



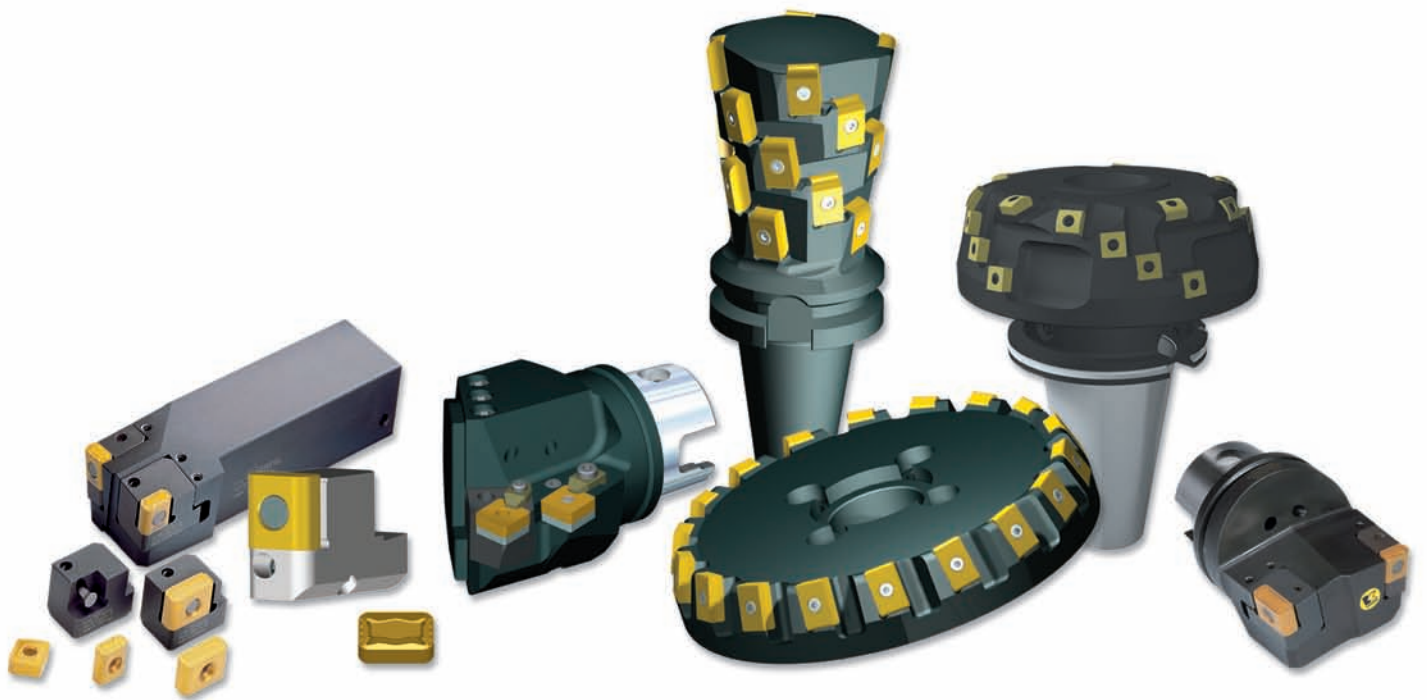
RAILROAD RAILROAD RAILROAD RAILROAD TOOLING TOOLING



Catalog 7090
Metric & Inch



WORLD'S MOST COMPREHENSIVE TOOLING SOLUTIONS FOR RAILROAD



L-TYPE BORING BARS • WHEEL BORING TOOLING • AXLE TURNING TOOLS • INSERTS • FIX-PERFECT CLAMPING SYSTEMS •
P-STYLE CLAMPING SYSTEMS • KM CLAMPING UNITS • CUSTOM SOLUTIONS • 45° LEAD MILLS • 90° LEAD MILLS • KSRM MILLING
• DRILL-FIX DFT • DRILL-FIX DFR DRILLS • L-TYPE BORING BARS • WHEEL BORING TOOLING • AXLE TURNING TOOLS • INSERTS •
FIX-PERFECT CLAMPING SYSTEMS • M- AND P-STYLE CLAMPING SYSTEMS • KM CLAMPING UNITS • CUSTOM SOLUTIONS • 45° LEAD
90° LEAD MILLS • KSRM MILLING CUTTERS • DRILL-FIX DFT • DRILL-FIX DFR DRILLS • L-TYPE BORING BARS • WHEEL BORING

RAILROAD RAILROAD RAILROAD RAILROAD TOOLING TOOLING

Railroad Tooling

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WHEELSET RECONDITIONING

AXLE AND WHEEL RECONDITIONING

NEW WHEEL MANUFACTURING

TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING

grade	coating	coating and application	ANSI class	ISO class
K40 		composition: a tough, uncoated alloyed carbide grade. application: Heavy-duty grade for difficult application that require good mechanical shock resistance and less wear resistance. Use for roughing or interrupted cuts at relatively low surface speeds on steels.	C3	P20-P40 K5-K20
K68 		composition: A hard, fine-grained, unalloyed, carbide grade. application: The K68 grade has excellent abrasion resistance for machining cast irons, austenitic stainless steels, non-ferrous metals, and nonmetals. Use as a general purpose grade for non-ferrous materials.	C3	P15-P25 K5-K20
KC5115RR 		composition: A specially engineered cobalt-enriched PVD TiAlN coated carbide grade with good edge toughness and excellent deformation resistance. application: The PVD TiAlN coating is formulated to provide wear resistance against the high temperatures generated when machining railroad wheels.	C3-C4	P10-P20
KC5125RR 		composition: A tough cemented carbide grade with a specially formulated PVD TiAlN coating. application: The substrate provides toughness for rough machining of railroad wheels, while the coating provides wear resistance at high temperature generated during this application.	C2-C6	P20-P30
KC9105 		composition: An innovative, patented highly deformation-resistant cobalt-enriched substrate with a thick multilayer MTCVD-TiCN-Al ₂ O ₃ -TiCN-TiN coating for maximum wear resistance. application: KC9105 for finishing to medium machining of most steels, ferritic, martensitic, and PH stainless steels and cast irons. The specially designed substrate provides a remarkable combination of deformation resistance and insert edge strength. The extra-thick MT-TiCN layer provides outstanding flank wear resistance, while the thick Al ₂ O ₃ layer offers excellent crater wear resistance and speed capability.	C3-C4	P5-P15 K5-K15
KC9110 		composition: A specially engineered, cobalt-enriched carbide grade with thick MTCVD-TiCN coating layer, an Al ₂ O ₃ layer, and outer layers of TiCN and TiN for maximum wear resistance. application: An excellent finishing to medium machining grade for most steels, ferritic and martensitic stainless steels, and cast irons. The specially engineered substrate offers deformation resistance and edge toughness, while the thick coating layers offer outstanding abrasion and crater wear resistance, good resistance to edge build-up and microchipping, and excellent surface finishes.	C3-C7	P10-P20 K15-K20
KC9110RR 		composition: KC9110RR grade represents a new generation of coated carbide grade featuring a cobalt-enriched substrate with excellent combination of deformation resistance and edge toughness. application: Advanced coating technology ensures excellent wear and thermal resistance. New post-coat treatment provides a smooth surface that resists micro-chipping and edge build up.	C3-C7	P10-P20
KC9125 		composition: A tough cobalt-enriched carbide grade with a newly designed multi-layer MTCVD TiCN-Al ₂ O ₃ -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 ensures adequate deformation resistance along with excellent bulk toughness and insert edge strength. The coating layers offer good wear resistance, reduced frictional heat, minimized microchipping, and improved workpiece surface finishes. Use in moderately heavy roughing to semi-finishing cuts.	C2-C3 C6-C7	P20-P30 K25-K35
KC9125RR 		composition: KC9125RR grade is designed with a tough cobalt-enriched carbide substrate. application: The multilayer CVD coating and post-coat polish handle severe machining conditions including heavy depth-of-cuts and interruptions.	C2-C3 C6-C7	P20-P30

grade	coating	coating and application	ANSI class	ISO class
KC9140		composition: A newly engineered, tough carbide grade with an advanced multi-layered TiN-MT-TiCN-Al ₂ O ₃ -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.	C5-C6	P30-P40
KC9315		composition: A multi-layered CVD coating with very thick MT-TiCN and Al ₂ O ₃ layers applied over a substrate specifically engineered for cutting cast and ductile irons. application: KC9315 grade delivers high-productivity performance and longer tool life when high-speed machining ductile and cast irons. 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. Use for straight or lightly interrupted cut applications.	C3-C4	P5-P10 K10-K20

WHEELSET RECONDITIONING

AXLE AND WHEEL RECONDITIONING

Speed Recommendations

Steel

grade	Speed - m/min (sfm)								Starting Conditions <D>	
	30 (100)	60 (200)	90 (295)	120 (395)	150 (490)	180 (590)	210 (690)	240 (785)	m/min	sfm
KC9105				<D>					160	525
KC9110				<D>					140	450
KC9315				<D>					140	450
KC9125		<D>							70	230
KC9140		<D>							50	165
KC9110RR		<D>							50	165
KC5115RR		<D>							50	165
KC9125RR		<D>							50	165
KC5125RR		<D>							50	165
K68		<D>							40	130
K40		<D>							40	130

NEW WHEEL MANUFACTURING

TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING

Wheel Reconditioning Inserts (See pages 20-24)

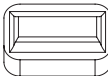
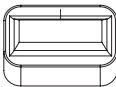
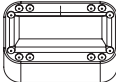
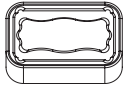
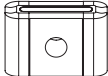
WHEELSET RECONDITIONING

AXLE AND WHEEL RECONDITIONING

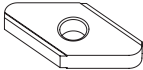
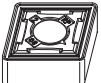
NEW WHEEL MANUFACTURING

TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING

insert style	insert geometry	feed rate – mm													
		0	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,5
		depth of cut – mm													
KRR-K roughing ▼				0,75 - 1,5 (.03 - .07)											
KRR 6566 roughing ▼				1,0 - 1,5 (.04 - .06)											
KRR 6586-50 roughing ▼				1,0 - 1,5 (.04 - .06)											
KRR 6586-52 roughing ▼				1,0 - 1,5 (.04 - .06)											
KRR 6586-65 roughing ▼				1,25 - 2,0 (.05 - .08)											
KRR 6586-71 roughing ▼				1,5 - 2,0 (.06 - .08)											
KRR 6586-75 heavy roughing ▼				1,6 - 2,2 (.06 - .09)											
KRR 6586-80 heavy roughing ▼				1,75 - 2,75 (.07 - .11)											
KRR 866-50 roughing ▼				1,0 - 1,5 (.04 - .06)											
KRR 6610 medium machining ▼▼				0,5 - 1,25 (.02 - .05)											
CNMM-RRP roughing ▼				0,80 - 1,50 (.03 - .06)											
LNXX-RRH heavy roughing ▼				1,25 - 2,25 (.05 - .09)											
LNXX-RRP roughing ▼				0,80 - 1,50 (.03 - .06)											
LNXX-RRSM heavy roughing ▼				1,25 - 2,25 (.05 - .09)											
SNMX-RRP roughing ▼				0,80 - 1,50 (.030 - .060)											
feed rate – inch		0	.020	.040	.060	.080	.100	.120	.140	.160	.180	.200	.220	.240	.260
depth of cut – inch		0	.080	.160	.240	.315	.400	.475	.550	.630	.710	.790	.865	.945	1.02

Axle and Wheel Reconditioning Inserts (See pages 31-32)

insert style	insert geometry	feed rate – mm (in/rev)																	
		0	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,5				
		0	2	4	6	8	10	depth of cut – mm		12	14	16	18	20	22	24	26		
JA finishing ▼▼▼		0,15 - 0,6 (.006 - .025)		.25 - .76 (.01 - .03)															
KRR 4210 R finishing ▼▼▼		.13 - .25 (.005 - .01)		0,50 - 1,0 (.02 - .04)															
LNU chamfering ▼▼				0,50 - 1,0 (.02 - .04)															
OPG finishing ▼▼▼		.13 - .25 (.005 - .01)		0,50 - 1,0 (.02 - .04)															
MG-RN roughing ▼		0,3 - 0,6 (.01 - .025)		1,1 - 6,4 (.05 - .25)															
MG-RP roughing ▼		0,2 - 0,6 (.008 - .025)		1,1 - 6,4 (.05 - .25)															

New Wheel Manufacturing (See pages 41-43)

MM-RH heavy roughing ▼		0,40 - 1,30 (.015 - .05)	1,30 - 12,7 (.05 - .50)												
MM-RM heavy roughing ▼		0,30 - 1,00 (.010 - .040)	1,30 - 12,7 (.05 - .50)												
MM-RW wiper, roughing ▼		0,30 - 1,30 (.01 - .05)	1,30 - 12,7 (.05 - .50)												
RCMX-RH heavy roughing ▼▼				0,80 - 2,5 (.03 - .10)	3,25 - 13,0 (.13 - .50)										
RCMT-RM roughing ▼		0,40 - 1,6 (.016 - .06)	1,30 - 4,0 (.05 - .16)												
RCMX-RP roughing ▼				0,50 - 2,5 (.02 - .10)	2,0 - 10,0 (.08 - .40)										
feed rate – inch		0	.020	.040	.060	.080	.100	.120	.140	.160	.180	.200	.220	.240	.260
depth of cut – inch		0	.080	.160	.240	.315	.400	.475	.550	.630	.710	.790	.865	.945	1.02

CARBIDE RECYCLING CARBIDE RECYCLING CARBIDE RECYCLING



Carbide Recycling Program

*Get cash for your used carbide —
and help preserve the environment, too!*

Here's all you have to do:

- 1) Locate latest scrap rates.
- 2) Complete (name, address, phone, email, scrap type, and amount) and submit online form.
- 3) Print a shipping label.
- 4) Ship your materials to Kennametal.

***Get more shop space.
Get leaner.
Get more competitive.***



And, get cash, too!



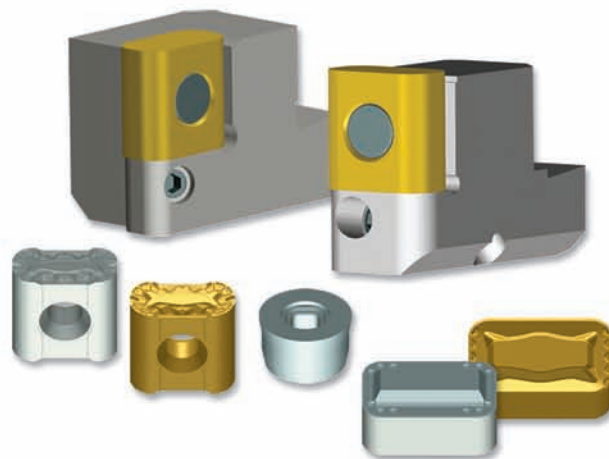
Engineering Your Competitive Edge

For complete details, go to www.kennametal.com/cash4carbide

Wheelset Reconditioning

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**RAILROAD
RAILROAD
NG TOOLING**

Introduction

Kennametal offers a complete line of tooling for wheel and axle maintenance in railroad shops. All tools incorporate the latest in tooling technology for maximum metal removal and higher productivity.

All tools are proven performers in actual use over extended periods of time, under a wide range of operating conditions. Standard off-the-shelf inserts and fewer pieces of hardware reduce inventory and operating costs.

Included in the new expanded line are tools for reconditioning mounted wheel sets, wheel boring, wheel turning, wheel truing, axle turning, and journal burnishing.

Machining conditions for these tools vary with the type of service the wheel has seen. Among the problems encountered are skid flat areas, overheating of spinning wheels, accidental torch burns, excessive mushroom and rollovers that are hardened by unusual hump retarder pressure and mismatched wheels that cause excessive wear on the side of the flange. Each of these conditions require a different machining speed and depth of cut. Even under these tough conditions, Kennametal tools have produced superior results through reduced production time and lower maintenance costs.



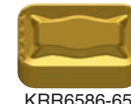
LNIX-RRH



LNIX-RRP



LNIX-RRSM



KRR6586-65



KRR6586-71



KRR6586-75



KRR6586-52



KRR6586-50

Wheel Lathe Tooling

Kennametal railroad tooling incorporates a unique locking unit design developed through years of testing on all types of wheel lathes and machining wheels with all types of tread surfaces.

This heavy-duty, rugged design has proven to be effective in reducing machining costs on tread turning applications, the most severe machining operation encountered in wheel and axle shops.

Strong inserts, with raised chipbreaker land and honed cutting edges, offer more effective chip control and a stronger cutting edge. Combining this tool geometry with Kennametal's grade selection delivers higher wheel turning productivity.



Wheelset Reconditioning

Advantages of Kennametal Wheel Lathe Tools:

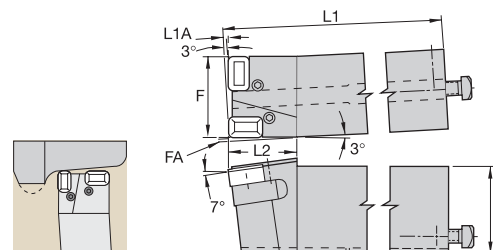
- No top clamp to wear out or interfere with chip flow.
- Insert locks against two walls in the toolholder to prevent insert movement under heavy cutting loads.
- Hardened steel locking unit provides positive insert seating and holder protection.
- Fast, trouble-free insert indexing – just unlock one screw to release the insert.
- Quick removal of the steel locking unit and insert for cleaning or replacement.
- Heavy-duty steel locking unit design ensures longer life and helps reduce operating costs.
- Fewer parts to inventory.
- Toolholders and steel locking units, made from heat-treated alloy steel, provide support to withstand severe roughing cuts on work-hardened wheels.



- Portal-Type Wheel Lathe is a fully automatic, heavy-duty wheel lathe. An integrated measuring device determines wheel set profile wear to establish minimum stock removal.
- The portal-type machine bed enables roll-through operation.
- This tooling is suitable for economical machining of wheel sets for locomotives, transit, passenger, and freight cars.



Hegenscheidt Portal-Type Wheel Lathe



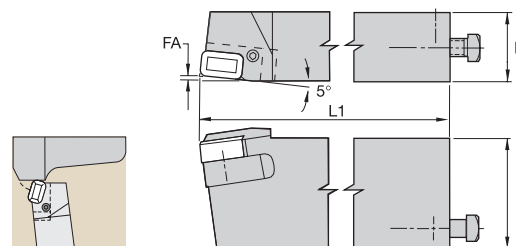
Tread Profile Turning

order number	catalog number	H		F		L1		L2		FA		L1A		insert 1 (two required)
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
1015723	HUWTCR	80,00	3.150	76,20	3.000	275,00	10.827	63,50	2.500	3,00	.118	3,00	.118	KRR6586__
1015754	HUWTCL	80,00	3.150	76,20	3.000	275,00	10.827	63,50	2.500	3,00	.118	3,00	.118	KRR6586__

Spare Parts

catalog number	steel locking unit	cone point set screw	optional socket screw	brass slug	adjusting bolt
HUWTCR	SU6 SU8	S1006PKG	S751	S1033	S1014
HUWTCL	SU7 SU8	S1006PKG	S751	S1033	S1014

Note: Requires two inserts.
See page 20 for insert selection.



Flange Topping

order number	catalog number	H		B		L1		FA		insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	
1015755	HUWFTR	80,00	3.150	50,00	1.969	265,00	10.433	3,53	.139	KRR6586__
1015756	HUWFTL	80,00	3.150	50,00	1.969	265,00	10.433	3,53	.139	KRR6586__

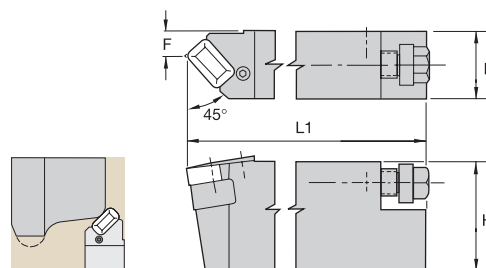
Spare Parts

catalog number	steel locking unit	cone point set screw	optional socket set screw	brass slug	adjusting bolt
HUWFTR	SU6	S1006PKG	S1015	S1033	S1014
HUWFTL	SU7	S1006PKG	S1015	S1033	S1014

Order Example:
Order Number: 1015723
Catalog Number: HUWTCR

Lathe Tooling for Portal-Type Wheel Lathe

WHEELSET RECONDITIONING



Mushroom Removal

order number	catalog number	H		B		F		L1		insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	
1015685	HUMRR	80,00	3.150	50,00	1.969	19,50	.768	265,00	10.433	KRR6586__
1015686	HUMRL	80,00	3.150	50,00	1.969	19,50	.768	265,00	10.433	KRR6586__

Spare Parts

catalog number	steel locking unit	cone point set screw	optional socket set screw	brass slug	adjusting bolt
HUMRR	SU6	S1006PKG	S1015	S1033	S1013
HUMRL	SU7	S1006PKG	S1015	S1033	S1013

See page 20 for insert selection.

AXLE AND WHEEL RECONDITIONING

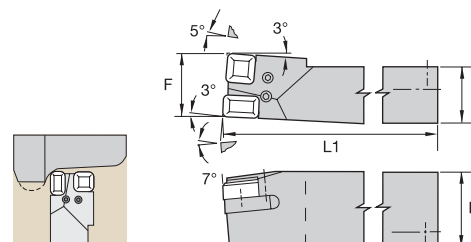
Lathe Tooling for Wheel Lathe

- Tools and inserts are specifically designed for the feeds and speeds normally used on this type of lathe.
- Style HUTC is used for profiling the tread contours on the wheel, and style HUFT is used for normal flange topping.
- For heavy flange topping it may be necessary to use two flange-topping tools, styles HUFT-A and HUFT-B.



Hegenscheidt Portal-Type Wheel Lathe

NEW WHEEL MANUFACTURING



Tread Profile Turning

order number	catalog number	H		B		F		L1		insert 1	insert 2
		mm	inch	mm	inch	mm	inch	mm	inch		
1015757	HUTCR	69,85	2.750	50,00	1.969	57,15	2.250	275,00	10.827	KRR6586__	KRR86650
1015758	HUTCL	69,85	2.750	50,00	1.969	57,15	2.250	275,00	10.827	KRR6586__	KRR86650

Spare Parts

catalog number	steel locking unit	cone point set screw	optional socket set screw	optional brass slug	optional square head bolt
HUTCR	SU2 SU11	S1006PKG	S751	S1033	S1014
HUTCL	SU3 SU10	S1006PKG	S751	S1033	S1014

Note: Requires two inserts.

See page 20 for insert selection.

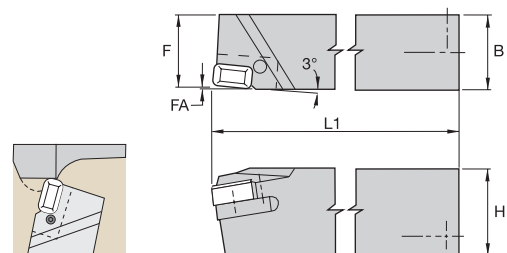
Ordering Example:

Order Number: 1015685

Catalog Number: HUMRR

TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING



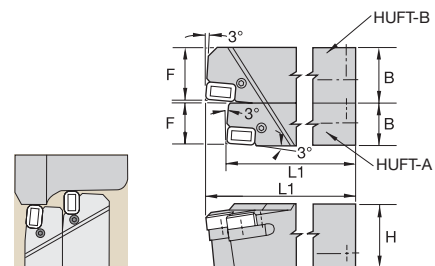
■ Flange Topping

order number	catalog number	H		B		F		L1		FA		insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
1015717	HUFTR	69,85	2.750	60,00	2.362	58,17	2.290	250,00	9.843	1,70	.067	KRR6586__
1015718	HUFTL	69,85	2.750	60,00	2.362	58,17	2.290	250,00	9.843	1,70	.067	KRR6586__

■ Spare Parts

catalog number	steel locking unit	cone point screw	optional set screw	optional brass slug	optional square head bolt
HUFTR	SU2	S1006PKG	S1015	S1033	S1014
HUFTL	SU3	S1006PKG	S1015	S1033	S1014

See page 20 for insert selection.



■ Heavy Flange Topping

order number	catalog number	H		B		F		L1		insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	
1015719	HUFTRA	69,85	2.750	47,00	1.850	45,21	1.780	228,60	9.000	KRR6586__
3385736	HUFTRB	69,85	2.750	60,00	2.362	55,12	2.170	250,00	9.843	KRR6586__
3385735	HUFTLA	69,85	2.750	47,00	1.850	45,21	1.780	228,60	9.000	KRR6586__
3385737	HUFTLB	69,85	2.750	60,00	2.362	55,12	2.170	250,00	9.843	KRR6586__

■ Spare Parts

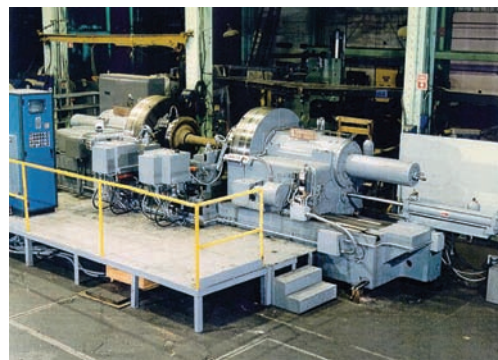
catalog number	steel locking unit	cone point set screw	optional socket set screw	optional brass slug	optional square head bolt
HUFTR A / B	SU2	S1006PKG	S1015	S1033	S1013
HUFTL A / B	SU3	S1006PKG	S1015	S1033	S1013

See page 20 for insert selection.

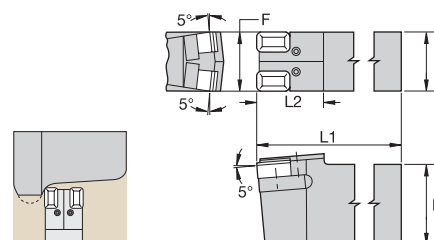
Ordering Example:
Order Number: 1015723
Catalog Number: HUWTCR

Lathe Tooling for Wheel Turning Lathe

- Delivers maximum productivity at minimum operating costs.
- Fast insert indexing is possible with the tool mounted in the tool block.
- Individual steel locking units make it easy to index and lock each insert separately.
- Gage location on tool, over insert, is held to $\pm 0,08\text{mm}$ (.003").
- No top clamp is used so it won't wear out or interfere with chip flow.
- Replaceable steel locking unit protects toolholder from damage.
- Indexable inserts with pre-formed chipbreakers deliver chip control at optimum feeds and speeds.



Simmons-Niles Wheel Turning Lathe

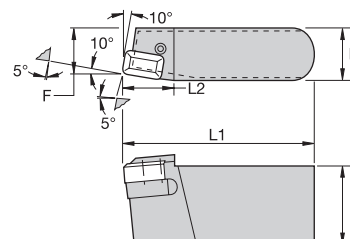


■ Wheel Tread Contouring

order number	catalog number	H		B		F		L1		L2		insert 1 (two required)	steel locking unit	lock screw
1015684	NUWTC	76,20	3.000	57,15	2.250	57,15	2.250	412,75	16.250	95,25	3.750	KRR6586__	SU2 SU3	S1006PKG

Note: Requires two inserts.

See page 20 for insert selection.

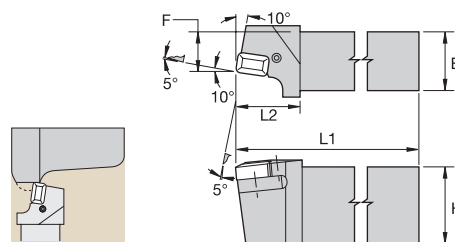


■ Wheel Flange Topping

order number	catalog number	H		B		F		L1		L2		insert 1	steel locking unit	cone point set screw
1015689	NUFRR	63,50	2.500	41,28	1.625	36,53	1.438	152,40	6.000	39,62	1.560	KRR6586__	SU4	S1006PKG
1015690	NUFRL	63,50	2.500	41,28	1.625	36,53	1.438	152,40	6.000	39,62	1.560	KRR6586__	SU5	S1006PKG

See page 20 for insert selection.

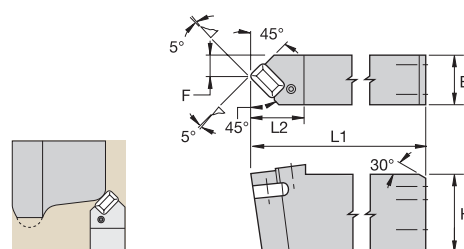
Ordering Example:
Order Number: 1015684
Catalog Number: NUWTC



Wheel Flange Roughing

order number	catalog number	H		B		F		L1		L2		insert 1	steel locking unit	cone point set screw
1015693	NUFRAR	76,20	3.000	57,15	2.250	38,10	1.500	212,85	8.380	63,50	2.500	KRR6586__	SU2	S1006PKG
1015714	NUFRAL	76,20	3.000	57,15	2.250	38,10	1.500	212,85	8.380	63,50	2.500	KRR6586__	SU3	S1006PKG

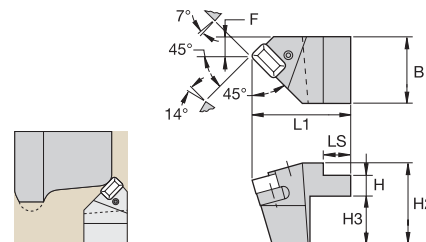
See page 20 for insert selection.



Mushroom Removal

order number	catalog number	H		B		F		L1		L2		insert 1	steel locking unit	cone point set screw
3385765	NUMRAR	76,20	3.000	47,63	1.875	19,51	.768	311,15	12.250	50,80	2.000	KRR6586__	SU2	S1006PKG
3385766	NUMRAL	76,20	3.000	47,63	1.875	19,51	.768	311,15	12.250	50,80	2.000	KRR6586__	SU3	S1006PKG

See page 20 for insert selection.



Mushroom Removal

order number	catalog number	H		H2		H3		B		F		L1		LS		insert 1
3385767	NUMRR	19,05	.750	76,20	3.000	45,21	1.780	63,50	2.500	19,05	.750	93,52	3.682	25,40	1.000	KRR6586__
3385768	NUMRL	19,05	.750	76,20	3.000	45,21	1.780	63,50	2.500	19,05	.750	93,52	3.682	25,40	1.000	KRR6586__

Spare Parts

catalog number	steel locking unit	cone point set screw
NUMRR	SU4	S1006PKG
NUMRL	SU5	S1006PKG

See page 20 for insert selection.

Ordering Example:

Order Number: 1015684

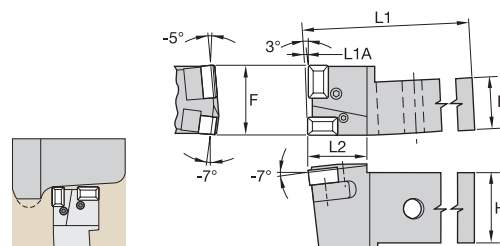
Catalog Number: NUWTC

Lathe Tooling for CNC Portal Wheel Lathe

- Delivers maximum productivity at minimum operating costs.
- Fast insert indexing is possible with the tool mounted in the tool block.
- Individual steel locking units make it easy to index and lock each insert separately.
- Gage location on tool, over insert, is held to $\pm 0,08\text{mm}$ (.003").
- No top clamp is used, so it won't wear out or interfere with chip flow.
- Replaceable steel locking unit protects toolholder from damage.
- Improved inserts with chip control are offered.



