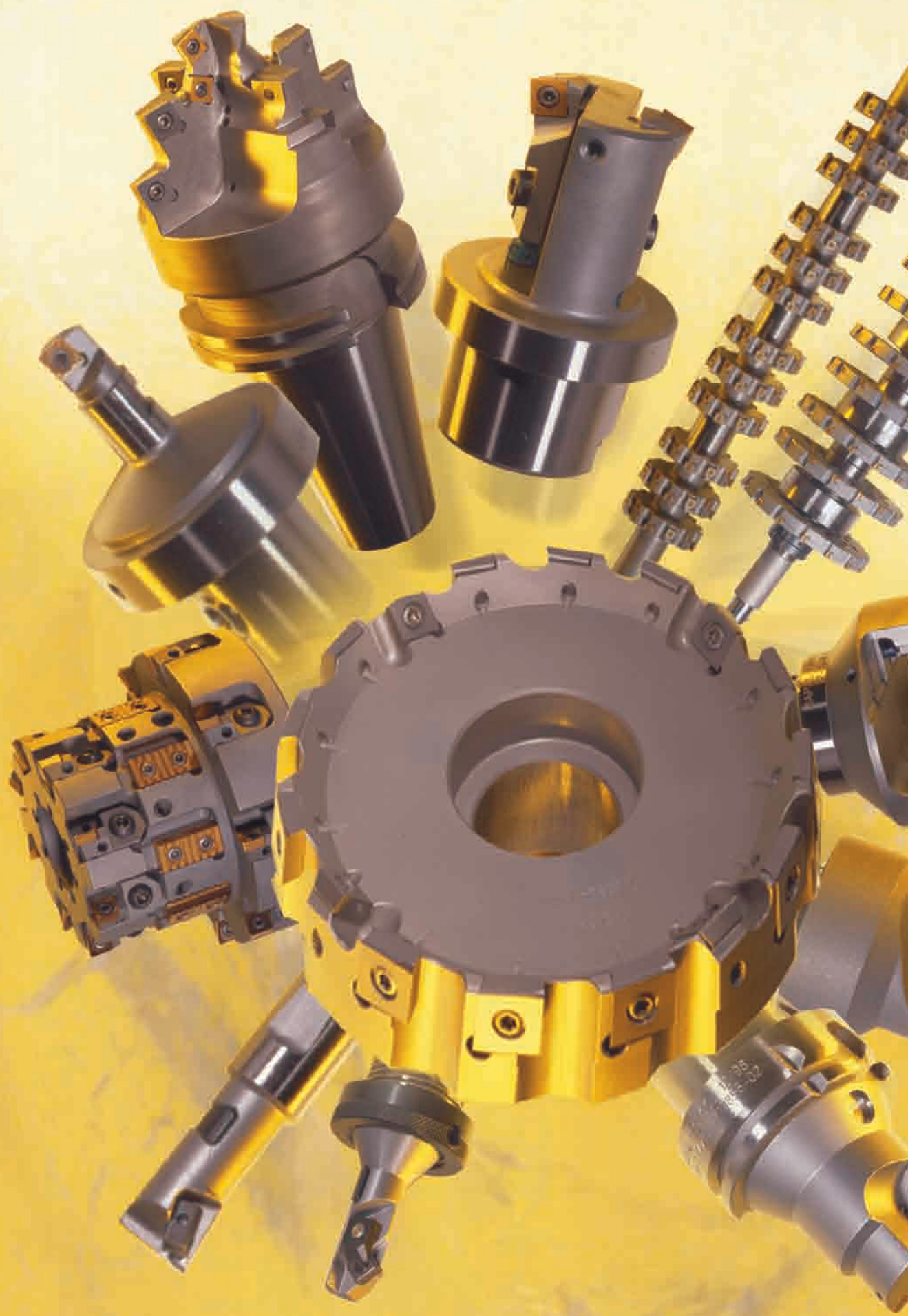


MAPAL Competence – ISO Tools



... innovation guaranteed





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Introduction

The right ideas for greater performance, production reliability and economic production

Today MAPAL offers a wide range of precision tools in its programme. Based on the central principle of precision machining bores, the numerous special and standard tools provide complete solutions for operations relating to machining cubic parts. Supported by an extensive range of customer services, MAPAL supplies technically optimised cutting processes, which ensure both economic and reliable production.

