,6	4,76 7,92	120708, 120712, 120716 120408, 120412, 120416
CN..16..	552.223 552.242 552.222	1,6 1,6 1,6	4,76 6,35 7,92	160708, 160712, 160716 160612, 160616 160408, 160412, 160416
CN..12..	552.221 552.220	1,6 1,6	4,76 7,92	120708, 120712, 120716 120408, 120412, 120416
CN..16..	552.223 552.242 552.222	1,6 1,6 1,6	4,76 6,35 7,92	160708, 160712, 160716 160612, 160616 160408, 160412, 160416
DN..12..	552.225	1,6	4,76	120708, 120712, 120716
DN..15..	552.228 552.247	1,6 1,6	4,76 6,35	150708, 150712, 150716 150608, 150612, 150616
EN..13..	552.240 552.239	1,6 1,6	4,76 7,92	130708, 130712, 130716 130408, 130412, 130416
RN..12..	552.230 552.229	–	4,76 7,92	120400 120700
SN..12..	552.232 552.231	1,6 1,6	4,76 7,92	120708, 120712, 120716 120408, 120412, 120416
SN..15..	552.234 552.333	1,6 1,6	4,76 7,92	150708, 150712, 150716 150416
WN..08..	552.210	1,6	4,76	080708, 080712, 080716

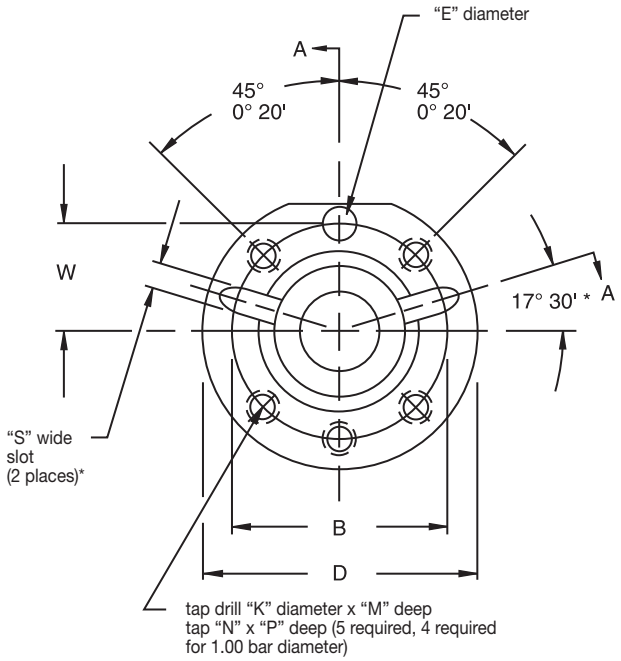
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

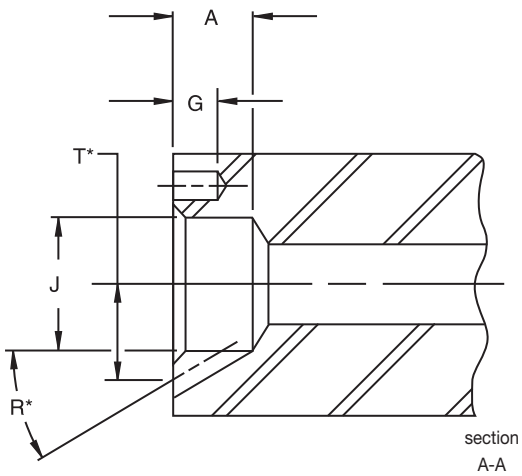
Boring Bar Construction (suggested length/diameter ratios)

length/diameter ratio	boring bar
to 4:1	steel*
from 4:1 to 6:1	steel with DeVibrator*
from 4:1 to 6:1	tungsten carbide*
from 6:1 to 8:1	tungsten carbide with DeVibrator*
from 8:1 to 10:1	tungsten carbide composite with DeVibrator*
from 6:1 to 10:1	standard tuneable boring bar
over 10:1	special tungsten carbide composite with DeVibrator* or special tuneable boring bar

*standard commercial boring bar

Mounting Dimensions for Interchangeable Boring Heads





*coolant slots optional

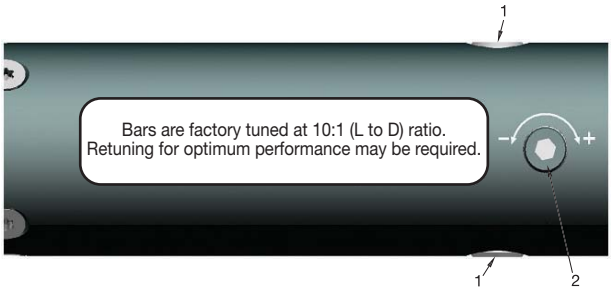
D	A	B ±.005	E +.0010 -.0000	G	J +.0005 -.0000	K	M	N	P	W ±.001	R	S	T	screw cat. no.	
														3 req'd	1 req'd
1	.44	.698	.1615	.25	.4500	.1360	.88	8-32 UNC	.73	.349	24°	.125	.349	S-319	S-322
1 1/4	.44	.907	.1615	.25	.6250	.1495	.75	10-24 UNC	.69	.453	26°	.125	.453	S-327	S-330
1 1/2	.44	1.125	.1615	.25	.7500	.1495	.75	10-24 UNC	.69	.562	30°	.125	.562	S-327	S-330
1 1/34	.56	1.312	.2540	.31	.8750	.2040	.75	1/4-20 UNC	.69	.656	30°	.156	.656	S-337	S-340
2	.56	1.563	.2540	.31	1.1250	.2040	.75	1/4-20 UNC	.69	.781	30°	.188	.781	S-337	S-340
2 1/4	.56	1.780	.2540	.31	1.3120	.2040	.75	1/4-20 UNC	.69	.890	30°	.188	.890	S-337	S-340
2 1/2	.56	1.969	.2540	.31	1.5000	.2610	1.00	5/16-18 UNC	.88	.984	30°	.188	.984	S-350	S-353

Dowel Pins

head diameter "D"	dowel pin catalog number	pin diameter	pin length
1	HDPM-040-010	4mm	10mm
1 1/4	HDP-188-0375	.1875	.375
1 1/2	HDP-188-0375	.1875	.375
1 3/4	HDP-250-0500	.2500	.500
2	HDP-250-0500	.2500	.500
2 1/4	HDP-250-0500	.2500	.500
2 1/2	HDP-250-0500	.2500	.500

Tuned Tooling

Standard tuneable boring bars are pre-tuned at the factory at a 10:1 length-to-diameter ratio. The flexible tuning procedure is used for tuning bars with different length-to-diameter ratios.



Adjustment:

- Loosen the 2 opposing screws (1) of the adjustable cylinder.
- Screw down (hand-screwed) adjusting-screw (2) to "+" (clockwise direction). Normally the damping-mechanism is clamped after 3 clockwise rotations and in idle position. The tool behaves now like a undamped bar and the frequency can be measured with the tuning device.
- Loosen the adjusting-screw (2) to "-." If you adjust manually (by hand) use the table below, if you work with the tuning-device, adapt what is shown on the display of the device.
- After finishing tuning, screw down the 2 screws (1) again.

Flexible Tuning Chart (inch)

rotations from locked position			
bar diameter	6:1 length-to-diameter ratio	8:1 length-to-diameter ratio	10:1 length-to-diameter ratio
1.00	3	3	3
1.25	2-1/4	2-1/2	2-3/4
1.50	2-1/2	3	3-1/2
1.75	2	2	3-1/2
2.00	5	5	5
2.50	5	6	6
3.00	4	5	5
4.00			3

Flexible Tuning Chart (metric)

rotations from locked position			
bar diameter	6:1 length-to-diameter ratio	8:1 length-to-diameter ratio	10:1 length-to-diameter ratio
25 mm	2	2	2-1/2
32 mm	1-1/2	1-1/2	2
40 mm	2	2	3
50 mm	4	4-3/4	4-3/4

Minimum Tuned Bar Length without Bolt-On Head

catalog number	inch bar diameter	minimum bar length (inches)	catalog number	metric bar diameter	minimum bar length (mm)
D16TTB16	1	9.08	D25M-TTB400	25mm	228mm
D20TTB18	1.25	9.59	D32M-TTB447	32mm	245mm
D24TTB21	1.5	11.03	D40M-TTB530	40mm	300mm
D28TTB25	1.75	12.35	D50M-TTB700	50mm	309mm
D32TTB28	2	12.31			
D40TTB35	2.5	14.88			
D48TTB42	3	20.00			

Torque Controlled Wrenches

material number	catalog number	description
3641463	DTQ0615	Torque Control Wrench Handle 0.6–1.5Nm
3641464	DTQ1530	Torque Control Wrench Handle 1.5–3.0Nm
3641465	DTQ3054	Torque Control Wrench Handle 3.0–5.4Nm
3641466	BTQT6	Blade Screw Driver Torx
3641467	BTQT7	Blade Screw Driver Torx
3641468	BTQT8	Blade Screw Driver Torx
3641469	BTQT9	Blade Screw Driver Torx
3641470	BTQT10	Blade Screw Driver Torx
3641471	BTQT15	Blade Screw Driver Torx
3641472	BTQT20	Blade Screw Driver Torx
3641473	BTQT25	Blade Screw Driver Torx
3641474	BTQ6IP	Blade Screw Driver Torx Plus
3641475	BTQ7IP	Blade Screw Driver Torx Plus
3641476	BTQ8IP	Blade Screw Driver Torx Plus
3641477	BTQ9IP	Blade Screw Driver Torx Plus
3641478	BTQ10IP	Blade Screw Driver Torx Plus
3641479	BTQ15IP	Blade Screw Driver Torx Plus
3641481	BTQW3M	Blade Screw Driver Hex
3641480	DTQCAP	Cover cap

Universal Bit Holder

catalog number	
DRIVER	

Bits

cataog number	bit length (mm)	Hex size	Torx size	Torx Plus size
170.179	25,0	2,5		
170.180	25,0	3,0		
170.181	25,0	4,0		
BT6	25,0		6	
BT7	25,0		7	
BT8	25,0		8	
BT9	25,0		9	
BT10	25,0		10	
170.175	29,0		15	
170.177	70,0		15	
170.176	30,0		20	
170.258	25,0		25	
170.259	65,0		25	
170.256	25,0		27	
170.257	65,0		27	
BT25IP	25,0			25 IP
BTE25IP	50,0			25 IP
BT27IP	25,0			27 IP
BTE27IP	50,0			27 IP

Screw Driver

catalog number	packages	Hex size	Torx size	Torx Plus size
DT6			T6	
DT7			T7	
DT8			T8	
DT9			T9	
DT10			T10	
DT15			T15	
DT20			T20	
	TWS1		T6 - T15	
DT8IP				8 IP
DT9IP				9 IP
DT10IP				10 IP
DT15IP				15 IP
DT20IP				20 IP
DT25IP				25 IP
DT27IP				27 IP
DT30IP				30 IP
DT40IP				40 IP

Flag-Type Screw Driver

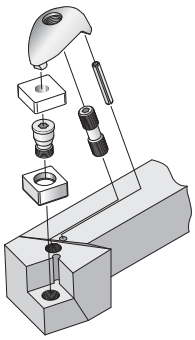
catalog number	Hex size	Torx size	Torx Plus size
FT5		T5	
FT6		T6	
FT8		T8	
FT9		T9	
FT10		T10	
FT1015		T10/T15	
FT15		T15	
FT1535	3,5	T15	
FT154	4,0	T15	
FT20		T20	
FT205	5,0	T20	

Allen Key

catalog number	packages	Hex size	Torx size	Torx Plus size
170.000		1,5		
170.001		2,0		
170.002		2,5		
170.003		3,0		
170.004		4,0		
170.005		5,0		
170.006		6,0		
170.008		8,0		
170.009		9,0		
170.010		10,0		
170.011		12,0		
	MW9	1,27–8,0		
KT5			T5	
KT6			T6	
KT7			T7	
KT8			T8	
KT9			T9	
KT10			T10	
KT15			T15	
KT15PKG			T15	
KT20			T20	
KT20PKG			T20	
KT25			T25	
KT25PKG			T25	
KT27			T27	
KT27PKG			T27	
KT30			T30	
KT45			T45	
	KT6PKG (5 pieces)		T6	
	KT7PKG (5 pieces)		T7	
	KT8PKG (5 pieces)		T8	
	KT9PKG (5 pieces)		T9	
K8IP				8 IP
K9IP				9 IP
K10IP				10 IP
K15IP				15 IP
K20IP				20 IP
K25IP				25 IP
K27IP				27 IP
K30IP				30 IP
K40IP				40 IP

T-Handle Screw Driver

catalog number		Hex size	Torx size	Torx Plus size
KW 078		5/64		
KW093		3/32		
KW109		7/64		
KW125		1/8		
KW156		5/32		
KW187		3/16		
KW218		7/32		
TT10			T10	
TT15			T15	
TT20			T20	
TT25			T25	
TT30			T30	
TTP8				8 IP
TTP9				9 IP
TTP10				10 IP
TTP15				15 IP
TTP20				20 IP
TTP27				27 IP



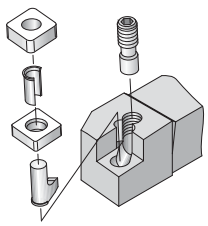
KENCLAMP™

Shim Screw

catalog number	thread size	top drive Torx Plus	bottom drive	recommended torque Nm	in-lbs	ft-lbs
KMSP39IP	**M5 x 0,8**	9 IP	—	6	53	4
KMSP4151P	**M6,3 x 1,0**	151IP	—	6	53	4
KMSP4S15IP	**M6,3 x 1,0**	151IP	—	6	53	4
KMSP515IP	**M8 x 1,0**	151IP	—	7	58	5
KMSP5S15IP	**M8 x 1,0**	151IP	—	7	58	5
KMSP625IP	**M10 x 1,0**	25 IP	—	17	50	12
KMSP840IP	**M12 x 1,25**	40 IP	—	33	292	4

Clamp Screw

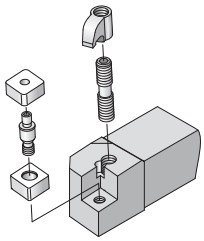
catalog number	thread size	top drive Torx Plus	bottom drive Torx Plus	recommended torque Nm	in-lbs	ft-lbs
STCM1115IP	**M6 x 1,0**	15 IP	15 IP	7	58	5
STCM119IP	**M6 x 1,0**	9 IP	9 IP	6	53	4
STCM1940IP	**M10 x 1,25**	40 IP	40 IP	33	292	24
STCM4127IP	**M8 x 1,0**	27 IP	27 IP	20	177	14
STCM425IP	**M8 x 1,0**	25 IP	25 IP	17	150	12
STCM825IP	**M8 x 1,0**	25 IP	25 IP	17	150	12



KENLEVER™

Lever Screw

catalog number	thread size	top drive Torx Plus	bottom drive Torx Plus	recommended torque Nm	in-lbs	ft-lbs
514.111	**M5 x 0,8**	8 IP	—	2	18	1.5
514.112	**M5 x 0,8**	8 IP	—	2	18	1.5
514.118	**M6 x 1,0**	10 IP	10 IP	4	35	3.0
514.122	**M6 x 1,0**	10 IP	—	4	35	3.0
514.123	**M8 x 1,0**	15 IP	15 IP	7	58	5.0
514.124	**M8 x 1,0**	15 IP	—	7	58	5.0
514.125	**M8 x 1,0**	15 IP	—	7	58	5.0
514.128	**M8 x 1,0**	15 IP	15 IP	7	58	5.0
514.133	**M10 x 1,0**	25 IP	25 IP	12	106	9.0
514.138	**M10 x 1,0**	30 IP	30 IP	17	150	12.0



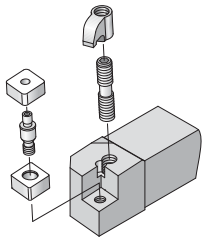
KENLOC™

Lock Pin

catalog number	thread size	top drive Hex (inch)	bottom drive Hex (inch)	recommended torque Nm	in-lbs	ft-lbs
KL23	**#8–32**	—	1/16	1,5	13	1.0
KL33	**#10–32**	5/64	5/64	1,7	15	1.2
KL33L	**#10–32**	5/64	5/64	1,7	15	1.2
KL34	**#10–32**	5/64	5/64	1,7	15	1.2
KL34L	**#10–32**	5/64	5/64	1,7	15	1.2
KL44	**1/4–28**	3/32	3/32	3,3	30	2.5
KL46	**1/4–28**	3/32	3/32	3,3	30	2.5
KL46L	**1/4–28**	3/32	3/32	3,3	30	2.5
KL57	**5/16–24**	1/8	1/8	5,5	50	4.0
KL58	**5/16–24**	1/8	1/8	5,5	50	4.0
KL58L	**5/16–24**	1/8	1/8	5,5	50	4.0
KL68	**3/8–24**	9/64	9/64	8,0	70	5.6
KL68L	**3/8–24**	9/64	9/64	8,0	70	5.6
KL810	**7/16–20**	5/32	5/32	9,0	80	6.4
KLC33	**M5 x 0,8**	5/64	5/64	1,7	15	1.2
KLC33L	**M5 x 0,8**	5/64	5/64	1,7	15	1.2
KLC34L	**M5 x 0,8**	5/64	5/64	1,7	15	1.2
KLC43	**M5 x 0,8**	5/64	5/64	1,7	15	1.2
KLC44	**M6,3 x 1**	3/32	3/32	3,3	30	2.5
KLC46	**M6,3 x 1**	3/32	3/32	3,3	30	2.5
KLC46L	**M6,3 x 1**	3/32	3/32	3,3	30	2.5
KLC46S	**M6,3 x 1**	3/32	3/32	3,3	30	2.5
KLC54	**M6,3 x 1**	3/32	3/32	3,3	30	2.5
KLC56	**M8 x 1**	1/8	1/8	5,5	50	4.0
KLC58	**M8 x 1**	1/8	1/8	5,5	50	4.0
KLC68	**M10 x 1**	9/64	9/64	8,0	70	5.6
KLC810	**M12 x 1,25**	5/32	5/32	9,0	80	6.4

Clamp Screw

catalog number	thread size	top drive Hex (inch)	bottom drive Hex (inch)	recommended torque Nm	in-lbs	ft-lbs
STC2	**5/16–24**	5/32	5/32	10,8	96	8
STC3	**1/2–20**	1/4	1/4	40,3	357	30
STC4	**5/16–24**	5/32	3/32	10,8	96	8
STC5	**10–32**	3/32	3/32	2,3	21	1.6
STC8	**5/16–24**	5/32	5/32	10,8	96	8
STC9	**10–32**	3/32	3/32	2,3	21	1.6
STC11	**1/4–28**	1/8	1/8	5,4	48	4
STC12	**1/4–28**	1/8	1/8	5,4	48	4
STC19	**3/8–24**	3/16	3/16	18,8	167	13.9
STC20	**1/4–28**	1/8	1/8	5,4	48	4
STC25	**10–32**	3/32	3/32	2,3	21	1.6
STC26	**1/4–28**	1/8	1/8	5,4	48	4
STC27	**8–36**	5/64	5/64	1,4	12	1
STC30	**6–40**	1/16	1/16	0,7	6	.5
STC32	**1/4–28**	1/8	1/8	5,4	48	4
STC34	**10–32**	3/32	3/32	2,3	21	1.6
STC35	**1/4–28**	1/8	1/8	5,4	48	4
STC36	**1/4–28**	3/32	3/32	2,3	21	1.6
STCC–8	**M8X1**	9/64	9/64	11,8	105	8.8
STCC–9	**M5x0,8**	3/32	3/32	3,1	28	2.3
STCC–11	**M6X1**	1/8	1/8	5,1	45	3.8
STCC–20	**M6x1**	1/8	1/8	5,1	45	3.8
STCC–37	**M8x1**	3/32	3/32	11,8	105	8.8
STCC–38	**M5x0,8**	5/64	5/64	3,1	28	2.3
STCC–39	**M10X1,25**	1/8	1/8	35,0	206	25.9
STCC–40	**M6x1**	3/32	3/32	5,1	45	8



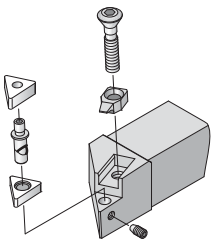
KENLOC™

Lock Pin

catalog number	thread size	top drive Hex (mm)	bottom drive Hex (mm)	recommended torque Nm	in-lbs	ft-lbs
KLM23	**M4 x 0,7**	-	1,5	1,5	13	1.0
KLM33	**M5 x 0,8**	2,0	2,0	1,7	15	1.2
KLM33L	**M5 x 0,8**	2,0	2,0	1,7	15	1.2
KLM34	**M5 x 0,8**	2,0	2,0	1,7	15	1.2
KLM34L	**M5 x 0,8**	2,0	2,0	1,7	15	1.2
KLM43	**M5 x 0,8**	2,0	2,0	1,7	15	1.2
KLM44	**M6,3 x 1**	2,5	2,5	3,3	30	2.5
KLM46	**M6,3 x 1**	2,5	2,5	3,3	30	2.5
KLM46L	**M6,3 x 1**	2,5	2,5	3,3	30	2.5
KLM46S	**M6,3 x 1**	2,5	2,5	3,3	30	2.5
KLM54	**M6,3 x 1**	2,5	2,5	3,3	30	2.5
KLM56	**M8 x 1**	3,0	3,0	5,5	50	4.0
KLM58	**M8 x 1**	3,0	3,0	5,5	50	4.0
KLM58L	**M8 x 1**	3,0	3,0	5,5	50	4.0
KLM66	**M10 x 1**	4,0	4,0	8,0	70	5.6
KLM66L	**M10 x 1**	4,0	4,0	8,0	70	5.6
KLM68	**M10 x 1**	4,0	4,0	8,0	70	5.6
KLM68L	**M10 x 1**	4,0	4,0	8,0	70	5.6
KLM810	**M12 x 1,25**	4,0	4,0	9,0	80	6.4

Clamp Screw

catalog number	thread size	top drive Hex (mm)	bottom drive Hex (mm)	recommended torque Nm	in-lbs	ft-lbs
STCM4	**M8 x 1**	4,0	4,0	17,0	150	12.0
STCM5	**M5 x 0,8**	2,5	2,5	4,0	35	3.0
STCM8	**M8 x 1**	4,0	4,0	17,0	150	12.0
STCM	**M5 x 0,8**	2,5	2,5	4,0	35	3.0
9STCM11	**M6 x 1**	3,0	3,0	6,0	53	4.4
STCM19	**M10 x 1,25**	5,0	5,0	8,0	71	5.9
STCM20	**M6 x 1**	3,0	3,0	7,0	62	5.2
STCM24	**M10 x 1,25**	5,0	5,0	33,0	292	24.3
STCM25	**M5 x 0,8**	2,5	2,5	4,0	35	3.0
STCM26	**M6 x 1**	3,0	3,0	7,0	62	5.2
STCM27	**M4 x 0,7**	2,0	2,0	2,1	19	1.5
STCM32	**M6 x 1**	3,0	3,0	7,0	62	5.2
STCM35	**M6 x 1**	3,0	3,0	7,0	62	5.2
STCM37	**M8 x 1**	2,5	2,5	4,2	37	3.1
STCM38	**M5 x 0,8**	2,0	2,0	2,1	19	1.5
STCM39	**M10 x 1,25**	3,0	3,0	8,0	71	5.9
STCM40	**M6 x 1**	2,5	2,5	4,2	37	3.1



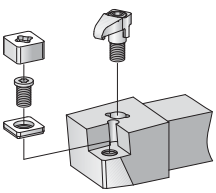
WEDGELOCK™

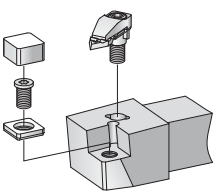
Lock Pin

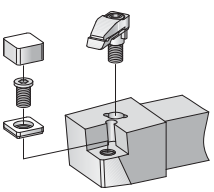
catalog number	thread size	top drive Hex (inch)	bottom drive Hex (inch)	recommended torque Nm	in-lbs	ft-lbs
FPE5	**#10-24**	1/16	3/32	1,5	13	1.0
FPE6	**#10-24**	3/32	3/32	3,3	30	2.5
		Torx	Torx			
FP453	**M4 x 0,5**	T10	T10	1,7	15	1.2
FP477	**M4 x 0,5**	T10	T10	1,7	15	1.2
		Hex (mm)				
192.159	**M6 x 1**	3	-	4,0	35	3.0
		Torx				
192.636	**M4 x 0,7**	T15	-	2,6	23	2.0

Clamp Screw/Assembly

catalog number	thread Size	top drive Hex (inch)	bottom drive	recommended torque Nm	in-lbs	ft-lbs
S986	**1/4 - 20**	5/32	-	8,0	73	6.1
S987	**5/16 - 18**	3/16	-	9,0	80	6.6
		Torx				
MS1372	**M6 x 1,0**	T25	-	9,0	80	6.6
		Hex (mm)	Hex (mm)			
551.125	**M5 x 0,8**	3	3	7,0	58	5.0
551.126	**M6 x 1,0**	3	3	7,0	58	5.0
551.131	**M5 x 0,8**	3	3	7,0	58	5.0







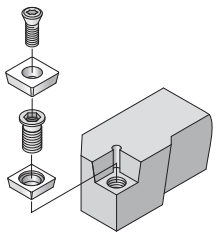
MTS

Shim Screw

catalog number	thread size	top drive Torx	bottom drive	recommended torque Nm	in-lbs	ft-lbs
554.260	**M6 x 1,0**	T20	-	5,0	44	4.0
554.261	**M8 x 1,0**	T25	-	8,0	71	6.0
		Hex (mm)				
554.252	**M6 x 1,0**	2,5	-	3,0	27	2.2
554.253	**M8 x 1,0**	3,0	-	6,0	53	4.0
554.254	**M5 x 0,8**	2,5	-	3,0	27	2.2

Clamp Assembly/Lock Pin

catalog number	thread size	top drive Torx	bottom drive Torx	recommended torque Nm	in-lbs	ft-lbs
551.326	**M8 x 1,25**	T25	T25	8,0	71	6.0
551.327	**M8 x 1,25**	T25	T25	8,0	71	6.0
551.342	**M8 x 1,25**	T25	T25	8,0	71	6.0
		Hex (mm)	Hex (mm)			
551.251	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.252	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.253	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.254	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.255	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.256	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.257	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.260	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.261	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.316	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.317	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.332	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
551.333	**M8 x 1,25**	4,0	4,0	8,0	71	6.0
554.016	**M6 x 1,0**	2,5	2,5	3,0	27	2.2
554.017	**M8 x 1,0**	3,0	3,0	6,0	53	4.0
554.018	**M5 x 0,8**	2,0	2,0	1,7	15	1.3



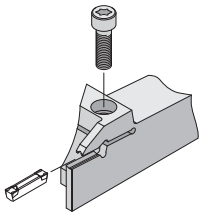
Shim Screw

catalog number	thread size	top drive Hex (inch)	bottom drive	recommended torque Nm	in-lbs	ft-lbs
MS1028	**M3 x 0,5 (INT) M5 x 0,8 (EXT)**	3/32 Hex (mm)	-	1,7	15	1.00
SRS3	**M3,5 x 0,6 (INT) M5 x 0,5 (EXT)**	3,5	-	2,2	20	1.66
SRS4	**M4 x 0,5 (INT) M6 x 0,75 (EXT)**	4,0	-	2,6	23	2.00
SRS5	**M5 x 0,8 (INT) M8 x 0,75 (EXT)**	5,0	-	2,8	25	2.00
SRS6	**M6 x 1,0 (INT) M10 x 0,75 (EXT)**	6,0	-	3,4	30	2.50

Insert Screw

catalog number	thread size	top drive Torx	bottom drive	recommended torque Nm	in-lbs	ft-lbs
MS1017	**M2,5 x 0,45**	T7	-	1,00	8	0.60
MS1018	**M4 x 0,7**	T15	-	2,60	23	2.00
MS1019	**M3 x 0,5**	T8	-	1,70	15	1.00
MS1022	**M3 x 0,5**	T8	-	1,70	15	1.00
MS1023	**M2,5 x 0,45**	T7	-	1,00	8	0.60
MS1026	**M2,2 x 0,45**	T7	-	1,00	8	0.60
MS1027	**M3 x 0,5**	T9	-	1,70	15	1.00
MS1129	**M4,5 x 0,75**	T15	-	3,80	34	3.00
MS1152	**M2,2 x 0,45**	T7	-	1,00	8	0.60
MS1153	M2,5 x 0,45	T7	-	1,00	8	0.60
MS1154	**M3 x 0,5**	T9	-	1,70	15	1.00
MS1155	**M3,5 x 0,6**	T15	-	1,70	15	1.00
MS1156	**M3,5 x 0,6**	T15	-	1,70	15	1.00
MS1157	**M4 x 0,5**	T15	-	2,60	23	2.00
MS1158	**M4 x 0,5**	T15	-	2,60	23	2.00
MS1159	**M5 x 0,8**	T20	-	5,10	45	4.00
MS1160	**M5 x 0,8**	T20	-	5,10	45	4.00
MS1161	**M6 x 1**	T25	-	8,80	77	6.00
MS1162	**M6 x 1**	T25	-	8,80	77	6.00
MS1163	**M8 x 1,25**	T30	-	21,00	186	15.00
MS1438	**M1,8 x 0,35**	T5	-	0,34	3	0.25
MS1454	**M1,8 x 0,35**	T5	-	0,34	3	0.25
MS1571	**M5 x 0,8**	T20	-	5,10	45	4.00
MS1863	**M2 x 0,4**	T6	-	0,47	4	0.33
MS1864	**M2,5 x 0,45**	T8	-	1,00	8	0.60
MS1871	**M4 x 0,7**	T15	-	2,60	23	2.00
MS1933	**M2,2 x 0,45**	T7	-	1,00	8	0.60
MS1939	**M2,5 x 0,45**	T7	-	1,00	8	0.60
SSA3T	**#5-40**	T10	-	1,70	15	1.00
SSA4T	**#8-32**	T20	-	2,60	23	2.00
SSN2T	**M2,6 x 0,45**	T8	-	1,10	10	0.80

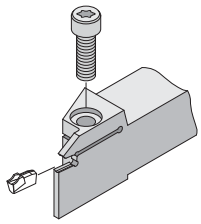
To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.



Clamp Screw

catalog number	thread size	top drive Torx	bottom drive	recommended torque Nm	recommended torque in-lbs
MS1162	**M6 x 1,0**	T25	-	8.8	77
MS1490	**M8 x 1,25**	T45	-	21	186
MS1595	**M6 x 1,0**	T30	-	8.8	77
MS1970	**M6 x 1,0**	T30	-	8.8	77
MS2002	**M6 x 1,0**	T25	-	8.8	77
MS2089	**M5 x 0,8**	25IP	-	5.1	45
MS2091	**M5 x 0,8**	25IP	-	5.1	45
		Hex (mm)			
MS2090	**M3 x 0,5**	1,5	-	1.7	15
193.407	**M5 x 0,8**	2,5	-	5.1	45

A3



Clamp Screw

catalog number	thread size	top drive Torx	bottom drive	recommended torque Nm	recommended torque in-lbs
MS1160	**M5 x 0,8**	20	-	5.1	45
MS1162	**M6 x 1,0**	25	-	8.8	77
MS1163	**M8 x 1,25**	30	-	21	186
MS1488	**M3,5 x 0,6**	15	-	1.7	15
MS1571	**M5 x 0,8**	20	-	5.1	45
MS1595*	**M6 x 1,0**	30	-	8.8	77
MS1595	**M6 x 1,0**	30	-	8.8	77
MS1875	**M8 x 1,25**	45	-	21	186
MS1944	**M4 x 0,5**	25	-	5.1	45
MS2002	**M6 x 1,0**	25	-	8.8	77
191.916	**M4 x 0,5**	15	-	2.6	23

* For toolholder grooving depth greater than or equal to 26mm.

Features and Compatablility of the Torx Plus and the Torx Drive System

Torx Plus Drive System

The Torx Plus drive system utilizes ellipses to define its geometry and improves upon the original Torx design.

Torx Drive System

The Torx drive system utilizes circles to define its geometry and offers many advantages over other systems.

System Compatibility

The Torx Plus drive system recess is compatible with existing Torx drive tools for field service concerns.

Material Grade Comparison Table

KENNAMETAL

Steel

mat. group	mat. no.	Germany DIN	France AFNOR	Great Britain BS	Italy UNI	Sweden SS	Spain UNE	U.S.A. AISI/SAE UNS	Japan JIS
	Plain Steel, Cast Steel, Free-Machining Steel								
P1	1.0332	St14		14491CR		1447		1008	
P1	1.1121	Ck10	CC10	040A10		1264		1010	S10C
P1	1.0721	10S20		210M15				1108	
P1	1.0401	C15	CC12	080M15	C15C16	1350	F.111	1015	515C
P1	1.0402	C22	CC20	050A20	C20C21	1450	F.112	1020	S20C,S22C
P1	1.1141	Ck15	XC12	080M15	C16	1370	C15K	1015	S15C
P1	1.0036	USt37-3			FE37BFU				
P1	1.0715	95Mn28	S250	230M07	CF95Mn28	1912	115Mn28	1213	SUM22
P1	1.0718	95MnPb28	S250Pb		CF95MnPb28	1914	115MnPb28	1213	SUM22L
P2	1.0501	C35	CC35	060A35	C35	1550	F.113	1035	S35C
P2	1.0503	C45	CC45	080M46	C45	1650	F.114	1045	S45C
P2	1.1158	Ck25	XC25	070M25	C25			1025	S25C
P2	1.1183	Cf35	XC38TS	060A35	C36	1572		1035	S35C
P2	1.1191	Ck45	XC42	080M46	C45	1672	C45K	1045	S45C
P2	1.1213	Cf53	XC48TS	060A52	C53	1674		1050	S50C
P3	1.5415	15Mo3	1503	1501-240	16Mo3KW	2912	16Mo3	ASTMA204GrA	
P3	1.5423	16Mo5		1503-245-420	16Mo5		16Mo5	4520	SB450M
P1	1.0050	St50-2			FE50				SM50YA
P3	1.7242	16CrMo 4	18CrMo4			18CrMo4			
P3	1.7337	16CrMo 4 4			A18CrMo45KW			A387Gr.12Cl.	
P3	1.7362	12CrMo 19 5	210CD5.05	3606-625	16CrMo205				
P1	1.0060	St60-2			FE60-2				SM570
P2	1.0535	C55		070M55	C55	1655		1055	S55C
P2	1.0601	C60	CC55	080A62	C60			1060	S60C
P2	1.1203	Ck55	XC55	070M55	C50		C55K	1055	S55C
P2	1.1221	Ck60	XC60	080A62	C60	1678		1060	S58C
P3/4	1.1545	C1051			C100KU				SK3
P3/4	1.1545	C10SW1			C100KU				SK3
P1	1.0070	St70-2			FE70-2				
P3/4	1.7238	49CrMo4							
P3/4	1.7561	42CrV6							
P3/4	1.7701	51CrMoV4	51CDV4		51CrMoV4				

(continued on next page)

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(continued from previous page)

mat. group	mat. no.	Germany DIN	France AFNOR	Great Britain BS	Italy UNI	Sweden SS	Spain UNE	U.S.A. AISI/SAE UNS	Japan JIS
	Low-Alloy Steel, Cast Steel, Free-Machining Steel								
P3/4	1.2067	100Cr6	Y100C6	BL3			100Cr6	L3	SUJ2
P3/4	1.2210	115CrV3	100C3		107CrV3KU			L2	
P3/4	1.2241	51CrV4							
P3/4	1.2419	105WCr6	105WC13		10WCr6	2140	105WCr5		SKS31
P3/4	1.2419	105WCr6	105WC13		107WCr5KU				SKS31
P3/4	1.2542	45WCrV7		B51	45WCrV8KU	2710	45WCrSi8	S1	
P3/4	1.2550	60WCrV7	55WC20		58WCr9KU	-2710		S1	
P3/4	1.2713	55NiCrMoV6	55NCDV7				F.520.S	L6	SKH1;SKT4
P3/4	1.2721	50NiCr13				-2550			
P3/4	1.2762	75CrMoNiW67							
P3/4	1.2762	75CrMoNiW67							
P3/4	1.2842	90MnCrV8	90MV8	B02	88MnV8KU				
P3/4	1.3505	100Cr6	100C6	534A99	100Cr6	2258		02	
P3	1.5622	14Ni6	16N6		14Ni6		15Ni6	52100	SUJ2
P3	1.5752	14NiCr10	14NC11		16NiCr11		15NiCr11	3415	
P3	1.5752	14NiCr14	12NC15	655M13				3415;3310	SNC415(H)
P3/4	1.6511	36CrNiMo4	40NCD3	816M40	38NiCrM04(KB)		33NiCrMo4	9840	SNC815(H)
p3/4	1.6523	21NiCrMo2	20NCD2	805M20	20NiCrMo2	2506	20NiCrMo2	8620	SNCM447
P3/4	1.6546	40NiCrMo22		311-TYPE7	40NiCrM02(KB)		20NiCrMo2	8740	SNCM220(H)
P3/4	1.6582	35CrNiMo6	35NCD6	817M40	35NiCrMo6(KB)	2541		4340	SNCM240
P3	1.6587	17CrNiMo6	18NCD6	820A16			14NiCrMo13		SNCM447
P3	1.6657	14NiCrMo34		832M13	15NiCrMo13		35Cr4		
P3/4	1.7033	34Cr4	32C4	530A32		34Cr4(KB)	42Cr4	5132	
P3/4	1.7035	41Cr4	42C4	530M40			42Cr4	5140	SCR430(H)
P3/4	1.7045	42Cr4	42C4TS	530A40	41Cr4	2245	16MnCr5	5140	SCR440(H)
P3	1.7131	16MnCr5	16MC5	(527M20)	16MnCr5	2511		5115	SCR415
P3/4	1.7176	55Cr3	55C3	527A60			55Cr3	5155	SUP9(A)
P3/4	1.7218	25CrMo4	25CD4	1717CDS110	25CrMo4(KB)	2225	34CrMo4	4130	SM420;SCM430
P3/4	1.7220	34CrMo4	35CD4	708A37	35CrMo4	2234		4137;4135	SCM432;SCCRM3

(continued on next page)

Material Grade Comparison Table

KENNAMETAL

Steel

(continued from previous page)

mat. group	mat. no.	Germany DIN	France AFNOR	Great Britain BS	Italy UNI	Sweden SS	Spain UNE	U.S.A. ANSI/SAE UNS	Japan JIS
	Plain Steel, Cast Steel, Free-Machining Steel								
P3/4	1.7223	41CrMo4	42CD4TS	708M40	41CrMo4	2244	42CrMo4	4140;4142	SCM440
P3/4	1.7225	42CrMo4	42CD4	708M40	42CrMo4	2244	42CrMo4	4140	SCM440(H)
P3	1.7262	15CrMo5	12CD4			2216	12CrMo4		SCM415(H)
P3	1.7335	13CrMo4 4	15CD3.5/4.5	1501-620-Gr27	14CrMo45		14CrMo45	ASTMA182	SPVAF12
P3/4	1.7361	32CrMo12	30CD12	722M24	32CrMo12	2240	F.124.A		
P3	1.7380	10CrMo9 10		1501-622Gr31;45				ASTMA182F.22	SPVA,SCMV4
P3	1.7715	14MoV6 3		1503-660-440			13MoCrV6		
P3/4	1.8159	50CrV4	50CrV4	735A50	50CrV4	2230	51CrV4	6150	SUP10
P3/4	1.8159	50CrV4		735A50	51CrV4	2230		6150	SUP10
P3/4	1.3501	100Cr2	100C2					E50100	
P3/4	1.5710	36NiCr6	35NC6	640A35				3135	SNC236
P3/4	1.5736	36NiCr10	30NC11					3435	SNC631(H)
P3/4	1.5755	31NiCr14	18NC13	653M31					SNC836
P3/4	1.7733	24CrMoV55	20CDV6		21CrMoV511				
P3/4	1.7755	GS-45CrMoV104							
P3	1.8070	21CrMoV511			35NiCr9				
P3/4	1.8509	41CrALMo7	40CAD6,12	905M39	41CrAlMo7	2940	41CrAlMo7		SACM645
P3/4	1.8523	39CrMoV139		897M39	36CrMoV12				
P3/4	1.2311	40CrMnMo7			35CrMo8KU				
P5/6	1.4882	X50CrMnNiNbN219	Z50CMNNb21.09						
P3/4	1.5864	35NiCr18							
	High-Alloy Steel, Cast Steel								
P3/4	1.2343	X38CrMoV51	Z38CDV5	BH11	X37CrMoV51KYU		X37CrMoV5	H11	SKD6
P3/4	1.2344	X40CrMoV51	Z40CDV5	BH13	X40CrMoV511KU	2242	X40CrMoV5	H13	SKD61
P3/4	1.2379	X155CrVMo121	Z160CDV12	BD2	X155CrVMo121KU			D2	SKD11
P3/4	1.2436	X210CrW12			X215CrW121KU	2312	X210CrW12		SKD2
P3/4	1.2581	X30WCrV93	Z30WCV9	BH21	X30WCrV93KU		X30WCrV9	H21	SKD5
P3/4	1.2601	X 165CrMoV12			X165CrMoW12KU	2310	X160CrMoV12		
P3/4	1.2606	X37CrMoW 51	Z35CWDV5	BH12	X35CrMoW05KU		F.537	H12	SKD62
P5/6	1.5662	X8Ni9		1501.509;50	X10Ni9		XBNi09	ASTMA353	SL9N53
P3	1.5680	12Ni19	Z18N5					2515	
P3/4	1.3202	S12-1-4-5		BT15	HS12-1-5-5		12-1--5-5		
P3/4	1.3207	S10-4-3-10	Z130WKCDV	BT42	HS10-4-3-10				SKH57
P3/4	1.3243	S6-5-2-5	KCV06-05-04-02		HS6-5-2-5	2723	6-5-2-5	T15	SLKH55
P3/4	1.3246	S7-4-2-5	Z110WKCDV07-05-04		HS7-4-2-5	7-4-2-5	M35		
P3/4	1.3247	S2-10-1-8	Z110DKCWV09-08-04	BM42	HS2-9-1-8	2-10-1-8	M41		SKH51
P3/4	1.3249	S2-9-2-8		BM34			2-9-2-8	M42	
P3/4	1.3343	S6-5-2	Z85WDCV	BM2	HS6-5-2-5	2722		M35	SKH9;SKH51
	Stainless Steel, Cast Steel								
P5/6	1.4000	X6Cr13	Z6C13	403S17	X6Cr3	2301	F.3110	403	SUS403
P5/6	1.4001	X6Cr14					F.8401		4105, 429
P5/6	1.4002	X6CrAl13	Z8CA12	405S17	X6CrAl13			405	SUS405
P5/6	1.4006	(G-)X10Cr13	Z10C13	410S21	X12Cr13	2302	F.3401	SUS410	SUS410
P5/6	1.4016	X8Cr17	Z8C17	430S15	X8Cr17	2320	F.3113	430	SUS430
P5/6	1.4021	X20Cr13	Z20C13	420S37	X20Cr13	2303		420	SUS420/1
P5/6	1.4027	G-X20Cr14	Z20C13M	420C29					SCS2
P5/6	1.4086	G-X120Cr29		452C11					
P5/6	1.4104	X12CrMoS17	Z10CF17	441S29	X10CrS17	2383	F.3117	430F	SUS430F
P5/6	1.4113	X6CrMo17	Z8CD1701	434S17	X8CrMo17	2325		420	SUS434
P5/6	1.4340	G-X40CrNi274							
P5/6	1.4417	X2CrNiMoSi195				2376		531500	
P5/6	1.4720	X20CrMo13							
P5/6	1.4724	X10CrA113	Z10C13	403S17	X10CrA112		F.311	405	SUS405
P5/6	1.4742	X10CrA118	Z10CAS18	430S15	X8Cr17		F.3113	430	SUS430
P5/6	1.4762	X10CrA124	Z10CAS24		X16Cr26	2322		446	SUH446
P5/6	1.4034	X46Cr13	Z40CM	420S45	X40Cr14	2304	F.3405		
P5/6	1.4057	X20CrNi17	Z6CNi6.02	431S29	X16CrNi16	2321		431	SUS431
P5/6	1.4125	X105CrMo17	Z100CD17		X 10SCrMo17				SUS440C

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mat. group	mat. no.	Germany DIN	France AFNOR	Great Britain BS	Italy UNI	Sweden SS	Spain UNE	U.S.A. AISI/SAE UNS	Japan JIS
	Austenitic Stainless Steel								
M1	1.4301	X5CrNi189	Z6CN18.09	304S15	X5CrNi1810	2332	F.3551	304	SUS304
M1	1.4310	X12CrNi177	Z12CN17.07	301S21	X2CrNi1807	2331	F.3517	301	SUS301
M1	1.4311	X2CrNiN1810	Z2CN18.10	304S62	X2CrNiN1810	2371		304LN	SUS304LN
M1	1.4312	G–X10CrNi188	Z10CN18.9M	302C25					
M1	1.4350	X5CrNi189	Z6CN18.09	304S31	X5Crni1810	2332/2333	F.3551	304	
M1	1.4362	X2CrNiN234	Z2CN23–04AZ			2327		S32304	
M2	1.4401	X5CrNiMo17122	Z6CND17.11	316S16	X5CrNiMo1712	2347	F.3543	316	SUS316
M2	1.4404	X2CrNiMo1810	Z2CND17.12	316S12	X2CrNiMo1712	2343/2348/2553		316L	SUS316
M2	1.4410	G–X10CrNiMo189	Z5CND20.12M						
M2	1.4429	X2CrNiMoN17133	Z2CND17.13	316S63	X2CrNiMoN1713	2375		316LN	SUS316LN
M2	1.4435	X2CrNiMo18143	Z2CND17.12	316S13	X2CrNiMo1712	2353		316L	SCS16
M2	1.4436	X5CrNiMo17133	Z6CND18–12–03	316S33	X8CrNiMo1713	2343/2347		316	SUS316
M2	1.4438	X5CrNiMo17133	Z2CND19.15	317S12	X2CrNiMo1816	2367		317L	SUS317L
M2	1.4500	X5CrNiMo17133	23NCDU25.20M						
M2	1.4541	X10CrNiMoTi1810	Z6CNT18.10	321S12	X6CrNiTi1811	2337	F.3553F.3523	321	SUS321
M2	1.4550	X10CrNiNb	Z6CNNb18.10	347S17	X6CrNiNb1811	2338	F.35552F.3524	347	SUS347
M2	1.4552	G_X7CrNiNb189	Z4CNNb19.10M	347C17					
M2	1.4571	X10CrNiMoTi1810	Z6NDT17.12	320S17	X6CrNiMoTi1712	2350	F.3535	316Ti	SUS316TI
M2	1.4583	X10CrNiMoNb1812	Z6CNDN1713B		X6CrNiMoNb			318	
M2	1.485	G–X7CrNiMoCuNb1818			X6CrNiMoTi1712				
M1	1.4828	X12CrNi2521	Z15CNS20.12	309S24				309	SUH309
M2	1.4845	X12CrNi2521	Z12CN2520	310S24	X6CrNi2520	2361	F.331	310S	SUH310;SUS310S
	Austenitic/Ferritic Stainless Steel (Duplex)								
M3	1.4460	X8CrNiMo275				2324		S32900	SUS329J1
M3	1.4462	X2CrNiMoN2253	Z2CND22–05–03			2977			
M3	1.4821	X2CrNiMoN2253	Z20CNS25.04						
M3	1.4823	X2CrNiMoN2253							
	Gray Cast Iron								
K1	0.6010	GG10	Ft10D		G10	110		CLASS20	FC100
K1	0.6015	GG10	Ft15D	GRADE150	G15	150	FG15	CLASS25	FC150
K1	0.6020	GG20	Ft20D	GRADE220	G20	120	FG20	CLASS30	FC200
K1	0.6025	GG25	Ft25D	GRADE260	G25	125	FG25	CLASS35	FC250
K1	0.6030	GG30	Ft30D	GRADE300	G30	130	FG30	CLASS45	FC300
K1	0.6035	GG35	Ft35D	GRADE350	G35	135	FG35	CLASS50	FC350
K1	0.6040	GG40	Ft40D	GRADE400		140		CLASS55	FC400
	Gray Cast Iron with Nodular Graphite								
K2	0.7033	GGG35.3				0717–15			FDC350
K2	0.7040	GGG40	FCS400–12	SNG420/12	GGG40	0717–02	GGG40	60–40–18	FDC400
K2	0.7043	GGG40.3	FGS370–17	SNG370/17		0717–12			FDC400
K3	0.7050	GGG50	FGS500–7	SNG500/7	GGG50	0727–02	GGG50	80–55–06	FDC500
K3	0.7060	GGG60	FGS600–3	SNG600/3	GGG60	0732–03	GGG60		FCD600
K3	0.7070	GGG70	FGS700–2	SNG700/2	GGG70	0737–01	GGG70	100–70–03	FCD700
	White Malleable Cast Iron								
K1	0.8040	GTW–40	MB40–10	W410/4	GMB40		GTW40		
K1	0.8045	GTW–45			GMB45		GTW45		
K1	0.8055	GTW–55					GTW55		
K1	0.8065	GTW–65					GTW65		
K2	0.8135	GTS–35	MN35–10	B340/12		810	GTS35	32510	
K2	0.8145	GTS–45		9440/7		852	GTS45	40010	
K1	0.8035	GTW–35	MB35–7	W340/3			GTW35		
K3	0.8155	GTS–55	MP50–5	P510/4		854	GTS55	50005	
K3	0.8165	GTS–65	MP60–3	P570/3		856	GTS65	7003	
K3	0.8170	GTS–70	M870–2	P690/2		0862;0864	GTS70	9001	

Material Grade Comparison Table

KENNAMETAL

Non-Ferrous Materials

mat. group	mat. no.	Germany DIN	France AFNOR	Great Britain BS	Italy UNI	Sweden SS	Spain UNE	U.S.A. AISI/SAE UNS	Japan JIS	
	Aluminium Alloys									
N1	3.0255	Al99.5	A59050C	L31/34/36				1000		
N1	3.3315	AlMg1								
N1	3.1655	AlCuSiPb								
N1	3.1754	G-AlCu5Ni1,5	3.4345	AlZnMgCu0,5	AZ4GU/9051	L86	811-04			7050
N2	3.2373	G-AlSi9Mg								
N2	3.2381	G-AlSi10Mg								
N2	3.2382	GD-AlSi10Mg								
N2	3.2383	G-AlSi10Mg (Cu)		LM9		4253		A360.2		
N2	3.2383	GK-AlSi10Mg (Cu)		LM9		4253		A360.2		
N2	3.2581	G-AlSi12		LM6		4261		A413.2		
N2	3.2582	GD-AlSi12				4247		A413.0	A6061	
N2	3.2583	G-AlSi12 (Cu)		LM20		4260		A413.1	ADC12	
N1	3.3561	G-AlMg5	A-SU 12	LN5		4252		GD-AlSi12	AC4A	
N1	3.5101	G-MgZn4SE1Zr1	G-Z4TR	MAG5				ZE41		
N1	3.5103	MgSE3Zn2Zr1	G-TR3Z2	MAG6				EZ33		
N1	3.5106	G-MgAg3SE2Zr1	G-Ag22,5	MAG12				QE22		
N1	3.5812	G-MgAl8Zn1	G-A9	MAG1				AZ81		
N1	3.5912	G-MgAl9Zn1	G-A9Z1	MAG7				AZ91		
N1	2.1871	G-AlCu4TiMg								
N1	3.2371	G-AlSi7Mg						4218B		
	Copper Alloys									
N3	2.1090	G-CuSn7ZnPb	U-E7Z5Pb4					C93200		
N3	2.1096	G-CuSn5ZnPb	U-E5Pb5Z5	LG2				C83600		
N3	2.1098	G-CuSn2ZnPb								
N3	2.1176	G-CuPb10Sn	U-E10Pb10	LB2				C93700		
N3	2.1182	G-CuPb15Sn	U-Pb15E8	LB1				C93800		
N3	2.0240	CuZn15	CuZn15	CZ102				C23000		
N3	2.0265	CuZn30	CuZn30	CZ106				C26000		
N3	2.0321	CuZn37	CuZn36, CuZn37	CZ108	C2700,C2720			C27200, C27700		
N3	2.0592	G-CuZn35Al1	U-Z36N3	HTB1				C86500		
N3	2.0596	G-CuZn34Al2	U-Z36N3	HTB1				C86200		
N3	2.1188	G-CuPb20Sn	U-Pb20	LB5				C94100		
N3	2.1292	G-CuCrF35		CC1-FF				C81500		
N3	2.1293	CuCrZr	U-Cr0,8Zr	CC102				C18200		
N3	2.0966	CuAl10Ni5Fe4	U-A10N	Ca104				C63000		
N3	2.0975	G-CuAl10Ni						B-148-52		
N3	2.1050	G-CuSn10		CT1				C90700		
N3	2.1052	G-CuSn12	UE12P	Pb2				C90800		
N4		Nylon, Plastics, Rubbers, Phenolics, and Resins								
N5		Carbon and Graphite Composites, Brush Alloys, Kevlar, Graphite (280–400 HB, 30–40 HRC)								
N6		MMC's (Aluminium-Based Metal Matrix Composites)								

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mat. group	mat. no.	Germany DIN	France AFNOR	Great Britain BS	Italy UNI	Sweden SS	Spain UNE	U.S.A. AISI/SAE UNS	Japan JIS
	Super-Alloys Fe-Based				**US Trade Designation**				
S1	1.4558	X2NiCrAlti3220		NA15	Incoloy 800			N08800	
S1	1.4562	X1NiCrMoCu32287						N08031	
S1	1.4563	X1NiCrMoCuN31274	Z1NCDU31.27					N08028	
S1	1.4864	X12NiCrSi	Z12NC35.16					330	SUH330
S1	1.4864	X5NiCrSi3616	Z12NC35.16					N08330	SUH330
S1	1.4958	X5NiCrAlTi3120		NA17					
S1	1.4977	X40CoCrNi2020	Z42CNKDWNd						
					A-286			S88286	
					Greek Ascoloy			S41800	
					Haynes 556 (H5556)			R30556	
					N155			R30155	
	Super-Alloys Co-Based				**US Trade Designation**				
S2					Haynes188			R30188	
S2					L605 (Haynes 25)			R30605	
S2					MARM-302, 322, 509				
S2					Stelite 6, 21, 31				
	Super-Alloys Ni-Based				**US Trade Designation**				
S3	2.4360	NiCu30FE	NU30	NA13	Monel 400				
S3	2.4610	NIMo16Cr16TI			Hastelloy C-4				
S3	2.4630	NiCr20Ti	NC20T	HR5, 203-4	Nimonic 75			N06175	
S3	2.4642	NiCr29Fe	NC30Fe		Inconel 690				
S3	2.4810	G-NiMo30			Hastelloy C			N10276	
S3	2.4856	NiCr22Mo9Nb	NC22FeDNb	NA21	Inconel 625			N06625	
S3	2.4858	NiCr21Mo	NC21FeDU	NA16	Incoloy 825			N08825	
S3	2.4375	NiCu30Al	NU30AT	NA18	Monel K-500				
S3	2.4668	NiCr19FeNbMo	NC19FeNb		Inconle 718			N07718	
S3	2.4669	NiCr15Fe7TiAl	NC15TNbA		Inconel X-750			N07750	
S3	2.4685	G-NiMo28			Hastelloy B			N10001	
S3	2.4694	NiCr16Fe7TiAl			Inconel 751			N00751	
	Titanium and Titanium Alloys				**US Trade Designation**				
S4	3.7025	Ti 1		2TA1				R50250	
S4	3.7124	TiCu2		2TA21-24					
S4	3.7195	TiAl3V2.5							
S4	3.225	Ti1Pd						R52250	
S4	3.7115	TiAl6Sn2		TPI					
S4	3.7145	TiAl6Sn2Zr4Mo2Si						54620	
S4	3.7165	TiAl6V4	T-A6V	TA10-13; TA28	TiAl6V4			R56400	
S4	3.7175	TiAl6V6Sn2			Ti6V6Al2Sn			R56620	
S4	3.7185	TiAl4Mo4Sn2		TA45-51; TA57					

Hardened Materials

Mat. Group	Mat. No.	Germany DIN	France AFNOR	Great Britain BS	Italy UNI	Sweden SS	Spain UNE	U.S.A. AISI/SAE UNS	Japan JIS
	White Cast Iron								
H1	0.9620	G-X260NiCr42		Grade 2A		0512-00		Ni-Hard2	
H1	0.9625	G-X330NiCr42		Grade 2B		0513-00		Ni-Hard1	
H1	0.9630	G-X300CrNiSi952						Ni-Hard4	
H1	0.9635	G-X300CrMo153							
	Hardened Cast Iron								
H1	0.9640	G-X300CrMoNi1521							
H1	0.9645	G-X260CrMoNi2021							
H1	0.9650	G-X260Cr27		Grade 3D		0466-00		A532IIIA25%Cr	
H1	0.9655	G-X300CrMo271							
H1	0.9655	G-X300CrMo271		Grade 3E				A532IIIA25%Cr	

Index by Catalog Number

Catalog No.	Page(s)
A0410ESCLDRS412	B90
A0410ESCLDRS425	B90
A0412ESCLDRS412	B90
A0412ESCLDRS425	B90
A04XSCLDLS4	B89
A04XSCLDRS4	B89
A0510ESCFDRS412	B86
A0510ESCFDRS425	B86
A0510ESCLDRS412	B90
A0510ESCLDRS425	B90
A0512XSTLDR0725	B100
A05XSCLDLS4	B89
A05XSCLDRS4	B89
A0612ESCFDRS431	B86
A0612ESCLDRS419	B90
A0612XSTLDR0731	B100
A0616HSTLDR0731	B100
A06HSTFDR07	B97
A06HSTLDR07	B99
A06HSWUPLS3	B102
A06HSWUPRS3	B102
A06XSCLDLS4	B89
A06XSCLDRS4	B89
A08HSTFDR07	B97
A08HSTLDR07	B99
A08HSWUPRS3	B102
A08JSCFPL06	B87
A08JSCFPR06	B87
A08JSCLCL06	B89
A08JSCLCR06	B89
A08JSCLPL06	B91
A08JSCLPR06	B91
A08JSTFPL09	B98
A08JSTFPR09	B98
A08XSCLDLS4	B89
A08XSCLDRS4	B89
A1010LSEL11	E56
A1010LSER11	E56
A1020LSEL11	E56
A1020LSER11	E56
A10KNNTOR1	D123, E22
A10KSCFPL06	B87
A10KSCFPR06	B87
A10KSCKPL06	B88
A10KSCKPR06	B88
A10KSCLCL06	B89
A10KSCLCR06	B89
A10KSCLPL06	B91
A10KSCLPR06	B91
A10KSCXPL06	B93
A10KSCXPR06	B93
A10KSDUCL07	B94
A10KSDUCR07	B94
A10KSTFCL11	B97
A10KSTFCR11	B97
A10KSTFPL11	B98
A10KSTFPR11	B98
A10KSTWPL11	B100
A10KSTWPR11	B100
A10KSWLCR04	B101
A12MNKLCL11	F14
A12MNKLCR11	F14
A12MNNTOL2	D123, E22
A12MNNTOR1	D123, E22
A12MNNTOR2	D123, E22
A12MSCFPL06	B87
A12MSCFPR06	B87
A12MSCKPL06	B88
A12MSCKPR06	B88
A12MSCLCL06	B89
A12MSCLCR06	B89
A12MSCLPL06	B91
A12MSCLPR06	B91
A12MSCXPR06	B93
A12MSDQCL07	B93
A12MSDQCR07	B93
A12MSDQPL07	B94
A12MSDQPR07	B94
A12MSDUCL07	B94
A12MSDUCR07	B94
A12MSDUPL07	B95
A12MSDUPR07	B95
A12MSDXPL07	B96
A12MSDXPR07	B96
A12MSTFCL11	B97
A12MSTFCR11	B97
A12MSTFDL11	B97
A12MSTFPL11	B98
A12MSTFPR11	B98
A12MSTWPL11	B100
A12MSTWPR11	B100
A12MSWLCL04	B101
A12MSWLCR04	B101
A12MSWUPR04	B102
A1320LSEL11	E56
A1320LSEL16	E56
A1320LSER11	E56
A1320LSER16	E56
A1616LSEL16	E56
A1616LSER16	E56
A1620LSEL16	E56
A1620LSER16	E56
A16MCTUPL11	B85
A16MCTUPR11	B85
A16MNKLCL11	F14
A16MNKLCR11	F14
A16MNNTOL2	D123, E22
A16MNNTOR2	D123, E22
A16RCTFPL11	B84
A16RCTFPR11	B84
A16RNVQBR11	F16
A16RPTFNL11	B77
A16RPTFNR11	B77
A16RPWLNL06	B77
A16RPWLNR06	B77
A16RSCFPL06	B87
A16RSCFPL09	B87
A16RSCFPR06	B87
A16RSCFPR09	B87
A16RSCKPL09	B88
A16RSCKPR09	B88
A16RSCLCL09	B89
A16RSCLCR09	B89
A16RSCLPL06	B91
A16RSCLPL09	B91
A16RSCLPR06	B91
A16RSCLPR09	B91
A16RSCXPR09	B93
A16RSDQCL07	B93
A16RSDQCR07	B93
A16RSDQPL07	B94
A16RSDQPR07	B94
A16RSDUCL07	B94
A16RSDUCL11	B94
A16RSDUCR07	B94
A16RSDUCR11	B94
A16RSDUPL07	B95
A16RSDUPR07	B95
A16RSDXPL07	B96
A16RSDXPR07	B96
A16RSSKCR09	B96
A16RSTFPL11	B98
A16RSTFPR11	B98
A16RSTWPL11	B100
A16RSTWPR11	B100
A16RSVQBL11	B101
A16RSVQBR11	B101
A16RSWLCL06	B101
A16RSWLCR06	B101
A2014L06CF01 KC5025	D14
A2014N00CF01 KC5025	D14
A2014N00CM01 KC5025	D15
A2014R06CF01 KC5025	D14
A2016L06CF00 KC5025	D14
A2016L06CF00 KMF	D14
A2016L06CM00 KC5025	D15
A2016L10CF00 KC5025	D14
A2016L16CF00 KC5025	D14
A2016L16CM00 KC5025	D15
A2016N00CF00 KC5025	D14
A2016N00CF01 KC5025	D14
A2016N00CF01 KMF	D14
A2016N00CF01 KT315	D14
A2016N00CM01 KC5025	D15
A2016N00CM01 KT315	D15
A2016R06CF00 KC5025	D14
A2016R06CF00 KMF	D14
A2016R06CF00 KT315	D14
A2016R06CM00 KC5025	D15
A2016R10CF00 KC5025	D14
A2016R16CF00 KC5025	D14
A2016R16CM00 KC5025	D15
A2020LSEL16	E56
A2020LSEL22	E56
A2020LSER16	E56
A2020LSER22	E56
A2022L06CF02 KC5025	D14
A2022L06CM00 KC5025	D15
A2022L06CR03 KC5025	D16
A2022L10CF00 KC5025	D14
A2022L16CF00 KC5025	D14
A2022N00CF00 KC5025	D14
A2022N00CF02 KC5025	D14
A2022N00CF02 KMF	D14
A2022N00CF02 KT315	D14
A2022N00CM02 KC5025	D15
A2022N00CR02 KC5025	D16
A2022N00CR02 KT315	D16
A2022R06CF02 KC5025	D14
A2022R06CF02 KMF	D14
A2022R06CF02 KT315	D14
A2022R06CM00 KC5025	D15
A2022R06CR03 KC5025	D16
A2022R10CF00 KC5025	D14
A2022R16CF00 KC5025	D14
A2030L06CF02 KC5025	D14
A2030L06CF02 KMF	D14
A2030L06CF02 KT315	D14
A2030L06CM01 KC5025	D15
A2030L06CR03 KC5025	D16
A2030L10CF00 KC5025	D14
A2030L15CF00 KC5025	D14
A2030N00CF00 KC5025	D14
A2030N00CF02 KC5025	D14
A2030N00CF02 KMF	D14
A2030N00CF02 KT315	D14
A2030N00CM02 KC5025	D15
A2030N00CR02 KC5025	D16
A2030N00CR02 KT315	D16
A2030R06CF02 KC5025	D14
A2030R06CF02 KMF	D14
A2030R06CF02 KT315	D14
A2030R06CM01 KC5025	D15
A2030R06CR03 KC5025	D16
A2030R10CF00 KC5025	D14
A2030R15CF00 KC5025	D14
A2040L06CF02 KC5025	D14
A2040L06CR03 KC5025	D16
A2040N00CF00 KC5025	D14
A2040N00CF02 KC5025	D14
A2040N00CF02 KMF	D14
A2040N00CF02 KT315	D14
A2040N00CM02 KC5025	D15
A2040N00CR02 KC5025	D16
A2040N00CR02 KT315	D16
A2040R06CF02 KC5025	D14
A2040R06CR03 KC5025	D16
A2050L06CF03 KC5025	D14
A2050L06CR04 KC5025	D16
A2050N00CF03 KC5025	D14
A2050N00CF03 KMF	D14
A2050N00CM03 KC5025	D15
A2050N00CR03 KC5025	D16
A2050R06CF03 KC5025	D14
A2050R06CR04 KC5025	D16
A2060L06CR04 KC5025	D16
A2060N00CM03 KC5025	D15
A2060N00CR03 KC5025	D16
A2060R06CR04 KC5025	D16
A2080N00CM04 KC5025	D15
A2080N00CR04 KC5025	D16
A20QCTFPL11	B84
A20QCTFPR11	B84
A20QCTUPL11	B85
A20QCTUPR11	B85
A20QNKLCL11	F14
A20QNKLCR11	F14
A20QNKXCL11	F15
A20QNNTOL2	D123, E22
A20QNNTOR2	D123, E22
A20RA4EML0207M	D79
A20RA4EML0307M	D79
A20RA4EML0407M	D79
A20RA4EMR0207M	D79
A20RA4EMR0307M	D79
A20RA4EMR0407M	D79
A20RSTLDR16	B99
A20SNVLBL11	F15
A20SNVLBR11	F15
A20SNVQBL11	F16
A20SNVQBR11	F16
A20SPTFNL11	B77
A20SPTFNR11	B77
A20SPWLNL06	B77
A20SPWLNR06	B77
A20SSCFPL06	B87
A20SSCFPL09	B87
A20SSCFPR06	B87
A20SSCFPR09	B87
A20SSCKPL09	B88
A20SSCKPR09	B88
A20SSCLCL09	B89
A20SSCLCR09	B89
A20SSCLPL06	B91
A20SSCLPL09	B91
A20SSCLPR06	B91
A20SSCLPR09	B91
A20SSDQCL11	B93
A20SSDQCR11	B93
A20SSDQPL11	B94
A20SSDQPR11	B94
A20SSDUCL11	B94
A20SSDUCR11	B94
A20SSDUPL11	B95
A20SSDUPR11	B95
A20SSDXPL11	B96
A20SSDXPR11	B96
A20SSSKPR09	B96
A20SSTFPL16	B98
A20SSTFPR16	B98
A20SSVQBL11	B101
A20SSVQBR11	B101
A20SSVUBL11	B101
A20SSVUBR11	B101
A20SSWLCR06	B101
A2525LSEL16	E56
A2525LSEL22	E56
A2525LSER16	E56
A2525LSER22	E56
A2532LSEL16	E56
A2532LSER16	E56
A2532LSER22	E56
A25RA3ESL0305M	D43
A25RA3ESL0408M	D43
A25RA3ESR0305M	D43
A25RA3ESR0408M	D43
A25RA4EML0210M	D79
A25RA4EML0310M	D79
A25RA4EML0410M	D79
A25RA4EMR0210M	D79
A25RA4EMR0310M	D79
A25RA4EMR0410M	D79
A25RCSKPL12	B84
A25RCSKPR12	B84
A25RCTFPL16	B84
A25RCTFPR16	B84
A25RDCLNL12KC04	B72
A25RDCLNR12KC04	B72
A25RDDPNL11KC04	B72
A25RDDPNR11KC04	B72
A25RDDQNL11KC04	B73
A25RDDQNR11KC04	B73
A25RDDUNL11KC04	B73
A25RDDUNR11KC04	B73
A25RDSKNL12KC04	B74
A25RDSKNR12KC04	B74
A25RDTFNL16KC04	B74
A25RDTFNR16KC04	B74