Simmons-Farrel CNC Portal Wheel Lathe



Wheel Tread Contouring

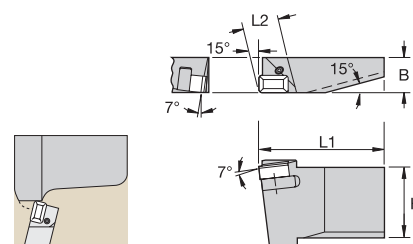
order number	catalog number	H		B		F		L1		L2		L1A		insert 1 (two required)
1015687	FUWTCR	76,20	3.000	57,15	2.250	76,20	3.000	254,00	10.000	66,55	2.620	3,05	.120	KRR6586__
1015688	FUWTCL	76,20	3.000	57,15	2.250	76,20	3.000	254,00	10.000	66,55	2.620	3,05	.120	KRR6586__

Spare Parts

catalog number	steel locking unit		set screw
FUWTCR	SU6	SU8	S1006PKG
FUWTCL	SU7	SU8	S1006PKG

Note: Requires two inserts

See page 20 for insert selection.



Wheel Flange Topping

order number	catalog number	H		B		L1		L2		insert 1	steel locking unit	set screw
1015662	FUWFTR	76,20	3.000	38,10	1.500	133,35	5.250	38,10	1.500	KRR6586__	SU4	S1006PKG
1015663	FUWFTL	76,20	3.000	38,10	1.500	133,35	5.250	38,10	1.500	KRR6586__	SU4	S1006PKG

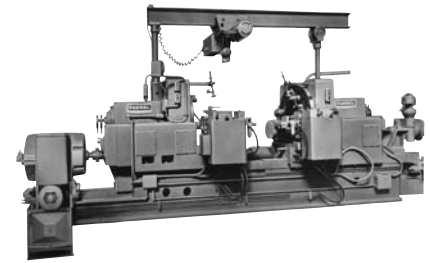
See page 20 for insert selection.

Order Example:

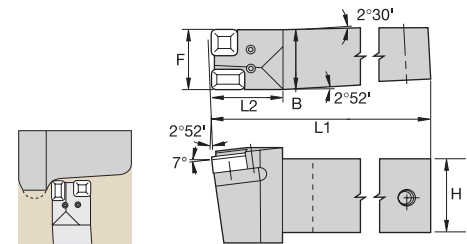
Order Number: 1015687

Catalog Number: FUWTCR

- Delivers maximum productivity at minimum operating costs.
- Fast insert indexing is possible with the tool mounted in the tool block.
- Individual steel locking units make it easy to index and lock each insert separately.
- Minimum parts for lower inventory.
- No top clamp is used to wear out or interfere with chip flow.
- Replaceable steel locking unit protects toolholder from damage.
- Indexable inserts with pre-formed chipbreakers deliver chip control at optimum feeds and speeds.



Simmons-Farrel (Sellers) Tracer Wheel Lathe



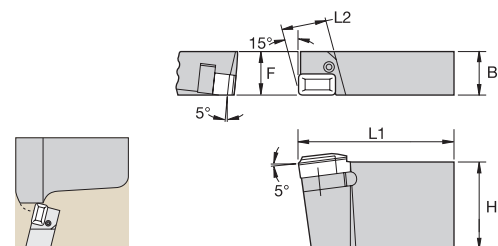
Wheel Tread Contouring

order number	catalog number	H		B		F		L1		L2		insert 1	insert 2
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
1015658	SUWTCR	76,20	3.000	57,15	2.250	57,15	2.250	254,00	10.000	66,55	2.620	KRR6586__	KRR86650
1015659	SUWTCL	76,20	3.000	57,15	2.250	57,15	2.250	254,00	10.000	66,55	2.620	KRR6586__	KRR86650

Spare Parts

catalog number	shim	cone point set screw	lock screw
SUWTCR	SU2 SU11	S939	S1006PKG
SUWTCL	SU3 SU10	S939	S1006PKG

Note: Requires two inserts.
See page 20 for insert selection.



Wheel Flange Topping

order number	catalog number	H		B		F		L1		L2		insert 1	steel locking unit	cone point set screw
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
1864582	SUWFTR	76,20	3.000	38,10	1.500	38,10	1.500	133,35	5.250	37,72	1.485	KRR6586__	SU4	S1006PKG
1015661	SUWFTL	76,20	3.000	38,10	1.500	38,10	1.500	133,35	5.250	37,72	1.485	KRR6586__	SU5	S1006PKG

See page 20 for insert selection.

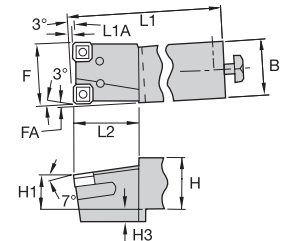
Order Example:
Order Number: 1015658
Catalog Number: SUWTC

Lathe Tooling for Underfloor Wheel Lathe

- Kennametal tooling for underfloor wheel lathes features a steel sliding shim unit. The sliding shim unit holds the insert securely in the pocket, ensures easy insert indexing, and is simple and economical to replace.
- The insert used in these holders, KRR-6610, features improved chip control for safer and easier chip disposal.



Hegenscheidt Underfloor Wheel Lathe

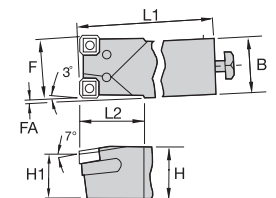


Model 104 Tread Profile Turning

order number	catalog number	H		H1		H3		B		F		L1		L2		FA		L1A		insert 1
1015759	H104R55	49,91	1.965	31,88	1.255	12,00	.472	54,86	2.160	54,86	2.160	250,00	9.843	63,50	2.500	3,00	.118	3,00	.118	KRR6610
1015760	H104R60	49,91	1.965	31,88	1.255	12,00	.472	54,86	2.160	59,87	2.357	250,00	9.843	63,50	2.500	3,00	.118	3,00	.118	KRR6610
1015761	H104L55	49,91	1.965	31,88	1.255	12,00	.472	54,86	2.160	54,86	2.160	250,00	9.843	63,50	2.500	3,00	.118	3,00	.118	KRR6610
1015762	H104L60	49,91	1.965	31,88	1.255	12,00	.472	54,86	2.160	59,87	2.357	250,00	9.843	63,50	2.500	3,00	.118	3,00	.118	KRR6610

Spare Parts

catalog number	steel locking unit	cone point set screw	optional socket set screw	optional brass slug	optional square head bolt
H104	SU12 SU13	S1006PKG	S751	S1033	S1014



Model 106 Tread Profile Turning

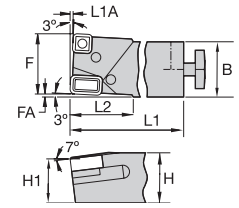
order number	catalog number	H		H1		B		F		L1		L2		FA		insert 1
3385769	H106R55	49,91	1.965	43,87	1.727	54,86	2.160	54,86	2.160	225,00	8.858	63,50	2.500	3,00	.118	KRR6610
1015763	H106R60	49,91	1.965	43,87	1.727	54,86	2.160	59,87	2.357	225,00	8.858	63,50	2.500	3,00	.118	KRR6610
3385770	H106L55	49,91	1.965	43,87	1.727	54,86	2.160	54,86	2.160	225,00	8.858	63,50	2.500	3,00	.118	KRR6610
1015784	H106L60	49,91	1.965	43,87	1.727	54,86	2.160	59,87	2.357	225,00	8.858	63,50	2.500	3,00	.118	KRR6610

Spare Parts

catalog number	steel locking unit	cone point set screw	optional socket set screw	optional brass slug	optional square head bolt
H106 R / L 55	SU12 SU13	S1006PKG	S751	S1033	S1014
H106 R / L 60	SU12 SU13	S1006PKG	S749	S1033	S1014

Note: Requires two inserts.
See page 20 for insert selection.

Order Example:
Order Number: 1015759
Catalog Number: H104R55



Model 106 Tread Profile Turning (with Carbide Shim)

order number	catalog number	H	H1	B	F	L1	L2	FA = L1A	insert 1
1015557	H106R60H	50,00 1.969	43,87 1.727	54,86 2.160	59,87 2.357	225,00 8.858	63,50 2.500	3,00 .118	KRR 6610 658671
1015558	H106L60H	50,00 1.969	43,87 1.727	54,86 2.160	59,87 2.357	225,00 8.858	63,50 2.500	3,00 .118	KRR 6610 658671

Spare Parts

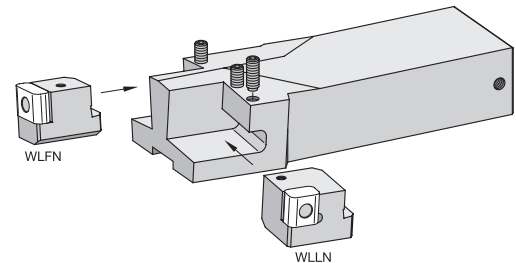
ANSI catalog number	carbide shim	steel locking unit	cone point set screw	optional socket set screw	optional brass slug	optional square head bolt
H106R60H	SM415	SU13B & SU6B	S1006PKG	S751	S1033	S1014
H106L60H	SM415	SU12B & SU7B	S1006PKG	S751	S1033	S1014

Note: Requires two inserts.
See page 20 for insert selection.

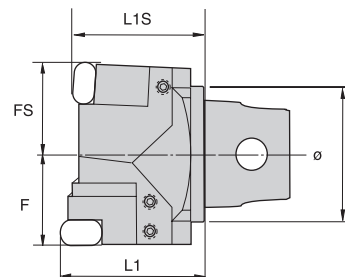
Basic Shanks and Cartridges for Wheelset Turning

Assembly Instructions

Basic / KM shank	Cartridge WLLN..	Cartridge WLFN..
Right	Right	Left
Left	Left	Right



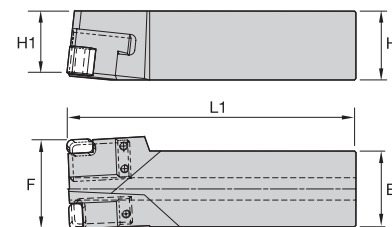
Assembly of complete tool



CSMS system size	order number	catalog number	F	FS	L1	L1S
mm			mm	mm	mm	mm
inch			inch	inch	inch	inch
KM63	1781756	TK01339D	42,50 1.673	42,50 1.673	66,00 2.598	60,00 2.362
KM63	1781755	TK01338D	42,50 1.673	42,50 1.673	66,00 2.598	60,00 2.362

See page 22 for insert selection.

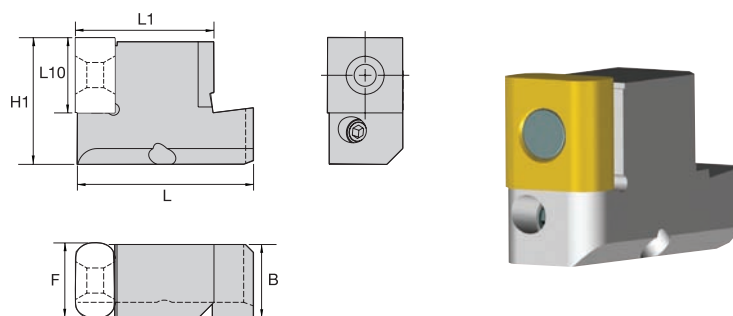
Order Example:
Order Number: 1015759
Catalog Number: H104R55



Basic Shank WXXN

order number	catalog number	H		H1		B		F Assembly		L1 Assembly		clamping screw
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
1251262	WXXNR4455X-FL	50,00	1.969	18,6	.732	55,00	2.165	65,00	2.559	210,00	8.268	PT00163
1251261	WXXNL4455X-FL	50,00	1.969	18,6	.732	55,00	2.165	65,00	2.559	210,00	8.268	PT00163

See page 22 for insert selection.



Cartridge WLFN

order number	catalog number	H1		B		F		L10		L1		L		insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
2435187	WLFNR32CA19S	32,00	1.260	18,60	.732	19,00	.748	19,00	.748	35,00	1.378	45,00	1.772	LNUX191940...
2435188	WLFNL32CA19S	32,00	1.260	18,60	.732	19,00	.748	19,00	.748	35,00	1.378	45,00	1.772	LNUX191940...

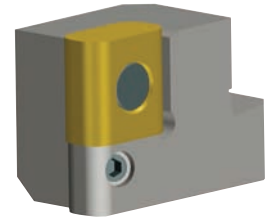
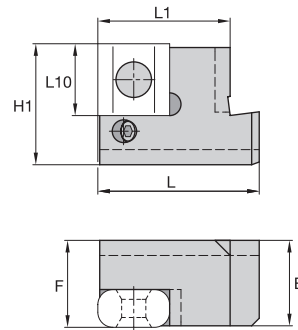
Spare Parts

catalog number	clamp stud	clamp screw	hex wrench
WLFNR32CA19S	114.305	121.616	170.003
WLFNL32CA19S	114.305	121.616	170.003

See page 22 for insert selection.

Order Example:

Shank	Cartridge
Order Number: 251262	2435183
Catalog Number:WXXNR4455X-FL	



Cartridge WLLN

order number	catalog number	H1		B		F		L10		L1		L		insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
2435183	WLLNR32CA19S	32,00	1.260	22,60	.890	23,00	.906	19,00	.748	35,00	1.378	45,00	1.772	LNUX191940...
2435185	WLLNR32CA30S	32,00	1.260	22,60	.890	23,00	.906	30,00	1.181	35,00	1.378	45,00	1.772	LNUX301940...
2435184	WLLNL32CA19S	32,00	1.260	22,60	.890	23,00	.906	19,00	.748	35,00	1.378	45,00	1.772	LNUX191940...
2435186	WLLNL32CA30S	32,00	1.260	22,60	.890	23,00	.906	30,00	1.181	35,00	1.378	45,00	1.772	LNUX301940...

Spare Parts

catalog number	clamp stud	clamp screw	hex wrench
WLLNR32CA19S	114.305	121.616	170.003
WLLNR32CA30S	114.305	121.616	170.003
WLLNL32CA19S	114.305	121.616	170.003
WLLNL32CA30S	114.305	121.616	170.003

See page 22 for insert selection.

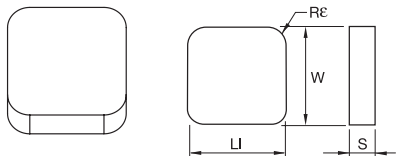
Order Example:

Shank	Cartridge
Order Number: 251262	2435183
Catalog Number: WXXNR4455X-FL	

Inserts

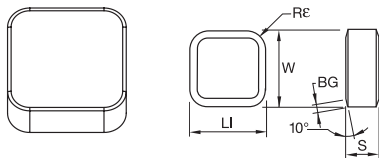
Kennametal stocks a complete line of standard inserts for wheel and axle machining. Inserts are available in various styles, sizes, and grades.

- **Wheel boring** - molded chipbreaker inserts in rounds, squares, octagons, and regrindable inserts
- **Axle turning** - triangle and diamond-shaped inserts with chipbreakers
- **Wheel turning** - rectangular and square styles, with or without molded chipbreakers
- **Wheel truing** - round buttons with center hole for locking



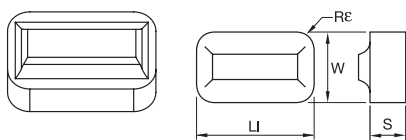
KRR

ISO catalog number	ANSI catalog number	mm	W	inch	mm	LI	inch	mm	S	inch	mm	Rε	inch	mm	D1	inch	KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
KRR16	KRR16	25,40		1.000	25,40		1.000	9,53	3/8		4,76	3/16		—	—		●	●						●



KRR-K

ISO catalog number	ANSI catalog number	W		LI		S		Rε		D1		BG			KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch									
KRR12K	KRR12K	19,05	.750	31,75	1.250	9,53	3/8	4,76	3/16	—	—	0,76	.030									
KRR16K	KRR16K	25,40	1.000	25,40	1.000	9,53	3/8	4,76	3/16	—	—	0,76	.030		●	●						●



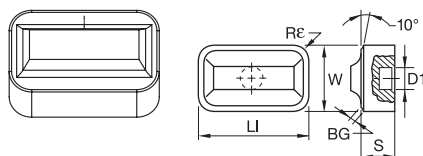
KRR-6566

ISO catalog number	ANSI catalog number	W		LI		S		Rε		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
KRR6566	KRR6566	19.05	.750	31.75	1.250	9.53	3/8	4.76	3/16	—	—	—	—	●	●					●	●

Order Example:

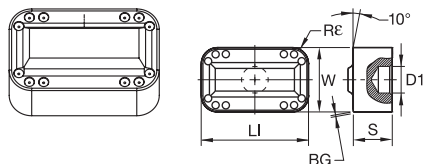
ANSI catalog number: CNMM646RH Insert grade: KC9125

ISO catalog number: CNMM190624RH Insert grade: KC9125



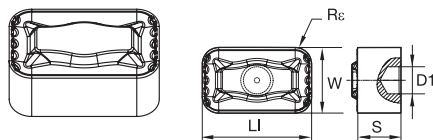
KRR-6586-50 / 80

ISO catalog number	ANSI catalog number	W		LI		S		Rε		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
KRR658650	KRR658650	19,05	.750	31,75	1.250	12,70	1/2	4,76	3/16	7,87	.310	0,51	.020	●	●	●	●				●
KRR658680	KRR658680	19,05	.750	31,75	1.250	12,70	1/2	4,76	3/16	7,87	.310	0,51	.020	●	●	●	●				●



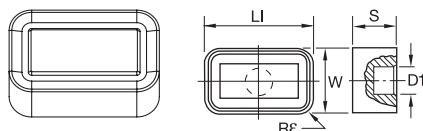
KRR-6586-52

ISO catalog number	ANSI catalog number	W		LI		S		Rε		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
KRR658652	KRR658652	19,05	.750	31,75	1.250	12,70	1/2	4,76	3/16	7,87	.310	0,51	.020	●	●	●	●				●



KRR-6586-65

ISO catalog number	ANSI catalog number	W		LI		S		Rε		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
KRR658665	KRR658665	19,05	.750	31,75	1.250	12,70	1/2	4,76	3/16	7,87	.310	—	—	●	●						



KRR-6586-71

ISO catalog number	ANSI catalog number	W		LI		S		Rε		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
KRR658671	KRR658671	19,05	.750	31,75	1.250	12,70	1/2	4,76	3/16	7,87	.310	—	—	●	●	●					●

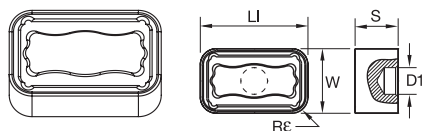
Order Example:

ANSI catalog number: CNMM646RH Insert grade: KC9125

ISO catalog number: CNMM190624RH Insert grade: KC9125

Inserts

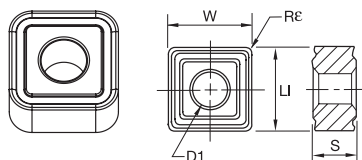
WHEELSET RECONDITIONING



KRR-6586-75

ISO catalog number	ANSI catalog number	W		LI		S		Re		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9125	KC9315	K40
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch							
KRR658675	KRR658675	19,05	.750	31,75	1.250	12,70	1/2	4,76	3/16	7,87	.310	—	—		●	●				

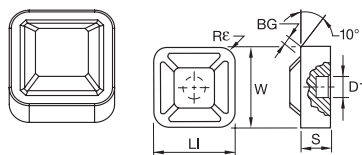
AXLE AND WHEEL RECONDITIONING



KRR-6610

ISO catalog number	ANSI catalog number	W		LI		S		Re		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9125	KC9315	K40
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch							
KRR6610	KRR6610	19,05	.750	19,05	.750	9,53	3/8	4,00	5/32	7,87	.310	—	—	●	●					●

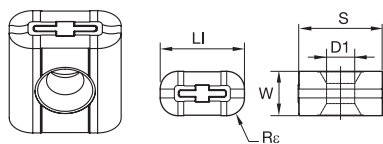
NEW WHEEL MANUFACTURING



KRR-866-50

ISO catalog number	ANSI catalog number	W		LI		S		Re		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9125	KC9315	K40
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch							
KRR86650	KRR86650	25,40	1.000	25,40	1.000	9,53	3/8	4,76	3/16	7,87	.310	0,51	.020	●	●	●				●

TRACK / SWITCH MILLING



LNUX-RRH

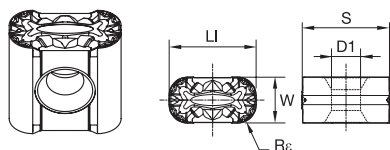
ISO catalog number	ANSI catalog number	W		LI		S		Re		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9125	KC9315	K40
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch							
LNUX191940RRH	LNUX191940RRH	19,00	.748	19,00	.748	10,00	—	4,00	5/32	6,35	.250	—	—					●	●	●
LNUX301940RRH	LNUX301940RRH	30,00	1.181	30,00	1.181	19,05	3/4	4,00	5/32	6,35	.250	—	—					●	●	●

TRACK / SWITCH DRILLING

Order Example:

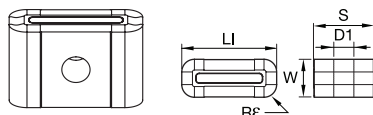
ANSI catalog number: CNMM646RH Insert grade: KC9125

ISO catalog number: CNMM190624RH Insert grade: KC9125



■ LNUX-RRP

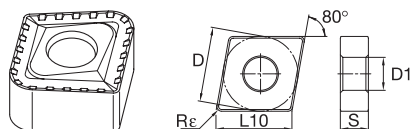
ISO catalog number	ANSI catalog number	W		LI		S		Rε		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
LNUX191940RRP	LNUX191940RRP	19,00	.748	19,00	.748	10,00	—	4,00	5/32	6,35	.250	—	—					●	●	●	
LNUX301940RRP	LNUX301940RRP	30,00	1.181	30,00	1.181	19,05	3/4	4,00	5/32	6,35	.250	—	—					●	●	●	



■ LNUX-RRSM

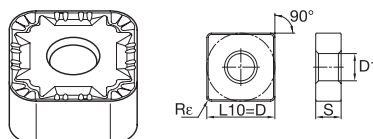
ISO catalog number	ANSI catalog number	W		LI		S		Rε		D1		BG		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
LNUX301940RRSM	LNUX301940RRSM	30,00	1.181	30,00	1.181	19,05	3/4	4,00	5/32	6,35	.250	—	—					●	●		

Note: also available in KC9105



■ CNMM-RRP

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
CNMM190740RRP	CNMM190740RRP	19,05	3/4	19,34	.762	7,94	5/16	4,00	5/32	7,93	.313					●	●		



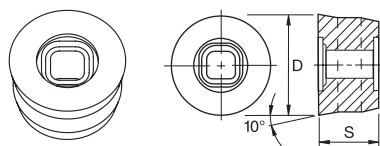
■ SNMX-RRP

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
SNMX190640RRP	SNMX190640RRP	19,05	3/4	19,05	.750	6,350	1/4	4,000	5/32	6,35	.250					●	●		

Order Example:

ANSI catalog number: CNMM646RH Insert grade: KC9125

ISO catalog number: CNMM190624RH Insert grade: KC9125

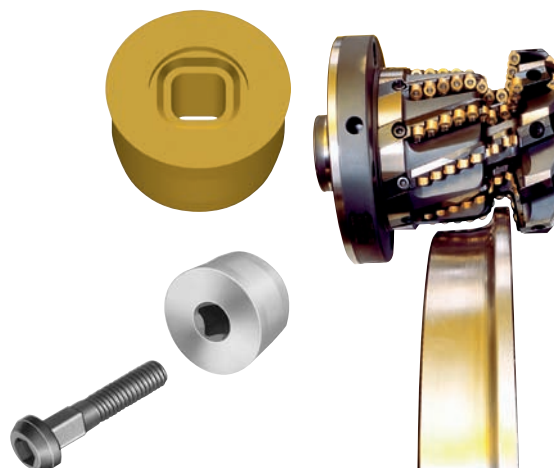


■ WTS-P

ISO catalog number	ANSI catalog number	D		L10		S		R _e		D1		KC5115RR	KC5125RR	KC9110RR	KC9125RR	KC9110	KC9125	KC9315	K40
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
WTS10P	WTS10P	15,82	.623	—	—	9,525	3/8	—	—	—	—	●							●

Kennametal wheel truing insert style WTS-10P, for use on contour milling machines, has a 10° relief angle for proper clearance and minimum tool pressure.

- Indexable inserts with prehone cutting edges for greater resistance to chipping when milling work-hardened steel surfaces.
- Because only a small arc of each insert is in contact with the wheel during the machining operation, inserts can be indexed a number of times depending upon the depth of cut.
- Square shank screws (SN-2) with nuts enable indexing of the inserts in the cutter body. These screws are available with a socket head as shown.



Order Example:

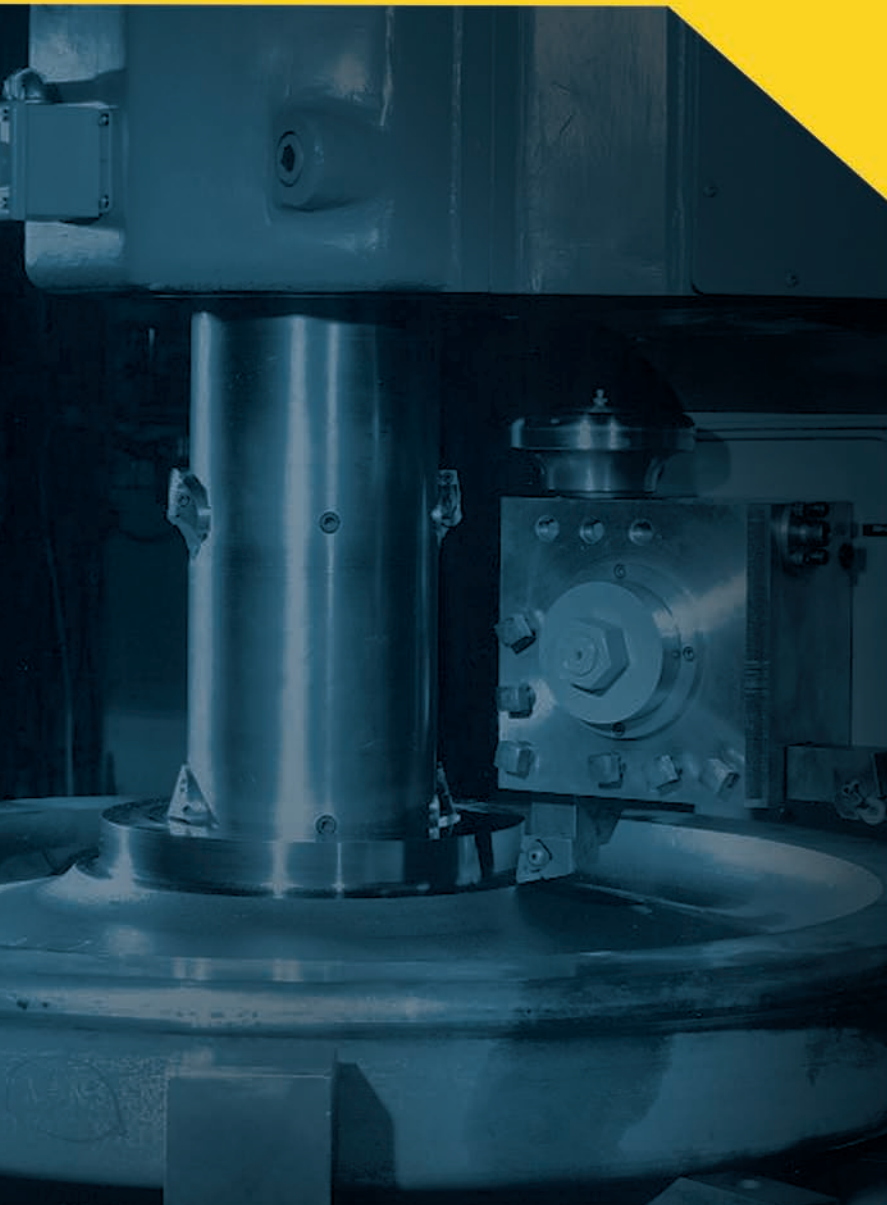
ANSI catalog number: CNMM646RH Insert grade: KC9125

ISO catalog number: CNMM190624RH Insert grade: KC9125

Axle and Wheel Reconditioning

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<i>L-Type Boring Bars</i>	26
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**RAILROAD
RAILROAD
DRILLING TOOLING**



L-Type Boring Bars

Railroad wheels are wrought steel and cast steel made in a number of designs. Steel wheels are classified as multiple-wear, two-wear, or one-wear wheels.

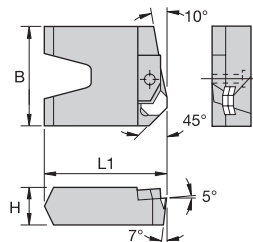
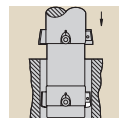
Composition and specifications of wheels include Class A, a relatively low carbon steel wheel; Class L, a lower carbon content than Class A; Class B, an intermediate carbon steel; and Class C, a relatively high-carbon steel wheel.

Kennametal provides L-type bar tooling to bore wheels to match journal sizes from 4 1/2" x 8" to 8" x 16".

- Tools are precision ground and hardened for maximum life.
- Lower profile permits use in L-type bars without modification.
- Fast insert indexing reduces tool changing downtime.
- Enables free cutting action at higher feed rates.
- Delivers good chip control under a wide range of conditions.
- Inserts are available in both coated and uncoated grades.
- Kennametal also provides cartridges to fit Kennametal-supplied bars to run on CNC boring machines.
- Most bars and cartridges are supplied as specials per machine manufacturers' specifications.



- Uses OPG-524 positive rake, octagonal inserts for free cutting action while finish boring.
- Tool positions the insert parallel to the bore in the operation.
- Consistently produces bore finishes to specifications.
- Inserts have eight indexable cutting edges.
- Available in 11 sizes to fit L-type boring bars.