To achieve the best possible results, MAPAL has studied the complete process from the various aspects of high performance cutting – HPC. This overall study of the process has helped produce the optimum tools to increase quality, reduce machining times and possibly even use as a substitute for more expensive methods.

MAPAL also looks at ways of using ISO elements in special tools. The extensive experience and numerous innovative ideas that our specialists provide have led to extremely successful tool concepts for boring and milling.

From the classic fixed indexable inserts or MAPAL ISO cartridges to sensitive adjustment methods and precision-ground inserts, MAPAL special tools also offer new and performance-enhancing solutions in this particular area:

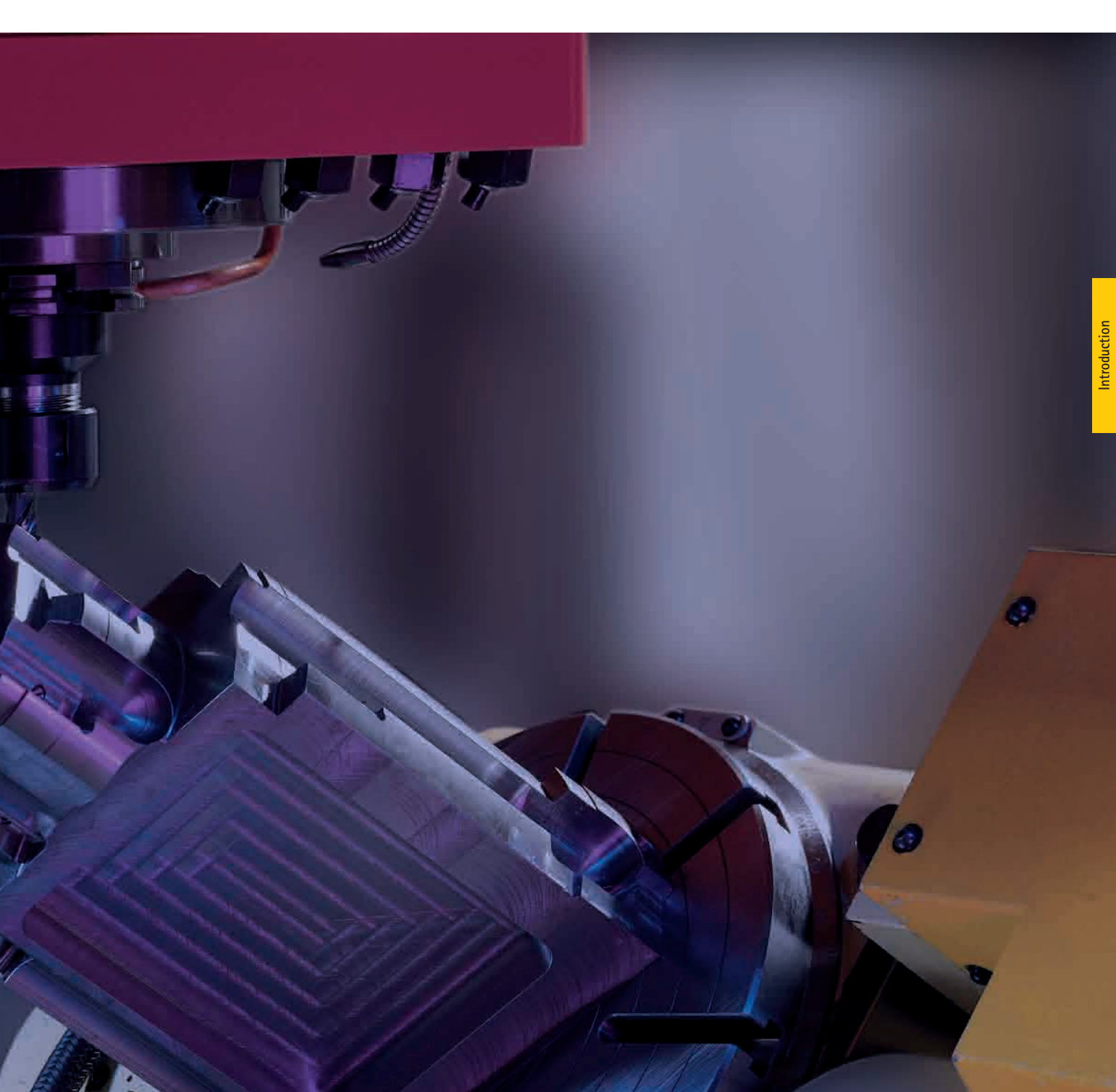
- Fixed indexable inserts ensure that handling during insert change is extremely easy. When using MAPAL inserts in tolerance class X, levels of precision can now be achieved with this type of mounting which were previously only possible with adjustable systems.
- With MAPAL's simple and effective adjustment methods which act directly on the inserts, multiple insert boring or milling tools can, for example, be set in such a way that the actual multiple insert function which this allows also produces longer tool life.
- Where significant setting adjustments are required it is appropriate to use a cartridge. In addition to the ISO cartridges MAPAL also offers an interesting programme of standardised MAPAL ISO cartridges and cartridges which can be preset. For complete tools and large boring tools this provides the best possible conditions for best production.