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Catalog No.	Page(s)
A25RDWLNL06KC04	B75
A25RDWLNL08KC04	B75
A25RDWLNR06KC04	B75
A25RDWLNR08KC04	B75
A25RMCLNL12	B78
A25RMCLNR09	B78
A25RMCLNR12	B78
A25RMDUNL11	B78
A25RMDUNL15	B78
A25RMDUNR11	B78
A25RMDUNR15	B78
A25RMSKNL12	B79
A25RMSKNR12	B79
A25RMTFNL16	B79
A25RMTFNR16	B79
A25RMVUNL16	B80
A25RMVUNR16	B80
A25RMWLNL06	B80
A25RMWLNL08	B80
A25RMWLNR06	B80
A25RMWLNR08	B80
A25RNKLCL11	F14
A25RNKLCR11	F14
A25RNKLNL15	F15
A25RNKLNR15	F15
A25RNNTOL2	D123, E22
A25RNNTOL3	D123, E22
A25RNNTOR2	D123, E22
A25RNNTOR3	D123, E22
A25RPWLNL08	B77
A25RPWLNR08	B77
A25TNVLBL11	F15
A25TNVLBR11	F15
A25TNVQBL11	F16
A25TNVQBR11	F16
A25TNVVBL11	F17
A25TNVVBR11	F17
A25TPCLNL12	B76
A25TPCLNR12	B76
A25TPSKNL12	B76
A25TPSKNR12	B76
A25TPTFNL16	B77
A25TPTFNR16	B77
A25TSCFCL12	B86
A25TSCFCR12	B86
A25TSCLCL12	B89
A25TSCLCR12	B89
A25TSDQCL11	B93
A25TSDQCR11	B93
A25TSDQPL11	B94
A25TSDQPR11	B94
A25TSDUCL11	B94
A25TSDUCR11	B94
A25TSDUPL11	B95
A25TSDUPR11	B95
A25TSSKCL12	B96
A25TSSKCR12	B96
A25TSTFPL16	B98
A25TSTFPR16	B98
A25TSVQBL16	B101
A25TSVQBR16	B101
A25TSVUBL16	B101
A25TSVUBR16	B101
A2BHCL32K0333	D21
A2BHCL32K0433	D21
A2BHCR32K0333	D21
A2BHCR32K0433	D21
A2BHSN19X0116	D24
A2BHSN19X0211	D24
A2BHSN19X0216	D24
A2BNCL26J0221	D21
A2BNCL26J0321	D21
A2BNCL26J0421	D21
A2BNCL32J0221	D21
A2BNCL32J0321	D21
A2BNCR26J0221	D21
A2BNCR26J0321	D21
A2BNCR26J0421	D21
A2BNCR32J0221	D21
A2BNCR32J0321	D21
A2BNSN19X0116	D20

Catalog No.	Page(s)
A2BNSN19X02	D20
A2BNSN19X1B13	D20
A2BNSN26G02	D20
A2BNSN26G03	D20
A2BNSN26G1B15	D20
A2BNSN26J0117	D20
A2BNSN26J02	D20
A2BNSN26J03	D20
A2BNSN26J04	D20
A2BNSN26J05	D20
A2BNSN26J06	D20
A2BNSN26J1B15	D20
A2BNSN26M02	D20
A2BNSN26M03	D20
A2BNSN32H03	D20
A2BNSN32M0119	D20
A2BNSN32M02	D20
A2BNSN32M03	D20
A2BNSN32M04	D20
A2BNSN32M05	D20
A2BNSN32M06	D20
A2BNSN32M1B15	D20
A2BNSN52X08	D20
A2TEN1616X19	D22
A2TEN2020J32	D22
A2TEN2020X26	D22
A2TEN2520J32	D22
A2TEN2523X26	D22
A2TEN3228J32	D22
A2TEN4035X52	D22
A2TEN4038J32	D22
A2TEN5038X52	D22
A2TZN2019X26	D22
A2TZN2523J32	D22
A2TZN3225J32	D22
A3232LSEL22	E56
A3232LSER22	E56
A32SA3ESL0305M	D43
A32SA3ESL0408M	D43
A32SA3ESL0510M	D43
A32SA3ESL0612M	D43
A32SA3ESR0305M	D43
A32SA3ESR0408M	D43
A32SA3ESR0510M	D43
A32SA3ESR0612M	D43
A32SA4EML0312M	D79
A32SA4EML0412M	D79
A32SA4EML0516M	D79
A32SA4EMR0312M	D79
A32SA4EMR0412M	D79
A32SA4EMR0516M	D79
A32SCSKPL12	B84
A32SCSKPR12	B84
A32SCTFPL16	B84
A32SCTFPR16	B84
A32SDCLNL12KC04	B72
A32SDCLNR12KC04	B72
A32SDDPNL15KC06	B72
A32SDDPNR15KC06	B72
A32SDDQNL15KC06	B73
A32SDDQNR15KC06	B73
A32SDDUNL11KC04	B73
A32SDDUNL15KC06	B73
A32SDDUNR11KC04	B73
A32SDDUNR15KC06	B73
A32SDSKNL12KC04	B74
A32SDSKNR12KC04	B74
A32SDTFNL16KC04	B74
A32SDTFNR16KC04	B74
A32SDVUNL16KC04	B75
A32SDVUNR16KC04	B75
A32SDWLNL08KC04	B75
A32SDWLNR08KC04	B75
A32SMCLNL12	B78
A32SMCLNR12	B78
A32SMDUNL11	B78
A32SMDUNL15	B78
A32SMDUNR11	B78
A32SMDUNR15	B78
A32SMSKNL12	B79
A32SMSKNR12	B79

Catalog No.	Page(s)
A32SMTFNL16	B79
A32SMTFNR16	B79
A32SMVUNL16	B80
A32SMVUNR16	B80
A32SMWLNL06	B80
A32SMWLNL08	B80
A32SMWLNR06	B80
A32SMWLNR08	B80
A32SNKLCL11	F14
A32SNKLCR11	F14
A32SNKLNL15	F15
A32SNKLNR15	F15
A32SNNTOL3	D123, E22
A32SNNTOR3	D123, E22
A32SNVOCL16	F16
A32SNVOCR16	F16
A32SNVQCL16	F17
A32SNVQCR16	F17
A32SPWLNL08	B77
A32SPWLNR08	B77
A32TSCLCL12	B89
A32TSCLCR12	B89
A32TSDUCL15	B94
A32TSDUCR15	B94
A32TSTFCR16	B97
A32TSTFPR16	B98
A32UPCLNL12	B76
A32UPCLNL16	B76
A32UPCLNR12	B76
A32UPCLNR16	B76
A32UPSKNL12	B76
A32UPSKNR12	B76
A32UPTFNL16	B77
A32UPTFNR16	B77
A3DSL1616J04	D41
A3DSL2020K04	D41
A3DSL2525M06	D41
A3DSL3232P08	D41
A3DSR1616J04	D41
A3DSR2020K04	D41
A3DSR2525M06	D41
A3DSR3232P08	D41
A3G0300M03P02DF KC5010	D33
A3G0300M03P02DF KC5025	D33
A3G0300M03P02DF KC9110	D33
A3G0300M03P02DF KMF	D33
A3G0300M03P02DF KT315	D33
A3G0300M03P04DF KC5025	D33
A3G0300M03P04DF KC9110	D33
A3G0300M03P04DF KMF	D33
A3G0300M3SP02DF KC5010	D33
A3G0300M3SP02DF KC5025	D33
A3G0300M3SP04DF KC5010	D33
A3G0300M3SP04DF KC5025	D33
A3G0305M03U02DM KC5025	D34
A3G0305M03U02DM KC9110	D34
A3G0305M03U02DM KT315	D34
A3G0400M04P02DF KC5010	D33
A3G0400M04P02DF KC5025	D33
A3G0400M04P02DF KC9110	D33
A3G0400M04P02DF KMF	D33
A3G0400M04P04DF KC5010	D33
A3G0400M04P04DF KC5025	D33
A3G0400M04P04DF KC9110	D33
A3G0400M04P04DF KMF	D33
A3G0400M04P04DF KT315	D33
A3G0400M04P08DF KC5025	D33
A3G0400M04P08DF KC9110	D33
A3G0400M4SP02DF KC5010	D33
A3G0400M4SP02DF KC5025	D33
A3G0400M4SP04DF KC5010	D33
A3G0400M4SP04DF KC5025	D33
A3G0400M4SP08DF KC5010	D33
A3G0400M4SP08DF KC5025	D33
A3G0405M04U02DM KC5025	D34
A3G0405M04U02DM KC9110	D34
A3G0405M04U02DM KT315	D34
A3G0500M05P02DF KC5010	D33
A3G0500M05P02DF KC5025	D33
A3G0500M05P02DF KC9110	D33
A3G0500M05P02DF KMF	D33

Catalog No.	Page(s)
A3G0500M05P04DF KC5010	D33
A3G0500M05P04DF KC5025	D33
A3G0500M05P04DF KC9110	D33
A3G0500M05P04DF KMF	D33
A3G0500M05P04DF KT315	D33
A3G0500M05P08DF KC5025	D33
A3G0500M05P08DF KC9110	D33
A3G0505M05U02DM KC5025	D34
A3G0505M05U02DM KC9110	D34
A3G0600M06P04DF KC5010	D33
A3G0600M06P04DF KC5025	D33
A3G0600M06P04DF KC9110	D33
A3G0600M06P04DF KMF	D33
A3G0600M06P08DF KC5010	D33
A3G0600M06P08DF KC5025	D33
A3G0600M06P08DF KC9110	D33
A3G0600M06P08DF KMF	D33
A3G0600M06P12DF KC5025	D33
A3G0600M06P12DF KC9110	D33
A3G0605M06U04DM KC5025	D34
A3G0605M06U04DM KC9110	D34
A3G0800M08P04DF KC5010	D33
A3G0800M08P04DF KC5025	D33
A3G0800M08P04DF KC9110	D33
A3G0800M08P08DF KC5010	D33
A3G0800M08P08DF KC5025	D33
A3G0800M08P08DF KC9110	D33
A3G0800M08P08DF KMF	D33
A3G0805M08U04DM KC5025	D34
A3G0805M08U04DM KC9110	D34
A3G093I03P05DF KC5010	D35
A3G093I03P05DF KC5025	D35
A3G093I03P05DF KC9110	D35
A3G093I03P05DF KMF	D35
A3G1005M10U05DM KC5025	D34
A3G1005M10U05DM KC9110	D34
A3G125I03P05DF KC5010	D35
A3G125I03P05DF KC5025	D35
A3G125I03P05DF KC9110	D35
A3G125I04P05DF KC5010	D35
A3G125I04P05DF KC5025	D35
A3G125I04P05DF KC9110	D35
A3G125I04P05DF KMF	D35
A3G125I04P05DF KT315	D35
A3G125I3SP05DF KC5025	D35
A3G187I05P05DF KC5010	D35
A3G187I05P05DF KC5025	D35
A3G187I05P05DF KC9110	D35
A3G218I06P1DF KC5010	D35
A3G218I06P1DF KC5025	D35
A3G218I06P1DF KC9110	D35
A3G218I06P2DF KC5010	D35
A3G218I06P2DF KC5025	D35
A3G218I06P2DF KC9110	D35
A3G250I06P1DF KC5010	D35
A3G250I06P1DF KC5025	D35
A3G250I06P1DF KC9110	D35
A3G250I06P2DF KC5010	D35
A3G250I06P2DF KC5025	D35
A3G250I06P2DF KC9110	D35
A3G250I06P2DF KT315	D35
A3G250I08P1DF KC5010	D35
A3G250I08P1DF KC5025	D35
A3G250I08P1DF KC9110	D35
A3G250I08P2DF KC5010	D35
A3G250I08P2DF KC5025	D35
A3G250I08P2DF KC9110	D35
A3G312I08P1DF KC5010	D35
A3G312I08P1DF KC5025	D35
A3G312I08P1DF KC9110	D35
A3G312I08P2DF KC5010	D35
A3G312I08P2DF KC5025	D35
A3G312I08P2DF KC9110	D35
A3M50L312A025030	D46
A3M50L312A030035	D46
A3M50L312B025030	D47
A3M50L312B030035	D47
A3M50L312M	D45
A3M50L316A035040	D46
A3M50L316A040050	D46
A3M50L316A050060	D46

Index by Catalog Number

Catalog No.	Page(s)
A3M50L316B035040	D47
A3M50L316B040050	D47
A3M50L316B050060	D47
A3M50L316M	D45
A3M50L326M	D45
A3M50L412A025030	D46
A3M50L412A030035	D46
A3M50L412B025030	D47
A3M50L412B030035	D47
A3M50L412M	D45
A3M50L416M	D45
A3M50L420A035040	D46
A3M50L420A040050	D46
A3M50L420A050060	D46
A3M50L420B035040	D47
A3M50L420B040050	D47
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A3SMR1616J0316	D37

Catalog No.	Page(s)
A3SMR1616J0410	D37
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A3SMR2525M0826	D37
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A3SMR3232P1032	D37
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A3V0000M08U08DM KC9110	D34
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A4040LSER22	E56
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A40TA3ESL0510M	D43
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A40TDVUNR16KC04	B75
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A40TMTFNR16	B79
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A40TMWLNR08	B80
A40TNKLNL15	F15
A40TNKLNR15	F15
A40TNNTOL3	D123, E22
A40TNNTOL4	D123, E22
A40TNNTOR3	D123, E22
A40TNNTOR4	D123, E22
A40TNVOCL16	F16
A40TNVOCR16	F16
A40TNVQCL16	F17
A40TNVQCR16	F17
A40TPWLNL08	B77
A40TPWLNR08	B77
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A40VCTFPR16	B84
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A4G0500M05P04GMP KC5025	D71
A4G0500M05P08E KD1405	D72
A4G0500M05P08GMP K313	D71
A4G0500M05P08GMP KC5010	D71
A4G0500M05P08GMP KC5025	D71
A4G0500M05P08T01025 KY3500	D73
A4G0505M05U04B K313	D74
A4G0505M05U04B KC5025	D74
A4G0505M05U04B KC9320	D74
A4G0505M05U04GMN KC5010	D70
A4G0505M05U04GMN KC5025	D70
A4G0505M05U04GMN KC9110	D70
A4G0505M05U04GMN KC9125	D70
A4G0505M05U04GMP KC5010	D70
A4G0505M05U04GMP KC5025	D70
A4G0505M05U04GMP KC9110	D70
A4G0505M05U04GMP KC9125	D70
A4G0505M05U04GMP KT315	D70
A4G0505M05U08GMN KC5010	D70
A4G0505M05U08GMN KC5025	D70
A4G0505M05U08GMN KC9110	D70
A4G0505M05U08GMN KC9125	D70
A4G0505M05U08GMP KC5010	D70
A4G0505M05U08GMP KC5025	D70
A4G0505M05U08GMP KC9110	D70
A4G0505M05U08GMP KC9125	D70
A4G0505M05U08GMP KT315	D70
A4G0600M06P04GMP K313	D71
A4G0600M06P04GMP KC5010	D71
A4G0600M06P04GMP KC5025	D71
A4G0600M06P08GMP KC5010	D71
A4G0600M06P08GMP KC5025	D71
A4G0600M06P08T01025 KY3500	D73
A4G0605M06U04B K313	D74
A4G0605M06U04B KC5025	D74
A4G0605M06U04B KC9320	D74
A4G0605M06U04GMN KC5010	D70
A4G0605M06U04GMN KC5025	D70
A4G0605M06U04GMN KC9110	D70
A4G0605M06U04GMN KC9125	D70
A4G0605M06U04GMP KC5010	D70
A4G0605M06U04GMP KC5025	D70
A4G0605M06U04GMP KC9110	D70
A4G0605M06U04GMP KC9125	D70
A4G0605M06U08GMN KC5010	D70
A4G0605M06U08GMN KC5025	D70
A4G0605M06U08GMN KC9110	D70
A4G0605M06U08GMN KC9125	D70
A4G0605M06U08GMN KT315	D70
A4G0605M06U08GMP KC5010	D70
A4G0605M06U08GMP KC5025	D70
A4G0605M06U08GMP KC9110	D70
A4G0605M06U08GMP KC9125	D70
A4G0605M06U08GMP KT315	D70
A4G0605M06U12GMN KC5010	D70
A4G0605M06U12GMN KC5025	D70
A4G0605M06U12GMN KC9125	D70
A4G0605M06U12GMP KC5010	D70
A4G0605M06U12GMP KC5025	D70
A4G0605M06U12GMP KC9110	D70
A4G0605M06U12GMP KC9125	D70
A4G0800M08P08GMP K313	D71
A4G0800M08P08GMP KC5010	D71
A4G0800M08P08GMP KC5025	D71
A4G0800M08P08T01025 KY3500	D73
A4G0800M08P12GMP KC5010	D71
A4G0800M08P12GMP KC5025	D71
A4G0805M08U08B K313	D74
A4G0805M08U08B KC5025	D74
A4G0805M08U08B KC9320	D74
A4G0805M08U08GMN KC5010	D70
A4G0805M08U08GMN KC5025	D70
A4G0805M08U08GMN KC9110	D70
A4G0805M08U08GMN KC9125	D70
A4G0805M08U08GMP KC5025	D70
A4G0805M08U08GMP KC9110	D70
A4G0805M08U08GMP KC9125	D70
A4G0805M08U12GMN KC5010	D70
A4G0805M08U12GMN KC5025	D70
A4G0805M08U12GMN KC9110	D70
A4G0805M08U12GMN KC9125	D70
A4G0805M08U12GMP KC5025	D70
A4G0805M08U12GMP KC9125	D70
A4G094I2BP05GMN KC5010	D71
A4G1000M10P08GMP K313	D71
A4G1000M10P08GMP KC5010	D71
A4G1000M10P08GMP KC5025	D71
A4G1000M10P12GMP KC5010	D71
A4G1000M10P12GMP KC5025	D71
A4G1005M10U08B K313	D74
A4G1005M10U08B KC5025	D74
A4G1005M10U08B KC9320	D74
A4G1005M10U08GMN KC5010	D70
A4G1005M10U08GMN KC5025	D70
A4G1005M10U08GMN KC9110	D70
A4G1005M10U08GMN KC9125	D70
A4G1005M10U08GMP KC5010	D70
A4G1005M10U08GMP KC5025	D70
A4G1005M10U08GMP KC9125	D70
A4G1005M10U12GMN KC5025	D70
A4G1005M10U12GMN KC9110	D70
A4G1005M10U12GMN KC9125	D70
A4G1005M10U12GMP KC5025	D70
A4G1005M10U12GMP KC9125	D70

Index by Catalog Number

Catalog No.	Page(s)
A4G125I03P05GMN KC5010	D71
A4G125I03P05GMN KC5025	D71
A4G125I03P1GMN KC5010	D71
A4G125I03P1GMN KC5025	D71
A4G125I03P1T0425 KY3500	D73
A4G128I03U05B K313	D74
A4G187I04P1GMN K313	D71
A4G187I04P1GMN KC5010	D71
A4G187I04P1GMN KC5025	D71
A4G187I04P2GMN KC5010	D71
A4G187I04P2GMN KC5025	D71
A4G187I04P2T0425 KY3500	D73
A4G190I04U1B K313	D74
A4G250I06P1GMN KC5010	D71
A4G250I06P1GMN KC5025	D71
A4G250I06P2GMN KC5010	D71
A4G250I06P2GMN KC5025	D71
A4G250I06P2T0425 KY3500	D73
A4G253I06U1B K313	D74
A4G312I08P1GMN KC5010	D71
A4G312I08P1GMN KC5025	D71
A4G316I08U1B K313	D74
A4G375I10P1GMN K313	D71
A4G375I10P1GMN KC5010	D71
A4G375I10P1GMN KC5025	D71
A4G375I10P2GMN KC5010	D71
A4G375I10P2GMN KC5025	D71
A4G379I10U1B K313	D74
A4M50L0212A036046	D83
A4M50L0212A042054	D83
A4M50L0212A050064	D83
A4M50L0212A060084	D83
A4M50L0212A080124	D83
A4M50L0212A120254	D83
A4M50L0212A250999	D83
A4M50L0212B036046	D85
A4M50L0212B042054	D85
A4M50L0212B050064	D85
A4M50L0212B060084	D85
A4M50L0212B080124	D85
A4M50L0212B120254	D85
A4M50L0212B250999	D85
A4M50L0214M	D81
A4M50L0314A036048	D83
A4M50L0314A042058	D83
A4M50L0314A052074	D83
A4M50L0314A068100	D83
A4M50L0314A090160	D83
A4M50L0314A130300	D83
A4M50L0314A290999	D83
A4M50L0314B036048	D85
A4M50L0314B042058	D85
A4M50L0314B052074	D85
A4M50L0314B068100	D85
A4M50L0314B090160	D85
A4M50L0314B130300	D85
A4M50L0314B290999	D85
A4M50L0314M	D81
A4M50L0414A048072	D83
A4M50L0414A064100	D83
A4M50L0414A092150	D83
A4M50L0414A132300	D83
A4M50L0414A290999	D83
A4M50L0414B048072	D85
A4M50L0414B064100	D85
A4M50L0414B092150	D85
A4M50L0414B132300	D85
A4M50L0414B290999	D85
A4M50L0414M	D81
A4M50L0519A058094	D83
A4M50L0519A080136	D83
A4M50L0519A120300	D83
A4M50L0519A250999	D83
A4M50L0519B058094	D85
A4M50L0519B080136	D85
A4M50L0519B120300	D85
A4M50L0519B250999	D85
A4M50L0519M	D81
A4M50L2B14M	D81
A4M50R0212A036046	D82
A4M50R0212A042054	D82
A4M50R0212A050064	D82
A4M50R0212A060084	D82
A4M50R0212A080124	D82
A4M50R0212A120254	D82
A4M50R0212A250999	D82
A4M50R0212B036046	D84
A4M50R0212B042054	D84
A4M50R0212B050064	D84
A4M50R0212B060084	D84
A4M50R0212B080124	D84
A4M50R0212B120254	D84
A4M50R0212B250999	D84
A4M50R0214M	D81
A4M50R0314A036048	D82
A4M50R0314A042058	D82
A4M50R0314A052074	D82
A4M50R0314A068100	D82
A4M50R0314A090160	D82
A4M50R0314A130300	D82
A4M50R0314A290999	D82
A4M50R0314B036048	D84
A4M50R0314B042058	D84
A4M50R0314B052074	D84
A4M50R0314B068100	D84
A4M50R0314B090160	D84
A4M50R0314B130300	D84
A4M50R0314B290999	D84
A4M50R0314M	D81
A4M50R0414A048072	D82
A4M50R0414A064100	D82
A4M50R0414A092150	D82
A4M50R0414A132300	D82
A4M50R0414A290999	D82
A4M50R0414B048072	D84
A4M50R0414B064100	D84
A4M50R0414B092150	D84
A4M50R0414B132300	D84
A4M50R0414B290999	D84
A4M50R0414M	D81
A4M50R0519A058094	D82
A4M50R0519A080136	D82
A4M50R0519A120300	D82
A4M50R0519A250999	D82
A4M50R0519B058094	D84
A4M50R0519B080136	D84
A4M50R0519B120300	D84
A4M50R0519B250999	D84
A4M50R0519M	D81
A4M50R2B14M	D81
A4M65L0620M	D81
A4M65L0624A070-112	D83
A4M65L0624A100-212	D83
A4M65L0624A200-999	D83
A4M65L0624B070-112	D85
A4M65L0624B100-212	D85
A4M65L0624B200-999	D85
A4M65L0626M	D81
A4M65L0820M	D81
A4M65L0824A090-200	D83
A4M65L0824A184-999	D83
A4M65L0824B090-200	D85
A4M65L0824B184-999	D85
A4M65L0826M	D81
A4M65L1020M	D81
A4M65L1024A100-220	D83
A4M65L1024A200-999	D83
A4M65L1024B100-220	D85
A4M65L1024B200-999	D85
A4M65L1026M	D81
A4M65R0620M	D81
A4M65R0624A070-112	D82
A4M65R0624A100-212	D82
A4M65R0624A200-999	D82
A4M65R0624B070-112	D84
A4M65R0624B100-212	D84
A4M65R0624B200-999	D84
A4M65R0626M	D81
A4M65R0820M	D81
A4M65R0824A090-200	D82
A4M65R0824A184-999	D82
A4M65R0824B090-200	D84
A4M65R0824B184-999	D84
A4M65R0826M	D81
A4M65R1020M	D81
A4M65R1024A100-220	D82
A4M65R1024A200-999	D82
A4M65R1024B100-220	D84
A4M65R1024B200-999	D84
A4M65R1026M	D81
A4R0200M02P00GMP KC5010	D72
A4R0200M02P00GMP KC5025	D72
A4R0205M02U00GMN KC5010	D72
A4R0205M02U00GMN KC5025	D72
A4R0205M02U00GMN KC9110	D72
A4R0205M02U00GMN KC9125	D72
A4R0255M2BU00B K313	D74
A4R0300M03P00GMP K313	D72
A4R0300M03P00GMP KC5010	D72
A4R0300M03P00GMP KC5025	D72
A4R0300M03P00T01025 KY3500	D73
A4R0305M03U00GMN KC5010	D72
A4R0305M03U00GMN KC5025	D72
A4R0305M03U00GMN KC9110	D72
A4R0305M03U00GMN KC9125	D72
A4R0400M04P00E KD1405	D73
A4R0400M04P00GMP K313	D72
A4R0400M04P00GMP KC5010	D72
A4R0400M04P00GMP KC5025	D72
A4R0400M04P00T01025 KY3500	D73
A4R0405M04U00GMN KC5010	D72
A4R0405M04U00GMN KC5025	D72
A4R0405M04U00GMN KC9110	D72
A4R0405M04U00GMN KC9125	D72
A4R0500M05P00E KD1405	D73
A4R0500M05P00GMP K313	D72
A4R0500M05P00GMP KC5010	D72
A4R0500M05P00GMP KC5025	D72
A4R0500M05P00T01025 KY3500	D73
A4R0505M05U00GMN KC5010	D72
A4R0505M05U00GMN KC5025	D72
A4R0505M05U00GMN KC9110	D72
A4R0505M05U00GMN KC9125	D72
A4R0600M06P00GMP KC5010	D72
A4R0600M06P00GMP KC5025	D72
A4R0600M06P00T01025 KY3500	D73
A4R0605M06U00GMN KC5010	D72
A4R0605M06U00GMN KC5025	D72
A4R0605M06U00GMN KC9110	D72
A4R0605M06U00GMN KC9125	D72
A4R0800M08P00GMP K313	D72
A4R0800M08P00GMP KC5010	D72
A4R0800M08P00GMP KC5025	D72
A4R0800M08P00T01025 KY3500	D73
A4R0805M08U00GMN KC5010	D72
A4R0805M08U00GMN KC5025	D72
A4R0805M08U00GMN KC9110	D72
A4R0805M08U00GMN KC9125	D72
A4R1000M10P00GMP K313	D72
A4R1000M10P00GMP KC5010	D72
A4R1005M10U00GMN KC5010	D72
A4R1005M10U00GMN KC5025	D72
A4R1005M10U00GMN KC9125	D72
A4R125I03P00GMN KC5010	D72
A4R125I03P00GMN KC5025	D72
A4R125I03P00T0425 KY3500	D73
A4R187I04P00GMN KC5010	D72
A4R187I04P00GMN KC5025	D72
A4R187I04P00T0425 KY3500	D73
A4R250I06P00GMN KC5010	D72
A4R250I06P00GMN KC5025	D72
A4R250I06P00T0425 KY3500	D73
A4R312I08P00GMN KC5010	D72
A4R312I08P00GMN KC5025	D72
A4R375I10P00GMN KC5025	D72
A4SML1616K0214	D77
A4SML1616K0314	D77
A4SML2016K0317	D77
A4SML2016K0417	D77
A4SML2020K0214	D77
A4SML2020K0217	D77
A4SML2020K0314	D77
A4SML2020K0317	D77
A4SML2020K0414	D77
A4SML2020K0417	D77
A4SML2020K0519	D77
A4SML2020K0620	D77
A4SML2525M0214	D77
A4SML2525M0217	D77
A4SML2525M0317	D77
A4SML2525M0417	D77
A4SML2525M0520	D77
A4SML2525M0620	D77
A4SML2525M0820	D77
A4SML3225P0417	D77
A4SML3225P0522	D77
A4SML3225P0626	D77
A4SML3225P0826	D77
A4SML3225P1026	D77
A4SMR1616K0214	D77
A4SMR1616K0314	D77
A4SMR2016K0317	D77
A4SMR2016K0417	D77
A4SMR2020K0214	D77
A4SMR2020K0217	D77
A4SMR2020K0314	D77
A4SMR2020K0317	D77
A4SMR2020K0414	D77
A4SMR2020K0417	D77
A4SMR2020K0519	D77
A4SMR2020K0620	D77
A4SMR2525M0214	D77
A4SMR2525M0217	D77
A4SMR2525M0317	D77
A4SMR2525M0417	D77
A4SMR2525M0520	D77
A4SMR2525M0620	D77
A4SMR2525M0820	D77
A4SMR3225P0417	D77
A4SMR3225P0522	D77
A4SMR3225P0626	D77
A4SMR3225P0826	D77
A4SMR3225P1026	D77
A50UDDUNL15KC06	B73
A50UDDUNR15KC06	B73
A50UDSKNL19KC06	B74
A50UDSKNR19KC06	B74
A50UMCLNL12	B78
A50UMCLNL16	B78
A50UMCLNL19	B78
A50UMCLNR12	B78
A50UMCLNR16	B78
A50UMCLNR19	B78
A50UMDUNL15	B78
A50UMDUNR15	B78
A50UMSKNL19	B79
A50UMSKNR19	B79
A50UMTFNL22	B79
A50UMTFNR22	B79
A50UNNTOL4	D123, E22
A50UNNTOR4	D123, E22
A50UNVOCR16	F16
BC25T KWH	B103
BC32U KWH	B103
BC40V KWH	B103
BC50W KWH	B103
BPGF030201L14 K68	F24
BPGF030201L14 KC720	F24
BPGF030202L14 K68	F24
BPGF030202L14 KC720	F24
BPGF030202R14 K68	F24
BPGF030202R14 KC720	F24
BPGF050301L12 K68	F24
BPGF050301L12 KC720	F24
BPGF050302L12 K68	F24
BPGF050302L12 KC720	F24
BPGF050302R12 K68	F24
BPGF050302R12 KC720	F24
BPGF050304L16 K68	F24
BPGF050304L16 KC720	F24
BPGF070304L18 K68	F24
BPGF070304L18 KC720	F24
BPGF080404L22 KC720	F24
BS32S	B103

To place an order, contact Kennametal or your authorized Kennametal distributor, or visit www.kennametal.com.

Catalog No.	Page(s)
BS40T	B103
BS50U	B103
BS60V	B103
BSD32U	B103
BSD40V	B103
BSD50W	B103
C4KGMEL50	D53, D92
C4KGMER50	D53, D92
C4KGMSL50	D53, D92
C4KGMSR50	D53, D92
C5KGMEL50	D53, D92
C5KGMER50	D53, D92
C5KGMSL50	D53, D92
C5KGMSR50	D53, D92
C6KGMEL50	D53, D92
C6KGMER50	D53, D92
C6KGMSL50	D53, D92
C6KGMSR50	D53, D92
CCGT060201LF K313	A105
CCGT060201LF KC5010	A105
CCGT060201LF KC5025	A105
CCGT060201LF KC5410	A104-105
CCGT060201LF KC730	H25
CCGT060202HP K313	A105
CCGT060202HP KC5010	A105
CCGT060202HP KC5025	A104-105
CCGT060202HP KC5410	A105
CCGT060202HP KC730	H25
CCGT060202LF K313	A105
CCGT060202LF KC5010	A104-105
CCGT060202LF KC5025	A105
CCGT060202LF KC5410	A105
CCGT060202LF KC730	H25
CCGT060204HP K313	A105
CCGT060204HP KC5010	A104-105
CCGT060204HP KC5025	A105
CCGT060204HP KC5410	A105
CCGT060204HP KC730	H25
CCGT060204LF K313	A104-105
CCGT060204LF KC5010	A105
CCGT060204LF KC5025	A105
CCGT060204LF KC5410	A105
CCGT060204LF KC730	H25
CCGT060208HP KC5010	A105
CCGT060208HP KC5025	A104-105
CCGT060208HP KC5410	A105
CCGT060208LF KC5010	A104-105
CCGT060208LF KC5410	A105
CCGT060208LF KC730	H25
CCGT0602X0LF KC5025	A104-105
CCGT09T301LF K313	A104
CCGT09T301LF KC5010	A104-105
CCGT09T301LF KC5025	A105
CCGT09T301LF KC5410	A105
CCGT09T301LF KC730	H25
CCGT09T302HP K313	A105
CCGT09T302HP KC5010	A105
CCGT09T302HP KC5025	A105
CCGT09T302HP KC5410	A104-105
CCGT09T302HP KC730	H25
CCGT09T302LF KC5010	A105
CCGT09T302LF KC5025	A105
CCGT09T302LF KC5410	A104-105
CCGT09T302LF KC730	H25
CCGT09T304HP K313	A105
CCGT09T304HP K68	A104-105
CCGT09T304HP KC5010	A105
CCGT09T304HP KC5025	A105
CCGT09T304HP KC5410	A105
CCGT09T304HP KC720	H25
CCGT09T304HP KC730	H25
CCGT09T304LF K313	A104-105
CCGT09T304LF KC5010	A105
CCGT09T304LF KC5025	A105
CCGT09T304LF KC5410	A105
CCGT09T304LF KC730	H25
CCGT09T308HP KC5010	A105
CCGT09T308HP KC5025	A105
CCGT09T308HP KC5410	A104-105
CCGT09T308LF K313	A105
CCGT09T308LF KC5010	A104-105
CCGT09T308LF KC5025	A105
CCGT09T308LF KC5410	A105
CCGT09T308LF KC730	H25
CCGT09T308LF KC5440	A105
CCGT120401HP K313	A105
CCGT120401HP K68	A105
CCGT120401HP KC5010	A105
CCGT120401HP KC5410	A104-105
CCGT120402HP KC5010	A104-105
CCGT120402HP KC5025	A105
CCGT120402HP KC5410	A105
CCGT120404HP K313	A105
CCGT120404HP K68	A105
CCGT120404HP KC5010	A105
CCGT120404HP KC5025	A104-105
CCGT120404HP KC5410	A105
CCGT120404HP KC730	H25
CCGT120408HP K313	A105
CCGT120408HP K68	A105
CCGT120408HP KC5010	A105
CCGT120408HP KC5025	A104-105
CCGT120408HP KC5410	A105
CCGT120408HP KC730	H25
CCGW060202EFWC KB9610	A100-101
CCGW060202EFWM KB5625	A100-101
CCGW060202EFWM KB9610	A101
CCGW060202EM KB5625	A100-103
CCGW060202EM KB9610	A101, A103
CCGW060202S01015C KB1610	A100-101, A103
CCGW060202S01015C KB1630	A101-103
CCGW060202S01015C KB5610	A101, A103
CCGW060202S01015C KB9610	A101, A103
CCGW060202S01015M KB9610	A100-103
CCGW060204EFWC KB9610	A100-101
CCGW060204EFWM KB5625	A101
CCGW060204EFWM KB9610	A100-101
CCGW060204EM KB9610	A100-103
CCGW060204FST KD1400	A101
CCGW060204FST KD1425	A100-101
CCGW060204S01015C KB1630	A101, A103
CCGW060204S01015C KB5610	A101, A103
CCGW060204S01015C KB9610	A101, A103
CCGW060204S01015FWM KB9610	A100-101
CCGW060204S01015M KB5625	A101, A103
CCGW060204S01015M KB9610	A100-103
CCGW060204S01015M KD050	H25
CCGW060208EFWM KB9610	A100-101
CCGW060208EM KB9610	A100-103
CCGW060208S01015C KB9610	A100-103
CCGW060208S01015FWM KB9610	A100-101
CCGW060208S01015M KB9610	A100-101
CCGW09T304EFWM KB5625	A100-101
CCGW09T304EFWMT KB9610	A100-101
CCGW09T304EMT KB9610	A100-103
CCGW09T304FST KD1400	A100-101
CCGW09T304FST KD1425	A101
CCGW09T304S01015FWMT KB1610	A100-101
CCGW09T304S01015FWMT KB9610	A101
CCGW09T304S01015M KB5625	A100-103
CCGW09T304S01015M KD050	H25
CCGW09T304S01015MT KB1610	A100-103
CCGW09T304S01015MT KB1630	A101, A103
CCGW09T304S01015MT KB5610	A101, A103
CCGW09T304S01015MT KB9610	A101, A103
CCGW09T308EC KB1345	A100-103
CCGW09T308EFWM KB5625	A100-101
CCGW09T308EMT KB9610	A100-103
CCGW09T308FST KD1400	A100-101
CCGW09T308FST KD1425	A101
CCGW09T308S01015FWMT KB1610	A101
CCGW09T308S01015FWMT KB9610	A100-101
CCGW09T308S01015M KB5625	A100-103
CCGW09T308S01015M KD050	H25
CCGW09T308S01015MT KB1610	A101, A103
CCGW09T308S01015MT KB1630	A100-101, A103
CCGW09T308S01015MT KB5610	A101-103
CCGW09T308S01015MT KB9610	A101, A103
CCGW120404S01015MT KB1345	A100-103
CCGW120408S01015MT KB1345	A101-103
CCGW120408S01015MT KB1630	A100-103
CCKNL2525M12MF4	B35
CCKNL2525M12MF7	B35
CCKNL2525M12MN4	B35
CCKNL2525M12MN7	B35
CCKNL2525M12MX7	B35
CCKNL3225P12MN7	B35
CCKNR2525M12MF7	B35
CCKNR2525M12MX7	B35
CCKNR3225P12MN7	B35
CCKNR3225P12MX7	B35
CCLNL2525M12-MF4	B36
CCLNL2525M12-MF7	B36
CCLNL2525M12-MN4	B36
CCLNL2525M12-MN7	B36
CCLNL2525M12-MX7	B36
CCLNL3225P12-MN7	B36
CCLNL3225P12-MX7	B36
CCLNL3225P16-MX7	B36
CCLNR2525M12-MF4	B36
CCLNR2525M12-MF7	B36
CCLNR2525M12-MN4	B36
CCLNR2525M12-MN7	B36
CCLNR2525M12-MX7	B36
CCLNR3225P12-MN4	B36
CCLNR3225P12-MN7	B36
CCLNR3225P12-MX7	B36
CCLPL12CA12	B132-133
CCLPR12CA12	B132-133
CCMT060202FW KC5010	A105
CCMT060202FW KT315	A104-105
CCMT060202LF K313	A106-107
CCMT060202LF KC5010	A107
CCMT060202LF KC5025	A107
CCMT060202LF KC730	H25
CCMT060202LF KC810	H25
CCMT060202LF KC850	H25
CCMT060202LF KC935	H25
CCMT060202LF KT315	A107
CCMT06020411 KT315	A104-105
CCMT060204FW KC5010	A105
CCMT060204FW KC9225	A105
CCMT060204FW KC9315	A105
CCMT060204FW KC9320	A105
CCMT060204FW KT315	A104-105
CCMT060204LF K313	A107
CCMT060204LF K68	A107
CCMT060204LF KC5010	A107
CCMT060204LF KC5025	A107
CCMT060204LF KC720	H25
CCMT060204LF KC730	H25
CCMT060204LF KC8050	A107
CCMT060204LF KC810	H25
CCMT060204LF KC850	H25
CCMT060204LF KC9105	A107
CCMT060204LF KC9110	A107
CCMT060204LF KC9125	A107
CCMT060204LF KC9225	A106-107
CCMT060204LF KC9315	A107
CCMT060204LF KC9320	A107
CCMT060204LF KC935	H25
CCMT060204LF KT315	A107
CCMT060204MF KC730	H25
CCMT060204MF KC8050	A107
CCMT060204MF KC9110	A107
CCMT060204MF KC9125	A107
CCMT060204MF KC9225	A107
CCMT060204MF KC9315	A107
CCMT060204MF KC9320	A107
CCMT060204MF KC9325	A106-107
CCMT060204MF KC935	H25
CCMT060204UF KC5010	A106-107
CCMT060204UF KC730	H25
CCMT060204UF KC9110	A107
CCMT060204UF KC9125	A107
CCMT060208FW KC5010	A104-105
CCMT060208FW KC9225	A105
CCMT060208FW KC9315	A105
CCMT060208FW KT315	A105
CCMT060208LF KC5010	A107
CCMT060208LF KC5025	A107
CCMT060208LF KC730	H25
CCMT060208LF KC8050	A107
CCMT060208LF KC850	H25
CCMT060208LF KC9110	A106-107
CCMT060208LF KC9125	A107
CCMT060208LF KC9225	A107
CCMT060208LF KC9315	A107
CCMT060208LF KC9320	A107
CCMT060208LF KC935	H25
CCMT060208LF KT315	A107
CCMT09T302LF K313	A107
CCMT09T302LF KC5010	A106-107
CCMT09T302LF KC5025	A107
CCMT09T302LF KC730	H25
CCMT09T302LF KC850	H25
CCMT09T302LF KC935	H25
CCMT09T302LF KT315	A107
CCMT09T302UF KC5010	A107
CCMT09T302UF KC730	H25
CCMT09T302UF KC9110	A107
CCMT09T302UF KC9125	A106-107
CCMT09T30411 KT315	A104-105
CCMT09T304FW KC5010	A105
CCMT09T304FW KC9225	A105
CCMT09T304FW KC9315	A105
CCMT09T304FW KC9320	A104-105
CCMT09T304FW KT315	A105
CCMT09T304LF K313	A107
CCMT09T304LF K68	A107
CCMT09T304LF KC5010	A107
CCMT09T304LF KC5025	A107
CCMT09T304LF KC720	H25
CCMT09T304LF KC730	H25
CCMT09T304LF KC8050	A107
CCMT09T304LF KC810	H25
CCMT09T304LF KC850	H25
CCMT09T304LF KC9105	A107
CCMT09T304LF KC9110	A107
CCMT09T304LF KC9125	A107
CCMT09T304LF KC9225	A107
CCMT09T304LF KC9315	A107
CCMT09T304LF KC9320	A107
CCMT09T304LF KC935	H25
CCMT09T304LF KT315	A106-107
CCMT09T304MF KC730	H25
CCMT09T304MF KC8050	A107
CCMT09T304MF KC9110	A106-107
CCMT09T304MF KC9125	A107
CCMT09T304MF KC9225	A107
CCMT09T304MF KC9315	A107
CCMT09T304MF KC9320	A107
CCMT09T304MF KC9325	A107
CCMT09T304MF KC935	H25
CCMT09T304MW KC5010	A106-107
CCMT09T304MW KC9225	A107
CCMT09T304MW KC9315	A107
CCMT09T304MW KT315	A107
CCMT09T304UF KC5010	A107
CCMT09T304UF KC730	H25
CCMT09T304UF KC9110	A106-107
CCMT09T304UF KC9125	A107
CCMT09T30811 KT315	A104-105
CCMT09T308FW KC5010	A105
CCMT09T308FW KC9225	A105
CCMT09T308FW KC9315	A105
CCMT09T308FW KC9320	A105
CCMT09T308FW KT315	A104-105
CCMT09T308LF K313	A106-107
CCMT09T308LF K68	A107
CCMT09T308LF KC5010	A107
CCMT09T308LF KC720	H25
CCMT09T308LF KC730	H25
CCMT09T308LF KC8050	A107
CCMT09T308LF KC810	H25
CCMT09T308LF KC850	H25
CCMT09T308LF KC9105	A107
CCMT09T308LF KC9110	A107
CCMT09T308LF KC9125	A107
CCMT09T308LF KC9225	A107

Catalog No.	Page(s)
CCMT09T308LF KC9315	A107
CCMT09T308LF KC9320	A107
CCMT09T308LF KC935	H25
CCMT09T308LF KT315	A107
CCMT09T308MF KC5025	A107
CCMT09T308MF KC730	H25
CCMT09T308MF KC8050	A107
CCMT09T308MF KC9105	A107
CCMT09T308MF KC9110	A107
CCMT09T308MF KC9125	A106-107
CCMT09T308MF KC9225	A107
CCMT09T308MF KC9315	A107
CCMT09T308MF KC9320	A107
CCMT09T308MF KC9325	A107
CCMT09T308MF KC935	H25
CCMT09T308MW KC5010	A106-107
CCMT09T308MW KC8050	A107
CCMT09T308MW KC9225	A107
CCMT09T308MW KC9315	A107
CCMT09T308MW KT315	A107
CCMT09T308UF KC5010	A107
CCMT09T308UF KC9110	A107
CCMT09T308UF KC9125	A106-107
CCMT09T312MF KC9110	A107
CCMT09T312MF KC9125	A107
CCMT09T312MF KC9225	A106-107
CCMT09T312MF KC9315	A107
CCMT09T312MF KC9325	A107
CCMT12040411 KT315	A104-105
CCMT120404LF KC5010	A107
CCMT120404LF KC5025	A107
CCMT120404LF KC720	H25
CCMT120404LF KC730	H25
CCMT120404LF KC8050	A106-107
CCMT120404LF KC850	H25
CCMT120404LF KC9110	A107
CCMT120404LF KC9125	A107
CCMT120404LF KC9225	A107
CCMT120404LF KC9315	A107
CCMT120404LF KC9320	A107
CCMT120404LF KC935	H25
CCMT120404LF KT315	A107
CCMT120404MW KC5010	A107
CCMT120404MW KC9225	A106-107
CCMT120404MW KC9315	A107
CCMT120404MW KT315	A107
CCMT12040811 KT315	A104-105
CCMT120408LF KC5010	A107
CCMT120408LF KC5025	A107
CCMT120408LF KC720	H25
CCMT120408LF KC730	H25
CCMT120408LF KC8050	A107
CCMT120408LF KC850	H25
CCMT120408LF KC9105	A106-107
CCMT120408LF KC9110	A107
CCMT120408LF KC9125	A107
CCMT120408LF KC9225	A107
CCMT120408LF KC9315	A107
CCMT120408LF KC9320	A107
CCMT120408LF KC935	H25
CCMT120408LF KT315	A107
CCMT120408MF KC730	H25
CCMT120408MF KC8050	A107
CCMT120408MF KC9105	A107
CCMT120408MF KC9110	A107
CCMT120408MF KC9125	A107
CCMT120408MF KC9225	A107
CCMT120408MF KC9315	A107
CCMT120408MF KC9320	A107
CCMT120408MF KC9325	A106-107
CCMT120408MF KC935	H25
CCMT120408MW KC5010	A107
CCMT120408MW KC9225	A106-107
CCMT120408MW KC9315	A107
CCMT120412LF KC5010	A107
CCMT120412LF KC850	H25
CCMT120412LF KC9105	A106-107
CCMT120412LF KC9110	A107
CCMT120412LF KC9125	A107
CCMT120412LF KC9225	A107
CCMT120412LF KC9315	A107
CCMT120412LF KC9320	A107
CCMT120412LF KC935	A107
CCMT120412LF KC9325	H25
CCMT120412MF KC5025	A107
CCMT120412MF KC9110	A107
CCMT120412MF KC9125	A107
CCMT120412MF KC9225	A107
CCMT120412MF KC9315	A106-107
CCMT120412MF KC9320	A107
CCMT120412MF KC9325	A107
CCRNL2525M12-MN7	B37
CCRNL3225P16-MX7	B37
CCRNR2525M12-MN7	B37
CCRNR3225P12-MN7	B37
CCRNR3225P16-MX7	B37
CDHBS4T000 KC730	H25
CDHBS4T002 K313	A106-107
CDHBS4T002 KB5625	A100-101, A107
CDHBS4T002 KC5010	A107
CDHBS4T002 KC5025	A107
CDHBS4T002 KC730	H25
CDHBS4T002 KC935	H25
CDHBS4T002 KD100	H25
CDHBS4T002 KT315	A107
CDHBS4T002FST KD1400	A101
CDHBS4T002FST KD1425	A101
CDHBS4T004 K313	A107
CDHBS4T004 KB5625	A100-101, A107
CDHBS4T004 KC5010	A107
CDHBS4T004 KC5025	A107
CDHBS4T004 KC730	H25
CDHBS4T004 KC935	H25
CDHBS4T004 KD100	H25
CDHBS4T004 KT315	A106-107
CDHBS4T004FST KD1400	A100-101
CDHBS4T004FST KD1425	A100-101
CDHBS4T0S0 KB5625	A100-101, A107
CDHBS4T0S0 KC5010	A107
CDHBS4T0S0 KC5025	A106-107
CDHBS4T0S0 KD100	H25
CDHBS4T0S0 KT315	A107
CDHHS4T002L KC5010	A107
CDHHS4T002L KC5025	A106-107
CDHHS4T002L KT315	A107
CDHHS4T002R KC5010	A107
CDHHS4T002R KC5025	A106-107
CDHHS4T002R KT315	A107
CDHHS4T004L KC5010	A107
CDHHS4T004L KC5025	A106-107
CDHHS4T004R KC5010	A107
CDHHS4T004R KC5025	A106-107
CDHNL3225P15-MX7	B37
CDHNR2525M12-MX7	B37
CDJNL2525M15-MF7	B38
CDJNL2525M15-MN7	B38
CDJNL2525M15-MX7	B38
CDJNL3225P12MX7	B38
CDJNL3225P15-MN7	B38
CDJNR2525M12-MX7	B38
CDJNR2525M15-MF7	B38
CDJNR2525M15-MN7	B38
CDJNR2525M15-MX7	B38
CDJNR3225P12MX7	B38
CDJNR3225P15-MN7	B38
CELNL2525M13-MF7	B39
CELNL2525M13-MN7	B39
CELNL2525M13-MX7	B39
CELNR2525M13-MF7	B39
CELNR2525M13-MN7	B39
CELNR2525M13-MX7	B39
CNGA120404E KD1405	A2-3
CNGA120404E KY4400	A4-5
CNGA120404EFW KY4400	A4-5
CNGA120404EFWMT KB1625	A3
CNGA120404EFWMT KB5625	A2-3
CNGA120404EFWMT KB9610	A3
CNGA120404EMT KB9610	A2-3
CNGA120404FST KD1400	A2-3
CNGA120404FST KD1425	A3
CNGA120404S01020M KD050	H2
CNGA120404S01020MT KB9610	A2-3
CNGA120404S01025FWMT KB1610	A3
CNGA120404S01025FWMT KB5610	A2-3
CNGA120404S01025MT KB1610	A3
CNGA120404S01025MT KB1625	A3
CNGA120404S01025MT KB1630	A2-3
CNGA120404S01025MT KB5610	A3
CNGA120404S01025MT KB5625	A3
CNGA120404S01025ST KB1625	A2-3
CNGA120404T02020 KY1615	A4-5
CNGA120408E KD1405	A2-3
CNGA120408E KY1540	A4-5
CNGA120408EFW KY4400	A4-5
CNGA120408EFWMT KB1625	A3
CNGA120408EFWMT KB5625	A3
CNGA120408EFWMT KB9610	A2-3
CNGA120408EMT KB5625	A2-3
CNGA120408EMT KB9610	A3
CNGA120408FST KD1400	A3
CNGA120408FST KD1425	A2-3
CNGA120408S01020FWMT KB9610	A2-3
CNGA120408S01020M KD050	H2
CNGA120408S01020MT KB1345	A3
CNGA120408S01020MT KB9610	A2-3
CNGA120408S01020MWMT KB9610	A2-3
CNGA120408S01025FWMT KB1610	A3
CNGA120408S01025FWMT KB5610	A2-3
CNGA120408S01025MT KB1610	A3
CNGA120408S01025MT KB1625	A3
CNGA120408S01025MT KB1630	A3
CNGA120408S01025MT KB5610	A2-3
CNGA120408S01025MT KB5625	A3
CNGA120408S01025ST KB1625	A2-3
CNGA120408S02020MT KB1345	A2-3
CNGA120408T00520 KY1615	A4-5
CNGA120408T01020 KY1540	A4-5
CNGA120408T01020FW KY1320	A5
CNGA120408T01020FW KY3400	A4-5
CNGA120408T01020FW KY3500	A5
CNGA120408T02020 K090	H2
CNGA120408T02020 KY1320	A4-5
CNGA120408T02020 KY1615	A5
CNGA120408T02020 KY3400	A5
CNGA120408T02020 KY3500	A5
CNGA120412 KC730	H2
CNGA120412E KY1540	A4-5
CNGA120412E KY2100	A5
CNGA120412E KY4400	A4-5
CNGA120412EFW KY4400	A4-5
CNGA120412EFWMT KB1625	A2-3
CNGA120412EFWMT KB5625	A3
CNGA120412EFWMT KB9610	A3
CNGA120412EMT KB5625	A3
CNGA120412EMT KB9610	A2-3
CNGA120412S01020FWMT KB9610	A2-3
CNGA120412S01020M KD050	H2
CNGA120412S01020MWMT KB9610	A2-3
CNGA120412S01025MT KB1610	A3
CNGA120412S01025MT KB1625	A2-3
CNGA120412S01025MT KB5610	A3
CNGA120412S01025MT KB5625	A3
CNGA120412S01025ST KB1625	A2-3
CNGA120412T01020 KY1540	A4-5
CNGA120412T01020 KY2100	A5
CNGA120412T01020 KY4400	A5
CNGA120412T01020FW KY1320	A4-5
CNGA120412T01020FW KY3400	A5
CNGA120412T01020FW KY3500	A5
CNGA120412T02020 K090	H2
CNGA120412T02020 KY1320	A5
CNGA120412T02020 KY1615	A5
CNGA120412T02020 KY3400	A5
CNGA120412T02020 KY3500	A4-5
CNGA120412T02020MT KB1345	A2-3
CNGA120416E KY1540	A4-5
CNGA120416S01020MT KB1345	A2-3
CNGA120416T01020 KY4400	A4-5
CNGA120416T01020FW KY1320	A4-5
CNGA120416T01020FW KY3500	A5
CNGA120416T02020 K090	H2
CNGA120416T02020 KY1320	A4-5
CNGA120416T02020 KY1615	A5
CNGA120416T02020 KY2000	H2
CNGA120416T02020 KY3400	A5
CNGA120416T02020 KY3500	A5
CNGA160608T02020 KY1615	A4-5
CNGA160612T01020 KY4400	A4-5
CNGA160612T02020 K090	H2
CNGA160612T02020 KY1320	A5
CNGA160612T02020 KY1615	A5
CNGA160612T02020 KY3400	A5
CNGA160612T02020 KY3500	A4-5
CNGA160616T02020 K090	H2
CNGA160616T02020 KY1320	A5
CNGA160616T02020 KY1615	A4-5
CNGA160616T02020 KY3400	A5
CNGA160616T02020 KY3500	A5
CNGA190608T02020 K090	H2
CNGA190608T02020 KY1615	A4-5
CNGA190612T KY2000	H2
CNGA190612T01020 KY1540	A5
CNGA190612T01020 KY4400	A4-5
CNGA190612T02020 K090	H2
CNGA190612T02020 KY1320	A5
CNGA190612T02020 KY1615	A5
CNGA190612T02020 KY3400	A4-5
CNGA190612T02020 KY3500	A5
CNGA190616T01020 KY4400	A4-5
CNGA190616T02020 KY1320	A5
CNGA190616T02020 KY1615	A4-5
CNGA190616T02020 KY3400	A5
CNGA190616T02020 KY3500	A5
CNGG120401FS KC5510	A4-5
CNGG120401LF K313	A4-5
CNGG120401LF KC5010	A5
CNGG120401LF KC730	H2
CNGG120402FS KC5510	A5
CNGG120402FS KC5525	A4-5
CNGG120402LF K313	A4-5
CNGG120402LF KC5010	A5
CNGG120402LF KC730	H2
CNGG120404FS K313	A5
CNGG120404FS KC5510	A4-5
CNGG120404FS KC5525	A5
CNGG120404LF K313	A5
CNGG120404LF KC5010	A4-5
CNGG120404LF KC730	H2
CNGG120408FS K313	A5
CNGG120408FS KC5510	A5
CNGG120408FS KC5525	A4-5
CNGG120408LF KC5010	A4-5
CNGG120408LF KC730	H2
CNGG120412FS KC5510	A4-5
CNGG120412LF KC5010	A4-5
CNGG120412LF KC730	H2
CNGG120416LF KC730	H2
CNGG160608LF KC5010	A4-5
CNGG160612LF KC5010	A4-5
CNGG160612LF KC730	H2
CNGN120404T01020 KY4400	A74-75
CNGN120404T02020 KY1615	A74-75
CNGN120408T01020 KY1525	H20
CNGN120408T01020 KY1540	A75
CNGN120408T01020 KY4300	A75
CNGN120408T01020 KY4400	A74-75
CNGN120408T02020 K090	H20
CNGN120408T02020 KY1615	A74-75
CNGN120408T02020 KY3500	A75
CNGN120412E KY1540	A74-75
CNGN120412T01020 KY1525	H20
CNGN120412T01020 KY1540	A75
CNGN120412T01020 KY2100	A75, H20
CNGN120412T01020 KY4300	A74-75
CNGN120412T01020 KY4400	A75
CNGN120412T02020 K090	H20
CNGN120412T02020 KY1320	A74-75
CNGN120412T02020 KY1615	A75
CNGN120412T02020 KY3400	A75
CNGN120412T02020 KY3500	A75
CNGN120416E KY1540	A74-75
CNGN120416T01020 KY1525	H20
CNGN120416T01020 KY1540	A75
CNGN120416T01020 KY2100	A75, H20
CNGN120416T01020 KY4300	A74-75

Catalog No.	Page(s)
CNGN120416T01020 KY4400	A75
CNGN120416T02020 KY1320	A74-75
CNGN120416T02020 KY1615	A75
CNGN120416T02020 KY3500	A75
CNGN120708T01020 KY4300	A74-75
CNGN120708T01020 KY4400	A75
CNGN120708T02020 K090	H20
CNGN120708T02020 KY1615	A74-75
CNGN120712T01020 KY1525	H20
CNGN120712T01020 KY1540	A75
CNGN120712T01020 KY4300	A75
CNGN120712T01020 KY4400	A74-75
CNGN120712T02020 K090	H20
CNGN120712T02020 KY1320	A75
CNGN120712T02020 KY1615	A75
CNGN120712T02020 KY3400	A75
CNGN120712T02020 KY3500	A74-75
CNGN120716T01020 KY1525	H20
CNGN120716T01020 KY1540	A74-75
CNGN120716T01020 KY4300	A75
CNGN120716T01020 KY4400	A75
CNGN120716T02020 K090	H20
CNGN120716T02020 KY1320	A75
CNGN120716T02020 KY1615	A74-75
CNGN120716T02020 KY3500	A75
CNGN160412T02020 KY3500	A74-75
CNGN160612T02020 KY1615	A74-75
CNGN160708T02020 KY1615	A74-75
CNGN160712T01020 KY4400	A74-75
CNGN160712T02020 KY1615	A75
CNGN160712T02020 KY3500	A74-75
CNGN160716T02020 KY1615	A75
CNGN160716T02020 KY3500	A74-75
CNGN160716T05015 KY1615	A74-75
CNGN190732T02020 KY1615	A74-75
CNGP090404 KC730	H2
CNGP090408 KC730	H2
CNGP120401 KC5010	A7
CNGP120401 KC5410	A6-7
CNGP120401 KC730	H2
CNGP120402 KC5010	A7
CNGP120402 KC5410	A6-7
CNGP120402 KC730	H2
CNGP120404 K313	A7
CNGP120404 K68	A7
CNGP120404 KC5010	A6-7
CNGP120404 KC5410	A7
CNGP120404 KC730	H2
CNGP120408 K313	A7
CNGP120408 K68	A7
CNGP120408 KC5010	A6-7
CNGP120408 KC5410	A7
CNGP120408 KC730	H2
CNGP120408K KC730	H2
CNGP120412 K313	A7
CNGP120412 KC5010	A6-7
CNGP120412 KC5410	A7
CNGP120412 KC730	H2
CNGP120416 K313	A7
CNGP120416 KC5010	A7
CNGP120416 KC5410	A6-7
CNGP120416 KC730	H2
CNGP160604K KC730	H2
CNGP160608K KC730	H2
CNGX120708T01020 KY1540	A74-75
CNGX120708T01020FW KY3500	A74-75
CNGX120708T02020 KY1320	A75
CNGX120708T02020 KY1615	A75
CNGX120708T02020 KY3400	A74-75
CNGX120708T02020 KY3500	A75
CNGX120712T01020 KY1540	A74-75
CNGX120712T01020FW KY1320	A74-75
CNGX120712T01020FW KY3500	A75
CNGX120712T02020 KY1320	A75
CNGX120712T02020 KY1615	A74-75
CNGX120712T02020 KY3400	A75
CNGX120712T02020 KY3500	A75
CNGX120716T01020FW KY1320	A74-75
CNGX120716T01020FW KY3500	A75
CNGX120716T02020 KY1320	A74-75
CNGX120716T02020 KY1615	A75
CNGX120716T02020 KY3400	A75
CNGX120716T02020 KY3500	A75
CNGX160708T02020 KY3500	A74-75
CNGX160712T02020 KY1615	A74-75
CNGX160716T02020 KY1320	A75
CNGX160716T02020 KY3400	A75
CNGX160716T02020 KY3500	A74-75
CNGX160724T02020 KY1320	A74-75
CNGX160724T02020 KY3500	A75
CNMA120404 KC9315	A6-7
CNMA120404 KC9320	A7
CNMA120404 KC9325	A7
CNMA120404S01020M KD050	H2
CNMA120408 K313	A7
CNMA120408 K68	A6-7
CNMA120408 KC730	H2
CNMA120408 KC9315	A7
CNMA120408 KC9320	A7
CNMA120408 KC9325	A7
CNMA120408S01020M KD050	H2
CNMA120408S01025 KB1625	A2-3, A6-7
CNMA120408S02020 KB9640	A2-3, A6-7
CNMA120408S02020MW KB9640	A2-3
CNMA120408T02020 KY1320	A7
CNMA120408T02020 KY3500	A6-7
CNMA120412 K313	A7
CNMA120412 KC730	H2
CNMA120412 KC9315	A6-7
CNMA120412 KC9320	A7
CNMA120412 KC9325	A7
CNMA120412S02020 KB9640	A2-3, A6-7
CNMA120412S02020MW KB9640	A2-3
CNMA120412T02020 KY1320	A7
CNMA120412T02020 KY3500	A6-7
CNMA120416 KC9315	A7
CNMA120416 KC9320	A7
CNMA120416 KC9325	A6-7
CNMA120416S02020 KB9640	A2-3, A6-7
CNMA120416T02020 KY1320	A6-7
CNMA120416T02020 KY3500	A7
CNMA160608 KC9315	A6-7
CNMA160608 KC9320	A7
CNMA160608 KC9325	A7
CNMA160612 KC9315	A6-7
CNMA160612 KC9320	A7
CNMA160612 KC9325	A7
CNMA160612T02020 KY1320	A7
CNMA160612T02020 KY3500	A6-7
CNMA160616 KC9315	A7
CNMA160616 KC9320	A7
CNMA160616 KC9325	A6-7
CNMA160616T02020 KY3500	A6-7
CNMA190608 KC9315	A6-7
CNMA190608 KC9325	A7
CNMA190612 K68	A7
CNMA190612 KC9315	A7
CNMA190612 KC9320	A7
CNMA190612 KC9325	A6-7
CNMA190616 K68	A6-7
CNMA190616 KC9315	A7
CNMA190616 KC9320	A7
CNMA190616 KC9325	A7
CNMG090304FF KC5010	A9
CNMG090304FF KC9110	A9
CNMG090304FF KC9225	A8-9
CNMG090304FF KT315	A9
CNMG090304FN KC9110	A8-9
CNMG090304FN KC9125	A9
CNMG090304FN KC9315	A9
CNMG090304FN KT315	A9
CNMG090304MN KC8050	H4
CNMG090304MN KC9110	A11
CNMG090304MN KC9125	A11
CNMG090304MN KC9140	A10-11
CNMG090308 KC935	H3
CNMG090308FF KC5010	A9
CNMG090308FF KC9110	A9
CNMG090308FF KC9225	A8-9
CNMG090308FN KC9110	A8-9
CNMG090308FN KC9125	A9
CNMG090308FN KC9315	A9
CNMG090308FN KT315	A9
CNMG090308MG KC935	H3
CNMG090308MN KC8050	H4
CNMG090308MN KC9110	A11
CNMG090308MN KC9125	A10-11
CNMG090308MN KC9140	A11
CNMG090308MP KC5010	A10-11
CNMG090308MP KC8050	H4
CNMG090308MP KC9225	A11
CNMG090308P KC730	H4
CNMG090312MN KC9110	A11
CNMG090312MN KC9125	A10-11
CNMG090312MN KC9140	A11
CNMG120401MS KC5510	A10-11
CNMG120401MS KC5525	A11
CNMG120402FH KT1120	A9
CNMG120402FH KT5020	A8-9
CNMG120402LF KC935	H3
CNMG120402MS K313	A10-11
CNMG120402MS KC5510	A11
CNMG120402MS KC5525	A10-11
CNMG120404 KC850	H3
CNMG120404B KC730	H3
CNMG120404B KC850	H3
CNMG120404B KC935	H3
CNMG120404FF KC5010	A9
CNMG120404FF KC9105	A9
CNMG120404FF KC9110	A9
CNMG120404FF KC9225	A8-9
CNMG120404FF KT315	A9
CNMG120404FH KT1120	A9
CNMG120404FH KT5020	A8-9
CNMG120404FN KC9105	A9
CNMG120404FN KC9110	A9
CNMG120404FN KC9125	A8-9
CNMG120404FN KC9315	A9
CNMG120404FN KT315	A9
CNMG120404FP KC5010	A9
CNMG120404FP KC8050	H3
CNMG120404FP KC9225	A9
CNMG120404FP KT315	A8-9
CNMG120404FW KC5010	A8-9
CNMG120404FW KC9105	A9
CNMG120404FW KC9110	A9
CNMG120404FW KC9225	A9
CNMG120404FW KC9315	A9
CNMG120404FW KT315	A9
CNMG120404FW1 KT1120	A9
CNMG120404FW1 KT5020	A8-9
CNMG120404FX KT5020	A8-9
CNMG120404K KC730	H3
CNMG120404K KC810	H3
CNMG120404K KC850	H3
CNMG120404K KC935	H3
CNMG120404LF KC730	H3
CNMG120404LF KC935	H3
CNMG120404MG KC850	H3
CNMG120404MG KC935	H3
CNMG120404MH KT1120	A8-9
CNMG120404MH KT5020	A9
CNMG120404MN KC8050	H4
CNMG120404MN KC9105	A11
CNMG120404MN KC9110	A11
CNMG120404MN KC9125	A11
CNMG120404MN KC9140	A10-11
CNMG120404MP KC5010	A10-11
CNMG120404MP KC8050	H4
CNMG120404MP KC9225	A11
CNMG120404MP KC9245	A11
CNMG120404MS K313	A11
CNMG120404MS KC5510	A11
CNMG120404MS KC5525	A10-11
CNMG120404MS1 KC9210	A12-13
CNMG120404MS1 KC9230	A13
CNMG120404MU1 KC9210	A12-13
CNMG120404MU1 KC9230	A13
CNMG120404MW1 KT1120	A12-13
CNMG120404MW1 KT5020	A12-13
CNMG120404MX KT1120	A12-13
CNMG120404MX KT5020	A13
CNMG120404P KC5010	A12-13
CNMG120404P KC730	H4
CNMG120404P KC850	H4
CNMG120404P KC9225	A15
CNMG120404P KC935	H4
CNMG120404RP KC5010	A15
CNMG120404RP KC5510	A15
CNMG120404RP KC5525	A15
CNMG120404RP KC9110	A15
CNMG120404RP KC9125	A15
CNMG120404RP KC9225	A15
CNMG120404RP KC9245	A14-15
CNMG120404RP KC9315	A15
CNMG120404UN KC9315	A15
CNMG120404UN KC9320	A15
CNMG120404UN KC9325	A14-15
CNMG120404UP KC5010	A14-15
CNMG120404UP KC9225	A15
CNMG120408 KC720	H3
CNMG120408 KC730	H3
CNMG120408 KC810	H3
CNMG120408 KC850	H3
CNMG120408 KC935	H3
CNMG120408CT KC5010	A6-7
CNMG120408CT KC9110	A7
CNMG120408CT KC9125	A7
CNMG120408CT KC9225	A7
CNMG120408CT KC9315	A7
CNMG120408FF KC5010	A9
CNMG120408FF KC9105	A9
CNMG120408FF KC9110	A8-9
CNMG120408FF KC9225	A9
CNMG120408FF KT315	A9
CNMG120408FH KT1120	A9
CNMG120408FH KT5020	A8-9
CNMG120408FN KC9105	A9
CNMG120408FN KC9110	A9
CNMG120408FN KC9125	A9
CNMG120408FN KC9315	A9
CNMG120408FN KT315	A8-9
CNMG120408FP KC5010	A9
CNMG120408FP KC8050	H3
CNMG120408FP KC9225	A9
CNMG120408FP KT315	A8-9
CNMG120408FW KC5010	A9
CNMG120408FW KC9105	A9
CNMG120408FW KC9110	A8-9
CNMG120408FW KC9225	A9
CNMG120408FW KC9315	A9
CNMG120408FW KT315	A9
CNMG120408FW1 KT1120	A8-9
CNMG120408FW1 KT5020	A9
CNMG120408FX KT5020	A8-9
CNMG120408K KC850	H3
CNMG120408K KC935	H3
CNMG120408LF KC730	H3
CNMG120408LF KC935	H3
CNMG120408MG KC730	H3
CNMG120408MG KC850	H3
CNMG120408MG KC935	H3
CNMG120408MH KT1120	A9
CNMG120408MH KT5020	A8-9
CNMG120408MN KC8050	H4
CNMG120408MN KC9105	A11
CNMG120408MN KC9110	A10-11
CNMG120408MN KC9125	A11
CNMG120408MN KC9140	A11
CNMG120408MP KC5010	A11
CNMG120408MP KC5025	A11
CNMG120408MP KC8050	H4
CNMG120408MP KC9225	A10-11
CNMG120408MP KC9245	A11
CNMG120408MS K313	A11
CNMG120408MS KC5510	A10-11
CNMG120408MS KC5525	A11
CNMG120408MS1 KC9210	A13
CNMG120408MS1 KC9230	A12-13
CNMG120408MU1 KC9210	A12-13
CNMG120408MU1 KC9230	A13
CNMG120408MW KC8050	H4
CNMG120408MW KC9105	A12-13
CNMG120408MW KC9110	A13