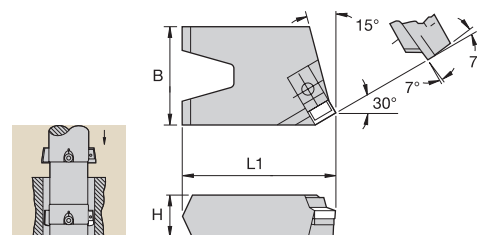
OWF-Style Tools for Roughing:

order number	catalog number	journal size	min. wheel bore		H		B		L1		insert 1	shim	shim screw	clamp	clamp screw
1015785	OWF744SET	4 1/2 X 8	139,70	5.500	22,23	.875	50,80	2.000	69,06	2.719	OPG524	SM159	S125	CMR15	S472
1015786	OWF750SET	5 X 9	158,75	6.250	22,23	.875	50,80	2.000	78,59	3.094	OPG524	SM159	S125	CMR15	S472
1015787	OWF754SET	5 1/2 X 10	171,45	6.750	22,23	.875	50,80	2.000	84,94	3.344	OPG524	SM159 K9	S125	CMR15	S472
1015788	OWF759SET	6 X 11	187,33	7.375	22,23	.875	50,80	2.000	92,86	3.656	OPG524	SM159	S125	CMR15	S472
1015789	OWF763SET	6 1/2 X 12	200,03	7.875	22,23	.875	50,80	2.000	99,21	3.906	OPG524	SM159	S125	CMR15	S472
1015790	OWF770SET	7 X 14	222,25	8.750	22,23	.875	50,80	2.000	107,16	4.219	OPG524	SM159	S125	CMR15	S472
1015791	OWF854SET	5 1/2 X 10	171,45	6.750	25,40	1.000	57,15	2.250	84,94	3.344	OPG524	SM159 K9	S125	CMR15	S472
1015792	OWF859SET	6 X 11	187,33	7.375	25,40	1.000	57,15	2.250	92,86	3.656	OPG524	SM159 K9	S125	CMR15	S472
1015793	OWF863SET	6 1/2 X 12	200,03	7.875	25,40	1.000	57,15	2.250	99,21	3.906	OPG524	SM159	S125	CMR15	S421
1015824	OWF870SET	7 X 14	222,25	8.750	25,40	1.000	57,15	2.250	107,16	4.219	OPG524	SM159	S125	CMR15	S421
1015825	OWF874SET	8 X 16	234,95	9.250	25,40	1.000	57,15	2.250	116,69	4.594	OPG524	SM159	S125	CMR15	S421

Note: Tool sets contain a ground matched pair of toolholders.
See page 32 for insert selection.

Order Example:
Order Number: 1015785
Catalog Number: OWF754SET

- Uses SNMG-style molded chipbreaker inserts with eight cutting edges.
- Available in 11 sizes to fit L-type boring bars.
- Employs a low-profile design.
- Delivers fast insert indexing while maintaining bore size.
- Tools have a protective insert seat.

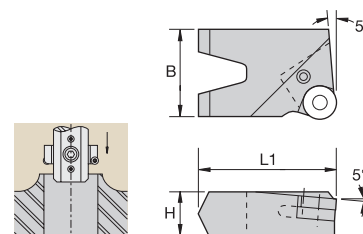


■ SWR-Style Tools for Roughing

order number	catalog number	journal size	min. wheel bore		H		B		L1		insert 1	shim	shim screw	clamp	clamp screw
1015559	SWR744SET	4 1/2 X 8	139,70	5.500	22,23	.875	50,80	2.000	69,06	2.719	SNMG433	SM43	S111	CMR10	S472
1015560	SWR750SET	5 X 9	158,75	6.250	22,23	.875	50,80	2.000	78,59	3.094	SNMG433	SM43	S111	CMR10	S472
1015561	SWR754SET	5 1/2 X 10	171,45	6.750	22,23	.875	50,80	2.000	84,94	3.344	SNMG433	SM43	S111	CMR10	S472
1015562	SWR759SET	6 X 11	187,33	7.375	22,23	.875	50,80	2.000	92,86	3.656	SNMG433	SM43	S111	CMR10	S472
1015563	SWR763SET	6 1/2 X 12	200,03	7.875	22,23	.875	50,80	2.000	99,21	3.906	SNMG433	SM43	S111	CMR10	S472
1015584	SWR770SET	7 X 14	222,25	8.750	22,23	.875	50,80	2.000	107,16	4.219	SNMG433	SM43	S111	CMR10	S472
1015585	SWR854SET	5 1/2 X 10	171,45	6.750	25,40	1.000	57,15	2.250	84,94	3.344	SNMG433	SM43	S111	CMR10	S421
1015586	SWR859SET	6 X 11	187,33	7.375	25,40	1.000	57,15	2.250	92,86	3.656	SNMG433	SM43	S111	CMR10	S421
1015587	SWR863SET	6 1/2 X 12	200,03	7.875	25,40	1.000	57,15	2.250	99,21	3.906	SNMG433	SM43	S111	CMR10	S421
1015588	SWR870SET	7 X 14	222,25	8.750	25,40	1.000	57,15	2.250	107,16	4.219	SNMG433	SM43	S111	CMR10	S421
1015589	SWR874SET	8 X 16	234,95	9.250	25,40	1.000	57,15	2.250	116,69	4.594	SNMG433	SM43	S111	CMR10	S421

Note: Tool sets contain a ground matched pair of toolholders.
See page 31 for insert selection.

- This style tool is available in the rugged unit locking design for operating at higher feed ranges.
- Unit locking design ensures maximum insert locking by pulling the insert down and back into the pocket.
- Insert can be released quickly for fast indexing, minimizing downtime.
- Locking unit protects the holder and properly seats the insert.
- Available in 11 sizes to fit L-type boring bars.



■ RUWR-Style Tools for Roughing

order number	catalog number	journal size	min. wheel bore		H		B		L1		insert 1	steel insert locking unit	lock screw
3385738	RUWR744SET	4 1/2 X 8	139,70	5.500	22,23	.875	50,80	2.000	69,06	2.719	RNMG64	SU1	S999
3385739	RUWR750SET	5 X 9	158,75	6.250	22,23	.875	50,80	2.000	78,59	3.094	RNMG64	SU1	S999
1015619	RUWR754SET	5 1/2 X 10	171,45	6.750	22,23	.875	50,80	2.000	84,94	3.344	RNMG64	SU1	S999
1015620	RUWR759SET	6 X 11	187,33	7.375	22,23	.875	50,80	2.000	92,86	3.656	RNMG64	SU1	S999
1015621	RUWR763SET	6 1/2 X 12	200,03	7.875	22,23	.875	50,80	2.000	99,21	3.906	RNMG64	SU1	S999
3385740	RUWR770SET	7 X 14	222,25	8.750	22,23	.875	50,80	2.000	107,16	4.219	RNMG64	SU1	S999
3385741	RUWR854SET	5 1/2 X 10	171,45	6.750	25,40	1.000	57,15	2.250	84,94	3.344	RNMG64	SU1	S999
1015654	RUWR859SET	6 X 11	187,33	7.375	25,40	1.000	57,15	2.250	92,86	3.656	RNMG64	SU1	S999
3385742	RUWR863SET	6 1/2 X 12	200,03	7.875	25,40	1.000	57,15	2.250	99,21	3.906	RNMG64	SU1	S999
1015656	RUWR870SET	7 X 14	222,25	8.750	25,40	1.000	57,15	2.250	107,16	4.219	RNMG64	SU1	S999
1015657	RUWR874SET	8 X 16	234,95	9.250	25,40	1.000	57,15	2.250	116,69	4.594	RNMG64	SU1	S999

Note: Tool sets contain a ground matched pair of toolholders.
See page 31 for insert selection.

Order Example:

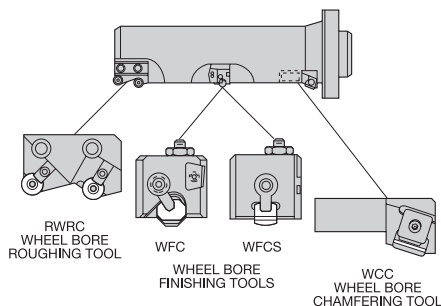
Order Number: 1015785

Catalog Number: OWF754SET

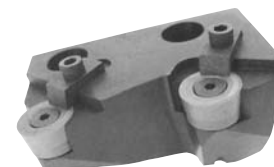
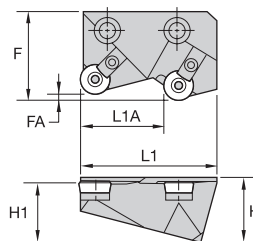
Wheel Boring Tooling for Computer-Controlled Machines

Advantages of Kennametal Wheel Boring Tools

- Available in several styles for rough and finish boring.
- Tools are available for finishing KRR- or OPG-style inserts.
- Rough boring tools use RCMH round inserts.
- Tools keep the insert parallel to the bore during operation to ensure a smooth cut within established finish specifications.
- All styles of tools are designed with insert locking confined within the shank height. This enables the tools to be retracted to bore the smaller sizes without modifying the standard bar.
- Check the catalog number and dimensions of your cartridges before ordering. Bars and cartridges on older machines may not be the same. Call Kennametal's Customer Application Support team for assistance.



- Uses RCMH-style inserts for free cutting action while rough boring.
- This is a double-pocket cartridge and requires two inserts and two sets of hardware.
- Cartridges are easily replaceable.



RWRC-Style Tools for Roughing

order number	catalog number	H1	F	L1	FA	L1A	insert 1	screw	insert shim	clamp	clamp screw
1015616	RWRC	38,10 mm / 1.500 inch	57,11 mm / 2.249 inch	85,85 mm / 3.380 inch	4,75 mm / .187 inch	52,38 mm / 2.062 inch	RCMH64	S1001	SM381	S412	S412

See page 31 for insert selection.

WFCS-Style Tools for Finishing

order number	catalog number	H	B	F	L1	insert 1
1015615	WFCS	23,88 mm / .940 inch	39,68 mm / 1.562 inch	14,28 mm / .562 inch	41,15 mm / 1.620 inch	KRR4210R

Spare Parts

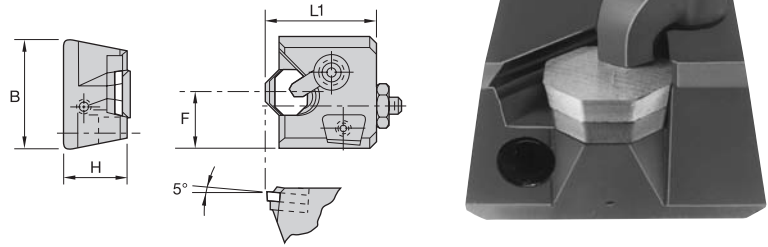
catalog number	adjusting screw	jam nut	chipbreaker	shim	shim screw	clamp	clamp screw
WFCS	S846	S936	CBS16	SRR4210R	S111	CK13	STC4

See page 32 for insert selection.

Order Example:

Order Number: 1015616

Catalog Number: RWRC



WFC-Style Tools for Finishing

order number	catalog number	H		B		F		L1		insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	
1177582	WFC	23,80	.937	39,68	1.562	20,63	.812	41,15	1.620	OPG524

Spare Parts

catalog number	adjusting screw	jam nut	chipbreaker	shim	shim screw	clamp	clamp screw
WFC	S846	S936	CBO560	SM159	S125	CK13	STC4

See page 32 for insert selection.

Axle Turning Tools

Freight car and passenger car axles are usually made of carbon steel and may be heat treated or untreated. Locomotive axles, electric transit axles, and industrial-use axles are made of a variety of carbon and alloy steels. The alloy steel axles are heat treated, while the carbon steel axles are either heat treated or untreated.

Kennametal offers two styles of holders to suit user needs for re-machining journal surfaces on car axles.

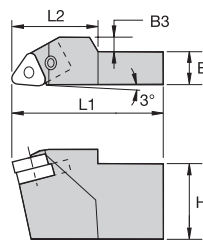
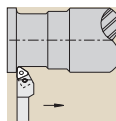
- These two standard designs use indexable inserts and have a 3°-lead built into the holder to conform to the AAR standards.
- To use these tools in some dual-end-drive axle lathes, a slight modification to the existing tool block is necessary. This is required to clear the head portion of the tool to generate the required radius on the axle.
- Kennametal offers a wide variety of standard off-the-shelf tooling as well as special tooling for all types of machining applications on various machines for reconditioning axles.



Order Example:
Order Number: 1015616
Catalog Number: RWRC

Axle Turning Tools

- Steel locking unit design ensures maximum insert locking pressure.
- Insert locks firmly in place against the one-wall pocket for fast insert indexing.
- Locking unit protects holders and provides secure seating for the insert.
- Indexable inserts eliminate regrinding.
- Uses 1/2" IC triangular inserts that provide up to six cutting edges.

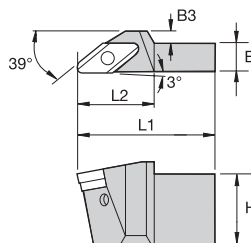
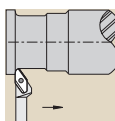


JTU-Style Tools

order number	catalog number	H		B		B3		L1		L2		insert 1	lock screw	steel locking unit
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
1015592	JTU56R	38,10	1.500	15,88	.625	6,35	.250	73,03	2.875	41,15	1.620	TN..438_	S1007PKG	SU9
1015593	JTU56L	38,10	1.500	15,88	.625	6,35	.250	73,03	2.875	41,15	1.620	TN..438_	S1007PKG	SU9

See page 31 for insert selection.

- No clamp is used to interfere with chip flow.
- Fewer parts lowers inventory requirements.
- Insert is locked firmly back into the two-wall pocket.
- Standard indexable inserts are available in several chipbreaker widths.

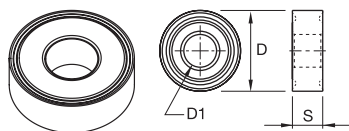


JAT-Style Tools

order number	catalog number	H		B		B3		L1		L2		insert 1	shim	lock screw	lock pin
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
1015591	JAT56L	38,10	1.500	15,88	.625	6,35	.250	73,03	2.875	38,10	1.500	JA5_	SM193	LS16	LP64
1015590	JAT56R	38,10	1.500	15,88	.625	6,35	.250	73,03	2.875	38,10	1.500	JA5_	SM193	LS16	LP64

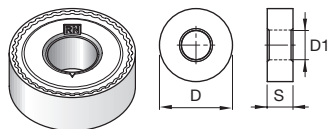
See page 32 for insert selection.

Order Example:
Order Number: 1015592
Catalog Number: JTU56R



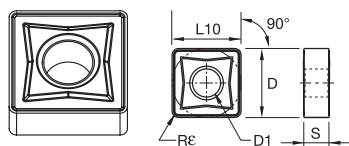
RNMG

ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		KC9110RR	KC9125RR	KC9105	KC9110	KC9125	KC9140	KC9315	K68
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
RNMG190600	RNMG64	19,05	3/4	—	—	6,35	1/4	—	—	7,93	.313	●							
RNMG250900	RNMG86	25,40	1	—	—	9,53	3/8	—	—	9,12	.359	●							



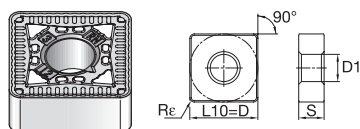
RNMG-RN

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		KC9110RR	KC9125RR	KC9105	KC9110	KC9125	KC9140	KC9315	K68
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
RNMG190600RN	RNMG64RN	19,05	3/4	—	—	6,35	1/4	—	—	7,93	.313					●			
RNMG250900RN	RNMG86RN	25,40	1	—	—	9,53	3/8	—	—	9,12	.359					●			



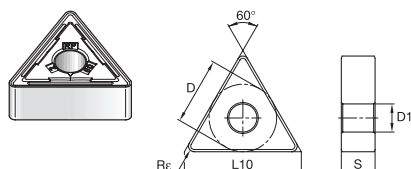
SNMG

ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		KC9110RR	KC9125RR	KC9105	KC9110	KC9125	KC9140	KC9315	K68
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
SNMG120412	SNMG433	12,70	1/2	12,70	.500	4,76	3/16	1,20	3/64	5,16	.203		●						
SNMG120416B	SNMG434	12,70	1/2	12,70	.500	4,76	3/16	1,60	1/16	5,16	.203		●						



SNMG-RN

ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		KC9110RR	KC9125RR	KC9105	KC9110	KC9125	KC9140	KC9315	K68
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
SNMG120412RN	SNMG433RN	12,70	1/2	12,70	.500	4,76	3/16	1,20	3/64	5,16	.203								
SNMG120416RN	SNMG434RN	12,70	1/2	12,70	.500	4,76	3/16	1,60	1/16	5,16	.203					●			

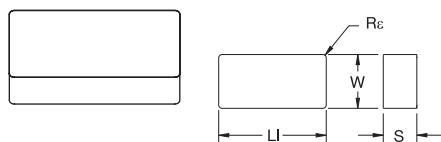


TNMG-RP

ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		KC9110RR	KC9125RR	KC9105	KC9110	KC9125	KC9140	KC9315	K68
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
TNMG220432RP	TNMG438RP	12.70	1/2	22.00	.866	4.76	3/16	3.18	1/8	5.16	.203					●			

Inserts

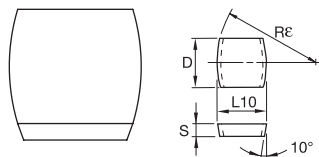
WHEELSET RECONDITIONING



LNU

ISO catalog number	ANSI catalog number	W		LI		S		Rε		KC9110RR	KC9125RR	KC9105	KC9110	KC9125	KC9140	KC9315	K68
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
LNU4442	LNU4442	13,34	.525	26,04	1.025	6,35	1/4	0,80	1/32								

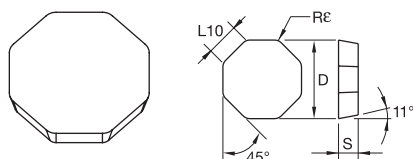
AXLE AND WHEEL RECONDITIONING



KRR4210R

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		KC9110RR	KC9125RR	KC9105	KC9110	KC9125	KC9140	KC9315	K68
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
KRR4210R	KRR4210R	12,70	1/2	12,70	.500	3,18	1/8	—	—	—	—	●				●			

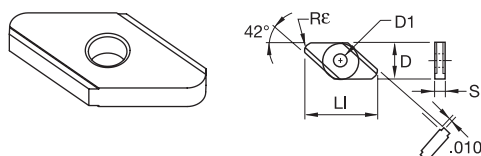
NEW WHEEL MANUFACTURING



OPG

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		KC9110RR	KC9125RR	KC9105	KC9110	KC9125	KC9140	KC9315	K68
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
OPGN060316	OPG524	15,88	5/8	6,58	.259	3,18	1/8	1,60	1/16	—	—	●						●	

TRACK / SWITCH MILLING



JA

ISO catalog number	ANSI catalog number	D		LI		S		Rε		D1		KC9110RR	KC9125RR	KC9105	KC9110	KC9125	KC9140	KC9315	K68
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch								
JA5	JA5	16,13	.635	32,72	1.288	4,76	3/16	3,05	.120	6,35	.250			●					
JA5A	JA5A	16,13	.635	32,72	1.288	4,76	3/16	3,05	.120	6,35	.250			●					
JA6	JA6	16,13	.635	32,72	1.288	4,76	3/16	3,56	.140	6,35	.250			●					
JA6A	JA6A	16,13	.635	32,72	1.288	4,76	3/16	3,56	.140	6,35	.250			●					

TRACK / SWITCH DRILLING

Order Example:

ANSI catalog number: CNMM646RH Insert grade: KC9125

ISO catalog number: CNMM190624RH Insert grade: KC9125

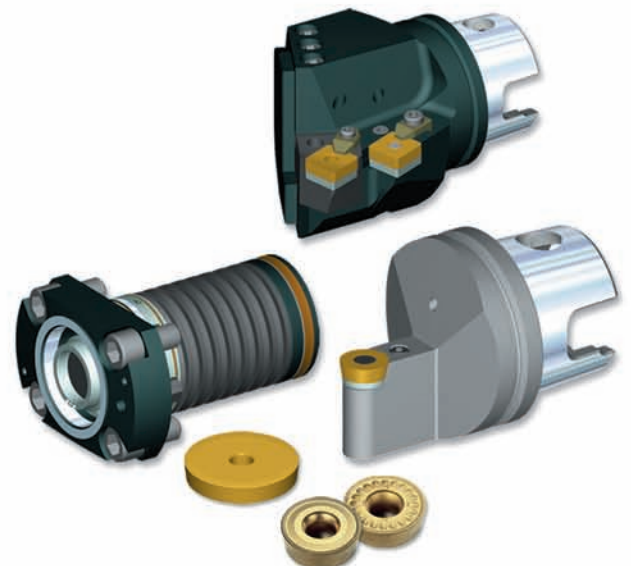
New Wheel Manufacturing

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**RAILROAD
RAILROAD
DRILLING TOOLING**



Wheel Production

In wheel production, the forged blanks are mainly machined using RC.. inserts.

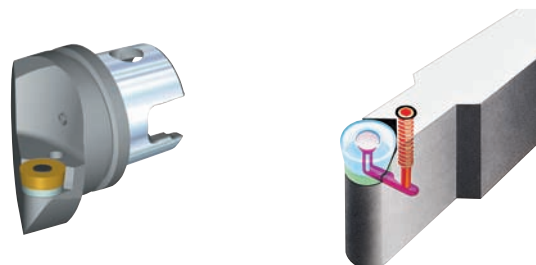
For this, Kennametal offers a comprehensive range of high-performance indexable inserts. Proprietary coatings combined with application-specific chipbreakers make these inserts well suited for new wheel production.

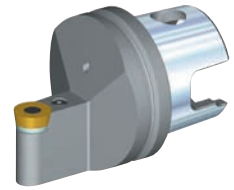
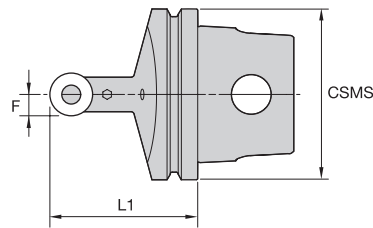
Together with the KM quick-change tooling system, high stability, repeatability, and process security are ensured.



Clamping System

Our FIX-PERFECT clamping system will provide optimum security during the most arduous machining process. With just a few revolutions of the clamping screw, the complete insert set (insert, shim, and clamping stud) can be changed.





■ KM-PRDCN

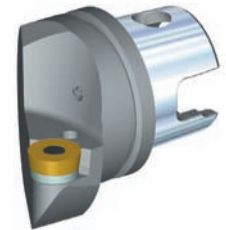
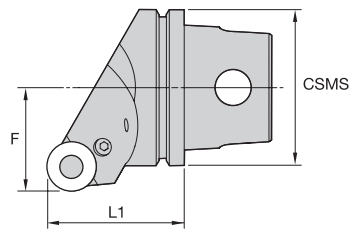
CSMS system size	order number	catalog number	F		L1		insert 1	shim	clamp stud	screw
			mm	inch	mm	inch				
KM80	1238703	KM80PRDCN20	10,00	.394	70,00	2.756	RC..2006M0	169.333	119.073	121.820
KM80	1238704	KM80PRDCN25	12,50	.492	70,00	2.756	RC..2507M0	169.337	118.404	121.820
KM80	1238705	KM80PRDCN32	16,00	.630	90,00	3.543	RC..3209M0	169.339	118.604	121.030

Notes: Custom solutions available.

KM100 units are made to order.

KM80 units require torque wrench TWH60R, which must be purchased separately.

See page 42 for insert selection.



■ KM-PRGC

CSMS system size	order number	catalog number	F		L1		insert 1	shim	clamp stud	screw
			mm	inch	mm	inch				
KM80	1238697	KM80PRGCR20	53,00	2.087	70,00	2.756	RC..2006M0	169.333	119.073	121.820
KM80	1238699	KM80PRGCR25	53,00	2.087	70,00	2.756	RC..2507M0	169.337	118.404	121.820
KM80	1238701	KM80PRGCR32	53,00	2.087	80,00	3.150	RC..3209M0	169.339	118.604	121.030
KM100	1151983	KM100PRGCR32	62,80	2.472	90,00	3.543	RC..3209M0	169.339	118.604	121.035
KM80	1238698	KM80PRGCL20	53,00	2.087	70,00	2.756	RC..2006M0	169.333	119.073	121.820
KM80	1238700	KM80PRGCL25	53,00	2.087	70,00	2.756	RC..2507M0	169.337	118.404	121.820
KM80	1238702	KM80PRGCL32	53,00	2.087	80,00	3.150	RC..3209M0	169.339	118.604	121.030
KM100	1152122	KM100PRGCL32	62,80	2.472	90,00	3.543	RC..3209M0	169.339	118.604	121.035

Notes: Custom solutions available

KM100 Units are made to order

KM80 units require torque wrench TWH60R, which must be purchased separately.

See page 42 for insert selection.

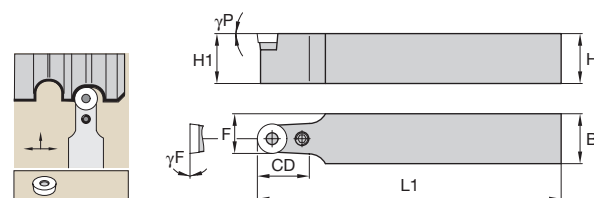
Order Example:

Order Number: 1238703

Catalog Number: KM80PRDCN20

FIX-PERFECT Clamping System

WHEELSET RECONDITIONING



PRCC

order number	catalog number	H = H1		B		F		L1		CD		γF°	γP°	insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
1192389	PRCCN3232P20H1	32,00	1.260	32,00	1.260	26,00	1.024	170,00	6.693	32,00	1.260	.0	.0	RC..2006M0
1228888	PRCCN4040S25H1	40,00	1.575	40,00	1.575	32,50	1.280	250,00	9.843	78,00	3.071	.0	.0	RC..2507M0

Spare Parts

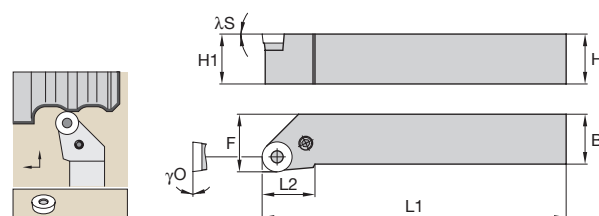
catalog number	shim	clamp stud	clamp screw	hex wrench
PRCCN3232P20H1	169.333	119.073	121.820	170.004
PRCCN4040S25H1	169.337	118.404	121.820	170.004

Note: Custom solutions available.

See page 42 for insert selection.

AXLE AND WHEEL RECONDITIONING

NEW WHEEL MANUFACTURING



PRGC

order number	catalog number	H = H1		B		F		L1		L2		λS	γO	insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
1197549	PRGCR4040S25H1	40,00	1.575	40,00	1.575	50,00	1.969	250,00	9.843	47,00	1.850	0.0	0.0	RC..2507M0
1192391	PRGCR6050U32H1	60,00	2.362	50,00	1.969	60,00	2.362	350,00	13.780	75,00	2.953	0.0	0.0	RC..3209M0
1244829	PRGCL4040S25H1	40,00	1.575	40,00	1.575	50,00	1.969	250,00	9.843	47,00	1.850	0.0	0.0	RC..2507M0
1192390	PRGCL6050U32H1	60,00	2.362	50,00	1.969	60,00	2.362	350,00	13.780	75,00	2.953	0.0	0.0	RC..3209M0

Spare Parts

catalog number	shim	clamp stud	clamp screw	hex wrench
PRGC R / L 4040S25H1	169.337	118.404	121.820	170.004
PRGC R / L 6050U32H1	169.339	118.604	121.030	170.005

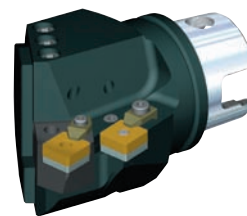
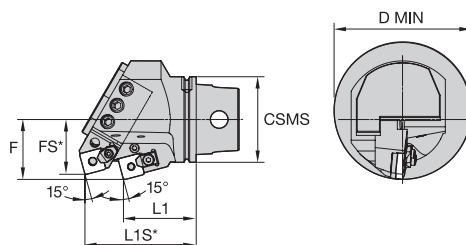
Note: Custom solutions available.

See page 42 for insert selection.

TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING

Order Example:
Order Number: 1238703
Catalog Number: KM80PRDCN20



■ KM – PSDN 95° (with Adjustable Cartridge)

CSMS system size	order number	catalog number	F mm inch	FS* mm inch	L1 mm inch	L1S* mm inch	D min mm inch	insert 1
KM100	1152381	KM100-TK00055D	70,00 2.756	64,00 2.520	85,00 3.347	130,00 5.118	160,00 6.299	SN..250724/SN..856

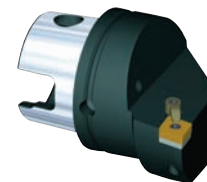
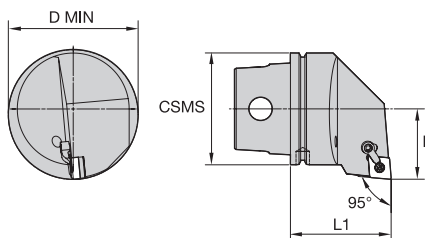
■ Cartridge – PSDN 95°

CSMS system size	order number	catalog number	F mm inch	L1 mm inch	insert 1
KM100	1178625	PSDNN3240X25-01	21,00 .827	120,00 4.724	SN..250724/SN..856

*Adjustable top cartridge.

Made to order.

See page 42-43 for insert selection.



■ KM–MCLN 95°

CSMS system size	order number	catalog number	D min mm inch	F mm inch	L1 mm inch	insert 1
KM100	1151977	KM100-TK00344D	116,00 4.567	63,00 2.480	90,00 3.543	CN..190612/CN..643

Note: Made to order.

See page 42-43 for insert selection.

Order Example:
Order Number: 1238703
Catalog Number: KM80PRDCN20

M- and P-Style Clamping Systems

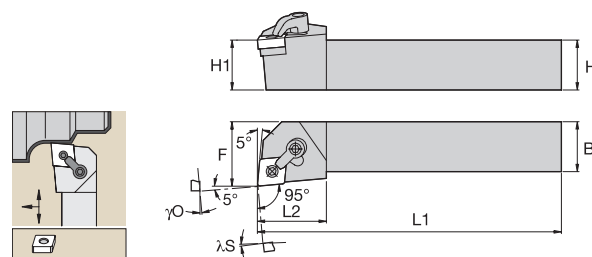
WHEELSET RECONDITIONING

AXLE AND WHEEL RECONDITIONING

NEW WHEEL MANUFACTURING

TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING



MCLN 95°

metric

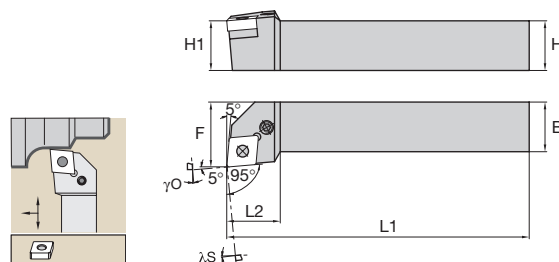
order number	catalog number	H = H1	B	F	L1	L2	λS	γO	insert 1	shim	lock pin	clamp	clamp screw
1101707	MCLNR4040R19	40,00	40,00	50,00	200,00	38,00	-5.0	-5.0	CN..190612	ICSN643	KLM68	CKM12	STCM4
1102537	MCLNL4040R19	40,00	40,00	50,00	200,00	38,00	-5.0	-5.0	CN..190612	ICSN643	KLM68	CKM12	STCM4

inch

order number	catalog number	H = H1	B	F	L1	L2	λS	γO	insert 1	shim	lock pin	clamp	clamp screw
1096082	MCLNR246E	1.500	1.500	2.000	7.000	1.490	-5.0	-5.0	CN..643	ICSN643	KL68	CK12	STC4
1808153	MCLNR326F	2.000	2.000	2.500	8.000	1.490	-5.0	-5.0	CN..643	ICSN633	KL68	CK12	STC4
1096104	MCLNL246E	1.500	1.500	2.000	7.000	1.490	-5.0	-5.0	CN..643	ICSN643	KL68	CK12	STC4
1808147	MCLNL326F	2.000	2.000	2.500	8.000	1.490	-5.0	-5.0	CN..643	ICSN633	KL68	CK12	STC4

Note: Custom solutions available.

See page 41 for insert selection.