Other versions are produced by using special inserts, which are often used for machining complex and highly accurate contours.



An up-to-date machine shop with the latest production technology and qualified personnel guarantee maximum precision and at the same time maintain high production capacity and flexibility.





Accuracy classes for fixed mounting

Space-saving design and easy handling make direct mounting of indexable ISO inserts on the tool body the most frequently used method. Because the inserts are offset, complex contours can be completely machined with one tool. If necessary profile inserts can also be introduced with this method, which allow even more contours to be machined with a single tool.

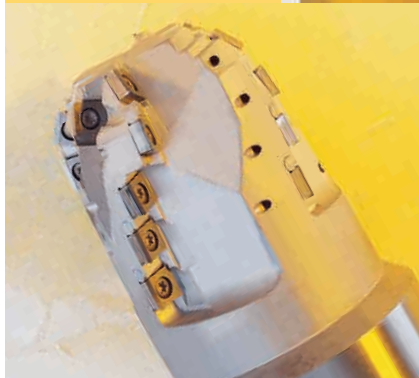
The fixed mounting is used for numerous applications in pre- and semi-machining operations. However, the continuing trend in high performance cutting and the demands which this makes for short machining times can only be met by increasing the use of multiple-insert tools. In order to be able to offer real multiple insert options, MAPAL has introduced ISO inserts with the new tolerance grade X, which are up to 50 % below the tolerances for grade H. Combined with high-precision manufacturing for the insert pockets, this also allows tolerances to be achieved which were previously scarcely possible with fixed insert pockets.