Catalog No.	Page(s)
CNMG120408MW KC9125	A13
CNMG120408MW KC9225	A13
CNMG120408MW KC9315	A13
CNMG120408MW KC9325	A13
CNMG120408MW1 KT1120	A12-13
CNMG120408MW1 KT5020	A13
CNMG120408MX KT1120	A12-13
CNMG120408MX KT5020	A13
CNMG120408P K313	A13
CNMG120408P KC5010	A13
CNMG120408P KC720	H4
CNMG120408P KC730	H4
CNMG120408P KC850	H4
CNMG120408P KC9140	A13
CNMG120408P KC9225	A12-13
CNMG120408P KC935	H4
CNMG120408RN KC8050	H4
CNMG120408RN KC9105	A13
CNMG120408RN KC9110	A13
CNMG120408RN KC9125	A13
CNMG120408RN KC9140	A12-13
CNMG120408RP KC5010	A15
CNMG120408RP KC5025	A15
CNMG120408RP KC5510	A15
CNMG120408RP KC5525	A15
CNMG120408RP KC8050	H4
CNMG120408RP KC9105	A14-15
CNMG120408RP KC9110	A15
CNMG120408RP KC9125	A15
CNMG120408RP KC9140	A15
CNMG120408RP KC9225	A15
CNMG120408RP KC9245	A15
CNMG120408RP KC9315	A15
CNMG120408RP KC9320	A15
CNMG120408RP KC9325	A15
CNMG120408UN KC9315	A15
CNMG120408UN KC9320	A15
CNMG120408UN KC9325	A14-15
CNMG120408UP KC5010	A14-15
CNMG120408UP KC9225	A15
CNMG120412 KC730	H3
CNMG120412 KC810	H3
CNMG120412 KC850	H3
CNMG120412 KC935	H3
CNMG120412CT KC5010	A7
CNMG120412CT KC9110	A7
CNMG120412CT KC9125	A6-7
CNMG120412CT KC9225	A7
CNMG120412FN KC9105	A9
CNMG120412FN KC9110	A9
CNMG120412FN KC9125	A9
CNMG120412FN KC9315	A9
CNMG120412FN KT315	A8-9
CNMG120412FP KC5010	A8-9
CNMG120412FP KC9225	A9
CNMG120412FW KC5010	A8-9
CNMG120412FW KC9105	A9
CNMG120412FW KC9110	A9
CNMG120412FW KC9225	A9
CNMG120412FW KC9315	A9
CNMG120412FW KT315	A9
CNMG120412K KC850	H3
CNMG120412K KC935	H3
CNMG120412LF KC935	H3
CNMG120412MG KC850	H3
CNMG120412MG KC935	H3
CNMG120412MN KC8050	H4
CNMG120412MN KC9105	A11
CNMG120412MN KC9110	A10-11
CNMG120412MN KC9125	A11
CNMG120412MN KC9140	A11
CNMG120412MP KC5010	A11
CNMG120412MP KC5025	A11
CNMG120412MP KC8050	H4
CNMG120412MP KC9225	A11
CNMG120412MP KC9245	A10-11
CNMG120412MS K313	A10-11
CNMG120412MS KC5510	A11
CNMG120412MS KC5525	A11
CNMG120412MS1 KC9210	A12-13
CNMG120412MS1 KC9230	A13
CNMG120412MU1 KC9210	A12-13
CNMG120412MU1 KC9230	A13
CNMG120412MW KC9105	A13
CNMG120412MW KC9110	A13
CNMG120412MW KC9125	A13
CNMG120412MW KC9225	A13
CNMG120412MW KC9315	A12-13
CNMG120412MW KC9325	A13
CNMG120412MW1 KT1120	A12-13
CNMG120412P K313	A13
CNMG120412P KC5010	A12-13
CNMG120412P KC850	H4
CNMG120412P KC9140	A13
CNMG120412P KC9225	A13
CNMG120412P KC935	H4
CNMG120412RN KC8050	H4
CNMG120412RN KC9105	A13
CNMG120412RN KC9110	A12-13
CNMG120412RN KC9125	A13
CNMG120412RN KC9140	A13
CNMG120412RP KC5010	A15
CNMG120412RP KC5025	A15
CNMG120412RP KC5510	A15
CNMG120412RP KC5525	A15
CNMG120412RP KC8050	H4
CNMG120412RP KC9105	A15
CNMG120412RP KC9110	A15
CNMG120412RP KC9125	A15
CNMG120412RP KC9140	A14-15
CNMG120412RP KC9225	A15
CNMG120412RP KC9245	A15
CNMG120412RP KC9315	A15
CNMG120412RP KC9320	A15
CNMG120412RP KC9325	A15
CNMG120412UN KC9315	A14-15
CNMG120412UN KC9320	A15
CNMG120412UN KC9325	A15
CNMG120412UP KC5010	A15
CNMG120412UP KC9225	A14-15
CNMG120416 KC850	H3
CNMG120416 KC935	H3
CNMG120416CT KC5010	A6-7
CNMG120416CT KC9110	A7
CNMG120416CT KC9125	A7
CNMG120416FN KC9110	A9
CNMG120416FN KC9125	A9
CNMG120416FN KC9315	A9
CNMG120416FN KT315	A8-9
CNMG120416MG KC935	H3
CNMG120416MN KC9105	A10-11
CNMG120416MN KC9110	A11
CNMG120416MN KC9125	A11
CNMG120416MN KC9140	A11
CNMG120416MP KC5010	A10-11
CNMG120416MP KC9225	A11
CNMG120416MP KC9245	A11
CNMG120416MS K313	A10-11
CNMG120416MS KC5510	A11
CNMG120416MS KC5525	A11
CNMG120416MS1 KC9210	A12-13
CNMG120416MS1 KC9230	A13
CNMG120416P K313	A12-13
CNMG120416P KC5010	A13
CNMG120416P KC850	H4
CNMG120416RN KC8050	H4
CNMG120416RN KC9105	A13
CNMG120416RN KC9110	A12-13
CNMG120416RN KC9125	A13
CNMG120416RN KC9140	A13
CNMG120416RP KC5010	A15
CNMG120416RP KC5510	A15
CNMG120416RP KC5525	A15
CNMG120416RP KC9105	A15
CNMG120416RP KC9110	A15
CNMG120416RP KC9125	A15
CNMG120416RP KC9225	A14-15
CNMG120416RP KC9245	A15
CNMG120416RP KC9315	A15
CNMG120416RP KC9320	A15
CNMG120416RP KC9325	A15
CNMG120416UN KC9315	A15
CNMG120416UN KC9320	A15
CNMG120416UN KC9325	A14-15
CNMG160608 KC850	H3
CNMG160608B KC850	H3
CNMG160608B KC935	H3
CNMG160608K KC850	H3
CNMG160608MG KC935	H3
CNMG160608MN KC8050	H4
CNMG160608MN KC9110	A10-11
CNMG160608MN KC9125	A11
CNMG160608MN KC9140	A11
CNMG160608MP KC5010	A11
CNMG160608MP KC8050	H4
CNMG160608MP KC9225	A11
CNMG160608MP KC9245	A10-11
CNMG160608MS KC5510	A11
CNMG160608MS KC5525	A10-11
CNMG160608P KC9225	A12-13
CNMG160608P KC935	H4
CNMG160608RN KC8050	H4
CNMG160608RN KC9105	A12-13
CNMG160608RN KC9110	A13
CNMG160608RN KC9125	A13
CNMG160608RN KC9140	A13
CNMG160608RP KC5010	A15
CNMG160608RP KC5510	A15
CNMG160608RP KC5525	A15
CNMG160608RP KC8050	H4
CNMG160608RP KC9110	A15
CNMG160608RP KC9125	A15
CNMG160608RP KC9225	A15
CNMG160608RP KC9245	A14-15
CNMG160608RP KC9315	A15
CNMG160608RP KC9325	A15
CNMG160608UN KC9315	A15
CNMG160608UN KC9320	A14-15
CNMG160608UN KC9325	A15
CNMG160608UP KC5010	A14-15
CNMG160608UP KC9225	A15
CNMG160612 K68	A6-7
CNMG160612 KC850	H3
CNMG160612 KC9140	A7
CNMG160612 KC935	H3
CNMG160612K KC935	H3
CNMG160612MG KC730	H3
CNMG160612MG KC850	H3
CNMG160612MG KC935	H3
CNMG160612MN KC8050	H4
CNMG160612MN KC9105	A10-11
CNMG160612MN KC9110	A11
CNMG160612MN KC9125	A11
CNMG160612MN KC9140	A11
CNMG160612MP KC5010	A10-11
CNMG160612MP KC5025	A11
CNMG160612MP KC8050	H4
CNMG160612MP KC9225	A11
CNMG160612MP KC9245	A11
CNMG160612MS K313	A10-11
CNMG160612MS KC5510	A11
CNMG160612MS KC5525	A11
CNMG160612P KC850	H4
CNMG160612P KC9225	A12-13
CNMG160612P KC935	H4
CNMG160612RN KC8050	H4
CNMG160612RN KC9105	A13
CNMG160612RN KC9110	A12-13
CNMG160612RN KC9125	A13
CNMG160612RN KC9140	A13
CNMG160612RP KC5010	A15
CNMG160612RP KC5025	A15
CNMG160612RP KC5510	A15
CNMG160612RP KC5525	A15
CNMG160612RP KC8050	H4
CNMG160612RP KC9105	A15
CNMG160612RP KC9110	A15
CNMG160612RP KC9125	A15
CNMG160612RP KC9140	A15
CNMG160612RP KC9225	A15
CNMG160612RP KC9245	A15
CNMG160612RP KC9315	A15
CNMG160612RP KC9320	A15
CNMG160612RP KC9325	A14-15
CNMG160612UN KC9315	A15
CNMG160612UN KC9320	A15
CNMG160612UN KC9325	A14-15
CNMG160612UP KC5010	A15
CNMG160612UP KC9225	A14-15
CNMG160616 KC850	H3
CNMG160616 KC935	H3
CNMG160616MN KC9105	A10-11
CNMG160616MN KC9110	A11
CNMG160616MN KC9125	A11
CNMG160616MN KC9140	A11
CNMG160616MP KC5010	A11
CNMG160616MP KC9225	A11
CNMG160616MP KC9245	A10-11
CNMG160616P KC9240	A12-13
CNMG160616RN KC9105	A13
CNMG160616RN KC9110	A12-13
CNMG160616RN KC9125	A13
CNMG160616RN KC9140	A13
CNMG160616RP KC5010	A15
CNMG160616RP KC5525	A15
CNMG160616RP KC9105	A15
CNMG160616RP KC9110	A15
CNMG160616RP KC9125	A15
CNMG160616RP KC9225	A15
CNMG160616RP KC9245	A14-15
CNMG160616RP KC9315	A15
CNMG160616RP KC9325	A15
CNMG160616UN KC9315	A14-15
CNMG160616UN KC9320	A15
CNMG160616UN KC9325	A15
CNMG190608 K68	A6-7
CNMG190608 KC730	H3
CNMG190608 KC850	H3
CNMG190608 KC9140	A7
CNMG190608 KC935	H3
CNMG190608K KC850	H3
CNMG190608MG KC935	H3
CNMG190608MN KC8050	H4
CNMG190608MN KC9110	A11
CNMG190608MN KC9125	A10-11
CNMG190608MN KC9140	A11
CNMG190608MP KC5010	A10-11
CNMG190608MP KC8050	H4
CNMG190608MP KC9225	A11
CNMG190608MP KC9245	A11
CNMG190608MS KC5510	A11
CNMG190608MS KC5525	A10-11
CNMG190608RN KC8050	H4
CNMG190608RN KC9110	A13
CNMG190608RN KC9125	A12-13
CNMG190608RN KC9140	A13
CNMG190608UN KC9315	A14-15
CNMG190608UN KC9320	A15
CNMG190608UN KC9325	A15
CNMG190608UP KC9225	A14-15
CNMG190612 K68	A7
CNMG190612 KC5010	A6-7
CNMG190612 KC730	H3
CNMG190612 KC850	H3
CNMG190612 KC9140	A7
CNMG190612 KC935	H3
CNMG190612K KC850	H3
CNMG190612MG KC850	H3
CNMG190612MG KC935	H3
CNMG190612MN KC8050	H4
CNMG190612MN KC9110	A11
CNMG190612MN KC9125	A11
CNMG190612MN KC9140	A10-11
CNMG190612MP KC5010	A10-11
CNMG190612MP KC5025	A11
CNMG190612MP KC8050	H4
CNMG190612MP KC9225	A11
CNMG190612MP KC9245	A11
CNMG190612MS K313	A11
CNMG190612MS KC5510	A10-11
CNMG190612MS KC5525	A11
CNMG190612P KC5010	A13
CNMG190612P KC850	H4
CNMG190612P KC9225	A12-13

Catalog No.	Page(s)
CNMG190612P KC935	H4
CNMG190612RN KC8050	H4
CNMG190612RN KC9105	A13
CNMG190612RN KC9110	A13
CNMG190612RN KC9125	A13
CNMG190612RN KC9140	A12-13
CNMG190612RP KC5010	A15
CNMG190612RP KC5025	A15
CNMG190612RP KC5510	A15
CNMG190612RP KC5525	A15
CNMG190612RP KC8050	H4
CNMG190612RP KC9105	A15
CNMG190612RP KC9110	A15
CNMG190612RP KC9125	A15
CNMG190612RP KC9140	A15
CNMG190612RP KC9225	A15
CNMG190612RP KC9245	A14-15
CNMG190612RP KC9315	A15
CNMG190612RP KC9320	A15
CNMG190612RP KC9325	A15
CNMG190612UN KC9315	A14-15
CNMG190612UN KC9320	A15
CNMG190612UN KC9325	A15
CNMG190612UP KC9225	A14-15
CNMG190616 KC5010	A6-7
CNMG190616 KC850	H3
CNMG190616 KC935	H3
CNMG190616MG KC935	H3
CNMG190616MN KC8050	H4
CNMG190616MN KC9110	A10-11
CNMG190616MN KC9125	A11
CNMG190616MN KC9140	A11
CNMG190616MP KC5010	A11
CNMG190616MP KC8050	H4
CNMG190616MP KC9225	A10-11
CNMG190616MP KC9245	A11
CNMG190616MS KC5510	A10-11
CNMG190616MS KC5525	A11
CNMG190616P KC850	H4
CNMG190616P KC9240	A12-13
CNMG190616RN KC8050	H4
CNMG190616RN KC9105	A12-13
CNMG190616RN KC9110	A13
CNMG190616RN KC9125	A13
CNMG190616RN KC9140	A13
CNMG190616RP KC5010	A15
CNMG190616RP KC5510	A15
CNMG190616RP KC5525	A14-15
CNMG190616RP KC9105	A15
CNMG190616RP KC9110	A15
CNMG190616RP KC9125	A15
CNMG190616RP KC9140	A15
CNMG190616RP KC9225	A15
CNMG190616RP KC9245	A15
CNMG190616RP KC9315	A15
CNMG190616RP KC9325	A15
CNMG190616UN KC9315	A15
CNMG190616UN KC9320	A14-15
CNMG190616UN KC9325	A15
CNMG190616UP KC9225	A14-15
CNMG190624MN KC9110	A11
CNMG190624MN KC9125	A11
CNMG190624MN KC9140	A10-11
CNMG190624RN KC9110	A13
CNMG190624RN KC9125	A13
CNMG190624RN KC9140	A12-13
CNMG250924 KC5010	A7
CNMG250924 KC850	H3
CNMG250924 KC9125	A6-7
CNMG250924 KC9140	A7
CNMM120408 KC850	H5
CNMM120408M KC850	H5
CNMM120408MR KC850	H5
CNMM120408MR KC935	H5
CNMM120408P KC850	H5
CNMM120408RM KC8050	H5
CNMM120408RM KC9110	A14-15
CNMM120408RM KC9125	A15
CNMM120408RP KC9105	A17
CNMM120408RP KC9110	A16-17
CNMM120408RP KC9125	A17
CNMM120408RP KC9225	A17
CNMM120412MR KC850	H5
CNMM120412MR KC935	H5
CNMM120412P KC850	H5
CNMM120412RM KC8050	H5
CNMM120412RM KC9110	A14-15
CNMM120412RM KC9125	A15
CNMM120412RP KC9105	A17
CNMM120412RP KC9110	A17
CNMM120412RP KC9125	A16-17
CNMM120412RP KC9225	A17
CNMM120416RM KC8050	H5
CNMM120416RM KC9110	A14-15
CNMM120416RM KC9125	A15
CNMM120416RP KC9105	A16-17
CNMM120416RP KC9110	A17
CNMM120416RP KC9125	A17
CNMM120416RP KC9225	A17
CNMM160608RP KC9110	A16-17
CNMM160608RP KC9125	A17
CNMM160612MR KC850	H5
CNMM160612MR KC935	H5
CNMM160612RM KC8050	H5
CNMM160612RM KC9110	A14-15
CNMM160612RM KC9125	A15
CNMM160612RP KC9105	A17
CNMM160612RP KC9110	A17
CNMM160612RP KC9125	A16-17
CNMM160612RP KC9225	A17
CNMM160616M KC850	H5
CNMM160616MR KC935	H5
CNMM160616RM KC9110	A15
CNMM160616RM KC9125	A14-15
CNMM160616RP KC9105	A17
CNMM160616RP KC9110	A17
CNMM160616RP KC9125	A16-17
CNMM160616RP KC9225	A17
CNMM160624RM KC9110	A14-15
CNMM160624RM KC9125	A15
CNMM190608 KC850	H5
CNMM190612 KC850	H5
CNMM190612M KC850	H5
CNMM190612MR KC850	H5
CNMM190612MR KC935	H5
CNMM190612P KC850	H5
CNMM190612RH KC9110	A15
CNMM190612RH KC9125	A14-15
CNMM190612RH KC9140	A15
CNMM190612RM KC8050	H5
CNMM190612RM KC9110	A14-15
CNMM190612RM KC9125	A15
CNMM190612RP KC9105	A17
CNMM190612RP KC9110	A16-17
CNMM190612RP KC9125	A17
CNMM190612RP KC9225	A17
CNMM190616 KC850	H5
CNMM190616M KC850	H5
CNMM190616MR KC850	H5
CNMM190616MR KC935	H5
CNMM190616P KC850	H5
CNMM190616RH KC8050	H5
CNMM190616RH KC9110	A15
CNMM190616RH KC9125	A15
CNMM190616RH KC9140	A14-15
CNMM190616RM KC8050	H5
CNMM190616RM KC9110	A14-15
CNMM190616RM KC9125	A15
CNMM190616RP KC9105	A17
CNMM190616RP KC9110	A17
CNMM190616RP KC9125	A17
CNMM190616RP KC9225	A16-17
CNMM190624M KC850	H5
CNMM190624RH KC9105	A15
CNMM190624RH KC9110	A14-15
CNMM190624RH KC9125	A15
CNMM190624RH KC9140	A15
CNMM190624RM KC8050	H5
CNMM190624RM KC9105	A15
CNMM190624RM KC9110	A14-15
CNMM190624RM KC9125	A15
CNMM190624RP KC9105	A17
CNMM190624RP KC9110	A16-17
CNMM190624RP KC9125	A17
CNMM190624RW KC8050	H5
CNMM190624RW KC9110	A16-17
CNMM190624RW KC9125	A17
CNMM250924RH KC8050	H5
CNMM250924RH KC9110	A15
CNMM250924RH KC9125	A14-15
CNMM250924RH KC9140	A15
CNMM250924RM KC9110	A15
CNMM250924RM KC9125	A14-15
CNMM250924RP KC9125	A16-17
CNMM250924RW KC9110	A17
CNMM250924RW KC9125	A16-17
CNMN090308E KB9640	A76-77
CNMN090308S02020 KB9640	A76-77
CNMN090312S02020 KB9640	A76-77
CNMN090312T02020 KD200	H20
CNMN120408S02020 KB9640	A76-77
CNMN120412S02020 KB9640	A76-77
CNMN120412S03020 KB9640	A76-77
CNMN120708T02020 KY3500	A76-77
CNMN120712T02020 KY3500	A76-77
CNMN120716T02020 KY3500	A76-77
CNMP120404 K313	A17
CNMP120404 K68	A16-17
CNMP120404 KC5410	A17
CNMP120404 KC730	H6
CNMP120404 KC810	H6
CNMP120404 KC850	H6
CNMP120404 KC935	H6
CNMP120404K KC850	H6
CNMP120404K KC9110	A17
CNMP120404K KC9125	A16-17
CNMP120404K KC935	H6
CNMP120408 K313	A17
CNMP120408 K68	A16-17
CNMP120408 KC5410	A17
CNMP120408 KC730	H6
CNMP120408 KC810	H6
CNMP120408 KC850	H6
CNMP120408 KC9140	A17
CNMP120408 KC935	H6
CNMP120408K KC810	H6
CNMP120408K KC850	H6
CNMP120408K KC9110	A16-17
CNMP120408K KC9125	A17
CNMP120408K KC9140	A17
CNMP120408K KC935	H6
CNMP120412 K68	A16-17
CNMP120412 KC730	H6
CNMP120412 KC850	H6
CNMP120412 KC935	H6
CNMP120412K KC9110	A16-17
CNMP120412K KC9125	A17
CNMP160608 K68	A16-17
CNMP160608 KC850	H6
CNMP160608 KC9140	A17
CNMP160608 KC935	H6
CNMP160612 K68	A16-17
CNMP160612 KC5410	A17
CNMP160612 KC850	H6
CNMP160612 KC9140	A17
CNMP160612 KC935	H6
CNMP190608 K68	A17
CNMP190608 KC850	H6
CNMP190608 KC9140	A16-17
CNMP190608 KC935	H6
CNMP190612 K313	A16-17
CNMP190612 K68	A17
CNMP190612 KC5410	A17
CNMP190612 KC730	H6
CNMP190612 KC850	H6
CNMP190612 KC935	H6
CNMP190612K KC850	H6
CNMP190612K KC935	H6
CNMS120404FST KD1400	A3
CNMS120404FST KD1425	A2-3
CNMS120408 K68	A16-17
CNMS120408 KC5410	A17
CNMS120408 KC730	H6
CNMS120408 KC810	H6
CNMS120408 KC850	H6
CNMS120408 KC935	H6
CNMS120408E KD1405	A2-3
CNMS120408FST KD1400	A3
CNMS120408FST KD1425	A2-3
CNMS160608 K68	A16-17
CNMS160608 KC5410	A17
CNMS160608 KC730	H6
CNMS160608 KC850	H6
CNMS160608 KC935	H6
CNMS190608 K68	A17
CNMS190608 KC5410	A16-17
CNMS190608 KC730	H6
CNMS190608 KC850	H6
CNMS190612 K68	A16-17
CNMS190612 KC730	H6
CNMS190612 KC850	H6
CNMX120408 KC850	H6
CNMX120708T02020 KY1320	A77
CNMX120708T02020 KY3500	A76-77
CNMX120712T02020 KY1320	A76-77
CNMX120712T02020 KY3500	A77
CNMX120716T02020 KY1320	A77
CNMX120716T02020 KY3500	A76-77
CPGB09T302 KD120	H26
CPGB09T302F KD100	H26
CPGB09T304 KD120	H26
CPGB09T304F KD100	H26
CPGB09T308 KD050	H26
CPGB09T308 KD120	H26
CPGB09T308F KD100	H26
CPGH09T301 KC5010	A109
CPGH09T301 KC5025	A108-109
CPGH09T301 KC720	H26
CPGH09T301 KC730	H26
CPGH09T301 KT315	A109
CPGH09T302 K313	A109
CPGH09T302 K68	A108-109
CPGH09T302 KC5010	A109
CPGH09T302 KC5025	A109
CPGH09T302 KC720	H26
CPGH09T302 KC730	H26
CPGH09T302 KC850	H26
CPGH09T302 KC935	H26
CPGH09T302 KT315	A109
CPGH09T302F KD100	H26
CPGH09T304 K313	A109
CPGH09T304 K68	A109
CPGH09T304 KC5010	A109
CPGH09T304 KC5025	A109
CPGH09T304 KC720	H26
CPGH09T304 KC730	H26
CPGH09T304 KC8050	A109
CPGH09T304 KC810	H26
CPGH09T304 KC850	H26
CPGH09T304 KC9105	A109
CPGH09T304 KC9110	A109
CPGH09T304 KC9125	A109
CPGH09T304 KC9225	A109
CPGH09T304 KC9315	A109
CPGH09T304 KC935	H26
CPGH09T304 KT315	A108-109
CPGH09T304F KD100	H26
CPGH09T308 K313	A109
CPGH09T308 K68	A109
CPGH09T308 KC5010	A108-109
CPGH09T308 KC5025	A109
CPGH09T308 KC5410	A109
CPGH09T308 KC720	H26
CPGH09T308 KC730	H26
CPGH09T308 KC8050	A109
CPGH09T308 KC810	H26
CPGH09T308 KC850	H26
CPGH09T308 KC9105	A109
CPGH09T308 KC9110	A109
CPGH09T308 KC9125	A109
CPGH09T308 KC9225	A109
CPGH09T308 KC9315	A109
CPGH09T308 KC935	H26
CPGH09T308 KT315	A109

Index by Catalog Number

Catalog No.	Page(s)
CPGH09T308F KD100	H26
CPGN120304 K313	A90-91
CPGN120304 K68	A91
CPGN120304 KC730	H22
CPGN120304 KC810	H22
CPGN120304 KC850	H22
CPGN120304E KD1405	A90-91
CPGN120304F KD1425	A90-91
CPGN120304S01015MT KB1630	A90-91
CPGN120308 K313	A91
CPGN120308 K68	A90-91
CPGN120308 KC730	H22
CPGN120308 KC810	H22
CPGN120308 KC850	H22
CPGN120308F KD1425	A90-91
CPGN120308S01015MT KB1630	A90-91
CPGN190412 KC850	H22
CPGR120304K KC850	H22
CPGR120308K KC850	H22
CPGT060201K KC720	H26
CPGT060201K KC730	H26
CPGT060201K KC850	H26
CPGT060201LF K313	A109
CPGT060201LF KC5010	A109
CPGT060201LF KC5025	A109
CPGT060201LF KC5410	A108-109
CPGT060201LF KC730	H26
CPGT060202HP KC5010	A109
CPGT060202HP KC5025	A109
CPGT060202HP KC5410	A108-109
CPGT060202HP KC730	H26
CPGT060202K K313	A108-109
CPGT060202K K68	A109
CPGT060202K KC720	H26
CPGT060202K KC730	H26
CPGT060202K KC850	H26
CPGT060202K KC935	H26
CPGT060202KF KD100	H26
CPGT060202LF KC5010	A109
CPGT060202LF KC5025	A108-109
CPGT060202LF KC5410	A109
CPGT060202LF KC730	H26
CPGT060204HP KC5010	A109
CPGT060204HP KC5025	A108-109
CPGT060204HP KC5410	A109
CPGT060204HP KC730	H26
CPGT060204K K313	A108-109
CPGT060204K K68	A109
CPGT060204K KC5410	A109
CPGT060204K KC720	H26
CPGT060204K KC730	H26
CPGT060204K KC810	H26
CPGT060204K KC850	H26
CPGT060204K KC9105	A109
CPGT060204K KC935	H26
CPGT060204KF KD100	H26
CPGT060204LF K313	A108-109
CPGT060204LF K68	A109
CPGT060204LF KC5010	A109
CPGT060204LF KC5025	A109
CPGT060204LF KC5410	A109
CPGT060204LF KC720	H26
CPGT060204LF KC730	H26
CPGT060204LF KC810	H26
CPGT060208HP KC5010	A109
CPGT060208HP KC5025	A108-109
CPGT060208HP KC5410	A109
CPGT060208K K313	A109
CPGT060208K K68	A109
CPGT060208K KC730	H26
CPGT060208K KC810	H26
CPGT060208K KC850	H26
CPGT060208K KC9105	A108-109
CPGT060208K KC935	H26
CPGT060208KF KD100	H26
CPGT060208LF K313	A109
CPGT060208LF KC5010	A109
CPGT060208LF KC5025	A109
CPGT060208LF KC5410	A108-109
CPGT09T302HP K313	A109
CPGT09T302HP KC5010	A108-109
CPGT09T302HP KC5025	A109
CPGT09T302HP KC5410	A109
CPGT09T302HP KC730	H26
CPGT09T302LF KC5010	A109
CPGT09T302LF KC5025	A108-109
CPGT09T302LF KC5410	A109
CPGT09T302LF KC730	H26
CPGT09T304HP K313	A109
CPGT09T304HP KC5010	A109
CPGT09T304HP KC5025	A108-109
CPGT09T304HP KC5410	A109
CPGT09T304HP KC730	H26
CPGT09T304LF K313	A109
CPGT09T304LF KC5010	A108-109
CPGT09T304LF KC5025	A109
CPGT09T304LF KC5410	A109
CPGT09T304LF KC720	H26
CPGT09T304LF KC730	H26
CPGT09T304LF KC850	H26
CPGT09T308HP KC5010	A109
CPGT09T308HP KC5025	A108-109
CPGT09T308HP KC5410	A109
CPGT09T308LF KC5010	A109
CPGT09T308LF KC5025	A108-109
CPGT09T308LF KC5410	A109
CPGW060202 KD120	H26
CPGW060202E KD1405	A102-103
CPGW060202EFWC KB9610	A102-103
CPGW060202EFWM KB9610	A102-103
CPGW060202EM KD050	H26
CPGW060202F KD100	H26
CPGW060202FST KD1400	A103
CPGW060202FST KD1425	A102-103
CPGW060204 KD050	H26
CPGW060204 KD120	H26
CPGW060204E KD1405	A102-103
CPGW060204EFWC KB9610	A102-103
CPGW060204EFWM KB9610	A102-103
CPGW060204F KD100	H26
CPGW060204FST KD1400	A102-103
CPGW060204FST KD1425	A103
CPGW060204FWST KD1400	A103
CPGW060204FWST KD1425	A102-103
CPGW060204S01015M KD050	H26
CPGW060208 KD050	H26
CPGW060208 KD120	H26
CPGW060208E KD1405	A102-103
CPGW060208EFWM KB9610	A102-103
CPGW060208F KD100	H26
CPGW060208FST KD1400	A103
CPGW060208FST KD1425	A102-103
CPGW060208S01015FWM KB9610	A102-103
CPGW060208S01015M KD050	H26
CPGW09T304 KD050	H26
CPGW09T304 KD120	H26
CPGW09T304E KD1405	A102-103
CPGW09T304EFWMT KB9610	A102-103
CPGW09T304F KD100	H26
CPGW09T304FST KD1400	A102-103
CPGW09T304FST KD1425	A103
CPGW09T304S01015FWMT KB1610	A102-103
CPGW09T308 KD050	H26
CPGW09T308 KD120	H26
CPGW09T308E KD1405	A102-103
CPGW09T308EFWMT KB9610	A102-103
CPGW09T308F KD100	H26
CPGW09T308FST KD1400	A102-103
CPGW09T308FST KD1425	A103
CPGW09T308FWST KD1400	A103
CPGW09T308FWST KD1425	A102-103
CPGW09T308S01015FWMT KB1610	A102-103
CPGW09T308S01015FWMT KB9610	A103
CPGW120404FST KD1400	A103
CPGW120404FST KD1425	A102-103
CPGW120408FST KD1400	A103
CPGW120408FST KD1425	A102-103
CPGW120408FWST KD1400	A102-103
CPGW120408FWST KD1425	A103
CPMT050202LF KC5010	A109
CPMT050202LF KC5025	A108-109
CPMT050202LF KC730	H27
CPMT050204LF K313	A109
CPMT050204LF KC5010	A109
CPMT050204LF KC5025	A108-109
CPMT050204LF KC730	H27
CPMT050204LF KC810	H27
CPMT050204LF KC850	H27
CPMT050204LF KC935	H27
CPMT050204LF KT315	A109
CPMT060202FW KC5010	A108-109
CPMT060202FW KT315	A109
CPMT060202LF K313	A109
CPMT060202LF KC5010	A108-109
CPMT060202LF KC5025	A109
CPMT060202LF KC730	H27
CPMT060202LF KC810	H27
CPMT060202LF KC850	H27
CPMT060202LF KC935	H27
CPMT060202LF KT315	A109
CPMT060204FW KC5010	A109
CPMT060204FW KC9225	A109
CPMT060204FW KC9315	A109
CPMT060204FW KC9320	A108-109
CPMT060204FW KT315	A109
CPMT060204LF K313	A109
CPMT060204LF K68	A109
CPMT060204LF KC5010	A109
CPMT060204LF KC5025	A109
CPMT060204LF KC720	H27
CPMT060204LF KC730	H27
CPMT060204LF KC8050	A109
CPMT060204LF KC810	H27
CPMT060204LF KC850	H27
CPMT060204LF KC9105	A109
CPMT060204LF KC9110	A108-109
CPMT060204LF KC9125	A109
CPMT060204LF KC9225	A109
CPMT060204LF KC9315	A109
CPMT060204LF KC9320	A109
CPMT060204LF KC935	H27
CPMT060204LF KT315	A109
CPMT060204UF KC5010	A111
CPMT060204UF KC9110	A110-111
CPMT060204UF KC9125	A111
CPMT060208FW KC5010	A108-109
CPMT060208FW KC9225	A109
CPMT060208FW KC9315	A109
CPMT060208FW KT315	A109
CPMT060208LF K313	A109
CPMT060208LF KC5010	A109
CPMT060208LF KC5025	A109
CPMT060208LF KC730	H27
CPMT060208LF KC850	H27
CPMT060208LF KC9105	A109
CPMT060208LF KC9110	A109
CPMT060208LF KC9125	A108-109
CPMT060208LF KC9225	A109
CPMT060208LF KC9315	A109
CPMT060208LF KC9320	A109
CPMT060208LF KC935	H27
CPMT060208LF KT315	A109
CPMT060208MF KC730	H27
CPMT060208MF KC9105	A109
CPMT060208MF KC9110	A109
CPMT060208MF KC9125	A108-109
CPMT060208MF KC9225	A109
CPMT060208MF KC9315	A109
CPMT060208MF KC9320	A109
CPMT060208MF KC9325	A109
CPMT060208MF KC935	H27
CPMT09T302LF K313	A109
CPMT09T302LF KC5010	A109
CPMT09T302LF KC5025	A108-109
CPMT09T302LF KC730	H27
CPMT09T302LF KC850	H27
CPMT09T302LF KT315	A109
CPMT09T304FW KC5010	A108-109
CPMT09T304FW KC9225	A109
CPMT09T304FW KC9315	A109
CPMT09T304FW KC9320	A109
CPMT09T304FW KT315	A109
CPMT09T304LF K313	A109
CPMT09T304LF K68	A109
CPMT09T304LF KC5010	A109
CPMT09T304LF KC5025	A109
CPMT09T304LF KC720	H27
CPMT09T304LF KC730	H27
CPMT09T304LF KC8050	A109
CPMT09T304LF KC810	H27
CPMT09T304LF KC850	H27
CPMT09T304LF KC9105	A108-109
CPMT09T304LF KC9110	A109
CPMT09T304LF KC9125	A109
CPMT09T304LF KC9225	A109
CPMT09T304LF KC9315	A109
CPMT09T304LF KC9320	A109
CPMT09T304LF KC935	H27
CPMT09T304LF KT315	A109
CPMT09T304MW KC5010	A111
CPMT09T304MW KC9225	A110-111
CPMT09T304MW KT315	A111
CPMT09T304UF KC5010	A111
CPMT09T304UF KC9110	A110-111
CPMT09T304UF KC9125	A111
CPMT09T308FW KC5010	A109
CPMT09T308FW KC9225	A109
CPMT09T308FW KC9315	A108-109
CPMT09T308FW KC9320	A109
CPMT09T308FW KT315	A109
CPMT09T308LF K313	A109
CPMT09T308LF K68	A109
CPMT09T308LF KC5010	A109
CPMT09T308LF KC5025	A109
CPMT09T308LF KC720	H27
CPMT09T308LF KC730	H27
CPMT09T308LF KC8050	A109
CPMT09T308LF KC810	H27
CPMT09T308LF KC850	H27
CPMT09T308LF KC9105	A109
CPMT09T308LF KC9110	A109
CPMT09T308LF KC9125	A109
CPMT09T308LF KC9225	A109
CPMT09T308LF KC9315	A108-109
CPMT09T308LF KC9320	A109
CPMT09T308LF KC935	H27
CPMT09T308LF KT315	A109
CPMT09T308MF KC730	H27
CPMT09T308MF KC8050	A109
CPMT09T308MF KC9105	A109
CPMT09T308MF KC9110	A109
CPMT09T308MF KC9125	A109
CPMT09T308MF KC9225	A108-109
CPMT09T308MF KC9315	A109
CPMT09T308MF KC9320	A109
CPMT09T308MF KC9325	A109
CPMT09T308MF KC935	H27
CPMT09T308MW KC5010	A110-111
CPMT09T308MW KC8050	A111
CPMT09T308MW KC9225	A111
CPMT09T308MW KT315	A111
CPMT09T312MF KC9110	A109
CPMT09T312MF KC9125	A109
CPMT09T312MF KC9225	A109
CPMT09T312MF KC9315	A108-109
CPMT09T312MF KC9320	A109
CRDNN2525M12-MN4	B40
CRDNN2525M12-MN7	B40
CRDNN3225P12-MN4	B40
CRDNN3225P12-MN7	B40
CRDPN2525M06V	B66
CRDPN2525M09V	B66
CRDPN2525M12V	B66
CRDPN3232P09V	B66
CRDPN3232P12V	B66
CRDPN3232P15V	B66
CRDPN3232P19V	B66
CRDPN3232P25V	B66
CRDPN4040R19V	B66
CRGPL2525M06V	B66
CRGPL2525M09V	B66
CRGPL2525M12V	B66

Catalog No.	Page(s)
CRGPL3232P09V	B66
CRGPL3232P12V	B66
CRGPL3232P15V	B66
CRGPL3232P19V	B66
CRGPL4040R19V	B66
CRGPR2525M06V	B66
CRGPR2525M09V	B66
CRGPR2525M12V	B66
CRGPR3232P09V	B66
CRGPR3232P12V	B66
CRGPR3232P15V	B66
CRGPR3232P19V	B66
CRGPR4040R19V	B66
CRSNL2525M12-MN4	B40
CRSNL2525M12-MN7	B40
CRSNL3225P12-MN4	B40
CRSNL3225P12-MN7	B40
CRSNR2525M12-MN4	B40
CRSNR2525M12-MN7	B40
CRSNR3225P12-MN4	B40
CRSNR3225P12-MN7	B40
CS109PKG	B135
CS412	B66
CSBPL2020K12	B48
CSBPL2525M12	B48
CSBPR2020K12	B48
CSBPR2525M12	B48
CSDNN2525M12MF4	B41
CSDNN2525M12MF7	B41
CSDNN2525M12MN4	B41
CSDNN2525M12MN7	B41
CSDNN2525M12MX7	B41
CSDNN3225P12MF4	B41
CSDNN3225P12MF7	B41
CSDNN3225P12MN4	B41
CSDNN3225P12MN7	B41
CSDNN3225P12MX7	B41
CSDPN1212F09	B48
CSDPN1616H09	B48
CSDPN2020K12	B48
CSDPN2525M12	B48
CSKNL2525M12-MN4	B42
CSKNL2525M12-MN7	B42
CSKNR2525M12-MN4	B42
CSKNR2525M12-MN7	B42
CSKPL12CA12	B132-133
CSKPL20CA12	B132-133
CSKPR10CA09	B132-133
CSKPR12CA12	B132-133
CSKPR20CA12	B132-133
CSRNL2525M12-MF4	B43
CSRNL2525M12-MF7	B43
CSRNL2525M12-MN4	B43
CSRNL2525M12-MN7	B43
CSRNL3225P12-MN4	B43
CSRNL3225P12-MN7	B43
CSRNL3225P15-MF7	B43
CSRNL3225P15-MX7	B43
CSRNR2525M12-MF4	B43
CSRNR2525M12-MF7	B43
CSRNR2525M12-MN4	B43
CSRNR2525M12-MN7	B43
CSRNR3225P12-MN4	B43
CSRNR3225P12-MN7	B43
CSRNR3225P15-MF7	B43
CSRNR3225P15-MX7	B43
CSRPL10CA09	B132-133
CSRPL12CA12	B132-133
CSRPR10CA09	B132-133
CSRPR12CA12	B132-133
CSSNL2525M12-MF7	B44
CSSNL2525M12-MN7	B44
CSSNL2525M12-MX7	B44
CSSNL3225P12-MN4	B44
CSSNL3225P12-MN7	B44
CSSNR2525M12-MF7	B44
CSSNR2525M12-MN7	B44
CSSNR2525M12-MX7	B44
CSSNR3225P12-MN4	B44
CSSNR3225P12-MN7	B44
CSSNR3225P15-MX7	B44
CSSPL10CA09	B134-135
CSSPL12CA12	B134-135
CSSPL16CA12	B134-135
CSSPL2525M12	B48
CSSPR10CA09	B134-135
CSSPR12CA12	B134-135
CSSPR16CA12	B134-135
CSSPR2020K12	B48
CSSPR2525M12	B48
CSTPL10CA09	B134-135
CSTPL2020K09	B49
CSTPL2020K12	B49
CSTPL2525M12	B49
CSTPR10CA09	B134-135
CSTPR12CA12	B134-135
CSTPR2020K09	B49
CSTPR2020K12	B49
CSWM 035 040	B139, B141, B143
CSWM 040 050	B139, B141, B143, B145, B151, B153
CSWM 060 050	B115, B117, B119, B121, B123, B125, B127, B129, B131, B133, B135, B137, B141, B145, B147, B149, B151, B153, D125
CSWM 080 050	B115, B117, B119, B121, B123, B125, B127, B129, B131, B133, B135, B137, B141, B147, B149, B151, B153, D125
CSWM 100 080	B121, B123, B127, B129, D125
CSXNL2525M12-MF7	B45
CSXNL2525M12-MN4	B45
CSXNL2525M12-MX7	B45
CSXNL3225P12-MX7	B45
CSXNL3225P15-MX7	B45
CSXNR2525M12-MF7	B45
CSXNR2525M12-MN4	B45
CSXNR2525M12-MX7	B45
CSXNR3225P12-MX7	B45
CSYNL2525M12-MN4	B46
CSYNL2525M12-MN7	B46
CSYNL3225P12-MX7	B46
CSYNR2525M12-MN4	B46
CSYNR2525M12-MN7	B46
CSYPL10CA09	B134-135
CSYPL12CA12	B134-135
CSYPR10CA09	B134-135
CSYPR12CA12	B134-135
CSYPR20CA12	B134-135
CTCPN2510M11	B49
CTCPN2514M16	B49
CTCPN2518M22	B49
CTCPN2520M22	B49
CTCPN4018R22	B49
CTCPN4020R22	B49
CTCPR2020K16	B49
CTDPL1212F11	B50
CTDPR1212F11	B50
CTDPR2525M16	B50
CTFNL2525M16-MN4	B46
CTFNR2525M16-MN4	B46
CTFPL10CA11	B136-137
CTFPL12CA16	B136-137
CTFPL16CA16	B136-137
CTFPL2020K16	B50
CTFPL2525M16	B50
CTFPR10CA11	B136-137
CTFPR12CA16	B136-137
CTFPR16CA16	B136-137
CTFPR2020K16	B50
CTFPR20CA22	B136-137
CTFPR2525M16	B50
CTGNL2525M16-MN4	B47
CTGNL2525M16-MN7	B47
CTGNR2525M16-MN4	B47
CTGNR2525M16-MN7	B47
CTGPL1212F11	B51
CTGPL12CA16	B136-137
CTGPL2020K16	B51
CTGPL20CA22	B136-137
CTGPL2525M16	B51
CTGPR10CA11	B136-137
CTGPR1212F11	B51
CTGPR12CA16	B136-137
CTGPR1616H11	B51
CTGPR16CA16	B136-137
CTGPR2020K11	B51
CTGPR2020K16	B51
CTGPR20CA22	B136-137
CTGPR2525M16	B51
CTGPR2525M22	B51
CWLNL2525M08-MX7	B47
CWLNR2525M08-MX7	B47
CWLNR3225P08-MX7	B47
D100MTTB1330KM63	B104
D25MTTB400	B103
D32MTTB447	B103
D40MTTB530	B103
D40MTTB560KM40	B104
D50MTTB700	B103
D50MTTB737KM40	B104
D60MTTB1000KM40	B104
D80MTTB1120KM63	B104
DCGR150404 K68	F5
DCGR150404 KC5010	F5
DCGR150404 KC5025	F5
DCGR150404 KC5410	F4-7
DCGR150404 KC730	H33
DCGR150404 KC850	H33
DCGR150404 KC9110	F5
DCGR150404 KC9125	F5
DCGR150404 KC935	H33
DCGR150404 KD1425	F5
DCGR150404 KT315	F5
DCGR150408 K68	F5
DCGR150408 KC5010	F5
DCGR150408 KC5025	F5
DCGR150408 KC5410	F5
DCGR150408 KC730	H33
DCGR150408 KC8050	F5
DCGR150408 KC850	H33
DCGR150408 KC9105	F5
DCGR150408 KC9110	F5
DCGR150408 KC9125	F5
DCGR150408 KC9225	F5
DCGR150408 KC935	H33
DCGR150408 KD1425	F5
DCGR150408 KT315	F4-7
DCGR150412 K68	F5
DCGR150412 KC5010	F5
DCGR150412 KC5025	F5
DCGR150412 KC5410	F5
DCGR150412 KC9110	F4-7
DCGT070201LF KC5010	A112-113
DCGT070201LF KC5025	A113
DCGT070201LF KC730	H27
DCGT070202HP K313	A112-113
DCGT070202HP KC5010	A113
DCGT070202HP KC5025	A113
DCGT070202HP KC5410	A113
DCGT070202HP KC730	H27
DCGT070204HP K313	A112-113
DCGT070204HP KC5010	A113
DCGT070204HP KC5025	A113
DCGT070204HP KC5410	A113
DCGT070204HP KC730	H27
DCGT070208HP KC5010	A112-113
DCGT070208HP KC5025	A113
DCGT070208HP KC5410	A113
DCGT0702X0LF KC5025	A112-113
DCGT11T301LF KC5010	A112-113
DCGT11T301LF KC5025	A113
DCGT11T301LF KC730	H27
DCGT11T302HP K313	A113
DCGT11T302HP KC5010	A113
DCGT11T302HP KC5025	A113
DCGT11T302HP KC5410	A112-113
DCGT11T302HP KC730	H27
DCGT11T304HP K313	A113
DCGT11T304HP K68	A113
DCGT11T304HP KC5010	A113
DCGT11T304HP KC5025	A112-113
DCGT11T304HP KC5410	A113
DCGT11T304HP KC720	H27
DCGT11T304HP KC730	H27
DCGT11T308HP K313	A112-113
DCGT11T308HP K68	A113
DCGT11T308HP KC5010	A113
DCGT11T308HP KC5025	A113
DCGT11T308HP KC5410	A113
DCGT11T308HP KC730	H27
DCGT11T3X0LF KC5025	A112-113
DCGT150408LF KC5010	A112-113
DCGT150408LF KC5025	A113
DCGT150408LF KC730	H27
DCGW070202EM KB5625	A110-111
DCGW070202EM KB9610	A111
DCGW070202S01015C KB1610	A111
DCGW070202S01015C KB9610	A111
DCGW070204EFWM KB9610	A110-111
DCGW070204EM KB9610	A110-111
DCGW070204FST KD1400	A110-111
DCGW070204FST KD1425	A111
DCGW070204S01015C KB1610	A111
DCGW070204S01015C KB5610	A111
DCGW070204S01015M KB5625	A111
DCGW070204S01015M KB9610	A110-111
DCGW070204S01015M KD050	H27
DCGW11T304EFWMT KB9610	A110-111
DCGW11T304EMT KB9610	A110-111
DCGW11T304FST KD1400	A111
DCGW11T304FST KD1425	A110-111
DCGW11T304S01015 KD050	H27
DCGW11T304S01015 KD120	H27
DCGW11T304S01015FWMT KB9610	A110-111
DCGW11T304S01015M KB5625	A110-111
DCGW11T304S01015MT KB1610	A111
DCGW11T304S01015MT KB1625	A111
DCGW11T304S01015MT KB5610	A110-111
DCGW11T304S01015MT KB9610	A111
DCGW11T308EMT KB9610	A110-111
DCGW11T308S01015 KD120	H27
DCGW11T308S01015FWMT KB9610	A110-111
DCGW11T308S01015M KB5625	A110-111
DCGW11T308S01015MT KB1610	A110-111
DCGW11T308S01015MT KB1625	A111
DCGW11T308S01015MT KB5610	A111
DCGW11T308S01015MT KB9610	A111
DCKNL2020K12KC04	B6
DCKNL2525M12KC04	B6
DCKNL3225P12KC04	B6
DCKNR2020K12KC04	B6
DCKNR2525M12KC04	B6
DCKNR3225P12KC04	B6
DCKNR3232P16KC06	B6
DCKNR3232P19KC06	B6
DCLNL1616H09KC03	B6
DCLNL2020K09KC03	B6
DCLNL2020K12KC04	B6
DCLNL2525M12KC04	B6
DCLNL2525M16KC06	B6
DCLNL3225P12KC04	B6
DCLNL3225P16KC06	B6
DCLNL3232P16KC06	B6
DCLNL3232P19KC06	B6
DCLNL4040S19KC06	B6
DCLNL4040S25KC09	B6
DCLNR1616H09KC03	B6
DCLNR2020K09KC03	B6
DCLNR2020K12KC04	B6
DCLNR2525M12KC04	B6
DCLNR2525M16KC06	B6
DCLNR3225P12KC04	B6
DCLNR3225P16KC06	B6
DCLNR3232P16KC06	B6
DCLNR3232P19KC06	B6
DCLNR4040S19KC06	B6
DCLNR4040S25KC09	B6
DCMT07020211 KT315	A112-113
DCMT070202LF K313	A115
DCMT070202LF KC5010	A115
DCMT070202LF KC5025	A114-115
DCMT070202LF KC730	H27

Index by Catalog Number

Catalog No.	Page(s)
DCMT070202LF KC850	H27
DCMT070202LF KC935	H27
DCMT070202LF KT315	A115
DCMT07020411 KT315	A112-113
DCMT070204LF K313	A115
DCMT070204LF KC5010	A115
DCMT070204LF KC5025	A115
DCMT070204LF KC730	H27
DCMT070204LF KC8050	A115
DCMT070204LF KC810	H27
DCMT070204LF KC850	H27
DCMT070204LF KC9105	A114-115
DCMT070204LF KC9110	A115
DCMT070204LF KC9125	A115
DCMT070204LF KC9225	A115
DCMT070204LF KC9315	A115
DCMT070204LF KC9320	A115
DCMT070204LF KC935	H27
DCMT070204LF KT315	A115
DCMT070204UF KC5010	A114-115
DCMT070204UF KC730	H27
DCMT070204UF KC9110	A115
DCMT070204UF KC9125	A115
DCMT11T302LF K313	A115
DCMT11T302LF KC5010	A114-115
DCMT11T302LF KC5025	A115
DCMT11T302LF KC730	H27
DCMT11T302LF KC850	H27
DCMT11T302LF KC9110	A115
DCMT11T302LF KC935	H27
DCMT11T302LF KT315	A115
DCMT11T302UF KC5010	A115
DCMT11T302UF KC730	H27
DCMT11T302UF KC9110	A114-115
DCMT11T302UF KC9125	A115
DCMT11T30411 KT315	A112-113
DCMT11T304FW KC5010	A113
DCMT11T304FW KC9110	A113
DCMT11T304FW KC9225	A112-113
DCMT11T304FW KT315	A113
DCMT11T304LF K313	A115
DCMT11T304LF K68	A115
DCMT11T304LF KC5010	A115
DCMT11T304LF KC5025	A115
DCMT11T304LF KC720	H27
DCMT11T304LF KC730	H27
DCMT11T304LF KC8050	A115
DCMT11T304LF KC810	H27
DCMT11T304LF KC850	H27
DCMT11T304LF KC9105	A114-115
DCMT11T304LF KC9110	A115
DCMT11T304LF KC9125	A115
DCMT11T304LF KC9225	A115
DCMT11T304LF KC9315	A115
DCMT11T304LF KC9320	A115
DCMT11T304LF KC935	H27
DCMT11T304LF KT315	A115
DCMT11T304MF KC730	H27
DCMT11T304MF KC8050	A115
DCMT11T304MF KC9110	A115
DCMT11T304MF KC9125	A115
DCMT11T304MF KC9225	A115
DCMT11T304MF KC9315	A115
DCMT11T304MF KC9320	A115
DCMT11T304MF KC9325	A114-115
DCMT11T304MF KC935	H27
DCMT11T304MW KC5010	A115
DCMT11T304MW KC9110	A115
DCMT11T304MW KC9225	A114-115
DCMT11T304UF KC5010	A115
DCMT11T304UF KC730	H27
DCMT11T304UF KC9110	A114-115
DCMT11T304UF KC9125	A115
DCMT11T30811 KT315	A112-113
DCMT11T308FW KC5010	A113
DCMT11T308FW KC9110	A113
DCMT11T308FW KC9225	A113
DCMT11T308FW KC9315	A113
DCMT11T308FW KT315	A112-113
DCMT11T308LF K313	A115
DCMT11T308LF KC5010	A115
DCMT11T308LF KC5025	A114-115
DCMT11T308LF KC730	H27
DCMT11T308LF KC8050	A115
DCMT11T308LF KC810	H27
DCMT11T308LF KC850	H27
DCMT11T308LF KC9105	A115
DCMT11T308LF KC9110	A115
DCMT11T308LF KC9125	A115
DCMT11T308LF KC9225	A115
DCMT11T308LF KC9315	A115
DCMT11T308LF KC9320	A115
DCMT11T308LF KC935	H27
DCMT11T308LF KT315	A115
DCMT11T308MF KC730	H27
DCMT11T308MF KC8050	A115
DCMT11T308MF KC9105	A115
DCMT11T308MF KC9110	A115
DCMT11T308MF KC9125	A115
DCMT11T308MF KC9225	A115
DCMT11T308MF KC9315	A115
DCMT11T308MF KC9320	A114-115
DCMT11T308MF KC9325	A115
DCMT11T308MF KC935	H27
DCMT11T308MW KC5010	A115
DCMT11T308MW KC9110	A115
DCMT11T308MW KC9225	A114-115
DCMT11T308MW KT315	A115
DCMT11T308UF KC5010	A115
DCMT11T308UF KC730	H27
DCMT11T308UF KC9110	A115
DCMT11T308UF KC9125	A114-115
DCMT11T312LF KC5010	A115
DCMT11T312LF KC730	H27
DCMT11T312LF KC9105	A115
DCMT11T312LF KC9110	A115
DCMT11T312LF KC9125	A114-115
DCMT11T312LF KC9225	A115
DCMT11T312LF KC9315	A115
DCMT11T312LF KT315	A115
DCMT11T312MF KC730	H27
DCMT11T312MF KC9110	A115
DCMT11T312MF KC9125	A115
DCMT11T312MF KC9225	A114-115
DCMT11T312MF KC9315	A115
DCMT11T312MF KC9320	A115
DCMT11T312MF KC9325	A115
DCMT150404LF KC5010	A115
DCMT150404LF KC5025	A115
DCMT150404LF KC8050	A115
DCMT150404LF KC850	H27
DCMT150404LF KC9110	A114-115
DCMT150404LF KC9125	A115
DCMT150404LF KC9225	A115
DCMT150404LF KC935	H27
DCMT150404LF KT315	A115
DCMT150408LF KC5010	A115
DCMT150408LF KC5025	A115
DCMT150408LF KC730	H27
DCMT150408LF KC850	H27
DCMT150408LF KC9110	A114-115
DCMT150408LF KC9125	A115
DCMT150408LF KC9225	A115
DCMT150408LF KC9315	A115
DCMT150408LF KC9320	A115
DCMT150408LF KC935	H27
DCMW11T304F KD100	H27
DCRNL2020K12KC04	B7
DCRNL2525M12KC04	B7
DCRNL3225P12KC04	B7
DCRNL3232P16KC06	B7
DCRNR2020K12KC04	B7
DCRNR2525M12KC04	B7
DCRNR3225P12KC04	B7
DCRNR3232P16KC06	B7
DCRNR3232P19KC06	B7
DCSNL2020K12KC04	B7
DCSNL2525M12KC04	B7
DCSNR2020K12KC04	B7
DCSNR2525M12KC04	B7
DDJNL2020K11KC04	B8
DDJNL2020K15KC06	B8
DDJNL2525M11KC04	B8
DDJNL2525M15KC06	B8
DDJNL3225P15KC06	B8
DDJNL3232P15KC06	B8
DDJNR2020K11KC04	B8
DDJNR2020K15KC06	B8
DDJNR2525M11KC04	B8
DDJNR2525M15KC06	B8
DDJNR3225P15KC06	B8
DDJNR3232P15KC06	B8
DDNNL2020K15KC06	B8
DDNNL2525M15KC06	B8
DDNNL3225P15KC06	B8
DDNNR2020K15KC06	B8
DDNNR2525M15KC06	B8
DNGA150404E KD1405	A18-19
DNGA150404E KY4400	A20-21
DNGA150404EFW KY4400	A20-21
DNGA150404EFWMT KB5625	A18-19
DNGA150404EFWMT KB9610	A19
DNGA150404EMT KB9610	A18-19
DNGA150404FST KD1400	A18-19
DNGA150404FST KD1425	A19
DNGA150404S01020M KD050	H6
DNGA150404S01020MT KB9610	A18-19
DNGA150404S01025MT KB1610	A19
DNGA150404S01025MT KB1630	A19
DNGA150404S01025MT KB5625	A19
DNGA150404T01020 KY4400	A20-21
DNGA150404T02020 KY1615	A20-21
DNGA150408 K68	A21
DNGA150408 KD100	H6
DNGA150408 KD120	H6
DNGA150408E KD1405	A18-19
DNGA150408E KY4400	A20-21
DNGA150408EFW KY4400	A20-21
DNGA150408EFWMT KB5625	A18-19
DNGA150408EFWMT KB9610	A19
DNGA150408EMT KB1345	A19
DNGA150408EMT KB5625	A19
DNGA150408EMT KB9610	A18-19
DNGA150408FST KD1400	A18-19
DNGA150408FST KD1425	A19
DNGA150408S01020 KD120	H6
DNGA150408S01020MT KB1345	A19
DNGA150408S01020MT KB9610	A18-19
DNGA150408S01020MWMT KB9610	A18-19
DNGA150408S01025MT KB1610	A19
DNGA150408S01025MT KB1625	A19
DNGA150408S01025MT KB1630	A19
DNGA150408S01025MT KB5610	A19
DNGA150408T K090	H6
DNGA150408T01020 KY1540	A21
DNGA150408T01020 KY4400	A20-21
DNGA150408T02020 KY1320	A21
DNGA150408T02020 KY1615	A21
DNGA150408T02020 KY3400	A20-21
DNGA150408T02020 KY3500	A21
DNGA150412 KD100	H6
DNGA150412EFW KY4400	A20-21
DNGA150412EFWMT KB5625	A18-19
DNGA150412EMT KB5625	A18-19
DNGA150412S01020MT KB9610	A18-19
DNGA150412S01025MT KB1610	A19
DNGA150412S01025MT KB1625	A19
DNGA150412S01025MT KB5625	A18-19
DNGA150412S02020 KD120	H6
DNGA150412T01020 KY1540	A20-21
DNGA150412T01020 KY4400	A21
DNGA150412T02020 K090	H6
DNGA150412T02020 KY1320	A21
DNGA150412T02020 KY1615	A21
DNGA150412T02020 KY3400	A21
DNGA150412T02020 KY3500	A20-21
DNGA150416T01020 KY4400	A20-21
DNGA150416T02020 KY1615	A21
DNGA150416T02020 KY3400	A21
DNGA150416T02020 KY3500	A20-21
DNGA150604T02020 KY1615	A20-21
DNGA150608S01020FWMT KB9610	A18-19
DNGA150608S01020M KD050	H6
DNGA150608S01020M KD081	H6
DNGA150608S01020MT KB9610	A18-19
DNGA150608T01020 KY4400	A20-21
DNGA150608T02020 K090	H6
DNGA150608T02020 KY1320	A21
DNGA150608T02020 KY1615	A21
DNGA150608T02020 KY3500	A20-21
DNGA150612T01020 KY4400	A20-21
DNGA150612T02020 KY1320	A20-21
DNGA150612T02020 KY1615	A21
DNGA150612T02020 KY3500	A21
DNGA150616T01020 KY4400	A20-21
DNGA150616T02020 KY3500	A20-21
DNGA190608T02020 KY1615	A20-21
DNGA190612T02020 KY1615	A20-21
DNGA190616T02020 KY1615	A20-21
DNGA431 K68	A21
DNGG110402FS KC5510	A21
DNGG110402FS KC5525	A20-21
DNGG110404FS KC5510	A20-21
DNGG110408FS KC5510	A20-21
DNGG150401FS KC5510	A20-21
DNGG150402FS KC5510	A20-21
DNGG150402FS KC5525	A21
DNGG150402LF KC5010	A20-21
DNGG150402LF KC730	H6
DNGG150404FS KC5510	A20-21
DNGG150404FS KC5525	A21
DNGG150404LF K313	A21
DNGG150404LF KC5010	A20-21
DNGG150404LF KC730	H6
DNGG150408FS KC5510	A21
DNGG150408FS KC5525	A20-21
DNGG150408LF KC5010	A20-21
DNGG150408LF KC730	H6
DNGG150412FS KC5510	A20-21
DNGG150412LF KC730	H6
DNGG150416FS KC5510	A20-21
DNGG150604FS KC5510	A20-21
DNGG150604FS KC5525	A21
DNGG150608FS KC5510	A20-21
DNGG150608FS KC5525	A21
DNGN150408T01020 KY4400	A76-77
DNGN150408T02020 KY1615	A76-77
DNGN150412T01020 KY4400	A76-77
DNGN150412T02020 KY1615	A76-77
DNGN150608T02020 KY1615	A76-77
DNGN150704T01020 KY4400	A76-77
DNGN150704T02020 KY1615	A76-77
DNGN150708T01020 KY4300	A76-77
DNGN150708T01020 KY4400	A77
DNGN150708T02020 KY1615	A76-77
DNGN150712T01020 KY4300	A76-77
DNGN150712T01020 KY4400	A77
DNGN150712T02020 KY1615	A76-77
DNGN150716T01020 KY4300	A77
DNGN150716T01020 KY4400	A76-77
DNGN150716T02020 KY1615	A76-77
DNGP110404 KC730	H6
DNGP110408 KC730	H6
DNGP150401 KC5010	A22-23
DNGP150401 KC5410	A23
DNGP150401 KC730	H6
DNGP150402 KC5010	A23
DNGP150402 KC5410	A22-23
DNGP150402 KC730	H6
DNGP150404 K313	A23
DNGP150404 KC5010	A22-23
DNGP150404 KC5410	A23
DNGP150404 KC730	H6
DNGP150404K KC730	H7
DNGP150408 K313	A23
DNGP150408 KC5010	A22-23
DNGP150408 KC5410	A23
DNGP150408 KC730	H6
DNGP150408K KC730	H7
DNGP150412K KC730	H7
DNGP150604 K313	A23
DNGP150604 KC5010	A23
DNGP150604 KC5410	A22-23
DNGP150608 K313	A23