PCLN 95°

order number	catalog number	H = H1		B		F		L1		L2		λS	γO	insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
1192379	PCLNR4040S19	40,00	1.575	40,00	1.575	50,00	1.969	250,00	9.843	36,00	1.417	-6.0	-6.0	CN..190612
1192377	PCLNL4040S19	40,00	1.575	40,00	1.575	50,00	1.969	250,00	9.843	36,00	1.417	-6.0	-6.0	CN..190612

Spare Parts

catalog number	shim	shim pin	toggle lever	clamping screw	punch
PCLN R / L 4040S19	512.123	513.033	511.033	514.133	515.022
PCLNL4040S19	512.123	513.033	511.033	514.133	515.022

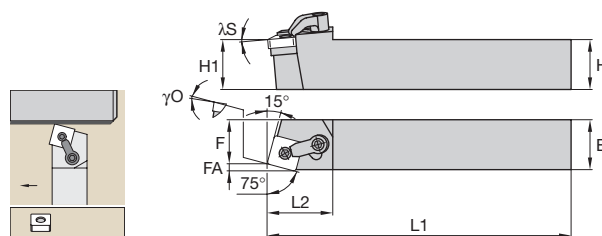
Note: Custom solutions available.

See page 41 for insert selection.

Order Example:

Order Number: 1238703

Catalog Number: KM80PRDCN20



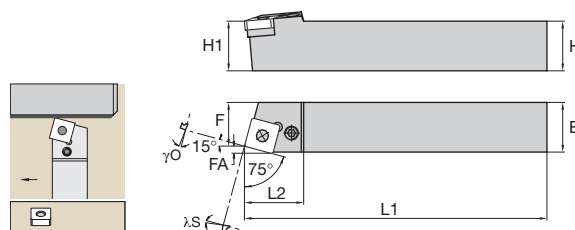
■ MSBN 75°

order number	catalog number	H = H1		B		F		L1		L2		FA		λS	γO	insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
1101954	MSBNR4040R19	40,00	1.575	40,00	1.575	35,00	1.378	200,00	7.874	40,00	40,000	4,60	.181	-5.0	-5.0	SN..190612
1099148	MSBNL4040R19	40,00	1.575	40,00	1.575	35,00	1.378	200,00	7.874	40,00	40,000	4,60	.181	-5.0	-5.0	SN..190612

■ Spare Parts

catalog number	shim	lock pin	clamp	clamp screw
MSBN R / L 4040R19	ISSN633	KLM68	CKM12	STCM4
MSBNL4040R19	ISSN633	KLM68	CKM12	STCM4

Note: Custom solutions available.
See page 42-43 for insert selection.



■ PSBN 75°

order number	catalog number	H = H1		B		F		L1		L2		FA		λS	γO	insert 1
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
1244682	PSBNR4040S19	40,00	1.575	40,00	1.575	35,00	1.378	250,00	9.843	38,00	1.496	4,60	.181	-6.0	-6.0	SN..190612
1244683	PSBNR4040S25	40,00	1.575	40,00	1.575	35,00	1.378	250,00	9.843	47,00	1.850	5,90	.232	-6.0	-6.0	SN..250724
1244674	PSBNL4040S19	40,00	1.575	40,00	1.575	35,00	1.378	250,00	9.843	38,00	1.496	4,60	.181	-6.0	-6.0	SN..190612
1244675	PSBNL4040S25	40,00	1.575	40,00	1.575	35,00	1.378	250,00	9.843	47,00	1.850	5,90	.232	-6.0	-6.0	SN..250724

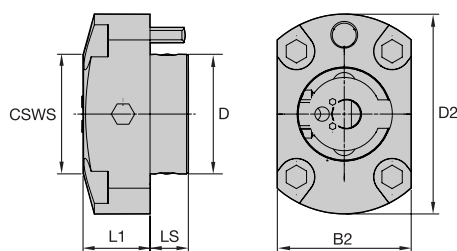
■ Spare Parts

catalog number	shim	shim pin	toggle lever	clamping screw	punch
PSBN R / L 4040S19	512.083	513.033	511.033	514.133	515.022
PSBN R / L 4040S25	512.092	513.038	511.038	514.138	515.028
PSBNL4040S19	512.083	513.033	511.033	514.133	515.022
PSBNL4040S25	512.092	513.038	511.038	514.138	515.028

Note: Custom solutions available.
See page 42-43 for insert selection.

Order Example:
Order Number: 1238703
Catalog Number: KM80PRDCN20

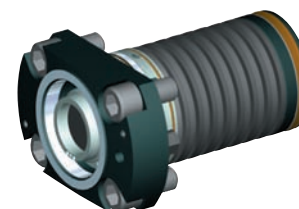
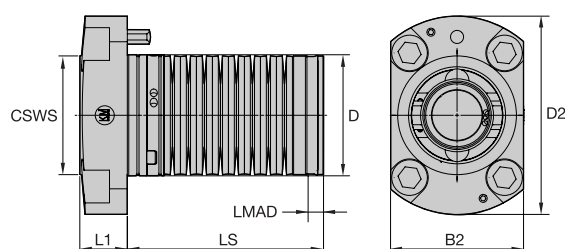
KM Clamping Units



KM-NCM-EF

CSMS	order number	catalog number	L1		LS		B2		D		D2		KM spare	
system size			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	part package	screw
KM80	1144799	KM80NCMEF	50,00	1.968	25,00	.984	90,00	3.543	80,00	3.150	132,00	5.197	KM80PKG3L	MS1599
KM100	2420366	KM100NCMEF	56,00	2.205	32,00	1.260	112,00	4.409	100,00	3.937	167,00	6.575	KM100PKG3S	MS2153

Note: KM100 clamping units are made to order.

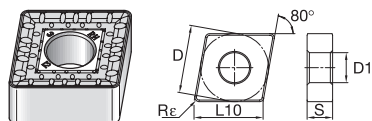


KM100-Spring Packs

CSWS	order number	catalog number	L1		LS		LMAD		B2		D		D2		KM spare	
system size			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	part package	screw
KM100	1178668	KM100-PK00001D	40,00	1.575	165,25	6.506	13,00	.512	112,00	4.409	101,98	4.015	167,00	6.575	KM80PKG3L	MS1566

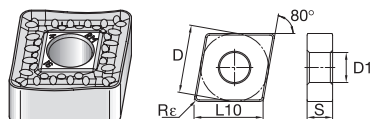
Note: KM100 clamping units are made to order.

Order Example:
Order Number: 1238703
Catalog Number: KM80PRDCN20



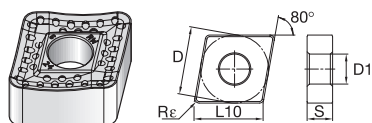
■ CNMM-RH

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		KC9105	KC9110	KC9125	KC9140	KC9315
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
CNMM190612RH	CNMM643RH	19,05	3/4	19,34	.762	6,35	1/4	1,20	3/64	7,93	.313	●	●	●	●	●
CNMM190616RH	CNMM644RH	19,05	3/4	19,34	.762	6,35	1/4	1,60	1/16	7,93	.313	●	●	●	●	●
CNMM190624RH	CNMM646RH	19,05	3/4	19,34	.762	6,35	1/4	2,40	3/32	7,93	.313	●	●	●	●	●
CNMM250924RH	CNMM866RH	25,40	1	25,79	1.015	9,53	3/8	2,40	3/32	9,12	.359	●	●	●	●	●



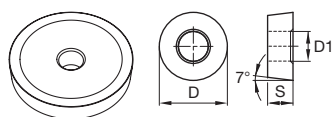
■ CNMM-RM

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		KC9105	KC9110	KC9125	KC9140	KC9315
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
CNMM160612RM	CNMM543RM	15,88	5/8	16,12	.635	6,35	1/4	1,20	3/64	6,35	.250	●	●	●	●	●
CNMM160616RM	CNMM544RM	15,88	5/8	16,12	.635	6,35	1/4	1,60	1/16	6,35	.250	●	●	●	●	●
CNMM160624RM	CNMM546RM	15,88	5/8	16,12	.635	6,35	1/4	2,40	3/32	6,35	.250	●	●	●	●	●
CNMM190612RM	CNMM643RM	19,05	3/4	19,34	.762	6,35	1/4	1,20	3/64	7,93	.313	●	●	●	●	●
CNMM190616RM	CNMM644RM	19,05	3/4	19,34	.762	6,35	1/4	1,60	1/16	7,93	.313	●	●	●	●	●
CNMM190624RM	CNMM646RM	19,05	3/4	19,34	.762	6,35	1/4	2,40	3/32	7,93	.313	●	●	●	●	●
CNMM250924RM	CNMM866RM	25,40	1	25,79	1.015	9,53	3/8	2,40	3/32	9,12	.359	●	●	●	●	●



■ CNMM-RW

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		KC9105	KC9110	KC9125	KC9140	KC9315
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
CNMM190624RW	CNMM646RW	19,05	3/4	19,34	.762	6,35	1/4	2,40	3/32	7,93	.313	●	●	●	●	●
CNMM250924RW	CNMM866RW	25,40	1	25,79	1.015	9,53	3/8	2,40	3/32	9,12	.359	●	●	●	●	●



■ RCGX

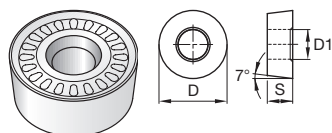
ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		KC9105	KC9110	KC9125	KC9140	KC9315
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
RCGX5009M0S02022	RCGX5009M0S02022	50,80	2	—	—	9,52	3/8	—	—	10,16	.400	●	●	●	●	●

Order Example:

ANSI catalog number: CNMM646RH Insert grade: KC9125

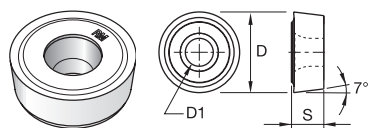
ISO catalog number: CNMM190624RH Insert grade: KC9125

Inserts



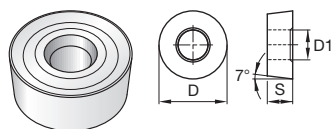
RCMX-RH

ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		KC9105	KC9110	KC9125	KC9140	KC9315
RCMT2006M0RH	RCMT2006M0RH	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
RCMX2507M0RH	RCMX2507M0RH	20,00	.787	—	—	6,35	1/4	—	—	6,50	.256	●	●	●	●	●
RCMX3209M0RH	RCMX3209M0RH	25,00	63/64	—	—	7,94	5/16	—	—	7,40	.291	●	●	●	●	●
		32,00	1.2598	—	—	9,53	3/8	—	—	9,50	.374	●	●	●	●	●



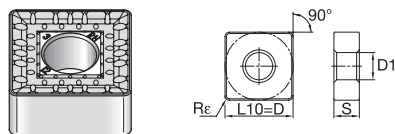
RCMT-RM

ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		KC9105	KC9110	KC9125	KC9140	KC9315
RCMT2006M0RM	RCMT2006M0RM	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
		20,00	.787	—	—	6,35	1/4	—	—	6,50	.256	●	●	●	●	●



RCMX-RP

ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		KC9105	KC9110	KC9125	KC9140	KC9315
RCMT2006M0RP	RCMT2006M0RP	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
RCMX2507M0RP	RCMX2507M0RP	20,00	.787	—	—	6,35	1/4	—	—	6,50	.256	●	●	●	●	●
RCMX3209M0RP	RCMX3209M0RP	25,00	63/64	—	—	7,94	5/16	—	—	7,40	.291	●	●	●	●	●
		32,00	1.2598	—	—	9,53	3/8	—	—	9,50	.374	●	●	●	●	●



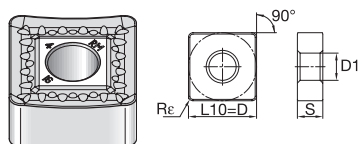
SNMM-RH

ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		KC9105	KC9110	KC9125	KC9140	KC9315
SNMM190612RH	SNMM643RH	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
SNMM190616RH	SNMM644RH	19,05	3/4	19,05	.750	6,35	1/4	1,20	3/64	7,93	.313	●	●	●	●	●
SNMM190624RH	SNMM646RH	19,05	3/4	19,05	.750	6,35	1/4	1,60	1/16	7,93	.313	●	●	●	●	●
SNMM250724RH	SNMM856RH	25,40	1	25,40	1.000	7,94	5/16	2,40	3/32	9,12	.359	●	●	●	●	●
SNMM250732RH	SNMM858RH	25,40	1	25,40	1.000	7,94	5/16	2,40	3/32	9,12	.359	●	●	●	●	●
SNMM250924RH	SNMM866RH	25,40	1	25,40	1.000	9,53	3/8	2,40	3/32	9,12	.359	●	●	●	●	●
SNMM250932RH	SNMM868RH	25,40	1	25,40	1.000	9,53	3/8	3,20	1/8	9,12	.359	●	●	●	●	●

Order Example:

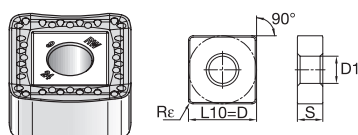
ANSI catalog number: CNMM646RH Insert grade: KC9115RR

ISO catalog number: CNMM190624RH Insert grade: KC9115RR



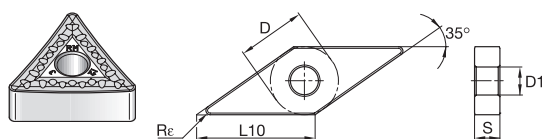
■ SNMM-RM

ISO catalog number	ANSI catalog number	D		L10		S		R _e		D1		KC9105	KC9110	KC9125	KC9140	KC9315
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
SNMM120412RM	SNMM433RM	12,70	1/2	12,70	.500	4,76	3/16	1,20	3/64	5,16	.203			●		
SNMM120416RM	SNMM434RM	12,70	1/2	12,70	.500	4,76	3/16	1,60	1/16	5,16	.203			●		
SNMM150612RM	SNMM543RM	15,88	5/8	15,88	.625	6,35	1/4	1,20	3/64	6,35	.250	●	●			
SNMM150616RM	SNMM544RM	15,88	5/8	15,88	.625	6,35	1/4	1,60	1/16	6,35	.250	●	●			
SNMM190612RM	SNMM643RM	19,05	3/4	19,05	.750	6,35	1/4	1,20	3/64	7,93	.313	●	●			
SNMM190616RM	SNMM644RM	19,05	3/4	19,05	.750	6,35	1/4	1,60	1/16	7,93	.313	●	●			
SNMM190624RM	SNMM646RM	19,05	3/4	19,05	.750	6,35	1/4	2,40	3/32	7,93	.313	●	●			
SNMM250724RM	SNMM856RM	25,40	1	25,40	1.000	7,94	5/16	2,40	3/32	9,12	.359	●	●			
SNMM250924RM	SNMM866RM	25,40	1	25,40	1.000	9,53	3/8	2,40	3/32	9,12	.359	●	●			



■ SNMM-RW

ISO catalog number	ANSI catalog number	D		L10		S		R _e		D1		KC9105	KC9110	KC9125	KC9140	KC9315
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
SNMM190624RW	SNMM646RW	19,05	3/4	19,05	.750	6,35	1/4	2,40	3/32	7,93	.313	●	●			
SNMM250724RW	SNMM856RW	25,40	1	25,40	1.000	7,94	5/16	2,40	3/32	9,12	.359	●	●			
SNMM250924RW	SNMM866RW	25,40	1	25,40	1.000	9,53	3/8	2,40	3/32	9,12	.359	●	●			



■ TNMM-RM

ISO catalog number	ANSI catalog number	D		L10		S		R _e		D1		KC9105	KC9110	KC9125	KC9140	KC9315
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
TNMM220408RM	TNMM432RM	12,70	1/2	22,00	.866	4,76	3/16	0,80	1/32	5,16	.203	●	●			
TNMM220412RM	TNMM433RM	12,70	1/2	22,00	.866	4,76	3/16	1,20	3/64	5,16	.203	●	●			
TNMM220416RM	TNMM434RM	12,70	1/2	22,00	.866	4,76	3/16	1,60	1/16	5,16	.203	●	●			
TNMM270612RM	TNMM543RM	15,88	5/8	27,50	1.083	6,35	1/4	1,20	3/64	6,35	.250	●	●			
TNMM270616RM	TNMM544RM	15,88	5/8	27,50	1.083	6,35	1/4	1,60	1/16	6,35	.250	●	●			

Order Example:

ANSI catalog number: CNMM646RH Insert grade: KC9125

ISO catalog number: CNMM190624RH Insert grade: KC9125



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Track/Switch Milling

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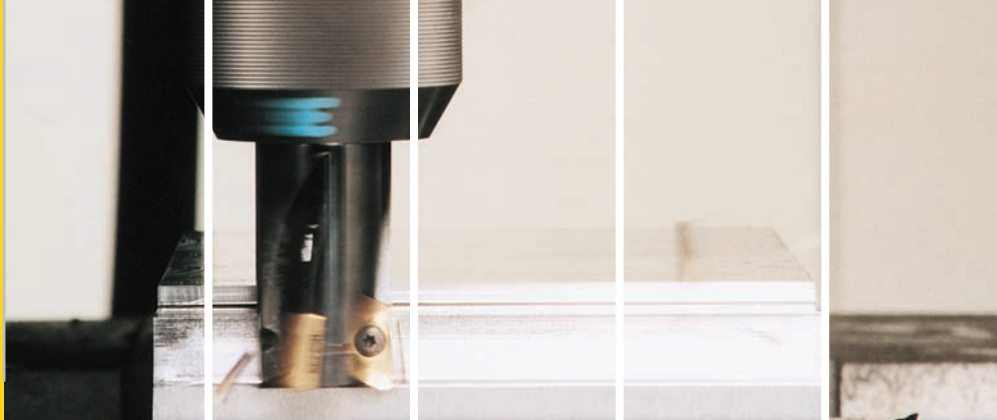
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grades	coating composition	recommended use
KC522M 	 AITN carbide	Coated carbide grade with a AITN (PVD) coating. KC522M is engineered to provide better performance in general machining of high-temp alloys and stainless steel. KC522M resists breakage and offers improved wear resistance and increased strength.
KC525M 	 TiAlN carbide	Coated carbide grade with PVD TiAlN coating. This universal carbide grade can be used for milling steel, stainless steel, and high-temperature alloys with or without coolant. Primarily for use in light and general machining.
KC715M 	 TiN TiCN TiN carbide	KC715M inserts are ideal for dry machining. The deformation substrate combined with a PVD coating can handle high temperatures and high surface speeds. It is primarily for use in light and general machining of steels, stainless steel, and cast steel.
KC725M 	 TiN TiAlN carbide	Coated carbide grade with an advanced PVD TiAlN/TiN coating. KC725M inserts provide high-performance milling of steel, stainless steel, and ductile cast iron. The good thermal shock resistance of the substrate makes this grade ideal for both wet and dry machining. Primarily for use in general and heavy machining.
KC935M 	 Al ₂ O ₃ TiCN TiN carbide	Coated carbide grade with CVD multi-layer coating (TiN/MT TiCN/Al ₂ O ₃). KC935M is extremely well suited for wet or dry general purpose milling. KC935M can be used effectively across a wide range of materials such as steel, stainless steel, and ductile iron. Performs best dry at surface speeds in excess of 600 sfm or 180 m/min.
KT530M 	 TiAlN cermet	Cermet with TiAlN coating. KT530M grade is a universal milling cermet grade. This cutting material is the first choice for light machining of steel and stainless steel. KT530M inserts can be used with or without coolant.

WHEELSET RECONDITIONING

AXLE AND WHEEL RECONDITIONING

NEW WHEEL MANUFACTURING

TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING

Recommended Starting Speeds (m/min and sfm)

■ 43° / 45° Approach Angle

metric (m/min)

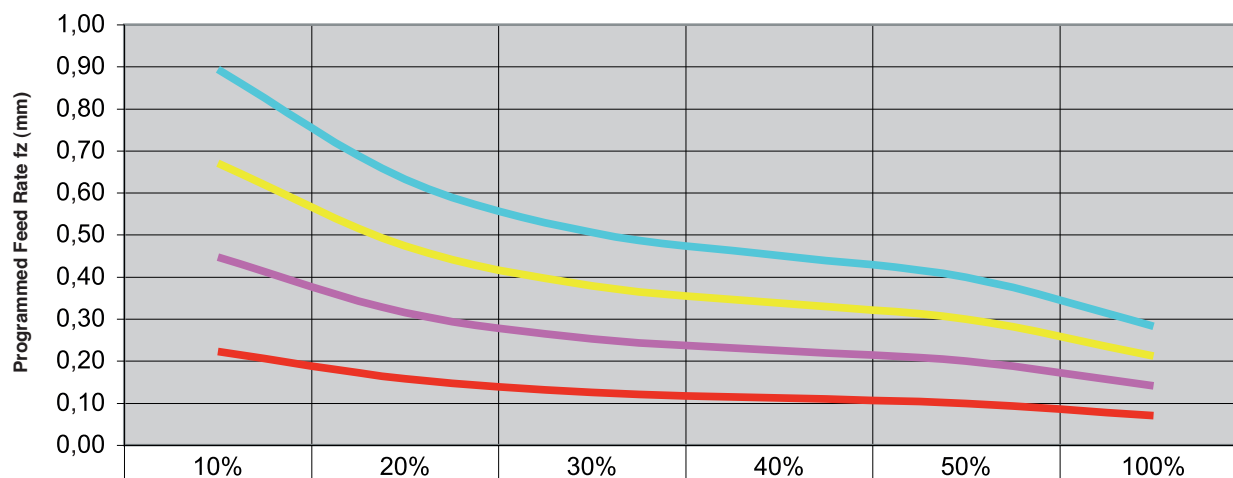
Material Group	KC522M			KC725M			KC935M			KT530M		
P1				310	270	250	470	410	380	350	300	280
P2				190	180	160	290	260	240	210	190	170
P3				180	160	140	260	240	220	190	170	160
P4	120	110	100	130	120	110	200	180	160	150	130	120
P5	155	150	135	180	160	150	265	240	215	200	175	160
P6	100	80		110	90		160	140		120	110	

Recommended Starting Feeds (mm and inch)

metric (mm)

-100% 43° Approach Angle Feed-Per-Tooth Compensation
(Radial Width-of-Cut Dependent)

— hm =0,05 — hm =0,10 — hm =0,15 — hm =0,20



— hm =0,05	0,22	0,16	0,13	0,11	0,10	0,07
— hm =0,10	0,45	0,32	0,25	0,23	0,20	0,14
— hm =0,15	0,67	0,47	0,38	0,34	0,30	0,21
— hm =0,20	0,89	0,63	0,51	0,45	0,40	0,28

Percentage of the Cutter Diameter in Cut

43° / 45° Approach Angle

inch (sfm)

Material Group	KC522M			KC725M			KC935M			KT530M		
P1				1030	900	840	1550	1360	1260	1140	1000	920
P2				640	580	520	960	860	780	700	640	560
P3				580	520	470	860	780	710	640	560	520
P4	380	360	320	430	400	360	650	600	540	480	430	400
P5	530	480	430	590	530	480	890	790	720	650	580	530
P6	320	280		360	310		540	470		400	350	

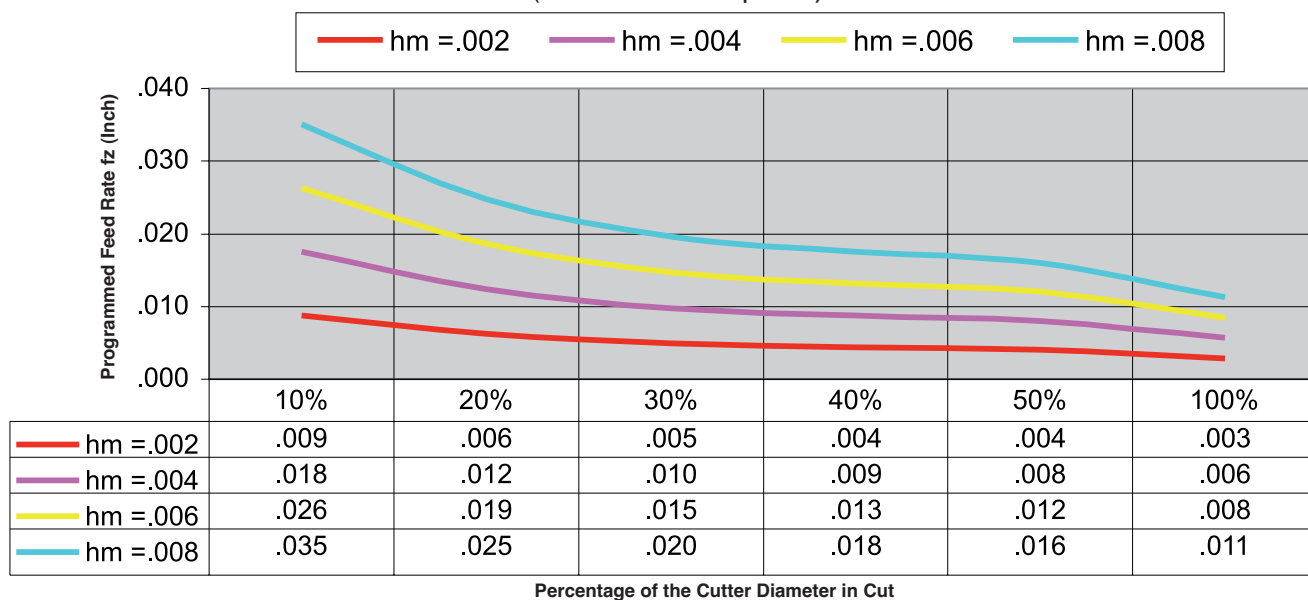
FIRST choice starting speeds are in bold type.

As the average chip thickness increases, the speed should be decreased.

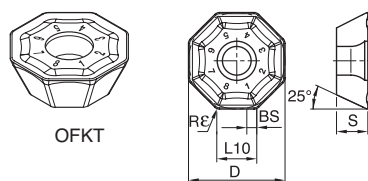
Recommended Starting Feeds (mm and inch)

inch

43° Approach Angle Feed-Per-Tooth Compensation
(Radial Width-of-Cut Dependent)

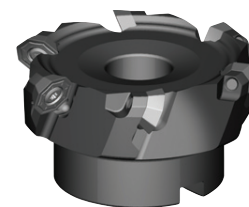
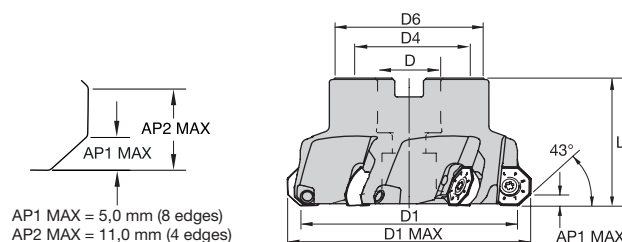


Indexable Inserts for KSOM OF.T07L6...



ISO catalog number	ANSI catalog number	cutting edges	D		S		L10		BS		Rε		hm		KC522M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
OFKT07L6AFENGB	OFKT64AFEN6GB	8	18,70	.736	6,00	.236	7,50	.295	—	—	1,20	.047	0,10	.004	●	●
OFKT07L6AFENLB	OFKT64AFEN6LB	8	18,70	.736	6,00	.236	7,50	.295	2,10	.083	1,20	.047	0,05	.002	●	●
OFKT07L6AFSNHB	OFKT64AFSN6HB	8	18,70	.736	6,00	.236	7,50	.295	—	—	1,20	.047	0,20	.008	●	●
OFPT07L6AFENGB	OFPT64AFEN6GB	8	18,70	.736	6,00	.236	7,50	.295	—	—	1,20	.047	0,10	.004	●	●
OFPT07L6AFSNHB	OFPT64AFSN6HB	8	18,70	.736	6,00	.236	7,50	.295	—	—	1,20	.047	0,20	.008	●	●

Indexable Shell Mills



- Available in diameters of 63 mm to 160 mm.
- Three geometries and six grades for use in most workpiece materials.
- Eight cutting edges.

■ Shell Mills — Medium Pitch — Metric

D1	order number	catalog number	Z	D	D1 max	D4	D6	L	Ap1 max	Max Ramp Angle	kg	Max RPM
63	3115873	KSOM63R04OF07	4	22	74	—	50	43	5,0	5.5°	0,6	10100
80	3115875	KSOM80R04OF07	4	27	91	—	60	50	5,0	4.0°	1,1	7900
100	3115877	KSOM100R05OF07	5	32	111	—	80	50	5,0	3.0°	1,7	6300
125	3115879	KSOM125R06OF07	6	40	136	—	90	63	5,0	2.3°	2,6	5000
160	3115881	KSOM160R07OF07	7	40	171	67	110	63	5,0	1.7°	4,2	3900

■ Shell Mills — Fine Pitch — Metric

D1	order number	catalog number	Z	D	D1 max	D4	D6	L	Ap1 max	Max Ramp Angle	kg	Max RPM
63	3115582	KSOM63R05OF07	5	22	74	—	50	43	5,0	5.5°	0,6	10100
80	3115874	KSOM80R06OF07	6	27	91	—	60	50	5,0	4.0°	1,1	7900
100	3115876	KSOM100R08OF07	8	32	111	—	80	50	5,0	3.0°	1,6	6300
125	3115878	KSOM125R10OF07	10	40	136	—	90	63	5,0	2.3°	2,7	5000
160	3115880	KSOM160R12OF07	12	40	171	67	110	63	5,0	1.7°	4,3	3900

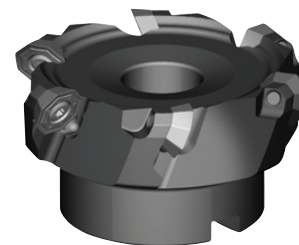
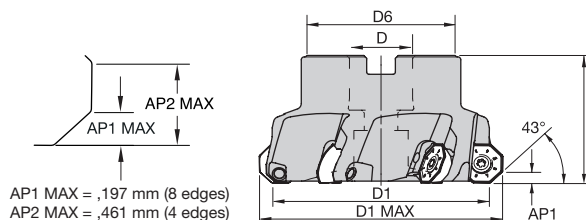
■ Spare Parts

D1	insert screw	torque (Nm)	wrench	mounting screw	coolant screw	coolant cap
63	193.409	6,00	TTP20	125.025	MS1234CG	—
80	193.409	6,00	TTP20	125.230	MS2038CG	—
100	193.409	6,00	TTP20	—	MS2189CG	—
125	193.409	6,00	TTP20	—	420.200	470.232
160	193.409	6,00	TTP20	—	420.200	470.233

Ordering Example:

1 x63A05RS45OF07A
10 xOFKT07L6AFENGB KC725M

- .197" depth-of-cut capability.
- Available in diameters of 2.5" to 6".
- Through-coolant standard.
- Three geometries and six grades for use in most workpiece materials.
- Eight cutting edges.