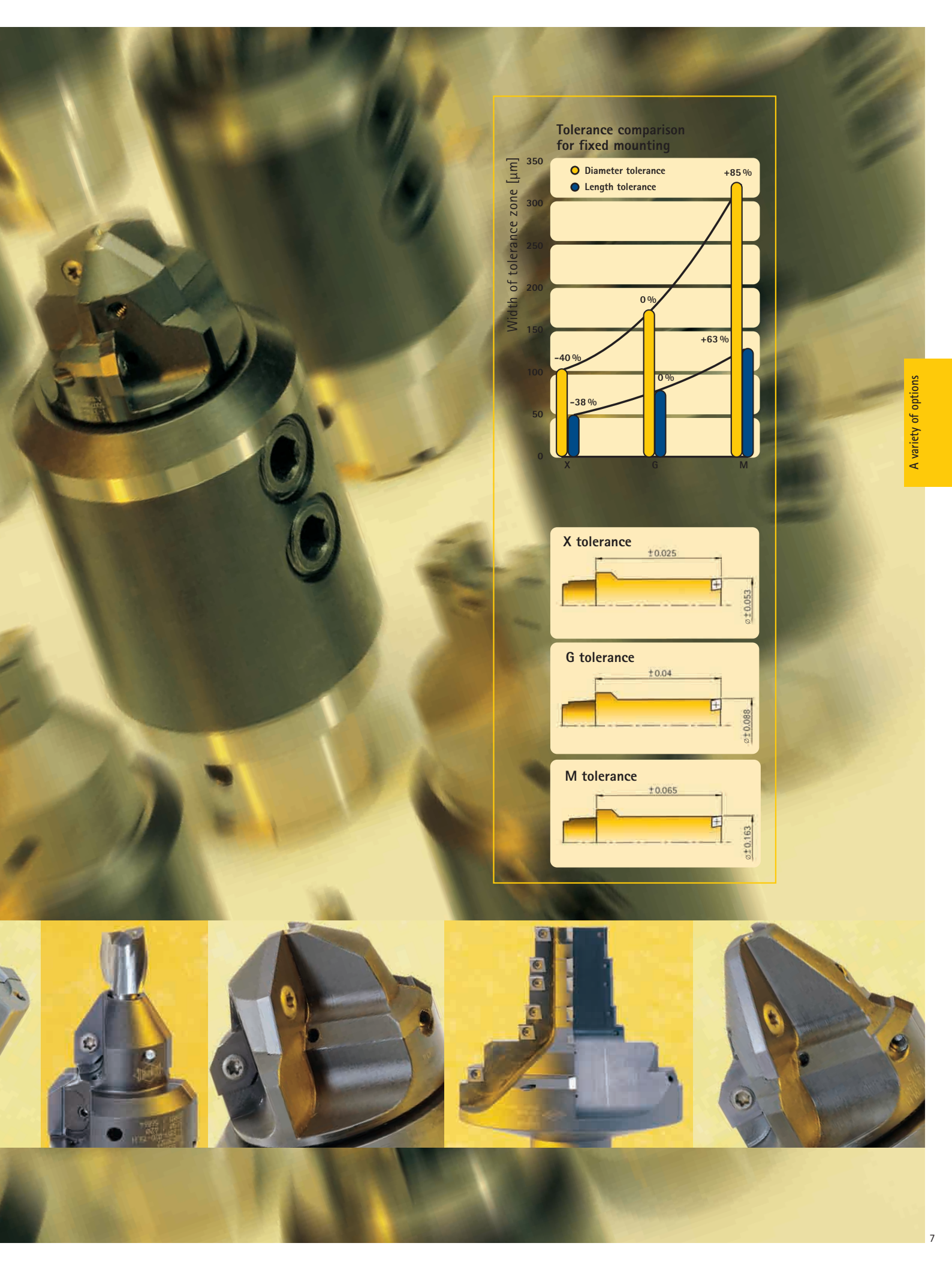
Supported by in-depth trials, it is possible to calculate exact tolerance zones for each ISO insert type, in conjunction with the appropriate approach angle. This is of decisive importance even when designing the production sequence.

MAPAL special tools with indexable ISO inserts are designed and manufactured to customer requirements in all versions. In addition to the indexable ISO inserts offered here, further options, which are unrelated to a specific manufacturer, guarantee the best possible result.

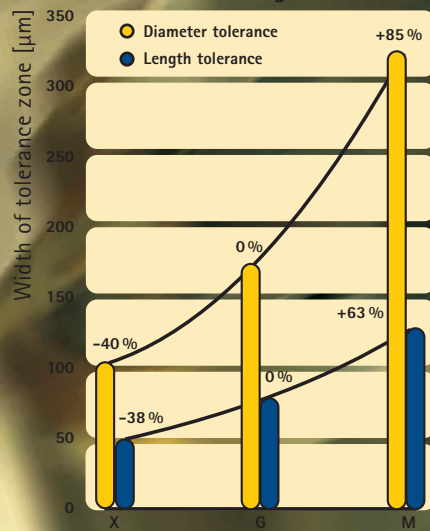


The use of indexable inserts with fixed pockets allows special tools to machine completely, complex contours.