Catalog No.	Page(s)
DNGP150608 KC5010	A23
DNGP150608 KC5410	A22-23
DNGP150612 K313	A22-23
DNGX120708T02020 KY1615	A76-77
DNGX120708T02020 KY3500	A77
DNGX120712T02020 KY1320	A77
DNGX120712T02020 KY1615	A77
DNGX120712T02020 KY3500	A76-77
DNGX120716T02020 KY1320	A77
DNGX120716T02020 KY1615	A77
DNGX120716T02020 KY3500	A76-77
DNGX150708T01020 KY1540	A76-77
DNGX150708T02020 KY1615	A76-77
DNGX150708T02020 KY3500	A77
DNGX150712T01020 KY1540	A76-77
DNGX150712T02020 KY1320	A77
DNGX150712T02020 KY1615	A76-77
DNGX150712T02020 KY3500	A77
DNGX150716T01020 KY1540	A76-77
DNGX150716T02020 KY1320	A77
DNGX150716T02020 KY3500	A76-77
DNMA110408 KC9315	A22-23
DNMA110408S02020 KB9640	A18-19, A22-23
DNMA110408S02020MW KB9640	A18-19
DNMA110412S02020 KB9640	A18-19, A22-23
DNMA150404S01020M KD050	H7
DNMA150408 KC9315	A23
DNMA150408 KC9320	A23
DNMA150408 KC9325	A22-23
DNMA150408S01020M KD050	H7
DNMA150408T02020 KY3500	A22-23
DNMA150412 KC9315	A23
DNMA150412 KC9320	A23
DNMA150412 KC9325	A22-23
DNMA150412T02020 KY3500	A22-23
DNMA150416 KC9315	A23
DNMA150416 KC9325	A22-23
DNMA150608 KC9315	A23
DNMA150608 KC9320	A23
DNMA150608 KC9325	A22-23
DNMA150612 KC9315	A23
DNMA150612 KC9320	A22-23
DNMA150612 KC9325	A23
DNMA150616 KC9315	A22-23
DNMA150616 KC9325	A23
DNMG110404CT KC5010	A23
DNMG110404CT KC9110	A23
DNMG110404CT KC9125	A22-23
DNMG110404CT KC9225	A23
DNMG110404FF KC5010	A23
DNMG110404FF KC9110	A22-23
DNMG110404FF KC9225	A23
DNMG110404FF KT315	A23
DNMG110404FN KC9105	A25
DNMG110404FN KC9110	A25
DNMG110404FN KC9125	A24-25
DNMG110404FN KC9315	A25
DNMG110404FN KT315	A25
DNMG110404FP KC5010	A25
DNMG110404FP KC9225	A25
DNMG110404FP KT315	A24-25
DNMG110404FW KC5010	A25
DNMG110404FW KC9105	A24-25
DNMG110404FW KC9110	A25
DNMG110404FW KC9225	A25
DNMG110404FW KC9315	A25
DNMG110404FW KT315	A25
DNMG110404K KC935	H7
DNMG110404MG KC935	H8
DNMG110404MN KC8050	H8
DNMG110404MN KC9105	A27
DNMG110404MN KC9110	A26-27
DNMG110404MN KC9125	A27
DNMG110404MN KC9140	A27
DNMG110408B KC935	H7
DNMG110408CT KC5010	A23
DNMG110408CT KC9110	A23
DNMG110408CT KC9125	A23
DNMG110408CT KC9225	A22-23
DNMG110408CT KC9315	A23
DNMG110408FF KC5010	A23
DNMG110408FF KC9105	A23
DNMG110408FF KC9110	A23
DNMG110408FF KC9225	A22-23
DNMG110408FF KT315	A23
DNMG110408FN KC9105	A25
DNMG110408FN KC9110	A24-25
DNMG110408FN KC9125	A25
DNMG110408FN KC9315	A25
DNMG110408FN KT315	A25
DNMG110408FP KC5010	A25
DNMG110408FP KC8050	H7
DNMG110408FP KC9225	A24-25
DNMG110408FP KT315	A25
DNMG110408FW KC5010	A25
DNMG110408FW KC9105	A25
DNMG110408FW KC9110	A24-25
DNMG110408FW KC9225	A25
DNMG110408FW KC9315	A25
DNMG110408FW KT315	A25
DNMG110408MG KC935	H8
DNMG110408MN KC8050	H8
DNMG110408MN KC9105	A27
DNMG110408MN KC9110	A27
DNMG110408MN KC9125	A26-27
DNMG110408MN KC9140	A27
DNMG110408MP KC5010	A27
DNMG110408MP KC8050	H8
DNMG110408MP KC9225	A26-27
DNMG110408MS K313	A26-27
DNMG110408MS KC5510	A27
DNMG110408MS KC5525	A27
DNMG110408P KC935	H8
DNMG110408RP KC5010	A29
DNMG110408RP KC5510	A28-29
DNMG110408RP KC5525	A29
DNMG110408RP KC9110	A29
DNMG110408RP KC9125	A29
DNMG110408RP KC9225	A29
DNMG110408RP KC9315	A29
DNMG110408RP KC9325	A29
DNMG110408UN KC9315	A29
DNMG110408UN KC9320	A28-29
DNMG110408UN KC9325	A29
DNMG110408UP KC5010	A30-31
DNMG110408UP KC9225	A31
DNMG110412B KC850	H7
DNMG110412FN KC9110	A24-25
DNMG110412FN KC9125	A25
DNMG110412FN KT315	A25
DNMG110412MN KC9110	A26-27
DNMG110412MN KC9125	A27
DNMG110412MN KC9140	A27
DNMG110412MP KC5010	A27
DNMG110412MP KC9225	A26-27
DNMG110412RP KC9110	A29
DNMG110412RP KC9125	A28-29
DNMG110412UN KC9315	A28-29
DNMG110412UN KC9320	A29
DNMG110412UN KC9325	A29
DNMG110412UP KC5010	A30-31
DNMG110412UP KC9225	A31
DNMG150401MS KC5510	A26-27
DNMG150402FH KT1120	A24-25
DNMG150402FH KT5020	A25
DNMG150402MS KC5510	A27
DNMG150402MS KC5525	A26-27
DNMG150404 KC850	H7
DNMG150404B KC850	H7
DNMG150404B KC935	H7
DNMG150404CT KC5010	A23
DNMG150404CT KC9110	A22-23
DNMG150404CT KC9125	A23
DNMG150404CT KC9225	A23
DNMG150404FF KC5010	A22-23
DNMG150404FF KC9110	A23
DNMG150404FF KC9225	A23
DNMG150404FF KT315	A23
DNMG150404FH KT1120	A24-25
DNMG150404FH KT5020	A25
DNMG150404FN KC9105	A25
DNMG150404FN KC9110	A25
DNMG150404FN KC9125	A25
DNMG150404FN KC9315	A24-25
DNMG150404FN KT315	A25
DNMG150404FP KC5010	A25
DNMG150404FP KC8050	H7
DNMG150404FP KC9225	A24-25
DNMG150404FP KT315	A25
DNMG150404FW KC5010	A24-25
DNMG150404FW KC9105	A25
DNMG150404FW KC9110	A25
DNMG150404FW KC9225	A25
DNMG150404FW KC9315	A25
DNMG150404FW KT315	A25
DNMG150404FX KT5020	A24-25
DNMG150404K KC730	H7
DNMG150404K KC850	H7
DNMG150404K KC935	H7
DNMG150404LF KC730	H7
DNMG150404LF KC935	H7
DNMG150404MG KC935	H8
DNMG150404MH KT1120	A25
DNMG150404MH KT5020	A24-25
DNMG150404MN KC8050	H8
DNMG150404MN KC9110	A27
DNMG150404MN KC9125	A26-27
DNMG150404MN KC9140	A27
DNMG150404MP KC5010	A26-27
DNMG150404MP KC8050	H8
DNMG150404MP KC9225	A27
DNMG150404MP KC9245	A27
DNMG150404MS K313	A27
DNMG150404MS KC5510	A27
DNMG150404MS KC5525	A26-27
DNMG150404MS1 KC9210	A27
DNMG150404MS1 KC9230	A26-27
DNMG150404MU1 KC9210	A26-27
DNMG150404MU1 KC9230	A27
DNMG150404MX KT1120	A29
DNMG150404MX KT5020	A28-29
DNMG150404P KC5010	A29
DNMG150404P KC730	H8
DNMG150404P KC850	H8
DNMG150404P KC9225	A28-29
DNMG150404P KC935	H8
DNMG150404UP KC5010	A31
DNMG150404UP KC9225	A30-31
DNMG150408 KC850	H7
DNMG150408B KC730	H7
DNMG150408B KC810	H7
DNMG150408B KC850	H7
DNMG150408B KC935	H7
DNMG150408CT KC5010	A23
DNMG150408CT KC9110	A23
DNMG150408CT KC9125	A23
DNMG150408CT KC9225	A23
DNMG150408CT KC9315	A22-23
DNMG150408FF KC5010	A23
DNMG150408FF KC9105	A23
DNMG150408FF KC9110	A23
DNMG150408FF KC9225	A22-23
DNMG150408FF KT315	A23
DNMG150408FH KT1120	A25
DNMG150408FH KT5020	A24-25
DNMG150408FN KC9105	A25
DNMG150408FN KC9110	A24-25
DNMG150408FN KC9125	A25
DNMG150408FN KC9315	A25
DNMG150408FN KT315	A25
DNMG150408FP KC5010	A25
DNMG150408FP KC8050	H7
DNMG150408FP KC9225	A25
DNMG150408FP KT315	A24-25
DNMG150408FW KC5010	A25
DNMG150408FW KC9105	A25
DNMG150408FW KC9110	A24-25
DNMG150408FW KC9225	A25
DNMG150408FW KC9315	A25
DNMG150408FW KT315	A25
DNMG150408FX KT5020	A24-25
DNMG150408K KC730	H7
DNMG150408K KC850	H7
DNMG150408K KC935	H7
DNMG150408LF KC730	H7
DNMG150408LF KC935	H7
DNMG150408MG KC850	H8
DNMG150408MG KC935	H8
DNMG150408MH KT1120	A24-25
DNMG150408MH KT5020	A25
DNMG150408MN KC8050	H8
DNMG150408MN KC9105	A26-27
DNMG150408MN KC9110	A27
DNMG150408MN KC9125	A27
DNMG150408MN KC9140	A27
DNMG150408MP KC5010	A27
DNMG150408MP KC8050	H8
DNMG150408MP KC9225	A26-27
DNMG150408MP KC9245	A27
DNMG150408MS K313	A26-27
DNMG150408MS KC5510	A27
DNMG150408MS KC5525	A27
DNMG150408MS1 KC9210	A27
DNMG150408MS1 KC9230	A26-27
DNMG150408MU1 KC9210	A26-27
DNMG150408MU1 KC9230	A27
DNMG150408MW KC8050	H8
DNMG150408MW KC9105	A29
DNMG150408MW KC9110	A29
DNMG150408MW KC9125	A29
DNMG150408MW KC9225	A28-29
DNMG150408MW KC9315	A29
DNMG150408MW KC9325	A29
DNMG150408MX KT1120	A28-29
DNMG150408MX KT5020	A29
DNMG150408P K313	A28-29
DNMG150408P KC5010	A29
DNMG150408P KC730	H8
DNMG150408P KC850	H8
DNMG150408P KC9140	A29
DNMG150408P KC9225	A29
DNMG150408P KC935	H8
DNMG150408RN KC8050	H8
DNMG150408RN KC9105	A29
DNMG150408RN KC9110	A28-29
DNMG150408RN KC9125	A29
DNMG150408RN KC9140	A29
DNMG150408RP KC5010	A29
DNMG150408RP KC5510	A29
DNMG150408RP KC5525	A29
DNMG150408RP KC9105	A29
DNMG150408RP KC9110	A29
DNMG150408RP KC9125	A29
DNMG150408RP KC9140	A29
DNMG150408RP KC9225	A29
DNMG150408RP KC9245	A29
DNMG150408RP KC9315	A29
DNMG150408RP KC9320	A28-29
DNMG150408UN KC9315	A29
DNMG150408UN KC9320	A28-29
DNMG150408UN KC9325	A29
DNMG150408UP KC5010	A30-31
DNMG150408UP KC9225	A31
DNMG150412B KC850	H7
DNMG150412B KC935	H7
DNMG150412CT KC5010	A23
DNMG150412CT KC9110	A23
DNMG150412CT KC9125	A23
DNMG150412CT KC9225	A23
DNMG150412CT KC9315	A22-23
DNMG150412FN KC9105	A24-25
DNMG150412FN KC9110	A25
DNMG150412FN KC9125	A25
DNMG150412FN KC9315	A25
DNMG150412FN KT315	A25
DNMG150412FP KC5010	A25
DNMG150412FP KC9225	A25
DNMG150412FP KT315	A24-25
DNMG150412K KC935	H7
DNMG150412MG KC935	H8
DNMG150412MN KC8050	H8
DNMG150412MN KC9105	A27

Catalog No.	Page(s)
DNMG150412MN KC9110	A26-27
DNMG150412MN KC9125	A27
DNMG150412MN KC9140	A27
DNMG150412MP KC5010	A26-27
DNMG150412MP KC9225	A27
DNMG150412MP KC9245	A27
DNMG150412MS KC5510	A26-27
DNMG150412MS KC5525	A27
DNMG150412MS1 KC9210	A27
DNMG150412MS1 KC9230	A26-27
DNMG150412MW KC9105	A29
DNMG150412MW KC9110	A29
DNMG150412MW KC9125	A29
DNMG150412MW KC9325	A28-29
DNMG150412RN KC9105	A29
DNMG150412RN KC9110	A28-29
DNMG150412RN KC9125	A29
DNMG150412RN KC9140	A29
DNMG150412RP KC5010	A29
DNMG150412RP KC5510	A29
DNMG150412RP KC5525	A28-29
DNMG150412RP KC9105	A29
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DNMG150412RP KC9125	A29
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DNMG150412UN KC9315	A29
DNMG150412UN KC9320	A29
DNMG150412UN KC9325	A28-29
DNMG150412UP KC5010	A31
DNMG150412UP KC9225	A30-31
DNMG150416MN KC8050	H8
DNMG150416MN KC9110	A26-27
DNMG150416MN KC9125	A27
DNMG150416MN KC9140	A27
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DNMG150416UN KC9325	A28-29
DNMG150604B KC850	H7
DNMG150604CT KC5010	A22-23
DNMG150604CT KC9110	A23
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DNMG150604CT KC9315	A23
DNMG150604FF KC5010	A23
DNMG150604FF KC9110	A22-23
DNMG150604FF KC9225	A23
DNMG150604FF KT315	A23
DNMG150604FN KC9105	A25
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DNMG150604FN KC9315	A24-25
DNMG150604FN KT315	A25
DNMG150604FP KC5010	A24-25
DNMG150604FP KC8050	H7
DNMG150604FP KC9225	A25
DNMG150604FP KT315	A25
DNMG150604FW KC5010	A25
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DNMG150604FW KC9225	A24-25
DNMG150604FW KC9315	A25
DNMG150604FW KT315	A25
DNMG150604K KC850	H7
DNMG150604MG KC935	H8
DNMG150604MN KC8050	H8
DNMG150604MN KC9110	A27
DNMG150604MN KC9125	A27
DNMG150604MN KC9140	A26-27
DNMG150604MP KC5010	A27
DNMG150604MP KC8050	H8
DNMG150604MP KC9225	A26-27
DNMG150604MP KC9245	A27
DNMG150604MS K313	A27
DNMG150604MS KC5510	A27
DNMG150604MS KC5525	A26-27
DNMG150604MS1 KC9210	A27
DNMG150604MS1 KC9230	A26-27
DNMG150604MU1 KC9210	A26-27
DNMG150604MU1 KC9230	A27
DNMG150604P KC5010	A28-29
DNMG150604P KC850	H8
DNMG150604P KC9225	A29
DNMG150604P KC935	H8
DNMG150604UP KC5010	A31
DNMG150604UP KC9225	A30-31
DNMG150608 KC850	H7
DNMG150608B KC850	H7
DNMG150608B KC935	H7
DNMG150608CT KC5010	A23
DNMG150608CT KC9110	A23
DNMG150608CT KC9125	A23
DNMG150608CT KC9225	A22-23
DNMG150608CT KC9315	A23
DNMG150608FF KC5010	A22-23
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DNMG150608FF KC9225	A23
DNMG150608FF KT315	A23
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DNMG150608FN KC9110	A25
DNMG150608FN KC9125	A25
DNMG150608FN KC9315	A25
DNMG150608FN KT315	A24-25
DNMG150608FP KC5010	A24-25
DNMG150608FP KC9105	A25
DNMG150608FP KC9225	A25
DNMG150608FP KT315	A25
DNMG150608FW KC5010	A25
DNMG150608FW KC9105	A25
DNMG150608FW KC9110	A25
DNMG150608FW KC9225	A24-25
DNMG150608FW KC9315	A25
DNMG150608FW KT315	A25
DNMG150608K KC850	H7
DNMG150608K KC935	H7
DNMG150608MG KC850	H8
DNMG150608MG KC935	H8
DNMG150608MN KC8050	H8
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DNMG150608MN KC9110	A27
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DNMG150608MN KC9140	A26-27
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DNMG150608MP KC8050	H8
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DNMG150608MP KC9245	A26-27
DNMG150608MS K313	A27
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DNMG150608MS KC5525	A26-27
DNMG150608MS1 KC9210	A27
DNMG150608MS1 KC9230	A26-27
DNMG150608MU1 KC9210	A26-27
DNMG150608MU1 KC9230	A27
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DNMG150608P KC850	H8
DNMG150608P KC9225	A29
DNMG150608P KC935	H8
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DNMG150608UN KC9315	A29
DNMG150608UN KC9320	A28-29
DNMG150608UN KC9325	A29
DNMG150608UP KC5010	A31
DNMG150608UP KC9225	A30-31
DNMG150612 KC850	H7
DNMG150612CT KC5010	A23
DNMG150612CT KC9105	A23
DNMG150612CT KC9110	A23
DNMG150612CT KC9125	A23
DNMG150612CT KC9225	A23
DNMG150612CT KC9315	A22-23
DNMG150612FN KC9105	A25
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DNMG150612FN KC9125	A25
DNMG150612FN KC9315	A25
DNMG150612FN KT315	A24-25
DNMG150612FP KC5010	A25
DNMG150612FP KC9225	A25
DNMG150612FP KT315	A24-25
DNMG150612K KC935	H7
DNMG150612MG KC850	H8
DNMG150612MG KC935	H8
DNMG150612MN KC9105	A27
DNMG150612MN KC9110	A27
DNMG150612MN KC9125	A26-27
DNMG150612MN KC9140	A27
DNMG150612MP KC5010	A26-27
DNMG150612MP KC5025	A27
DNMG150612MP KC9225	A27
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DNMG150612MS KC5510	A26-27
DNMG150612MS KC5525	A27
DNMG150612MS1 KC9210	A26-27
DNMG150612MS1 KC9230	A27
DNMG150612MW KC9105	A29
DNMG150612MW KC9110	A29
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DNMG150612MW KC9225	A28-29
DNMG150612MW KC9315	A29
DNMG150612MW KC9325	A29
DNMG150612P KC850	H8
DNMG150612P KC9240	A28-29
DNMG150612RN KC9105	A29
DNMG150612RN KC9110	A29
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DNMG150612RN KC9140	A29
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DNMG150612RP KC9245	A28-29
DNMG150612RP KC9315	A29
DNMG150612RP KC9320	A29
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DNMG150612UN KC9315	A28-29
DNMG150612UN KC9320	A29
DNMG150612UN KC9325	A29
DNMG150612UP KC5010	A30-31
DNMG150612UP KC9225	A31
DNMG150616MG KC935	H8
DNMG150616MN KC9110	A27
DNMG150616MN KC9125	A26-27
DNMG150616MN KC9140	A27
DNMG150616RN KC9110	A29
DNMG150616RN KC9125	A29
DNMG150616RN KC9140	A28-29
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DNMG150616RP KC5510	A29
DNMG150616RP KC5525	A29
DNMG150616RP KC9110	A29
DNMG150616RP KC9125	A28-29
DNMG150616RP KC9315	A29
DNMG150616UN KC9315	A29
DNMG150616UN KC9325	A28-29
DNMG190408B KC850	H7
DNMG190608B KC850	H7
DNMG190608K KC935	H7
DNMG190608LF KC935	H7
DNMG190608RN KC8050	H8
DNMG190608RN KC9110	A28-29
DNMG190612 KC850	H7
DNMG190612 KC935	H7
DNMG190612K KC935	H7
DNMG190612MG KC935	H8
DNMG190612MN KC8050	H8
DNMG190612MN KC9110	A26-27
DNMG190612RN KC8050	H8
DNMG190612RN KC9110	A28-29
DNMM150408RM KC8050	H9
DNMM150408RM KC9110	A30-31
DNMM150408RM KC9125	A31
DNMM150412RM KC9110	A31
DNMM150412RM KC9125	A30-31
DNMM150608RM KC8050	H9
DNMM150608RM KC9110	A30-31
DNMM150608RM KC9125	A31
DNMM150608RP KC9110	A31
DNMM150608RP KC9125	A31
DNMM150608RP KC9225	A30-31
DNMM150612MR KC935	H8
DNMM150612RM KC8050	H9
DNMM150612RM KC9110	A31
DNMM150612RM KC9125	A30-31
DNMM150612RP KC9110	A31
DNMM150612RP KC9125	A31
DNMM150612RP KC9225	A30-31
DNMM150616RM KC9110	A30-31
DNMM150616RM KC9125	A31
DNMM150616RP KC9110	A31
DNMM150616RP KC9125	A30-31
DNMN110308S02020 KB9640	A76-77
DNMN110312S02020 KB9640	A76-77
DNMN110316S02020 KB9640	A76-77
DNMP110404K KC730	H9
DNMP110404K KC850	H9
DNMP110404K KC9110	A30-31
DNMP110404K KC9125	A31
DNMP110408K KC730	H9
DNMP110408K KC9110	A31
DNMP110408K KC9125	A30-31
DNMP110408K KC935	H9
DNMP150404 KC730	H9
DNMP150404 KC810	H9
DNMP150404 KC850	H9
DNMP150404 KC935	H9
DNMP150404K K68	A31
DNMP150404K KC810	H9
DNMP150404K KC9110	A30-31
DNMP150404K KC9125	A31
DNMP150404K KC935	H9
DNMP150408 KC730	H9
DNMP150408 KC810	H9
DNMP150408 KC850	H9
DNMP150408 KC935	H9
DNMP150408K K68	A30-31
DNMP150408K KC810	H9
DNMP150408K KC850	H9
DNMP150408K KC9110	A31
DNMP150408K KC9125	A31
DNMP150408K KC9140	A31
DNMP150408K KC935	H9
DNMP150412K KC9110	A30-31
DNMP150412K KC9125	A31
DNMP150412K KC935	H9
DNMP150604K KC810	H9
DNMP150604K KC9110	A31
DNMP150604K KC9125	A30-31
DNMP150608K KC850	H9

Catalog No.	Page(s)
DNMP150608K KC9110	A31
DNMP150608K KC9125	A30-31
DNMP150608K KC935	H9
DNMP150612 KC850	H9
DNMP150612K KC9110	A31
DNMP150612K KC9125	A30-31
DNMP190608 KC850	H9
DNMP190608K K313	A30-31
DNMS150404FST KD1400	A19
DNMS150404FST KD1425	A18-19
DNMS150408 K68	A31
DNMS150408 KC5410	A30-31
DNMS150408 KC730	H9
DNMS150408 KC810	H9
DNMS150408 KC850	H9
DNMS150408E KD1405	A18-19
DNMS150408FST KD1400	A19
DNMS150408FST KD1425	A18-19
DNMS190608 KC5410	A30-31
DNMS190608 KC730	H9
DNMS190608 KC850	H9
DNMX150712T02020 KY3500	A78-79
DNMX150716T02020 KY3500	A78-79
DPGT070201LF KC5010	A115
DPGT070201LF KC5025	A114-115
DPGT070201LF KC5410	A115
DPGT070201LF KC730	H28
DPGT070201LF KT315	A115
DPGT070202HP K313	A115
DPGT070202HP KC5010	A115
DPGT070202HP KC5025	A114-115
DPGT070202HP KC5410	A115
DPGT070202HP KC730	H28
DPGT070202LF KC5010	A115
DPGT070202LF KC5025	A114-115
DPGT070202LF KC5410	A115
DPGT070202LF KC730	H28
DPGT070204HP K313	A115
DPGT070204HP KC5010	A114-115
DPGT070204HP KC5025	A115
DPGT070204HP KC5410	A115
DPGT070204HP KC730	H28
DPGT070204LF KC5010	A115
DPGT070204LF KC5025	A114-115
DPGT070204LF KC5410	A115
DPGT070204LF KC730	H28
DPGT070204LF KT315	A115
DPGT070208HP KC5010	A114-115
DPGT070208HP KC5025	A115
DPGT070208HP KC5410	A115
DPGT11T301LF KC5010	A114-115
DPGT11T301LF KC5025	A115
DPGT11T301LF KC5410	A115
DPGT11T301LF KC730	H28
DPGT11T301LF KT315	A115
DPGT11T302LF KC5010	A115
DPGT11T302LF KC5025	A114-115
DPGT11T302LF KC5410	A115
DPGT11T302LF KC730	H28
DPGT11T302LF KT315	A115
DPGT11T304HP K313	A115
DPGT11T304HP KC5010	A114-115
DPGT11T304HP KC5025	A115
DPGT11T304HP KC5410	A115
DPGT11T304HP KC730	H28
DPGT11T304LF KC5010	A115
DPGT11T304LF KC5025	A115
DPGT11T304LF KC5410	A115
DPGT11T304LF KC730	H28
DPGT11T304LF KT315	A114-115
DPGT11T308HP K313	A115
DPGT11T308HP KC5010	A115
DPGT11T308HP KC5025	A114-115
DPGT11T308HP KC5410	A115
DPGT11T308HP KC730	H28
DPGT11T308LF KC5010	A115
DPGT11T308LF KC5025	A115
DPGT11T308LF KC5410	A114-115
DPGT11T308LF KC730	H28
DPGT11T308LF KT315	A115
DPGW070202E KD1405	A112-113
DPGW070202EM KB5625	A112-113
DPGW070202EM KB9610	A113
DPGW070202FST KD1400	A113
DPGW070202FST KD1425	A112-113
DPGW070202S01015C KB9610	A112-113
DPGW070204EM KB9610	A112-113
DPGW070204FST KD1400	A113
DPGW070204FST KD1425	A112-113
DPGW070204FWST KD1400	A110-111
DPGW070204FWST KD1425	A111
DPGW070204S01015C KB9610	A112-113
DPGW070204S01015FWM KB9610	A110-111
DPGW070204S01015M KB5625	A112-113
DPGW070204S01015M KB9610	A113
DPGW070208S01015M KB5625	A112-113
DPGW11T304E KD1405	A112-113
DPGW11T304EFWMT KB9610	A110-111
DPGW11T304EMT KB9610	A112-113
DPGW11T304FST KD1400	A113
DPGW11T304FST KD1425	A112-113
DPGW11T304FWST KD1400	A110-111
DPGW11T304FWST KD1425	A111
DPGW11T304S01015M KB5625	A112-113
DPGW11T304S01015M KD050	H28
DPGW11T304S01015MT KB1610	A113
DPGW11T304S01015MT KB1625	A113
DPGW11T304S01015MT KB1630	A112-113
DPGW11T304S01015MT KB9610	A113
DPGW11T308EMT KB9610	A112-113
DPGW11T308S01015M KB5625	A112-113
DPGW11T308S01015M KD050	H28
DPGW11T308S01015MT KB1610	A113
DPGW11T308S01015MT KB1625	A112-113
DPGW11T308S01015MT KB1630	A113
DPGW11T308S01015MT KB9610	A113
DPMT070202LF KC5010	A116-117
DPMT070202LF KC5025	A117
DPMT070202LF KC730	H28
DPMT070204FW KC5010	A115
DPMT070204FW KC9110	A114-115
DPMT070204FW KC9225	A115
DPMT070204LF KC5010	A117
DPMT070204LF KC5025	A117
DPMT070204LF KC730	H28
DPMT070204LF KC8050	A117
DPMT070204LF KC810	H28
DPMT070204LF KC850	H28
DPMT070204LF KC9110	A117
DPMT070204LF KC9125	A116-117
DPMT070204LF KC9225	A117
DPMT070204LF KC9315	A117
DPMT070204LF KC935	H28
DPMT070204LF KT315	A117
DPMT070204UF KC5010	A117
DPMT070204UF KC9110	A117
DPMT070204UF KC9125	A116-117
DPMT070208FW KC5010	A114-115
DPMT070208FW KC9110	A115
DPMT070208FW KC9225	A115
DPMT070208FW KC9315	A115
DPMT11T302LF KC5010	A117
DPMT11T302LF KC5025	A117
DPMT11T302LF KC730	H28
DPMT11T302LF KT315	A116-117
DPMT11T304LF KC5010	A117
DPMT11T304LF KC5025	A117
DPMT11T304LF KC730	H28
DPMT11T304LF KC8050	A117
DPMT11T304LF KC850	H28
DPMT11T304LF KC9105	A117
DPMT11T304LF KC9110	A117
DPMT11T304LF KC9125	A117
DPMT11T304LF KC9225	A117
DPMT11T304LF KC9315	A117
DPMT11T304LF KC935	H28
DPMT11T304LF KT315	A116-117
DPMT11T304UF KC5010	A116-117
DPMT11T304UF KC9110	A117
DPMT11T304UF KC9125	A117
DPMT11T308FW KC9110	A114-115
DPMT11T308LF KC5010	A116-117
DPMT11T308LF KC5025	A117
DPMT11T308LF KC730	H28
DPMT11T308LF KC850	H28
DPMT11T308LF KC9105	A117
DPMT11T308LF KC9110	A117
DPMT11T308LF KC9125	A117
DPMT11T308LF KC9225	A117
DPMT11T308LF KC9315	A117
DPMT11T308LF KC9320	A117
DPMT11T308LF KC935	H28
DPMT11T308LF KT315	A117
DPMT11T308MF KC9110	A117
DPMT11T308MF KC9125	A117
DPMT11T308MF KC9225	A117
DPMT11T308MF KC9315	A117
DPMT11T308MF KC9320	A117
DPMT11T308MF KC9325	A116-117
DPMT11T308UF KC9110	A117
DPMT11T308UF KC9125	A116-117
DRGNL3225P12KC04	B9
DRGNL3232P15KC06	B9
DRGNL4040S25KC09	B9
DRGNR2525M12KC04	B9
DRGNR3225P12KC04	B9
DRGNR4040S25KC09	B9
DSBNL2525M12KC04	B9
DSBNL2525M15KC06	B9
DSBNL3232P15KC06	B9
DSBNL3232P19KC06	B9
DSBNL4040S25KC09	B9
DSBNR3225P12KC04	B9
DSBNR3232P15KC06	B9
DSBNR3232P19KC06	B9
DSBNR4040S25KC09	B9
DSDNN2020K12KC04	B10
DSDNN2525M12KC04	B10
DSDNN2525M15KC06	B10
DSDNN3225P12KC04	B10
DSDNN3232P19KC06	B10
DSDNN4040S25KC09	B10
DSKNL2525M12KC04	B10
DSKNL3225P12KC04	B10
DSKNL3232P15KC06	B10
DSKNR2020K12KC04	B10
DSKNR2525M12KC04	B10
DSKNR3225P12KC04	B10
DSKNR3232P15KC06	B10
DSKNR3232P19KC06	B10
DSRNL2525M12KC04	B11
DSRNL3232P15KC06	B11
DSRNL4040S25KC09	B11
DSRNR2020K12KC04	B11
DSRNR2525M12KC04	B11
DSRNR3232P15KC06	B11
DSRNR3232P19KC06	B11
DSRNR4040S25KC09	B11
DSSNL2020K12KC04	B11
DSSNL2525M12KC04	B11
DSSNL3225P12KC04	B11
DSSNL3232P15KC06	B11
DSSNL3232P19KC06	B11
DSSNR2020K12KC04	B11
DSSNR2525M12KC04	B11
DSSNR2525M15KC06	B11
DSSNR3225P12KC04	B11
DSSNR3232P15KC06	B11
DSSNR3232P19KC06	B11
DTFNL2020K16KC04	B12
DTFNL2525M16KC04	B12
DTFNL2525M22KC04	B12
DTFNL3225P16KC04	B12
DTFNL3232P27KC06	B12
DTFNR2020K16KC04	B12
DTFNR2525M16KC04	B12
DTFNR2525M22KC04	B12
DTFNR3232P27KC06	B12
DTGNL2020K16KC04	B12
DTGNL2525M16KC04	B12
DTGNR2020K16KC04	B12
DTGNR2525M16KC04	B12
DTGNR2525M22KC04	B12
DTGNR3225P16KC04	B12
DVJNL2020K16KC04	B13
DVJNL2525M16KC04	B13
DVJNL2525M22KC04	B13
DVJNL3225P16KC04	B13
DVJNL3225P22KC04	B13
DVJNR2020K16KC04	B13
DVJNR2525M16KC04	B13
DVJNR2525M22KC04	B13
DVJNR3225P16KC04	B13
DVJNR3225P22KC04	B13
DVONL2020K16KC04	B13
DVONL2525M16KC04	B13
DVONL3225P16KC04	B13
DVONR2020K16KC04	B13
DVONR2525M16KC04	B13
DVONR3225P16KC04	B13
DVVNN2020K16KC04	B14
DVVNN2525M16KC04	B14
DVVNN2525M22KC04	B14
DVVNN3225P16KC04	B14
DVVNN3225P22KC04	B14
DWLNL2020K06KC04	B14
DWLNL2020K08KC04	B14
DWLNL2525M06KC04	B14
DWLNL2525M08KC04	B14
DWLNL3225P08KC04	B14
DWLNL3232P08KC04	B14
DWLNR2020K06KC04	B14
DWLNR2020K08KC04	B14
DWLNR2525M06KC04	B14
DWLNR2525M08KC04	B14
DWLNR3225P08KC04	B14
DWLNR3232P08KC04	B14
E0412DSCLDRS422	B91
E0412XSCLDRS447	B91
E0416KSCLDRS447	B91
E04HSCLDLS4	B90
E04HSCLDRS4	B90
E04MSCLDLS4	B90
E04MSCLDRS4	B90
E0512XSCFDRS425	B87
E0512XSCFDRS450	B87
E0512XSCLDRS425	B91
E05HSCFDRS4	B86
E05HSCLDLS4	B90
E05HSCLDRS4	B90
E05MSCLDLS4	B90
E05MSCLDRS4	B90
E0612ESCLDRS431	B91
E0612ESTLDR0731	B100
E0612HSCLDRS463	B91
E0616HSCLDRS431	B91
E0616XSCFDRS463	B87
E0616XSCLDRS463	B91
E0616XSTLDR0731	B100
E06HCBFPL05	F25
E06HCBFPR03	F25
E06HCBFPR05	F25
E06HCBLPL03	F26
E06HCBLPL05	F26
E06HCBLPR03	F26
E06HCBLPR05	F26
E06HSCFDRS4	B86
E06HSCLDLS4	B90
E06HSCLDRS4	B90
E06MSCLDLS4	B90
E06MSCLDRS4	B90
E06MSTLDL07	B99
E06MSTLDR07	B99
E06MSWUPLS3	B102
E06MSWUPRS3	B102
E08KCBFPR05	F25
E08KCBLPL05	F26
E08KCBLPR05	F26
E08KSCFPL06A	B88
E08KSCFPR06A	B88
E08KSCLPL06A	B92
E08KSCLPR06A	B92
E08KSTFPL09A KWH	B98
E08KSTFPR09A	B98

Index by Catalog Number

Catalog No.	Page(s)
E08MSCLDLS4	B90
E08MSCLDRS4	B90
E08MSTLDL07	B99
E08MSTLDR07	B99
E08MSWUPLS3	B102
E08MSWUPRS3	B102
E0812XSTLDR0738	B100
E10MCBFPR05	F25
E10MCBLPL05	F26
E10MCBLPR05	F26
E10MSCFPL06A	B88
E10MSCFPR06A	B88
E10MSCLPL06A	B92
E10MSCLPR06A	B92
E10MSTFPL11A	B98
E10MSTFPR11A	B98
E10SSWUPR04	B102
E12QCBLPR08	F26
E12QNKLCL11 KWH	F14
E12QNKLCR11 KWH	F14
E12QSCFPL06	B88
E12QSCFPR06	B88
E12QSCLPL06	B92
E12QSCLPR06 KWH	B92
E12QSDUPL07	B95
E12QSDUPR07	B95
E12QSTFPL11	B98
E12QSTFPR11	B98
E12SSWUPR04	B102
E16RCSKPL09	B84
E16RCSKPR09	B84
E16RCTUPL11	B85
E16RCTUPR11	B85
E16RLSER16 KWH	E57
E16RNKLCL11 KWH	F14
E16RNKLCR11 KWH	F14
E16RNNTOL2 KWH	D124, E23
E16RNNTOR2 KWH	D124, E23
E16RSCLPL09 KWH	B92
E16RSCLPR09	B92
E16RSDUPL07	B95
E16RSDUPR07	B95
E16RSTFPL11	B98
E16RSTFPR11	B98
E20SLSER16 KWH	E57
E20SNKLCL11 KWH	F14
E20SNKLCR11 KWH	F14
E20SNNTOL2 KWH	D124, E23
E20SNNTOR2 KWH	D124, E23
E20SSCLPL09	B92
E20SSCLPR09	B92
E20SSDUPL11	B95
E20SSDUPR11	B95
E20SSTFPL16	B98
E20SSTFPR16	B98
E25TLSER16 KWH	E57
E25TNNTOL3 KWH	D124, E23
E25TNNTOR3 KWH	D124, E23
ENGN130412T02020 KY3500	A78-79
ENGN130704T02020 KY1615	A78-79
ENGN130708T02020 KY1615	A78-79
ENGN130712T01020 KY4300	A78-79
ENGN130712T02020 KY1615	A78-79
ENGN130712T02020 KY3500	A79
ENGN130716T02020 KY1615	A79
ENGN130716T02020 KY3500	A78-79
ENGX130708T02020 KY1615	A78-79
ENGX130712T02020 KY1615	A78-79
ENGX130716T02020 KY1320	A79
ENGX130716T02020 KY3500	A78-79
ENMN130712T02020 KY3500	A78-79
ENMN130716T02020 KY3500	A78-79
ENMX130712T02020 KY3500	A78-79
ENMX130716T02020 KY3500	A78-79
FFFEW210430L KC5410	A116-117
FFEW533L KC5410	A116-117
FFEW533R KC5410	A116-117
FFEW533R KC730	H28
FFEW533R KD100	H28
GC4125 K68	H44
GC4125 KC730	H44
GC4125 KC850	H44
GC4125 KC935	H44
GC4125 KD100	H44
GC4125 KD120	H44
GC4125K KC730	H44
GC4125K KC850	H44
GC4125K KC935	H44
GC4156 KC730	H44
GC4156 KC935	H44
GC4187 K68	H44
GC4187 KC730	H44
GC4187 KC850	H44
GC4187 KC935	H44
GC4187 KD100	H44
GC4187 KD120	H44
GC4187K KC730	H44
GC4187K KC850	H44
GC4187K KC935	H44
GC4250 K68	H44
GC4250 KC730	H44
GC4250 KC850	H44
GC4250 KC935	H44
GC4250 KD100	H44
GC4250 KD120	H44
GC4250K KC730	H44
GC4250K KC850	H44
GC4250K KC935	H44
GC4312 K68	H44
GC4312 KC730	H44
GC4312K KC935	H44
GC4375 K68	H44
GC4375 KC730	H44
GC4375 KC850	H44
GC4375K KC730	H44
GC4375K KC850	H44
GC4375K KC935	H44
GC6187 K68	H44
GC6187 KC850	H44
GC6250 K68	H44
GC6250 KC850	H44
GC6312 KC730	H44
GC9125A KC730	H44
GC9187A KC730	H44
GC9250A KC730	H44
GC9250B KC730	H44
GCP4125 KC730	H44
GCP4187 KC730	H44
GR4125 KC730	H44
GR4187 KC730	H44
GR4250 KC730	H44
GR9125A KC730	H44
GR9187A KC730	H44
GR9250B KC730	H44
GRP4125 KC730	H44
GRP4187 KC730	H44
GRP4250 KC730	H44
GS1884 KC722	H45
GS24L KC720	H45
GS24L KC722	H45
GS24L KC935	H45
GS24N KC720	H45
GS24N KC722	H45
GS24N KC935	H45
GS24R KC720	H45
GS24R KC722	H45
GS24R KC935	H45
GS24R12 KC722	H45
GS24R18 KC722	H45
GS32L KC720	H45
GS32L KC722	H45
GS32L KC935	H45
GS32L12 KC722	H45
GS32N KC720	H45
GS32N KC722	H45
GS32N KC935	H45
GS32R KC720	H45
GS32R KC722	H45
GS32R KC935	H45
GS32R12 KC720	H45
GS32R12 KC722	H45
GS32R18 KC722	H45
GS40N KC722	H45
GS40N KC935	H45
GS40R KC722	H45
GS48L KC720	H45
GS48N KC720	H45
GS48N KC722	H45
GS48N KC935	H45
GS48R KC720	H45
GS48R KC935	H45
GS64N KC720	H45
H25MCLNL12	B106
H25MCLNR12	B106
H25MDPNL11	B106
H25MDPNR11	B106
H25NKLCL11	F18
H25NKLCR11	F18
H25SCLCL09	B110
H25SCLCL12	B110
H25SCLCR09	B110
H25SCLCR12	B110
H25SDUCL11	B110
H25SDUCR11	B110
H25SVUBL11	B111
H25SVUBR11	B111
H32MCLNL12	B106
H32MCLNR12	B106
H32MDPNL15	B106
H32MDPNR15	B106
H32MVUNL16	B107
H32MVUNR16	B107
H32NKLNL15	F18
H32NKLNR15	F18
H32NNTOL3	D124, E23
H32NNTOR3	D124, E23
H32PCLNL12	B108
H32PCLNR12	B108
H32PDUNL15	B108
H32PDUNR15	B108
H32PTFNL16	B109
H32PTFNL22	B109
H32PTFNR16	B109
H32PTFNR22	B109
H32SCLCL09	B110
H32SCLCL12	B110
H32SCLCR09	B110
H32SCLCR12	B110
H32SDUCL11	B110
H32SDUCR11	B110
H32SVUBL11	B111
H32SVUBL16	B111
H32SVUBR11	B111
H32SVUBR16	B111
H40LSEL22	E57
H40LSER22	E57
H40MCLNL16	B106
H40MCLNL19	B106
H40MCLNR16	B106
H40MCLNR19	B106
H40MDPNL15	B106
H40MDPNL19	B106
H40MDPNR15	B106
H40MDPNR19	B106
H40MDUNR15	B107
H40MVUNL16	B107
H40MVUNR16	B107
H40NNTOL3	D124, E23
H40NNTOR3	D124, E23
H40PCLNL12	B108
H40PCLNR12	B108
H40PDUNL15	B108
H40PDUNR15	B108
H40PTFNL16	B109
H40PTFNR16	B109
H40SCLCL09	B110
H40SCLCL12	B110
H40SCLCR09	B110
H40SCLCR12	B110
H40SDUCL11	B110
H40SDUCR11	B110
H40SVUBL16	B111
H40SVUBR16	B111
H50LSEL16	E57
H50LSEL22	E57
H50LSER16	E57
H50LSER22	E57
H50MCLNL12	B106
H50MCLNL16	B106
H50MCLNL19	B106
H50MCLNR12	B106
H50MCLNR16	B106
H50MCLNR19	B106
H50MDPNL15	B106
H50MDPNL19	B106
H50MDPNR15	B106
H50MDPNR19	B106
H50MDUNL15	B107
H50MDUNL19	B107
H50MDUNR19	B107
H50MVUNL16	B107
H50MVUNL22	B107
H50MVUNR16	B107
H50MVUNR22	B107
H50PCLNL12	B108
H50PCLNR12	B108
H50PDUNL15	B108
H50PDUNR15	B108
H50PTFNR16	B109
H50SCLCL09	B110
H50SCLCL12	B110
H50SCLCR09	B110
H50SCLCR12	B110
H50SDUCL11	B110
H50SDUCR11	B110
H50SVUBL16	B111
H50SVUBR16	B111
H60NNTOR4	D124, E23
KCGR110304L08 K68	F5
KCGR110304L08 KC5010	F5
KCGR110304L08 KC5025	F5
KCGR110304L08 KC5410	F5
KCGR110304L08 KC730	H33
KCGR110304L08 KC8050	F5
KCGR110304L08 KC850	H33
KCGR110304L08 KC9110	F4-5
KCGR110304L08 KC9125	F5
KCGR110304L08 KC9225	F5
KCGR110304L08 KC935	H33
KCGR110304L08 KD1425	F5
KCGR110304L08 KT315	F5
KCGR110304R08 K68	F5
KCGR110304R08 KC5010	F5
KCGR110304R08 KC5025	F4-5
KCGR110304R08 KC5410	F5
KCGR110304R08 KC730	H33
KCGR110304R08 KC850	H33
KCGR110304R08 KC9110	F5
KCGR110304R08 KC9125	F5
KCGR110304R08 KC9225	F5
KCGR110304R08 KC935	H33
KCGR110304R08 KD1425	F5
KCGR110304R08 KT315	F5
KCGR110308L08 K68	F5
KCGR110308L08 KC5010	F5
KCGR110308L08 KC5025	F5
KCGR110308L08 KC730	H33
KCGR110308L08 KC850	H33
KCGR110308L08 KC9110	F5
KCGR110308L08 KC9125	F5
KCGR110308L08 KC9225	F5
KCGR110308L08 KC935	H33
KCGR110308L08 KD1425	F5
KCGR110308L08 KT315	F4-5
KCGR110308R08 K68	F5
KCGR110308R08 KC5010	F5
KCGR110308R08 KC5025	F5
KCGR110308R08 KC730	H33
KCGR110308R08 KC8050	F5
KCGR110308R08 KC850	H33
KCGR110308R08 KC9110	F5
KCGR110308R08 KC9125	F5
KCGR110308R08 KC9225	F5
KCGR110308R08 KC935	H33
KCGR110308R08 KD1425	F5
KCGR110308R08 KT315	F4-5
KCGX110301L15 K68	F6-7
KCGX110301L15 KC5010	F7

Catalog No.	Page(s)
KCGX110301L15 KC5025	F7
KCGX110301L15 KC730	H33
KCGX110301L15 KC850	H33
KCGX110301L15 KC935	H33
KCGX110301L15 KD1425	F7
KCGX110301L15 KT315	F7
KCGX110301R15 K68	F6-7
KCGX110301R15 KC5010	F7
KCGX110301R15 KC5025	F7
KCGX110301R15 KC730	H33
KCGX110301R15 KC850	H33
KCGX110301R15 KC9110	F7
KCGX110301R15 KC9125	F7
KCGX110301R15 KC935	H33
KCGX110301R15 KD1425	F7
KCGX110301R15 KT315	F7
KCGX110302L15 KC5010	F7
KCGX110302L15 KC5025	F7
KCGX110302L15 KC730	H33
KCGX110302L15 KC9125	F7
KCGX110302L15 KC9225	F7
KCGX110302L15 KD1425	F6-7
KCGX110302L15 KT315	F7
KCGX110302R15 KC5010	F7
KCGX110302R15 KC5025	F6-7
KCGX110302R15 KC5410	F7
KCGX110302R15 KC730	H33
KCGX110302R15 KC935	H33
KCGX110302R15 KD1425	F7
KCGX110302R15 KT315	F7
KCGX110304L15 K68	F7
KCGX110304L15 KC5010	F7
KCGX110304L15 KC5025	F7
KCGX110304L15 KC5410	F7
KCGX110304L15 KC730	H33
KCGX110304L15 KC8050	F7
KCGX110304L15 KC850	H33
KCGX110304L15 KC9110	F7
KCGX110304L15 KC9125	F6-7
KCGX110304L15 KC9225	F7
KCGX110304L15 KC9315	F7
KCGX110304L15 KC935	H33
KCGX110304L15 KD1425	F7
KCGX110304L15 KT315	F7
KCGX110304R15 K68	F6-7
KCGX110304R15 KC5010	F7
KCGX110304R15 KC5025	F7
KCGX110304R15 KC5410	F7
KCGX110304R15 KC730	H33
KCGX110304R15 KC8050	F7
KCGX110304R15 KC850	H33
KCGX110304R15 KC9110	F7
KCGX110304R15 KC9125	F7
KCGX110304R15 KC9225	F7
KCGX110304R15 KC9315	F7
KCGX110304R15 KC935	H33
KCGX110304R15 KD1425	F7
KCGX110304R15 KT315	F7
KCGX110308L15 K68	F6-7
KCGX110308L15 KC5010	F7
KCGX110308L15 KC5025	F7
KCGX110308L15 KC730	H33
KCGX110308L15 KC850	H33
KCGX110308L15 KC9110	F7
KCGX110308L15 KC9125	F7
KCGX110308L15 KC935	H33
KCGX110308R15 K68	F7
KCGX110308R15 KC5010	F7
KCGX110308R15 KC5025	F7
KCGX110308R15 KC730	H33
KCGX110308R15 KC850	H33
KCGX110308R15 KC9125	F7
KCGX110308R15 KC9315	F7
KCGX110308R15 KC935	H33
KCGX110308R15 KT315	F6-7
KCUX110302L15 K68	F7
KCUX110302L15 KC5010	F7
KCUX110302L15 KC8050	F7
KCUX110302L15 KC850	H33
KCUX110302L15 KC9225	F6-7
KCUX110302R15 K68	F7
KCUX110302R15 KC5010	F6-7
KCUX110302R15 KC8050	F7
KCUX110302R15 KC850	H33
KCUX110302R15 KC9225	F7
KCUX110305L15 K68	F7
KCUX110305L15 KC5010	F6-7
KCUX110305L15 KC8050	F7
KCUX110305L15 KC850	H33
KCUX110305L15 KC9225	F7
KCUX110305L15 KC9315	F7
KCUX110305L15 KT315	F7
KCUX110305R15 K68	F7
KCUX110305R15 KC5010	F7
KCUX110305R15 KC850	H33
KCUX110305R15 KC9225	F6-7
KCUX110305R15 KC9315	F7
KCUX110310L15 KC8050	F6-7
KCUX110310R15 KC8050	F6-7
KGMEL2525M50	D49, D87
KGMEL2525M65	D87
KGMEL3232P50	D49, D87
KGMEL3232P65	D87
KGMER2525M50	D49, D87
KGMER2525M65	D87
KGMER3232P50	D49, D87
KGMER3232P65	D87
KGMSL2525M50	D49, D87
KGMSL2525M65	D87
KGMSL3232P50	D49, D87
KGMSL3232P65	D87
KGMSR2525M50	D49, D87
KGMSR2525M65	D87
KGMSR3232P50	D49, D87
KGMSR3232P65	D87
KM25A3SCL031635	D56
KM25A3SCL032645	D56
KM25A3SCL041635	D56
KM25A3SCL042645	D56
KM25A3SCR031635	D56
KM25A3SCR032645	D56
KM25A3SCR041635	D56
KM25A3SCR042645	D56
KM25A3SSL031635	D55
KM25A3SSL041635	D55
KM25A3SSL042645	D55
KM25A3SSL051635	D55
KM25A3SSL052645	D55
KM25A3SSR031635	D55
KM25A3SSR041635	D55
KM25A3SSR042645	D55
KM25A3SSR051635	D55
KM25A3SSR052645	D55
KM25BEL	D24
KM25BER	D24
KM25BSL	D24
KM25BSR	D24
KM25LSEL1630	E59
KM25LSER1630	E59
KM25LSSL1630	E59
KM25LSSL2230	E59
KM25LSSR1630	E59
KM25LSSR2230	E59
KM25MCKNL1230	B156
KM25MCKNR1230	B156
KM25MCLNL1230	B156
KM25MCLNR1230	B156
KM25MCRNR1230	B156
KM25MDJNR1130	B157
KM25MDJNR150430	B157
KM25MDPNN1130	B157
KM25MDQNL150430	B157
KM25MDQNR150430	B157
KM25MRGNL0930	B158
KM25MRGNL1230	B158
KM25MRGNR0930	B158
KM25MRGNR1230	B158
KM25MSDNN1230	B158
KM25MSKNL1230	B158
KM25MSKNR1230	B158
KM25MSRNL1230	B159
KM25MSRNR1230	B159
KM25MSSNL1230	B159
KM25MSSNR1230	B159
KM25MTFNL1630	B159
KM25MTFNL2230	B159
KM25MTFNR1630	B159
KM25MTFNR2230	B159
KM25MTGNL1630	B160
KM25MTGNL2230	B160
KM25MTGNR1630	B160
KM25MTGNR2230	B160
KM25MTJNL1630	B160
KM25MTJNL2230	B160
KM25MTJNR1630	B160
KM25MTJNR2230	B160
KM25MVJNL1630	B160
KM25MVJNR1630	B160
KM25MVUNL1630	B161
KM25MVUNR1630	B161
KM25MVVNN1630	B161
KM25MWLNL0830	B161
KM25MWLNR0830	B161
KM25SCLCL0930	B162
KM25SCLCL1230	B162
KM25SCLCR0930	B162
KM25SCLCR1230	B162
KM25SDJCL1130	B162
KM25SDJCR1130	B162
KM25SDPCN1130	B162
KM25SDQCL1130	B163
KM25SDQCR1130	B163
KM25SDUCL1130	B163
KM25SDUCR1130	B163
KM25SRDCN0830	B163
KM25SRGCL1030	B164
KM25SRGCR1030	B164
KM25SSDCN1230	B164
KM25STFCL1630	B164
KM25STFCR1630	B164
KM25STGCL1630	B165
KM25STGCR1630	B165
KM25STJCL1630	B165
KM25STJCR1630	B165
KM25SVJBL1630	B165
KM25SVJBR1630	B165
KM40CL2ANVDI4060	G12
KM40CL2ANVDI5060	G12
KM40CL2AVVDI4060	G12
KM40CL2AVVDI5060	G12
KM40CL2NSEF	G8
KM40CL2NSS24236	G8
KM40CL2NSS4060	G8
KM40CL2NTEF	G8
KM40CL2RLVDI4040	G11
KM40CL2RLVDI5040	G11
KM40CL2RRVDI4040	G11
KM40CL2RRVDI5040	G11
KM40CL2SL1260B	G7
KM40CL2SL1660C	G7
KM40CL2SL1660D	G7
KM40CL2SL2060D	G7
KM40CL2SL2560M	G7
KM40CL2SL3260P	G7
KM40CL2SR1260B	G7
KM40CL2SR1660C	G7
KM40CL2SR1660D	G7
KM40CL2SR2060D	G7
KM40CL2SR2560M	G7
KM40CL2SR3260P	G7
KM40CLANVDI4070	G13
KM40CLAVVDI4070	G13
KM40CLRLVDI4040	G12
KM40CLRRVDI4040	G12
KM40DCLNL12KC04	B166
KM40DCLNL12KC04	B166
KM40DCLNL16KC06	B166
KM40DCLNL16KC06	B166
KM40DCLNR12KC04	B166
KM40DCLNR12KC04	B166
KM40DCLNR16KC06	B166
KM40DCLNR16KC06	B166
KM40DCRNL12KC04	B166
KM40DCRNR12KC04	B166
KM40DCRNR12KC04	B166
KM40DDJNL15KC04	B167
KM40DDJNL15KC04	B167
KM40DDJNL15KC06	B167
KM40DDJNL15KC06	B167
KM40DDJNR15KC04	B167
KM40DDJNR15KC04	B167
KM40DDJNR15KC06	B167
KM40DDJNR15KC06	B167
KM40DDQNL15KC04	B167
KM40DDQNL15KC04	B167
KM40DDQNL15KC06	B167
KM40DDQNL15KC06	B167
KM40DDQNR15KC04	B167
KM40DDQNR15KC04	B167
KM40DDQNR15KC06	B167
KM40DDQNR15KC06	B167
KM40DDUNL15KC04	B168
KM40DDUNL15KC04	B168
KM40DDUNL15KC06	B168
KM40DDUNL15KC06	B168
KM40DDUNR15KC04	B168
KM40DDUNR15KC04	B168
KM40DDUNR15KC06	B168
KM40DDUNR15KC06	B168
KM40DSDNN12KC04	B168
KM40DSDNN12KC04	B168
KM40DSKNL12KC04	B169
KM40DSKNL12KC04	B169
KM40DSKNR12KC04	B169
KM40DSKNR12KC04	B169
KM40DSRNL12KC04	B169
KM40DSRNL12KC04	B169
KM40DSRNR12KC04	B169
KM40DSRNR12KC04	B169
KM40DSSNL12KC04	B170
KM40DSSNL12KC04	B170
KM40DSSNR12KC04	B170
KM40DSSNR12KC04	B170
KM40DTFNL22KC04	B170
KM40DTFNL22KC04	B170
KM40DTFNR22KC04	B170
KM40DTFNR22KC04	B170
KM40DTGNL22KC04	B171
KM40DTGNL22KC04	B171
KM40DTGNR22KC04	B171
KM40DTGNR22KC04	B171
KM40DTJNL22KC04	B171
KM40DTJNL22KC04	B171
KM40DTJNR22KC04	B171
KM40DTJNR22KC04	B171
KM40DWLNL08KC04	B172
KM40DWLNL08KC04	B172
KM40DWLNR08KC04	B172
KM40DWLNR08KC04	B172
KM40KGMEL50	D51, D91
KM40KGMER50	D51, D91
KM40KGMSL50	D51, D90
KM40KGMSR50	D51, D90
KM40LCMIVDI40120	G10
KM40LCMIVDI4060	G10
KM40LCMIVDI50120	G10
KM40LCMIVDI5060	G10
KM40LCMVDI3035	G9
KM40LCMVDI4040	G9
KM40LCMVDI4060	G9
KM40LCMVDI5040	G9
KM40MCKNL12	B173
KM40MCKNR12	B173
KM40MCLNL12	B173
KM40MCLNL16	B173
KM40MCLNR12	B173
KM40MCLNR16	B173
KM40MCRNL12	B173
KM40MCRNR12	B173
KM40MDJNL1504	B174
KM40MDJNL1506	B174
KM40MDJNR1504	B174
KM40MDJNR1506	B174

Catalog No.	Page(s)
KM40MDPNN1504	B174
KM40MDPNN1506	B174
KM40MDQNL1504	B174
KM40MDQNL1506	B174
KM40MDQNR1504	B174
KM40MDQNR1506	B174
KM40MDUNL1504	B175
KM40MDUNL1506	B175
KM40MDUNR1504	B175
KM40MDUNR1506	B175
KM40MRGNL12	B175
KM40MRGNR12	B175
KM40MSDNN12	B175
KM40MSKNL12	B176
KM40MSKNR12	B176
KM40MSRNL12	B176
KM40MSRNR12	B176
KM40MSRNR15	B176
KM40MSSNL12	B176
KM40MSSNR12	B176
KM40MTFNL16	B177
KM40MTFNR16	B177
KM40MTGNR22	B177
KM40MTJNL16	B177
KM40MTJNL22	B177
KM40MTJNR16	B177
KM40MTJNR22	B177
KM40MTUNL16	B178
KM40MTUNL22	B178
KM40MTUNR16	B178
KM40MVHNL16	B178
KM40MVHNR16	B178
KM40MVJNL16	B178
KM40MVJNR16	B178
KM40MVUNL16	B179
KM40MVUNR16	B179
KM40MVVNN16	B179
KM40MWLNL08	B179
KM40MWLNR08	B179
KM40NCM3228	G5
KM40NCM4028	G5
KM40NCM5044	G5
KM40NCM6444	G5
KM40NCMEF	G6
KM40NCMF	G6
KM40NCMS24	G6
KM40NCMS40S	G6
KM40NCMSS24100	G5
KM40NCMSS28100	G5
KM40NCMSS32100	G5
KM40NCMSS4025	G5
KM40NCMSS5025	G5
KM40PCKNL12	B180
KM40PCKNR12	B180
KM40PCLNL09	B180
KM40PCLNL12	B180
KM40PCLNL122W	B180
KM40PCLNR09	B180
KM40PCLNR12	B180
KM40PCLNR122W	B180
KM40PDJNL11	B181
KM40PDJNL15	B181
KM40PDJNR11	B181
KM40PDJNR15	B181
KM40PDNNL15	B181
KM40PDNNR15	B181
KM40PDQNL11	B181
KM40PDQNR11	B181
KM40PDUNL11	B182
KM40PDUNL15	B182
KM40PDUNR11	B182
KM40PDUNR15	B182
KM40PDXNL15	B182
KM40PDXNR15	B182
KM40PKG3L	G5-6, G9
KM40PKG3S	G5-6, G9-10
KM40PSDNN09	B182
KM40PSDNN12	B182
KM40PSKNL12	B183
KM40PSKNR12	B183
KM40PSRNL12	B183
KM40PSRNR12	B183
KM40PSSNR12	B183
KM40PTFNL16	B184
KM40PTFNR16	B184
KM40PTJNL16	B184
KM40PTJNR16	B184
KM40PWLNL06	B184
KM40PWLNL08	B184
KM40PWLNR06	B184
KM40PWLNR08	B184
KM40RCMIVDI3050	G10
KM40RCMIVDI40120	G10
KM40RCMIVDI4060	G10
KM40RCMIVDI50120	G10
KM40RCMIVDI5060	G10
KM40RCMVDI3035	G9
KM40RCMVDI4040	G9
KM40RCMVDI5040	G9
KM40SCLCL12	B185
KM40SCLCR12	B185
KM40SDJCL11	B185
KM40SDJCL15	B185
KM40SDJCR11	B185
KM40SDNCN15	B185
KM40SDQCL11	B186
KM40SDQCR11	B186
KM40SDQCR15	B186
KM40SDUCL11	B186
KM40SDUCR11	B186
KM40SRDCN06	B186
KM40SRDCN08	B186
KM40SRDCN10	B186
KM40SRGCR10	B187
KM40SRGCR12	B187
KM40SSDCN12	B187
KM40SSSCL12	B187
KM40SSSCR12	B187
KM40STFCL16	B188
KM40STFCR16	B188
KM40STGCL16	B188
KM40STGCR16	B188
KM40XTSKGMSR50	D90
KM50CL2SL1675D	G7
KM50CL2SL2075D	G7
KM50CL2SR1675D	G7
KM50CL2SR2075D	G7
KM50KGMEL50	D51, D91
KM50KGMEL65	D91
KM50KGMER50	D51, D91
KM50KGMER65	D91
KM50KGMSL50	D51, D90
KM50KGMSL65	D90
KM50KGMSR50	D51, D90
KM50KGMSR65	D90
KM63CL2SL2090E	G7
KM63CL2SR2090E	G7
KM63UTKGMEL50	D91
KM63UTKGMEL65	D91
KM63UTKGMER50	D91
KM63UTKGMER65	D91
KM63UTKGMSL50	D51, D90
KM63UTKGMSL65	D90
KM63UTKGMSR50	D51, D90
KM63UTKGMSR65	D90
KM63XMZKGMELF65Y	D91
KM63XMZKGMER65Y	D91
KM63XMZKGMSLF50Y	D52, D90-91
KM63XMZKGMSLF65Y	D90-91
KM63XMZKGMSR50Y	D52, D90-91
KM63XMZKGMSR65Y	D90-91
KM80ATCKGMEL50	D51, D91
KM80ATCKGMEL65	D91
KM80ATCKGMER50	D51, D91
KM80ATCKGMER65	D91
KM80ATCKGMSL50	D90
KM80ATCKGMSL65	D90
KM80ATCKGMSR50	D90
KM80ATCKGMSR65	D90
KNGX150401L15 K68	F4-5
KNGX150401L15 KC5010	F5
KNGX150401R15 K68	F5
KNGX150401R15 KC5010	F4-5
KNGX150401R15 KC730	H33
KNGX150401R15 KC935	H33
KNGX150402R15 KC5010	F4-5
KNGX150404L20 K68	F4-5
KNGX150404L20 KC5010	F5
KNGX150404L20 KC5025	F5
KNGX150404L20 KC730	H33
KNGX150404L20 KC850	H33
KNGX150404L20 KC9125	F5
KNGX150404L20 KC935	H33
KNGX150404R20 K68	F5
KNGX150404R20 KC5010	F5
KNGX150404R20 KC5025	F5
KNGX150404R20 KC730	H33
KNGX150404R20 KC850	H33
KNGX150404R20 KC9110	F4-5
KNGX150404R20 KC9125	F5
KNGX150404R20 KC935	H33
KNGX150408L20 K68	F5
KNGX150408L20 KC5010	F5
KNGX150408L20 KC5025	F5
KNGX150408L20 KC850	H33
KNGX150408L20 KC9110	F4-5
KNGX150408L20 KC9125	F5
KNGX150408L20 KC935	H33
KNGX150408L25 K68	F5
KNGX150408L25 KC850	H33
KNGX150408L25 KC9125	F4-5
KNGX150408R20 K68	F4-5
KNGX150408R20 KC5010	F5
KNGX150408R20 KC5025	F5
KNGX150408R20 KC850	H33
KNGX150408R20 KC9110	F5
KNGX150408R20 KC9125	F5
KNGX150408R20 KC935	H33
KNGX150408R25 K68	F4-5
KNGX150408R25 KC850	H33
KNGX150408R25 KC935	H33
KNGX220404L25 KC5010	F5
KNGX220404L25 KC5025	F4-5
KNGX220404R25 KC5025	F4-5
KNGX220404R25 KC9125	F5
KNGX220404R25 KC935	H33
KNGX220408L20 KC5010	F4-5
KNGX220408L25 KC5010	F4-5
KNGX220408L25 KC850	H33
KNGX220408L25 KC9125	F5
KNGX220408L32 K68	F5
KNGX220408L32 KC850	H33
KNGX220408L32 KC9110	F5
KNGX220408L32 KC9125	F4-5
KNGX220408R20 KC850	H33
KNGX220408R20 KC9110	F4-5
KNGX220408R20 KC935	H33
KNGX220408R25 KC9125	F4-5
KNGX220408R32 K68	F5
KNGX220408R32 KC5010	F5
KNGX220408R32 KC850	H33
KNGX220408R32 KC9125	F4-5
KNGX220408R32 KC935	H33
KNUX150405L20 K68	F4-5
KNUX150405L20 KC850	H33
KNUX150405L20 KC9225	F5
KNUX150405L25 K68	F5
KNUX150405L25 KC5010	F4-5
KNUX150405L25 KC850	H33
KNUX150405R20 K68	F5
KNUX150405R20 KC5010	F4-5
KNUX150405R20 KC8050	F5
KNUX150405R20 KC850	H33
KNUX150405R20 KC9225	F5
KNUX150405R20 KC9315	F5
KNUX150405R25 K68	F5
KNUX150405R25 KC5010	F4-5
KNUX150405R25 KC850	H33
KNUX150405R25 KC9315	F5
KNUX150410L25 K68	F5
KNUX150410L25 KC5010	F5
KNUX150410L25 KC850	H33
KNUX150410L25 KC9315	F4-5
KNUX150410R25 K68	F4-5
KNUX150410R25 KC5010	F5
KNUX150410R25 KC850	H33
KNUX220405R25 K68	F4-5
KNUX220410R25 K68	F4-5
L08KSCLPL06	B92
L08KSCLPR06	B92
L08KSTFPL09	B99
L08KSTFPR09	B99
L10MSCLPL06	B92
L10MSCLPR06	B92
L10MSTFPL11	B99
L10MSTFPR11	B99
L12QSCLPL06	B92
L12QSCLPR06	B92
L12QSDUPL07	B95
L12QSDUPR07	B95
L12QSTFPL11	B99
L12QSTFPR11	B99
L16RSCLPL09	B92
L16RSCLPR09	B92
L16RSDUPL07	B95
L16RSDUPR07	B95
L16RSTFPL11	B99
L16RSTFPR11	B99
L20SSCLPL09	B92
L20SSCLPR09	B92
L20SSDUPL11	B95
L20SSDUPR11	B95
L20SSTFPL16	B99
L20SSTFPR16	B99
LSASL1212N16	E53
LSASL1616H16	E53
LSASL2020K16	E53
LSASL2525M16	E53
LSASL2525M22	E53
LSASR1212N16	E53
LSASR1616H16	E53
LSASR2020K16	E53
LSASR2525M16	E53
LSASR2525M22	E53
LSASR3232P16	E53
LSASR3232P22	E53
LSSL2020K16Q	E53
LSSL2525M16Q	E53
LSSL2525M22Q	E53
LSSL3232P16Q	E53
LSSLDH2525M16	E54
LSSLDH2525M22Q	E54
LSSR2020K16Q	E53
LSSR2525M16Q	E53
LSSR2525M22Q	E53
LSSR3232P16Q	E53
LSSR3232P22Q	E53
LSSRDH2020K16Q	E54
LSSRDH2525M16	E54
LSSRDH2525M22Q	E54
LSSRDH3232P16	E54
LSSRDH3232P22	E54
LT11NL075ISO KC5025	E37
LT11NL10ISO KC5025	E37
LT11NL15ISO KC5025	E37
LT11NL16UN KC5025	E40
LT11NL32UN KC5025	E40
LT11NLA60 KC5025	E34
LT11NR05ISO KC5025	E37
LT11NR075ISO KC5025	E37
LT11NR075ISOCB KC5025	E38
LT11NR10ISO KC5025	E37
LT11NR10ISO KC730	H46
LT11NR10ISOCB KC5025	E38
LT11NR10ISOK KU25T	E38
LT11NR125ISO KC5025	E37
LT11NR125ISOK KU25T	E38
LT11NR14BSPT KC5025	E45
LT11NR14NPT KC5010	E43
LT11NR14NPT KC5025	E43
LT11NR14NPTF KC5025	E44
LT11NR14UNJ KC5025	E41
LT11NR14W KC5025	E46
LT11NR15ISO KC5010	E37