■ Shell Mills — Medium Pitch — Inch

D1	order number	catalog number	Z	D	D1 max	D6	L	Ap1 max	Max Ramp Angle	lbs.	Max RPM
2.500	3093645	KSOM250OF6445M3	4	.750	2.945	1.986	1.750	.197	5.5°	1.47	10100
3.000	3093646	KSOM300OF6445M4	4	1.000	3.441	2.031	1.750	.197	4.2°	1.83	7900
4.000	3093647	KSOM400OF6445M5	5	1.250	4.436	2.722	1.750	.197	2.9°	2.69	6300
5.000	3093648	KSOM500OF6445M6	6	1.500	5.433	3.652	2.380	.197	2.2°	5.54	5000
6.000	3093649	KSOM600OF6445M8	7	2.000	6.431	4.722	2.380	.197	1.8°	8.51	3900

■ Shell Mills — Fine Pitch — Inch

D1	order number	catalog number	Z	D	D1 max	D6	L	Ap1 max	Max Ramp Angle	lbs.	Max RPM
2.500	3093640	KSOM250OF6445F3	5	.750	2.945	1.986	1.750	.197	5.5°	1.3	10100
3.000	3093641	KSOM300OF6445F4	6	1.000	3.441	2.031	1.750	.197	4.2°	1.7	7900
4.000	3093642	KSOM400OF6445F5	8	1.250	4.436	2.722	1.750	.197	2.9°	2.8	6300
5.000	3093643	KSOM500OF6445F6	10	1.500	5.433	3.652	2.380	.197	2.2°	5.9	5000
6.000	3093644	KSOM600OF6445F8	12	2.000	6.431	4.722	2.380	.197	1.8°	8.7	3900

■ Spare Parts

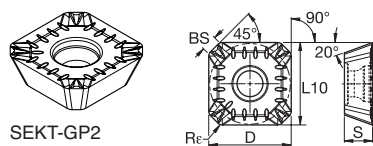
D1	insert screw	torque (in.-lbs.)	Torx plus wrench	SHCS
2.500	193.409	53	TTP20	S445
3.000	193.409	53	TTP20	S458
4.000	193.409	53	TTP20	—
5.000	193.409	53	TTP20	—
6.000	193.409	53	TTP20	—

Ordering Example:

1 x KFSR250OF6445M3
10 x OFPT64AFEN6GB KC725M

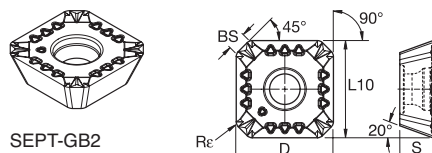
Indexable Inserts for KSSM 45° SEKT1404...

WHEELSET RECONDITIONING



ISO catalog number	ANSI catalog number	cutting edges	D		S		L10		BS		Re		hm		KC520M	KC725M	KC915M	KC935M
SEKT1404AEENGP2	SEKT443AEEN7GP2	4	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	●	●	●	●
SEKT1404AESNGP2	SEKT443AESN7GP2	4	14,00	.551	4,76	.188	14,00	.551	2,65	.104	1,00	.039	0,05	.002	●	●	●	●
			14,00	.551	4,76	.188	14,00	.551	2,65	.104	1,00	.039	0,11	.005	●	●	●	●

AXLE AND WHEEL RECONDITIONING

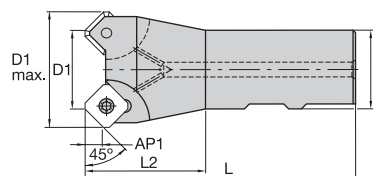


ISO catalog number	ANSI catalog number	cutting edges	D		S		L10		BS		Re		hm		KC520M	KC725M	KC915M	KT530M
SEPT1404AEENGB2	SEPT443AEEN7GB2	4	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	●	●	●	●
SEPT1404AESNGB2	SEPT443AESN7GB2	4	14,00	.551	4,76	.188	14,00	.551	2,65	.104	1,00	.039	0,06	.003	●	●	●	●
			14,00	.551	4,76	.188	14,00	.551	2,65	.104	1,00	.039	0,14	.006	●	●	●	●

NEW WHEEL MANUFACTURING

Indexable End Mills and Shell Mills — Metric

- Consumes less power.
- Rapid insert changes.
- Economical to use.
- Suitable for a wide variety of workpiece materials.



■ End Mills

D1	order number	catalog number	Z	D	D1 max	L2	L	Ap1 max	kg	Max RPM
40	1926943	40D3R049B32SSE14G	3	32	54	49	110	7	0,7	26000

■ Spare Parts

D1	insert screw	Torx wrench	torque (Nm)
40	MS2078	DT151P	4

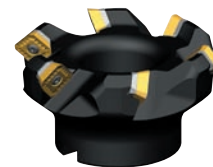
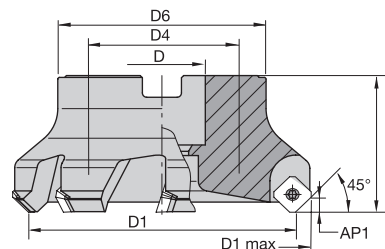
TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING

Ordering Example:

1 x 40D3R049B32SSE14G
10 x SEKT1404AEENGP2 KC725M

- Consumes less power.
- Rapid insert changes.
- Economical to use.
- Requires only one spare part.
- Suitable for a wide variety of workpiece materials.



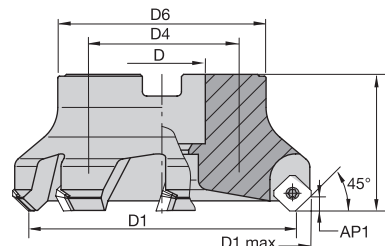
Shell Mills — Coarse Pitch

D1	order number	catalog number	Z	D	D1 max	D4	D6	L	Ap1 max	kg	Max RPM
40	1926850	40A03RS45SE14EG	3	16	54	—	44	40	6,6	0,3	26000
50	1926812	50A03RS45SE14EG	3	22	64	—	50	40	6,6	0,4	22500
63	1926899	63A04RS45SE14EG	4	22	77	—	50	40	6,6	0,5	20200
80	1926894	80A05RS45SE14EG	5	27	94	—	60	50	6,6	1,1	18000
100	1926926	100B05RS45SE14EG	5	32	114	—	80	50	6,6	1,7	16000
125	1926924	125B06RS45SE14EG	6	40	139	—	90	63	6,6	2,9	14400
160	1926909	160C07RS45SE14EG	7	40	174	67	100	63	6,6	4,1	12500

Spare Parts

D1	insert screw	Torx wrench	torque (Nm)	shim	shim screw	hex wrench	torque (Nm)	mounting screw	coolant screw	coolant cap
40	MS2078	DT15IP	4	—	—	—	—	MS2040	—	—
50	MS2078	DT15IP	4	—	—	—	—	129.025	—	—
63	MS2078	DT15IP	4	—	—	—	—	129.025	420.100	—
80	MS2078	DT15IP	4	SM455	SRS3	DH35M	4,5	MS2038	420.120	—
100	MS2078	DT15IP	4	SM455	SRS3	DH35M	4,5	—	420.160	—
125	MS2078	DT15IP	4	SM455	SRS3	DH35M	4,5	—	420.200	470.232
160	MS2078	DT15IP	4	SM455	SRS3	DH35M	4,5	—	420.200	470.233

- Economical — consumes less power.
- Rapid insert changes.
- Requires only one spare part.
- Mills all workpiece materials with a simple insert grade change.



Shell Mills — Medium Pitch

D1	order number	catalog number	Z	D	D1 max	D6	L	Ap1 max	kg	Max RPM
50	1926900	50A04RS45SE14EG	4	22	64	50	40	6,6	0,4	22500
63	1926897	63A05RS45SE14EG	5	22	77	50	40	6,6	0,6	20200
80	1926893	80A06RS45SE14EG	6	27	94	60	50	6,6	1,2	18000
100	1926925	100B07RS45SE14EG	7	32	114	80	50	6,6	1,8	16000
125	1926911	125B08RS45SE14EG	8	40	139	90	63	6,6	3,0	14400
160	1926908	160C10RS45SE14EG	10	40	174	100	63	6,6	4,3	12500

Spare Parts

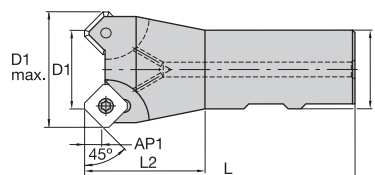
D1	insert screw	Torx wrench	torque (Nm)	shim	shim screw	hex wrench	torque (Nm)	mounting screw
50	MS2078	DT15IP	4	—	—	—	—	129.025
63	MS2078	DT15IP	4	—	—	—	—	129.025
80	MS2078	DT15IP	4	SM455	SRS3	DH35M	4,5	MS2038
100	MS2078	DT15IP	4	SM455	SRS3	DH35M	4,5	—
125	MS2078	DT15IP	4	SM455	SRS3	DH35M	4,5	—
160	MS2078	DT15IP	4	SM455	SRS3	DH35M	4,5	—

Ordering Example:

1 x 40A03RS45SE14EG
10 x SEKT1404AEENG2 KC725M

Indexable End Mills and Shell Mills — Inch

- Consumes less power.
- Rapid insert changes.
- Economical to use.
- Requires only one spare part.
- Suitable for a wide variety of workpiece materials.

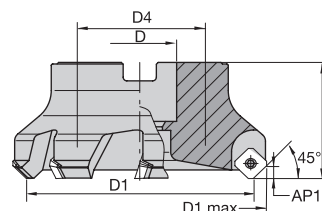


End Mills

D1	order number	catalog number	Z	D	D1 max	L2	L	Ap1 max	lbs.	Max RPM
1.260	1817940	KISR126SE44345M	2	1.25	1.812	1.575	3.855	.260	1.20	28000
1.575	1817941	KISR157SE44345M	3	1.25	2.124	1.575	3.855	.260	1.30	26000
1.969	1817942	KISR197SE44345M	4	1.25	2.515	1.575	3.855	.260	1.50	22500
2.480	1817953	KISR248SE44345M	5	1.25	3.024	1.575	3.855	.260	1.90	20200

D1	insert screw	Torx wrench	torque (in.-lbs.)
1.260	MS2078	DT15IP	35
1.575	MS2078	DT15IP	35
1.969	MS2078	DT15IP	35
2.480	MS2078	DT15IP	35

- Consumes less power.
- Rapid insert changes.
- Economical to use.
- Requires only one spare part.
- Suitable for a wide variety of workpiece materials.



Shell Mills — Coarse Pitch

D1	order number	catalog number	Z	D	D1 max	D4	L	Ap1 max	lbs.	Max RPM
1.970	1817866	KSSISR197SE44345C3	3	.750	2.515	—	1.575	.260	.87	22500
2.480	1817868	KSSISR248SE44345C4	4	1.000	3.024	—	1.575	.260	1.31	20200
3.150	1817870	KSSISR315SE44345C4	4	1.000	3.691	—	1.969	.260	2.16	18000
3.940	1817872	KSSISR394SE44345C5	5	1.250	4.477	—	1.969	.260	3.58	16000
4.920	1817934	KSSISR492SE44345C6	6	1.500	5.460	—	2.480	.260	6.50	14400
6.300	1817936	KSSISR630SE44345C6	7	1.500	6.836	—	2.480	.260	9.91	12500
7.870	1817938	KSSISR787SE44345C10	8	2.500	8.410	4.000	2.480	.260	13.24	11300

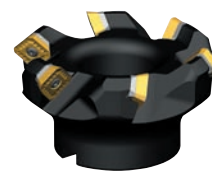
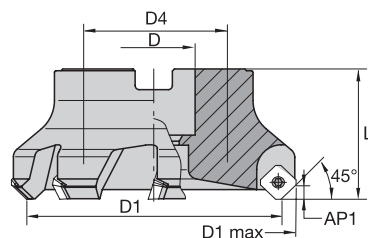
Spare Parts

D1	insert screw	Torx wrench	torque (in.-lbs.)	shim	shim screw	hex wrench	torque (in.-lbs.)	mounting screw
1.970	MS2078	DT15IP	35	—	—	—	—	S2043
2.480	MS2078	DT15IP	35	—	—	—	—	S2044
3.150	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—
3.940	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—
4.920	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—
6.300	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—
7.870	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—

Ordering Example:

1 x KISR126SE44345M
10 x SEKT443AEEN7GP2 KC725M

- Consumes less power.
- Rapid insert changes.
- Economical to use.
- Requires only one spare part.
- Suitable for a wide variety of workpiece materials.



■ Shell Mills — Medium Pitch

D1	order number	catalog number	Z	D	D1 max	D4	L	Ap1 max	lbs.	Max RPM
1.970	1817867	KSSISR197SE44345M3	4	.750	2.515	—	1.575	.260	.88	22500
2.480	1817869	KSSISR248SE44345M4	5	1.000	3.024	—	1.575	.260	1.30	20200
3.150	1817871	KSSISR315SE44345M4	6	1.000	3.691	—	1.969	.260	2.19	18000
3.940	1817933	KSSISR394SE44345M5	7	1.250	4.477	—	1.969	.260	3.60	16000
4.920	1817935	KSSISR492SE44345M6	8	1.500	5.460	—	2.480	.260	6.56	14400
6.300	1817937	KSSISR630SE44345M6	10	1.500	6.836	—	2.480	.260	10.03	12500
7.870	1817939	KSSISR787SE44345M10	12	2.500	8.410	4.000	2.480	.260	13.37	11300

■ Spare Parts

D1	insert screw	Torx wrench	torque (in.-lbs.)	shim	shim screw	hex wrench	torque (in.-lbs.)	mounting screw
1.970	MS2078	DT15IP	35	—	—	—	—	S2043
2.480	MS2078	DT15IP	35	—	—	—	—	S2044
3.150	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—
3.940	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—
4.920	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—
6.300	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—
7.870	MS2078	DT15IP	35	SM455	SRS3	DH35M	40	—

Ordering Example:

1 x KSSISR197SE44345M3

10 x SEKT443AEEN7GP2 KC725M

Recommended Starting Speeds (m/min and sfm)

90° / 0° Approach Angle

metric (m/min)

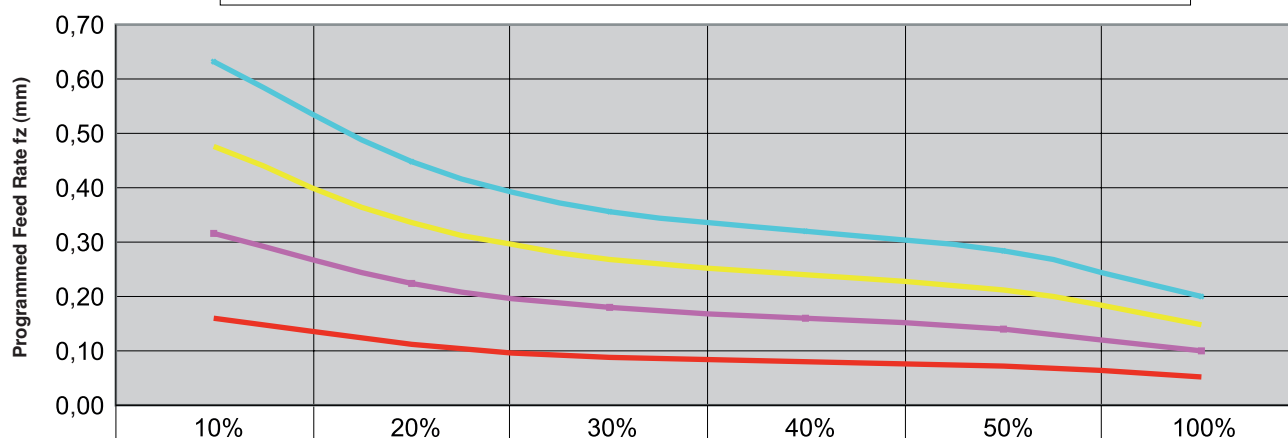
Material Group	KC525M			KC715M			KC725M			KC935M			KT530M		
P1	280	260	240	340	300	280	260	230	210	390	340	320	290	250	230
P2	260	240	225	210	190	170	160	150	130	240	220	200	180	160	140
P3	240	225	200	190	170	150	150	130	120	220	200	180	160	140	130
P4	180	160	150	140	130	120	110	100	90	160	150	140	120	110	100
P5	185	175	155	190	175	155	125	110	100	225	200	180	165	149	130
P6	160	150	140	120	100		90	80		140	120		100	90	

Recommended Starting Feeds (mm and inch)

metric (mm)

90° Approach Angle Feed-Per-Tooth Compensation
(Radial Width-of-Cut Dependent)

— hm = 0,05 — hm = 0,10 — hm = 0,15 — hm = 0,20



	10%	20%	30%	40%	50%	100%
— hm = 0,05	0,16	0,11	0,09	0,08	0,07	0,05
— hm = 0,10	0,32	0,22	0,18	0,16	0,14	0,10
— hm = 0,15	0,47	0,34	0,27	0,24	0,21	0,15
— hm = 0,20	0,63	0,45	0,36	0,32	0,28	0,20

Percentage of the Cutter Diameter in Cut

90° / 0° Approach Angle

inch (sfm)

Material Group	KC525M			KC715M			KC725M			KC935M			KT530M		
P1	915	850	785	1120	980	910	860	750	700	1290	1130	1050	950	830	770
P2	850	785	735	690	620	560	530	480	430	800	720	650	580	530	470
P3	785	735	650	620	560	510	480	430	390	720	650	590	530	470	430
P4	590	520	490	470	430	390	360	330	300	540	500	450	400	360	330
P5	600	570	500	640	570	520	490	440	400	740	660	600	540	480	440
P6	520	490	450	390	340		300	260		450	390		330	290	

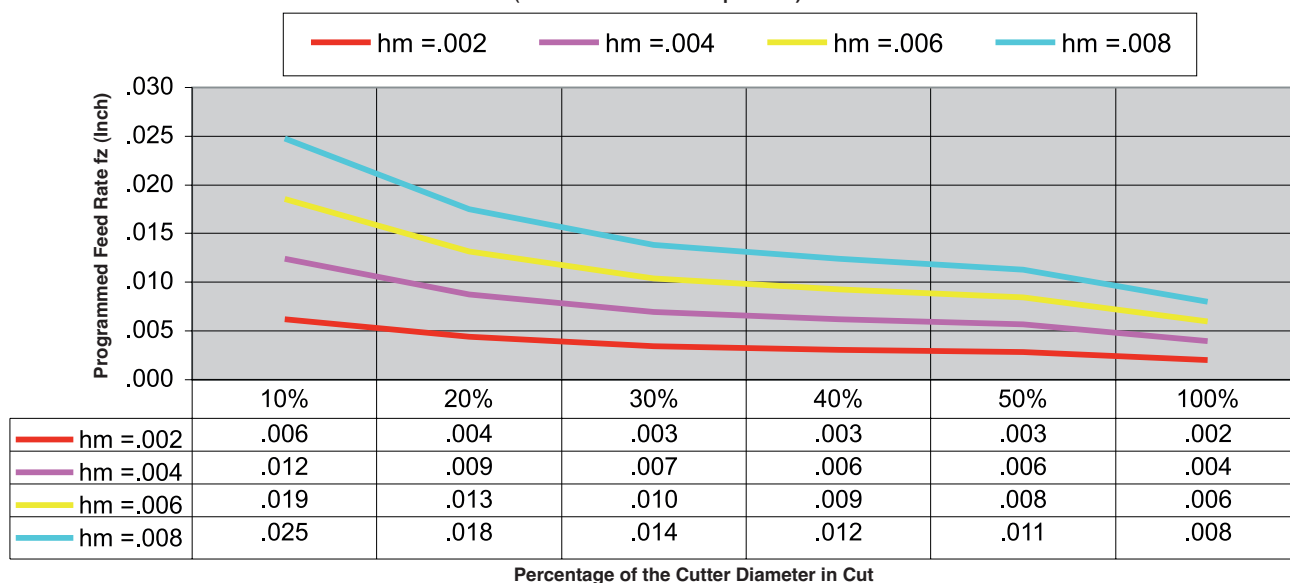
FIRST choice starting speeds are in bold type.

As the average chip thickness increases, the speed should be decreased.

Recommended Starting Feeds (mm and inch)

inch

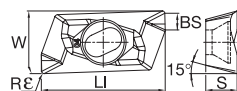
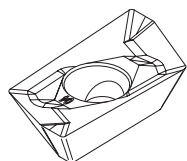
0° Approach Angle Feed-Per-Tooth Compensation
(Radial Width-of-Cut Dependent)



90° Lead Mills — Mill 1-18



Indexable Inserts for Mill 1-18 ED.T1805



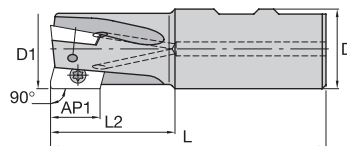
EC18-EP18

catalog number	catalog number	cutting edges	LI		W		S		BS		Re		hm		KC715M	KC725M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
EDCT180504PDERGD	EC1804E	2	21,75	.856	10,98	.432	5,50	.217	3,07	.121	0,40	.016	0,10	.004	●	●	●
EDCT180508PDERGD	EC1808E	2	21,76	.857	10,97	.432	5,50	.217	2,69	.106	0,80	.031	0,10	.004	●	●	●
EDCT180512PDERGD	EC1812E	2	21,77	.857	10,97	.432	5,50	.217	2,29	.090	1,20	.047	0,10	.004	●	●	●
EDPT180508PDERGD	EP1808E	2	21,76	.857	10,97	.432	5,50	.217	2,69	.106	0,80	.031	0,10	.004	●	●	●
EDPT180508PDERHD	EP1808EHD	2	21,77	.857	10,89	.429	5,50	.217	2,69	.106	0,80	.031	0,12	.005	●	●	●
EDPT180508PDSRGD	EP1808S	2	21,76	.857	10,90	.429	5,50	.217	2,69	.106	0,80	.031	0,13	.005	●	●	●
EDPT180512PDERGD	EP1812E	2	21,77	.857	11,00	.433	5,50	.217	2,29	.090	1,20	.047	0,10	.004	●	●	●
EDPT180512PDERHD	EP1812EHD	2	21,77	.857	10,88	.428	5,50	.217	2,29	.090	1,20	.047	0,10	.004	●	●	●
EDPT180512PDSRGD	EP1812S	2	21,77	.857	10,89	.429	5,50	.217	2,29	.090	1,20	.047	0,13	.005	●	●	●
EDPT180516PDERGD	EP1816E	2	21,78	.858	10,94	.431	5,50	.217	1,90	.075	1,59	.062	0,13	.005	●	●	●
EDPT180516PDERHD	EP1816EHD	2	21,78	.857	10,87	.428	5,50	.217	1,90	.075	1,59	.062	0,12	.005	●	●	●
EDPT180516PDSRGD	EP1816S	2	21,78	.858	10,88	.428	5,50	.217	1,90	.075	1,59	.062	0,13	.005	●	●	●
EDPT180524PDERGD	EP1824E	2	21,79	.858	10,93	.430	5,50	.217	1,11	.044	2,40	.095	0,10	.004	●	●	●
EDPT180532PDERGD	EP1832E	2	21,79	.858	10,91	.430	5,50	.217	0,32	.013	3,18	.125	0,13	.005	●	●	●
EDPT180532PDERHD	EP1832EHD	2	21,79	.858	10,83	.426	5,50	.217	0,31	.012	3,18	.125	0,12	.005	●	●	●
EDPT180532PDSRGD	EP1832S	2	21,79	.858	10,83	.426	5,50	.217	0,32	.013	3,18	.125	0,18	.007	●	●	●
EDPT180548PDERGD	EP1848E	2	20,20	.795	10,83	.426	5,50	.217	—	—	4,80	.189	0,13	.005	●	●	●
EDPT180548PDERHD	EP1848EHD	2	20,16	.794	10,75	.423	5,50	.217	—	—	4,76	.188	0,12	.005	●	●	●
EDPT180548PDSRGD	EP1848S	2	20,20	.795	10,75	.423	5,49	.216	—	—	4,80	.189	0,18	.007	●	●	●
EDPT180564PDERGD	EP1864E	2	18,79	.740	10,73	.422	5,50	.217	—	—	6,35	.250	0,13	.005	●	●	●
EDPT180564PDSRGD	EP1864S	2	18,77	.739	10,64	.419	5,50	.217	—	—	6,35	.250	0,18	.007	●	●	●

Ordering Example:

1 x 25A02R044B25SED18
10 x EDCT180504PDERGD KC725M

- 18mm (.710") depth-of-cut capabilities.
- Aggressive ramping rates.
- Generates superior surface finish.
- Mill 90° walls.
- High rpm capabilities.



End Mills — Weldon Shank

metric

D1	order number	catalog number	Z	D	L2	L	Ap1 max	Max Ramp Angle	kg	Max RPM
25	2390446	25A02R044B25SED18	2	25	44	100	18,0	17.0°	0,3	37380
32	2390448	32A03R050B32SED18	3	32	50	110	18,0	10.5°	0,5	32140
40	2417191	40A03R050B32SED18	3	32	50	110	17,8	7.5°	0,7	28220
40	2390450	40A04R050B32SED18	4	32	50	110	17,8	7.5°	0,6	28220

Spare Parts

D1	insert screw	Torx plus wrench	torque (Nm)
25 to 40	MS2126	DT15IP	4,0

inch

D1	order number	catalog number	Z	D	L2	L	Ap1 max	Max Ramp Angle	lbs.	Max RPM
.970	2267545	M1D097E1802W100L175	2	1.000	1.750	4.030	.710	17.5°	.67	37710
1.000	2267550	M1D100E1802W100L175R	2	1.000	1.688	3.968	.640	13.6°	.70	37000
1.000	2267552	M1D100E1802W100L375R	2	1.000	3.688	5.968	.640	13.6°	1.10	37000
1.000	2267547	M1D100E1802W100L375	2	1.000	3.750	6.030	.710	16.5°	1.09	37000
1.000	2267546	M1D100E1802W100L175	2	1.000	1.750	4.030	.710	16.5°	.69	37000
1.250	2267623	M1D125E1803W125L225	3	1.250	2.250	4.530	.710	10.5°	1.23	32300
1.250	2267626	M1D125E1803W125L425R	3	1.250	4.188	6.468	.650	7.5°	1.83	32300
1.250	2267625	M1D125E1803W125L425	3	1.250	4.250	6.530	.710	10.5°	1.84	32300
1.250	2267624	M1D125E1803W125L225R	3	1.250	2.188	4.468	.650	7.5°	1.22	32300

Spare Parts

D1	insert screw	Torx plus wrench
.970 to 1.250	MS2126	TTP15

"R" in catalog number designates factory relieved tool for insert radii .187" and .250".

For example: M1D100E1802W100L375R

Torque value for insert is 30 in.-lbs.

Ordering Example:

1 x 25A02R044B25SED18

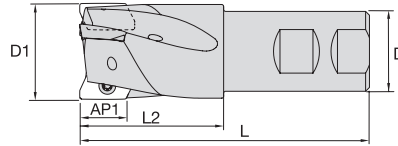
10 x EDCT180504PDERGD KC725M

90° Lead Mills — Mill 1-18



Indexable End Mills — Mill 1-18

- .710" depth-of-cut capability.
- Aggressive ramping angles.
- Generates superior surface finish.
- Mill 90° walls.
- High rpm capabilities.



End Mills — Reduced Weldon Shank

inch

D1	order number	catalog number	Z	D	L2	L	Ap1 max	Max Ramp Angle	lbs.	Max RPM
1.000	2452372	M1D100E1802W075L175	2	.750	1.750	3.780	.710	16.5°	.45	37000
1.250	2452414	M1D125E1802W100L225	2	1.000	2.250	4.530	.710	10.5°	1.00	32300
1.500	2267627	M1D150E1803W125L225	3	1.250	2.250	4.530	.710	8.0°	1.50	29020
1.500	2267631	M1D150E1803W125L425R	3	1.250	4.188	6.468	.640	5.3°	2.40	29020
1.500	2267651	M1D150E1803W125L425	3	1.250	4.250	6.530	.710	8.0°	2.40	29020
1.500	2267628	M1D150E1804W125L225R	4	1.250	2.188	4.468	.640	5.3°	1.40	29020
1.500	2267629	M1D150E1804W125L225	4	1.250	2.250	4.530	.710	8.0°	1.40	29020
2.000	2267621	M1D200E1805W125L225	5	1.250	2.250	4.530	.710	5.0°	2.00	24670

"R" in catalog number designates factory relieved tool for insert radii .187" and .250".

For example : M1D100E1802W100L375R

Torque value for insert is 30 in.-lbs.

Additional insert screws may be ordered in packages of 5 pieces by using catalog number MS2126PKG.

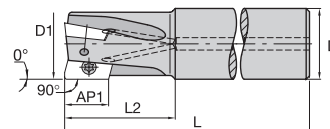
Spare Parts

D1	insert screw	Torx plus wrench
1.000 to 2.000	MS2126	TTP15

Ordering Example:

1	x	M1D100E1802W075L175
10	x	EC1804E KC725M

- 18mm (.710") depth-of-cut capability.
- Aggressive ramping rates.
- Generates superior surface finish.
- Mill 90° walls.
- High rpm capabilities.



End Mills — Cylindrical Shank — Long Length

metric			Z	D	L2	L	Ap1 max	Max Ramp Angle	kg	Max RPM
D1	order number	catalog number								
25	2613785	25A02R050A25SED18-170	2	25	50	170	18,0	17.0°	0,5	37380
32	2613786	32A03R050A32SED18-200	3	32	50	200	18,0	10.5°	1,1	32140
32	2613788	32A02R050A32SED18-200	2	32	50	200	18,0	10.5°	1,1	32140
40	2613789	40A03R050A32SED18-200	3	32	50	200	17,8	7.5°	1,2	28220
40	2613787	40A04R050A32SED18-200	4	32	50	200	17,8	7.5°	1,2	28220

Spare Parts

D1	insert screw	Torx plus driver	torque (Nm)
25 to 40	MS2126	DT15IP	4,0

inch			Z	D	L2	L	Ap1 max	Max Ramp Angle	lbs.	Max RPM
D1	order number	catalog number								
1.000	2267534	M1D100E1802C100L800	2	1.000	3.750	8.000	.710	16.5°	1.49	37000
1.000	2267535	M1D100E1802C100L1000	2	1.000	3.750	10.000	.710	16.5°	1.91	37000
1.250	2267536	M1D125E1802C125L800	2	1.250	4.250	8.000	.710	10.5°	2.40	32300
1.250	2267537	M1D125E1802C125L1000	2	1.250	4.250	10.000	.710	10.5°	3.06	32300
1.500	2267538	M1D150E1803C125L800	3	1.250	4.250	8.000	.710	8.0°	3.00	29020
1.500	2267539	M1D150E1803C125L1000	3	1.250	4.250	10.000	.710	8.0°	3.70	29020

Spare Parts

D1	insert screw	Torx plus wrench
1.000 to 1.500	MS2126	TTP15

Cylindrical shank with no through coolant.

Torque value for insert is 30 in.-lbs.

Additional insert screws may be ordered in packages of 5 pieces from catalog number MS2126PKG.

Ordering Example:

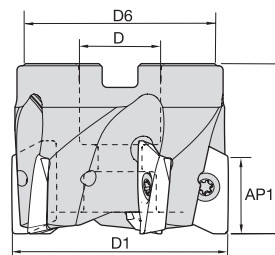
1 x 25A02R050A25SED18-170
10 x EDCT180504PDERGD KC725M

90° Lead Mills — Mill 1-18



Indexable Shell Mills — Mill 1-18

- 18mm depth-of-cut capabilities.
- Aggressive ramping rates.
- Generates superior surface finish.
- Mill 90° walls.
- High rpm capabilities.