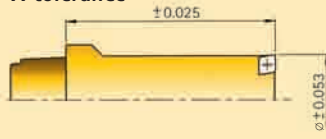




Tolerance comparison for fixed mounting



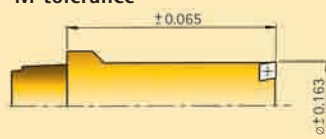
X tolerance



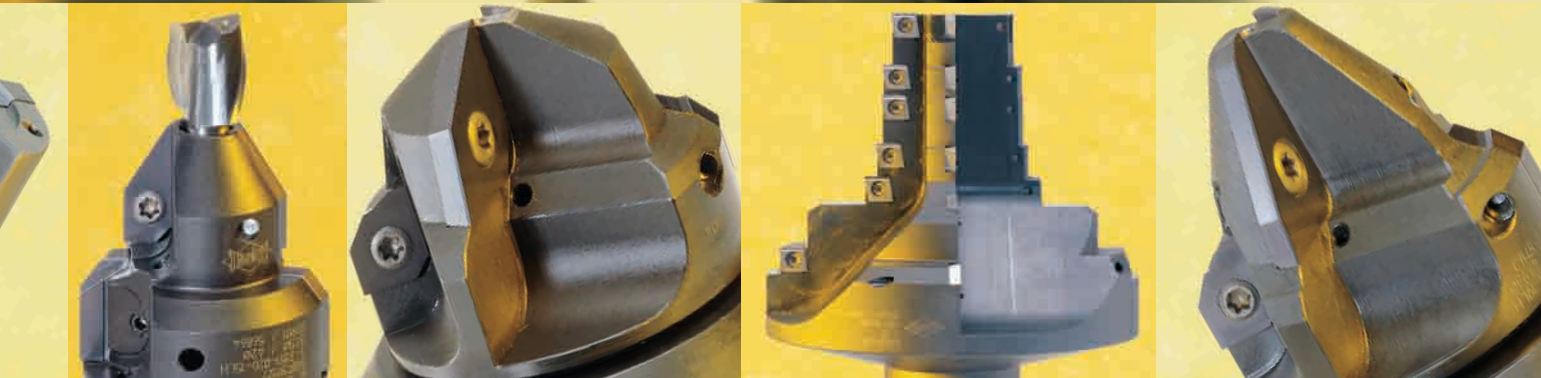
G tolerance



M tolerance



A variety of options



MAPAL adjustment with setting wedge and differential screw allow the inserts to be accurately set.



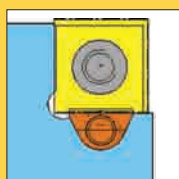
High performance with accurate adjustment

Optimum machining results for boring tools in the context of quality and tool life depend largely on the concentricity of the tool. Beside machine spindle and tool interface, accuracy of inserts and pockets are decisive for that. However, as the permissible tolerances for ISO inserts (particularly in M but also in G grade) are too large to safely achieve the concentricity of $< 10 \mu\text{m}$ required for reliable use, it is necessary to adapt these by using adjustment. It is only by providing the means to make this adjustment that a true multiple insert facility and the range of machining results expected for modern HPC cutting can be achieved.

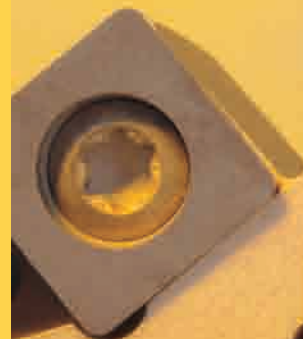
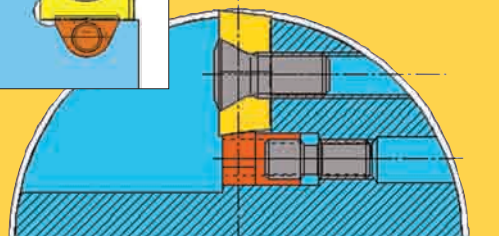
MAPAL has developed an extremely simple and effective means of adjusting ISO inserts to high precision to produce an extremely accurate and repeatable precision on the inserts. With a twin insert tool with two ISO inserts, for example, this allows the two cutting edges to be exactly positioned in relation to one another and as a result both inserts perform perfectly.