Catalog No.	Page(s)
LT11NR15ISO KC5025	E37
LT11NR15ISO KC730	H46
LT11NR15ISOCB KC5025	E38
LT11NR16UN KC5010	E40
LT11NR16UN KC5025	E40
LT11NR16UNCB KC5025	E42
LT11NR16UNJ KC5025	E41
LT11NR175ISO KC5025	E37
LT11NR18NPT KC5025	E43
LT11NR18UN KC5025	E40
LT11NR18UNCB KC5025	E42
LT11NR18UNJ KC5025	E41
LT11NR19W KC5025	E46
LT11NR20ISO KC5025	E37
LT11NR20UN KC5025	E40
LT11NR20UNCB KC5025	E42
LT11NR24UN KC5025	E40
LT11NR24UNCB KC5025	E42
LT11NR28UN KC5025	E40
LT11NR32UN KC5025	E40
LT11NR32UNCB KC5025	E42
LT11NR40UN KC5025	E40
LT11NRA55 KC5025	E44
LT11NRA60 KC5010	E34
LT11NRA60 KC5025	E34
LT11NRA60 KC730	H46
LT11NRA60CB KC5025	E35
LT11NRA60K KU25T	E35
LT16EL05ISO KC5025	E36
LT16EL075ISO KC5025	E36
LT16EL10ISO KC5025	E36
LT16EL10UN KC5025	E39
LT16EL11UN KC5025	E39
LT16EL11W KC5025	E46
LT16EL125ISO KC5025	E36
LT16EL12UN KC5025	E39
LT16EL14UN KC5025	E39
LT16EL14W KC5025	E46
LT16EL15ISO KC5010	E36
LT16EL15ISO KC5025	E36
LT16EL16UN KC5025	E39
LT16EL16UNJ KC5025	E41
LT16EL175ISO KC5025	E36
LT16EL18UN KC5025	E39
LT16EL20ISO KC5025	E36
LT16EL20ISO KC730	H46
LT16EL20UN KC5025	E39
LT16EL24UN KC5025	E39
LT16EL25ISO KC5025	E36
LT16EL28UN KC5025	E39
LT16EL30ISO KC5025	E36
LT16EL40UN KC5025	E39
LT16EL8APIRD KC5025	E48
LT16EL8NPT KC5025	E42
LT16EL8UN KC5025	E39
LT16ELA60 KC5025	E34
LT16ELAG55 KC5025	E44
LT16ELAG60 KC5025	E34
LT16ELG60 KC5025	E34
LT16ER05ISO KC5025	E36
LT16ER05ISO KC730	H46
LT16ER05ISOCB KC5010	E37
LT16ER05ISOCB KC5025	E37
LT16ER075ISO KC5025	E36
LT16ER075ISO KC730	H46
LT16ER075ISOCB KC5010	E37
LT16ER075ISOCB KC5025	E37
LT16ER10ACME KC5025	E49
LT16ER10APIRD KC5025	E48
LT16ER10ISO KC5010	E36
LT16ER10ISO KC5025	E36
LT16ER10ISO KC730	H46
LT16ER10ISOCB KC5010	E37
LT16ER10ISOCB KC5025	E37
LT16ER10ISOK KU25T	E38
LT16ER10STACME KC5025	E50
LT16ER10UN KC5025	E39
LT16ER10UN KC730	H47
LT16ER10UNCB KC5010	E40
LT16ER10UNCB KC5025	E40
LT16ER10UNJ KC5025	E41
LT16ER10W KC5025	E46
LT16ER115NPT KC5010	E42
LT16ER115NPT KC5025	E42
LT16ER115NPT KC730	H47
LT16ER115NPTF KC5025	E43
LT16ER115NPTFCB KC5025	E44
LT16ER11BSPT KC5025	E45
LT16ER11W KC5010	E46
LT16ER11W KC5025	E46
LT16ER11WCB KC5025	E46
LT16ER11WK KU25T	E47
LT16ER125ISO KC5010	E36
LT16ER125ISO KC5025	E36
LT16ER125ISOCB KC5010	E37
LT16ER125ISOCB KC5025	E37
LT16ER125ISOK KU25T	E38
LT16ER12ACME KC5025	E49
LT16ER12STACME KC5025	E50
LT16ER12UN KC5010	E39
LT16ER12UN KC5025	E39
LT16ER12UN KC730	H47
LT16ER12UNCB KC5010	E40
LT16ER12UNCB KC5025	E40
LT16ER12UNJ KC5010	E41
LT16ER12UNJ KC5025	E41
LT16ER12UNK KU25T	E42
LT16ER12W KC5025	E46
LT16ER14BSPT KC5025	E45
LT16ER14NPT KC5010	E42
LT16ER14NPT KC5025	E42
LT16ER14NPT KC730	H47
LT16ER14NPTCB KC5010	E43
LT16ER14NPTCB KC5025	E43
LT16ER14NPTF KC5025	E43
LT16ER14UN KC5010	E39
LT16ER14UN KC5025	E39
LT16ER14UN KC730	H47
LT16ER14UNCB KC5010	E40
LT16ER14UNCB KC5025	E40
LT16ER14UNJ KC5010	E41
LT16ER14UNJ KC5025	E41
LT16ER14UNK KU25T	E42
LT16ER14W KC5010	E46
LT16ER14W KC5025	E46
LT16ER14WCB KC5010	E46
LT16ER14WCB KC5025	E46
LT16ER14WK KU25T	E47
LT16ER15ISO KC5010	E36
LT16ER15ISO KC5025	E36
LT16ER15ISO KC730	H46
LT16ER15ISOCB KC5010	E37
LT16ER15ISOCB KC5025	E37
LT16ER15ISOK KU25T	E38
LT16ER16ACME KC5025	E49
LT16ER16STACME KC5025	E50
LT16ER16UN KC5010	E39
LT16ER16UN KC5025	E39
LT16ER16UN KC730	H47
LT16ER16UNCB KC5010	E40
LT16ER16UNCB KC5025	E40
LT16ER16UNJ KC5010	E41
LT16ER16UNJ KC5025	E41
LT16ER16UNK KU25T	E42
LT16ER16W KC5025	E46
LT16ER175ISO KC5010	E36
LT16ER175ISO KC5025	E36
LT16ER175ISOCB KC5010	E37
LT16ER175ISOCB KC5025	E37
LT16ER175ISOK KU25T	E38
LT16ER18NPT KC5010	E42
LT16ER18NPT KC5025	E42
LT16ER18NPT KC730	H47
LT16ER18UN KC5010	E39
LT16ER18UN KC5025	E39
LT16ER18UN KC730	H47
LT16ER18UNCB KC5010	E40
LT16ER18UNCB KC5025	E40
LT16ER18UNJ KC5010	E41
LT16ER18UNJ KC5025	E41
LT16ER18UNK KU25T	E42
LT16ER18W KC5025	E46
LT16ER19W KC5010	E46
LT16ER19W KC5025	E46
LT16ER19WK KU25T	E47
LT16ER20ISO KC5010	E36
LT16ER20ISO KC5025	E36
LT16ER20ISO KC730	H46
LT16ER20ISOCB KC5010	E37
LT16ER20ISOCB KC5025	E37
LT16ER20ISOK KU25T	E38
LT16ER20UN KC5010	E39
LT16ER20UN KC5025	E39
LT16ER20UN KC730	H47
LT16ER20UNCB KC5010	E40
LT16ER20UNCB KC5025	E40
LT16ER20UNJ KC5010	E41
LT16ER20UNJ KC5025	E41
LT16ER20UNK KU25T	E42
LT16ER20W KC5025	E46
LT16ER24UN KC5010	E39
LT16ER24UN KC5025	E39
LT16ER24UNCB KC5010	E40
LT16ER24UNCB KC5025	E40
LT16ER24UNJ KC5025	E41
LT16ER24UNK KU25T	E42
LT16ER25ISO KC5010	E36
LT16ER25ISO KC5025	E36
LT16ER25ISO KC730	H46
LT16ER25ISOCB KC5025	E37
LT16ER25ISOK KU25T	E38
LT16ER27NPT KC5025	E42
LT16ER27NPT KC730	H47
LT16ER28UN KC5010	E39
LT16ER28UN KC5025	E39
LT16ER28UNCB KC5010	E40
LT16ER28UNCB KC5025	E40
LT16ER28UNJ KC5025	E41
LT16ER28W KC5025	E46
LT16ER2TR KC5025	E51
LT16ER30ISO KC5010	E36
LT16ER30ISO KC5025	E36
LT16ER30ISO KC730	H46
LT16ER30ISOCB KC5010	E37
LT16ER30ISOCB KC5025	E37
LT16ER30ISOK KU25T	E38
LT16ER32UN KC5010	E39
LT16ER32UN KC5025	E39
LT16ER32UNCB KC5010	E40
LT16ER32UNCB KC5025	E40
LT16ER32UNJ KC5025	E41
LT16ER36UN KC5025	E39
LT16ER3TR KC5025	E51
LT16ER40UN KC5025	E39
LT16ER48UN KC5025	E39
LT16ER6STACME KC5025	E50
LT16ER8ACME KC5025	E49
LT16ER8APIRD KC5025	E48
LT16ER8NPT KC5025	E42
LT16ER8RD KC5025	E50
LT16ER8STACME KC5025	E50
LT16ER8UN KC5025	E39
LT16ER8UN KC730	H47
LT16ER8UNCB KC5010	E40
LT16ER8UNCB KC5025	E40
LT16ER8UNK KU25T	E42
LT16ER8W KC5025	E46
LT16ER9W KC5025	E46
LT16ERA55 KC5025	E44
LT16ERA60 KC5010	E34
LT16ERA60 KC5025	E34
LT16ERA60 KC730	H46
LT16ERAG55 KC5010	E44
LT16ERAG55 KC5025	E44
LT16ERAG55K KU25T	E45
LT16ERAG60 KC5010	E34
LT16ERAG60 KC5025	E34
LT16ERAG60 KC730	H46
LT16ERAG60CB KC5010	E35
LT16ERAG60CB KC5025	E35
LT16ERAG60K KU25T	E35
LT16ERG55 KC5025	E44
LT16ERG60 KC5010	E34
LT16ERG60 KC5025	E34
LT16ERG60 KC730	H46
LT16ERG60K KU25T	E35
LT16NL10ACME KC5025	E49
LT16NL10ISO KC5025	E37
LT16NL10UN KC5025	E40
LT16NL11W KC5025	E46
LT16NL12UN KC5025	E40
LT16NL14UN KC5025	E40
LT16NL15ISO KC5025	E37
LT16NL16UN KC5025	E40
LT16NL20ISO KC5025	E37
LT16NL30ISO KC5025	E37
LT16NL8NPT KC5025	E43
LT16NL8UN KC5025	E40
LT16NLA60 KC5025	E34
LT16NLAG60 KC5025	E34
LT16NLG55 KC5025	E44
LT16NLG60 KC5025	E34
LT16NR05ISO KC5025	E37
LT16NR075ISO KC5025	E37
LT16NR10ACME KC5025	E49
LT16NR10APIRD KC5025	E48
LT16NR10ISO KC5010	E37
LT16NR10ISO KC5025	E37
LT16NR10ISO KC730	H46
LT16NR10ISOCB KC5025	E38
LT16NR10ISOK KU25T	E38
LT16NR10STACME KC5025	E50
LT16NR10UN KC5025	E40
LT16NR10UN KC730	H47
LT16NR10UNCB KC5025	E42
LT16NR10W KC5025	E46
LT16NR115NPT KC5010	E43
LT16NR115NPT KC5025	E43
LT16NR115NPT KC730	H47
LT16NR115NPTCB KC5025	E43
LT16NR115NPTF KC5025	E44
LT16NR11BSPT KC5025	E45
LT16NR11W KC5010	E46
LT16NR11W KC5025	E46
LT16NR11WCB KC5025	E47
LT16NR11WK KU25T	E47
LT16NR125ISO KC5025	E37
LT16NR12ACME KC5025	E49
LT16NR12STACME KC5025	E50
LT16NR12UN KC5010	E40
LT16NR12UN KC5025	E40
LT16NR12UN KC730	H47
LT16NR12UNCB KC5025	E42
LT16NR12UNJ KC5025	E41
LT16NR12W KC5025	E46
LT16NR14BSPT KC5025	E45
LT16NR14NPT KC5010	E43
LT16NR14NPT KC5025	E43
LT16NR14NPT KC730	H47
LT16NR14NPTCB KC5025	E43
LT16NR14NPTF KC5025	E44
LT16NR14STACME KC5025	E50
LT16NR14UN KC5025	E40
LT16NR14UN KC730	H47
LT16NR14UNCB KC5025	E42
LT16NR14UNJ KC5025	E41
LT16NR14W KC5025	E46
LT16NR14WCB KC5025	E47
LT16NR14WK KU25T	E47
LT16NR15ISO KC5010	E37
LT16NR15ISO KC5025	E37
LT16NR15ISO KC730	H46
LT16NR15ISOCB KC5025	E38
LT16NR15ISOK KU25T	E38
LT16NR16STACME KC5025	E50
LT16NR16UN KC5025	E40
LT16NR16UN KC730	H47
LT16NR16UNCB KC5025	E42
LT16NR16UNJ KC5025	E41
LT16NR16W KC5025	E46
LT16NR175ISO KC5025	E37
LT16NR175ISOK KU25T	E38
LT16NR18UN KC5025	E40
LT16NR18UN KC730	H47

Index by Catalog Number

Catalog No.	Page(s)
LT16NR18UNCB KC5025	E42
LT16NR19W KC5025	E46
LT16NR20ISO KC5010	E37
LT16NR20ISO KC5025	E37
LT16NR20ISO KC730	H46
LT16NR20ISOCB KC5025	E38
LT16NR20ISOK KU25T	E38
LT16NR20UN KC5025	E40
LT16NR20UN KC730	H47
LT16NR20UNCB KC5025	E42
LT16NR20W KC5025	E46
LT16NR24UN KC5025	E40
LT16NR25ISO KC5025	E37
LT16NR25ISO KC730	H46
LT16NR25ISOCB KC5025	E38
LT16NR25ISOK KU25T	E38
LT16NR28UN KC5025	E40
LT16NR30ISO KC5010	E37
LT16NR30ISO KC5025	E37
LT16NR30ISO KC730	H46
LT16NR30ISOK KU25T	E38
LT16NR32UN KC5025	E40
LT16NR3TR KC5025	E51
LT16NR6STACME KC5025	E50
LT16NR8ACME KC5025	E49
LT16NR8APIRD KC5025	E48
LT16NR8NPT KC5025	E43
LT16NR8RD KC5025	E50
LT16NR8STACME KC5025	E50
LT16NR8UN KC5025	E40
LT16NR8UN KC730	H47
LT16NR8UNCB KC5025	E42
LT16NR8W KC5025	E46
LT16NRA55 KC5025	E44
LT16NRA60 KC5010	E34
LT16NRA60 KC5025	E34
LT16NRA60 KC730	H46
LT16NRAG55 KC5025	E44
LT16NRAG55K KU25T	E45
LT16NRAG60 KC5010	E34
LT16NRAG60 KC5025	E34
LT16NRAG60 KC730	H46
LT16NRAG60CB KC5025	E35
LT16NRAG60K KU25T	E35
LT16NRG55 KC5025	E44
LT16NRG60 KC5010	E34
LT16NRG60 KC5025	E34
LT16NRG60 KC730	H46
LT16NRG60CB KC5025	E35
LT16NRG60K KU25T	E35
LT22EL35ISO KC5025	E36
LT22EL40ISO KC5025	E36
LT22EL5ACME KC5025	E49
LT22ELN60 KC5025	E34
LT22ER35ISO KC5025	E36
LT22ER35ISO KC730	H46
LT22ER40ISO KC5025	E36
LT22ER40ISO KC730	H46
LT22ER45ISO KC5025	E36
LT22ER45ISO KC730	H46
LT22ER4API382 KC5025	E47
LT22ER4API502 KC5010	E47
LT22ER4API502 KC5025	E47
LT22ER4API503 KC5010	E47
LT22ER4TR KC5025	E51
LT22ER50ISO KC5025	E36
LT22ER50ISO KC730	H46
LT22ER5ACME KC5025	E49
LT22ER5API403 KC5010	E47
LT22ER5BUT75 KC5025	E48
LT22ER5STACME KC5025	E50
LT22ER5TR KC5025	E51
LT22ER6ACME KC5025	E49
LT22ER6RD KC5025	E50
LT22ER6W KC5025	E46
LT22ER7W KC5025	E46
LT22ERN55 KC5025	E44
LT22ERN60 KC5025	E34
LT22ERN60 KC730	H46
LT22NL40ISO KC5025	E37
LT22NL5BUT1 KC5025	E49
LT22NL5BUT75 KC5025	E49
LT22NLN60 KC5025	E34
LT22NR35ISO KC5025	E37
LT22NR40ISO KC5025	E37
LT22NR40ISO KC730	H46
LT22NR45ISO KC5025	E37
LT22NR4API382 KC5025	E48
LT22NR4API502 KC5025	E48
LT22NR4TR KC5025	E51
LT22NR50ISO KC5025	E37
LT22NR5ACME KC5025	E49
LT22NR5API403 KC5025	E48
LT22NR5BUT1 KC5025	E49
LT22NR5TR KC5025	E51
LT22NR6ACME KC5025	E49
LT22NR6RD KC5025	E50
LT22NR6STACME KC5025	E50
LT22NR6W KC5025	E46
LT22NR7W KC5025	E46
LT22NRN55 KC5025	E44
LT22NRN60 KC5025	E34
LT22NRN60 KC730	H46
MCFNL10CA09	B118-119
MCFNL12CA12	B118-119
MCFNL16CA12	B118-119
MCFNR10CA09	B118-119
MCFNR12CA12	B118-119
MCFNR16CA12	B118-119
MCFNR20CA12	B118-119
MCKNL12CA12	B118-119
MCKNL16CA12	B118-119
MCKNL2525M12	B24
MCKNL3225P16	B24
MCKNL3232P19	B24
MCKNR12CA12	B118-119
MCKNR16CA12	B118-119
MCKNR2525M12	B24
MCKNR3225P12	B24
MCKNR3225P16	B24
MCKNR3232P19	B24
MCLNL12CA12	B120-121
MCLNL1616H09	B25
MCLNL1616H12	B25
MCLNL16CA12	B120-121
MCLNL2020K12	B25
MCLNL20CA12	B120-121
MCLNL2525M09	B25
MCLNL2525M12	B25
MCLNL2525M16	B25
MCLNL2525M19	B25
MCLNL25CA12	B120-121
MCLNL25CA16	B120-121
MCLNL25CA19	B120-121
MCLNL3225P12	B25
MCLNL3225P16	B25
MCLNL3225P19	B25
MCLNL3232P12	B25
MCLNL3232P16	B25
MCLNL3232P19	B25
MCLNL4040R19	B25
MCLNR12CA12	B120-121
MCLNR1616H09	B25
MCLNR1616H12	B25
MCLNR16CA12	B120-121
MCLNR2020K09	B25
MCLNR2020K12	B25
MCLNR20CA12	B120-121
MCLNR2525M09	B25
MCLNR2525M12	B25
MCLNR2525M16	B25
MCLNR2525M19	B25
MCLNR25CA12	B120-121
MCLNR25CA16	B120-121
MCLNR25CA19	B120-121
MCLNR3225P12	B25
MCLNR3225P16	B25
MCLNR3225P19	B25
MCLNR3232P12	B25
MCLNR3232P16	B25
MCLNR3232P19	B25
MCLNR4040R19	B25
MCMNN2020K12	B26
MCMNN2525M12	B26
MCMNN3225P16	B26
MCMNN4040R19	B26
MCRNL2020K12	B26
MCRNL2525M12	B26
MCRNL3225P12	B26
MCRNL3232P16	B26
MCRNL3232P19	B26
MCRNR2020K12	B26
MCRNR2525M12	B26
MCRNR3225P12	B26
MCRNR3232P16	B26
MCRNR3232P19	B26
MDJNL12CA11	B120-121
MDJNL1616H11	B27
MDJNL16CA15	B120-121
MDJNL2020K11	B27
MDJNL2020K15	B27
MDJNL20CA15	B120-121
MDJNL2525M11	B27
MDJNL2525M15	B27
MDJNL3225P15	B27
MDJNL3232P15	B27
MDJNR12CA11	B120-121
MDJNR1616H11	B27
MDJNR16CA15	B120-121
MDJNR2020K11	B27
MDJNR2020K15	B27
MDJNR20CA15	B120-121
MDJNR2525M11	B27
MDJNR2525M15	B27
MDJNR3225P15	B27
MDJNR3232P15	B27
MDNNL2525M15	B27
MDNNL3225P15	B27
MDNNR2525M15	B27
MDNNR3225P15	B27
MDQNL16CA15	B122-123
MDQNL20CA15	B122-123
MDQNR16CA15	B122-123
MDQNR20CA15	B122-123
MRGNL2525M12	B28
MRGNR2525M12	B28
MRGNR3232P19	B28
MSBNL2020K12	B28
MSBNL2525M12	B28
MSBNL2525M15	B28
MSBNL3225P12	B28
MSBNL3232P15	B28
MSBNL3232P19	B28
MSBNL4040R19	B28
MSBNR2020K12	B28
MSBNR2525M12	B28
MSBNR2525M15	B28
MSBNR3225P12	B28
MSBNR3232P15	B28
MSBNR3232P19	B28
MSBNR4040R19	B28
MSDNN1616H09	B29
MSDNN2020K12	B29
MSDNN2525M12	B29
MSDNN2525M15	B29
MSDNN3225P12	B29
MSDNN3232P19	B29
MSKNL10CA09	B122-123
MSKNL12CA12	B122-123
MSKNL16CA12	B122-123
MSKNL2020K12	B29
MSKNL20CA15	B122-123
MSKNL2525M12	B29
MSKNL2525M15	B29
MSKNL25CA12	B122-123
MSKNL3225P12	B29
MSKNL3232P15	B29
MSKNL3232P19	B29
MSKNR10CA09	B122-123
MSKNR12CA12	B122-123
MSKNR16CA12	B122-123
MSKNR20CA15	B122-123
MSKNR2525M12	B29
MSKNR25CA19	B122-123
MSKNR3225P12	B29
MSKNR3232P15	B29
MSKNR3232P19	B29
MSRNL10CA09	B124-125
MSRNL12CA12	B124-125
MSRNL16CA12	B124-125
MSRNL20CA15	B124-125
MSRNR10CA09	B124-125
MSRNR12CA12	B124-125
MSRNR16CA12	B124-125
MSRNR20CA15	B124-125
MSSNL10CA09	B124-125
MSSNL12CA12	B124-125
MSSNL16CA12	B124-125
MSSNL2020K12	B30
MSSNL20CA15	B124-125
MSSNL2525M12	B30
MSSNL3232P19	B30
MSSNL4040R19	B30
MSSNR10CA09	B124-125
MSSNR12CA12	B124-125
MSSNR16CA12	B124-125
MSSNR2020K12	B30
MSSNR20CA15	B124-125
MSSNR2525M12	B30
MSSNR3232P19	B30
MSSNR4040R19	B30
MSTNL10CA09	B126-127
MSTNL16CA12	B126-127
MSTNL20CA15	B126-127
MSTNR10CA09	B126-127
MSTNR12CA12	B126-127
MSTNR16CA12	B126-127
MSYNL10CA09	B126-127
MSYNL12CA12	B126-127
MSYNL16CA12	B126-127
MSYNL20CA15	B126-127
MSYNR10CA09	B126-127
MSYNR12CA12	B126-127
MSYNR16CA12	B126-127
MSYNR25CA19	B126-127
MSZNL2525M12	B30
MSZNR2525M12	B30
MTANLS2020K16	B31
MTANLS2525M16	B31
MTANLS2525M22	B31
MTANRS2020K16	B31
MTANRS2525M16	B31
MTANRS2525M22	B31
MTENNS2020K16	B31
MTENNS2525M16	B31
MTENNS2525M22	B31
MTENNS3225P22	B31
MTFNL12CA16	B128-129
MTFNL16CA16	B128-129
MTFNL2020K16	B31
MTFNL20CA22	B128-129
MTFNL2525M16	B31
MTFNL2525M22	B31
MTFNR12CA16	B128-129
MTFNR16CA16	B128-129
MTFNR2020K16	B31
MTFNR20CA22	B128-129
MTFNR2525M16	B31
MTFNR2525M22	B31
MTFNR25CA27	B128-129
MTGNL12CA16	B128-129
MTGNL16CA16	B128-129
MTGNL20CA22	B128-129
MTGNL2525M16	B32
MTGNL2525M22	B32
MTGNL3232P22	B32
MTGNR12CA16	B128-129
MTGNR1616H16	B32
MTGNR16CA16	B128-129
MTGNR2020K16	B32
MTGNR20CA22	B128-129
MTGNR2525M16	B32
MTGNR2525M22	B32
MTGNR3232P22	B32

Catalog No.	Page(s)
MTJNL12CA16	B130-131
MTJNL2020K16H4	B34
MTJNL20CA22	B130-131
MTJNL2525M16H4	B34
MTJNL2525M22H4	B34
MTJNL3225P16H4	B34
MTJNR12CA16	B130-131
MTJNR2020K16H4	B34
MTJNR2525M16H4	B34
MTJNR2525M22H4	B34
MTJNR3225P16H4	B34
MTJNR3225P22H4	B34
MTUNL12CA16	B130-131
MTUNL16CA16	B130-131
MTUNL20CA22	B130-131
MTUNR16CA16	B130-131
MTUNR20CA22	B130-131
MVJNL2020K16	B32
MVJNL2525M16	B32
MVJNL3225P16	B32
MVJNL3225P22	B32
MVJNL3232P16	B32
MVJNR2020K16	B32
MVJNR2525M16	B32
MVJNR3225P16	B32
MVJNR3225P22	B32
MVJNR3232P16	B32
MVONL2525M16	B33
MVONR2525M16	B33
MVVNN2020K16	B33
MVVNN2525M16	B33
MVVNN2525M22	B33
MVVNN3225P16	B33
MWLNL2020K06	B33
MWLNL2020K08H4	B34
MWLNL2525M06	B33
MWLNL2525M08H4	B34
MWLNL3225P08H4	B34
MWLNL3232P08	B33
MWLNR2020K06	B33
MWLNR2020K08H4	B34
MWLNR2525M06	B33
MWLNR2525M08H4	B34
MWLNR3225P08H4	B34
MWLNR3232P08	B33
NA3L10 KC5010	E16
NA3L10 KC5025	E16
NA3L10 KC730	H54
NA3L10 KC850	H54
NA3L12 KC5010	E16
NA3L12 KC5025	E16
NA3L12 KC850	H54
NA3L16 KC730	H54
NA3L4 K68	E16
NA3L4 KC5010	E16
NA3L4 KC5025	E16
NA3L4 KC730	H54
NA3L4 KC850	H54
NA3L5 KC5010	E16
NA3L5 KC5025	E16
NA3L5 KC730	H54
NA3L5 KC850	H54
NA3L6 KC5010	E16
NA3L6 KC5025	E16
NA3L6 KC730	H54
NA3L6 KC850	H54
NA3L8 KC5010	E16
NA3L8 KC5025	E16
NA3L8 KC730	H54
NA3L8 KC850	H54
NA3R10 KC5010	E16
NA3R10 KC5025	E16
NA3R10 KC730	H54
NA3R10 KC850	H54
NA3R12 KC5010	E16
NA3R12 KC5025	E16
NA3R12 KC730	H54
NA3R12 KC850	H54
NA3R14 KC5010	E16
NA3R14 KC5025	E16
NA3R14 KC730	H54
NA3R16 KC5010	E16
NA3R16 KC730	H54
NA3R4 KC5010	E16
NA3R4 KC5025	E16
NA3R4 KC730	H54
NA3R4 KC850	H54
NA3R5 K68	E16
NA3R5 KC5010	E16
NA3R5 KC5025	E16
NA3R5 KC730	H54
NA3R5 KC850	H54
NA3R6 KC5010	E16
NA3R6 KC5025	E16
NA3R6 KC730	H54
NA3R6 KC850	H54
NA3R8 KC5010	E16
NA3R8 KC5025	E16
NA3R8 KC730	H54
NA3R8 KC850	H54
NA4L10 KC5025	E16
NA4L4 KC5010	E16
NA4L4 KC5025	E16
NA4L4 KC730	H54
NA4L4 KC850	H54
NA4L5 KC5010	E16
NA4L5 KC5025	E16
NA4L6 KC5025	E16
NA4L8 KC5025	E16
NA4R4 KC5010	E16
NA4R4 KC5025	E16
NA4R4 KC730	H54
NA4R4 KC810	H54
NA4R4 KC850	H54
NA4R5 KC5025	E16
NA4R5 KC730	H54
NA4R6 KC5025	E16
NA4R8 KC5025	E16
NA6L2 KC5010	E16
NA6L2 KC5025	E16
NA6L2 KC730	H54
NA6L2 KC810	H54
NA6L25 KC5025	E16
NA6L3 KC5025	E16
NA6L3 KC730	H54
NA6L3 KC810	H54
NA6R2 KC5010	E16
NA6R2 KC5025	E16
NA6R2 KC730	H54
NA6R2 KC810	H54
NA6R25 KC5025	E16
NA6R25 KC730	H54
NA6R3 KC5025	E16
NA6R3 KC730	H54
NA6R3 KC810	H54
NAS3L10 KC5010	E17
NAS3L10 KC5025	E17
NAS3L10 KC730	H55
NAS3L12 KC5025	E17
NAS3L12 KC730	H55
NAS3L16 KC5025	E17
NAS3L5 KC5010	E17
NAS3L5 KC5025	E17
NAS3L5 KC730	H55
NAS3L6 KC5010	E17
NAS3L6 KC5025	E17
NAS3L6 KC730	H55
NAS3L6 KC850	H55
NAS3L8 KC5010	E17
NAS3L8 KC5025	E17
NAS3L8 KC730	H55
NAS3L8 KC810	H55
NAS3L8 KC850	H55
NAS3R10 KC5010	E17
NAS3R10 KC5025	E17
NAS3R10 KC730	H55
NAS3R12 KC5025	E17
NAS3R12 KC730	H55
NAS3R14 KC5025	E17
NAS3R16 KC5025	E17
NAS3R16 KC730	H55
NAS3R5 KC5010	E17
NAS3R5 KC5025	E17
NAS3R5 KC730	H55
NAS3R6 KC5010	E17
NAS3R6 KC5025	E17
NAS3R6 KC730	H55
NAS3R6 KC850	H55
NAS3R8 KC5010	E17
NAS3R8 KC5025	E17
NAS3R8 KC730	H55
NAS3R8 KC810	H55
NAS3R8 KC850	H55
NASL1010M2Q	D119, E20
NASL1212M2Q	D119, E20
NASL1616K3Q	D119, E20
NASR1010M2Q	D119, E20
NASR1212M2Q	D119, E20
NASR1616K3Q	D119, E20
NB2L K313	D117
NB2R K313	D117
NB3L K313	D117
NB3R K313	D117
NB4L K313	D117
NB4R K313	D117
NBD2R K313	D117
NBD3L K313	D117
NBD3R K313	D117
ND3038L KC5010	E15
ND3038L KC5025	E15
ND3038R KC5025	E15
ND3040L KC850	H53
ND3040R KC5025	E15
ND3040R KC850	H53
ND4040L KC5025	E15
ND4040R KC730	H53
ND4050R KC5025	E15
ND4050R KC850	H53
NDC3040L3 KC5010	E15
NDC3040L3 KC730	H53
NDC3040R3 KC5025	E15
NDC3040R3 KC730	H53
NDC310RDL75 KC5010	E16
NDC310RDL75 KC5025	E16
NDC310RDL75 KC730	H53
NDC310RDL75 KC850	H53
NDC310RDR75 KC5010	E16
NDC310RDR75 KC5025	E16
NDC310RDR75 KC730	H53
NDC310RDR75 KC810	H53
NDC310RDR75 KC850	H53
NDC3115VL75 KC5010	E14
NDC3115VL75 KC730	H52
NDC3115VR75 KC5010	E14
NDC3115VR75 KC730	H52
NDC314VR75 KC5010	E14
NDC314VR75 KC730	H52
NDC318VR75 KC730	H52
NDC327VR75 KC5010	E14
NDC38RDL75 KC5010	E16
NDC38RDL75 KC5025	E16
NDC38RDL75 KC730	H53
NDC38RDL75 KC810	H53
NDC38RDL75 KC850	H53
NDC38RDR75 KC5010	E16
NDC38RDR75 KC5025	E16
NDC38RDR75 KC730	H53
NDC38RDR75 KC810	H53
NDC38RDR75 KC850	H53
NDC38VL75 KC5010	E14
NDC38VL75 KC730	H52
NDC38VR75 KC5010	E14
NDC38VR75 KC730	H52
NDC4038L2 KC5010	E15
NDC4038L2 KC5025	E15
NDC4038L2 KC730	H53
NDC4038L2 KC810	H53
NDC4038R2 KC5010	E15
NDC4038R2 KC5025	E15
NDC4038R2 KC730	H53
NDC4038R2 KC810	H53
NDC4050L2 KC5025	E15
NDC4050L2 KC730	H53
NDC4050L3 KC5010	E15
NDC4050R2 KC5010	E15
NDC4050R2 KC5025	E15
NDC4050R2 KC730	H53
NDC4050R3 KC5010	E15
NDC4050R3 KC5025	E15
NDC68RDL75M KC5010	E16
NDC68RDR75M KC5010	E16
NDC8115VL75M KC5010	E14
NDC8115VL75M KC730	H53
NDC8115VR75M KC5010	E14
NDC8115VR75M KC730	H53
NDC88RDR75M KC730	H54
NDC88VL75M KC5010	E14
NDC88VL75M KC730	H53
NDC88VR75M KC5010	E14
NDC88VR75M KC730	H53
NEL12CA2	D125
NEL1616H2	D120, E20
NEL2020K2	D120, E20
NEL2525M2	D120, E20
NEL2525M3	D120, E20
NEL2525M4	D120, E20
NEL25CA3	D125
NEL3225P3	D120, E20
NEL3225P4	D120, E20
NEL3232P4	D120, E20
NEL3232P5	D120, E20
NER12CA2	D125
NER1616H2	D120, E20
NER2020K2	D120, E20
NER20CA2	D125
NER2525M2	D120, E20
NER2525M3	D120, E20
NER2525M4	D120, E20
NER25CA3	D125
NER25CA4	D125
NER3225P3	D120, E20
NER3225P4	D120, E20
NER3232P4	D120, E20
NER3232P5	D120, E20
NF3125L K313	D112
NF3125L KC730	H42
NF3125L KC850	H42
NF3125LK KC5025	D112
NF3125LK KC720	H42
NF3125LK KC850	H42
NF3125R K313	D112
NF3125R KC730	H42
NF3125R KC850	H42
NF3125RK KC5025	D112
NF3125RK KC850	H42
NF3156LK KC5025	D112
NF3156LK KC850	H42
NF3156RK KC5025	D112
NF3156RK KC850	H42
NF3188L KC5025	D112
NF3188R KC5025	D112
NF3M200LK KC5025	D112
NF3M200RK KC5025	D112
NF3M300LK KC5025	D112
NF3M300RK KC5025	D112
NF4189LK KC850	H42
NF4250LK KC850	H42
NF4250RK KC850	H42
NFD3125LK KC5025	D112
NFD3125LK KC730	H42
NFD3125LK KC850	H42
NFD3125LKI KC5025	D113
NFD3125RK KC5025	D112
NFD3125RK KC730	H42
NFD3125RK KC850	H42
NFD3125RKI KC5025	D113
NFD3125RKI KC730	H43
NFD3156RKI KC720	H43
NFD3189LKI KC5025	D113
NFD3189RKI KC5025	D113
NFD3M300LK KC5025	D112
NFD3M300RK KC5025	D112
NFD4189LK KC5025	D112
NFD4189LK KC730	H42

Index by Catalog Number

Catalog No.	Page(s)
NFD4189LK KC850	H42
NFD4189RK KC5025	D112
NFD4189RK KC730	H42
NFD4189RK KC850	H42
NFD4250LK KC5025	D112
NFD4250LK KC730	H42
NFD4250LK KC850	H42
NFD4250RK KC5025	D112
NFD4250RK KC730	H42
NFD4250RK KC850	H42
NG1031L KC5025	D105
NG1031L KC730	H38
NG1047L KC5025	D105
NG1047L KC720	H38
NG1047L KC730	H38
NG1062L KC5025	D105
NG1062L KC720	H38
NG1062L KC730	H38
NG1094L KC5025	D105
NG1094L KC720	H38
NG1094L KC730	H38
NG2031L K313	D104
NG2031L KC5010	D104
NG2031L KC5025	D104
NG2031L KC730	H39
NG2031L KC850	H39
NG2031LK KC5010	D107
NG2031LK KC5025	D107
NG2031LK KC730	H37
NG2031LK KC850	H37
NG2031LK KC935	H37
NG2031LK KT315	D107
NG2031R K313	D104
NG2031R KC5010	D104
NG2031R KC5025	D104
NG2031R KC720	H38
NG2031R KC730	H38
NG2031R KC850	H38
NG2031RK KC5010	D106
NG2031RK KC5025	D106
NG2031RK KC720	H36
NG2031RK KC730	H36
NG2031RK KC850	H36
NG2031RK KC935	H36
NG2031RK KT315	D106
NG2041L KC5010	D104
NG2041L KC5025	D104
NG2041L KC730	H39
NG2041L KC850	H39
NG2041R K313	D104
NG2041R KC5010	D104
NG2041R KC5025	D104
NG2041R KC730	H38
NG2041R KC850	H38
NG2047L KC5010	D104
NG2047L KC5025	D104
NG2047L KC730	H39
NG2047L KC850	H39
NG2047LK KC5010	D107
NG2047LK KC5025	D107
NG2047LK KC730	H37
NG2047R KC5010	D104
NG2047R KC5025	D104
NG2047R KC730	H38
NG2047R KC850	H38
NG2047RK KC5010	D106
NG2047RK KC5025	D106
NG2047RK KC730	H36
NG2047RK KT315	D106
NG2058L KC5010	D104
NG2058L KC5025	D104
NG2058L KC730	H39
NG2058L KC850	H39
NG2058R KC5025	D104
NG2058R KC730	H38
NG2058R KC850	H38
NG2062L K313	D104
NG2062L KC5010	D104
NG2062L KC5025	D104
NG2062L KC720	H39
NG2062L KC730	H39
NG2062L KC850	H39
NG2062LK KC5010	D107
NG2062LK KC5025	D107
NG2062LK KC720	H37
NG2062LK KC730	H37
NG2062LK KC850	H37
NG2062LK KC935	H37
NG2062R K313	D104
NG2062R KC5010	D104
NG2062R KC5025	D104
NG2062R KC720	H38
NG2062R KC730	H38
NG2062R KC850	H38
NG2062RK KC5010	D106
NG2062RK KC5025	D106
NG2062RK KC720	H36
NG2062RK KC730	H36
NG2062RK KC850	H36
NG2062RK KC935	H36
NG2062RK KT315	D106
NG2094L K313	D104
NG2094L KC5010	D104
NG2094L KC5025	D104
NG2094L KC730	H39
NG2094L KC850	H39
NG2094LK KC5010	D107
NG2094LK KC5025	D107
NG2094LK KC730	H37
NG2094LK KC850	H37
NG2094LK KC935	H37
NG2094R K313	D104
NG2094R KC5010	D104
NG2094R KC5025	D104
NG2094R KC730	H38
NG2094R KC850	H38
NG2094RK KC5010	D106
NG2094RK KC5025	D106
NG2094RK KC720	H36
NG2094RK KC730	H36
NG2094RK KC850	H36
NG2094RK KC935	H36
NG2094RK KT315	D106
NG2125L KC5010	D104
NG2125L KC5025	D104
NG2125L KC730	H39
NG2125L KC850	H39
NG2125LK KC5010	D107
NG2125LK KC5025	D107
NG2125LK KC720	H37
NG2125LK KC730	H37
NG2125LK KC850	H37
NG2125LK KC935	H37
NG2125R KC5010	D104
NG2125R KC5025	D104
NG2125R KC730	H38
NG2125R KC850	H38
NG2125RK KC5010	D106
NG2125RK KC5025	D106
NG2125RK KC730	H36
NG2125RK KC850	H36
NG2125RK KC935	H36
NG2125RK KT315	D106
NG2M050LK KC5010	D107
NG2M050LK KC5025	D107
NG2M050RK KC5010	D106
NG2M050RK KC5025	D106
NG2M080LK KC5010	D107
NG2M080LK KC5025	D107
NG2M080LK KC730	H37
NG2M080RK KC5010	D106
NG2M080RK KC5025	D106
NG2M080RK KC730	H36
NG2M100LK KC5010	D107
NG2M100LK KC5025	D107
NG2M100LK KC730	H37
NG2M100RK KC5010	D106
NG2M100RK KC5025	D106
NG2M100RK KC720	H36
NG2M100RK KC730	H36
NG2M120LK KC5010	D107
NG2M120LK KC5025	D107
NG2M120LK KC730	H37
NG2M120RK KC5010	D106
NG2M120RK KC5025	D106
NG2M120RK KC730	H36
NG2M140LK KC5010	D107
NG2M140LK KC5025	D107
NG2M140LK KC720	H37
NG2M140LK KC730	H37
NG2M140RK KC5010	D106
NG2M140RK KC5025	D106
NG2M140RK KC720	H36
NG2M140RK KC730	H36
NG2M150LK KC5025	D107
NG2M150LK KC730	H37
NG2M150RK KC5025	D106
NG2M150RK KC730	H36
NG2M170LK KC5010	D107
NG2M170LK KC5025	D107
NG2M170LK KC720	H37
NG2M170LK KC730	H37
NG2M170RK KC5010	D106
NG2M170RK KC5025	D106
NG2M170RK KC720	H36
NG2M170RK KC730	H36
NG2M175LK KC5025	D107
NG2M175LK KC730	H37
NG2M175RK KC5025	D106
NG2M175RK KC730	H36
NG2M195LK KC5010	D107
NG2M195LK KC5025	D107
NG2M195LK KC730	H37
NG2M195RK KC5010	D106
NG2M195RK KC5025	D106
NG2M195RK KC730	H36
NG2M200LK KC5010	D107
NG2M200LK KC5025	D107
NG2M200LK KC720	H37
NG2M200LK KC730	H37
NG2M200RK KC5010	D106
NG2M200RK KC5025	D106
NG2M200RK KC720	H36
NG2M200RK KC730	H36
NG2M200RK KT315	D106
NG2M220LK KC5025	D107
NG2M220LK KC730	H37
NG2M220RK KC5025	D106
NG2M225LK KC5010	D107
NG2M225LK KC5025	D107
NG2M225LK KC720	H37
NG2M225LK KC730	H37
NG2M225RK KC5010	D106
NG2M225RK KC5025	D106
NG2M225RK KC720	H36
NG2M225RK KC730	H36
NG2M250LK KC5025	D107
NG2M250LK KC730	H37
NG2M250RK KC5025	D106
NG2M250RK KC730	H36
NG2M275LK KC5010	D107
NG2M275LK KC5025	D107
NG2M275LK KC730	H37
NG2M275RK KC5010	D106
NG2M275RK KC5025	D106
NG2M300LK KC5010	D107
NG2M300LK KC5025	D107
NG2M300LK KC730	H37
NG2M300RK KC5010	D106
NG2M300RK KC5025	D106
NG2M300RK KC720	H36
NG2M300RK KC730	H36
NG2M320RK KC730	H36
NG2M325LK KC5025	D107
NG2M325LK KC730	H37
NG2M325RK KC5025	D106
NG2M325RK KC730	H36
NG3047L K313	D104
NG3047L KC5010	D104
NG3047L KC5025	D104
NG3047L KC730	H39
NG3047L KC850	H39
NG3047L KC9110	D104
NG3047LK KC5010	D107
NG3047LK KC5025	D107
NG3047LK KC730	H37
NG3047LK KC850	H37
NG3047LK KC9110	D107
NG3047R K313	D104
NG3047R KC5010	D104
NG3047R KC5025	D104
NG3047R KC720	H38
NG3047R KC730	H38
NG3047R KC850	H38
NG3047R KC9110	D104
NG3047RK KC5010	D106
NG3047RK KC5025	D106
NG3047RK KC720	H36
NG3047RK KC730	H36
NG3047RK KC850	H36
NG3047RK KC9110	D106
NG3047RK KC935	H36
NG3062L K313	D104
NG3062L KB1630	D104
NG3062L KC5010	D104
NG3062L KC5025	D104
NG3062L KC730	H39
NG3062L KC850	H39
NG3062L KC9110	D104
NG3062L KC935	H39
NG3062L KD1425	D104
NG3062LK KC5010	D107
NG3062LK KC5025	D107
NG3062LK KC730	H37
NG3062LK KC850	H37
NG3062LK KC9110	D107
NG3062LK KC9320	D107
NG3062LK KC935	H37
NG3062LK KT315	D107
NG3062R K313	D104
NG3062R KB1630	D104
NG3062R KC5010	D104
NG3062R KC5025	D104
NG3062R KC720	H38
NG3062R KC730	H38
NG3062R KC850	H38
NG3062R KC9110	D104
NG3062R KC935	H38
NG3062R KD1425	D104
NG3062RK KC5010	D106
NG3062RK KC5025	D106
NG3062RK KC720	H36
NG3062RK KC730	H36
NG3062RK KC850	H36
NG3062RK KC9110	D106
NG3062RK KC9320	D106
NG3062RK KC935	H36
NG3062RK KT315	D106
NG3072L KC5010	D104
NG3072L KC730	H39
NG3072L KC850	H39
NG3072LK KC5010	D107
NG3072LK KC5025	D107
NG3072LK KC720	H37
NG3072LK KC730	H37
NG3072LK KC850	H37
NG3072R KC5010	D104
NG3072R KC730	H38
NG3072R KC850	H38
NG3072RK KC5010	D106
NG3072RK KC5025	D106
NG3072RK KC730	H36
NG3072RK KC850	H36
NG3072RK KC935	H36
NG3078L KC5010	D104
NG3078L KC730	H39
NG3078L KC850	H39
NG3078LK KC5010	D107
NG3078LK KC5025	D107
NG3078LK KC730	H37
NG3078LK KC850	H37
NG3078LK KC9110	D107
NG3078LK KC935	H37
NG3078R KC5010	D104

Catalog No.	Page(s)
NG3078R KC730	H38
NG3078R KC850	H38
NG3078RK KC5010	D106
NG3078RK KC5025	D106
NG3078RK KC730	H36
NG3078RK KC850	H36
NG3078RK KC9110	D106
NG3078RK KC935	H36
NG3088L KC5010	D104
NG3088L KC5025	D104
NG3088L KC730	H39
NG3088L KC850	H39
NG3088R K313	D104
NG3088R KC5010	D104
NG3088R KC5025	D104
NG3088R KC730	H38
NG3088R KC850	H38
NG3094L K313	D104
NG3094L KB1630	D104
NG3094L KC5010	D104
NG3094L KC5025	D104
NG3094L KC720	H39
NG3094L KC730	H39
NG3094L KC850	H39
NG3094L KC9110	D104
NG3094L KC935	H39
NG3094L KD1425	D104
NG3094LK KC5010	D107
NG3094LK KC5025	D107
NG3094LK KC720	H37
NG3094LK KC730	H37
NG3094LK KC850	H37
NG3094LK KC9110	D107
NG3094LK KC935	H37
NG3094LK KT315	D107
NG3094R K313	D104
NG3094R KB1630	D104
NG3094R KC5010	D104
NG3094R KC5025	D104
NG3094R KC720	H38
NG3094R KC730	H38
NG3094R KC850	H38
NG3094R KC9110	D104
NG3094R KC935	H38
NG3094R KD1425	D104
NG3094RK KC5010	D106
NG3094RK KC5025	D106
NG3094RK KC720	H36
NG3094RK KC730	H36
NG3094RK KC850	H36
NG3094RK KC9110	D106
NG3094RK KC935	H36
NG3094RK KT315	D106
NG3097L KC5010	D104
NG3097L KC5025	D104
NG3097L KC730	H39
NG3097R KC5010	D104
NG3097R KC5025	D104
NG3097R KC730	H38
NG3097R KC850	H38
NG3105L KC5010	D104
NG3105L KC5025	D104
NG3105L KC730	H39
NG3105L KC850	H39
NG3105R KC5010	D104
NG3105R KC5025	D104
NG3105R KC730	H38
NG3105R KC850	H38
NG3110L KC5025	D105
NG3110L KC850	H39
NG3110R KC5025	D104
NG3110R KC730	H38
NG3110R KC850	H38
NG3122L KC5025	D105
NG3122L KC730	H39
NG3122L KC850	H39
NG3122R KC5025	D104
NG3125L K313	D105
NG3125L KB1630	D105
NG3125L KC5010	D105
NG3125L KC5025	D105
NG3125L KC730	H39
NG3125L KC850	H39
NG3125L KC9110	D105
NG3125L KC935	H39
NG3125L KD1425	D105
NG3125LK KC5010	D107
NG3125LK KC5025	D107
NG3125LK KC720	H37
NG3125LK KC730	H37
NG3125LK KC850	H37
NG3125LK KC9110	D107
NG3125LK KC935	H37
NG3125LK KT315	D107
NG3125R K313	D104
NG3125R KB1630	D104
NG3125R KC5010	D104
NG3125R KC5025	D104
NG3125R KC720	H38
NG3125R KC730	H38
NG3125R KC850	H38
NG3125R KC9110	D104
NG3125R KC935	H38
NG3125R KD1425	D104
NG3125RK KC5010	D106
NG3125RK KC5025	D106
NG3125RK KC720	H36
NG3125RK KC730	H36
NG3125RK KC850	H36
NG3125RK KC9110	D106
NG3125RK KC935	H36
NG3125RK KT315	D106
NG3142L KC5010	D105
NG3142L KC5025	D105
NG3142L KC730	H39
NG3142L KC850	H39
NG3142R KC5010	D104
NG3142R KC5025	D104
NG3142R KC730	H38
NG3142R KC850	H38
NG3156L KC5010	D105
NG3156L KC5025	D105
NG3156L KC730	H39
NG3156L KC850	H39
NG3156LK KC5010	D107
NG3156LK KC5025	D107
NG3156LK KC730	H37
NG3156LK KC850	H37
NG3156LK KC935	H37
NG3156R KC5010	D104
NG3156R KC5025	D104
NG3156R KC730	H38
NG3156R KC850	H38
NG3156RK KC5010	D106
NG3156RK KC5025	D106
NG3156RK KC720	H36
NG3156RK KC730	H36
NG3156RK KC850	H36
NG3156RK KC935	H36
NG3178L KC5025	D105
NG3178L KC730	H39
NG3178L KC850	H39
NG3178R KC5025	D104
NG3178R KC850	H38
NG3185L KC5025	D105
NG3185L KC730	H39
NG3185L KC850	H39
NG3185R KC5025	D104
NG3185R KC730	H38
NG3185R KC850	H38
NG3189L K313	D105
NG3189L KC5010	D105
NG3189L KC5025	D105
NG3189L KC730	H39
NG3189L KC850	H39
NG3189L KC9110	D105
NG3189L KD1425	D105
NG3189LK KC5010	D107
NG3189LK KC5025	D107
NG3189LK KC730	H37
NG3189LK KC850	H37
NG3189LK KC9110	D107
NG3189LK KC9320	D107
NG3189LK KC935	H37
NG3189R K313	D104
NG3189R KC5010	D104
NG3189R KC5025	D104
NG3189R KC730	H38
NG3189R KC850	H38
NG3189R KC9110	D104
NG3189R KC935	H38
NG3189R KD1425	D104
NG3189RK KC5010	D106
NG3189RK KC5025	D106
NG3189RK KC720	H36
NG3189RK KC730	H36
NG3189RK KC850	H36
NG3189RK KC9110	D106
NG3189RK KC9320	D106
NG3189RK KC935	H36
NG3189RK KT315	D106
NG3M100LK KC5025	D107
NG3M100LK KC730	H37
NG3M100RK KC5025	D106
NG3M100RK KC730	H36
NG3M120LK KC5010	D107
NG3M120LK KC5025	D107
NG3M120LK KC730	H37
NG3M120RK KC5010	D106
NG3M120RK KC5025	D106
NG3M120RK KC730	H36
NG3M150LK KC5025	D107
NG3M150LK KC730	H37
NG3M150LK KC9110	D107
NG3M150LK KC9320	D107
NG3M150RK KC5025	D106
NG3M150RK KC730	H36
NG3M150RK KC9110	D106
NG3M150RK KC9320	D106
NG3M150RK KT315	D106
NG3M175LK KC5025	D107
NG3M175LK KC730	H37
NG3M175RK KC5025	D106
NG3M175RK KC730	H36
NG3M200LK KC5025	D107
NG3M200LK KC730	H37
NG3M200LK KC9110	D107
NG3M200LK KC9320	D107
NG3M200LK KT315	D107
NG3M200RK KC5025	D106
NG3M200RK KC730	H36
NG3M200RK KC9110	D106
NG3M200RK KC9320	D106
NG3M200RK KT315	D106
NG3M220LK KC5025	D107
NG3M220LK KC730	H37
NG3M220RK KC5025	D106
NG3M220RK KC730	H36
NG3M225LK KC5010	D107
NG3M225LK KC5025	D107
NG3M225LK KC730	H37
NG3M225LK KC9110	D107
NG3M225LK KC9320	D107
NG3M225RK KC5010	D106
NG3M225RK KC5025	D106
NG3M225RK KC720	H36
NG3M225RK KC730	H36
NG3M225RK KC850	H36
NG3M225RK KC9110	D106
NG3M225RK KC9320	D106
NG3M250LK KC5025	D107
NG3M250LK KC730	H37
NG3M250LK KC9110	D107
NG3M250LK KC9320	D107
NG3M250RK KC5025	D106
NG3M250RK KC730	H36
NG3M250RK KC9110	D106
NG3M250RK KC9320	D106
NG3M250RK KT315	D106
NG3M275LK KC5010	D108
NG3M275LK KC5025	D108
NG3M275LK KC730	H37
NG3M275LK KC850	H37
NG3M275RK KC5010	D106
NG3M275RK KC5025	D106
NG3M275RK KC730	H36
NG3M300LK KC5010	D108
NG3M300LK KC5025	D108
NG3M300LK KC730	H37
NG3M300LK KC9110	D108
NG3M300LK KC9320	D108
NG3M300LK KT315	D108
NG3M300RK KC5010	D106
NG3M300RK KC5025	D106
NG3M300RK KC720	H36
NG3M300RK KC730	H36
NG3M300RK KC850	H36
NG3M300RK KC9110	D106
NG3M300RK KC9320	D106
NG3M300RK KT315	D106
NG3M320LK KC5025	D108
NG3M320RK KC5025	D106
NG3M320RK KC730	H36
NG3M325LK KC5025	D108
NG3M325LK KC730	H37
NG3M325RK KC5025	D106
NG3M325RK KC730	H36
NG3M350LK KC5025	D108
NG3M350LK KC730	H37
NG3M350RK KC5025	D106
NG3M350RK KC730	H36
NG3M350RK KT315	D106
NG3M400LK KC5010	D108
NG3M400LK KC5025	D108
NG3M400LK KC730	H37
NG3M400LK KC9110	D108
NG3M400LK KC9320	D108
NG3M400LK KT315	D108
NG3M400RK KC5010	D106
NG3M400RK KC5025	D106
NG3M400RK KC730	H36
NG3M400RK KC9110	D106
NG3M400RK KC9320	D106
NG3M400RK KT315	D106
NG3M425LK KC5010	D108
NG3M425LK KC5025	D108
NG3M425LK KC730	H37
NG3M425LK KC850	H37
NG3M425RK KC5010	D106
NG3M425RK KC5025	D106
NG3M425RK KC720	H36
NG3M425RK KC730	H36
NG3M425RK KC850	H36
NG3M450LK KC5025	D108
NG3M450RK KC5025	D106
NG3M450RK KC730	H36
NG4125L K313	D105
NG4125L KC5010	D105
NG4125L KC5025	D105
NG4125L KC730	H39
NG4125L KC850	H39
NG4125L KC9110	D105
NG4125LK KC5010	D108
NG4125LK KC5025	D108
NG4125LK KC730	H37
NG4125LK KC850	H37
NG4125LK KC9110	D108
NG4125LK KC935	H37
NG4125R K313	D104
NG4125R KC5010	D104
NG4125R KC5025	D104
NG4125R KC730	H38
NG4125R KC850	H38
NG4125R KC9110	D104
NG4125RK KC5010	D106
NG4125RK KC5025	D106
NG4125RK KC730	H36
NG4125RK KC850	H36
NG4125RK KC9110	D106
NG4125RK KC935	H36
NG4189L K313	D105
NG4189L KB1630	D105
NG4189L KC5010	D105
NG4189L KC5025	D105

Index by Catalog Number

Catalog No.	Page(s)
NG4189L KC730	H39
NG4189L KC850	H39
NG4189L KC9110	D105
NG4189LK KC5010	D108
NG4189LK KC5025	D108
NG4189LK KC730	H37
NG4189LK KC850	H37
NG4189LK KC9110	D108
NG4189LK KC935	H37
NG4189R K313	D104
NG4189R KB1630	D104
NG4189R KC5010	D104
NG4189R KC5025	D104
NG4189R KC730	H38
NG4189R KC850	H38
NG4189R KC9110	D104
NG4189RK KC5010	D106
NG4189RK KC5025	D106
NG4189RK KC730	H36
NG4189RK KC850	H36
NG4189RK KC9110	D106
NG4189RK KC935	H36
NG4213L KC730	H39
NG4213R KC5025	D104
NG4213R KC730	H38
NG4219R KC5025	D104
NG4250L K313	D105
NG4250L KC5010	D105
NG4250L KC5025	D105
NG4250L KC730	H39
NG4250L KC850	H39
NG4250L KC9110	D105
NG4250LK KC5010	D108
NG4250LK KC5025	D108
NG4250LK KC720	H37
NG4250LK KC730	H37
NG4250LK KC850	H37
NG4250LK KC9110	D108
NG4250LK KC935	H37
NG4250R K313	D104
NG4250R KC5010	D104
NG4250R KC5025	D104
NG4250R KC730	H38
NG4250R KC850	H38
NG4250R KC9110	D104
NG4250RK KC5010	D106
NG4250RK KC5025	D106
NG4250RK KC720	H36
NG4250RK KC730	H36
NG4250RK KC850	H36
NG4250RK KC9110	D106
NG4250RK KC935	H36
NG4M300LK KC5025	D108
NG4M300RK KC5025	D106
NG4M350LK KC5025	D108
NG4M350LK KC9110	D108
NG4M350LK KC9320	D108
NG4M350RK KC5025	D107
NG4M350RK KC9110	D107
NG4M350RK KC9320	D107
NG4M400LK KC5010	D108
NG4M400LK KC5025	D108
NG4M400LK KC9110	D108
NG4M400LK KC9320	D108
NG4M400RK KC5010	D107
NG4M400RK KC5025	D107
NG4M400RK KC9110	D107
NG4M400RK KC9320	D107
NG4M450LK KC5025	D108
NG4M450LK KC730	H37
NG4M450RK KC5025	D107
NG4M500LK KC5010	D108
NG4M500LK KC5025	D108
NG4M500LK KC730	H37
NG4M500LK KC850	H37
NG4M500LK KC9110	D108
NG4M500LK KC9320	D108
NG4M500RK KC5010	D107
NG4M500RK KC5025	D107
NG4M500RK KC730	H36
NG4M500RK KC850	H36
NG4M500RK KC9110	D107
NG4M500RK KC9320	D107
NG4M550LK KC5025	D108
NG4M550RK KC5025	D107
NG4M550RK KC730	H36
NG4M600LK KC5025	D108
NG4M600LK KC9110	D108
NG4M600LK KC9320	D108
NG4M600RK KC5025	D107
NG4M600RK KC9110	D107
NG4M600RK KC9320	D107
NG5250R KC5025	D104
NG5281R KC5025	D104
NG5312L KC5025	D105
NG5312R KC5025	D104
NG5375R KC5025	D104
NG6281R KC5025	D104
NG6375L KC5025	D105
NGC2C110L040K KC5025	D109
NGC2C110R040K KC5025	D109
NGC2C130L055K KC5025	D109
NGC2C130R055K KC5025	D109
NGC2C160R070K KC5025	D109
NGC2C185L125K KC5025	D109
NGC2C185R100K KC5025	D109
NGC2C185R125K KC5025	D109
NGC2C215L150K KC5025	D109
NGC2C215R150K KC5025	D109
NGC2C265R150K KC5025	D109
NGC2C315R175K KC5025	D109
NGD2M150LK KC5010	D110
NGD2M150LK KC5025	D110
NGD2M150RK KC5010	D110
NGD2M150RK KC5025	D110
NGD2M200LK KC5010	D110
NGD2M200LK KC5025	D110
NGD2M200RK KC5010	D110
NGD2M200RK KC5025	D110
NGD2M250LK KC5010	D110
NGD2M250LK KC5025	D110
NGD2M250RK KC5010	D110
NGD2M250RK KC5025	D110
NGD3062LK KC5010	D110
NGD3062LK KC5025	D110
NGD3062LK KC730	H40
NGD3062LK KC850	H40
NGD3062LK KC935	H40
NGD3062RK K313	D110
NGD3062RK KC5010	D110
NGD3062RK KC5025	D110
NGD3062RK KC730	H40
NGD3062RK KC850	H40
NGD3062RK KC935	H40
NGD3094LK K313	D110
NGD3094LK KC5010	D110
NGD3094LK KC5025	D110
NGD3094LK KC730	H40
NGD3094LK KC850	H40
NGD3094LK KC935	H40
NGD3094RK K313	D110
NGD3094RK KC5010	D110
NGD3094RK KC5025	D110
NGD3094RK KC730	H40
NGD3094RK KC850	H40
NGD3094RK KC935	H40
NGD3125LK K313	D110
NGD3125LK KC5010	D110
NGD3125LK KC5025	D110
NGD3125LK KC730	H40
NGD3125LK KC850	H40
NGD3125LK KC935	H40
NGD3125RK K313	D110
NGD3125RK KC5010	D110
NGD3125RK KC5025	D110
NGD3125RK KC730	H40
NGD3125RK KC850	H40
NGD3125RK KC935	H40
NGD3189L K313	D109
NGD3189L KC5010	D109
NGD3189LK KC5010	D110
NGD3189LK KC5025	D110
NGD3189LK KC730	H40
NGD3189LK KC850	H40
NGD3189LK KC935	H40
NGD3189R K313	D109
NGD3189R KC5010	D109
NGD3189RK KC5010	D110
NGD3189RK KC5025	D110
NGD3189RK KC730	H40
NGD3189RK KC850	H40
NGD3189RK KC935	H40
NGD3M200LK KC5010	D110
NGD3M200LK KC5025	D110
NGD3M200RK KC5010	D110
NGD3M200RK KC5025	D110
NGD3M250LK KC5010	D110
NGD3M250LK KC5025	D110
NGD3M250RK KC5010	D110
NGD3M250RK KC5025	D110
NGD3M300LK KC5010	D110
NGD3M300LK KC5025	D110
NGD3M300RK KC5010	D110
NGD3M300RK KC5025	D110
NGD3M350LK KC5010	D110
NGD3M350LK KC5025	D110
NGD3M350RK KC5010	D110
NGD3M350RK KC5025	D110
NGD3M400LK KC5010	D110
NGD3M400LK KC5025	D110
NGD3M400RK KC5010	D110
NGD3M400RK KC5025	D110
NGD4125LK KC5010	D110
NGD4125LK KC5025	D110
NGD4125LK KC730	H40
NGD4125LK KC850	H40
NGD4125LK KC935	H40
NGD4125RK KC5010	D110
NGD4125RK KC5025	D110
NGD4125RK KC730	H40
NGD4125RK KC850	H40
NGD4125RK KC935	H40
NGD4189LK KC5010	D110
NGD4189LK KC5025	D110
NGD4189LK KC730	H40
NGD4189LK KC850	H40
NGD4189LK KC935	H40
NGD4189RK K313	D110
NGD4189RK KC5010	D110
NGD4189RK KC5025	D110
NGD4189RK KC730	H40
NGD4189RK KC850	H40
NGD4189RK KC935	H40
NGD4250L K313	D109
NGD4250L KC5010	D109
NGD4250LK KC5010	D110
NGD4250LK KC5025	D110
NGD4250LK KC730	H40
NGD4250LK KC850	H40
NGD4250LK KC935	H40
NGD4250R K313	D109
NGD4250R KC5010	D109
NGD4250RK K313	D110
NGD4250RK KC5010	D110
NGD4250RK KC5025	D110
NGD4250RK KC730	H40
NGD4250RK KC850	H40
NGD4250RK KC935	H40
NGD4M400LK KC5010	D110
NGD4M400LK KC5025	D110
NGD4M400RK KC5010	D110
NGD4M400RK KC5025	D110
NGD4M450LK KC5010	D110
NGD4M450LK KC5025	D110
NGD4M450RK KC5010	D110
NGD4M450RK KC5025	D110
NGD4M500LK KC5010	D110
NGD4M500LK KC5025	D110
NGD4M500RK KC5010	D110
NGD4M500RK KC5025	D110
NGD4M550LK KC5010	D110
NGD4M550LK KC5025	D110
NGD4M550RK KC5010	D110
NGD4M550RK KC5025	D110
NGP2031L KC5010	D111
NGP2031L KC5410	D111
NGP2031L KC850	H39
NGP2031R KC5010	D111
NGP2031R KC5410	D111
NGP2031R KC730	H39
NGP2031R KC850	H39
NGP2062L KC5010	D111
NGP2062L KC5410	D111
NGP2062L KC730	H39
NGP2062L KC850	H39
NGP2062R KC5010	D111
NGP2062R KC5410	D111
NGP2062R KC730	H39
NGP2062R KC850	H39
NGP2125L KC5010	D111
NGP2125L KC5410	D111
NGP2125L KC850	H39
NGP2125R KC5010	D111
NGP2125R KC5410	D111
NGP2M150L K313	D111
NGP2M150L KC5010	D111
NGP2M150R K313	D111
NGP2M150R KC5010	D111
NGP2M200L K313	D111
NGP2M200L KC5010	D111
NGP2M200R K313	D111
NGP2M200R KC5010	D111
NGP2M250L K313	D111
NGP2M250L KC5010	D111
NGP2M250R K313	D111
NGP2M250R KC5010	D111
NGP2M300L K313	D111
NGP2M300L KC5010	D111
NGP2M300R K313	D111
NGP2M300R KC5010	D111
NGP3088L KC5010	D111
NGP3088L KC730	H39
NGP3088L KC850	H39
NGP3088L KD1425	D111
NGP3088R KC5010	D111
NGP3088R KC5410	D111
NGP3088R KC730	H39
NGP3088R KC850	H39
NGP3088R KD1425	D111
NGP3125L KC5010	D111
NGP3125L KC5410	D111
NGP3125L KC730	H39
NGP3125L KC850	H39
NGP3125L KD1425	D111
NGP3125R KC5010	D111
NGP3125R KC5410	D111
NGP3125R KC730	H39
NGP3125R KC850	H39
NGP3125R KD1425	D111
NGP3156L KC5010	D111
NGP3156L KC730	H39
NGP3156R KC5010	D111
NGP3189L KC5010	D111
NGP3189L KC5410	D111
NGP3189L KC850	H39
NGP3189R KC5010	D111
NGP3189R KC5410	D111
NGP3189R KC850	H39
NGP3M150L K313	D111
NGP3M150R K313	D111
NGP3M150R KC5010	D111
NGP3M200L K313	D111
NGP3M200L KC5010	D111
NGP3M200R K313	D111
NGP3M200R KC5010	D111
NGP3M250L K313	D111
NGP3M250L KC5010	D111
NGP3M250R K313	D111
NGP3M250R KC5010	D111
NGP3M300L K313	D111
NGP3M300L KC5010	D111
NGP3M300R K313	D111
NGP3M300R KC5010	D111
NGP3M350L KC5010	D111