Shell Mills — Coarse Pitch

metric

D1	order number	catalog number	Z	D	L	D6	Ap1 max	Max Ramp Angle	kg	Max RPM
50	2417185	50A04RS90ED18D	4	22	40	45	17,7	5.0°	0,28	24890
63	2417186	63A05RS90ED18D	5	22	40	50	17,6	4.0°	0,51	21910
80	2417187	80A06RS90ED18D	6	27	50	60	17,5	3.0°	1,03	19270
100	2417188	100A07RS90ED18D	7	32	50	80	17,5	2.0°	1,77	17120
125	2417189	125B08RS90ED18D	8	40	63	90	17,5	1.5°	3,08	15230
160	2417190	160C10RS90ED18D	10	40	63	100	17,5	1.2°	4,15	13400

Spare Parts

D1	insert screw	Torx plus wrench	torque (Nm)	mounting screw	coolant screw	coolant cap
50	MS2126	DT15IP	4,0	129.025	MS2072CG	—
63	MS2126	DT15IP	4,0	129.025	MS2072CG	—
80	MS2126	DT15IP	4,0	MS2038	MS2038CG	—
100	MS2126	DT15IP	4,0	MS1254	MS1254CG	—
125	MS2126	DT15IP	4,0	—	420.200	470.232
160	MS2126	DT15IP	4,0	—	420.200	470.233

metric

D1	order number	catalog number	Z	D	L	D6	Ap1 max	Max Ramp Angle	kg	Max RPM
50	2417183	50A05RS90ED18D	5	22	40	45	17,7	5.0°	0,3	24890
63	2390483	63A06RS90ED18D	6	22	40	50	17,6	4.0°	0,5	21910
80	2417184	80A07RS90ED18D	7	27	50	60	17,5	3.0°	1,1	19270
100	2390485	100A08RS90ED18D	8	32	50	80	18,0	2.0°	1,8	17120
125	2390486	125B09RS90ED18D	9	40	63	90	17,5	1.5°	3,2	15230
160	2390487	160C12RS90ED18D	12	40	63	100	17,5	1.2°	4,4	13400

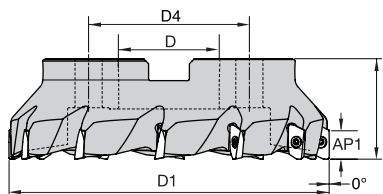
Spare Parts

D1	insert screw	Torx plus wrench	torque (Nm)	mounting screw	coolant cap
50	MS2126	TTP15	3,4	129.025	—
63	MS2126	TTP15	3,4	129.025	—
80	MS2126	TTP15	3,4	MS2038	—
100	MS2126	TTP15	3,4	MS1254	—
125	MS2126	TTP15	3,4	420.200	470.232
160	MS2126	TTP15	3,4	420.200	470.233

Ordering Example:

1 x 50A04RS90ED18D
10 x EDCT180504PDERGD KC725M

- .710" depth-of-cut capability.
- Aggressive ramping angles.
- Generates superior surface finish.
- Mill 90° walls.
- High rpm capability.



Shell Mills

inch										
D1	order number	catalog number	Z	D	D4	L	Ap1 max	Max Ramp Angle	lbs.	Max RPM
2.000	2267542	M1D200E1803S075L157	3	.750	—	1.575	.710	5.0°	.80	24670
2.000	2267541	M1D200E1803SS75L157	3	.750	—	1.575	.710	5.0°	.80	24670
2.000	2267650	M1D200E1805S075L157	5	.750	—	1.575	.710	5.0°	.70	24670
2.000	2267540	M1D200E1805SS75L157*	5	.750	—	1.575	.710	5.0°	.80	24670
2.500	2267614	M1D250E1804S075L157	4	.750	—	1.575	.710	4.0°	1.20	21820
2.500	2267632	M1D250E1806S075L157	6	.750	—	1.575	.710	4.0°	1.00	21820
3.000	2267616	M1D300E1805S100L175*	5	1.000	—	1.750	.710	3.0°	1.70	19780
3.000	2267615	M1D300E1807SS100L175	7	1.000	—	1.750	.710	3.0°	1.90	19780
3.000	2267643	M1D300E1807S100L175	7	1.000	—	1.750	.710	3.0°	1.60	19780
4.000	2267617	M1D400E1806S150L200	6	1.500	—	2.000	.710	2.0°	3.70	16970
4.000	2267644	M1D400E1808S150L200	8	1.500	—	2.000	.710	2.0°	3.60	16970
5.000	2267645	M1D500E1809S150L200	9	1.500	—	2.000	.710	1.5°	5.60	15100
6.000	2267646	M1D600E1808S150L200	8	1.500	—	2.000	.710	1.2°	7.90	13740
6.000	2267618	M1D600E1808S200L200	8	2.000	—	2.000	.710	1.2°	8.60	13740
6.000	2267619	M1D600E1810S200L200	10	2.000	—	2.000	.710	1.2°	8.50	13740
8.000	2267620	M1D800E1812S250L250	12	2.500	4.000	2.500	.710	1.0°	16.70	11850

*"Speed screw" differential lock-up system is identified by the 'SS' in the catalog number. For example: M1D200E1803SS075L157.

Torque value for insert is 30 in.-lbs.

Spare Parts

D1	insert screw	Torx plus wrench	coolant speed-screw	coolant lock screw
2.000	MS2126	TTP15	—	—
2.000	MS2126	TTP15	KLSS0712C	—
2.000	MS2126	TTP15	—	—
2.000	MS2126	TTP15	KLSS0712C	—
2.500	MS2126	TTP15	—	—
2.500	MS2126	TTP15	—	—
3.000	MS2126	TTP15	—	—
3.000	MS2126	TTP15	—	—
3.000	MS2126	TTP15	—	—
4.000	MS2126	TTP15	—	KLS15C
4.000	MS2126	TTP15	—	KLS15C
5.000	MS2126	TTP15	—	KLS15C
6.000	MS2126	TTP15	—	KLS15C
6.000	MS2126	TTP15	—	—
6.000	MS2126	TTP15	—	—
8.000	MS2126	TTP15	—	—

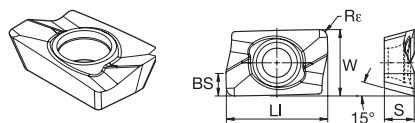
Additional insert screws may be ordered in packages of 5 pieces from catalog number MS2126PKG.

Ordering Example:

1 x M1D200E1803S075L157
10 x EC1804E KC725M

Indexable Inserts for NGE-B

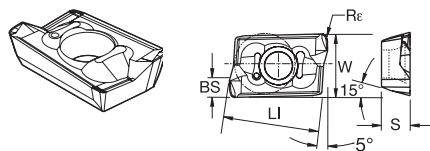
WHEELSET RECONDITIONING



■ ADCT-LD

ISO catalog number	ANSI catalog number	cutting edges	LI		W		S		BS		Re		hm		KC410M	KC525M	KC725M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
ADCT1545PDERLD	ADCT2328PDER5LD	2	15,34	.604	10,00	.394	4,50	.177	3,45	.136	0,8	.031	0,10	.004		●	●	
ADCT1545PDFRLDJ	ADCT2328PDFR5LDJ	2	15,34	.604	10,00	.394	4,50	.177	3,45	.136	0,8	.031	0,05	.002	●			
ADCT1545PDSRLD	ADCT2328PDSR5LD	2	15,34	.604	10,00	.394	4,50	.177	3,45	.136	0,8	.031	0,10	.004		●	●	
ADCT154512PDERLD	ADCT23283PDER5LD	2	15,34	.604	10,00	.394	4,50	.177	3,44	.135	1,2	.047	0,10	.004			●	
ADCT154524PDERLD	ADCT23286PDER5LD	2	15,35	.604	10,00	.394	4,50	.177	3,41	.134	2,4	.094	0,10	.004			●	
ADCT154532PDERLD	ADCT23288PDER5LD	2	15,35	.604	10,00	.394	4,50	.177	3,41	.134	3,2	.125	0,10	.004			●	
ADCT154532PDSRLD	ADCT23288PDSR5LD	2	15,35	.604	10,00	.394	4,50	.177	3,41	.134	3,2	.125	0,10	.004			●	

AXLE AND WHEEL RECONDITIONING



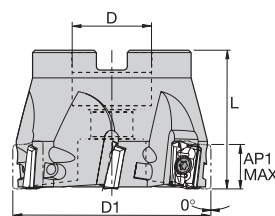
■ ADKT-GB

ISO catalog number	ANSI catalog number	cutting edges	LI		W		S		BS		Re		hm		KC520M	KC525M	KC725M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
ADKT1545PDERGB	ADKT2328PDER5GB	2	15,00	.591	10,00	.394	4,50	.177	2,64	.104	0,8	.031	0,10	.004	●	●	●	●
ADKT1545PDSRGB	ADKT2328PDSR5GB	2	15,00	.591	10,00	.394	4,50	.177	2,63	.103	0,8	.031	0,13	.005	●	●	●	●
ADKT154512PDERGB	ADKT23283PDER5GB	2	15,00	.591	10,00	.394	4,50	.177	2,64	.104	1,2	.047	0,10	.004	●	●		

NEW WHEEL MANUFACTURING

End Mills and Shell Mills for NGE-B

TRACK / SWITCH MILLING



■ Shell Mills — Insert ADKT23...

D1	order number	catalog number	Z	D	L	Ap1 max	lbs.	Max RPM
2.000	1592607	KSSR200AD23203	5	.750	1.750	.500	.70	19300
2.500	1592608	KSSR250AD23204	6	1.000	1.750	.500	1.23	17250
3.000	1592609	KSSR300AD23204	7	1.000	1.750	.500	1.80	15750
4.000	1592611	KSSR400AD23206	8	1.500	2.000	.500	3.40	13650

Torque value for insert is 35 in.-lbs.

■ Spare Parts

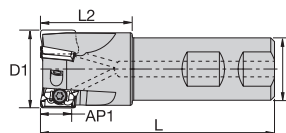
D1	insert screw	Torx driver	SHCS
2.000	MS1184	DT15	S445
2.500	MS1184	DT15	S458
3.000	MS1184	DT15	—
4.000	MS1184	DT15	—

Ordering Example:

1 x KSSR200AD23203

10 x ADCT2328PDER KC725M

TRACK / SWITCH DRILLING



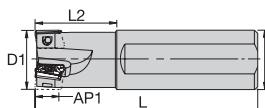
End Mills — Weldon Shank with Through Coolant

D1	order number	catalog number	Z	D	L2	L	Ap1 max	Max Ramp Angle	lbs.	Max RPM	insert screw	Torx driver
.750	1894634	KISR075AD23203	1	.750	1.340	3.380	.500	7.5°	.30	31500	MS1168	DT15
1.000	1894635	KISR100AD23204	2	1.000	1.220	3.500	.500	4.0°	.60	27250	MS1184	DT15
1.250	1894636	KISR125AD23204	3	1.000	1.470	3.750	.500	3.0°	.80	24400	MS1184	DT15
1.500	1894637	KISR150AD23205	4	1.250	1.750	4.030	.500	2.0°	1.00	22250	MS1184	DT15

Torque value for insert is 35 in.-lbs.

Spare Parts

D1	insert screw	Torx driver
.750	MS1168	DT15
1.000	MS1184	DT15
1.250	MS1184	DT15
1.500	MS1184	DT15



End Mills — Extended Length

D1	order number	catalog number	Z	D	L2	L	Ap1 max	Max Ramp Angle	lbs.	Max RPM
.750	1592598	KIEX6R075AD23203	1	.750	1.570	6.000	.500	7.5°	.68	31500
1.000	1592604	KIEX78R100AD23204	2	1.000	1.720	7.850	.500	4.0°	1.61	27250
1.250	1592605	KIEX10R125AD23205	3	1.250	1.720	10.000	.500	3.0°	3.30	24400
1.500	1592606	KIEX10R150AD23206	4	1.500	1.720	10.000	.500	2.0°	4.60	22250

Torque value for insert is 35 in.-lbs.

Spare Parts

D1	insert screw	Torx driver
.750	MS1168	DT15
1.000	MS1184	DT15
1.250	MS1184	DT15
1.500	MS1184	DT15

Ordering Example:

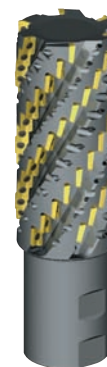
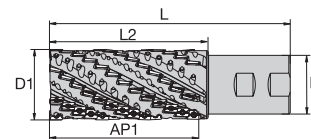
1 x KISR075AD23203
10 x ADCT2328PDER5LD KC725M

90° Lead Mills — NGE-B



Indexable End Mills — HARVI®

- Differential rake for increased stability and reduced vibration.
- Helical axial rake variable indexable (HARVI®) end mills.



■ End Mills – Weldon Shank

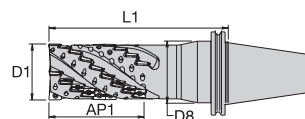
D1	order number	catalog number	Z	Z U	D	L2	L	Ap1 max	lbs.	Max RPM
2.000	1508683	K2004R612AD232808	50	4	2.000	6.450	9.700	6.120	6.30	7100

Torque value for insert is 35 in.-lbs.

■ Spare Parts

D1	insert screw	Torx driver
2.000	MS1273	DT15

- Differential rake for increased stability and reduced vibration.
- Helical axial rake variable indexable (HARVI®) end mills.



■ End Mills — CV50 Shank

D1	order number	catalog number	Z	Z U	CSMS system size	D8	L1	Ap1 max	lbs.	Max RPM
2.000	1318436	K2004R425CV50AD2328	36	4	CV50	2.750	8.000	4.250	13.90	7100
2.000	1515478	K2004R612CV50AD2328	50	4	CV50	2.750	8.100	6.120	10.60	7100

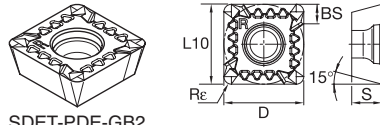
Torque value for insert is 35 in.-lbs.

■ Spare Parts

D1	insert screw	Torx driver
2.000	MS1273	DT15
2.000	MS1273	DT15

Ordering Example:

1 x K1503R337AD232808
10 x ADCT2328PDER5LD KC725M



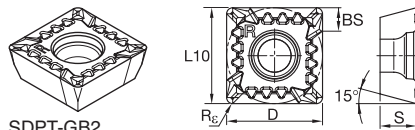
SDET-PDE-GB2

■ GB2 (Ground) 5° Rake Face

ISO catalog number	ANSI catalog number	cutting edges	D		S		L10		BS		Rε		hm		KC520M	KC725M	KC915M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
SDET1204PDERGB2	SDET43PDER8GB2	4	12,70	.500	4,76	.188	12,70	.500	3,32	.130	0,8	.031	0,08	.00	●	●	●	●
SDET1204PDSRGB2	SDET43PDSR8GB2	4	12,70	.500	4,76	.188	12,70	.500	3,32	.130	0,8	.031	0,10	.00	●	●	●	●
SDET120412PDERGB2	SDET433PDER8GB2	4	12,70	.500	4,76	.188	12,70	.500	3,05	.120	1,2	.047	0,15	.01	●	●	●	●

WHEELSET RECONDITIONING

Indexable Inserts for KSSM SD..1204...



SDPT-GB2

■ GB2 (Precision Sintered) 5° Rake Face

ISO catalog number	ANSI catalog number	cutting edges	D		S		L10		BS		Rε		hm		KC725M	KC915M	KC935M	KT530M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
SDPT1204PDERGB2	SDPT43PDER8GB2	4	12,70	.500	4,76	.188	12,70	.500	3,32	.130	0,8	.031	0,10	.003	●	●	●	●
SDPT1204PDSRGB2	SDPT43PDSR8GB2	4	12,70	.500	4,76	.188	12,70	.500	3,32	.130	0,8	.031	0,15	.005	●	●	●	●

AXLE AND WHEEL RECONDITIONING

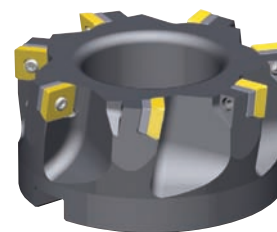
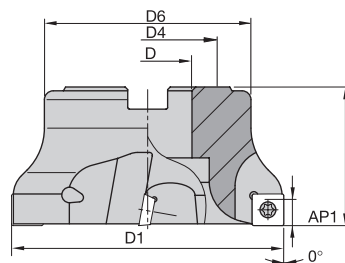
NEW WHEEL MANUFACTURING

TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING

Indexable Shell Mills

- Thicker inserts for heavy-duty applications.
- Excellent for square shoulder milling in a wide range of applications.
- Various insert nose radii available for workpiece requirements.



Shell Mills — Coarse Pitch

D1	order number	catalog number	Z	D	D4	D6	L	Ap1 max	kg	Max RPM
50	1926939	50A03RS90SD12DG	3	22	—	45	40	9,2	0,3	20600
63	1926936	63A04RS90SD12DG	4	22	—	50	40	9,2	0,5	18300
80	1926901	80A05RS90SD12DG	5	27	—	60	50	9,2	1,0	16300
100	1926841	100B06RS90SD12DG	6	32	—	80	50	9,2	1,6	14600
125	1926839	125B07RS90SD12DG	7	40	—	90	63	9,2	2,8	13000
160	1926836	160C08RS90SD12DG	8	40	67	100	63	9,2	4,3	11500
200	1926942	200C11RS90SD12DG	11	60	102	130	63	9,2	6,8	10300

Spare Parts

D1	insert screw	Torx plus driver	torque (Nm)	shim	shim screw	hex driver	mounting screw
50	MS2078	DT15IP	4,0	—	—	—	MS1234
63	MS2078	DT15IP	4,0	—	—	—	129.025
80	MS2078	DT15IP	4,0	SM449	SRS3	DH35M	MS2038
100	MS2078	DT15IP	4,0	SM449	SRS3	DH35M	—
125	MS2078	DT15IP	4,0	SM449	SRS3	DH35M	—
160	MS2078	DT15IP	4,0	SM449	SRS3	DH35M	—
200	MS2078	DT15IP	—	SM449	SRS3	DH35M	—

Shell Mills — Fine Pitch

D1	order number	catalog number	Z	D	D4	D6	L	Ap1 max	kg	Max RPM
50	1926938	50A04RS90SD12DG	4	22	—	46	40	9,2	0,3	20600
63	1926933	63A05RS90SD12DG	5	22	—	50	40	9,2	0,5	18300
80	1926898	80A06RS90SD12DG	6	27	—	60	50	9,2	1,0	16300
100	1926840	100B08RS90SD12DG	8	32	—	80	50	9,2	1,7	14600
125	1926837	125B10RS90SD12DG	10	40	—	90	63	9,2	2,9	13000
160	1926983	160C12RS90SD12DG	12	40	67	100	63	9,2	4,4	11500
200	1926941	200C14RS90SD12DG	14	60	102	130	63	9,2	6,8	10300

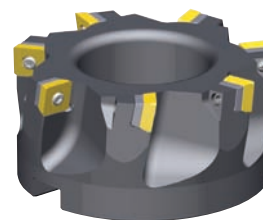
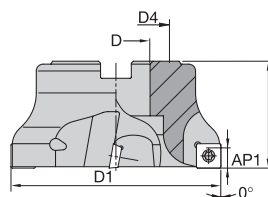
Spare Parts

D1	insert screw	Torx plus driver	torque (Nm)	shim	shim screw	hex driver	mounting screw
50	MS2078	DT15IP	4,0	—	—	—	MS1234
63	MS2078	DT15IP	4,0	—	—	—	129.025
80	MS2078	DT15IP	4,0	SM449	SRS3	DH35M	MS2038
100	MS2078	DT15IP	4,0	SM449	SRS3	DH35M	—
125	MS2078	DT15IP	4,0	SM449	SRS3	DH35M	—
160	MS2078	DT15IP	4,0	SM449	SRS3	DH35M	—
200	MS2078	DT15IP	4,0	SM449	SRS3	DH35M	—

Ordering Example:

1 x 50A04RS90SD12DG
10 x SDET1204PDERGB2 KC725M

- Four cutting edges.
- Excellent surface finishes.
- Low power requirements.



Shell Mills — Coarse Pitch

D1	order number	catalog number	Z	D	D4	L	Ap1 max	lbs.	Max RPM
2.000	1024970	KSSISR200SD430C3	3	.750	—	1.750	.361	.79	20450
3.000	1024930	KSSISR300SD430C4	4	1.000	—	1.750	.361	1.42	16700
4.000	1025025	KSSISR400SD430C5	5	1.250	—	2.000	.361	3.05	14460
4.000	1025027	KSSISR400SD430C6	5	1.500	—	2.000	.361	3.58	14460
5.000	1024933	KSSISR500SD430C6	6	1.500	—	2.380	.361	5.82	12940
6.000	1024966	KSSISR600SD430C6	8	1.500	—	2.380	.361	8.52	11800
6.000	1025071	KSSISR600SD430C8	8	2.000	—	2.380	.361	7.37	11800
8.000	1025102	KSSISR800SD430C10	10	2.500	4.000	2.380	.361	15.40	10230

NOTE: 2" cutter does not have shims.

Torque value for MS2078 is 35 in.-lbs.

Torque value for SRS3 is 40 in.-lbs.

Spare Parts

D1	insert screw	Torx plus driver	shim	shim screw	hex driver	socket-head cap screw
2.000	MS2078	DT15IP	—	—	—	S445
3.000-8.000	MS2078	DT15IP	SM449	SRS3	DH35M	—

Shell Mills — Medium Pitch

D1	order number	catalog number	Z	D	D4	L	Ap1 max	lbs.	Max RPM
2.000	1024972	KSSISR200SD430M3	4	.750	—	1.750	.361	.75	20450
2.500	1024998	KSSISR250SD430M4	5	1.000	—	1.750	.361	1.20	18290
3.000	1024931	KSSISR300SD430M4	6	1.000	—	1.750	.361	1.38	16700
4.000	1025029	KSSISR400SD430M5	7	1.250	—	2.000	.361	3.03	14460
4.000	1025031	KSSISR400SD430M6	7	1.500	—	2.000	.361	3.57	14460
5.000	1024964	KSSISR500SD430M6	8	1.500	—	2.380	.361	5.91	12940
6.000	1024967	KSSISR600SD430M6	10	1.500	—	2.380	.361	8.58	11800
6.000	1025094	KSSISR600SD430M8	10	2.000	—	2.380	.361	7.44	11800
8.000	1025134	KSSISR800SD430M10	12	2.500	4.000	2.380	.361	15.40	10230
10.000	1025140	KSSISR1000SD430M10	16	2.500	4.000	2.380	.361	25.90	9150

Spare Parts

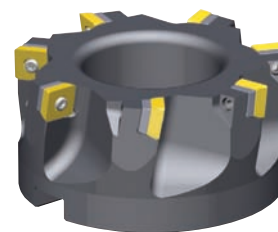
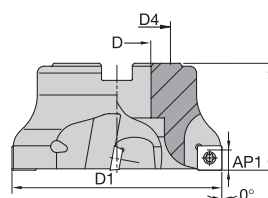
D1	insert screw	Torx plus driver
2.000-10.000	MS2078	DT15IP

Ordering Example:

1 x KSSISR200SD430F3

10 x SDCT431PDER8LD2 KC725M

Indexable Shell Mills



■ Shell Mills — Fine Pitch

D1	order number	catalog number	Z	D	D4	L	Ap1 max	lbs.	Max RPM
2.000	1024994	KSSISR200SD430F3	5	.750	—	1.750	.361	.77	20450
2.500	1025000	KSSISR250SD430F4	6	1.000	—	1.750	.361	1.23	18290
3.000	1024932	KSSISR300SD430F4	7	1.000	—	1.750	.361	1.38	16700
4.000	1025033	KSSISR400SD430F5	8	1.250	—	2.000	.361	3.01	14460
4.000	1025065	KSSISR400SD430F6	8	1.500	—	2.000	.361	3.62	14460
5.000	1024965	KSSISR500SD430F6	10	1.500	—	2.380	.361	5.96	12940
6.000	1024968	KSSISR600SD430F6	12	1.500	—	2.380	.361	8.60	11800
6.000	1025097	KSSISR600SD430F8	12	2.000	—	2.380	.361	7.47	11800
8.000	1025136	KSSISR800SD430F10	14	2.500	4.000	2.380	.361	15.30	10230
10.000	1025142	KSSISR1000SD430F10	18	2.500	4.000	2.380	.361	24.40	9150

NOTE: 2", 2.50", and 3" fine-pitch cutters do not have shims.

Torque value for MS2078 is 35 in.-lbs.

Torque value for SRS3 is 40 in.-lbs.

■ Spare Parts

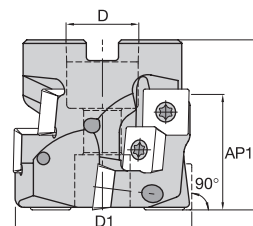
D1	insert screw	Torx plus driver	hex driver	shim	shim screw	SHCS
2.000	MS2078	DT15IP	—	—	—	S445
2.500	MS2078	DT15IP	—	—	—	S458
3.000	MS2078	DT15IP	—	—	—	—
4.000	MS2078	DT15IP	DH35M	SM449	SRS3	—
4.000	MS2078	DT15IP	DH35M	SM449	SRS3	—
5.000	MS2078	DT15IP	DH35M	SM449	SRS3	—
6.000	MS2078	DT15IP	DH35M	SM449	SRS3	—
6.000	MS2078	DT15IP	DH35M	SM449	SRS3	—
8.000	MS2078	DT15IP	DH35M	SM449	SRS3	—
10.000	MS2078	DT15IP	DH35M	SM449	SRS3	—

Ordering Example:

1 x KSSISR200SD430F3

10 x SDCT431PDER8LD2 KC725M

- Four cutting edges.
- Excellent surface finishes.
- Low power requirements.



Maximum nose radii of lead insert is .094" for 2"-diameter cutters and .125" for 2.50"-diameter cutters and larger. All subsequent inserts up the flutes should have a maximum nose radius of .031" to avoid lap lines.

Shell Mills

metric									
D1	order number	catalog number	Z	Z U	D	L	Ap1 max	kg	Max RPM
50,000	2400693	50A3RS90SD12L32	9	3	22,000	54,991	32,360	0.40	16400
63,000	2400694	63A3RS90SD12L50	15	3	27,000	70,002	51,156	0.90	14600
80,000	2400695	80A4RS90SD12L61	24	4	32,000	80,010	61,646	1.80	12950

Spare Parts

D1	insert screw	Torx wrench	torque (Nm)	coolant screw
50	MS1273	TT15	4,000	MS1235CG
63	MS1273	TT15	4,000	MS1238CG
80	MS1273	TT15	4,000	MS1241CG

inch									
D1	order number	catalog number	Z	Z U	D	L	Ap1 max	lbs.	Max RPM
2.000	2400680	KSSP200R3SD43L168	12	3	.750	2.250	1.691	1.00	16300
2.500	2400681	KSSP250R3SD43L200	15	3	1.000	2.750	2.005	2.00	14550
3.000	2400682	KSSP300R4SD43L240	24	4	1.250	3.250	2.427	3.80	13300

Torque value for MS1273 is 35 in.-lbs.

ZU = Number of effective flutes.

Spare Parts

D1	insert screw	Torx wrench	coolant screw
2.000	MS1273	TT15	S447CG
2.500	MS1273	TT15	S462CG
3.000	MS1273	TT15	S2149CG

Ordering Example:

1 x KSSP200R3SD43L125
10 x SDCT431PDER8LD2 KC725M

Recommended Starting Speeds (m/min and sfm)

■ 90° / 0° Approach Angle

metric (m/min)

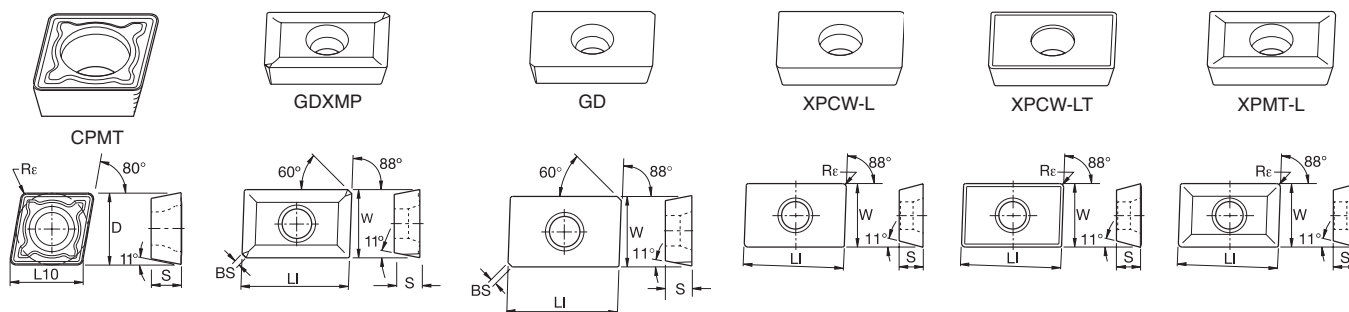
Material Group	KC725M			KC935M		
P1	260	230	210	390	340	320
P2	160	150	130	240	220	200
P3	150	130	120	220	200	180
P4	110	100	90	160	150	140
P5	125	110	100	225	200	180
P6	90	80		140	120	

inch (sfm)

Material Group	KC725M			KC935M		
P1	600	530	490	900	790	740
P2	370	340	300	560	500	460
P3	340	300	270	500	460	410
P4	250	230	210	380	350	320
P5	340	310	280	520	460	420
P6	210	180		320	270	

FIRST choice starting speeds are in bold type.

As the average chip thickness increases, the speed should be decreased.



■ CPMT

ISO catalog number	ANSI catalog number	cutting edges	D		S		L10		BS		Re		hm		KC520M	KC525M	KC725M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
CPMT09T308MF	CPMT3252MF	2	9,53	.375	3,97	.156	9,67	.381	—	—	0,8	.031	0,06	.003		●	●	●

■ GDXMP

ISO catalog number	ANSI catalog number	cutting edges	LI		W		S		BS		hm		KC520M	KC525M	KC725M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
GDXMP2004L	GDXMP2004L	2	20,40	.803	12,70	.500	4,77	.187	1,08	.042	0,1	.002	●	●	●	●
GDXMP2004R	GDXMP2004R	2	20,40	.803	12,70	.500	4,77	.187	1,08	.042	0,1	.002	●	●	●	●

■ GD

ISO catalog number	ANSI catalog number	cutting edges	LI		W		S		BS		hm		KC520M	KC525M	KC725M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
GD2004L	GD2004L	2	20,40	.803	12,70	.500	4,76	.188	1,06	.042	0,1	.003		●	●	●
GD2004R	GD2004R	2	20,40	.803	12,70	.500	4,76	.188	1,06	.042	0,1	.003		●	●	●

■ XPCW-L

ISO catalog number	ANSI catalog number	cutting edges	LI		W		S		BS		hm		KC520M	KC525M	KC725M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
XPCW150412L	XPCW2533L	2	15,88	.625	12,70	.500	4,76	.188	—	—	0,06	.003		●	●	●

■ XPCW-LT

ISO catalog number	ANSI catalog number	cutting edges	LI		W		S		BS		hm		KC520M	KC525M	KC725M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
XPCW150412L	XPCW2533L	2	15,88	.625	12,70	.500	4,76	.188	—	—	0,06	.003		●	●	●
XPCW150412LT	XPCW2533LT	2	15,88	.625	12,70	.500	4,76	.188	—	—	0,09	.004		●	●	●

■ XPMT

ISO catalog number	ANSI catalog number	cutting edges	LI		W		S		BS		hm		KC520M	KC525M	KC725M	KC935M
			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
XPMT150412L	XPMT2533L	2	16,24	.639	12,70	.500	4,76	.188	—	—	0,08	.003	●	●	●	●
XPMT150412R	XPMT2533R	2	16,24	.639	12,70	.500	4,76	.188	—	—	0,08	.003	●	●	●	●

Ordering Example:

1 x KISR150XP253L905

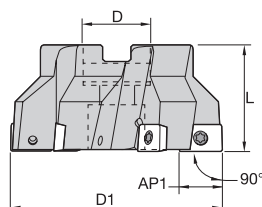
10 x XPMT2533L KC725M

90° Lead Mills — Z-Axis



Shell Mills and End Mills — Screw-On Inserts

- Positive geometry delivers free cutting on a variety of workpiece materials.
- Generous chip gullets enable higher feed rates.
- Parallelogram-style inserts with 88° corners provide strong cutting edges for maximum depth of cut.