Catalog No.	Page(s)
NGP4189L KC5010	D111
NGP4189R KC5010	D111
NGP4189R KC5410	D111
NGP4189R KC730	H39
NGP4250L KC5010	D111
NGP4250R KC5010	D111
NGP4250R KC850	H39
NJ3010L16 KC5025	E13
NJ3010L16 KC810	H51
NJ3010R16 K68	E13
NJ3010R16 KC5025	E13
NJ3010R16 KC730	H51
NJ3010R16 KC810	H51
NJ3010R16 KC850	H51
NJ3014L12 KC5010	E13
NJ3014L12 KC5025	E13
NJ3014L12 KC850	H51
NJ3014R12 K68	E13
NJ3014R12 KC5010	E13
NJ3014R12 KC5025	E13
NJ3014R12 KC730	H51
NJ3014R12 KC810	H51
NJ3014R12 KC850	H51
NJ3020L8 KC5025	E13
NJ3020L8 KC730	H51
NJ3020L8 KC850	H51
NJ3020R8 KC5010	E13
NJ3020R8 KC5025	E13
NJ3020R8 KC730	H51
NJ3020R8 KC850	H51
NJF3005L32 KC730	H52
NJF3005R32 KC5010	E13
NJF3005R32 KC730	H52
NJF3006L28 KC5010	E13
NJF3006R28 K68	E13
NJF3006R28 KC5010	E13
NJF3006R28 KC5025	E13
NJF3006R28 KC730	H52
NJF3007L24 KC5010	E13
NJF3007R24 KC5010	E13
NJF3007R24 KC5025	E13
NJF3007R24 KC730	H52
NJF3008L20 KC730	H52
NJF3008R20 KC5010	E13
NJF3008R20 KC5025	E13
NJF3008R20 KC730	H52
NJF3009L18 KC730	H52
NJF3009R18 K68	E13
NJF3009R18 KC5010	E13
NJF3009R18 KC5025	E13
NJF3009R18 KC730	H52
NJF3010L16 KC5010	E13
NJF3010L16 KC730	H52
NJF3010R16 K68	E13
NJF3010R16 KC5010	E13
NJF3010R16 KC5025	E13
NJF3010R16 KC730	H52
NJF3012R14 KC5010	E13
NJF3012R14 KC5025	E13
NJF3012R14 KC730	H52
NJK3005L32 KC5025	E14
NJK3005L32 KC730	H52
NJK3005R32 KC5010	E14
NJK3005R32 KC5025	E14
NJK3005R32 KC730	H52
NJK3006R28 KC5010	E14
NJK3006R28 KC5025	E14
NJK3006R28 KC730	H52
NJK3007L24 KC730	H52
NJK3007R24 KC5010	E14
NJK3007R24 KC5025	E14
NJK3007R24 KC730	H52
NJK3007R24 KC850	H52
NJK3008L20 KC5025	E14
NJK3008L20 KC730	H52
NJK3008R20 K68	E14
NJK3008R20 KC5010	E14
NJK3008R20 KC5025	E14
NJK3008R20 KC730	H52
NJK3008R20 KC850	H52
NJK3009L18 KC730	H52
NJK3009R18 KC5010	E14
NJK3009R18 KC5025	E14
NJK3009R18 KC730	H52
NJK3009R18 KC850	H52
NJK3010L16 KC730	H52
NJK3010R16 K68	E14
NJK3010R16 KC5010	E14
NJK3010R16 KC5025	E14
NJK3010R16 KC730	H52
NJK3010R16 KC850	H52
NJK3012L14 KC5010	E14
NJK3012R14 KC5010	E14
NJK3012R14 KC5025	E14
NJK3012R14 KC730	H52
NJK3012R14 KC850	H52
NJP3010L16 KC5025	E13
NJP3010L16 KC730	H51
NJP3010L16 KC850	H51
NJP3010R16 KC5010	E13
NJP3010R16 KC5025	E13
NJP3010R16 KC730	H51
NJP3010R16 KC850	H51
NJP3014L12 KC5010	E13
NJP3014L12 KC5025	E13
NJP3014L12 KC730	H51
NJP3014L12 KC850	H51
NJP3014R12 K68	E13
NJP3014R12 KC5010	E13
NJP3014R12 KC5025	E13
NJP3014R12 KC730	H51
NJP3014R12 KC850	H51
NJP3020L8 KC5025	E13
NJP3020L8 KC730	H51
NJP3020L8 KC850	H51
NJP3020R8 KC5010	E13
NJP3020R8 KC5025	E13
NJP3020R8 KC730	H51
NJP3020R8 KC850	H51
NKLCL1212F11	F9
NKLCL1616H11	F9
NKLCL2020K11	F9
NKLCL2525M11	F9
NKLCLF1616K11Q	F9
NKLCR1212F11	F9
NKLCR1616H11	F9
NKLCR2020K11	F9
NKLCR2525M11	F9
NKLCRF1212M11Q	F9
NKLCRF1616K11Q	F9
NKLNL2020K15	F9
NKLNL2525M15	F9
NKLNR2020K15	F9
NKLNR2525M15	F9
NKLNR3225P15	F9
NKNCL1616H11	F10
NKNCR1616H11	F10
NKNNL2020K15	F10
NKNNL2525M15	F10
NKNNR2020K15	F10
NKNNR2525M15	F10
NKXCL1616H11	F10
NKXCR1212F11	F10
NKXCR1616H11	F10
NKXNL2525M15	F11
NKXNR2525M15	F11
NP2002RK KC5010	D113
NP2002RK KC5025	D113
NP2002RK KC730	H43
NP2002RK KC935	H43
NP2012RK KC5025	D113
NP2012RK KC730	H43
NP3001RK KC730	H43
NP3001RK KC850	H43
NP3002RK KC5010	D113
NP3002RK KC5025	D113
NP3002RK KC730	H43
NP3002RK KC935	H43
NP3012RK KC5025	D113
NP3012RK KC730	H43
NP3014RK KC730	H43
NP3014RK KC850	H43
NPD2002RK KC5010	D113
NPD2002RK KC5025	D113
NPD2002RK KC730	H43
NPD2012RK KC5010	D113
NPD3002RK KC5025	D113
NPD3002RK KC730	H43
NPD3012RK KC5010	D113
NPD3012RK KC5025	D113
NPD3012RK KC730	H43
NPD3012RK KC935	H43
NPL505 KB1345	F7
NPL51 KB1345	F7
NPR331N K68	F5
NPR505 KB1345	F7
NPR51 KB1345	F7
NR2031L KC5010	D114
NR2031L KC5025	D114
NR2031L KC730	H41
NR2031L KC850	H41
NR2031R KC5010	D114
NR2031R KC5025	D114
NR2031R KC730	H41
NR2031R KC850	H41
NR2047L KC5025	D114
NR2047L KC730	H41
NR2047L KC850	H41
NR2047R KC5025	D114
NR2047R KC730	H41
NR2062L KC5010	D114
NR2062L KC5025	D114
NR2062L KC730	H41
NR2062L KC850	H41
NR2062R KC5010	D114
NR2062R KC5025	D114
NR2062R KC730	H41
NR2062R KC850	H41
NR2M050L KC5010	D114
NR2M050L KC5025	D114
NR2M050L KC9110	D114
NR2M050L KC9320	D114
NR2M050R KC5010	D114
NR2M050R KC5025	D114
NR2M050R KC9110	D114
NR2M050R KC9320	D114
NR2M075L KC5010	D114
NR2M075L KC5025	D114
NR2M075L KC9110	D114
NR2M075L KC9320	D114
NR2M075R KC5010	D114
NR2M075R KC5025	D114
NR2M075R KC9110	D114
NR2M075R KC9320	D114
NR2M100L KC5010	D114
NR2M100L KC5025	D114
NR2M100L KC9110	D114
NR2M100L KC9320	D114
NR2M100R KC5010	D114
NR2M100R KC5025	D114
NR2M100R KC9110	D114
NR2M100R KC9320	D114
NR2M125L KC5010	D114
NR2M125L KC5025	D114
NR2M125L KC9110	D114
NR2M125L KC9320	D114
NR2M125R KC5010	D114
NR2M125R KC5025	D114
NR2M125R KC9110	D114
NR2M125R KC9320	D114
NR2M150L KC5010	D114
NR2M150L KC5025	D114
NR2M150L KC9110	D114
NR2M150L KC9320	D114
NR2M150R KC5010	D114
NR2M150R KC5025	D114
NR2M150R KC9110	D114
NR2M150R KC9320	D114
NR2M175L KC5010	D114
NR2M175L KC5025	D114
NR2M175L KC9110	D114
NR2M175L KC9320	D114
NR2M175R KC5010	D114
NR2M175R KC5025	D114
NR2M175R KC9110	D114
NR2M175R KC9320	D114
NR3031L K313	D114
NR3031L KC5010	D114
NR3031L KC5025	D114
NR3031L KC730	H41
NR3031L KC850	H41
NR3031LK KC5010	D115
NR3031LK KC5025	D115
NR3031R K313	D114
NR3031R KC5010	D114
NR3031R KC5025	D114
NR3031R KC730	H41
NR3031R KC850	H41
NR3031RK KC5010	D115
NR3031RK KC5025	D115
NR3047L K313	D114
NR3047L KC5010	D114
NR3047L KC5025	D114
NR3047L KC730	H41
NR3047L KC850	H41
NR3047LK KC5010	D115
NR3047LK KC5025	D115
NR3047LK KC730	H40
NR3047LK KC850	H40
NR3047LK KC935	H40
NR3047R K313	D114
NR3047R KC5010	D114
NR3047R KC5025	D114
NR3047R KC730	H41
NR3047R KC850	H41
NR3047RK KC5010	D115
NR3047RK KC5025	D115
NR3047RK KC730	H40
NR3047RK KC850	H40
NR3047RK KC935	H40
NR3062L K313	D114
NR3062L KC5010	D114
NR3062L KC5025	D114
NR3062L KC730	H41
NR3062L KC850	H41
NR3062LK KC5010	D115
NR3062LK KC5025	D115
NR3062LK KC730	H40
NR3062LK KC850	H40
NR3062LK KC935	H40
NR3062R K313	D114
NR3062R KC5010	D114
NR3062R KC5025	D114
NR3062R KC730	H41
NR3062R KC850	H41
NR3062RK KC5010	D115
NR3062RK KC5025	D115
NR3062RK KC730	H40
NR3062RK KC850	H40
NR3062RK KC935	H40
NR3078L KC730	H41
NR3078L KC850	H41
NR3078LK KC5010	D115
NR3078LK KC5025	D115
NR3078LK KC850	H40
NR3078R K313	D114
NR3078R KC730	H41
NR3078R KC850	H41
NR3078RK KC5010	D115
NR3078RK KC5025	D115
NR3078RK KC730	H40
NR3078RK KC935	H40
NR3094L K313	D114
NR3094L KC5010	D114
NR3094L KC5025	D114
NR3094L KC730	H41
NR3094L KC850	H41
NR3094R K313	D114
NR3094R KC5010	D114
NR3094R KC5025	D114
NR3094R KC730	H41
NR3094R KC850	H41
NR3M100L KC5010	D114
NR3M100L KC5025	D114

Catalog No.	Page(s)
NR3M100L KC9110	D114
NR3M100L KC9320	D114
NR3M100R KC5010	D114
NR3M100R KC5025	D114
NR3M100R KC9110	D114
NR3M100R KC9320	D114
NR3M125L KC5010	D114
NR3M125L KC5025	D114
NR3M125L KC9110	D114
NR3M125L KC9320	D114
NR3M125R KC5010	D114
NR3M125R KC5025	D114
NR3M125R KC9110	D114
NR3M125R KC9320	D114
NR3M150L KC5010	D114
NR3M150L KC5025	D114
NR3M150L KC9110	D114
NR3M150L KC9320	D114
NR3M150R KC5010	D114
NR3M150R KC5025	D114
NR3M150R KC9110	D114
NR3M150R KC9320	D114
NR3M175L KC5010	D114
NR3M175L KC5025	D114
NR3M175L KC9110	D114
NR3M175L KC9320	D114
NR3M175R KC5010	D114
NR3M175R KC5025	D114
NR3M175R KC9110	D114
NR3M175R KC9320	D114
NR3M200L KC5010	D114
NR3M200L KC5025	D114
NR3M200L KC9110	D114
NR3M200L KC9320	D114
NR3M200R KC5010	D114
NR3M200R KC5025	D114
NR3M200R KC9110	D114
NR3M200R KC9320	D114
NR3M225L KC5010	D114
NR3M225L KC5025	D114
NR3M225L KC9110	D114
NR3M225L KC9320	D114
NR3M225R KC5010	D114
NR3M225R KC5025	D114
NR3M225R KC9110	D114
NR3M225R KC9320	D114
NR4062L KC730	H41
NR4062L KC850	H41
NR4062LK KC5010	D115
NR4062LK KC5025	D115
NR4062LK KC9110	D115
NR4062R KC730	H41
NR4062R KC850	H41
NR4062RK KC5010	D115
NR4062RK KC5025	D115
NR4062RK KC9110	D115
NR4094L KC730	H41
NR4094L KC850	H41
NR4094LK KC5010	D115
NR4094LK KC5025	D115
NR4094LK KC730	H40
NR4094LK KC9110	D115
NR4094LK KC935	H40
NR4094R K313	D114
NR4094R KC730	H41
NR4094R KC850	H41
NR4094RK KC5010	D115
NR4094RK KC5025	D115
NR4094RK KC730	H40
NR4094RK KC9110	D115
NR4125L KC5010	D114
NR4125L KC5025	D114
NR4125L KC730	H41
NR4125L KC850	H41
NR4125LK KC5010	D115
NR4125LK KC5025	D115
NR4125LK KC730	H40
NR4125LK KC9110	D115
NR4125LK KC935	H40
NR4125R K313	D114
NR4125R KC5010	D114
NR4125R KC5025	D114
NR4125R KC730	H41
NR4125R KC850	H41
NR4125RK KC5010	D115
NR4125RK KC5025	D115
NR4125RK KC730	H40
NR4125RK KC850	H40
NR4125RK KC9110	D115
NR4125RK KC935	H40
NR4M200L KC5010	D114
NR4M200L KC5025	D114
NR4M200L KC9110	D114
NR4M200L KC9320	D114
NR4M200R KC5010	D114
NR4M200R KC5025	D114
NR4M200R KC9110	D114
NR4M200R KC9320	D114
NR4M225L KC5010	D114
NR4M225L KC5025	D114
NR4M225L KC9110	D114
NR4M225L KC9320	D114
NR4M225R KC5010	D114
NR4M225R KC5025	D114
NR4M225R KC9110	D114
NR4M225R KC9320	D114
NR4M250L KC5010	D114
NR4M250L KC5025	D114
NR4M250L KC9110	D114
NR4M250L KC9320	D114
NR4M250R KC5010	D114
NR4M250R KC5025	D114
NR4M250R KC9110	D114
NR4M250R KC9320	D114
NRD3031L KC5010	D115
NRD3031L KC5025	D115
NRD3031L KC730	H42
NRD3031L KC850	H42
NRD3031R KC5010	D115
NRD3031R KC5025	D115
NRD3031R KC730	H42
NRD3031R KC850	H42
NRD3062L KC5010	D115
NRD3062L KC5025	D115
NRD3062L KC730	H42
NRD3062L KC850	H42
NRD3062R KC5010	D115
NRD3062R KC5025	D115
NRD3062R KC730	H42
NRD3062R KC850	H42
NRD4062L KC5010	D115
NRD4062L KC5025	D115
NRD4062L KC730	H42
NRD4062R KC5010	D115
NRD4062R KC5025	D115
NRD4062R KC730	H42
NRD4062R KC850	H42
NRD4094L KC5010	D115
NRD4094L KC5025	D115
NRD4094L KC730	H42
NRD4094L KC850	H42
NRD4094R KC5010	D115
NRD4094R KC730	H42
NRD4094R KC850	H42
NRD4125L KC5010	D115
NRD4125L KC5025	D115
NRD4125L KC730	H42
NRD4125L KC850	H42
NRD4125R KC5010	D115
NRD4125R KC5025	D115
NRD4125R KC730	H42
NRD4125R KC850	H42
NRL2020K3	D121
NRL2525M3	D121
NRL3225P3	D121
NRP3031L KC5010	D116
NRP3031L KC5410	D116
NRP3031L KC730	H41
NRP3031L KC850	H41
NRP3031R KC5010	D116
NRP3031R KC5410	D116
NRP3031R KC730	H41
NRP3031R KC850	H41
NRP3047L KC5010	D116
NRP3047L KC730	H41
NRP3047L KC850	H41
NRP3047R K313	D116
NRP3047R KC5010	D116
NRP3047R KC730	H41
NRP3047R KC850	H41
NRP3062L KC5010	D116
NRP3062L KC730	H41
NRP3062L KC850	H41
NRP3062R KC5010	D116
NRP3062R KC5410	D116
NRP3062R KC730	H41
NRP3062R KC850	H41
NRP3078R KC850	H41
NRP3094L KC5010	D116
NRP3094L KC730	H41
NRP3094L KC850	H41
NRP3094R KC5010	D116
NRP3094R KC730	H41
NRP3094R KC850	H41
NRP4062R KC730	H41
NRP4094R KC730	H41
NRP4125R KC5410	D116
NRP4125R KC730	H41
NRP4125R KC850	H41
NRR2020K3	D121
NRR2525M3	D121
NRR3225P3	D121
NSL1010E2	D119, E19
NSL1212F2	D119, E19
NSL1616H2	D119, E19
NSL2020K2	D119, E19
NSL2020K3	D119, E19
NSL2525M2	D119, E19
NSL2525M3	D119, E19
NSL2525M4	D119, E19
NSL3225P3	D119, E19
NSL3225P4	D119, E19
NSL3232P3	D119, E19
NSL3232P4	D119, E19
NSL3232P5	D119, E19
NSR1010E2	D119, E19
NSR1212F2	D119, E19
NSR1616H2	D119, E19
NSR2020K2	D119, E19
NSR2020K3	D119, E19
NSR2525M2	D119, E19
NSR2525M3	D119, E19
NSR2525M4	D119, E19
NSR3225P3	D119, E19
NSR3225P4	D119, E19
NSR3232P3	D119, E19
NSR3232P4	D119, E19
NSR3232P5	D119, E19
NSRDH2020K2	D120
NSRDH2525M2	D120
NSRDH2525M3	D120
NSRDH3232P3	D120
NST1	B66
NST2	B66
NST3	B66
NST4	B66
NST5	B66
NST6	B66
NT1L K68	E10
NT1L KC5010	E10
NT1L KC5025	E10
NT1L KC730	H48
NT1L KC810	H48
NT2L K68	E10
NT2L KC5010	E10
NT2L KC5025	E10
NT2L KC730	H48
NT2L KC810	H48
NT2L KC850	H48
NT2L KU25T	H48
NT2R K68	E10
NT2R KC5010	E10
NT2R KC5025	E10
NT2R KC730	H48
NT2R KC810	H48
NT2R KC850	H48
NT2R KU25T	H48
NT2RK KC5010	E10
NT2RK KC5025	E10
NT2RK KC730	H48
NT2RK KC850	H48
NT2RK KU25T	H48
NT3L K68	E10
NT3L KC5010	E10
NT3L KC5025	E10
NT3L KC730	H48
NT3L KC810	H48
NT3L KC850	H48
NT3L KU25T	H48
NT3LC KC730	H49
NT3LC KC850	H49
NT3LCK KC5010	E11
NT3LCK KC5025	E11
NT3LCK KC730	H49
NT3LK KC5010	E10
NT3LK KC5025	E10
NT3LK KC730	H48
NT3LK KC850	H48
NT3LK KU25T	H48
NT3R K68	E10
NT3R KC5010	E10
NT3R KC5025	E10
NT3R KC730	H48
NT3R KC810	H48
NT3R KC850	H48
NT3R KU25T	H48
NT3RC KC730	H49
NT3RC KC850	H49
NT3RCK KC5010	E11
NT3RCK KC5025	E11
NT3RCK KC730	H49
NT3RCK KC850	H49
NT3RK KC5010	E10
NT3RK KC5025	E10
NT3RK KC730	H48
NT3RK KC810	H48
NT3RK KC850	H48
NT3RK KU25T	H48
NT4L K68	E10
NT4L KC5010	E10
NT4L KC5025	E10
NT4L KC730	H48
NT4L KC810	H48
NT4L KC850	H48
NT4L KU25T	H48
NT4LC KC730	H49
NT4LCK KC5010	E11
NT4LCK KC5025	E11
NT4LK KC5010	E10
NT4LK KC5025	E10
NT4LK KC730	H48
NT4LK KC850	H48
NT4LK KU25T	H48
NT4R K68	E10
NT4R KC5010	E10
NT4R KC5025	E10
NT4R KC730	H48
NT4R KC810	H48
NT4R KC850	H48
NT4R KU25T	H48
NT4RC KC730	H49
NT4RC KC850	H49
NT4RCK KC5010	E11
NT4RCK KC5025	E11
NT4RCK KC730	H49

Catalog No.	Page(s)
NT4RCK KC850	H49
NT4RK KC5010	E10
NT4RK KC5025	E10
NT4RK KC730	H48
NT4RK KC850	H48
NT4RK KU25T	H48
NTB2LA KC5025	E17
NTB2LB KC5010	E17
NTB2LB KC730	H55
NTB2RA K68	E17
NTB2RA KC5010	E17
NTB2RB KC5010	E17
NTB2RB KC5025	E17
NTB2RB KC730	H55
NTB3LA K68	E17
NTB3LA KC5010	E17
NTB3LA KC5025	E17
NTB3LA KC730	H55
NTB3LB K68	E17
NTB3LB KC5010	E17
NTB3LB KC5025	E17
NTB3LB KC730	H55
NTB3RA KC5010	E17
NTB3RA KC5025	E17
NTB3RA KC730	H55
NTB3RB K68	E17
NTB3RB KC5010	E17
NTB3RB KC5025	E17
NTB3RB KC730	H55
NTB3RB KC810	H55
NTB4LA KC5010	E17
NTB4LA KC5025	E17
NTB4LB KC5010	E17
NTB4LB KC5025	E17
NTB4LB KC730	H55
NTB4RA KC5010	E17
NTB4RB KC5010	E17
NTB4RB KC5025	E17
NTB4RB KC730	H55
NTC3L10I KC5025	E12
NTC3L10I KC730	H51
NTC3L12E KC5010	E12
NTC3L12E KC5025	E12
NTC3L12E KC730	H50
NTC3L12I KC5025	E12
NTC3L12I KC730	H51
NTC3L12I KC810	H51
NTC3L14I KC5025	E12
NTC3L16E KC5010	E12
NTC3L16E KC5025	E12
NTC3L16I KC5025	E12
NTC3L16I KC730	H51
NTC3L8E KC5010	E12
NTC3L8E KC730	H50
NTC3L8I KC5025	E12
NTC3L8I KC730	H51
NTC3ML150E KC5010	E12
NTC3ML200E KC5025	E12
NTC3MR150E KC5010	E12
NTC3MR150E KC5025	E12
NTC3MR200E KC5010	E12
NTC3R10E KC5010	E12
NTC3R10E KC5025	E12
NTC3R10E KC730	H50
NTC3R11E KC5010	E12
NTC3R11E KC5025	E12
NTC3R11E KC730	H50
NTC3R12E KC5010	E12
NTC3R12E KC5025	E12
NTC3R12E KC730	H50
NTC3R12E KC810	H50
NTC3R12I KC5025	E12
NTC3R13E KC5010	E12
NTC3R13E KC5025	E12
NTC3R13E KC730	H50
NTC3R14E KC5010	E12
NTC3R14E KC5025	E12
NTC3R14E KC730	H50
NTC3R16E KC5010	E12
NTC3R16E KC5025	E12
NTC3R16E KC730	H50
NTC3R16E KC810	H50
NTC3R18E KC5010	E12
NTC3R18E KC5025	E12
NTC3R18E KC730	H50
NTC3R18E KC810	H50
NTC3R18E KC850	H50
NTC3R20E KC5010	E12
NTC3R20E KC5025	E12
NTC3R20E KC730	H50
NTC3R20E KC810	H50
NTC3R24E KC5010	E12
NTC3R24E KC5025	E12
NTC3R24E KC730	H50
NTC3R28E KC5025	E12
NTC3R28E KC730	H50
NTC3R32E KC5010	E12
NTC3R32E KC5025	E12
NTC3R32E KC730	H50
NTC3R7E KC5025	E12
NTC3R7E KC730	H50
NTC3R8E KC5010	E12
NTC3R8E KC5025	E12
NTC3R8E KC730	H50
NTC3R8I KC5025	E12
NTC3R9E KC5010	E12
NTC3R9E KC5025	E12
NTC8L12IM KC730	H51
NTF2L K68	E11
NTF2L KC5010	E11
NTF2L KC5025	E11
NTF2L KC730	H49
NTF2L KC810	H49
NTF2L KC850	H49
NTF2R K68	E11
NTF2R KC5010	E11
NTF2R KC5025	E11
NTF2R KC730	H49
NTF2R KC810	H49
NTF2R KC850	H49
NTF3L K68	E11
NTF3L KC5010	E11
NTF3L KC5025	E11
NTF3L KC730	H49
NTF3L KC810	H49
NTF3L KC850	H49
NTF3R K68	E11
NTF3R KC5010	E11
NTF3R KC5025	E11
NTF3R KC730	H49
NTF3R KC810	H49
NTF3R KC850	H49
NTF4R K68	E11
NTF4R KC5025	E11
NTF4R KC730	H49
NTF4R KC850	H49
NTK2L K68	E11
NTK2L KC5010	E11
NTK2L KC5025	E11
NTK2L KC730	H49
NTK2L KC850	H49
NTK2R K68	E11
NTK2R KC5010	E11
NTK2R KC5025	E11
NTK2R KC730	H49
NTK2R KC850	H49
NTK3L K68	E11
NTK3L KC5010	E11
NTK3L KC5025	E11
NTK3L KC730	H49
NTK3L KC850	H49
NTK3R K68	E11
NTK3R KC5010	E11
NTK3R KC5025	E11
NTK3R KC730	H49
NTK3R KC810	H49
NTK3R KC850	H49
NTK4R KC730	H49
NTP2L K68	E10
NTP2L KC5010	E10
NTP2L KC5025	E10
NTP2L KC730	H48
NTP2L KC810	H48
NTP2L KC850	H48
NTP2R K68	E10
NTP2R KC5010	E10
NTP2R KC5025	E10
NTP2R KC5410	E10
NTP2R KC730	H48
NTP2R KC810	H48
NTP2R KC850	H48
NTP3L K68	E10
NTP3L KC5010	E10
NTP3L KC5025	E10
NTP3L KC5410	E10
NTP3L KC730	H48
NTP3L KC810	H48
NTP3L KC850	H48
NTP3R K68	E10
NTP3R KC5010	E10
NTP3R KC5025	E10
NTP3R KC5410	E10
NTP3R KC730	H48
NTP3R KC810	H48
NTP3R KC850	H48
NTP4L KC5010	E10
NTP4L KC5025	E10
NTP4L KC730	H48
NTP4L KC850	H48
NTP4R KC5010	E10
NTP4R KC5025	E10
NTP4R KC730	H48
NTP4R KC810	H48
NTP4R KC850	H48
NTU4R KC5025	E11
NTU4R KC850	H50
NU3094L KC5025	D116
NU3094R KC5025	D116
NU3125L KC5025	D116
NU3125R KC5025	D116
NU3156L KC5025	D116
NU3156R KC5025	D116
NV3LJ KC5025	D116
NV3RJ KC5025	D116
NV3RJ KC730	H43
NV4LL KC5025	D116
NV4RL KC5025	D116
NV4RL KC730	H43
NVHBL1616H11	F11
NVHBL2020K11	F11
NVHBL2525M11	F11
NVHBR1616H11	F11
NVHBR2020K11	F11
NVHBR2525M11	F11
NVLBL2020K11	F11
NVLBL2525M11	F11
NVLBR1616H11	F11
NVLBR2020K11	F11
NVLBR2525M11	F11
NVLCL1616H16	F12
NVLCL2020K16	F12
NVLCL2525M16	F12
NVLCL3225P16	F12
NVLCR1616H16	F12
NVLCR2020K16	F12
NVLCR2525M16	F12
NVLCR3225P16	F12
NVOCL2020K16	F12
NVOCL2525M16	F12
NVOCR2020K16	F12
NVOCR2525M16	F12
NVVBN2020K11	F13
NVVBN2525M11	F13
NVVCN1616H16	F13
NVVCN2020K16	F13
NVVCN2525M16	F13
NWC3L11I KC5025	E15
NWC3R11E KC5010	E15
NWC3R11E KC5025	E15
NWC3R14E KC5010	E15
NWC3R14E KC5025	E15
PCBNL2020K12	B15
PCBNL2525M12	B15
PCBNL2525M16	B15
PCBNL3225P16	B15
PCBNL3232P16	B15
PCBNL3232P19	B15
PCBNL4040S19	B15
PCBNR2525M12	B15
PCBNR3225P12	B15
PCBNR3225P16	B15
PCBNR3232P19	B15
PCBNR4040S19	B15
PCKNL2020K12	B15
PCKNL2525M12	B15
PCKNL3225P12	B15
PCKNL3225P16	B15
PCKNL3232P19	B15
PCKNR2020K12	B15
PCKNR2525M12	B15
PCKNR2525M16	B15
PCKNR3225P12	B15
PCKNR3225P16	B15
PCKNR3232P19	B15
PCLNL1616H12	B16
PCLNL16CA-12	B114-115
PCLNL2020K12	B16
PCLNL2525M12	B16
PCLNL2525M16	B16
PCLNL2525M19	B16
PCLNL3225P12	B16
PCLNL3225P16	B16
PCLNL3225P19	B16
PCLNL3232P16	B16
PCLNL3232P19	B16
PCLNL4040S19	B16
PCLNR12CA-12	B114-115
PCLNR1616H12	B16
PCLNR16CA-12	B114-115
PCLNR2020K12	B16
PCLNR2525M12	B16
PCLNR2525M16	B16
PCLNR2525M19	B16
PCLNR3225P12	B16
PCLNR3225P16	B16
PCLNR3232P16	B16
PCLNR3232P19	B16
PCLNR4040S19	B16
PCSNL2020K12	B16
PCSNL2525M12	B16
PCSNL3225P12	B16
PCSNL3232P19	B16
PCSNR2020K12	B16
PCSNR2525M12	B16
PCSNR3225P12	B16
PCSNR3232P19	B16
PDJNL1616H11	B17
PDJNL2020K11	B17
PDJNL2020K15	B17
PDJNL2525M11	B17
PDJNL2525M15	B17
PDJNL3225P15	B17
PDJNL3232P15	B17
PDJNL4025R15	B17
PDJNR1616H11	B17
PDJNR2020K11	B17
PDJNR2020K15	B17
PDJNR2525M11	B17
PDJNR2525M15	B17
PDJNR3225P15	B17
PDJNR3232P15	B17
PDJNR4025R15	B17
PDNNL2020K11	B17
PDNNL2020K15	B17
PDNNL2525M11	B17
PDNNL2525M15	B17
PDNNL4025M15	B17
PDNNR2020K11	B17
PDNNR2020K15	B17
PDNNR2525M15	B17

Index by Catalog Number

Catalog No.	Page(s)
PDNNR4025M15	B17
PRCCN2020K08H1	B22
PRCCN2020K10H1	B22
PRCCN2525M08H1	B22
PRCCN2525M10H1	B22
PRCCN2525M12H1	B22
PRCCN3225P16H1	B22
PRCCN3232P20H1	B22
PRCCN4040S25H1	B22
PRGCL2525M08H1	B22
PRGCL2525M10H1	B22
PRGCL2525M12H1	B22
PRGCL3225P16H1	B22
PRGCL3232P20H1	B22
PRGCL4040S25H1	B22
PRGCR2020K10H1	B22
PRGCR2525M08H1	B22
PRGCR2525M10H1	B22
PRGCR2525M12H1	B22
PRGCR3225P16H1	B22
PRGCR3232P20H1	B22
PRGCR4040S25H1	B22
PSBNL2020K12	B18
PSBNL2525M12	B18
PSBNL2525M15	B18
PSBNL3225P12	B18
PSBNL3225P15	B18
PSBNL3232P15	B18
PSBNL3232P19	B18
PSBNL4040S19	B18
PSBNL4040S25	B18
PSBNR2020K12	B18
PSBNR2525M12	B18
PSBNR2525M15	B18
PSBNR3225P12	B18
PSBNR3232P15	B18
PSBNR3232P19	B18
PSBNR4040S19	B18
PSBNR4040S25	B18
PSDNN1616H09	B18
PSDNN2020K12	B18
PSDNN2525M12	B18
PSDNN2525M12MA4	B41
PSDNN3225P12	B18
PSDNN3225P12MA4	B41
PSDNN3225P19	B18
PSDNN3232P19	B18
PSDNN4040S25	B18
PSKNL16CA-12	B114-115
PSKNL2020K12	B19
PSKNL2525M12	B19
PSKNL3232P19	B19
PSKNL4040S19	B19
PSKNR12CA-12	B114-115
PSKNR1616H09	B19
PSKNR16CA-12	B114-115
PSKNR2020K12	B19
PSKNR2525M12	B19
PSKNR3232P15	B19
PSKNR3232P19	B19
PSSNL12CA12	B114-115
PSSNL16CA12	B114-115
PSSNL2020K12	B19
PSSNL2525M12	B19
PSSNL3225P12	B19
PSSNL3232P19	B19
PSSNL4040S19	B19
PSSNR12CA-12	B114-115
PSSNR16CA-12	B114-115
PSSNR2020K09	B19
PSSNR2020K12	B19
PSSNR2525M12	B19
PSSNR2525M15	B19
PSSNR3225P12	B19
PSSNR3232P15	B19
PSSNR3232P19	B19
PTFNL12CA-16	B116-117
PTFNL1616H16	B20
PTFNL2020K16	B20
PTFNL2525M16	B20
PTFNR12CA-16	B116-117
PTFNR16CA-16	B116-117
PTFNR2020K16	B20
PTFNR2525M16	B20
PTGNL1616H16	B20
PTGNL2020K16	B20
PTGNL2525M16	B20
PTGNL2525M22	B20
PTGNR1616H16	B20
PTGNR2020K16	B20
PTGNR2525M16	B20
PTGNR2525M22	B20
PTGNR3225P16	B20
PTGNR3232P22	B20
PWLNL1616H06	B21
PWLNL2020K06	B21
PWLNL2020K08	B21
PWLNL2525M08	B21
PWLNL3225P08	B21
PWLNR1616H06	B21
PWLNR2020K06	B21
PWLNR2020K08	B21
PWLNR2525M08	B21
PWLNR3225P08	B21
RCGH09T300 KC810	H28
RCGK040300FS K313	F22
RCGK040300FS KC5010	F22
RCGK040300HP K313	F22
RCGK040300HP KC5010	F22
RCGK040300HP KC5410	F22
RCGK060400FS K313	F22
RCGK060400FS KC5010	F22
RCGK060400FS KC9225	F22
RCGK060400HP K313	F22
RCGK060400HP KC5010	F22
RCGK060400HP KC5410	F22
RCGK090700FS K313	F22
RCGK090700FS KC5010	F22
RCGK090700FS KC5025	F22
RCGK090700FS KC9225	F22
RCGK090700HP KC5010	F22
RCGK090700HP KC5410	F22
RCGK120800FS KC5010	F22
RCGK120800FS KC9225	F22
RCGK120800HP KC5010	F22
RCGK120800HP KC5410	F22
RCGN120700T02020 KY1615	A90-91
RCGN120700T20015 KY1615	A90-91
RCGT0602M0RP KC9110	A119
RCGT0602M0RP KC9125	A118-119
RCGT0803M0HP K313	A117
RCGT0803M0HP K68	A117
RCGT0803M0HP KC5010	A117
RCGT0803M0HP KC5025	A116-117
RCGT0803M0HP KC5410	A117
RCGT0803M0HP KC730	H28
RCGT0803M0MS KC5010	A116-117
RCGT0803M0MS KC5025	A117
RCGT0803M0RP KC9110	A119
RCGT0803M0RP KC9125	A119
RCGT0803M0RP KC9315	A118-119
RCGT10T3M0HP K313	A117
RCGT10T3M0HP KC5010	A117
RCGT10T3M0HP KC5025	A117
RCGT10T3M0HP KC5410	A116-117
RCGT10T3M0HP KC730	H28
RCGT1204M0HP K313	A117
RCGT1204M0HP KC5010	A117
RCGT1204M0HP KC5025	A117
RCGT1204M0HP KC5410	A116-117
RCGT1204M0HP KC730	H28
RCGT1204M0MS KC5010	A116-117
RCGT1204M0MS KC5025	A117
RCGT1606M0MS KC5010	A117
RCGT1606M0MS KC5025	A116-117
RCGV060400 K313	A91
RCGV060400 KC5010	A90-91
RCGV060400 KC935	H22
RCGV090700 K313	A91
RCGV090700 KC5010	A91
RCGV090700 KC730	H22
RCGV090700 KC8050	A90-91
RCGV090700 KC935	H22
RCGV120700 K313	A91
RCGV120700 KC5010	A90-91
RCGW060200 KC730	H28
RCGW1204M0T01020 KY1615	A116-117
RCGW1606M0T20015 KY1615	A116-117
RCGW2006M0T20015 KY1615	A116-117
RCGW2507M0T20015 KY1615	A116-117
RCGX060400E KY1540	A91
RCGX060400E KY2100	A90-91, H22
RCGX090700E KY1540	A90-91
RCGX090700E KY1615	A91
RCGX090700E KY2100	A91, H22
RCGX090700T01020 KY1525	H22
RCGX090700T01020 KY1540	A91
RCGX090700T01020 KY1615	A90-91
RCGX090700T01020 KY2100	A91, H22
RCGX090700T01020 KY4300	A91
RCGX090700T01020 KY4400	A91
RCGX090700T02020 KY1615	A90-91
RCGX090700T07015 KY1615	A90-91
RCGX090700T10015 KY1615	A90-91
RCGX090700T20015 KY1615	A90-91
RCGX1003M0MS KC5010	A117
RCGX1003M0MS KC5025	A116-117
RCGX120700E KY1540	A91
RCGX120700E KY1615	A90-91
RCGX120700E KY2100	A91, H22
RCGX120700E KY3500	A91
RCGX120700S20015 KY4400	A90-91
RCGX120700T01020 KY1525	H22
RCGX120700T01020 KY1540	A91
RCGX120700T01020 KY2100	A91, H22
RCGX120700T01020 KY4300	A90-91
RCGX120700T01020 KY4400	A91
RCGX120700T01025 KY1540	A90-91
RCGX120700T02020 KY1615	A90-91
RCGX120700T07015 KY1615	A90-91
RCGX120700T10015 KY1615	A90-91
RCGX120700T20015 KY1615	A90-91
RCGX151000T20015 KY1615	A90-91
RCGX191000T20015 KY1615	A90-91
RCGX251200T20015 KY1615	A90-91
RCGX251200T20015 KY4300	A91
RCMA251200T K090	H9
RCMK040300 K313	F22
RCMK040300 KC5010	F22
RCMK040300 KC730	H34
RCMK060400 K313	F22
RCMK060400 KC5010	F22
RCMK060400 KC730	H34
RCMK060400 KC935	H34
RCMK090700 K313	F22
RCMK090700 KC5010	F22
RCMK090700 KC730	H34
RCMK090700 KC935	H34
RCMK120800 K313	F22
RCMK120800 KC5010	F22
RCMK120800 KC730	H34
RCMK120800 KC935	H34
RCMT060200 KC5010	A116-117
RCMT060200 KC5410	A117
RCMT060200 KC730	H28
RCMT060200 KC850	H28
RCMT0602M0 K313	A117
RCMT0602M0 K68	A117
RCMT0602M0 KC5010	A117
RCMT0602M0 KC730	H28
RCMT0602M0 KC8050	A116-117
RCMT0602M0 KC850	H28
RCMT0602M0 KC9315	A117
RCMT0803M0 K313	A117
RCMT0803M0 KC5010	A116-117
RCMT0803M0 KC730	H28
RCMT0803M0 KC8050	A117
RCMT0803M0 KC850	H28
RCMT0803M0 KC9315	A117
RCMT09T300 K313	A117
RCMT09T300 KC5010	A117
RCMT09T300 KC5410	A116-117
RCMT09T300 KC730	H28
RCMT09T300 KC8050	A117
RCMT09T300 KC850	H28
RCMT09T300 KC9315	A117
RCMT10T3M0 K313	A117
RCMT10T3M0 KC5010	A116-117
RCMT10T3M0 KC730	H28
RCMT10T3M0 KC8050	A117
RCMT10T3M0 KC850	H28
RCMT10T3M0 KC9315	A117
RCMT10T3M0 KC9320	A117
RCMT1204M0 K313	A116-117
RCMT1204M0 KC5010	A117
RCMT1204M0 KC730	H28
RCMT1204M0 KC8050	A117
RCMT1204M0 KC850	H28
RCMT1204M0 KC9315	A117
RCMT1204M0 KC9320	A117
RCMT1204M0RP KC9110	A118-119
RCMT1204M0RP KC9125	A119
RCMT1204M0RP KC9315	A119
RCMT1605M0 K313	A117
RCMT1605M0 KC5010	A117
RCMT1605M0 KC730	H28
RCMT1605M0 KC8050	A116-117
RCMT1605M0 KC850	H28
RCMT1605M0 KC9315	A117
RCMT1606M0RP KC9110	A118-119
RCMT1606M0RP KC9125	A119
RCMT1606M0RP KC9315	A119
RCMT2006M0 K313	A116-117
RCMT2006M0 K68	A117
RCMT2006M0 KC5010	A117
RCMT2006M0 KC730	H28
RCMT2006M0 KC8050	A117
RCMT2006M0 KC850	H28
RCMT2006M0 KC9315	A117
RCMT2006M0RH KC9110	A119
RCMT2006M0RH KC9125	A118-119
RCMT2006M0RM KC9110	A119
RCMT2006M0RM KC9125	A118-119
RCMT2006M0RP KC9110	A118-119
RCMT2006M0RP KC9125	A119
RCMX100300 KC850	H29
RCMX1003M0RP KC9110	A118-119
RCMX1003M0RP KC9125	A119
RCMX120400 KC850	H29
RCMX160600 KC850	H29
RCMX200600 KC850	H29
RCMX250700 KC850	H29
RCMX2507M0RH KC9110	A119
RCMX2507M0RH KC9125	A118-119
RCMX2507M0RP KC9110	A118-119
RCMX2507M0RP KC9125	A119
RCMX3209M0RH KC9110	A119
RCMX3209M0RH KC9125	A118-119
RCMX3209M0RP KC9110	A119
RCMX3209M0RP KC9125	A118-119
RNGA090300T02020 KY1615	A32-33
RNGA120400T02020 K090	H9
RNGA120400T02020 KY1615	A32-33
RNGN090300T01020 KY1525	H20
RNGN090300T01020 KY4300	A80-81
RNGN090300T02020 K090	H20
RNGN090300T02020 KY1615	A80-81
RNGN090400T02020 KY1615	A80-81
RNGN120300T01020 KY4400	A80-81
RNGN120300T02020 K090	H20
RNGN120300T02020 KY1615	A80-81
RNGN120400 KC850	H20
RNGN120400E KY1540	A80-81
RNGN120400E KY2100	A81, H20
RNGN120400T01020 KY1525	H20
RNGN120400T01020 KY1540	A81
RNGN120400T01020 KY2100	A81, H20
RNGN120400T01020 KY4300	A80-81
RNGN120400T01020 KY4400	A81
RNGN120400T02020 K090	H20
RNGN120400T02020 KY1320	A81
RNGN120400T02020 KY1615	A81
RNGN120400T02020 KY3400	A80-81
RNGN120400T02020 KY3500	A81

Catalog No.	Page(s)
RNGN120700E KY1525	H20
RNGN120700E KY1540	A81
RNGN120700E KY1615	A81
RNGN120700E KY2100	A80-81, H20
RNGN120700E KY4300	A81
RNGN120700T00520 KY4300	A80-81
RNGN120700T01020 KY1525	H20
RNGN120700T01020 KY1540	A81
RNGN120700T01020 KY2100	A81, H20
RNGN120700T01020 KY4300	A81
RNGN120700T01020 KY4400	A80-81
RNGN120700T01025 KY1540	A80-81
RNGN120700T02020 K090	H20
RNGN120700T02020 KY1320	A81
RNGN120700T02020 KY1615	A81
RNGN120700T02020 KY3500	A80-81
RNGN120700T10015 KY1615	A81
RNGN120700T10015 KY4300	A80-81
RNGN120700T15015 KY1525	H20
RNGN120700T15015 KY4300	A80-81
RNGN120700T20015 KY1615	A80-81
RNGN150700T02020 KY1320	A81
RNGN150700T02020 KY1615	A80-81
RNGN150700T02020 KY3500	A81
RNGN190700E KY1525	H20
RNGN190700E KY1540	A80-81
RNGN190700T01020 KY1525	H20
RNGN190700T02020 K090	H20
RNGN190700T02020 KY1615	A80-81
RNGN190700T20015 KY1525	H20
RNGN190700T20015 KY4300	A80-81
RNGN250700P2001503 KY1615	A80-81
RNGN250700T20015 KY1615	A81
RNGN250700T20015 KY4300	A80-81
RNMA090300 K68	A32-33
RNMA120400 K68	A32-33
RNMA120400 KC9315	A33
RNMA120400 KC9325	A33
RNMA120400E KB9640	A32-33
RNMA120400S02020 KB9640	A32-33
RNMA150600 K68	A32-33
RNMA190600 K68	A32-33
RNMA250900 K68	A32-33
RNMA250900 KC850	H9
RNMG090300 KC850	H9
RNMG090300RN KC9110	A32-33
RNMG090300RN KC9125	A33
RNMG090300RN KC9325	A33
RNMG120400 KC850	H9
RNMG120400 KC935	H9
RNMG120400RN KC5010	A33
RNMG120400RN KC8050	H9
RNMG120400RN KC9110	A33
RNMG120400RN KC9125	A33
RNMG120400RN KC9315	A32-33
RNMG120400RN KC9325	A33
RNMG120400UN KC9315	A33
RNMG120400UN KC9320	A32-33
RNMG120400UN KC9325	A33
RNMG150600RN KC8050	H9
RNMG150600RN KC9110	A33
RNMG150600RN KC9125	A32-33
RNMG150600RN KC9315	A33
RNMG150600RN KC9325	A33
RNMG190600 KC850	H9
RNMG190600RN KC5010	A33
RNMG190600RN KC8050	H9
RNMG190600RN KC9110	A33
RNMG190600RN KC9125	A32-33
RNMG190600RN KC9315	A33
RNMG190600RN KC9325	A33
RNMG190900RN KC9110	A33
RNMG250900 KC850	H9
RNMG250900RN KC8050	H9
RNMG250900RN KC9110	A33
RNMG250900RN KC9125	A32-33
RNMG250900RN KC9325	A33
RNMG66RN KC9125	A32-33
RNMN090300E KB9640	A80-81
RNMN090300S02020 KB9640	A80-81
RNMN090300T02020 KD240	H20
RNMN120300 KD240	H20
RNMN120300E KB9640	A80-81
RNMN120300S02020 KB9640	A80-81
RNMN120300T02020 KD240	H20
RNMN120400S02020 KB9640	A80-81
RNMN120400S03020 KB9640	A80-81
RNMN120700T02020 KY1320	A80-81
RNMN120700T02020 KY3500	A81
RPGN090300E KY1540	A90-91
RPGN090300T01020 K090	H22
RPGN090300T01020 KY1615	A90-91
RPGN120300 K313	A90-91
RPGN120400 KC730	H22
RPGN120400E KY1525	H22
RPGN120400E KY1540	A91
RPGN120400E KY2100	A90-91, H22
RPGN120400T01020 KY1615	A90-91
RPGV060400 KC5510	A92-93
RPGV090700 K313	A93
RPGV090700 KC5010	A92-93
RPGV090700 KC5510	A93
RPGV120700 KC5510	A92-93
RPGX060400T00520 KY4300	A92-93
RPGX090700E KY1540	A92-93
RPGX090700T00520 KY4300	A92-93
RPGX090700T01020 KY1540	A92-93
RPGX090700T01020 KY2100	A93
RPGX090700T01020 KY4300	A93
RPGX120700E KY1540	A92-93
RPGX120700T00520 KY4300	A92-93
RPGX120700T01020 KY1540	A92-93
RPGX120700T01020 KY2100	A93
RPGX120700T01020 KY4300	A93
S06DCBFPL03	F25
S06DCBFPR03	F25
S06DCBFPR05	F25
S06DCBLPL03	F26
S06DCBLPL05	F26
S06DCBLPR03	F26
S06DCBLPR05	F26
S08FCBFPR05	F25
S08FCBLPL05	F26
S08FCBLPR05	F26
S10HCBFPR05	F25
S10HCBLPR05	F26
S12KCBFPR08	F25
S12KCBLPR08	F26
S32SCCLNL12MX7	B81
S32SCCLNR12MX7	B81
S40T-CCLNL12-MN4	B81
S40T-CCLNL12-MN7	B81
S40T-CCLNL12-MX7	B81
S40T-CCLNR12-MN4	B81
S40T-CCLNR12-MN7	B81
S40T-CCLNR12-MX7	B81
S40T-CDUNL15-MN7	B81
S40T-CDUNL15-MX7	B81
S40T-CDUNR15-MN7	B81
S40T-CDUNR15-MX7	B81
S40T-CSSNL12-MX7	B82
S40T-CSSNR12-MX7	B82
S40T-CSYNL12-MN4	B82
S40T-CSYNL12-MN7	B82
S40T-CSYNL12-MX7	B82
S40T-CSYNR12-MN4	B82
S40T-CSYNR12-MN7	B82
S40T-CSYNR12-MX7	B82
S40T-CWLNL08-MX7	B83
S40T-CWLNR08-MX7	B83
SC30	B99
SCACL0808M06Q	B52
SCACL1010M06Q	B52
SCACR1010M06Q	B52
SCACR1212M06Q	B52
SCACR1616K09Q	B52
SCDPL1212H06	B52
SCDPR1212H06	B52
SCEPL1010H06	B52
SCEPR1010H06	B52
SCEPR1212H06	B52
SCFCL1212N09	B53
SCFCR1212N09	B53
SCFPL06CA05	B138-139
SCFPL08CA06	B138-139
SCFPR06CA05	B138-139
SCFPR08CA06	B138-139
SCGCL1010M06	B53
SCGCL1212N09	B53
SCGCR1010M06	B53
SCGCR1212N09	B53
SCGN090408EFW KY3500	A92-93
SCGN120408EFW KY3500	A92-93
SCGPL08CA06	B138-139
SCGPR08CA06	B138-139
SCKCR1616H09	B53
SCKCR2020K09	B53
SCKPL08CA06	B138-139
SCKPR08CA06	B138-139
SCLCL0808L06	B54
SCLCL1010M06	B54
SCLCL1212N09	B54
SCLCL12CA12	B140-141
SCLCL1616H09	B54
SCLCL16CA12	B140-141
SCLCL2020K09	B54
SCLCL2020K12	B54
SCLCL2525M09	B54
SCLCL2525M12	B54
SCLCLF1616K09Q	B54
SCLCR0808L06	B54
SCLCR1010M06	B54
SCLCR1212N09	B54
SCLCR12CA12	B140-141
SCLCR1616H09	B54
SCLCR16CA12	B140-141
SCLCR2020K09	B54
SCLCR2020K12	B54
SCLCR2525M09	B54
SCLCR2525M12	B54
SCLCRF0808M06Q	B54
SCLCRF1010M06Q	B54
SCLCRF1212M06Q	B54
SCLCRF1616K09Q	B54
SCLPL06CA05	B140-141
SCLPL08CA06	B140-141
SCLPL10CA09	B140-141
SCLPL1212M06	B55
SCLPR06CA05	B140-141
SCLPR08CA06	B140-141
SCLPR1010M06	B55
SCLPR10CA09	B140-141
SCLPR1212M06	B55
SCMT09T30411 KT315	A118-119
SCMT09T304LF KC5010	A119
SCMT09T304LF KC5025	A118-119
SCMT09T304LF KC730	H29
SCMT09T304LF KC810	H29
SCMT09T304LF KC850	H29
SCMT09T304LF KC9105	A119
SCMT09T304LF KC9110	A119
SCMT09T304LF KC9125	A119
SCMT09T304LF KC9225	A119
SCMT09T304LF KC9315	A119
SCMT09T304LF KC9320	A119
SCMT09T304LF KT315	A119
SCMT09T30811 KT315	A118-119
SCMT09T308LF KC5010	A119
SCMT09T308LF KC5025	A119
SCMT09T308LF KC720	H29
SCMT09T308LF KC730	H29
SCMT09T308LF KC8050	A119
SCMT09T308LF KC850	H29
SCMT09T308LF KC9105	A119
SCMT09T308LF KC9110	A119
SCMT09T308LF KC9125	A119
SCMT09T308LF KC9225	A119
SCMT09T308LF KC9315	A119
SCMT09T308LF KC9320	A119
SCMT09T308LF KC935	H29
SCMT09T308LF KT315	A118-119
SCMT09T308MF KC730	H29
SCMT09T308MF KC9105	A121
SCMT09T308MF KC9110	A120-121
SCMT09T308MF KC9125	A121
SCMT09T308MF KC9225	A121
SCMT09T308MF KC9315	A121
SCMT09T308MF KC9320	A121
SCMT09T308MF KC9325	A121
SCMT09T308MF KC935	H29
SCMT09T308UF KC5010	A121
SCMT09T308UF KC9110	A120-121
SCMT09T308UF KC9125	A121
SCMT12040411 KT315	A118-119
SCMT120404LF KC5010	A118-119
SCMT120404LF KC5025	A119
SCMT120404LF KC8050	A119
SCMT120404LF KC850	H29
SCMT120404LF KC9110	A119
SCMT120404LF KC9125	A119
SCMT120404LF KC9225	A119
SCMT12040811 KT315	A118-119
SCMT120408LF K68	A118-119
SCMT120408LF KC5010	A119
SCMT120408LF KC5025	A119
SCMT120408LF KC720	H29
SCMT120408LF KC730	H29
SCMT120408LF KC8050	A119
SCMT120408LF KC850	H29
SCMT120408LF KC9105	A119
SCMT120408LF KC9110	A119
SCMT120408LF KC9125	A119
SCMT120408LF KC9225	A119
SCMT120408LF KC9315	A119
SCMT120408LF KC9320	A119
SCMT120408LF KC935	H29
SCMT120408LF KT315	A119
SCMT120408MF KC730	H29
SCMT120408MF KC8050	A121
SCMT120408MF KC9110	A121
SCMT120408MF KC9125	A121
SCMT120408MF KC9225	A120-121
SCMT120408MF KC9315	A121
SCMT120408MF KC9320	A121
SCMT120408MF KC9325	A121
SCMT120408MF KC935	H29
SCMT120412LF KC5010	A119
SCMT120412LF KC5025	A118-119
SCMT120412LF KC850	H29
SCMT120412LF KC9105	A119
SCMT120412LF KC9110	A119
SCMT120412LF KC9125	A119
SCMT120412LF KC9315	A119
SCMT120412LF KC9320	A119
SCMT120412LF KC935	H29
SCMT120412MF KC8050	A121
SCMT120412MF KC9110	A120-121
SCMT120412MF KC9125	A121
SCMT120412MF KC9225	A121
SCMT120412MF KC9315	A121
SCMT120412MF KC9325	A121
SCRCR1212N09	B55
SCRCR1616H09	B55
SCRPL08CA06	B140-141
SCRPR08CA06	B140-141
SCSPL06CA05	B142-143
SCSPL08CA06	B142-143
SCSPR06CA05	B142-143
SCSPR08CA06	B142-143
SCSPR1010H06	B55
SCTPL08CA06	B142-143
SCTPR06CA05	B142-143
SCTPR08CA06	B142-143
SCUN120412T00520 KY1615	A92-93
SCWPL08CA06	B142-143
SCWPR08CA06	B142-143
SDACL0808M07Q	B56
SDACL1212M11Q	B56
SDACR1212M11Q	B56
SDACR1616K11Q	B56
SDHCL1616H11	B56
SDHCL2020K11	B56
SDHCL2525M11	B56
SDHCL2525M15	B56

Catalog No.	Page(s)
SDHCR1616H11	B56
SDHCR2020K11	B56
SDHCR2525M11	B56
SDHCR2525M15	B56
SDJCL0808L07	B57
SDJCL1010M07	B57
SDJCL1212N07	B57
SDJCL1212N11	B57
SDJCL1616H07	B57
SDJCL1616H11	B57
SDJCL2020K07	B57
SDJCL2020K11	B57
SDJCL2525M11	B57
SDJCL2525M15	B57
SDJCLF1212M07Q	B57
SDJCLF1616K11Q	B57
SDJCR0808L07	B57
SDJCR1010M07	B57
SDJCR1212N07	B57
SDJCR1212N11	B57
SDJCR1616H07	B57
SDJCR1616H11	B57
SDJCR2020K07	B57
SDJCR2020K11	B57
SDJCR2020K15	B57
SDJCR2525M11	B57
SDJCR2525M15	B57
SDJCRF0808M07Q	B57
SDJCRF1010M07Q	B57
SDJCRF1212M07Q	B57
SDJCRF1616K11Q	B57
SDJPL10CA07	B144-145
SDJPR10CA07	B144-145
SDNCN0808L07	B58
SDNCN1010M07	B58
SDNCN1212N07	B58
SDNCN1616H11	B58
SDNCN2020K11	B58
SDNCN2020K15	B58
SDNCN2525M15	B58
SDPCN1212M11Q	B58
SDPCN1616K11Q	B58
SDUPR10CA07	B144-145
SNGA090308T02020 KY1615	A36-37
SNGA120404S01025MT KB5625	A34-35
SNGA120408EFWMT KB9610	A34-35
SNGA120408EMT KB9610	A34-35
SNGA120408S01020FWMT KB9610	A34-35
SNGA120408S01020MT KB9610	A34-35
SNGA120408S01025MT KB1610	A34-35
SNGA120408S01025MT KB5625	A34-35
SNGA120408S02020 KD120	H10
SNGA120408T01020 KY4400	A36-37
SNGA120408T02020 K090	H10
SNGA120408T02020 KY1320	A37
SNGA120408T02020 KY1615	A36-37
SNGA120408T02020 KY3400	A37
SNGA120408T02020 KY3500	A37
SNGA120412EMT KB9610	A34-35
SNGA120412S01020MT KB9610	A34-35
SNGA120412S01025MT KB1610	A34-35
SNGA120412S01025MT KB5625	A34-35
SNGA120412T01020 KY1540	A36-37
SNGA120412T01020 KY2100	A37
SNGA120412T01020 KY4400	A37
SNGA120412T02020 K090	H10
SNGA120412T02020 KY1320	A37
SNGA120412T02020 KY1615	A37
SNGA120412T02020 KY3400	A36-37
SNGA120412T02020 KY3500	A37
SNGA120416T01020 KY4400	A36-37
SNGA120416T02020 KY1320	A36-37
SNGA120416T02020 KY1615	A37
SNGA120416T02020 KY3400	A37
SNGA120416T02020 KY3500	A37
SNGA150612T02020 KY1320	A37
SNGA150612T02020 KY3400	A36-37
SNGA150612T02020 KY3500	A36-37
SNGA150616T02020 KY1320	A36-37
SNGA150616T02020 KY3500	A36-37
SNGA190612T02020 KY3400	A37

Catalog No.	Page(s)
SNGA190612T02020 KY3500	A36-37
SNGA190616T02020 KY3500	A36-37
SNGG090308FS KC5510	A36-37
SNGG090308FS KC5525	A37
SNGG090308LF KC5010	A36-37
SNGG090308LF KC730	H10
SNGG120408FS KC5510	A36-37
SNGG150612LF KC5010	A36-37
SNGN090308 KC935	H21
SNGN090308T00520 KY1615	A82-83
SNGN090308T01020 KY4300	A83
SNGN090308T01020 KY4400	A82-83
SNGN090308T02020 K090	H21
SNGN090308T02020 KY1615	A82-83
SNGN090308T02020 KY3500	A83
SNGN090312T01020 KY4400	A82-83
SNGN090412T00515 KY1615	A82-83
SNGN090412T02020 KY1615	A82-83
SNGN120308 KC810	H21
SNGN120308 KC935	H21
SNGN120408 KC810	H21
SNGN120408T00520 KY1615	A82-83
SNGN120408T01020 KY1540	A83
SNGN120408T01020 KY4300	A82-83
SNGN120408T01020 KY4400	A83
SNGN120408T02020 K090	H21
SNGN120408T02020 KY1320	A83
SNGN120408T02020 KY1615	A83
SNGN120408T02020 KY3400	A83
SNGN120408T02020 KY3500	A82-83
SNGN120412E KY2100	A82-83, H21
SNGN120412T01020 KY1525	H21
SNGN120412T01020 KY1540	A83
SNGN120412T01020 KY4300	A82-83
SNGN120412T01020 KY4400	A83
SNGN120412T02020 AC5	H21
SNGN120412T02020 K090	H21
SNGN120412T02020 KY1320	A83
SNGN120412T02020 KY1615	A83
SNGN120412T02020 KY3400	A83
SNGN120412T02020 KY3500	A82-83
SNGN120416 KC850	H21
SNGN120416E KY2100	A82-83, H21
SNGN120416T01020 KY1525	H21
SNGN120416T01020 KY1540	A83
SNGN120416T01020 KY4300	A82-83
SNGN120416T01020 KY4400	A83
SNGN120416T02020 K090	H21
SNGN120416T02020 KY1320	A83
SNGN120416T02020 KY1615	A82-83
SNGN120416T02020 KY3500	A83
SNGN120424T02020 K090	H21
SNGN120424T02020 KY3500	A82-83
SNGN120432T02020 K090	H21
SNGN120432T02020 KY1615	A82-83
SNGN120432T02020 KY3500	A83
SNGN120704T01020 KY4400	A82-83
SNGN120704T02020 KY1615	A82-83
SNGN120708T01020 KY1540	A83
SNGN120708T01020 KY4300	A82-83
SNGN120708T01020 KY4400	A83
SNGN120708T02020 AC5	H21
SNGN120708T02020 K090	H21
SNGN120708T02020 KY1615	A82-83
SNGN120712T01020 KY1525	H21
SNGN120712T01020 KY1540	A83
SNGN120712T01020 KY2100	A83, H21
SNGN120712T01020 KY4300	A82-83
SNGN120712T01020 KY4400	A83
SNGN120712T02020 K090	H21
SNGN120712T02020 KY1320	A83
SNGN120712T02020 KY1615	A83
SNGN120712T02020 KY3400	A83
SNGN120712T02020 KY3500	A82-83
SNGN120716T01020 KY1525	H21
SNGN120716T01020 KY1540	A83
SNGN120716T01020 KY4300	A82-83
SNGN120716T01020 KY4400	A83
SNGN120716T02020 KY1320	A82-83
SNGN120716T02020 KY1615	A83
SNGN120716T02020 KY3500	A83