KSSZR — 0/90° Shell Mills

D1	order number	catalog number	Z	D	L	Ap1 max	lbs.	Max RPM
2.5000	1024827	KSSZR250XP253L903	5	.750	1.570	.580	1.00	5980
3.0000	1024828	KSSZR300XP253L904	6	1.000	1.970	.580	1.80	5460
4.0000	1024829	KSSZR400GD2004L905	6	1.250	1.970	.760	3.00	5900
5.0000	1024830	KSSZR500GD2004L906	8	1.500	2.480	.760	5.50	5300
6.0000	1024860	KSSZR600GD2004L908	9	2.000	2.480	.765	7.00	4820

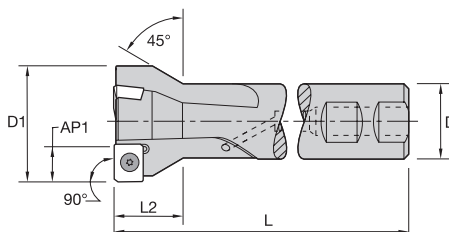
Torque value of insert screw MS1129 is 35 in.-lbs.

Torque value of insert screw CFS5125 is 40 in.-lbs.

Spare Parts

D1	insert screw	Torx wrench	socket-head cap screw
2.500	MS1129	TT15	S445
3.000	MS1129	TT15	S458
4.000	CFS5125	TT20	S468
5.000	CFS5125	TT20	S997
6.000	CFS5125	TT20	—

- Positive geometry delivers free cutting on a variety of workpiece materials.
- Generous chip gullets enable higher feed rates.
- Parallelogram-style inserts with 88° corners provide strong cutting edges for maximum depth of cut.



KISZR — 0/90° End Mills

D1	order number	catalog number	Z	D	L2	L	Ap1 max	lbs.	Max RPM
1.000	1024858	KISZR100CP325904	2	1.000	3.220	5.500	.346	1.00	23000
1.250	1024859	KISZR125XP253L904	2	1.000	2.089	7.875	.407	1.50	8460
1.500	1024825	KISZR150XP253L905	2	1.250	2.375	7.875	.580	2.20	7720
2.000	1024826	KISZR200XP253L905	3	1.250	1.210	7.875	.580	2.50	6685

Torque value of insert screw MS1155 is 20 in.-lbs.

Torque value of insert screw MS1129 is 35 in.-lbs.

Spare Parts

D1	insert screw	Torx driver
1.000	MS1155	DT15
1.250	MS1129	DT15
1.500	MS1129	DT15
2.000	MS1129	DT15

Ordering Example:

1 x KISZR150XP253L905
10 x XPMT2533L KC725M

90° / 0° Approach Angle

inch (sfm)

Material Group	KC522M			KC715M			KC725M			KC935M		
P1				1340	1180	1090	1030	900	840	1550	1360	1260
P2				830	740	670	640	580	520	960	860	780
P3				740	670	610	580	520	470	860	780	710
P4	380	360	320	560	520	470	430	400	360	650	600	540
P5	530	480	430	770	680	620	590	530	480	890	790	720
P6	320	250		470	410		360	310		540	470	
H1	520	390	260									

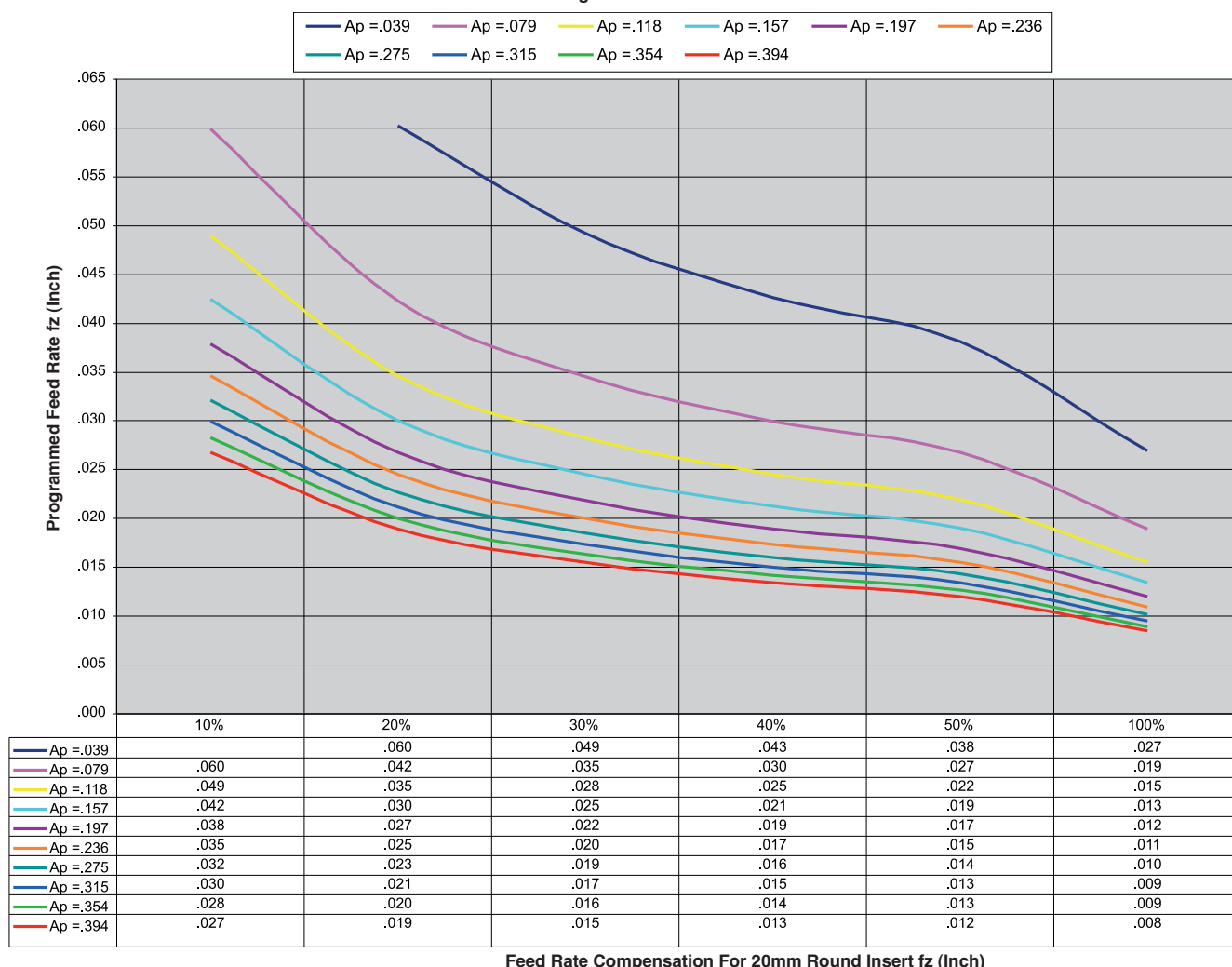
FIRST choice starting speeds are in bold type.

As the average chip thickness increases, the speed should be decreased.

Recommended Starting Feeds (mm and inch)

RCGT 20mm Inserts (inch)

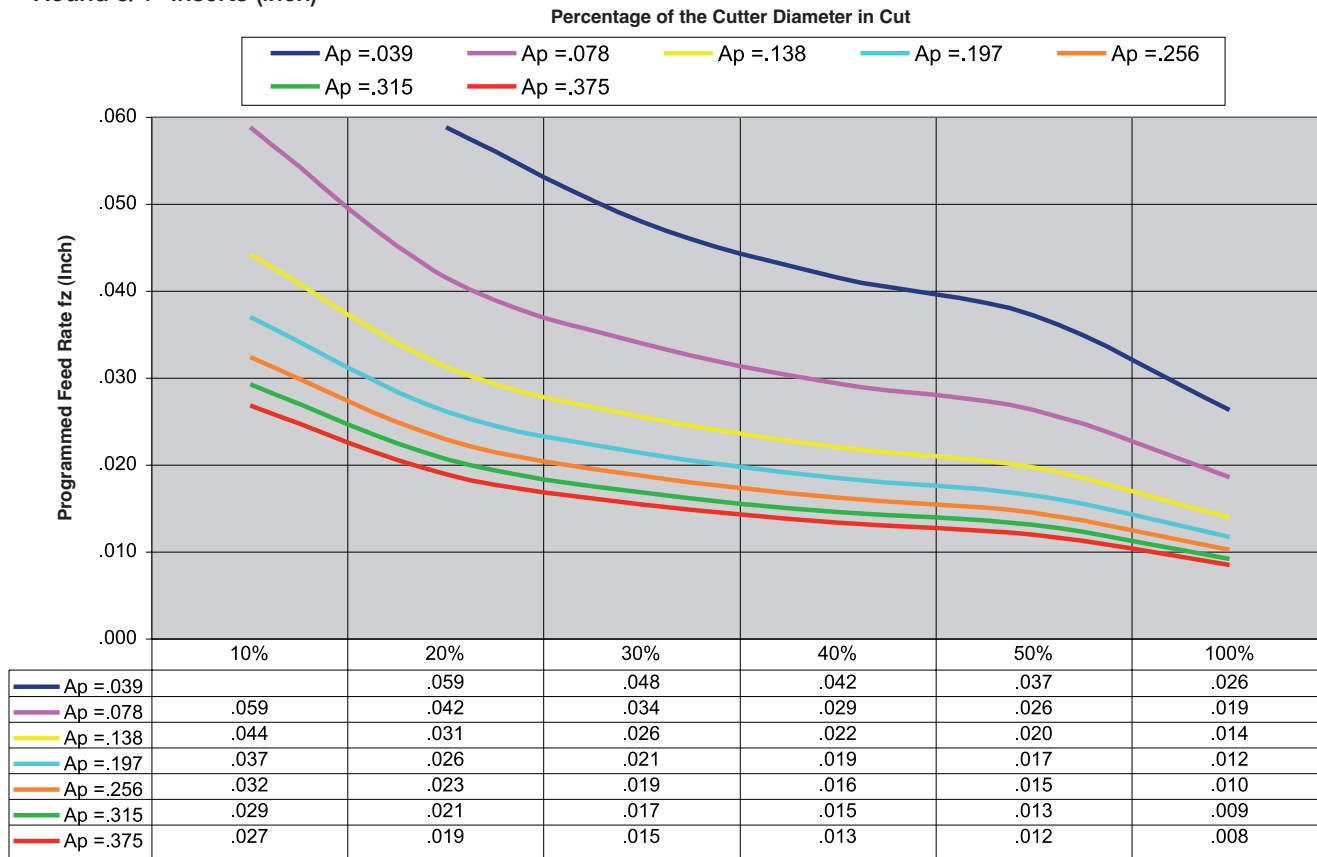
Percentage of the Cutter Diameter in Cut



Feed Rate Compensation For 20mm Round Insert fz (Inch)

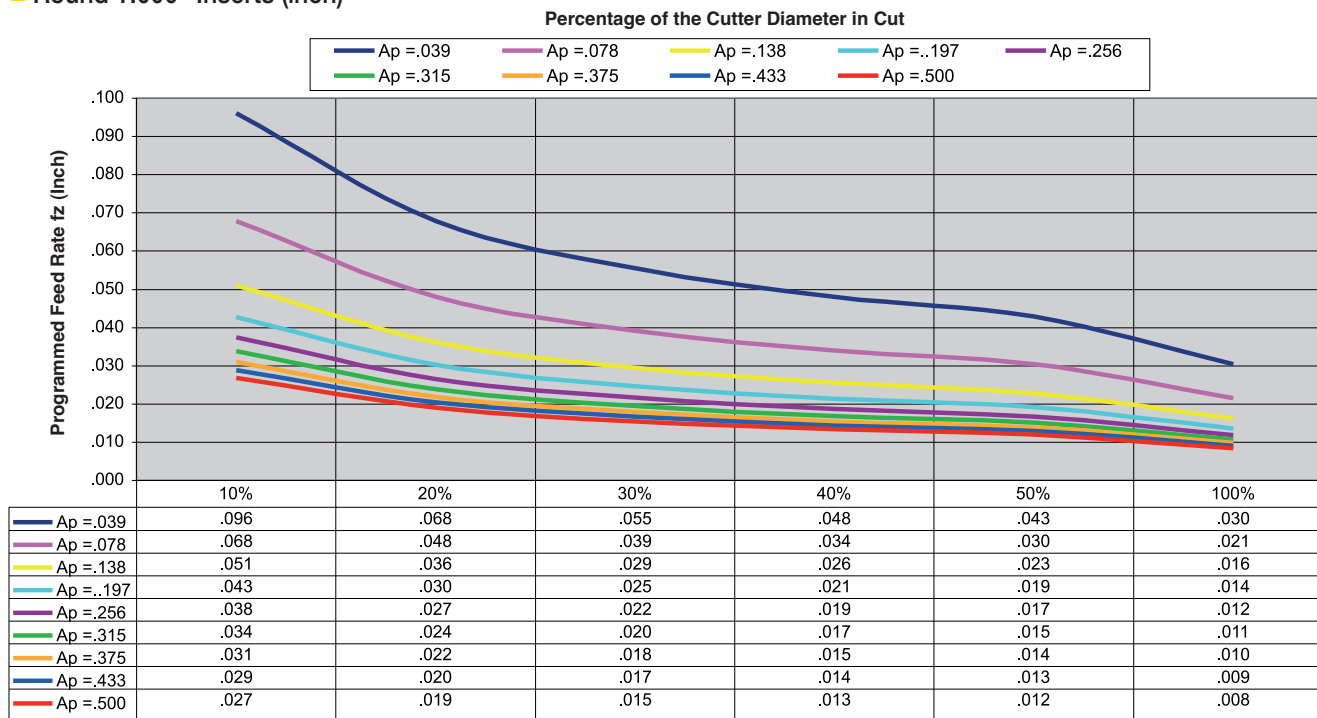
Recommended Starting Feeds (mm and inch)

Round 3/4" Inserts (inch)

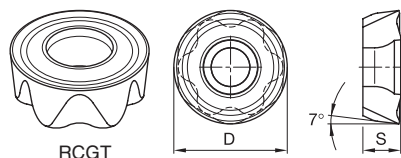


Feed Rate Compensation For 3/4" Round Insert fz (Inch)

Round 1.000" Inserts (inch)



Feed Rate Compensation For 1.0" Round Insert fz (Inch)



RCGT2006..

ISO catalog number	ANSI catalog number	D		S		hm		KC725M	KC935M
		mm	inch	mm	inch	mm	inch		
RCGT2006M0ELF	RCGT2006M0ELF	20,00	.787	6,35	.250	0,10	.004	●	●
RCGT2006M0SHF	RCGT2006M0SHF	20,00	.787	6,35	.250	0,20	.008	●	●

RCGT1906.. / 64..

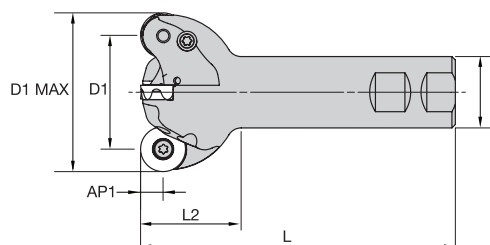
ISO catalog number	ANSI catalog number	D		S		hm		KC522M	KC715M	KC725M	KC935M
		mm	inch	mm	inch	mm	inch				
RCGT190600ELF	RCGT64ELF	19,05	.750	6,35	.250	0,13	.005	●	●	●	●
RCGT190600SHF	RCGT64SHF	19,05	.750	6,35	.250	0,15	.006	●	●	●	●

RCGT2509.. / 86..

ISO catalog number	ANSI catalog number	D		S		hm		KC522M	KC715M	KC725M	KC935M
		mm	inch	mm	inch	mm	inch				
RCGT250900ELF	RCGT86ELF	25,40	1.000	9,52	.375	0,15	.006	●	●	●	●
RCGT250900SHF	RCGT86SHF	25,40	1.000	9,52	.375	0,25	.010	●	●	●	●

End Mills

- 2.785" diameter end mills.
- Engineered for roughing titanium with large depths of cut through positive geometries.
- Insert size is 20mm.
- Minimum four cutting edges per insert.
- Excellent for use with long overhangs.
- Positive insert location.



KSRM End Mills – Weldon Shank – RCGT 20 mm Insert – Inch

D1	order number	catalog number	Z	D1 max	D	L2	L	Ap1 max	Max Ramp Angle	lbs.	insert 1
2.000	3036381	BMD200R2005W125L175	4	2.787	1.250	1.755	5.050	.394	14.0°	2.4	RCGT2006..ELF

Spare Parts

D1	insert screw	Torx wrench	screw
2.000	MS1162	TT25	S2160

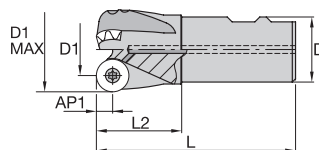
Torque value for insert screw MS1162 is 45 in.-lbs.

Ordering Example:

1 x BMD200R2005W125L2175
10 x RCGT2006M0ELF KC725M

End Mills

- 2" end mill diameter.
- Engineered for roughing steel with large depths of cut through positive geometries.
- Insert size is .750".
- Minimum of four cutting edges per insert.
- Excellent for long overhangs.



■ End Mill – Weldon Shank – RCGT 1906... / 64... Insert – Inch

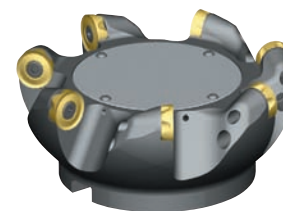
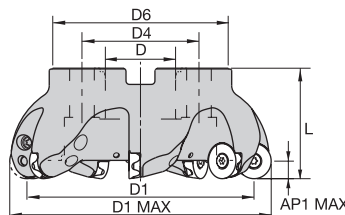
D1	order number	catalog number	Z	D	D1 max	L2	L	Ap1 max	lbs.	Max Ramp Angle	Max RPM	insert 1
1.250	2610667	BMD200R6403W150L200	3	1.500	2.000	2.000	4.690	.375	2.16	26.0°	29000	RCGT1906../ 64..

■ Spare Parts

D1	insert screw	Torx wrench	screw
1.250	MS1162	TT25	S2160

Shell Mills

- Diameter range from 63mm to 200mm.
- Engineered for roughing titanium with large depths of cut through positive geometry inserts.
- Insert size is 20mm.
- Minimum of four cutting edges per insert.
- Excellent for long overhangs.



■ Shell Mills – RCGT 20 mm Insert – Metric

D1 max	order number	catalog number	Z	D1	D	D4	D6	L	Ap1 max	kg	Max RPM
63	3095646	63A04RS90RC20C	4	43	22	—	50	50	10,0	0,62	26000
80	3095647	80A05RS90RC20C	5	60	27	—	60	50	10,0	0,89	22000
100	3095649	100B06RS90RC20C	6	80	32	—	80	63	10,0	2,12	18000
100	3095648	100B05RS90RC20C	5	80	32	—	80	63	10,0	2,17	18000
125	3095650	125B06RS90RC20C	6	105	40	—	90	63	10,0	3,03	15000
160	3095652	160C08RS90RC20C	8	140	40	66,7	100	63	10,0	3,86	14000
160	3095651	160C07RS90RC20C	7	140	40	66,7	100	63	10,0	3,90	14000
200	3095653	200C09RS90RC20C	9	180	60	101,6	130	63	10,0	5,76	12500

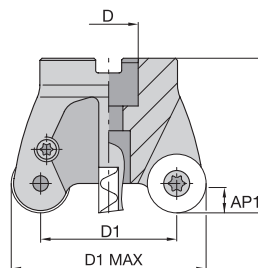
■ Spare Parts

D1 max	insert screw	Torx wrench	torque (Nm)	anti rotation screw	coolant screw	coolant cap
63	MS1162	TT25	5	S2160	MS1242CG	—
80	MS1162	TT25	5	S2160	MS2190CG	—
100	MS1162	TT25	5	S2160	MS2188C	—
100	MS1162	TT25	5	S2160	MS2188C	—
125	MS1162	TT25	5	S2160	MS2187C	—
160	MS1162	TT25	5	S2160	—	MCC-M160-01
160	MS1162	TT25	5	S2160	—	MCC-M160-01
200	MS1162	TT25	5	S2160	—	MCC-0800-01

Ordering Example:

1 x BMD200R6403W150L200
10 x RCGT64ELF KC725M

- Diameter range from 2.5" to 8.0".
- Engineered for roughing steel with large depths of cut through positive geometry inserts.
- Insert size is .750" / 1.00".
- Minimum of four cutting edges per insert.
- Excellent for long overhangs.



Shell Mills – Inch

D1	order number	catalog number	Z	D	D1 max	L	Ap1 max	lbs.	Max Ramp Angle	Max RPM	insert 1
1.750	2610668	BMD250R6404S075L200	4	.750	2.500	2.000	.375	1.16	16.0°	26000	RCGT1906../ 64..
2.000	2610689	BMD300R8603S075L200	3	.750	3.000	2.000	.500	1.22	12.0°	15500	RCGT2509../ 86..
2.250	2610670	BMD300R6405S100L200	5	1.000	3.000	2.000	.375	1.78	11.0°	22000	RCGT1906../ 64..
3.000	2610691	BMD400R8605S125L250	5	1.250	4.000	2.500	.500	4.11	11.0°	12000	RCGT2509../ 86..
3.250	2610672	BMD400R6405S125L200	5	1.250	4.000	2.000	.375	3.22	7.0°	18000	RCGT1906../ 64..
3.250	2610683	BMD400R6406S125L200	6	1.250	4.000	2.000	.375	3.18	7.0°	18000	RCGT1906../ 64..
4.000	2610697	BMD500R8606S150L250	6	1.500	5.000	2.500	.500	6.69	8.0°	9000	RCGT2509../ 86..
4.250	2610684	BMD500R6406S150L250	6	1.500	5.000	2.500	.375	7.16	5.5°	15000	RCGT1906../ 64..
4.250	2610685	BMD500R6408S150L250	8	1.500	5.000	2.500	.375	7.15	5.5°	15000	RCGT1906../ 64..
5.000	2610694	BMD600R8607S150L250	7	1.500	6.000	2.500	.500	8.76	6.0°	8800	RCGT2509../ 86..
5.250	2610686	BMD600R6407S150L250	7	1.500	6.000	2.500	.375	9.56	4.5°	14000	RCGT1906../ 64..
5.250	2610687	BMD600R6408S150L250	8	1.500	6.000	2.500	.375	9.60	4.5°	14000	RCGT1906../ 64..
7.000	2610696	BMD800R8608S250L250	8	2.500	8.000	2.500	.500	11.81	4.0°	8500	RCGT2509../ 86..
7.250	2610688	BMD800R6409S250L250	9	2.500	8.000	2.500	.375	13.08	3.0°	12500	RCGT1906../ 64..

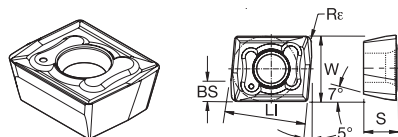
Spare Parts

D1	insert screw	Torx wrench	torque in.-lbs	anti-rotation screw	coolant screw
1.750	MS1162	TT25	45	S2160	S445CG
2.000	MS1162	TT25	45	S2160	S445CG
2.250	MS1162	TT25	45	S2160	S458CG
3.000	MS1162	TT25	45	S2160	S2164C
3.250	MS1162	TT25	45	S2160	S2162C
3.250	MS1162	TT25	45	S2160	S2162C
4.000	MS1162	TT25	45	S2160	S2163C
4.250	MS1162	TT25	45	S2160	S2163C
4.250	MS1162	TT25	45	S2160	S2163C
5.000	MS1162	TT25	45	S2160	S2163C
5.250	MS1162	TT25	45	S2160	S2163C
5.250	MS1162	TT25	45	S2160	S2163C
7.000	MS1162	TT25	45	S2160	—
7.250	MS1162	TT25	45	S2160	—

Ordering Example:

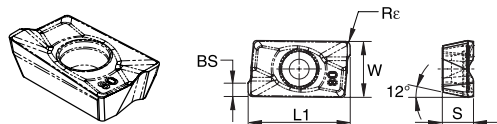
1 x BMD250R6404S075L200

10 x RCGT64ELF KC725M



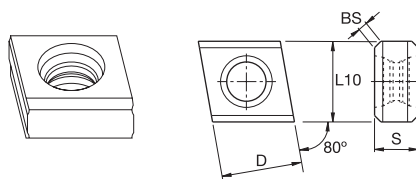
■ ACET-GC

ISO catalog number	ANSI catalog number	D		W		LI		S		L10		BS		Rε		KC715M	KC725M	KC935M
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
ACET150612PPERGC	ACET2343PPER9GC	12,70	.500	12,70	.500	15,24	.600	6,35	.250	15,24	.600	3,92	.154	1,19	.047	●	●	●



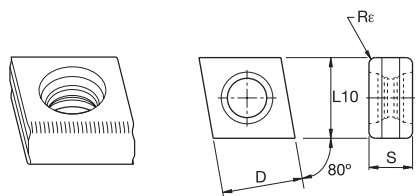
■ APPT16-GD

ISO catalog number	ANSI catalog number	LI		W		S		BS		Rε		KC715M	KC725M	KC935M
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
APPT1604PDERGD	APPT1604PDERGD	17,24	.679	9,43	.371	5,26	.207	1,47	.058	0,79	.031	●	●	●
APPT1604PDSRGD	APPT1604PDSRGD	17,24	.679	9,43	.371	5,26	.207	1,43	.056	0,79	.031	●	●	●
APPT160416PDERGD	APPT160416PDERGD	17,22	.678	9,43	.371	5,27	.207	1,43	.056	1,59	.062	●	●	●
APPT160416PDSRGD	APPT160416PDSRGD	17,22	.678	9,43	.371	5,27	.207	1,43	.056	1,59	.062	●	●	●
APPT160424PDERGD	APPT160424PDERGD	17,10	.673	9,43	.371	5,27	.207	1,16	.046	2,38	.094	●	●	●
APPT160432PDERGD	APPT160432PDERGD	16,87	.664	9,43	.371	5,26	.207	—	—	3,18	.125	●	●	●
APPT160448PDERGD	APPT160448PDERGD	16,22	.639	9,43	.371	5,01	.197	—	—	4,76	.188	●	●	●
APPT160464PDERGD	APPT160464PDERGD	15,88	.625	9,43	.371	4,98	.196	—	—	6,35	.250	●	●	●



■ CNHU

ISO catalog number	ANSI catalog number	D		S		L10		BS		KC715M	KC725M	KC935M
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
CNHU1005	CNHU1005	10,06	.396	5,40	.213	10,00	.394	0,71	.028	●	●	●
CNHU1205	CNHU1205	10,06	.396	5,40	.213	12,70	.500	0,71	.028	●	●	●
CNHU1606	CNHU1606	12,06	.475	6,40	.252	16,00	.630	0,71	.028	●	●	●



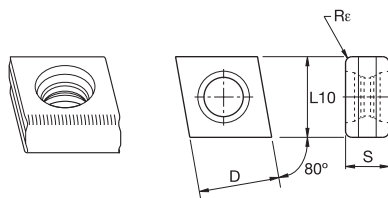
■ CNHU-GP

ISO catalog number	ANSI catalog number	D		S		L10		Rε		KC715M	KC725M	KC935M
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
CNHU1005R08SGP	CNHU1005R08SGP	10,06	.396	5,40	.213	10,00	.394	0,80	.031	●	●	●
CNHU1005R16SGP	CNHU1005R16SGP	10,06	.396	5,40	.213	10,00	.394	1,60	.063	●	●	●
CNHU1205R08SGP	CNHU1205R08SGP	10,06	.396	5,40	.213	12,70	.500	0,80	.031	●	●	●
CNHU1606R08SGP	CNHU1606R08SGP	12,06	.475	6,40	.252	16,00	.630	0,80	.031	●	●	●

Order Example:

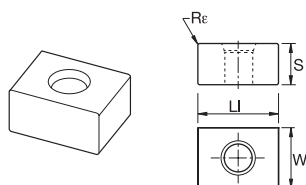
Catalog number: ACET150612PPERGC

Insert grade: KC725M



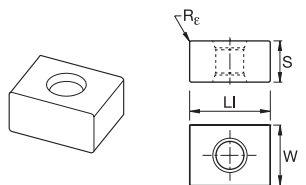
■ CNHU-R

ISO catalog number	ANSI catalog number	D		S		L10		Rε		KC715M	KC725M	KC935M
		mm	inch	mm	inch	mm	inch	mm	inch			
CNHU1005R08	CNHU1005R08	10,00	.394	5,40	.213	10,06	.396	0,79	.031	●	●	●
CNHU1005R16	CNHU1005R16	10,00	.394	5,40	.213	10,06	.396	1,57	.062	●	●	●
CNHU1205R08	CNHU1205R08	12,70	.500	5,40	.213	10,06	.396	0,79	.031	●	●	●
CNHU1205R16	CNHU1205R16	12,70	.500	5,40	.213	10,06	.396	1,57	.062	●	●	●
CNHU1606R08	CNHU1606R08	16,00	.630	6,40	.252	12,06	.475	0,79	.031	●	●	●
CNHU1606R16	CNHU1606R16	16,00	.630	6,40	.252	12,06	.475	1,60	.063	●	●	●
CNHU1606R24	CNHU1606R24	16,00	.630	6,40	.252	12,06	.475	2,39	.079	●	●	●
CNHU1606R32	CNHU1606R32	16,00	.630	6,40	.252	12,06	.475	3,18	.125	●	●	●



■ LNEQ-R03

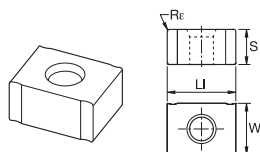
ISO catalog number	ANSI catalog number	LI		W		S		Rε		KC715M	KC725M	KC935M
		mm	inch	mm	inch	mm	inch	mm	inch			
LNEQ1240R03	LNEQ1240R03	12,70	.500	9,53	.375	4,00	.158	0,30	.012	●	●	●
LNEQ1245R04	LNEQ1245R04	12,70	.500	9,53	.375	4,50	.177	0,40	.016	●	●	●
LNEQ1250R04	LNEQ1250R04	12,70	.500	9,53	.375	5,00	.197	0,40	.016	●	●	●
LNEQ1255R04	LNEQ1255R04	12,70	.500	9,53	.375	5,50	.217	0,40	.016	●	●	●
LNEQ1260R04	LNEQ1260R04	12,70	.500	9,53	.375	6,00	.236	0,40	.016	●	●	●



■ LNEQ-R04

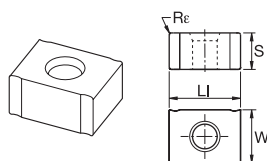
ISO catalog number	ANSI catalog number	LI		W		S		Rε		KC715M	KC725M	KC935M
		mm	inch	mm	inch	mm	inch	mm	inch			
LNEQ1235R03	LNEQ1235R03	12,700	.500	9,53	.375	3,50	.138	0,30	.012	●	●	●
LNEQ1240R03	LNEQ1240R03	12,700	.500	9,53	.375	4,00	.158	0,30	.012	●	●	●
LNEQ1245R04	LNEQ1245R04	12,700	.500	9,53	.375	4,50	.177	0,40	.016	●	●	●
LNEQ1255R04	LNEQ1255R04	12,700	.500	9,53	.375	5,50	.217	0,40	.016	●	●	●

Order Example:
Catalog number: CNHU1005R08
Insert grade: KC725M



■ LNEU-GP

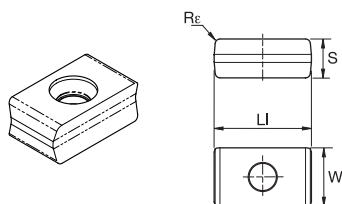
ISO catalog number	ANSI catalog number	L		W		S		Re		KC715M	KC725M	KC935M
		mm	inch	mm	inch	mm	inch	mm	inch			
LNEU1245R04SGP	LNEU1245R04SGP	12,700	.500	9,60	.378	4,50	.177	0,40	.016	●	●	
LNEU1245R08SGP	LNEU1245R08SGP	12,700	.500	9,60	.378	4,50	.177	0,80	.031	●	●	
LNEU1245R16SGP	LNEU1245R16SGP	12,700	.500	9,60	.378	4,50	.177	1,60	.063	●	●	●
LNEU1250R04SGP	LNEU1250R04SGP	12,700	.500	9,60	.378	5,00	.197	0,40	.016	●	●	
LNEU1250R08SGP	LNEU1250R08SGP	12,700	.500	9,60	.378	5,00	.197	0,80	.031	●	●	
LNEU1260R04SGP	LNEU1260R04SGP	12,700	.500	9,60	.378	6,00	.236	0,40	.016			



■ LNEU

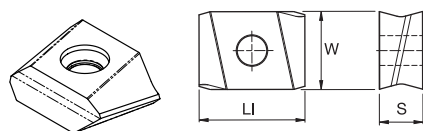
ISO catalog number	ANSI catalog number	L		W		S		Re		KC715M	KC725M	KC935M
		mm	inch	mm	inch	mm	inch	mm	inch			
LNEU1235R03	LNEU1235R03	12,70	.500	9,60	.378	3,50	.138	0,30	.012	●	●	
LNEU1240R03	LNEU1240R03	12,70	.500	9,60	.378	4,00	.158	0,30	.012	●	●	
LNEU1240R08	LNEU1240R08	12,70	.500	9,60	.378	4,00	.158	0,79	.031	●	●	
LNEU1240R16	LNEU1240R16	12,70	.500	9,60	.378	4,00	.158	1,57	.062	●	●	
LNEU1245R04	LNEU1245R04	12,70	.500	9,60	.378	4,50	.177	0,40	.016	●	●	●
LNEU1245R08	LNEU1245R08	12,70	.500	9,60	.378	4,50	.177	0,79	.031	●	●	
LNEU1245R16	LNEU1245R16	12,70	.500	9,60	.378	4,50	.177	1,57	.062	●	●	
LNEU1245R32	LNEU1245R32	12,70	.500	9,60	.378	4,50	.177	3,18	.125	●	●	
LNEU1250R04	LNEU1250R04	12,70	.500	9,60	.378	5,00	.197	0,40	.016	●	●	
LNEU1250R08	LNEU1250R08	12,70	.500	9,60	.378	5,00	.197	0,79	.031	●	●	
LNEU1255R04	LNEU1255R04	12,70	.500	9,60	.378	5,50	.217	0,40	.016	●	●	
LNEU1255R08	LNEU1255R08	12,70	.500	9,60	.378	5,50	.217	0,79	.031	●	●	
LNEU1255R16	LNEU1255R16	12,70	.500	9,60	.378	5,50	.217	1,57	.062	●	●	
LNEU1255R32	LNEU1255R32	12,70	.500	9,60	.378	5,50	.217	3,18	.125	●	●	
LNEU1260R04	LNEU1260R04	12,70	.500	9,60	.378	6,00	.236	0,40	.016	●	●	

Order Example:
Catalog number: LNEU1245R04SGP
Insert grade: KC725M



LPE

ISO catalog number	ANSI catalog number	LI		W		S		Re		KC715M	KC725M	KC935M
		mm	inch	mm	inch	mm	inch	mm	inch			
LPE43404	LPE43404	19,05	.750	14,29	.563	6,35	.250	1,60	.063	●		



LSE

ISO catalog number	ANSI catalog number	LI		W		S		KC715M	KC725M	KC935M
		mm	inch	mm	inch	mm	inch			
LSE424R01	LSE424R01	17,27	.680	12,70	.500	7,11	.280	●	●	●
LSE424R05	LSE424R05	17,27	.680	12,64	.498	7,11	.280	●	●	●
LSE444R01	LSE444R01	24,13	.950	12,73	.501	7,11	.280	●	●	●
LSE446L09	LSE446L09	28,58	1.125	14,27	.562	9,52	.375	●		
LSE446R09	LSE446R09	28,58	1.125	14,27	.562	9,52	.375	●		

Order Example:
Catalog number: LPE43404
Insert grade: KC725M



Custom Track and Switch Milling Solutions

Precision-machined rails and switches ensure a smooth ride but, most importantly, are essential for safety. Thus, there can be absolutely no compromise in tool quality.



Kennametal specializes in optimum custom solutions – from one tool to mill a specific part to a comprehensive manufacturing process for use on production equipment. Our specially tailored milling programs meet your highest output demands, reduce lead times, and significantly improve part quality by enabling you to incorporate advanced cutting-edge materials/geometries, eliminate expensive regrinding, and, overall, run leaner.

For complete details, contact your local Kennametal representative, your authorized Kennametal distributor, or visit www.kennametal.com.



milling tools for machining tracks and switches

RAILROAD RAILROAD MILLING TOOLING

Track/Switch Drilling

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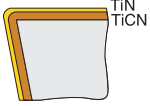
Drills93



**RAILROAD
RAILROAD
DRILLING TOOLING**

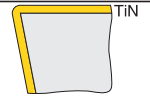
Grade Descriptions

WHEELSET RECONDITIONING

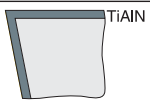
grade	coating	coating and application	ANSI class	ISO class
KC7140		composition: PVD TiCN/TiN-coating on a tough alloyed carbide substrate. application: Ideal for general machining of alloy steel, low- and medium-carbon steel, tool steels, and 400 series stainless steels. Used in inserts for DRILL-FIX DFR and DFT, HTS, and HTS-C drill bodies.	C5-C6	M20-M30 P25-P40



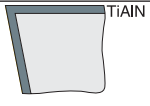
AXLE AND WHEEL RECONDITIONING

KC720		composition: PVD TiN-coating on a tough carbide substrate. application: Developed for cutting high-temperature alloys, stainless steels, and low-carbon steels at low to moderate speeds. Its unique mechanical and thermal-shock resistant properties and resistance to edge buildup enable grade KC720 to deliver superior performance and reliability on difficult operations like drilling of high-temperature alloys. Used in inserts for DRILL-FIX DFT, HTS, and HTS-C drill bodies.	C1 C5	K25-K35 M30-M40 P25-P45
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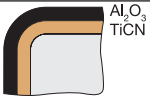
KC7215		composition: PVD TiAlN-coating on a wear-resistant and tough carbide substrate. application: Developed for high-performance drilling of alloy steels, cast irons, stainless steels, and aluminum heat-resistant alloys. Used in inserts for DRILL-FIX DFT, HTS, and HTS-C drill bodies.	C3-C4 C7	K10-K20 M20-M30
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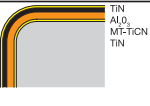
KC7225		composition: PVD TiAlN-coating on a carbide substrate with a good combination of wear resistance and toughness. application: Designed for the smaller inscribed circle inserts for maximum strength. Excellent for low- and medium-carbon steels, cast irons, stainless steel, and aluminum. Used in inserts for DRILL-FIX DFR and DFT, HTS, and HTS-C drill bodies.	C3-C4	M30-M45 P25-P45
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NEW WHEEL MANUFACTURING

KC7935		composition: CVD, TiCN/Al ₂ O ₃ , coated grade with a tough carbide substrate. application: Provides high-performance and wear resistance when drilling alloy steels, stainless steels, and cast irons. Used in inserts for DRILL-FIX DFT, HTS, and HTS-C drill bodies.	C3 C7	K10-K35 M15-M35
--------	--	--	----------	--------------------



KC7815		composition: A patent-protected multi-layered MT-CVD with Al ₂ O ₃ , TiCN layers for maximum wear resistance designed for alloy steels and some cast irons. application: KC7815 grade provides superior performance and wear resistance when drilling ferrous steels at elevated speeds. Expect 100% improvement in tool life versus competitive grades. Use KC7815 in outboard pockets, and KC7140 in inboard pockets for optimum performance with DRILL-FIX bodies. geometry: -GD with honed negative land provides added strength.	C3 C7	P05-P15 K10-M25
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TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING

- The two letters behind the insert catalog number (-LD, -MD, -GD, -HP) describe the chipbreaker geometry.
- Grade name follows the insert catalog number and is indicated by KC_.
- Long chips indicate soft material. Short chips and vibration indicate harder material.

metric	Material Condition																
	min. diameter	mm	drill	machine	RPM	m / min	IPR	Soft				Normal				Hard	
								inboard	outboard	inboard	outboard	inboard	outboard	inboard	outboard	screw	
	21	DFR210R2WD32M	saw-mill-drill, rail OKK, misc	1440 3032	95 200	0,102 0,102	DFR040304 LD KC7025	DFR040304 LD KC7225	DFR040304 LD KC7025	DFR040304 LD KC7225	DFR040304 LD KC7225	DFR040304 LD KC7225	192.432 192.432 192.432 192.432 192.432 192.432 192.432				
	22	DFR220R2WD32M	saw-mill-drill, rail OKK, misc	1519 2966	105 205	0,102 0,102											
	23	DFR230R2WD32M	saw-mill-drill, rail OKK, misc	1592 2906	115 210	0,102 0,102											
	24	DFR240R2WD32M	saw-mill-drill, rail OKK, misc	1592 2852	120 215	0,102 0,102											
	25	DFT250R2WD32M	saw-mill-drill, rail OKK, misc	1273 2801	100 220	0,102 0,102	DFT05T308 LD KC720	DFT05T308 MD KC7935	DFT05T308 MD KC7935	DFT05T308 GD KC7935	DFT05T308 HP KC7140	DFT05T308 HP KC7215	191.924 191.924 191.924 191.924 191.924 191.924 191.924				
	26	DFT260R2WD32M	saw-mill-drill, rail OKK, misc	1163 2693	95 220	0,102 0,102											
	27	DFT270R2WD32M	saw-mill-drill, rail OKK, misc	1120 2594	95 220	0,102 0,102											
	28	DFT280R2WD32M	saw-mill-drill, rail OKK, misc	1080 2501	95 220	0,102 0,102											
	29	DFT290R2WD32M	saw-mill-drill, rail OKK, misc	1043 2415	95 220	0,102 0,102											
	30	DFT300R2WD32M	saw-mill-drill, rail OKK, misc	1008 2334	95 220	0,102 0,102											
	32	DFT320R2WD40M	saw-mill-drill, rail OKK, misc	945 2188	95 220	0,102 0,102											
	34	DFT340R2WD40M	saw-mill-drill, rail OKK, misc	889 2060	95 220	0,102 0,102	DFT06T308 LD KC720	DFT06T308 MD KC7935	DFT06T308 MD KC7935	DFT06T308 GD KC7935	DFT06T308 HP KC7140	DFT06T308 HP KC7215	191.848 191.848 191.848 191.848 191.848 191.848 191.848				
	36	DFT360R2WD40M	saw-mill-drill, rail OKK, misc	840 1945	95 220	0,102 0,102											
	38	DFT380R2WD40M	saw-mill-drill, rail OKK, misc	796 1927	95 230	0,102 0,102											
	40	DFT400R2WD40M	saw-mill-drill, rail OKK, misc	756 1830	95 230	0,102 0,102											
	45	DFT450R2WD40M	saw-mill-drill, rail OKK, misc	672 1592	95 225	0,102 0,102	DFT070408 LD KC720	DFT070408 MD KC7935	DFT070408 MD KC7935	DFT070408 GD KC7935	DFT070408GD KC7935	DFT070408 GD KC7935	191.698 191.698 191.698				

Cutting Data and Insert Selection Sheet

WHEELSET RECONDITIONING

AXLE AND WHEEL RECONDITIONING

NEW WHEEL MANUFACTURING

TRACK / SWITCH MILLING

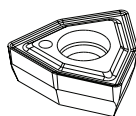
TRACK / SWITCH DRILLING

- The two letters behind the insert catalog number (-LD, -MD, -GD, -HP) describe the chipbreaker geometry.
- Grade name follows the insert catalog number and is indicated by KC.
- Long chips indicate soft material. Short chips and vibration indicate harder material.

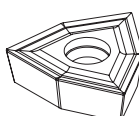
min. diameter (inch)		Material Condition										screw		
fraction	decimal	drill	machine	RPM	SFM	IPM	Soft				Normal		Hard	
							inboard	outboard	inboard	outboard	inboard	outboard	inboard	outboard
13/16	0.813	DFR0813R2SSF100	saw-mill-drill, rail OKK, misc	1411 3000	300 635	5.644 12	DFR040304 LD KC7025	DFR040304 LD KC7225	DFR040304 LD KC7025	DFR040304 LD KC7225	DFR040304 LD KC7225	DFR040304 LD KC7225	192.432 192.432	
15/16	0.938	DFR0938R2SSF100	saw-mill-drill, rail OKK, misc	1550 2800	380 685	6.2 11.2							192.432 192.432	
1.000	1.000	DFR1000R2SSF125	saw-mill-drill, rail OKK, misc	1200 2700	315 700	4.8 10.8							192.432 192.432	
1 1/16	1.063	DFT1063R2SSF125	saw-mill-drill, rail OKK, misc	1079 2550	300 700	4.316 10.2	DFT05T308 LD KC720	DFT05T308 MD KC7935	DFT05T308 MD KC7935	DFT05T308 HP KC7140	DFT05T308 HP KC7215	DFT05T308 HP KC7215	191.924 191.924	
1 1/8	1.125	DFT1125R2SSF125	saw-mill-drill, rail OKK, misc	1020 2400	300 700	4.08 9.6							191.924 191.924	
1 3/16	1.188	DFT1188R2SSF125	saw-mill-drill, rail OKK, misc	965 2250	300 700	3.86 9							191.924 191.924	
1 1/4	1.250	DFT1250R2SSF250	saw-mill-drill, rail OKK, misc	920 2150	300 700	3.68 8.6							191.924 191.924	
1 5/16	1.312	DFT1313R2SSF125	saw-mill-drill, rail OKK, misc	875 2050	300 700	3.5 8.2	DFT06T308 LD KC720	DFT06T308 MD KC7935	DFT06T308 MD KC7935	DFT06T308 HP KC7140	DFT06T308 HP KC7215	DFT06T308 HP KC7215	191.848 191.848	
1 1/2	1.500	DFT1500R2SSF150	saw-mill-drill, rail OKK, misc	764 1800	300 700	3.056 7.2							191.848 191.848	
1 9/16	1.562	DFT1563R2SSF150	saw-mill-drill, rail OKK, misc	735 1800	300 735	2.94 7.2							191.848 191.848	
1 5/8	1.625	DFT1625R2SSF150	saw-mill-drill, rail OKK, misc	705 1850	300 785	2.82 7.4	DFT070408 LD KC720	DFT070408 MD KC7935	DFT070408 MD KC7935	DFT070408 GD KC7935	DFT070408 GD KC7935	DFT070408 GD KC7935	191.698 191.698	
1 11/16	1.687	DFT1688R2SSF150	saw-mill-drill, rail OKK, misc	720 1650	315 725	2.88 6.6							191.698 191.698	
1 3/4	1.750	DFT1750R2SSF150	saw-mill-drill, rail OKK, misc	655 1550	300 710	2.62 6.2							191.698 191.698	
2 3/4	2.750	DFT2750R2SSF200	saw-mill-drill, rail OKK, misc	420 800	300 575	1.68 3.2	DFT110506 HD KC720	DFT110506 HD KC720	DFT110506 HD KC720	DFT110506 HD KC720	DFT110506 HD KC720	DFT110506 HD KC720	191.375 191.375	



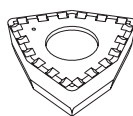
DFT-GD



DFT-HD



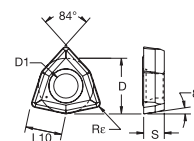
DFT-HP



DFT-LD



DFT-MD



DFT-GD

ANSI catalog number	D		D1		L10		Re		S		KC7140	KC720	KC7215	KC7225	KC7935
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
DFT05T308GD	8,00	.315	3,40	.134	5,29	.208	0,80	.031	3,75	.148					●
DFT06T308GD	10,00	.394	4,40	.173	6,62	.260	0,80	.031	3,75	.148					●
DFT070408GD	12,00	.472	4,40	.173	7,94	.313	0,80	.031	4,75	.187					●

DFT-HD

ANSI catalog number	D		D1		L10		Re		S		KC7140	KC720	KC7215	KC7225	KC7935
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
DFT110506HD	17,60	.693	5,85	.230	11,63	.458	0,60	.024	4,93	.194		●			

DFT-HP

ANSI catalog number	D		D1		L10		Re		S		KC7140	KC720	KC7215	KC7225	KC7935
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
DFT05T308HP	8,00	.315	3,50	.137	5,29	.208	0,80	.031	3,75	.148	●		●		
DFT06T308HP	10,00	.394	4,40	.173	6,62	.260	0,80	.031	3,75	.148	●		●		

DFT-LD

ANSI catalog number	D		D1		L10		Re		S		KC7140	KC720	KC7215	KC7225	KC7935
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
DFT05T308LD	8,00	.315	3,40	.134	5,29	.208	0,80	.031	3,75	.148		●			
DFT06T308LD	10,00	.394	4,40	.173	6,62	.260	0,80	.031	3,75	.148		●			
DFT070408LD	12,00	.472	4,40	.173	7,94	.313	0,80	.031	4,75	.187		●			

DFT-MD

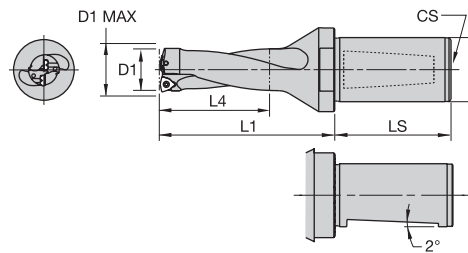
ANSI catalog number	D		D1		L10		Re		S		KC7140	KC720	KC7215	KC7225	KC7935
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
DFT05T308MD	8,00	.315	3,40	.134	5,29	.208	0,80	.031	3,75	.148					●
DFT06T308MD	10,00	.394	4,40	.173	6,62	.260	0,80	.031	3,75	.148					●
DFT070408MD	12,00	.472	4,40	.173	7,94	.313	0,80	.031	4,75	.187					●

Ordering Example:

Inserts for DRILL-FIX DFT, TiN-coated carbide

Type	Size	Geometry	
DFT	05T308	GD	KC7935
			Grade

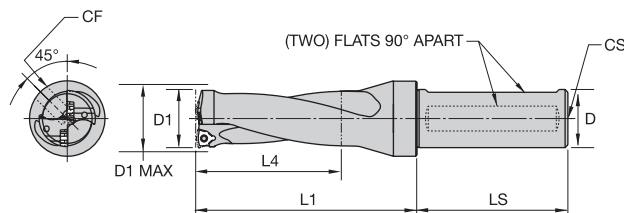
DRILL-FIX DFT 2.5xD Drill Bodies



■ Flanged Shank — Metric

D1	D1 max	order number	D			insert 1 outside	L1	L4 max	LS	insert screw	Torx wrench	CS
			32.00	40.00	50.00							
25,00	27,00	1541367	DFT250R2WD32M	—	—	DFT05T308	90,00	58,00	58,00	191.924	170.024	R1/4 BSP
26,00	27,00	1541368	DFT260R2WD32M	—	—	DFT05T308	90,00	59,00	58,00	191.924	170.024	R1/4 BSP
27,00	29,00	1541369	DFT270R2WD32M	—	—	DFT05T308	100,00	66,00	58,00	191.924	170.024	R1/4 BSP
28,00	29,00	1541370	DFT280R2WD32M	—	—	DFT05T308	100,00	66,00	58,00	191.924	170.024	R1/4 BSP
29,00	31,00	1541381	DFT290R2WD32M	—	—	DFT05T308	100,00	66,00	58,00	191.924	170.024	R1/4 BSP
30,00	31,00	1541382	DFT300R2WD32M	—	—	DFT05T308	115,00	76,00	58,00	191.924	170.024	R1/4 BSP
32,00	33,00	1541854	—	DFT320R2WD40M	—	DFT05T308	115,00	76,00	68,00	191.924	170.024	R1/4 BSP
34,00	35,00	1541856	—	DFT340R2WD40M	—	DFT06T308	115,00	76,00	68,00	191.848	170.025	R1/4 BSP
36,00	37,00	1541858	—	DFT360R2WD40M	—	DFT06T308	115,00	76,00	68,00	191.848	170.025	R1/4 BSP
38,00	41,00	1541871	—	DFT380R2WD40M	—	DFT06T308	135,00	96,00	68,00	191.848	170.025	R1/4 BSP
40,00	41,00	1541873	—	DFT400R2WD40M	—	DFT06T308	135,00	97,00	68,00	191.848	170.025	R1/4 BSP
45,00	46,00	1541878	—	DFT450R2WD40M	—	DFT070408	150,00	112,00	68,00	191.698	170.025	R1/4 BSP
50,00	54,00	1541936	—	—	DFT500R2WD50M	DFT090508	165,00	117,00	68,00	191.726	170.026	R1/4 BSP

Drill body shipped with insert screws and Torx wrench.



■ Flanged Shank — Inch

D1	D1 max	order number	D			insert 1 outside	L1	L4 max	LS	insert screw	Torx wrench	CS
			1.2500	1.5000	2.7500							
1.063	1.188	1528341	DFT1063R2SSF125	—	—	DFT05T308	4.13	2.65	3.25	191.924	170.024	1/4-18 NPT
1.125	1.250	1528343	DFT1125R2SSF125	—	—	DFT05T308	4.38	2.85	3.25	191.924	170.024	1/4-18 NPT
1.188	1.288	1528345	DFT1188R2SSF125	—	—	DFT05T308	4.50	3.00	3.25	191.924	170.024	1/4-18 NPT
1.250	1.325	1528391	—	DFT1250R2SSF150	—	DFT05T308	4.75	3.13	3.75	191.924	170.024	1/4-18 NPT
1.313	1.438	1528349	DFT1313R2SSF125	—	—	DFT05T308	4.88	3.30	3.25	191.848	170.025	1/4-18 NPT
1.500	1.625	1528364	DFT1500R2SSF125	—	—	DFT06T308	5.50	3.75	3.25	191.848	170.025	1/4-18 NPT
1.563	1.688	1528400	—	DFT1563R2SSF150	—	DFT05T308	5.63	3.90	3.75	191.848	170.025	1/4-18 NPT
1.625	1.750	1528401	—	DFT1625R2SSF150	—	DFT070408	5.88	4.10	3.75	191.698	170.025	1/4-18 NPT
1.688	1.813	1528402	—	DFT1688R2SSF150	—	DFT070408	6.00	4.25	3.75	191.698	170.025	1/4-18 NPT
1.750	1.875	1528403	—	DFT1750R2SSF150	—	DFT070408	6.25	4.38	3.75	191.698	170.025	1/4-18 NPT
2.750	3.050	1528424	—	—	DFT2750R2SSF200	DFT110506	9.13	6.88	4.00	191.375	170.026	1/4-18 NPT

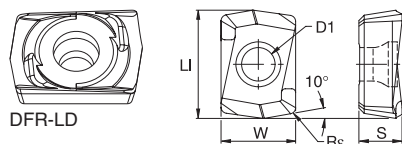
Drill body shipped with insert screws and torx wrench.

*CF = Pipe plug order number HSFS0125.

Ordering Example:

(DRILL-FIX tool body 2.5xD for drill diameters of 30,0 to 31,0 mm.)

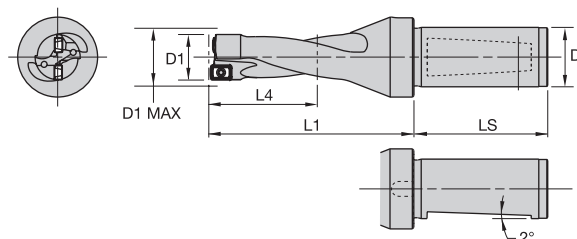
Type	Ø	Direction of cut	
DFT	300	R	2
			WO32M
			Shank
			Relative drilling depth



DFR-LD

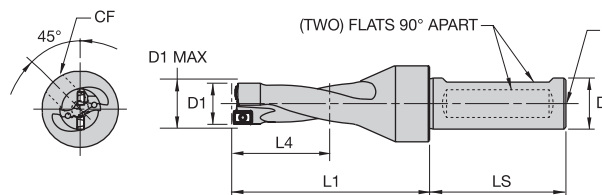
ANSI catalog number	mm	D1	inch	mm	LI	inch	mm	Re	inch	mm	S	inch	mm	W	inch	KC7025	KC7225
DFR040304LD	2,85		.112	10,76		.424	0,40		.016	3,76		.148	7,38		.291	●	●

DRILL-FIX DFR 2xD Drill Bodies



Flanged Shank – Metric

D1	D1 max	order number	catalog number	insert 1 outside	D	L1	L4 max	LS	insert screw	Torx wrench	CS
21,00	22,00	1810341	DFR210R2WD32M	DFR040304..	32,00	74,00	42,00	58,00	192.432	170.028	—
22,00	23,00	1810342	DFR220R2WD32M	DFR040304..	32,00	76,00	44,00	58,00	192.432	170.028	—
23,00	24,00	1810363	DFR230R2WD32M	DFR040304..	32,00	78,00	46,00	58,00	192.432	170.028	—
24,00	25,00	1810364	DFR240R2WD32M	DFR040304..	32,00	80,00	48,00	58,00	192.432	170.028	—



Flanged Shank – Inch

D1	D1 max	order number	catalog number	insert 1 outside	D	L1	L4 max	LS	insert screw	Torx wrench	CS
.813	.852	2036660	DFR0813R2SSF100	DFR040304..	1.00	2.63	1.63	3.00	192.432	170.028	1/4-18 NPT
.938	.977	2036662	DFR0938R2SSF100	DFR040304..	1.00	2.97	1.88	3.00	192.432	170.028	1/4-18 NPT
1.000	1.039	2036663	DFR1000R2SSF100	DFR040304..	1.00	3.09	2.00	3.00	192.432	170.028	1/4-18 NPT

Tool body with hex driver and insert screws for inserts included.

*CF = Pipe plug order number HSFS0125.

Ordering Example:

Inserts for DRILL-FIX DFR, coated carbide

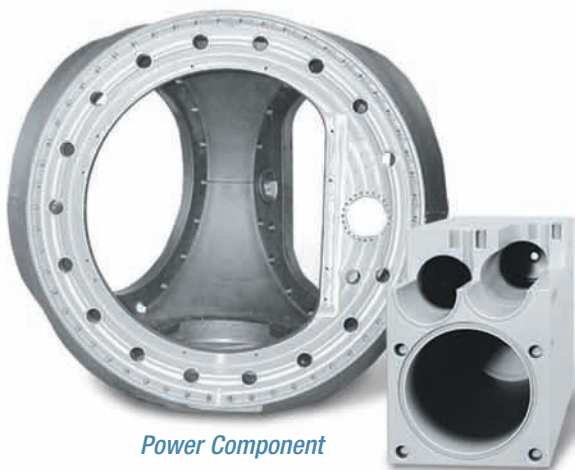
Type Size Geometry
DFR 040304 LD KC7815
 Grade

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General Engineering

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NEW WHEEL MANUFACTURING

TRACK / SWITCH MILLING

TRACK / SWITCH DRILLING

Metalcutting Safety

(Please read this before using products listed in this catalog.)

Modern metalcutting operations involve high energy, high spindle or cutter speeds, and high temperatures and cutting forces. Hot, flying chips may be projected from the workpiece during metalcutting. Although advanced cutting tool materials are designed and manufactured to withstand the high cutting forces and temperatures that normally occur in these operations, they are susceptible to fragmenting in service, particularly if they are subjected to over-stress, severe impact or are otherwise abused. Therefore, precautions should be taken to adequately protect workers, observers and equipment against hot, flying chips, fragmented cutting tools, broken workpieces or other similar projectiles. Machines should be fully guarded and personal protective equipment should be used at all times.

When grinding carbide or other advanced cutting tool materials, a suitable means for collection and disposal of dust, mist or sludge should be provided. Overexposure to dust or mist containing metallic particles can be hazardous to health, particularly if exposure continues over an extended period of time, and may cause eye, skin and mucous membrane irritation and temporary or permanent respiratory disease. Certain existing pulmonary and skin conditions may be aggravated by exposure to dust or mist. Adequate ventilation, respiratory protection and eye protection should be provided when grinding, and workers should avoid breathing of and prolonged skin contact with dust or mist. General Industry Safety and Health Regulations, Part 1910, U.S. Department of Labor, published in Title 29 of the Code of Federal Regulations should be consulted. Obtain from

Kennametal and read the applicable Material Safety Data Sheet before grinding.

Cutting tools are only one part of the worker-machine tool system. Many variables exist in machining operations, including: metal removal rate; workpiece size, shape, strength and rigidity; chucking and fixturing; the load carrying capability of centers; cutter and spindle speed and torque limitations; the holder and boring bar overhang; available power, and the condition of the tooling and the machine. A safe metalcutting operation must take all of these variables, and others, into consideration.

Kennametal has no control over the end use of its products or the environment into which those products are placed. Kennametal urges that its customers adhere to the recommended standards of use of their metalcutting machines and tools, and that they follow procedures that ensure safe metalcutting operations. The technical information included throughout this catalog, as well as recommendations on machining practices referred to herein are only advisory in nature and **do not** constitute representations or warranties and are not necessarily appropriate for any particular work environment or application.

For more information, we suggest you obtain Kennametal's Metalcutting Safety booklet, if you do not already have one. Quantities of safety booklets and Material Safety Data Sheets may be obtained free from the Kennametal Corporate Compliance Office at 724-539-5747, or fax 724-539-5439. For product safety and environmental inquiries, contact our Corporate Environmental Health and Safety Office at 724-539-5631 or fax 724-539-5372.

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