Catalog No.	Page(s)
SNGN120720T02020 KY1615	A82-83
SNGN120720T10015 KY1615	A82-83
SNGN120720T20015 KY1615	A82-83
SNGN150712T02020 KY1615	A83
SNGN150712T02020 KY3500	A82-83
SNGN150716T02020 KY1615	A82-83
SNGN190408 KC810	H21
SNGN190412 KC810	H21
SNGN190412 KC850	H21
SNGN190412T02020 K090	H21
SNGN190412T02020 KY1615	A82-83
SNGN190412T02020 KY3500	A83
SNGN190416 KC850	H21
SNGN190416T02020 K090	H21
SNGN190416T02020 KY1615	A83
SNGN190416T02020 KY3500	A82-83
SNGN190432 KC810	H21
SNGN190612T02020 KY1615	A82-83
SNGN190616E KY1540	A82-83
SNGN190616E KY2100	A82-83, H21
SNGN190616T01020 KY1540	A82-83
SNGN190616T02020 K090	H21
SNGN190616T02020 KY1615	A82-83
SNGN190708T02020 KY1615	A82-83
SNGN190716T02020 K090	H21
SNGN190716T02020 KY1615	A82-83
SNGN190720K20015 KY1615	A82-83
SNGN190720T20015 KY1615	A82-83
SNGN190724E KY1525	H21
SNGN190724E KY1540	A82-83
SNGN190724T02020 KY1615	A82-83
SNGN250724T20015 KY1525	H21
SNGP120404 KC5010	A37
SNGP120404 KC5410	A36-37
SNGP120408 KC5010	A37
SNGP120408 KC5410	A36-37
SNGP120408 KC730	H10
SNGP150612K KC730	H10
SNGX120708T01020 KY1540	A84-85
SNGX120708T02020 KY1615	A85
SNGX120708T02020 KY3500	A84-85
SNGX120712T01020 KY1540	A84-85
SNGX120712T01020FW KY3500	A84-85
SNGX120712T02020 KY1320	A85
SNGX120712T02020 KY1615	A84-85
SNGX120712T02020 KY3400	A85
SNGX120712T02020 KY3500	A85
SNGX120716T01020 KY1540	A84-85
SNGX120716T02020 KY1320	A85
SNGX120716T02020 KY3400	A85
SNGX120716T02020 KY3500	A84-85
SNGX150708T02020 KY1615	A84-85
SNGX150708T02020 KY3500	A85
SNGX150712T02020 KY3400	A85
SNGX150712T02020 KY3500	A84-85
SNGX150716T02020 KY1320	A85
SNGX150716T02020 KY3400	A85
SNGX150716T02020 KY3500	A84-85
SNGX150724T02020 KY3500	A84-85
SNMA090308 KC850	H10
SNMA120408 K68	A37
SNMA120408 KC9315	A37
SNMA120408 KC9320	A36-37
SNMA120408 KC9325	A37
SNMA120408S01025 KB1625	A34-37
SNMA120408S02020 KB9640	A34-37
SNMA120408S02020MW KB9640	A38-39
SNMA120408T02020 KY3500	A36-37
SNMA120412 KC9315	A37
SNMA120412 KC9320	A37
SNMA120412 KC9325	A36-37
SNMA120412S01025 KB1625	A34-37
SNMA120412S02020 KB9640	A34-37
SNMA120412S02020MW KB9640	A38-39
SNMA120412T02020 KY1320	A37
SNMA120412T02020 KY3500	A36-37
SNMA120416 KC9315	A37
SNMA120416 KC9320	A37
SNMA120416 KC9325	A36-37
SNMA120416S02020 KB9640	A34-37
SNMA120416T02020 KY1320	A36-37

Catalog No.	Page(s)
SNMA120416T02020 KY3500	A37
SNMA150608 KC9315	A36-37
SNMA150612 KC850	H10
SNMA150612 KC9315	A37
SNMA150612 KC9320	A36-37
SNMA150612 KC9325	A37
SNMA150612T02020 KY3500	A36-37
SNMA150616 KC9315	A37
SNMA150616 KC9325	A36-37
SNMA150616T02020 KY1320	A37
SNMA150616T02020 KY3500	A36-37
SNMA190612 K68	A37
SNMA190612 KC850	H10
SNMA190612 KC9315	A37
SNMA190612 KC9320	A36-37
SNMA190612 KC9325	A37
SNMA190616 K68	A36-37
SNMA190616 KC850	H10
SNMA190616 KC9315	A37
SNMA190616 KC9320	A37
SNMA190616 KC9325	A37
SNMG070312B KC850	H10
SNMG090304FF KC9110	A39
SNMG090304FF KC9225	A38-39
SNMG090304FF KT315	A39
SNMG090304FN KC9110	A39
SNMG090304FN KC9125	A39
SNMG090304FN KC9315	A38-39
SNMG090304FN KT315	A39
SNMG090304MN KC9110	A41
SNMG090304MN KC9125	A40-41
SNMG090304MN KC9140	A41
SNMG090308B KC850	H10
SNMG090308B KC935	H10
SNMG090308FF KC9110	A39
SNMG090308FF KC9225	A38-39
SNMG090308FF KT315	A39
SNMG090308FN KC9110	A39
SNMG090308FN KC9125	A39
SNMG090308FN KC9315	A38-39
SNMG090308K KC730	H11
SNMG090308K KC850	H11
SNMG090308MN KC8050	H11
SNMG090308MN KC9110	A41
SNMG090308MN KC9125	A40-41
SNMG090308MN KC9140	A41
SNMG090308UF KC730	H11
SNMG090312B KC850	H10
SNMG090312MN KC9110	A41
SNMG090312MN KC9125	A41
SNMG090312MN KC9140	A40-41
SNMG090412B KC850	H10
SNMG090412B KC935	H10
SNMG090412RN KC9110	A42-43
SNMG110416B KC850	H10
SNMG120404FF KC9110	A39
SNMG120404FF KC9225	A39
SNMG120404FF KT315	A38-39
SNMG120404FN KC9110	A39
SNMG120404FN KC9125	A39
SNMG120404FN KC9315	A38-39
SNMG120404FN KT315	A39
SNMG120404FP KC5010	A38-39
SNMG120404FP KC9225	A39
SNMG120404MH KT1120	A39
SNMG120404MH KT5020	A38-39
SNMG120404MN KC8050	H11
SNMG120404MN KC9110	A41
SNMG120404MN KC9125	A40-41
SNMG120404MN KC9140	A41
SNMG120404MS1 KC9210	A40-41
SNMG120404MS1 KC9230	A41
SNMG120408 KC730	H10
SNMG120408 KC810	H10
SNMG120408 KC850	H10
SNMG120408 KC935	H10
SNMG120408FF KC9110	A38-39
SNMG120408FF KC9225	A39
SNMG120408FF KT315	A39
SNMG120408FN KC9105	A39
SNMG120408FN KC9110	A39

Catalog No.	Page(s)
SNMG120408FN KC9125	A38-39
SNMG120408FN KC9315	A39
SNMG120408FN KT315	A39
SNMG120408FP KC5010	A39
SNMG120408FP KC8050	H10
SNMG120408FP KC9225	A38-39
SNMG120408FP KT315	A39
SNMG120408FW KC9110	A38-39
SNMG120408FW KC9225	A39
SNMG120408FW KT315	A39
SNMG120408FX KT5020	A38-39
SNMG120408K KC850	H11
SNMG120408K KC935	H11
SNMG120408MG KC850	H11
SNMG120408MG KC935	H11
SNMG120408MH KT1120	A38-39
SNMG120408MH KT5020	A39
SNMG120408MN KC8050	H11
SNMG120408MN KC9110	A41
SNMG120408MN KC9125	A41
SNMG120408MN KC9140	A40-41
SNMG120408MP KC5010	A41
SNMG120408MP KC8050	H11
SNMG120408MP KC9225	A41
SNMG120408MP KC9245	A40-41
SNMG120408MS K313	A40-41
SNMG120408MS KC5510	A41
SNMG120408MS KC5525	A41
SNMG120408MS1 KC9210	A40-41
SNMG120408MS1 KC9230	A41
SNMG120408MW KC9110	A41
SNMG120408MW KC9125	A40-41
SNMG120408MX KT1120	A41
SNMG120408MX KT5020	A40-41
SNMG120408P KC5010	A43
SNMG120408P KC730	H11
SNMG120408P KC850	H11
SNMG120408P KC9225	A42-43
SNMG120408P KC935	H11
SNMG120408RN KC8050	H11
SNMG120408RN KC9110	A43
SNMG120408RN KC9125	A43
SNMG120408RN KC9140	A42-43
SNMG120408RP KC5010	A43
SNMG120408RP KC5510	A43
SNMG120408RP KC5525	A43
SNMG120408RP KC8050	H11
SNMG120408RP KC9105	A43
SNMG120408RP KC9110	A43
SNMG120408RP KC9125	A43
SNMG120408RP KC9140	A42-43
SNMG120408RP KC9225	A43
SNMG120408RP KC9245	A43
SNMG120408RP KC9315	A43
SNMG120408RP KC9320	A43
SNMG120408RP KC9325	A43
SNMG120408UF KC720	H11
SNMG120408UN KC9315	A42-43
SNMG120408UN KC9320	A43
SNMG120408UN KC9325	A43
SNMG120408UP KC5010	A42-43
SNMG120408UP KC9225	A43
SNMG120412 KC730	H10
SNMG120412 KC850	H10
SNMG120412 KC935	H10
SNMG120412FN KC9105	A39
SNMG120412FN KC9110	A39
SNMG120412FN KC9125	A39
SNMG120412FN KC9315	A39
SNMG120412FN KT315	A38-39
SNMG120412FP KC5010	A39
SNMG120412FP KC9225	A39
SNMG120412FP KT315	A38-39
SNMG120412FW KC9110	A39
SNMG120412FW KC9225	A39
SNMG120412FW KT315	A38-39
SNMG120412K KC935	H11
SNMG120412MG KC935	H11
SNMG120412MN KC8050	H11
SNMG120412MN KC9110	A40-41
SNMG120412MN KC9125	A41
SNMG120412MN KC9140	A41
SNMG120412MP KC5010	A41
SNMG120412MP KC5025	A40-41
SNMG120412MP KC8050	H11
SNMG120412MP KC9225	A41
SNMG120412MP KC9245	A41
SNMG120412MS KC5510	A40-41
SNMG120412MS KC5525	A41
SNMG120412MS1 KC9210	A40-41
SNMG120412MS1 KC9230	A41
SNMG120412MW KC9110	A41
SNMG120412MW KC9125	A41
SNMG120412MW KC9315	A40-41
SNMG120412P KC5010	A43
SNMG120412P KC720	H11
SNMG120412P KC850	H11
SNMG120412P KC9225	A42-43
SNMG120412RN KC9110	A43
SNMG120412RN KC9125	A42-43
SNMG120412RN KC9140	A43
SNMG120412RP KC5010	A43
SNMG120412RP KC5025	A43
SNMG120412RP KC5510	A43
SNMG120412RP KC5525	A43
SNMG120412RP KC8050	H11
SNMG120412RP KC9105	A43
SNMG120412RP KC9110	A43
SNMG120412RP KC9125	A43
SNMG120412RP KC9140	A43
SNMG120412RP KC9225	A42-43
SNMG120412RP KC9245	A43
SNMG120412RP KC9315	A43
SNMG120412RP KC9320	A43
SNMG120412RP KC9325	A43
SNMG120412UN KC9315	A42-43
SNMG120412UN KC9320	A43
SNMG120412UN KC9325	A43
SNMG120412UP KC5010	A43
SNMG120412UP KC9225	A42-43
SNMG120416B KC850	H10
SNMG120416B KC935	H10
SNMG120416FN KC9110	A39
SNMG120416FN KC9125	A39
SNMG120416FN KC9315	A38-39
SNMG120416MN KC8050	H11
SNMG120416MN KC9110	A41
SNMG120416MN KC9125	A40-41
SNMG120416MN KC9140	A41
SNMG120416MP KC5010	A41
SNMG120416MP KC9225	A40-41
SNMG120416MP KC9245	A41
SNMG120416MS1 KC9210	A40-41
SNMG120416MS1 KC9230	A41
SNMG120416RN KC8050	H11
SNMG120416RN KC9110	A42-43
SNMG120416RN KC9125	A43
SNMG120416RN KC9140	A43
SNMG120416RP KC5510	A43
SNMG120416RP KC5525	A43
SNMG120416RP KC9110	A43
SNMG120416RP KC9125	A42-43
SNMG120416RP KC9225	A43
SNMG120416RP KC9315	A43
SNMG120416UN KC9315	A42-43
SNMG120416UN KC9320	A43
SNMG120416UN KC9325	A43
SNMG120416UP KC5010	A43
SNMG120416UP KC9225	A42-43
SNMG140416B KC850	H10
SNMG140616B KC850	H10
SNMG150608MP KC8050	H11
SNMG150608MP KC9225	A40-41
SNMG150608MS KC5525	A40-41
SNMG150608RN KC9110	A42-43
SNMG150608RN KC9125	A43
SNMG150608RN KC9140	A43
SNMG150612 KC850	H10
SNMG150612 KC9140	A38-39
SNMG150612 KC935	H10
SNMG150612K KC850	H11
SNMG150612MG KC935	H11
SNMG150612MN KC9110	A41
SNMG150612MN KC9125	A40-41
SNMG150612MN KC9140	A41
SNMG150612MP KC5010	A41
SNMG150612MP KC9225	A41
SNMG150612MP KC9245	A40-41
SNMG150612MS KC5510	A40-41
SNMG150612MS KC5525	A41
SNMG150612RN KC8050	H11
SNMG150612RN KC9110	A43
SNMG150612RN KC9125	A42-43
SNMG150612RN KC9140	A43
SNMG150612RP KC5010	A43
SNMG150612RP KC5025	A43
SNMG150612RP KC5510	A42-43
SNMG150612RP KC5525	A43
SNMG150612RP KC8050	H11
SNMG150612RP KC9110	A43
SNMG150612RP KC9125	A43
SNMG150612RP KC9140	A43
SNMG150612RP KC9225	A43
SNMG150612RP KC9315	A43
SNMG150612UN KC9315	A43
SNMG150612UN KC9320	A43
SNMG150612UN KC9325	A42-43
SNMG150612UP KC5010	A42-43
SNMG150612UP KC9225	A43
SNMG150616B KC850	H10
SNMG150616B KC935	H10
SNMG150616MN KC9110	A41
SNMG150616MN KC9125	A40-41
SNMG150616MN KC9140	A41
SNMG150616MP KC5010	A40-41
SNMG150616MP KC9225	A41
SNMG150616MP KC9245	A41
SNMG150616RN KC9110	A43
SNMG150616RN KC9125	A42-43
SNMG150616RN KC9140	A43
SNMG150616RP KC5525	A42-43
SNMG150616RP KC8050	H11
SNMG150616RP KC9110	A43
SNMG150616RP KC9125	A43
SNMG150616RP KC9225	A43
SNMG150616UN KC9315	A42-43
SNMG150616UN KC9320	A43
SNMG150616UN KC9325	A43
SNMG170616B KC850	H10
SNMG190608RN KC8050	H11
SNMG190608RN KC9110	A43
SNMG190608RN KC9125	A42-43
SNMG190608RN KC9140	A43
SNMG190612 K68	A38-39
SNMG190612 KC5010	A39
SNMG190612 KC850	H10
SNMG190612 KC9125	A39
SNMG190612 KC935	H10
SNMG190612K KC850	H11
SNMG190612MG KC850	H11
SNMG190612MG KC935	H11
SNMG190612MN KC8050	H11
SNMG190612MN KC9110	A41
SNMG190612MN KC9125	A40-41
SNMG190612MN KC9140	A41
SNMG190612MP KC5010	A41
SNMG190612MP KC8050	H11
SNMG190612MP KC9225	A41
SNMG190612MP KC9245	A40-41
SNMG190612MS KC5510	A41
SNMG190612MS KC5525	A40-41
SNMG190612P KC850	H11
SNMG190612P KC9225	A42-43
SNMG190612RN KC8050	H11
SNMG190612RN KC9110	A43
SNMG190612RN KC9125	A43
SNMG190612RN KC9140	A42-43
SNMG190612RP KC5010	A43
SNMG190612RP KC5025	A43
SNMG190612RP KC5510	A42-43
SNMG190612RP KC5525	A43
SNMG190612RP KC8050	H11
SNMG190612RP KC9110	A43
SNMG190612RP KC9125	A43
SNMG190612RP KC9140	A43
SNMG190612RP KC9225	A43
SNMG190612RP KC9245	A43
SNMG190612UN KC9315	A42-43
SNMG190612UN KC9320	A43
SNMG190612UN KC9325	A43
SNMG190612UP KC9225	A43
SNMG190616 KC850	H10
SNMG190616 KC9125	A39
SNMG190616B K68	A39
SNMG190616B KC5010	A38-39
SNMG190616B KC850	H10
SNMG190616B KC935	H10
SNMG190616MG KC935	H11
SNMG190616MN KC9110	A41
SNMG190616MN KC9125	A41
SNMG190616MN KC9140	A40-41
SNMG190616MP KC5010	A41
SNMG190616MP KC9225	A41
SNMG190616MP KC9245	A40-41
SNMG190616P KC9140	A43
SNMG190616P KC9225	A42-43
SNMG190616RN KC8050	H11
SNMG190616RN KC9110	A43
SNMG190616RN KC9125	A42-43
SNMG190616RN KC9140	A43
SNMG190616RP KC5010	A43
SNMG190616RP KC5510	A42-43
SNMG190616RP KC5525	A43
SNMG190616RP KC9110	A43
SNMG190616RP KC9125	A43
SNMG190616RP KC9140	A43
SNMG190616RP KC9225	A43
SNMG190616RP KC9325	A43
SNMG190616UN KC9315	A43
SNMG190616UN KC9320	A42-43
SNMG190616UN KC9325	A43
SNMG190624RN KC8050	H11
SNMG190624RN KC9110	A43
SNMG190624RN KC9125	A42-43
SNMG190624RN KC9140	A43
SNMG250724 KC850	H10
SNMG250924 KC5010	A39
SNMG250924 KC850	H10
SNMG250924 KC9125	A38-39
SNMG250924 KC9140	A39
SNMM070312 KC850	H12
SNMM090312 KC850	H12
SNMM090412 KC850	H12
SNMM090412ND KC850	H12
SNMM110416 KC850	H12
SNMM110416ND KC850	H12
SNMM120408 KC810	H12
SNMM120408P KC850	H12
SNMM120408RM KC8050	H12
SNMM120408RM KC9110	A44-45
SNMM120408RM KC9125	A45
SNMM120408RP KC9110	A45
SNMM120408RP KC9125	A45
SNMM120408RP KC9225	A44-45
SNMM120412RM KC9110	A44-45
SNMM120412RM KC9125	A45
SNMM120412RP KC9105	A45
SNMM120412RP KC9110	A45
SNMM120412RP KC9125	A45
SNMM120412RP KC9225	A44-45
SNMM120416ND KC850	H12
SNMM120416RM KC8050	H12
SNMM120416RM KC9110	A44-45
SNMM120416RM KC9125	A45
SNMM120416RP KC9105	A45
SNMM120416RP KC9110	A45
SNMM120416RP KC9125	A44-45
SNMM140416 KC850	H12
SNMM140416ND KC850	H12
SNMM150612RM KC9110	A45
SNMM150612RM KC9125	A44-45
SNMM150612RP KC9105	A45
SNMM150612RP KC9110	A45

Index by Catalog Number

Catalog No.	Page(s)
SNMM150612RP KC9125	A45
SNMM150612RP KC9225	A44-45
SNMM150616 KC850	H12
SNMM150616ND KC850	H12
SNMM150616RM KC8050	H12
SNMM150616RM KC9110	A45
SNMM150616RM KC9125	A44-45
SNMM150616RP KC9105	A45
SNMM150616RP KC9110	A44-45
SNMM150616RP KC9125	A45
SNMM170616 KC850	H12
SNMM170616ND KC850	H12
SNMM190612M KC850	H12
SNMM190612P KC850	H12
SNMM190612RH KC9110	A44-45
SNMM190612RH KC9125	A45
SNMM190612RH KC9140	A45
SNMM190612RM KC8050	H12
SNMM190612RM KC9110	A44-45
SNMM190612RM KC9125	A45
SNMM190612RP KC9110	A44-45
SNMM190612RP KC9125	A45
SNMM190612RP KC9225	A45
SNMM190616 KC850	H12
SNMM190616M KC850	H12
SNMM190616ND KC850	H12
SNMM190616P KC850	H12
SNMM190616RH KC8050	H12
SNMM190616RH KC9110	A45
SNMM190616RH KC9125	A45
SNMM190616RH KC9140	A44-45
SNMM190616RM KC8050	H12
SNMM190616RM KC9110	A45
SNMM190616RM KC9125	A44-45
SNMM190616RP KC9110	A45
SNMM190616RP KC9125	A44-45
SNMM190616RP KC9225	A45
SNMM190624RH KC9110	A45
SNMM190624RH KC9125	A44-45
SNMM190624RH KC9140	A45
SNMM190624RM KC8050	H12
SNMM190624RM KC9110	A45
SNMM190624RM KC9125	A44-45
SNMM190624RP KC9110	A45
SNMM190624RP KC9125	A45
SNMM190624RP KC9225	A44-45
SNMM190624RW KC8050	H12
SNMM190624RW KC9110	A45
SNMM190624RW KC9125	A44-45
SNMM250724RH KC8050	H12
SNMM250724RH KC9110	A44-45
SNMM250724RH KC9125	A45
SNMM250724RH KC9140	A45
SNMM250724RM KC8050	H12
SNMM250724RM KC9110	A45
SNMM250724RM KC9125	A44-45
SNMM250724RP KC9125	A44-45
SNMM250724RW KC8050	H12
SNMM250724RW KC9110	A44-45
SNMM250724RW KC9125	A45
SNMM250724SP KC850	H12
SNMM250732RH KC8050	H12
SNMM250732RH KC9110	A45
SNMM250732RH KC9125	A45
SNMM250732RH KC9140	A44-45
SNMM250924RH KC8050	H12
SNMM250924RH KC9110	A45
SNMM250924RH KC9125	A45
SNMM250924RH KC9140	A44-45
SNMM250924RM KC8050	H12
SNMM250924RM KC9110	A44-45
SNMM250924RM KC9125	A45
SNMM250924RP KC9125	A44-45
SNMM250924RW KC9110	A45
SNMM250924RW KC9125	A44-45
SNMM250932RH KC9140	A44-45
SNMN090308E KB9640	A84-85
SNMN090308S02020 KB9640	A84-85
SNMN090312S02020 KB9640	A84-85
SNMN090316S02020 KB9640	A84-85
SNMN120308S02020 KB9640	A84-85
SNMN120312S02020 KB9640	A84-85
SNMN120316S02020 KB9640	A84-85
SNMN120412E KB9640	A84-85
SNMN120412S02020 KB9640	A84-85
SNMN120412T02020 KY1320	A85
SNMN120412T02020 KY3500	A84-85
SNMN120416S02020 KB9640	A84-85
SNMN120416S03020 KB9640	A84-85
SNMN120416T02020 KY1320	A84-85
SNMN120416T02020 KY3500	A85
SNMN120716T02020 KY1320	A85
SNMN120716T02020 KY3500	A84-85
SNMP120404 KC935	H13
SNMP120408 KC850	H13
SNMP120408K KC810	H13
SNMP120408K KC850	H13
SNMP120408K KC9110	A45
SNMP120408K KC9125	A44-45
SNMP120412 KC810	H13
SNMP120412 KC850	H13
SNMP120412K KC850	H13
SNMP120412K KC9110	A45
SNMP120412K KC9125	A45
SNMP120412K KC9140	A44-45
SNMP120416 KC850	H13
SNMP120424 KC810	H13
SNMP150608 KC850	H13
SNMP150608 KC935	H13
SNMP150612 KC850	H13
SNMP190612 KC850	H13
SNMP190612 KC935	H13
SNMS120408 K68	A44-45
SNMS120408 KC5410	A45
SNMS120408 KC730	H13
SNMS120408 KC810	H13
SNMS120408 KC850	H13
SNMS120408 KC935	H13
SNMS120408FST KD1425	A34-35
SNMS120412 KC5410	A44-45
SNMS120412 KC730	H13
SNMS120412 KC850	H13
SNMS120412FST KD1425	A34-35
SNMS190612 K68	A45
SNMS190612 KC5410	A44-45
SNMS190612 KC730	H13
SNMS190612 KC810	H13
SNMS190612 KC850	H13
SNMX120712T02020 KY1320	A86-87
SNMX120712T02020 KY3500	A87
SNMX120716T02020 KY1320	A87
SNMX120716T02020 KY3500	A86-87
SNMX150716T02020 KY1320	A87
SNMX150716T02020 KY3500	A86-87
SNUN120408 KC850	H22
SNUN120412 KC730	H22
SNUN120412 KC850	H22
SNUN190412 KC810	H22
SNUN190412 KC850	H22
SNUN190416 KC850	H22
SPGH070208 KC5410	A120-121
SPGH070208 KC850	H29
SPGH090308 KC5410	A121
SPGH090308 KC850	H29
SPGH090308 KC9105	A120-121
SPGN090304 K68	A92-93
SPGN090304 KC5010	A93
SPGN090308 K313	A92-93
SPGN090308 K68	A93
SPGN090308 KC5010	A93
SPGN090308 KC730	H23
SPGN090308 KC810	H23
SPGN090308 KC850	H23
SPGN090308T01020 KY1615	A93
SPGN090308T01020 KY4400	A92-93
SPGN090312 K68	A93
SPGN090312 KC5010	A92-93
SPGN120304 K313	A93
SPGN120304 K68	A92-93
SPGN120304 KC5010	A93
SPGN120304 KC730	H23
SPGN120304 KC850	H23
SPGN120304T01020 KY1615	A92-93
SPGN120308 K313	A93
SPGN120308 K68	A93
SPGN120308 KC5010	A92-93
SPGN120308 KC720	H23
SPGN120308 KC730	H23
SPGN120308 KC8050	A93
SPGN120308 KC810	H23
SPGN120308 KC850	H23
SPGN120308 KC9315	A93
SPGN120308T01020 KY1615	A92-93
SPGN120308T01020 KY4400	A93
SPGN120312 K68	A93
SPGN120312 KC5010	A92-93
SPGN120312 KC730	H23
SPGN120312 KC850	H23
SPGN120312T01020 KY1615	A92-93
SPGN120316 K68	A92-93
SPGN120316 KC5010	A93
SPGN120316 KC730	H23
SPGN120316 KC850	H23
SPGN120408 KC850	H23
SPGN120412 K68	A93
SPGN120412 KC5010	A92-93
SPGN120412 KC730	H23
SPGN120412 KC850	H23
SPGN120412T02020 KY1615	A92-93
SPGN150408 KC730	H23
SPGN190402 KC850	H23
SPGN190408 K68	A92-93
SPGN190408 KC8050	A93
SPGN190408 KC850	H23
SPGN190412 K313	A93
SPGN190412 K68	A92-93
SPGN190412 KC5010	A93
SPGN190412 KC720	H23
SPGN190412 KC730	H23
SPGN190412 KC850	H23
SPGN190416 K68	A92-93
SPGN190416 KC850	H23
SPGN190432 KC850	H23
SPGR090308K KC5010	A92-93
SPGR090308K KC810	H23
SPGR090308K KC850	H23
SPGR120308K KC5010	A93
SPGR120308K KC8050	A92-93
SPGR120308K KC850	H23
SPGT060212K KC850	H29
SPGT070312K KC850	H29
SPGT09T304LF KC5010	A121
SPGT09T304LF KC5025	A120-121
SPGT09T304LF KC5410	A121
SPGT09T304LF KC730	H29
SPGT09T304LF KC850	H29
SPGT09T308LF KC5010	A121
SPGT09T308LF KC5025	A121
SPGT09T308LF KC5410	A120-121
SPGT09T308LF KC720	H29
SPGT09T308LF KC730	H29
SPGT120408LF KC730	H29
SPMR090304 KC850	H23
SPMR090308 KC850	H23
SPMR120304 KC810	H23
SPMR120304 KC850	H23
SPMR120308 KC810	H23
SPMR120308 KC850	H23
SPMR120312 KC850	H23
SPMT09T304LF KC5010	A121
SPMT09T304LF KC5025	A121
SPMT09T304LF KC730	H29
SPMT09T304LF KC850	H29
SPMT09T304LF KC9110	A121
SPMT09T304LF KC9125	A120-121
SPMT09T304LF KC9225	A121
SPMT09T304LF KC9315	A121
SPMT09T304LF KC9320	A121
SPMT09T304LF KC935	H29
SPMT09T304LF KT315	A121
SPMT09T304UF KC5010	A121
SPMT09T304UF KC9110	A120-121
SPMT09T304UF KC9125	A121
SPMT09T308LF K68	A121
SPMT09T308LF KC5010	A120-121
SPMT09T308LF KC5025	A121
SPMT09T308LF KC730	H29
SPMT09T308LF KC850	H29
SPMT09T308LF KC9105	A121
SPMT09T308LF KC9110	A121
SPMT09T308LF KC9125	A121
SPMT09T308LF KC9315	A121
SPMT09T308LF KC9320	A121
SPMT09T308LF KC935	H29
SPMT09T308LF KT315	A121
SPMT09T308MF KC730	H29
SPMT09T308MF KC9110	A120-121
SPMT09T308MF KC9125	A121
SPMT09T308MF KC9225	A121
SPMT09T308MF KC9315	A121
SPMT09T308MF KC9320	A121
SPMT09T308MF KC9325	A121
SPMT120408MF KC730	H29
SPMT120408MF KC8050	A121
SPMT120408MF KC9110	A121
SPMT120408MF KC9125	A120-121
SPMT120408MF KC9225	A121
SPMT120408MF KC9315	A121
SPMT120408MF KC9320	A121
SPMT120408MF KC9325	A121
SPMT120408MF KC935	H29
SPUN120308 KC850	H23
SPUN190412 KC810	H23
SPUN190412 KC850	H23
SPUN190416 KC850	H23
SRACL1616Q08	B58
SRACR1010M06	B58
SRACR1212N08	B58
SRACR1616Q08	B58
SRDCN0808L06	B59
SRDCN1010M06	B59
SRDCN1212N06	B59
SRDCN1212N08	B59
SRDCN1616H06	B59
SRDCN1616H08	B59
SRDCN1616H10	B59
SRDCN1616Q08	B59
SRDCN2020K08	B59
SRDCN2020K10	B59
SRDCN2020K12	B59
SRDCN2525M08	B59
SRDCN2525M10	B59
SRDCN2525M12	B59
SRDCN2525M16	B59
SRGCL08CA06	B144-145
SRGCL12CA10	B144-145
SRGCL1616H06	B59
SRGCL1616H10	B59
SRGCL2020K08	B59
SRGCL2525M08	B59
SRGCL2525M10	B59
SRGCL2525M12	B59
SRGCR08CA06	B144-145
SRGCR10CA08	B144-145
SRGCR12CA10	B144-145
SRGCR1616H06	B59
SRGCR1616H10	B59
SRGCR2020K08	B59
SRGCR2020K10	B59
SRGCR2525M08	B59
SRGCR2525M10	B59
SRGCR2525M12	B59
SSBCL1616H09	B60
SSBCR1212N09	B60
SSBCR2020K12	B60
SSBCR2525M12	B60
SSDCN1212N09	B60
SSDCN1616H09	B60
SSDCN2020K09	B60
SSKCL12CA12	B146-147
SSKCL2020K12	B60
SSKCR12CA12	B146-147
SSKCR1616H09	B60
SSKCR16CA12	B146-147

Catalog No.	Page(s)
SSKCR2020K12	B60
SSKPL10CA09	B146-147
SSKPR10CA09	B146-147
SSKPR12CA09	B146-147
SSRCL12CA12	B146-147
SSRCR12CA12	B146-147
SSRPL10CA09	B148-149
SSRPR10CA09	B148-149
SSSCL1212N09	B61
SSSCL12CA12	B148-149
SSSCL1616H09	B61
SSSCL1616H12	B61
SSSCL2020K12	B61
SSSCL2525M12	B61
SSSCR1212N09	B61
SSSCR12CA12	B148-149
SSSCR1616H09	B61
SSSCR1616H12	B61
SSSCR16CA12	B148-149
SSSCR2020K12	B61
SSSCR2525M12	B61
SSSPL10CA09	B148-149
SSSPR10CA09	B148-149
SSSPR12CA09	B148-149
STFCL1010M11	B61
STFCL1212N11	B61
STFCL1616H16	B61
STFCL2020K16	B61
STFCL2525M16	B61
STFCR1616H11	B61
STFCR1616H16	B61
STFCR2020K16	B61
STFCR2525M16	B61
STFPL08CA09	B150-151
STFPL10CA11	B150-151
STFPL12CA16	B150-151
STFPR08CA09	B150-151
STFPR10CA11	B150-151
STFPR12CA16	B150-151
STFPR16CA16	B150-151
STGCL1010M11	B62
STGCL1212N11	B62
STGCL1616H11	B62
STGCL1616H16	B62
STGCL2020K16	B62
STGCL2525M16	B62
STGCR1010M11	B62
STGCR1212N11	B62
STGCR1616H11	B62
STGCR1616H16	B62
STGCR2020K16	B62
STGCR2525M16	B62
STGPL08CA09	B150-151
STGPL10CA11	B150-151
STGPR08CA09	B150-151
STGPR10CA11	B150-151
STGPR12CA16	B150-151
STJCLF1212M11Q	B62
STJCRF1212M11Q	B62
STTPL10CA11	B152-153
STTPL16CA16	B152-153
STTPR08CA09	B152-153
STTPR10CA11	B152-153
STTPR12CA16	B152-153
STWPL10CA11	B152-153
STWPL12CA16	B152-153
STWPR08CA09	B152-153
STWPR10CA11	B152-153
STWPR12CA16	B152-153
STWPR16CA16	B152-153
SVABL1212M11Q	B63
SVABL1616K16Q	B63
SVABR1010M11Q	B63
SVABR1212M11Q	B63
SVABR1616K16Q	B63
SVHBL1212N11	B63
SVHBL1616H11	B63
SVHBL2020K11	B63
SVHBL2020K16	B63
SVHBL2525M16	B63
SVHBR1212N11	B63
SVHBR1616H11	B63
SVHBR2020K11	B63
SVHBR2020K16	B63
SVHBR2525M16	B63
SVJBL1212N11	B64
SVJBL1616H11	B64
SVJBL1616H16	B64
SVJBL2020K11	B64
SVJBL2020K16	B64
SVJBL2525M16	B64
SVJBL3225P16	B64
SVJBLF1010M11Q	B64
SVJBLF1212M11Q	B64
SVJBLF1616K16Q	B64
SVJBR1212N11	B64
SVJBR1616H11	B64
SVJBR1616H16	B64
SVJBR2020K11	B64
SVJBR2020K16	B64
SVJBR2525M16	B64
SVJBR3225P16	B64
SVJBRF1010M11Q	B64
SVJBRF1212M11Q	B64
SVJBRF1616K16Q	B64
SVVBN1212N11	B65
SVVBN1616H11	B65
SVVBN1616H16	B65
SVVBN2020K11	B65
SVVBN2020K16	B65
SVVBN2525M16	B65
SVVBN3225P16	B65
SWLCL2020K06	B65
SWLCR1212N06	B65
SWLCR2020K06	B65
T110301F KC730	H30
T110301F KC810	H30
T110304P KC810	H30
T110304P KC850	H30
T110304P KC935	H30
T160304P KC810	H30
T160304P KC850	H30
T160304P KC935	H30
T160308P KC850	H30
TCGT110201LF KC5010	A125
TCGT110201LF KC5025	A124-125
TCGT110201LF KC730	H29
TCGT110202HP KC5010	A125
TCGT110202HP KC5025	A125
TCGT110202HP KC5410	A124-125
TCGT110202HP KC730	H29
TCGT110204HP K313	A125
TCGT110204HP KC5010	A124-125
TCGT110204HP KC5025	A125
TCGT110204HP KC5410	A125
TCGT110204HP KC730	H29
TCGT110204LF KC5010	A125
TCGT110204LF KC5025	A124-125
TCGT110208HP KC5010	A124-125
TCGT110208HP KC5025	A125
TCGT110208HP KC5410	A125
TCGT1102X0LF KC5025	A124-125
TCGT16T301LF KC5010	A125
TCGT16T301LF KC5025	A124-125
TCGT16T302HP KC5010	A124-125
TCGT16T302HP KC5025	A125
TCGT16T302LF KC5010	A124-125
TCGT16T304HP K313	A125
TCGT16T304HP KC5010	A124-125
TCGT16T304HP KC5025	A125
TCGT16T304HP KC5410	A125
TCGT16T304HP KC730	H29
TCGT16T304LF KC5010	A125
TCGT16T304LF KC5025	A124-125
TCGT16T304LF KC5410	A125
TCGT16T308HP K313	A124-125
TCGT16T308HP KC5010	A125
TCGT16T308HP KC5025	A125
TCGT16T308HP KC5410	A125
TCGT16T308HP KC730	H29
TCGT16T308LF KC5010	A124-125
TCGW110202EM KB5625	A123
TCGW110202EM KB9610	A122-123
TCGW110202S01015C KB1610	A122-123
TCGW110204FST KD1400	A123
TCGW110204FST KD1425	A122-123
TCGW110204S01015C KB1610	A123
TCGW110204S01015C KB9610	A122-123
TCGW110204S01015M KB5625	A122-123
TCGW110204S01015M KB9610	A123
TCGW110204S01015M KD050	H30
TCGW110208S01015C KB9610	A122-123
TCGW110208S01015M KB9610	A122-123
TCGW16T304FST KD1400	A122-123
TCGW16T304FST KD1425	A123
TCGW16T304S01015M KB5625	A122-123
TCGW16T304S01015MT KB1625	A123
TCGW16T304S01015MT KB9610	A122-123
TCGW16T308S01015M KB5625	A122-123
TCGW16T308S01015MT KB9610	A122-123
TCMT110202LF KC5010	A124-125
TCMT110202LF KC5025	A125
TCMT110202LF KC730	H30
TCMT110202LF KC850	H30
TCMT110202LF KT315	A125
TCMT11020411 KT315	A124-125
TCMT110204LF K68	A125
TCMT110204LF KC5010	A125
TCMT110204LF KC5025	A125
TCMT110204LF KC730	H30
TCMT110204LF KC8050	A125
TCMT110204LF KC850	H30
TCMT110204LF KC9105	A125
TCMT110204LF KC9110	A125
TCMT110204LF KC9125	A125
TCMT110204LF KC9225	A124-125
TCMT110204LF KC9315	A125
TCMT110204LF KC9320	A125
TCMT110204LF KC935	H30
TCMT110204LF KT315	A125
TCMT110204UF KC5010	A125
TCMT110204UF KC9110	A124-125
TCMT110204UF KC9125	A125
TCMT110208LF KC5010	A125
TCMT110208LF KC5025	A125
TCMT110208LF KC730	H30
TCMT110208LF KC8050	A125
TCMT110208LF KC810	H30
TCMT110208LF KC850	H30
TCMT110208LF KC9105	A125
TCMT110208LF KC9110	A125
TCMT110208LF KC9125	A125
TCMT110208LF KC9225	A125
TCMT110208LF KC9315	A124-125
TCMT110208LF KC9320	A125
TCMT110208LF KC935	H30
TCMT110208LF KT315	A125
TCMT110208MF KC730	H30
TCMT110208MF KC8050	A125
TCMT110208MF KC9110	A125
TCMT110208MF KC9125	A124-125
TCMT110208MF KC9225	A125
TCMT110208MF KC9315	A125
TCMT110208MF KC9320	A125
TCMT110208MF KC9325	A125
TCMT110208MF KC935	H30
TCMT110208UF KC5010	A124-125
TCMT110208UF KC9110	A125
TCMT110208UF KC9125	A125
TCMT16T302LF KC5010	A125
TCMT16T302LF KC5025	A124-125
TCMT16T302LF KC730	H30
TCMT16T302LF KT315	A125
TCMT16T30411 KT315	A124-125
TCMT16T304LF KC5010	A125
TCMT16T304LF KC5025	A125
TCMT16T304LF KC720	H30
TCMT16T304LF KC730	H30
TCMT16T304LF KC8050	A125
TCMT16T304LF KC810	H30
TCMT16T304LF KC850	H30
TCMT16T304LF KC9105	A125
TCMT16T304LF KC9110	A124-125
TCMT16T304LF KC9125	A125
TCMT16T304LF KC9225	A125
TCMT16T304LF KC9315	A125
TCMT16T304LF KC9320	A125
TCMT16T304LF KC935	H30
TCMT16T304LF KT315	A125
TCMT16T30811 KT315	A124-125
TCMT16T308LF KC5010	A125
TCMT16T308LF KC5025	A125
TCMT16T308LF KC720	H30
TCMT16T308LF KC730	H30
TCMT16T308LF KC8050	A124-125
TCMT16T308LF KC810	H30
TCMT16T308LF KC850	H30
TCMT16T308LF KC9105	A125
TCMT16T308LF KC9110	A125
TCMT16T308LF KC9125	A125
TCMT16T308LF KC9225	A125
TCMT16T308LF KC9315	A125
TCMT16T308LF KC9320	A125
TCMT16T308LF KC935	H30
TCMT16T308LF KT315	A125
TCMT16T308MF KC730	H30
TCMT16T308MF KC8050	A125
TCMT16T308MF KC9110	A124-125
TCMT16T308MF KC9125	A125
TCMT16T308MF KC9225	A125
TCMT16T308MF KC9315	A125
TCMT16T308MF KC9320	A125
TCMT16T308MF KC9325	A125
TCMT16T308MF KC935	H30
TCMT16T308UF KC5010	A125
TCMT16T308UF KC9110	A124-125
TCMT16T308UF KC9125	A125
TCMT16T312LF KC5010	A125
TCMT16T312LF KC5025	A125
TCMT16T312LF KC720	H30
TCMT16T312LF KC730	H30
TCMT16T312LF KC850	H30
TCMT16T312LF KC9105	A125
TCMT16T312LF KC9110	A125
TCMT16T312LF KC9125	A124-125
TCMT16T312LF KC9225	A125
TCMT16T312LF KC9315	A125
TCMT16T312LF KC9320	A125
TCMT16T312MF KC9110	A125
TCMT16T312MF KC9125	A124-125
TCMT16T312MF KC9315	A125
TCMT16T312MF KC9320	A125
TCMT16T312MF KC9325	A125
TCMT220408LF KC5010	A125
TCMT220408LF KC5025	A125
TCMT220408LF KC720	H30
TCMT220408LF KC730	H30
TCMT220408LF KC850	H30
TCMT220408LF KC9110	A125
TCMT220408LF KC9125	A125
TCMT220408LF KC9225	A125
TCMT220408LF KC9315	A124-125
TCMT220408LF KC935	H30
TDHB07T1200 KC730	H30
TDHB07T1202 KB5625	A122-123, A127
TDHB07T1202 KC5010	A127
TDHB07T1202 KC5025	A126-127
TDHB07T1202 KC730	H30
TDHB07T1202 KD100	H30
TDHB07T1202 KT315	A127
TDHB07T1204 KC5010	A126-127
TDHB07T1204 KC5025	A127
TDHB07T1204 KC730	H30
TDHB07T1204 KD100	H30
TDHB07T1208 KC5010	A127
TDHB07T1208 KC5025	A126-127
TDHB07T1208 KD100	H30
TDHB07T12S0 KB5625	A122-123
TDHB07T12S0 KC5010	A126-127
TDHB07T12S0 KC5025	A127
TDHB07T12S0 KT315	A127
TDHH07T1202L KC5010	A127
TDHH07T1202L KC5025	A126-127
TDHH07T1202L KC730	H30

Index by Catalog Number

Catalog No.	Page(s)
TDHH07T1202R KC5010	A126-127
TDHH07T1202R KC730	H30
TDHH07T1204L KC5010	A126-127
TDHH07T1204L KC5025	A127
TDHH07T1204L KC730	H30
TDHH07T1204R KC5010	A127
TDHH07T1204R KC5025	A126-127
TDHH07T1204R KC730	H30
TNGA160308T K090	H13
TNGA160308T02020 KY1615	A46-47
TNGA160312T02020 KY1615	A46-47
TNGA160404E KY4400	A46-47
TNGA160404EMT KB9610	A46-47
TNGA160404S01020MT KB9610	A46-47
TNGA160404S01025MT KB1610	A47
TNGA160404S01025MT KB1630	A46-47
TNGA160404S01025MT KB5625	A47
TNGA160404S02020 KD120	H13
TNGA160404T01020 KY4400	A46-47
TNGA160408E KY4400	A46-47
TNGA160408EFWMT KB5625	A46-47
TNGA160408EMT KB9610	A46-47
TNGA160408S01020D KD050	H13
TNGA160408S01020FWMT KB9610	A46-47
TNGA160408S01020MT KB1345	A46-47
TNGA160408S01020MT KB9610	A47
TNGA160408S01025MT KB1610	A47
TNGA160408S01025MT KB1625	A47
TNGA160408S01025MT KB1630	A47
TNGA160408S01025MT KB5625	A46-47
TNGA160408S02020 KD120	H13
TNGA160408T01020 KY4400	A46-47
TNGA160408T02020 K090	H13
TNGA160408T02020 KY1320	A46-47
TNGA160408T02020 KY1615	A47
TNGA160408T02020 KY3400	A47
TNGA160408T02020 KY3500	A47
TNGA160412EFWMT KB5625	A46-47
TNGA160412S01020MT KB9610	A46-47
TNGA160412S01025MT KB1610	A47
TNGA160412S01025MT KB1625	A47
TNGA160412S01025MT KB5625	A46-47
TNGA160412T01020 KY4400	A46-47
TNGA160412T02020 K090	H13
TNGA160412T02020 KY1320	A47
TNGA160412T02020 KY1615	A46-47
TNGA160412T02020 KY3500	A47
TNGA160416S01025MT KB1345	A46-47
TNGA160416T02020 KY1320	A47
TNGA160416T02020 KY1615	A47
TNGA160416T02020 KY3400	A46-47
TNGA160416T02020 KY3500	A47
TNGA220408T01020 KY4400	A46-47
TNGA220408T02020 K090	H13
TNGA220408T02020 KY1615	A46-47
TNGA220412T01020 KY4400	A46-47
TNGA220412T02020 K090	H13
TNGA220412T02020 KY1615	A46-47
TNGA220412T02020 KY3400	A47
TNGA220416T02020 KY1320	A47
TNGA220416T02020 KY1615	A46-47
TNGA220416T02020 KY3500	A46-47
TNGA270608T02020 KY1615	A46-47
TNGA270612T02020 KY1615	A46-47
TNGG160402FS KC5525	A46-47
TNGG160402LF KC5010	A48-49
TNGG160402LF KC730	H13
TNGG160404FS KC5510	A47
TNGG160404FS KC5525	A46-47
TNGG160404LF KC5010	A48-49
TNGG160404LF KC730	H13
TNGG160408FS K313	A46-47
TNGG160408FS KC5510	A47
TNGG160408FS KC5525	A47
TNGG160408LF KC5010	A48-49
TNGG220404LF KC730	H13
TNGG220408FS KC5510	A46-47
TNGG220408FS KC5525	A47
TNGG220408LF KC730	H13
TNGN110304T02020 KY1615	A86-87
TNGN110308 KC850	H22
TNGN110308T01020 KY4400	A86-87
TNGN110308T02020 KY1615	A86-87
TNGN160308 KC810	H22
TNGN160308 KC850	H22
TNGN160308T02020 K090	H22
TNGN160404T01020 KY4400	A86-87
TNGN160404T02020 KY1615	A86-87
TNGN160408T01020 KY4300	A87
TNGN160408T01020 KY4400	A86-87
TNGN160408T02020 K090	H22
TNGN160408T02020 KY1320	A87
TNGN160408T02020 KY1615	A86-87
TNGN160408T02020 KY3500	A87
TNGN160412T01020 KY4300	A87
TNGN160412T01020 KY4400	A86-87
TNGN160412T02020 KY1615	A86-87
TNGN160412T02020 KY3500	A87
TNGN160416T02020 K090	H22
TNGN160416T02020 KY1615	A86-87
TNGN160708T01020 KY4300	A86-87
TNGN160708T01020 KY4400	A87
TNGN160708T02020 KY1615	A86-87
TNGN160712T01020 KY4400	A86-87
TNGN160712T02020 KY1615	A86-87
TNGN160716T02020 KY1615	A86-87
TNGN220408 KC850	H22
TNGN220408T01020 KY4400	A86-87
TNGN220408T02020 K090	H22
TNGN220408T02020 KY1615	A86-87
TNGN220408T02020 KY3500	A87
TNGN220412T01020 KY1540	A86-87
TNGN220412T02020 K090	H22
TNGN220412T02020 KY1615	A86-87
TNGN220416T01020 KY1540	A86-87
TNGN220416T02020 KY1320	A86-87
TNGN220416T02020 KY3400	A87
TNGN220416T02020 KY3500	A87
TNGN220712T02020 KY1615	A86-87
TNGP160402 KC5010	A49
TNGP160402 KC5410	A48-49
TNGP160402 KC730	H13
TNGP160404 KC5010	A49
TNGP160404 KC5410	A48-49
TNGP160404 KC730	H13
TNGP160404K KC730	H13
TNGP160408 KC5010	A49
TNGP160408 KC5410	A48-49
TNGP160408 KC730	H13
TNGP160408K KC730	H13
TNMA160408 K68	A48-49
TNMA160408 KC850	H13-14
TNMA160408 KC9315	A49
TNMA160408 KC9320	A49
TNMA160408 KC9325	A49
TNMA160408S01020M KD050	H14
TNMA160412 KC9315	A48-49
TNMA160412 KC9320	A49
TNMA160412 KC9325	A49
TNMA160416 KC9315	A49
TNMA160416 KC9320	A48-49
TNMA220408 K68	A49
TNMA220408 KC730	H13-14
TNMA220408 KC850	H13-14
TNMA220408 KC9315	A49
TNMA220408 KC9320	A48-49
TNMA220408 KC9325	A49
TNMA220408S01020 KD050	H14
TNMA220408S01020 KD120	H14
TNMA220412 K68	A49
TNMA220412 KC9315	A48-49
TNMA220412 KC9320	A49
TNMA220412 KC9325	A49
TNMA220412T02020 KY3500	A48-49
TNMA220416 KC9315	A49
TNMA220416 KC9320	A49
TNMA220416 KC9325	A48-49
TNMA220416T02020 KY3500	A48-49
TNMA270616 K68	A48-49
TNMA270616 KC730	H13-14
TNMA270616 KC850	H13-14
TNMA270616 KC9315	A49
TNMA270616 KC9325	A49
TNMG110304FF KC5010	A49
TNMG110304FF KC9110	A48-49
TNMG110304FF KC9225	A49
TNMG110304FN KC9110	A51
TNMG110304FN KC9125	A50-51
TNMG110304FN KC9315	A51
TNMG110304FN KT315	A51
TNMG110308B KC850	H14
TNMG110308FF KC5010	A49
TNMG110308FF KC9110	A49
TNMG110308FF KC9225	A48-49
TNMG110308FN KC9110	A51
TNMG110308FN KC9125	A51
TNMG110308FN KC9315	A50-51
TNMG160304B KC850	H14
TNMG160312K KC850	H14
TNMG160402FH KT1120	A49
TNMG160402FH KT5020	A48-49
TNMG160402MS KC5510	A52-53
TNMG160402MS KC5525	A53
TNMG160404B KC730	H14
TNMG160404B KC850	H14
TNMG160404FF KC5010	A49
TNMG160404FF KC9110	A49
TNMG160404FF KC9225	A48-49
TNMG160404FF KT315	A49
TNMG160404FH KT1120	A49
TNMG160404FH KT5020	A48-49
TNMG160404FN KC9105	A50-51
TNMG160404FN KC9110	A51
TNMG160404FN KC9125	A51
TNMG160404FN KC9315	A51
TNMG160404FN KT315	A51
TNMG160404FP KC5010	A51
TNMG160404FP KC8050	H14
TNMG160404FP KC9225	A51
TNMG160404FP KT315	A50-51
TNMG160404FW KC5010	A51
TNMG160404FW KC9110	A50-51
TNMG160404FW KC9225	A51
TNMG160404FW KC9315	A51
TNMG160404FW KT315	A51
TNMG160404FX KT5020	A50-51
TNMG160404MG KC935	H15
TNMG160404MH KT1120	A51
TNMG160404MH KT5020	A50-51
TNMG160404MN KC8050	H15
TNMG160404MN KC9105	A51
TNMG160404MN KC9110	A51
TNMG160404MN KC9125	A51
TNMG160404MN KC9140	A50-51
TNMG160404MP KC5010	A50-51
TNMG160404MP KC8050	H15
TNMG160404MP KC9225	A51
TNMG160404MP KC9245	A51
TNMG160404MS K313	A53
TNMG160404MS KC5510	A53
TNMG160404MS KC5525	A52-53
TNMG160404MS1 KC9210	A53
TNMG160404MS1 KC9230	A52-53
TNMG160404MX KT1120	A53
TNMG160404MX KT5020	A52-53
TNMG160404P KC5010	A55
TNMG160404P KC850	H15
TNMG160404P KC9225	A54-55
TNMG160404P KC935	H15
TNMG160404UP KC5010	A55
TNMG160404UP KC9225	A54-55
TNMG160408 KC850	H14
TNMG160408B KC730	H14
TNMG160408B KC850	H14
TNMG160408B KC935	H14
TNMG160408CT KC9105	A48-49
TNMG160408FF KC5010	A49
TNMG160408FF KC9105	A49
TNMG160408FF KC9110	A49
TNMG160408FF KC9225	A49
TNMG160408FF KT315	A48-49
TNMG160408FH KT1120	A49
TNMG160408FH KT5020	A48-49
TNMG160408FN KC9105	A51
TNMG160408FN KC9110	A51
TNMG160408FN KC9125	A51
TNMG160408FN KC9315	A50-51
TNMG160408FN KT315	A51
TNMG160408FP KC5010	A51
TNMG160408FP KC9225	A50-51
TNMG160408FP KT315	A51
TNMG160408FW KC5010	A51
TNMG160408FW KC9105	A50-51
TNMG160408FW KC9110	A51
TNMG160408FW KC9225	A51
TNMG160408FW KC9315	A51
TNMG160408FW KT315	A51
TNMG160408FX KT5020	A50-51
TNMG160408K KC850	H14
TNMG160408K KC935	H14
TNMG160408LF KC935	H14
TNMG160408MG KC850	H15
TNMG160408MG KC935	H15
TNMG160408MH KT1120	A50-51
TNMG160408MH KT5020	A51
TNMG160408MN KC8050	H15
TNMG160408MN KC9105	A51
TNMG160408MN KC9110	A51
TNMG160408MN KC9125	A50-51
TNMG160408MN KC9140	A51
TNMG160408MP KC5010	A50-51
TNMG160408MP KC8050	H15
TNMG160408MP KC9225	A51
TNMG160408MP KC9245	A51
TNMG160408MS KC5510	A52-53
TNMG160408MS KC5525	A53
TNMG160408MS1 KC9210	A52-53
TNMG160408MS1 KC9230	A53
TNMG160408MW KC9105	A53
TNMG160408MW KC9110	A52-53
TNMG160408MW KC9125	A53
TNMG160408MW KC9225	A53
TNMG160408MW KC9315	A53
TNMG160408MW KC9325	A53
TNMG160408MX KT1120	A52-53
TNMG160408MX KT5020	A53
TNMG160408P KC5010	A55
TNMG160408P KC730	H15
TNMG160408P KC850	H15
TNMG160408P KC9225	A54-55
TNMG160408P KC935	H15
TNMG160408RN KC8050	H15
TNMG160408RN KC9110	A54-55
TNMG160408RN KC9125	A55
TNMG160408RN KC9140	A55
TNMG160408RP KC5010	A55
TNMG160408RP KC5510	A54-55
TNMG160408RP KC5525	A55
TNMG160408RP KC9105	A55
TNMG160408RP KC9110	A55
TNMG160408RP KC9125	A55
TNMG160408RP KC9225	A55
TNMG160408RP KC9245	A55
TNMG160408RP KC9315	A55
TNMG160408RP KC9320	A55
TNMG160408RP KC9325	A55
TNMG160408UF KC730	H15
TNMG160408UF KC935	H15
TNMG160408UN KC9315	A54-55
TNMG160408UN KC9320	A55
TNMG160408UN KC9325	A55
TNMG160408UP KC5010	A54-55
TNMG160408UP KC9225	A55
TNMG160412 KC850	H14
TNMG160412CT KC9105	A48-49
TNMG160412FN KC9105	A51
TNMG160412FN KC9110	A51
TNMG160412FN KC9125	A51
TNMG160412FN KC9315	A50-51
TNMG160412FN KT315	A51
TNMG160412FP KC5010	A50-51
TNMG160412FW KC5010	A51
TNMG160412FW KC9105	A51
TNMG160412FW KC9110	A51

Catalog No.	Page(s)
TNMG160412FW KC9225	A50-51
TNMG160412FW KC9315	A51
TNMG160412FW KT315	A51
TNMG160412MH KT5020	A50-51
TNMG160412MN KC8050	H15
TNMG160412MN KC9105	A51
TNMG160412MN KC9110	A51
TNMG160412MN KC9125	A51
TNMG160412MN KC9140	A50-51
TNMG160412MP KC5010	A51
TNMG160412MP KC9225	A51
TNMG160412MP KC9245	A50-51
TNMG160412MS1 KC9210	A53
TNMG160412MS1 KC9230	A52-53
TNMG160412MW KC9105	A53
TNMG160412MW KC9110	A53
TNMG160412MW KC9125	A52-53
TNMG160412MW KC9225	A53
TNMG160412MW KC9315	A53
TNMG160412RN KC9110	A54-55
TNMG160412RN KC9125	A55
TNMG160412RN KC9140	A55
TNMG160412RP KC5525	A55
TNMG160412RP KC9105	A55
TNMG160412RP KC9110	A55
TNMG160412RP KC9125	A55
TNMG160412RP KC9225	A55
TNMG160412RP KC9245	A54-55
TNMG160412RP KC9315	A55
TNMG160412UN KC9315	A55
TNMG160412UN KC9320	A55
TNMG160412UN KC9325	A54-55
TNMG160412UP KC5010	A55
TNMG160412UP KC9225	A54-55
TNMG160416K KC850	H14
TNMG160416RP KC5010	A55
TNMG160416RP KC9110	A55
TNMG160416RP KC9125	A54-55
TNMG160416UN KC9315	A54-55
TNMG160416UN KC9320	A55
TNMG160416UN KC9325	A55
TNMG220404 KC850	H14
TNMG220404B KC730	H14
TNMG220404B KC850	H14
TNMG220404B KC935	H14
TNMG220404FN KC9110	A51
TNMG220404FN KC9125	A51
TNMG220404FN KC9315	A51
TNMG220404FN KT315	A50-51
TNMG220404FP KC5010	A51
TNMG220404FP KC8050	H14
TNMG220404FP KC9225	A50-51
TNMG220404FP KT315	A51
TNMG220404MN KC8050	H15
TNMG220404MN KC9110	A51
TNMG220404MN KC9125	A51
TNMG220404MN KC9140	A50-51
TNMG220404MS KC5510	A52-53
TNMG220404MS KC5525	A53
TNMG220404P KC5010	A55
TNMG220404P KC850	H15
TNMG220404P KC9225	A54-55
TNMG220408 KC730	H14
TNMG220408 KC810	H14
TNMG220408 KC850	H14
TNMG220408 KC935	H14
TNMG220408CT KC5010	A49
TNMG220408CT KC9110	A49
TNMG220408CT KC9125	A48-49
TNMG220408CT KC9225	A49
TNMG220408FN KC9105	A51
TNMG220408FN KC9110	A51
TNMG220408FN KC9125	A51
TNMG220408FN KT315	A50-51
TNMG220408FP KC5010	A51
TNMG220408FP KC9225	A51
TNMG220408FP KT315	A50-51
TNMG220408K KC850	H14
TNMG220408K KC935	H14
TNMG220408MG KC850	H15
TNMG220408MG KC935	H15
TNMG220408MN KC8050	H15
TNMG220408MN KC9105	A51
TNMG220408MN KC9110	A50-51
TNMG220408MN KC9125	A51
TNMG220408MN KC9140	A51
TNMG220408MP KC5010	A51
TNMG220408MP KC8050	H15
TNMG220408MP KC9225	A51
TNMG220408MP KC9245	A50-51
TNMG220408MS K313	A53
TNMG220408MS KC5510	A52-53
TNMG220408MS KC5525	A53
TNMG220408P KC5010	A55
TNMG220408P KC730	H15
TNMG220408P KC850	H15
TNMG220408P KC9225	A54-55
TNMG220408P KC935	H15
TNMG220408RN KC8050	H15
TNMG220408RN KC9110	A55
TNMG220408RN KC9125	A54-55
TNMG220408RN KC9140	A55
TNMG220408RP KC5010	A55
TNMG220408RP KC5510	A55
TNMG220408RP KC5525	A55
TNMG220408RP KC8050	H15
TNMG220408RP KC9105	A55
TNMG220408RP KC9110	A55
TNMG220408RP KC9125	A55
TNMG220408RP KC9140	A54-55
TNMG220408RP KC9225	A55
TNMG220408RP KC9245	A55
TNMG220408RP KC9315	A55
TNMG220408UN KC9315	A55
TNMG220408UN KC9320	A54-55
TNMG220408UN KC9325	A55
TNMG220408UP KC5010	A54-55
TNMG220408UP KC9225	A55
TNMG220412 KC850	H14
TNMG220412 KC935	H14
TNMG220412CT KC5010	A49
TNMG220412CT KC9110	A49
TNMG220412CT KC9125	A49
TNMG220412CT KC9225	A48-49
TNMG220412FN KC9110	A50-51
TNMG220412FN KC9125	A51
TNMG220412LF KC935	H14
TNMG220412MG KC935	H15
TNMG220412MN KC8050	H15
TNMG220412MN KC9110	A51
TNMG220412MN KC9125	A50-51
TNMG220412MN KC9140	A51
TNMG220412MP KC5010	A51
TNMG220412MP KC9225	A50-51
TNMG220412MP KC9245	A51
TNMG220412MS K313	A53
TNMG220412MS KC5510	A53
TNMG220412MS KC5525	A52-53
TNMG220412P KC5010	A54-55
TNMG220412P KC730	H15
TNMG220412P KC850	H15
TNMG220412RN KC8050	H15
TNMG220412RN KC9110	A55
TNMG220412RN KC9125	A55
TNMG220412RN KC9140	A54-55
TNMG220412RP KC5010	A55
TNMG220412RP KC5510	A55
TNMG220412RP KC5525	A55
TNMG220412RP KC9105	A55
TNMG220412RP KC9110	A55
TNMG220412RP KC9125	A55
TNMG220412RP KC9140	A55
TNMG220412RP KC9225	A55
TNMG220412RP KC9245	A55
TNMG220412RP KC9315	A55
TNMG220412RP KC9320	A55
TNMG220412RP KC9325	A54-55
TNMG220412UN KC9315	A55
TNMG220412UN KC9320	A54-55
TNMG220412UN KC9325	A55
TNMG220412UP KC5010	A55
TNMG220412UP KC9225	A54-55
TNMG220416 KC810	H14
TNMG220416 KC850	H14
TNMG220416MN KC9110	A51
TNMG220416MN KC9125	A51
TNMG220416MN KC9140	A50-51
TNMG220416MP KC5010	A51
TNMG220416MP KC8050	H15
TNMG220416MP KC9225	A50-51
TNMG220416P KC9240	A54-55
TNMG220416RN KC9110	A54-55
TNMG220416RN KC9125	A55
TNMG220416RN KC9140	A55
TNMG220416RP KC5510	A55
TNMG220416RP KC5525	A55
TNMG220416RP KC9105	A55
TNMG220416RP KC9110	A55
TNMG220416RP KC9125	A54-55
TNMG220416RP KC9225	A55
TNMG220416RP KC9315	A55
TNMG220416UN KC9315	A55
TNMG220416UN KC9320	A54-55
TNMG220416UN KC9325	A55
TNMG220424 KC850	H14
TNMG220432 KC850	H14
TNMG220432RP KC5510	A54-55
TNMG220432RP KC8050	H15
TNMG220432RP KC9110	A55
TNMG220432RP KC9125	A55
TNMG220432RP KC9245	A55
TNMG220432RP KC9325	A55
TNMG270608 KC850	H14
TNMG270608MS K313	A53
TNMG270608MS KC5525	A52-53
TNMG270608RN KC8050	H15
TNMG270608RN KC9110	A55
TNMG270608RN KC9125	A55
TNMG270608RN KC9140	A54-55
TNMG270612 KC850	H14
TNMG270612 KC935	H14
TNMG270612MG KC935	H15
TNMG270612P KC850	H15
TNMG270612P KC9240	A54-55
TNMG270612RN KC8050	H15
TNMG270612RN KC9110	A55
TNMG270612RN KC9125	A55
TNMG270612RN KC9140	A54-55
TNMG270612RP KC5010	A55
TNMG270612RP KC5510	A55
TNMG270612RP KC5525	A54-55
TNMG270612RP KC9110	A55
TNMG270612RP KC9125	A55
TNMG270612RP KC9225	A55
TNMG270612RP KC9245	A55
TNMG270612RP KC9315	A55
TNMG270612RP KC9325	A55
TNMG270616 KC850	H14
TNMG270616 KC935	H14
TNMG270616MS K313	A52-53
TNMG270616RN KC8050	H15
TNMG270616RN KC9110	A55
TNMG270616RN KC9125	A55
TNMG270616RN KC9140	A54-55
TNMG270616RP KC9110	A55
TNMG270616RP KC9125	A54-55
TNMG270616RP KC9225	A55
TNMG270616RP KC9245	A55
TNMG270616RP KC9325	A55
TNMG270632 KC850	H14
TNMG330924 KC5010	A48-49
TNMG330924 KC850	H14
TNMG330924 KC9125	A49
TNMG330924 KC9140	A49
TNMG330924RN KC8050	H15
TNMG330924RN KC9110	A55
TNMG330924RN KC9125	A55
TNMG330924RN KC9140	A54-55
TNMG330924RP KC5010	A55
TNMG330924RP KC9110	A55
TNMG330924RP KC9125	A54-55
TNMG330924RP KC9140	A55
TNMG330924RP KC9245	A55
TNMM160408MR KC935	H15
TNMM160408RM KC8050	H16
TNMM160408RM KC9110	A57
TNMM160408RM KC9125	A56-57
TNMM160408RP KC9110	A56-57
TNMM160408RP KC9125	A57
TNMM160408RP KC9225	A57
TNMM160412RM KC9110	A57
TNMM160412RM KC9125	A56-57
TNMM160412RP KC9110	A56-57
TNMM160412RP KC9125	A57
TNMM160416RP KC9110	A57
TNMM160416RP KC9125	A56-57
TNMM220408MR KC850	H15
TNMM220408RM KC8050	H16
TNMM220408RM KC9110	A56-57
TNMM220408RM KC9125	A57
TNMM220408RP KC9110	A57
TNMM220408RP KC9125	A57
TNMM220408RP KC9225	A56-57
TNMM220412RM KC8050	H16
TNMM220412RM KC9110	A57
TNMM220412RM KC9125	A56-57
TNMM220412RP KC9110	A57
TNMM220412RP KC9125	A56-57
TNMM220412RP KC9225	A57
TNMM220416RM KC9110	A57
TNMM220416RM KC9125	A56-57
TNMM220416RP KC9110	A56-57
TNMM220416RP KC9125	A57
TNMM270612RM KC8050	H16
TNMM270612RM KC9110	A56-57
TNMM270612RM KC9125	A57
TNMM270612RP KC9125	A56-57
TNMM270616RM KC8050	H16
TNMM270616RM KC9110	A57
TNMM270616RM KC9125	A56-57
TNMM270616RP KC9125	A57
TNMM270616RP KC9225	A56-57
TNMM330924MR KC850	H15
TNMN110304S02020 KB9640	A86-87
TNMN160412S02020 KB9640	A86-87
TNMN160416S02020 KB9640	A86-87
TNMP160404 K313	A57
TNMP160404 K68	A56-57
TNMP160404 KC810	H16
TNMP160404 KC850	H16
TNMP160404K KC810	H16
TNMP160404K KC850	H16
TNMP160404K KC9110	A56-57
TNMP160404K KC9125	A57
TNMP160404K KC935	H16
TNMP160408 K313	A57
TNMP160408 K68	A56-57
TNMP160408 KC810	H16
TNMP160408 KC850	H16
TNMP160408K KC810	H16
TNMP160408K KC850	H16
TNMP160408K KC9110	A57
TNMP160408K KC9125	A56-57
TNMP160408K KC935	H16
TNMP160412 KC850	H16
TNMP160416 K68	A56-57
TNMP220404 K68	A56-57
TNMP220404 KC730	H16
TNMP220404 KC850	H16
TNMP220404 KC935	H16
TNMP220404K KC9110	A56-57
TNMP220404K KC9125	A57
TNMP220408 K313	A57
TNMP220408 K68	A56-57
TNMP220408 KC5410	A57
TNMP220408 KC730	H16
TNMP220408 KC850	H16
TNMP220408 KC935	H16
TNMP220408K KC850	H16
TNMP220408K KC9110	A57
TNMP220408K KC9125	A56-57
TNMP220412 K68	A56-57
TNMP220412 KC850	H16
TNMP220416 K68	A56-57

Index by Catalog Number

Catalog No.	Page(s)
TNMP220416 KC850	H16
TNMP220424 K68	A56-57
TNMP220432 KC810	H16
TNMP220432 KC9110	A56-57
TNMP270608 KC850	H16
TNMP270612 KC850	H16
TNMP270616 KC850	H16
TNMS160404 K68	A56-57
TNMS160404 KC5410	A57
TNMS160404 KC730	H16
TNMS160404 KC810	H16
TNMS160404 KC850	H16
TNMS160404FST KD1400	A46-47
TNMS160404FST KD1425	A47
TNMS160408 K68	A57
TNMS160408 KC5410	A56-57
TNMS160408 KC730	H16
TNMS160408 KC810	H16
TNMS160408 KC850	H16
TNMS160408FST KD1400	A47
TNMS160408FST KD1425	A46-47
TNMS220404 K68	A56-57
TNMS220404 KC5410	A57
TNMS220404 KC730	H16
TNMS220404 KC850	H16
TNMS220408 K68	A56-57
TNMS220408 KC5410	A57
TNMS220408 KC730	H16
TNMS220408 KC810	H16
TNMS220408 KC850	H16
TNMS220412 K68	A56-57
TNMS220412 KC850	H16
TNMS270608 K68	A57
TNMS270608 KC5410	A56-57
TNUN160412 KC850	H22
TNUN270616 KC850	H22
TPGA110204 KC730	H30
TPGA110204 KC850	H30
TPGA110204 KD100	H30
TPGA110208 KC850	H30
TPGA160304 KC810	H30
TPGA160308 KC810	H30
TPGA160308 KC850	H30
TPGH16T304 KC5010	A127
TPGH16T304 KC9110	A127
TPGH16T304 KC9125	A126-127
TPGH16T308 KC730	H30
TPGH16T308 KC9110	A126-127
TPGH16T308 KC9125	A127
TPGN060104 K68	A97
TPGN060104 KC8050	A96-97
TPGN090204 KC8050	A96-97
TPGN110301 KC730	H24
TPGN110304 K313	A96-97
TPGN110304 K68	A97
TPGN110304 KC5010	A97
TPGN110304 KC730	H24
TPGN110304 KC8050	A97
TPGN110304 KC810	H24
TPGN110304 KC850	H24
TPGN110304T01020 KY1615	A97
TPGN110304T01020 KY4400	A96-97
TPGN110308 K313	A97
TPGN110308 K68	A96-97
TPGN110308 KC5010	A97
TPGN110308 KC730	H24
TPGN110308 KC810	H24
TPGN110308 KC850	H24
TPGN110308S01020M KD050	H24
TPGN110308T00520 KY4300	A96-97
TPGN110308T01020 KY1615	A97
TPGN110308T01020 KY4400	A96-97
TPGN110312T01020 KY1615	A96-97
TPGN160301 KC730	H24
TPGN160302 K313	A97
TPGN160302 K68	A97
TPGN160302 KC5010	A96-97
TPGN160302 KC730	H24
TPGN160302 KC8050	A97
TPGN160302 KC810	H24
TPGN160304 K313	A97
TPGN160304 K68	A97
TPGN160304 KC5010	A96-97
TPGN160304 KC730	H24
TPGN160304 KC8050	A97
TPGN160304 KC810	H24
TPGN160304 KC850	H24
TPGN160304 KC935	H24
TPGN160304T01020 KY1615	A96-97
TPGN160304T01020 KY4400	A97
TPGN160308 K313	A96-97
TPGN160308 K68	A97
TPGN160308 KC5010	A97
TPGN160308 KC720	H24
TPGN160308 KC730	H24
TPGN160308 KC8050	A97
TPGN160308 KC810	H24
TPGN160308 KC850	H24
TPGN160308 KC9315	A97
TPGN160308 KC935	H24
TPGN160308S01020M KD050	H24
TPGN160308T00520 KY4300	A96-97
TPGN160308T01020 KY1615	A96-97
TPGN160308T01020 KY4400	A97
TPGN160308T02020 KY3500	A96-97
TPGN160312 K313	A97
TPGN160312 K68	A96-97
TPGN160312 KC5010	A97
TPGN160312 KC730	H24
TPGN160312 KC810	H24
TPGN160312 KC850	H24
TPGN160312T01020 KY1615	A97
TPGN160312T01020 KY4400	A96-97
TPGN160316 K313	A97
TPGN160316 K68	A96-97
TPGN160316 KC5010	A97
TPGN160316 KC730	H24
TPGN160316 KC810	H24
TPGN160316 KC850	H24
TPGN160408 KC8050	A96-97
TPGN220401 KC730	H24
TPGN220402 KC730	H24
TPGN220404 K313	A96-97
TPGN220404 K68	A97
TPGN220404 KC5010	A97
TPGN220404 KC730	H24
TPGN220404 KC8050	A97
TPGN220404 KC810	H24
TPGN220404 KC850	H24
TPGN220404 KC935	H24
TPGN220404T01020 KY1615	A96-97
TPGN220408 K313	A97
TPGN220408 K68	A96-97
TPGN220408 KC5010	A97
TPGN220408 KC720	H24
TPGN220408 KC730	H24
TPGN220408 KC8050	A97
TPGN220408 KC810	H24
TPGN220408 KC850	H24
TPGN220408 KC9315	A97
TPGN220408 KC935	H24
TPGN220408T01020 KY1615	A96-97
TPGN220412 K68	A96-97
TPGN220412 KC5010	A97
TPGN220412 KC730	H24
TPGN220412 KC8050	A97
TPGN220412 KC810	H24
TPGN220412 KC850	H24
TPGN220416 K68	A97
TPGN220416 KC5010	A97
TPGN220416 KC730	H24
TPGN220416 KC8050	A96-97
TPGN220416 KC810	H24
TPGN220416 KC850	H24
TPGN220416T01020 KY1615	A96-97
TPGN220424 KC8050	A96-97
TPGN220432 K68	A96-97
TPGN220432 KC850	H24
TPGN270608 KC8050	A96-97
TPGN270608 KC810	H24
TPGN270608 KC850	H24
TPGN270612 KC850	H24
TPGN270616 KC850	H24
TPGR110204K KC730	H24
TPGR110304K KC5010	A96-97
TPGR110304K KC730	H24
TPGR110304K KC8050	A97
TPGR110304K KC850	H24
TPGR110308K KC5010	A96-97
TPGR110308K KC850	H24
TPGR160304K K68	A97
TPGR160304K KC5010	A96-97
TPGR160304K KC8050	A97
TPGR160304K KC810	H24
TPGR160304K KC850	H24
TPGR160304K KC935	H24
TPGR160308K KC5010	A97
TPGR160308K KC730	H24
TPGR160308K KC8050	A96-97
TPGR160308K KC810	H24
TPGR160308K KC850	H24
TPGR220404K K68	A96-97
TPGR220404K KC5010	A97
TPGR220404K KC850	H24
TPGR220408K KC5010	A96-97
TPGR220408K KC850	H24
TPGT090202LF KC5010	A126-127
TPGT090202LF KC5025	A127
TPGT090202LF KC5410	A127
TPGT090204LF KC5010	A127
TPGT090204LF KC5025	A126-127
TPGT090204LF KC5410	A127
TPGT090204LF KC730	H31
TPGT110201K KC730	H30
TPGT110201LF KC5010	A127
TPGT110201LF KC5025	A126-127
TPGT110201LF KC730	H31
TPGT110202HP K313	A127
TPGT110202HP KC5010	A127
TPGT110202HP KC5025	A126-127
TPGT110202HP KC5410	A127
TPGT110202HP KC730	H31
TPGT110202K KC730	H30
TPGT110202LF KC5010	A127
TPGT110202LF KC5025	A126-127
TPGT110202LF KC5410	A127
TPGT110202LF KC730	H31
TPGT110204HP K313	A127
TPGT110204HP KC5010	A127
TPGT110204HP KC5025	A126-127
TPGT110204HP KC5410	A127
TPGT110204HP KC730	H31
TPGT110204K K313	A127
TPGT110204K K68	A126-127
TPGT110204K KC720	H30
TPGT110204K KC730	H30
TPGT110204K KC810	H30
TPGT110204K KC850	H30
TPGT110204K KC935	H30
TPGT110204LF KC5010	A127
TPGT110204LF KC5025	A127
TPGT110204LF KC5410	A126-127
TPGT110204LF KC730	H31
TPGT110204LF KC850	H31
TPGT110208HP KC5010	A127
TPGT110208HP KC5025	A126-127
TPGT110208HP KC5410	A127
TPGT110208K K313	A127
TPGT110208K K68	A126-127
TPGT110208K KC730	H30
TPGT110208K KC850	H30
TPGT110208LF KC5010	A126-127
TPGT110208LF KC5025	A127
TPGT110208LF KC5410	A127
TPGT16T302HP KC5010	A127
TPGT16T302HP KC5025	A127
TPGT16T302HP KC5410	A126-127
TPGT16T302HP KC730	H31
TPGT16T304HP K313	A127
TPGT16T304HP KC5010	A126-127
TPGT16T304HP KC5025	A127
TPGT16T304HP KC5410	A127
TPGT16T304HP KC730	H31
TPGT16T304LF KC5010	A126-127
TPGT16T304LF KC5025	A127
TPGT16T304LF KC5410	A127
TPGT16T304LF KC730	H31
TPGT16T308HP KC5010	A127
TPGT16T308HP KC5025	A127
TPGT16T308HP KC5410	A126-127
TPGT16T308HP KC730	H31
TPGT16T308LF KC5010	A127
TPGT16T308LF KC5025	A127
TPGT16T308LF KC5410	A126-127
TPGT16T308LF KC730	H31
TPGW110202EM KB5625	A122-123
TPGW110202EM KB9610	A123
TPGW110204E KD1405	A122-123
TPGW110204EC KB1345	A122-123
TPGW110204FST KD1400	A123
TPGW110204FST KD1425	A122-123
TPGW110204S01015C KB1610	A123
TPGW110204S01015C KB5610	A123
TPGW110204S01015C KB9610	A123
TPGW110204S01015M KB5625	A122-123
TPGW110204S01015M KB9610	A123
TPGW110204S01015M KD050	H31
TPGW110208E KD1405	A122-123
TPGW110208FST KD1400	A122-123
TPGW110208FST KD1425	A123
TPGW110208S01015C KB1630	A123
TPGW110208S01015C KB5610	A123
TPGW110208S01015C KB9610	A123
TPGW110208S01015M KB5625	A123
TPGW110208S01015M KB9610	A122-123
TPGW110208S01015M KD050	H31
TPGW16T304FST KD1400	A123
TPGW16T304FST KD1425	A122-123
TPGW16T304S01015M KB5625	A122-123
TPGW16T308FST KD1400	A123
TPGW16T308FST KD1425	A122-123
TPGW16T308S01015M KB5625	A122-123
TPGW16T308S01015MT KB1625	A123
TPGW16T308S01015MT KB9610	A122-123
TPMR110304 KC8050	A97
TPMR110304 KC810	H24
TPMR110304 KC850	H24
TPMR110304 KC9315	A96-97
TPMR110308 KC8050	A97
TPMR110308 KC810	H24
TPMR110308 KC850	H24
TPMR110308 KC9315	A96-97
TPMR160304 KC8050	A97
TPMR160304 KC810	H24
TPMR160304 KC850	H24
TPMR160304 KC9315	A96-97
TPMR160304 KC935	H24
TPMR160308 KC8050	A97
TPMR160308 KC810	H24
TPMR160308 KC850	H24
TPMR160308 KC9315	A96-97
TPMR160308 KC935	H24
TPMR160312 KC8050	A97
TPMR160312 KC850	H24
TPMR160312 KC9315	A96-97
TPMR220408 KC730	H24
TPMR220408 KC8050	A96-97
TPMR220408 KC810	H24
TPMR220412 KC8050	A96-97
TPMR220412 KC850	H24
TPMT090202LF KC5010	A129
TPMT090202LF KC5025	A129
TPMT090202LF KC730	H31
TPMT090202LF KT315	A128-129
TPMT090204LF K313	A129
TPMT090204LF K68	A129
TPMT090204LF KC5010	A129
TPMT090204LF KC5025	A129
TPMT090204LF KC720	H31
TPMT090204LF KC730	H31
TPMT090204LF KC810	H31
TPMT090204LF KC850	H31
TPMT090204LF KC9105	A129
TPMT090204LF KC9110	A129

Catalog No.	Page(s)
TPMT090204LF KC9125	A129
TPMT090204LF KC9225	A129
TPMT090204LF KC9315	A128-129
TPMT090204LF KC9320	A129
TPMT090204LF KC935	H31
TPMT090204LF KT315	A129
TPMT090204S01015M KD050	H31
TPMT110202LF KC5010	A128-129
TPMT110202LF KC5025	A129
TPMT110202LF KC730	H31
TPMT110202LF KT315	A129
TPMT110202UF KC5010	A129
TPMT110202UF KC9110	A129
TPMT110202UF KC9125	A128-129
TPMT110204LF K313	A129
TPMT110204LF K68	A129
TPMT110204LF KC5010	A129
TPMT110204LF KC5025	A129
TPMT110204LF KC730	H31
TPMT110204LF KC810	H31
TPMT110204LF KC850	H31
TPMT110204LF KC9105	A128-129
TPMT110204LF KC9110	A129
TPMT110204LF KC9125	A129
TPMT110204LF KC9225	A129
TPMT110204LF KC9315	A129
TPMT110204LF KC9320	A129
TPMT110204LF KC935	H31
TPMT110204LF KT315	A129
TPMT110204S01015M KD050	H31
TPMT110204UF KC5010	A129
TPMT110204UF KC730	H31
TPMT110204UF KC9110	A129
TPMT110204UF KC9125	A128-129
TPMT110208LF KC5010	A129
TPMT110208LF KC5025	A129
TPMT110208LF KC730	H31
TPMT110208LF KC810	H31
TPMT110208LF KC850	H31
TPMT110208LF KC9105	A129
TPMT110208LF KC9110	A128-129
TPMT110208LF KC9125	A129
TPMT110208LF KC9225	A129
TPMT110208LF KC9315	A129
TPMT110208LF KC9320	A129
TPMT110208LF KC935	H31
TPMT110208LF KT315	A129
TPMT110208MF KC730	H31
TPMT110208MF KC9110	A129
TPMT110208MF KC9125	A129
TPMT110208MF KC9225	A129
TPMT110208MF KC9315	A128-129
TPMT110208MF KC9325	A129
TPMT110208S01015M KD050	H31
TPMT16T304LF KC5010	A129
TPMT16T304LF KC5025	A129
TPMT16T304LF KC720	H31
TPMT16T304LF KC730	H31
TPMT16T304LF KC850	H31
TPMT16T304LF KC9105	A128-129
TPMT16T304LF KC9110	A129
TPMT16T304LF KC9125	A129
TPMT16T304LF KC9225	A129
TPMT16T304LF KC9315	A129
TPMT16T304LF KC9320	A129
TPMT16T304LF KC935	H31
TPMT16T304LF KT315	A129
TPMT16T304UF KC5010	A129
TPMT16T304UF KC9110	A129
TPMT16T304UF KC9125	A128-129
TPMT16T308LF KC5010	A129
TPMT16T308LF KC5025	A128-129
TPMT16T308LF KC720	H31
TPMT16T308LF KC730	H31
TPMT16T308LF KC850	H31
TPMT16T308LF KC9105	A129
TPMT16T308LF KC9110	A129
TPMT16T308LF KC9125	A129
TPMT16T308LF KC9225	A129
TPMT16T308LF KC9315	A129
TPMT16T308LF KC9320	A129
TPMT16T308LF KC935	H31
TPMT16T308LF KT315	A129
TPMT16T308MF KC8050	A128-129
TPMT16T308MF KC9110	A129
TPMT16T308MF KC9125	A129
TPMT16T308MF KC9225	A129
TPMT16T308MF KC9315	A129
TPMT16T308MF KC9320	A129
TPMT16T308MF KC9325	A129
TPMT16T308UF KC5010	A129
TPMT16T308UF KC9110	A129
TPMT16T308UF KC9125	A128-129
TPMT16T312LF KC5010	A129
TPMT16T312LF KC850	H31
TPMT16T312LF KC9110	A129
TPMT16T312LF KC9125	A128-129
TPMT16T312LF KC9225	A129
TPMT16T312LF KC9315	A129
TPMT16T312LF KT315	A129
TPMT16T312MF KC730	H31
TPMT16T312MF KC9125	A129
TPMT16T312MF KC9225	A129
TPMT16T312MF KC9315	A128-129
TPMT16T312MF KC935	H31
TPMT220408LF KC5010	A129
TPMT220408LF KC5025	A129
TPMT220408LF KC730	H31
TPMT220408LF KC8050	A129
TPMT220408LF KC850	H31
TPMT220408LF KC9125	A128-129
TPMT220408LF KC9315	A129
TPUN110304 K68	A98-99
TPUN110304 KC9315	A99
TPUN110304T00520 KY1615	A98-99
TPUN110308 K68	A99
TPUN110308 KC9315	A98-99
TPUN110308T00520 KY1615	A98-99
TPUN160304 K68	A98-99
TPUN160304 KC8050	A99
TPUN160304 KC810	H24
TPUN160304 KC850	H24
TPUN160304 KC9315	A99
TPUN160304T00520 KY1615	A98-99
TPUN160308 K68	A99
TPUN160308 KC730	H24
TPUN160308 KC8050	A99
TPUN160308 KC810	H24
TPUN160308 KC850	H24
TPUN160308 KC9315	A98-99
TPUN160308T00520 KY1615	A98-99
TPUN160312 KC850	H24
TPUN160312 KC9315	A98-99
TPUN160312T00520 KY1615	A98-99
TPUN220404 KC810	H24
TPUN220408 K68	A99
TPUN220408 KC8050	A99
TPUN220408 KC810	H24
TPUN220408 KC850	H24
TPUN220408 KC9315	A98-99
TPUN220412 K68	A99
TPUN220412 KC8050	A98-99
TPUN220412 KC810	H24
TPUN220412 KC850	H24
TPUN220412 KC9315	A99
TRAOL2525M06	F23
TRAOL3225P06	F23
TRAOL3225P09	F23
TRAOR2525M04	F23
TRAOR2525M06	F23
TRAOR3225P06	F23
TRAOR3232P12	F23
TRM50L0432M	F23
TRM50L0620M	F23
TRM50L0640M	F23
TRM50L0920M	F23
TRM50L0940M	F23
TRM50L1250M	F23
TRM50R0432M	F23
TRM50R0620M	F23
TRM50R0640M	F23
TRM50R0920M	F23
TRM50R0940M	F23
TRM50R1250M	F23
VBGT110301LF KC5010	A131
VBGT110301LF KC5025	A131
VBGT110301LF KC5410	A130-131
VBGT110301LF KC730	H31
VBGT110302HP KC5010	A130-131
VBGT110302HP KC5025	A131
VBGT110302HP KC5410	A131
VBGT110302LF K68	A130-131
VBGT110302LF KC5010	A131
VBGT110302LF KC5025	A131
VBGT110302LF KC5410	A130-131
VBGT110302LF KC730	H31
VBGT110304HP KC5010	A130-131
VBGT110304HP KC5025	A131
VBGT110304HP KC5410	A131
VBGT110304LF K313	A131
VBGT110304LF KC5010	A131
VBGT110304LF KC5025	A130-131
VBGT110304LF KC5410	A131
VBGT110304LF KC730	H31
VBGT1103X0LF KC5025	A130-131
VBGT160401LF KC5010	A131
VBGT160401LF KC5025	A131
VBGT160401LF KC5410	A130-131
VBGT160401LF KC730	H31
VBGT160402LF K313	A130-131
VBGT160402LF KC5010	A130-131
VBGT160402LF KC5025	A131
VBGT160402LF KC5410	A131
VBGT160402LF KC730	H31
VBGT160404HP K313	A131
VBGT160404HP K68	A131
VBGT160404HP KC5010	A130-131
VBGT160404HP KC5025	A131
VBGT160404HP KC5410	A131
VBGT160404HP KC730	H31
VBGT160404LF K68	A131
VBGT160404LF KC5010	A131
VBGT160404LF KC5025	A131
VBGT160404LF KC5410	A130-131
VBGT160404LF KC730	H31
VBGT160408HP K313	A131
VBGT160408HP K68	A130-131
VBGT160408HP KC5010	A131
VBGT160408HP KC5025	A131
VBGT160408HP KC5410	A131
VBGT160408HP KC730	H31
VBGT1604X0LF KC5025	A130-131
VBGW110304FST KD1400	A131
VBGW110304FST KD1425	A130-131
VBGW160404E KD1405	A130-131
VBGW160404FST KD1400	A131
VBGW160404FST KD1425	A130-131
VBGW160404S01015M KB5625	A130-131
VBGW160404S01015M KD050	H32
VBGW160404S01015MT KB1610	A131
VBGW160404S01015MT KB1625	A131
VBGW160404S01015MT KB9610	A131
VBGW160408E KD1405	A130-131
VBGW160408S01015 KD050	H32
VBGW160408S01015M KB5625	A130-131
VBGW160408S01015MT KB1610	A131
VBGW160408S01015MT KB1625	A131
VBGW160408S01015MT KB5610	A131
VBMR110302 KC5010	F7
VBMR110302 KC5025	F7
VBMR110302 KC9110	F7
VBMR110302 KC9225	F6-7
VBMR110304 KC5010	F7
VBMR110304 KC5025	F7
VBMR110304 KC850	H33
VBMR110304 KC9110	F7
VBMR110304 KC9125	F6-7
VBMR110304 KC9225	F7
VBMR110304 KT315	F7
VBMR110308 KC5010	F7
VBMR110308 KC850	H33
VBMR110308 KC9110	F7
VBMR110308 KC9125	F6-7
VBMR110308 KC9225	F7
VBMR110308 KT315	F7
VBMT11030211 KT315	A130-131
VBMT110302LF K313	A133
VBMT110302LF KC5010	A133
VBMT110302LF KC730	H32
VBMT110302LF KC935	H32
VBMT110302LF KT315	A132-133
VBMT11030411 KT315	A130-131
VBMT110304LF K313	A133
VBMT110304LF KC5010	A132-133
VBMT110304LF KC5025	A133
VBMT110304LF KC730	H32
VBMT110304LF KC8050	A133
VBMT110304LF KC810	H32
VBMT110304LF KC850	H32
VBMT110304LF KC9105	A133
VBMT110304LF KC9110	A133
VBMT110304LF KC9125	A133
VBMT110304LF KC9225	A133
VBMT110304LF KC9315	A133
VBMT110304LF KC9320	A133
VBMT110304LF KC935	H32
VBMT110304LF KT315	A133
VBMT110308LF K313	A133
VBMT110308LF KC5010	A133
VBMT110308LF KC5025	A133
VBMT110308LF KC730	H32
VBMT110308LF KC850	H32
VBMT110308LF KC9110	A133
VBMT110308LF KC9125	A133
VBMT110308LF KC9225	A133
VBMT110308LF KC9315	A132-133
VBMT110308LF KC935	H32
VBMT110308LF KT315	A133
VBMT160402LF K313	A133
VBMT160402LF K68	A133
VBMT160402LF KC5010	A133
VBMT160402LF KC5025	A133
VBMT160402LF KC720	H32
VBMT160402LF KC730	H32
VBMT160402LF KC850	H32
VBMT160402LF KC935	H32
VBMT160402LF KT315	A132-133
VBMT16040411 KT315	A130-131
VBMT160404LF K313	A133
VBMT160404LF K68	A133
VBMT160404LF KC5010	A133
VBMT160404LF KC5025	A132-133
VBMT160404LF KC720	H32
VBMT160404LF KC730	H32
VBMT160404LF KC8050	A133
VBMT160404LF KC810	H32
VBMT160404LF KC850	H32
VBMT160404LF KC9105	A133
VBMT160404LF KC9110	A133
VBMT160404LF KC9125	A133
VBMT160404LF KC9225	A133
VBMT160404LF KC9315	A133
VBMT160404LF KC9320	A133
VBMT160404LF KC935	H32
VBMT160404LF KT315	A133
VBMT16040811 KT315	A130-131
VBMT160408LF K313	A133
VBMT160408LF K68	A133
VBMT160408LF KC5010	A133
VBMT160408LF KC5025	A133
VBMT160408LF KC720	H32
VBMT160408LF KC730	H32
VBMT160408LF KC8050	A132-133
VBMT160408LF KC810	H32
VBMT160408LF KC850	H32
VBMT160408LF KC9105	A133
VBMT160408LF KC9110	A133
VBMT160408LF KC9125	A133
VBMT160408LF KC9225	A133
VBMT160408LF KC9315	A133
VBMT160408LF KC9320	A133
VBMT160408LF KC935	H32
VBMT160408LF KT315	A133
VBMT160412LF KC9105	A132-133
VBMR110308 KC9225	F7
VBMR110308 KT315	F7
VBMT11030211 KT315	A130-131
VBMT110302LF K313	A133
VBMT110302LF KC5010	A133
VBMT110302LF KC730	H32
VBMT110302LF KC935	H32
VBMT110302LF KT315	A132-133
VBMT11030411 KT315	A130-131
VBMT110304LF K313	A133
VBMT110304LF KC5010	A132-133
VBMT110304LF KC5025	A133
VBMT110304LF KC730	H32
VBMT110304LF KC8050	A133
VBMT110304LF KC810	H32
VBMT110304LF KC850	H32
VBMT110304LF KC9105	A133
VBMT110304LF KC9110	A133
VBMT110304LF KC9125	A133
VBMT110304LF KC9225	A133
VBMT110304LF KC9315	A133
VBMT110304LF KC9320	A133
VBMT110304LF KC935	H32
VBMT110304LF KT315	A133
VBMT110308LF K313	A133
VBMT110308LF KC5010	A133
VBMT110308LF KC5025	A133
VBMT110308LF KC730	H32
VBMT110308LF KC850	H32
VBMT110308LF KC9110	A133
VBMT110308LF KC9125	A133
VBMT110308LF KC9225	A133
VBMT110308LF KC9315	A132-133
VBMT110308LF KC935	H32
VBMT110308LF KT315	A133
VBMT160402LF K313	A133
VBMT160402LF K68	A133
VBMT160402LF KC5010	A133
VBMT160402LF KC5025	A133
VBMT160402LF KC720	H32
VBMT160402LF KC730	H32
VBMT160402LF KC850	H32
VBMT160402LF KC935	H32
VBMT160402LF KT315	A132-133
VBMT16040411 KT315	A130-131
VBMT160404LF K313	A133
VBMT160404LF K68	A133
VBMT160404LF KC5010	A133
VBMT160404LF KC5025	A132-133
VBMT160404LF KC720	H32
VBMT160404LF KC730	H32
VBMT160404LF KC8050	A133
VBMT160404LF KC810	H32
VBMT160404LF KC850	H32
VBMT160404LF KC9105	A133
VBMT160404LF KC9110	A133
VBMT160404LF KC9125	A133
VBMT160404LF KC9225	A133
VBMT160404LF KC9315	A133
VBMT160404LF KC9320	A133
VBMT160404LF KC935	H32
VBMT160404LF KT315	A133
VBMT16040811 KT315	A130-131
VBMT160408LF K313	A133
VBMT160408LF K68	A133
VBMT160408LF KC5010	A133
VBMT160408LF KC5025	A133
VBMT160408LF KC720	H32
VBMT160408LF KC730	H32
VBMT160408LF KC8050	A132-133
VBMT160408LF KC810	H32
VBMT160408LF KC850	H32
VBMT160408LF KC9105	A133
VBMT160408LF KC9110	A133
VBMT160408LF KC9125	A133
VBMT160408LF KC9225	A133
VBMT160408LF KC9315	A133
VBMT160408LF KC9320	A133
VBMT160408LF KC935	H32
VBMT160408LF KT315	A133
VBMT160412LF KC9105	A132-133

Index by Catalog Number

Catalog No.	Page(s)
VCGN160404 KD1425	F6-7
VCGN160408 KD1425	F6-7
VCGN160412 KD1425	F6-7
VCGR160402 K68	F7
VCGR160402 KC5010	F7
VCGR160402 KC5025	F7
VCGR160402 KC5410	F7
VCGR160402 KC730	H34
VCGR160402 KC8050	F7
VCGR160402 KC9110	F6-7
VCGR160402 KC9125	F7
VCGR160402 KC9225	F7
VCGR160402 KC935	H34
VCGR160402 KT315	F7
VCGR160404 K68	F7
VCGR160404 KC5010	F7
VCGR160404 KC5025	F7
VCGR160404 KC5410	F7
VCGR160404 KC730	H34
VCGR160404 KC8050	F7
VCGR160404 KC850	H34
VCGR160404 KC9105	F7
VCGR160404 KC9110	F7
VCGR160404 KC9125	F7
VCGR160404 KC9225	F7
VCGR160404 KC9315	F7
VCGR160404 KC935	H34
VCGR160404 KD1425	F6-7
VCGR160404 KT315	F7
VCGR160408 K68	F7
VCGR160408 KC5010	F7
VCGR160408 KC5025	F7
VCGR160408 KC5410	F7
VCGR160408 KC730	H34
VCGR160408 KC8050	F7
VCGR160408 KC850	H34
VCGR160408 KC9105	F7
VCGR160408 KC9110	F7
VCGR160408 KC9125	F7
VCGR160408 KC9225	F6-7
VCGR160408 KC9315	F7
VCGR160408 KC935	H34
VCGR160408 KD1425	F7
VCGR160408 KT315	F7
VCGR160412 K68	F7
VCGR160412 KC5010	F7
VCGR160412 KC5025	F7
VCGR160412 KC5410	F7
VCGR160412 KC730	H34
VCGR160412 KC8050	F7
VCGR160412 KC850	H34
VCGR160412 KC9105	F7
VCGR160412 KC9110	F7
VCGR160412 KC9125	F7
VCGR160412 KC9225	F7
VCGR160412 KC9315	F7
VCGR160412 KC935	H34
VCGR160412 KD1425	F7
VCGR160412 KT315	F6-7
VCGR160416 KC5010	F7
VCGR160416 KC730	H34
VCGR160416 KC8050	F6-7
VCGR160416 KC850	H34
VCGR160416 KC9105	F7
VCGR160416 KC9225	F7
VCGR160416 KC935	H34
VCGT160408HP K313	A132-133
VCMR160404 KC5010	F7
VCMR160404 KC5025	F6-7
VCMR160404 KC8050	F7
VCMR160404 KC850	H33
VCMR160404 KC9225	F7
VCMR160404 KC9315	F7
VCMR160404 KT315	F7
VCMR160408 KC5010	F7
VCMR160408 KC5025	F6-7
VCMR160408 KC8050	F7
VCMR160408 KC850	H33
VCMR160408 KC9225	F7
VCMR160408 KC9315	F7
VCMR160408 KT315	F7
VDIA1M2065	C3
VDIA1M3085	C3
VDIA1M40100	C3
VDIA1M50125	C3
VDIA1M60160	C3
VDIA2M2070	C3
VDIA2M30100	C3
VDIA2M30240	C3
VDIA2M40120	C3
VDIA2M40320	C3
VDIA2M50135	C3
VDIA2M50400	C3
VDIA2M60150	C3
VDIA2M60480	C3
VDIB1M161224	C3
VDIB1M161234	C3
VDIB1M201630	C3
VDIB1M201640	C3
VDIB1M251630	C3
VDIB1M302040	C3
VDIB1M302060	C3
VDIB1M402544	C3
VDIB1M503255	C3
VDIB1M603260	C3
VDIB2M161224	C4
VDIB2M161234	C4
VDIB2M201630	C4
VDIB2M201640	C4
VDIB2M251630	C4
VDIB2M302040	C4
VDIB2M302060	C4
VDIB2M402544	C4
VDIB2M503255	C4
VDIB2M603260	C4
VDIB3M161224	C4
VDIB3M161234	C4
VDIB3M201630	C4
VDIB3M201640	C4
VDIB3M251630	C4
VDIB3M302040	C4
VDIB3M302060	C4
VDIB3M402544	C4
VDIB3M503255	C4
VDIB3M603260	C4
VDIB4M161224	C5
VDIB4M161234	C5
VDIB4M201630	C5
VDIB4M201640	C5
VDIB4M251630	C5
VDIB4M302040	C5
VDIB4M302060	C5
VDIB4M402544	C5
VDIB4M503255	C5
VDIB4M603260	C5
VDIB5M201630	C5
VDIB5M201640	C5
VDIB5M302040	C5
VDIB5M402044	C5
VDIB5M402544	C5
VDIB5M503255	C5
VDIB5M603260	C5
VDIB6M201630	C6
VDIB6M201640	C6
VDIB6M302040	C6
VDIB6M402044	C6
VDIB6M402544	C6
VDIB6M503255	C6
VDIB6M603260	C6
VDIB7M201630	C6
VDIB7M201640	C6
VDIB7M302040	C6
VDIB7M402044	C6
VDIB7M402544	C6
VDIB7M503255	C6
VDIB7M603260	C6
VDIB8M201630	C6
VDIB8M201640	C6
VDIB8M302040	C6
VDIB8M402044	C6
VDIB8M402544	C6
VDIB8M503255	C6
VDIB8M603260	C6
VDIC1M201650	C7
VDIC1M201655	C7
VDIC1M302070	C7
VDIC1M402585	C7
VDIC1M5032100	C7
VDIC1M6032125	C7
VDIC2M201650	C7
VDIC2M201655	C7
VDIC2M302070	C7
VDIC2M402585	C7
VDIC2M5032100	C7
VDIC2M6032125	C7
VDIC3M201650	C7
VDIC3M201655	C7
VDIC3M302070	C7
VDIC3M402585	C7
VDIC3M5032100	C7
VDIC3M6032125	C7
VDIC4M201650	C8
VDIC4M201655	C8
VDIC4M302070	C8
VDIC4M402585	C8
VDIC4M5032100	C8
VDIC4M6032125	C8
VDIE1M2020	C8
VDIE1M2025	C8
VDIE1M3020	C8
VDIE1M3025	C8
VDIE1M3032	C8
VDIE1M3040	C8
VDIE1M4020	C8
VDIE1M4025	C8
VDIE1M4032	C8
VDIE1M4040	C8
VDIE1M5020	C8
VDIE1M5025	C8
VDIE1M5032	C8
VDIE1M5040	C8
VDIE1M5050	C8
VDIE1M6020	C8
VDIE1M6025	C8
VDIE1M6032	C8
VDIE1M6040	C8
VDIE1M6050	C8
VDIE2M2010	C9
VDIE2M2012	C9
VDIE2M2016	C9
VDIE2M2020	C9
VDIE2M2025	C9
VDIE2M208	C9
VDIE2M3010	C9
VDIE2M3012	C9
VDIE2M3016	C9
VDIE2M3020	C9
VDIE2M3025	C9
VDIE2M3032	C9
VDIE2M308	C9
VDIE2M4010	C9
VDIE2M4012	C9
VDIE2M4016	C9
VDIE2M4020	C9
VDIE2M4025	C9
VDIE2M4032	C9
VDIE2M4040	C9
VDIE2M408	C9
VDIE2M5010	C9
VDIE2M5012	C9
VDIE2M5016	C9
VDIE2M5020	C9
VDIE2M5025	C9
VDIE2M5032	C9
VDIE2M5040	C9
VDIE2M5050	C9
VDIE2M508	C9
VDIE2M6010	C9
VDIE2M6012	C9
VDIE2M6016	C9
VDIE2M6020	C9
VDIE2M6025	C9
VDIE2M6032	C9
VDIE2M6040	C9
VDIE2M6050	C9
VDIE3M2016	C10
VDIE3M2020	C10
VDIE3M3025	C10
VDIE3M4025	C10
VDIE3M4032	C10
VDIE3M5025	C10
VDIE3M5032	C10
VDIE3M6032	C10
VDIE4M1616	C10
VDIE4M2016	C10
VDIE4M2025	C10
VDIE4M3025	C10
VDIE4M3032	C10
VDIE4M3040	C10
VDIE4M4025	C10
VDIE4M4032	C10
VDIE4M4040	C10
VDIE4M5040	C10
VDIE4M6040	C10
VDIZ2M20	C10
VDIZ2M30	C10
VDIZ2M40	C10
VDIZ2M50	C10
VDIZ2M60	C10
VNGA160404 K68	A58-59
VNGA160404FST KD1400	A59
VNGA160404FST KD1425	A58-59
VNGA160404S01020M KD050	H16
VNGA160404S01020M KD081	H16
VNGA160404S01020MT KB9610	A58-59
VNGA160404S01025MT KB1610	A59
VNGA160404S01025MT KB1625	A59
VNGA160404S01025MT KB5610	A59
VNGA160404S01025MT KB5625	A59
VNGA160404T K090	H16
VNGA160404T01020 KY4400	A58-59
VNGA160404T02020 KY1615	A58-59
VNGA160408 K68	A58-59
VNGA160408 KC850	H16
VNGA160408 KD100	H16
VNGA160408 KD120	H16
VNGA160408FST KD1400	A59
VNGA160408FST KD1425	A58-59
VNGA160408S01020M KD050	H16
VNGA160408S01020M KD081	H16
VNGA160408S01020MT KB9610	A58-59
VNGA160408S01025MT KB1610	A59
VNGA160408S01025MT KB1625	A59
VNGA160408S01025MT KB1630	A59
VNGA160408S01025MT KB5610	A59
VNGA160408T01020 KY4400	A58-59
VNGA160408T02020 K090	H16
VNGA160408T02020 KY1320	A59
VNGA160408T02020 KY1615	A58-59
VNGA160408T02020 KY3500	A59
VNGA160412S01020MT KB9610	A58-59
VNGA160412T02020 K090	H16
VNGA160412T02020 KY1615	A58-59
VNGA220408 K68	A58-59
VNGA220408 KD100	H16
VNGA220408T02020 K090	H16
VNGA220408T02020 KY1615	A58-59
VNGA220408T02020 KY3400	A59
VNGA220412T02020 KY1615	A58-59
VNGG160401FS KC5510	A59
VNGG160401FS KC5525	A58-59
VNGG160402FS KC5510	A58-59
VNGG160402FS KC5525	A59
VNGG160402LF K313	A60-61
VNGG160402LF KC5010	A61
VNGG160402LF KC730	H16
VNGG160404FS K313	A59
VNGG160404FS KC5510	A59
VNGG160404FS KC5525	A58-59
VNGG160404LF K313	A61
VNGG160404LF KC5010	A60-61
VNGG160404LF KC730	H16
VNGG160408FS K313	A59
VNGG160408FS KC5510	A58-59

Catalog No.	Page(s)
VNGG160408FS KC5525	A59
VNGG160408LF K313	A61
VNGG160408LF KC5010	A60-61
VNGG160408LF KC730	H16
VNGG160412FS KC5510	A58-59
VNGG220408LF KC5010	A60-61
VNGP160401 K313	A60-61
VNGP160401 KC5010	A61
VNGP160401 KC5410	A61
VNGP160401 KC730	H17
VNGP160402 KC5010	A60-61
VNGP160402 KC5410	A61
VNGP160402 KC730	H17
VNGP160402 KC935	H17
VNGP160404K KC730	H17
VNGP160408K KC730	H17
VNGP220404 KC5010	A60-61
VNGP220404 KC730	H17
VNGP220404 KC850	H17
VNGP220408 K313	A60-61
VNGP220408 K68	A61
VNGP220408 KC5010	A61
VNGP220408 KC730	H17
VNGP220408 KC850	H17
VNGP220408 KC935	H17
VNGP220412 K68	A60-61
VNGP220412 KC730	H17
VNMA160404S01020M KD050	H17
VNMA160408 KC9315	A60-61
VNMA160408 KC9320	A61
VNMA160408 KC9325	A61
VNMA160408E KB9640	A58-59
VNMA160408S01020 KD120	H17
VNMA160408S01020M KD050	H17
VNMG160401MS K313	A62-63
VNMG160401MS KC5510	A62-63
VNMG160401MS KC5525	A62-63
VNMG160402FH KT1120	A60-61
VNMG160402FH KT5020	A60-61
VNMG160402MS K313	A62-63
VNMG160402MS KC5510	A62-63
VNMG160402MS KC5525	A62-63
VNMG160404 KC935	H17
VNMG160404FF KC5010	A60-61
VNMG160404FF KC9105	A61
VNMG160404FF KC9110	A60-61
VNMG160404FF KC9225	A60-61
VNMG160404FF KT315	A60-61
VNMG160404FH KT1120	A60-61
VNMG160404FH KT5020	A60-61
VNMG160404FN KC9110	A60-61
VNMG160404FN KC9125	A60-61
VNMG160404FN KC9315	A60-61
VNMG160404FN KT315	A60-61
VNMG160404FP KC5010	A60-61
VNMG160404FP KC8050	H17
VNMG160404FP KC9225	A60-61
VNMG160404FP KT315	A60-61
VNMG160404LF KC935	H17
VNMG160404MH KT1120	A60-61
VNMG160404MH KT5020	A60-61
VNMG160404MN KC8050	H17
VNMG160404MN KC9105	A60-61
VNMG160404MN KC9110	A60-61
VNMG160404MN KC9125	A60-61
VNMG160404MP KC5010	A63
VNMG160404MP KC8050	H17
VNMG160404MP KC9225	A62-63
VNMG160404MP KC9245	A62-63
VNMG160404MS K313	A62-63
VNMG160404MS KC5510	A62-63
VNMG160404MS KC5525	A62-63
VNMG160404MS1 KC9210	A62-63
VNMG160404MS1 KC9230	A62-63
VNMG160404MU1 KC9210	A62-63
VNMG160404MU1 KC9230	A63
VNMG160404P K313	A62-63
VNMG160404P KC5010	A63
VNMG160404P KC730	H17
VNMG160404P KC850	H17
VNMG160404P KC9225	A63
VNMG160404P KC935	H17
VNMG160404UF KC730	H18
VNMG160404UF KC935	H18
VNMG160404UN KC9315	A63
VNMG160404UN KC9320	A62-63
VNMG160404UN KC9325	A63
VNMG160404UP KC5010	A63
VNMG160404UP KC9225	A62-63
VNMG160408 KC730	H17
VNMG160408 KC810	H17
VNMG160408 KC850	H17
VNMG160408 KC935	H17
VNMG160408FF KC5010	A60-61
VNMG160408FF KC9105	A60-61
VNMG160408FF KC9110	A60-61
VNMG160408FF KC9225	A60-61
VNMG160408FF KT315	A60-61
VNMG160408FH KT1120	A60-61
VNMG160408FH KT5020	A60-61
VNMG160408FN KC9105	A60-61
VNMG160408FN KC9110	A60-61
VNMG160408FN KC9125	A60-61
VNMG160408FN KC9315	A60-61
VNMG160408FN KT315	A60-61
VNMG160408FP KC5010	A60-61
VNMG160408FP KC8050	H17
VNMG160408FP KC9225	A60-61
VNMG160408FP KT315	A60-61
VNMG160408LF KC730	H17
VNMG160408LF KC935	H17
VNMG160408MH KT1120	A60-61
VNMG160408MH KT5020	A60-61
VNMG160408MN KC8050	H17
VNMG160408MN KC9105	A60-61
VNMG160408MN KC9110	A60-61
VNMG160408MN KC9125	A60-61
VNMG160408MN KC9140	A60-61
VNMG160408MP KC5010	A62-63
VNMG160408MP KC8050	H17
VNMG160408MP KC9225	A62-63
VNMG160408MP KC9245	A62-63
VNMG160408MS K313	A62-63
VNMG160408MS KC5510	A62-63
VNMG160408MS KC5525	A62-63
VNMG160408MS1 KC9210	A62-63
VNMG160408MS1 KC9230	A62-63
VNMG160408MU1 KC9210	A62-63
VNMG160408MU1 KC9230	A63
VNMG160408P K313	A62-63
VNMG160408P KC5010	A63
VNMG160408P KC730	H17
VNMG160408P KC850	H17
VNMG160408P KC9225	A63
VNMG160408P KC935	H17
VNMG160408RN KC8050	H18
VNMG160408RN KC9110	A63
VNMG160408RN KC9125	A63
VNMG160408RN KC9140	A62-63
VNMG160408RP KC5010	A62-63
VNMG160408RP KC5510	A63
VNMG160408RP KC5525	A63
VNMG160408RP KC9105	A63
VNMG160408RP KC9110	A63
VNMG160408RP KC9125	A63
VNMG160408RP KC9140	A63
VNMG160408RP KC9225	A63
VNMG160408RP KC9245	A63
VNMG160408RP KC9315	A63
VNMG160408RP KC9325	A63
VNMG160408UF KC935	H18
VNMG160408UN KC9315	A63
VNMG160408UN KC9320	A62-63
VNMG160408UN KC9325	A63
VNMG160408UP KC5010	A63
VNMG160408UP KC9225	A62-63
VNMG160412MH KT1120	A60-61
VNMG160412MN KC8050	H17
VNMG160412MN KC9105	A60-61
VNMG160412MN KC9110	A60-61
VNMG160412MN KC9125	A60-61
VNMG160412MN KC9140	A60-61
VNMG160412MP KC5010	A62-63
VNMG160412MP KC9225	A62-63
VNMG160412MP KC9245	A62-63
VNMG160412MS1 KC9210	A62-63
VNMG160412MS1 KC9230	A62-63
VNMG160412RN KC9110	A63
VNMG160412RN KC9125	A62-63
VNMG160412RN KC9140	A63
VNMG160412RP KC5010	A63
VNMG160412RP KC5510	A62-63
VNMG160412RP KC5525	A63
VNMG160412RP KC9105	A63
VNMG160412RP KC9110	A63
VNMG160412RP KC9125	A63
VNMG160412RP KC9225	A63
VNMG160412RP KC9315	A63
VNMG160412RP KC9320	A63
VNMG160412RP KC9325	A63
VNMG160412UP KC5010	A63
VNMG160412UP KC9225	A62-63
VNMG220404 KC935	H17
VNMG220404MS KC5510	A62-63
VNMG220404MS KC5525	A62-63
VNMG220408 KC850	H17
VNMG220408 KC935	H17
VNMG220408LF KC935	H17
VNMG220408MS KC5510	A62-63
VNMG220408MS KC5525	A62-63
VNMG220408RN KC8050	H18
VNMG220408RN KC9110	A63
VNMG220408RN KC9125	A63
VNMG220408RN KC9140	A62-63
VNMG220412 KC850	H17
VNMG220412RN KC8050	H18
VNMG220412RN KC9110	A63
VNMG220412RN KC9125	A63
VNMG220412RN KC9140	A62-63
VNMP160404 KC810	H18
VNMP160404 KC850	H18
VNMP160404 KC935	H18
VNMP160404K K68	A65
VNMP160404K KC810	H18
VNMP160404K KC850	H18
VNMP160404K KC9110	A64-65
VNMP160404K KC9125	A65
VNMP160404K KC935	H18
VNMP160408 KC810	H18
VNMP160408 KC850	H18
VNMP160408 KC935	H18
VNMP160408K K68	A64-65
VNMP160408K KC810	H18
VNMP160408K KC9110	A65
VNMP160408K KC9125	A65
VNMP160408K KC935	H18
VNMS160404 K68	A64-65
VNMS160404 KC5410	A65
VNMS160404 KC730	H18
VNMS160404 KC810	H18
VNMS160404 KC850	H18
VNMS160404 KC935	H18
VNMS160404E KD1405	A58-59
VNMS160404FST KD1400	A59
VNMS160404FST KD1425	A58-59
VNMS160408 K68	A65
VNMS160408 KC5410	A64-65
VNMS160408 KC730	H18
VNMS160408 KC810	H18
VNMS160408 KC850	H18
VNMS160408E KD1405	A58-59
VNMS160408FST KD1400	A59
VNMS160408FST KD1425	A58-59
WCMT040204LF KC5010	A133
WCMT040204LF KC5025	A132-133
WCMT040204LF KC730	H32
WCMT040204LF KC850	H32
WCMT06T308LF KC5010	A132-133
WCMT06T308LF KC5025	A133
WCMT06T308LF KC730	H32
WCMT06T308LF KC935	H32
WCMT06T308LF KT315	A133
WNGA080404FST KD1400	A64-65
WNGA080404FST KD1425	A65
WNGA080404S01020MT KB9610	A64-65
WNGA080404S01025MT KB1610	A64-65
WNGA080404T01020 KY4400	A66-67
WNGA080408EFW KY4400	A64-65
WNGA080408FST KD1400	A65
WNGA080408FST KD1425	A64-65
WNGA080408S01020FWMT KB9610	A64-65
WNGA080408S01020MT KB9610	A64-65
WNGA080408S01025MT KB1610	A64-65
WNGA080408T01020 KY4400	A66-67
WNGA080408T01020FW KY3500	A64-65
WNGA080408T02020 KY1320	A67
WNGA080408T02020 KY3400	A67
WNGA080408T02020 KY3500	A66-67
WNGA080412EFW KY4400	A64-65
WNGA080412S01020FWMT KB9610	A64-65
WNGA080412S01020MT KB9610	A64-65
WNGA080412T01020 KY4400	A66-67
WNGA080412T01020FW KY3500	A64-65
WNGA080412T02020 KY1320	A67
WNGA080412T02020 KY3400	A67
WNGA080412T02020 KY3500	A66-67
WNGA080416T02020 KY1320	A67
WNGA080416T02020 KY3400	A67
WNGA080416T02020 KY3500	A66-67
WNGG080401LF KC5010	A66-67
WNGG080402LF KC5010	A66-67
WNGG080404FS KC5510	A66-67
WNGG080404LF KC5010	A66-67
WNGG080408FS KC5510	A66-67
WNGG080408LF KC5010	A66-67
WNGP080408K KC730	H18
WNGX080708T02020 KY3400	A88-89
WNGX080708T02020 KY3500	A89
WNGX080712T02020 KY1320	A89
WNGX080712T02020 KY3500	A88-89
WNGX080716T01020FW KY3400	A88-89
WNGX080716T02020 KY3400	A88-89
WNMA060408 KC9315	A67
WNMA060408 KC9325	A66-67
WNMA060412 KC9315	A66-67
WNMA060412 KC9325	A67
WNMA080408 KC9315	A66-67
WNMA080408 KC9320	A67
WNMA080408 KC9325	A67
WNMA080408S02020 KB9640	A64-65
WNMA080408S02020MW KB9640	A64-65
WNMA080412 KC9315	A67
WNMA080412 KC9320	A66-67
WNMA080412 KC9325	A67
WNMA080412E KB9640	A64-67
WNMA080412T02020 KY1320	A66-67
WNMA080412T02020 KY3500	A67
WNMA080416 KC9315	A67
WNMA080416 KC9320	A67
WNMA080416 KC9325	A66-67
WNMG060404FF KC5010	A66-67
WNMG060404FF KC9110	A67
WNMG060404FF KC9225	A67
WNMG060404FF KT315	A67
WNMG060404FN KC9110	A69
WNMG060404FN KC9125	A69
WNMG060404FN KC9315	A69
WNMG060404FN KT315	A68-69
WNMG060404FP KC5010	A69
WNMG060404FP KC9225	A69
WNMG060404FP KT315	A68-69
WNMG060404FW KC5010	A68-69
WNMG060404FW KC9105	A69
WNMG060404FW KC9110	A69
WNMG060404FW KC9225	A69
WNMG060404FW KC9315	A69
WNMG060404FW KT315	A69
WNMG060404MP KC5010	A71
WNMG060404MP KC9225	A71
WNMG060404MP KC9245	A70-71
WNMG060408 KC935	H18
WNMG060408FF KC5010	A67
WNMG060408FF KC9110	A67
WNMG060408FF KT315	A66-67

Catalog No.	Page(s)
WNMG060408FN KC9110	A68-69
WNMG060408FN KC9125	A69
WNMG060408FN KC9315	A69
WNMG060408FN KT315	A69
WNMG060408FP KC5010	A69
WNMG060408FP KC9225	A68-69
WNMG060408FP KT315	A69
WNMG060408FW KC5010	A69
WNMG060408FW KC9105	A69
WNMG060408FW KC9110	A69
WNMG060408FW KC9225	A69
WNMG060408FW KC9315	A69
WNMG060408FW KT315	A68-69
WNMG060408MN KC8050	H18
WNMG060408MP KC5010	A71
WNMG060408MP KC9225	A71
WNMG060408MP KC9245	A70-71
WNMG060408MS K313	A71
WNMG060408MS KC5510	A71
WNMG060408MS KC5525	A70-71
WNMG060408MW KC9105	A71
WNMG060408MW KC9110	A71
WNMG060408MW KC9125	A71
WNMG060408MW KC9225	A70-71
WNMG060408MW KC9315	A71
WNMG060408MW KC9325	A71
WNMG060408P KC935	H19
WNMG060408RN KC9110	A72-73
WNMG060408RN KC9125	A73
WNMG060408RN KC9140	A73
WNMG060408RP KC5010	A73
WNMG060408RP KC5510	A73
WNMG060408RP KC5525	A73
WNMG060408RP KC9105	A73
WNMG060408RP KC9110	A73
WNMG060408RP KC9125	A73
WNMG060408RP KC9225	A73
WNMG060408RP KC9315	A72-73
WNMG060408RP KC9325	A73
WNMG060408UN KC9315	A72-73
WNMG060408UN KC9320	A73
WNMG060408UN KC9325	A73
WNMG060408UP KC5010	A73
WNMG060408UP KC9225	A72-73
WNMG060412FW KC5010	A69
WNMG060412FW KC9105	A69
WNMG060412FW KC9110	A68-69
WNMG060412FW KC9225	A69
WNMG060412MP KC9245	A70-71
WNMG060412MW KC9105	A71
WNMG060412MW KC9110	A70-71
WNMG060412MW KC9125	A71
WNMG060412RN KC9110	A72-73
WNMG060412RN KC9125	A73
WNMG060412RN KC9140	A73
WNMG060412RP KC9105	A73
WNMG060412RP KC9110	A73
WNMG060412RP KC9125	A72-73
WNMG060412UN KC9315	A73
WNMG060412UN KC9320	A72-73
WNMG06T308MG KC935	H18
WNMG080401MS KC5510	A70-71
WNMG080402MS KC5510	A70-71
WNMG080402MS KC5525	A70
WNMG080404 KC730	H18
WNMG080404FF KC5010	A66-67
WNMG080404FF KC9110	A67
WNMG080404FF KC9225	A67
WNMG080404FF KT315	A67
WNMG080404FN KC9105	A69
WNMG080404FN KC9110	A69
WNMG080404FN KC9125	A69
WNMG080404FN KC9315	A69
WNMG080404FN KT315	A68-69
WNMG080404FP KC5010	A69
WNMG080404FP KC8050	H18
WNMG080404FP KC9225	A69
WNMG080404FP KT315	A68-69
WNMG080404FW KC5010	A69
WNMG080404FW KC9105	A69
WNMG080404FW KC9110	A69
WNMG080404FW KC9225	A68-69
WNMG080404FW KC9315	A69
WNMG080404FW KT315	A69
WNMG080404FW1 KT1120	A68-69
WNMG080404FW1 KT5020	A69
WNMG080404FX KT5020	A68-69
WNMG080404MH KT1120	A68-69
WNMG080404MH KT5020	A69
WNMG080404MS K313	A71
WNMG080404MS KC5510	A70-71
WNMG080404MS KC5525	A71
WNMG080404MS1 KC9210	A70-71
WNMG080404MS1 KC9230	A71
WNMG080404MU1 KC9210	A70-71
WNMG080404MU1 KC9230	A71
WNMG080404MW1 KT1120	A70-71
WNMG080404MW1 KT5020	A71
WNMG080404MX KT1120	A70-71
WNMG080404MX KT5020	A71
WNMG080404P KC5010	A71
WNMG080404P KC730	H19
WNMG080404P KC9225	A70-71
WNMG080404P KC935	H19
WNMG080404UN KC9315	A72-73
WNMG080404UN KC9325	A73
WNMG080408 KC730	H18
WNMG080408 KC850	H18
WNMG080408 KC935	H18
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WNMG080408FF KC9105	A67
WNMG080408FF KC9110	A67
WNMG080408FF KC9225	A66-67
WNMG080408FF KT315	A67
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WNMG080408FN KC9110	A69
WNMG080408FN KC9125	A69
WNMG080408FN KC9315	A68-69
WNMG080408FN KT315	A69
WNMG080408FP KC5010	A69
WNMG080408FP KC9225	A68-69
WNMG080408FP KT315	A69
WNMG080408FW KC5010	A69
WNMG080408FW KC9105	A69
WNMG080408FW KC9110	A69
WNMG080408FW KC9225	A68-69
WNMG080408FW KC9315	A69
WNMG080408FW KT315	A69
WNMG080408FW1 KT1120	A68-69
WNMG080408FW1 KT5020	A69
WNMG080408FX KT5020	A68-69
WNMG080408LF KC730	H18
WNMG080408LF KC935	H18
WNMG080408MG KC850	H18
WNMG080408MG KC935	H18
WNMG080408MH KT1120	A69
WNMG080408MH KT5020	A68-69
WNMG080408MN KC8050	H18
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WNMG080408MP KC8050	H19
WNMG080408MP KC9225	A71
WNMG080408MP KC9245	A70-71
WNMG080408MS K313	A71
WNMG080408MS KC5510	A71
WNMG080408MS KC5525	A70-71
WNMG080408MS1 KC9210	A70-71
WNMG080408MS1 KC9230	A71
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WNMG080408MW KC9315	A71
WNMG080408MW KC9325	A71
WNMG080408MW1 KT1120	A71
WNMG080408MW1 KT5020	A70-71
WNMG080408MX KT1120	A71
WNMG080408MX KT5020	A70-71
WNMG080408P KC5010	A71
WNMG080408P KC730	H19
WNMG080408P KC850	H19
WNMG080408P KC9225	A70-71
WNMG080408P KC935	H19
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WNMG080408RN KC9105	A73
WNMG080408RN KC9110	A73
WNMG080408RN KC9125	A73
WNMG080408RN KC9140	A72-73
WNMG080408RP KC5010	A73
WNMG080408RP KC5510	A73
WNMG080408RP KC5525	A73
WNMG080408RP KC8050	H19
WNMG080408RP KC9105	A73
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WNMG080408RP KC9225	A73
WNMG080408RP KC9245	A73
WNMG080408RP KC9315	A72-73
WNMG080408RP KC9320	A73
WNMG080408RP KC9325	A73
WNMG080408UN KC9315	A73
WNMG080408UN KC9320	A72-73
WNMG080408UN KC9325	A73
WNMG080408UP KC5010	A72-73
WNMG080408UP KC9225	A73
WNMG080412FN KC9110	A69
WNMG080412FN KC9125	A69
WNMG080412FN KC9315	A68-69
WNMG080412FN KT315	A69
WNMG080412FP KC5010	A69
WNMG080412FP KC9225	A68-69
WNMG080412FW KC5010	A69
WNMG080412FW KC9105	A69
WNMG080412FW KC9110	A68-69
WNMG080412FW KC9225	A69
WNMG080412FW KC9315	A69
WNMG080412FW KT315	A69
WNMG080412MG KC850	H18
WNMG080412MG KC935	H18
WNMG080412MH KT1120	A69
WNMG080412MH KT5020	A68-69
WNMG080412MP KC5010	A70-71
WNMG080412MP KC9225	A71
WNMG080412MP KC9245	A71
WNMG080412MS1 KC9210	A70-71
WNMG080412MS1 KC9230	A71
WNMG080412MW KC9105	A71
WNMG080412MW KC9110	A71
WNMG080412MW KC9125	A71
WNMG080412MW KC9225	A71
WNMG080412MW KC9315	A70-71
WNMG080412MW KC9325	A71
WNMG080412MW1 KT1120	A70-71
WNMG080412P KC9240	A70-71
WNMG080412RN KC9105	A72-73
WNMG080412RN KC9110	A73
WNMG080412RN KC9125	A73
WNMG080412RN KC9140	A73
WNMG080412RP KC5010	A73
WNMG080412RP KC5510	A73
WNMG080412RP KC5525	A73
WNMG080412RP KC9105	A73
WNMG080412RP KC9110	A73
WNMG080412RP KC9125	A72-73
WNMG080412RP KC9140	A73
WNMG080412RP KC9225	A73
WNMG080412RP KC9245	A73
WNMG080412RP KC9315	A73
WNMG080412RP KC9320	A73
WNMG080412RP KC9325	A73
WNMG080412UN KC9315	A73
WNMG080412UN KC9320	A72-73
WNMG080412UN KC9325	A73
WNMG080412UP KC5010	A72-73
WNMG080416FN KC9110	A68-69
WNMG080416FN KC9125	A69
WNMG080416RN KC9110	A72-73
WNMG080416RN KC9125	A73
WNMG080416RN KC9140	A73
WNMG080416RP KC5510	A73
WNMG080416RP KC5525	A73
WNMG080416RP KC9105	A73
WNMG080416RP KC9110	A72-73
WNMG080416RP KC9125	A73
WNMG080416RP KC9315	A73
WNMG080416RP KC9325	A73
WNMG080416UN KC9315	A72-73
WNMG080416UN KC9320	A73
WNMX080712T02020 KY1320	A88-89
WNMX080712T02020 KY3500	A89
WPMT040204LF KC5010	A132-133
WPMT040204LF KC5025	A133
WPMT040204LF KC730	H32
WPMT040204LF KC850	H32
WPMT040204LF KC9110	A133
WPMT040204LF KC9125	A133
WPMT040204LF KC9225	A133
WPMT040204LF KC9315	A133
WPMT040204LF KC935	H32
WPMT06T304LF KC5010	A133
WPMT06T304LF KC730	H32
WPMT06T304LF KC850	H32
WPMT06T304LF KC9110	A133
WPMT06T304LF KC9125	A133
WPMT06T304LF KC9225	A133
WPMT06T304LF KC9315	A133
WPMT06T304LF KT315	A132-133
WPMT06T308LF KC5010	A133
WPMT06T308LF KC5025	A133
WPMT06T308LF KC730	H32
WPMT06T308LF KC850	H32
WPMT06T308LF KC9110	A133
WPMT06T308LF KC9125	A133
WPMT06T308LF KC9225	A133
WPMT06T308LF KC9315	A133
WPMT06T308LF KC9320	A132-133
WPMT06T308LF KC935	H32
WPMTS3T104LF KC5010	A132-133
WPMTS3T104LF KC5025	A133
WPMTS3T104LF KC730	H32
WPMTS3T104LF KC850	H32
WPMTS3T104LF KC935	H32

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Metalcutting Safety

IMPORTANT SAFETY INSTRUCTIONS

Read before using the tools in this catalog!

Projectile and Fragmentation Hazards

Modern metalcutting operations involve high spindle and cutter speeds, and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metalcutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

To avoid injury:

- Always wear appropriate personal protective equipment, including safety goggles, when operating metalcutting machines or working nearby.
- Always make sure all machine guards are in place.

Breathing and Skin Contact Hazards:

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease, or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes, and may make existing skin conditions worse.

To avoid injury:

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- Avoid skin contact with dust or mist.

For more information, read the applicable Material Safety Data Sheet provided by Kennametal and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations — it is impossible to cover every specific situation. The technical information included in this catalog and recommendations on machining practices may not apply to your particular operation. For more information, consult Kennametal's Metalcutting Safety booklet, available free from Kennametal at 724.539.5747, or fax 724.539.5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at 724.539.5066 or fax 724.539.5372.

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