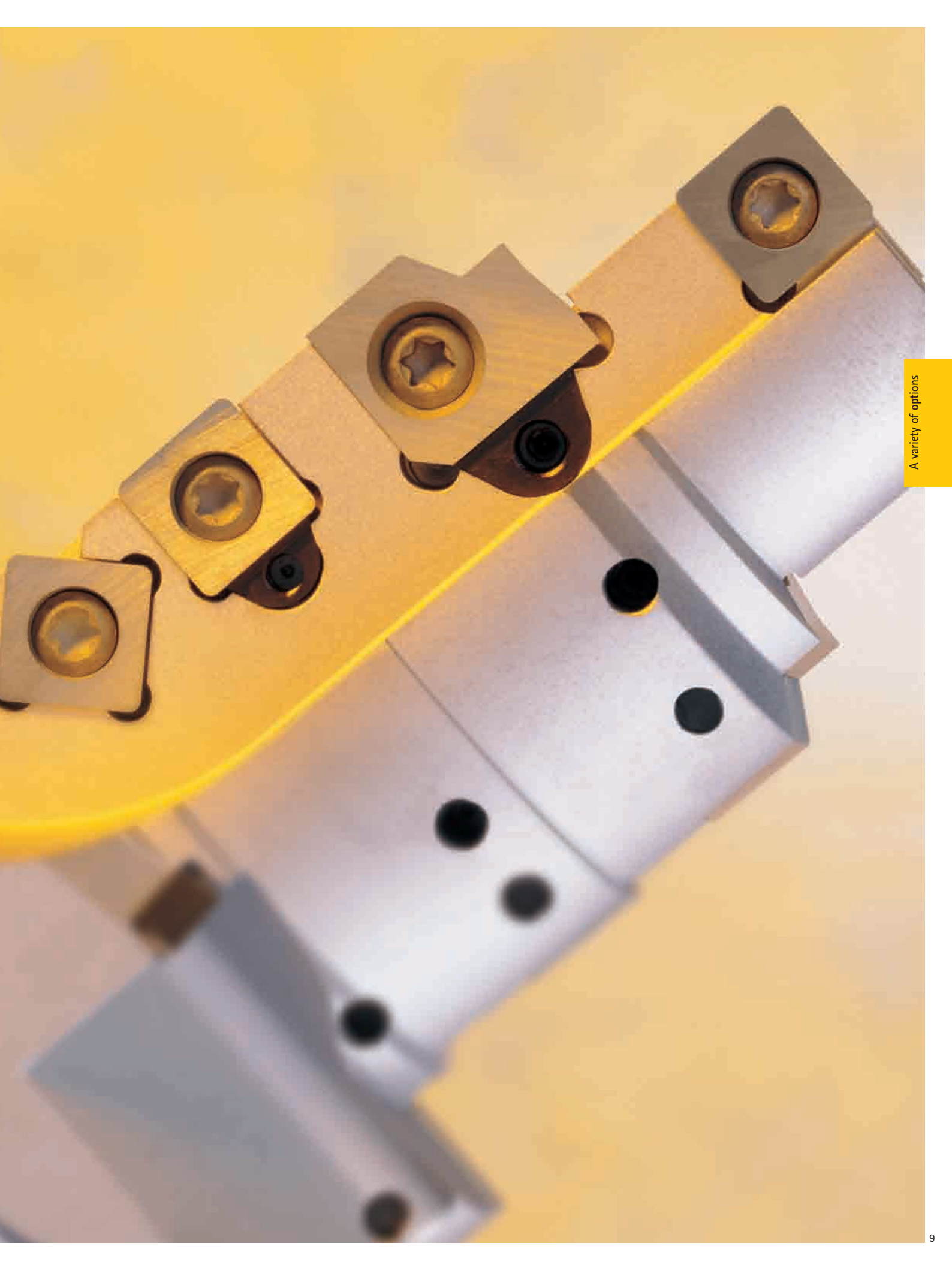
The setting piece, which also allows resetting, consists of the precision-manufactured wedge and a differential screw. The wedge is applied over the whole length of the insert, providing a secure hold. By moving the wedge the insert is pressed outwards over the inclined surface. This makes use of the slight gap, which exists between the clamping screw and the hole in the insert, and the elasticity of the clamping screw. A setting range of up to 0.1 mm is easily possible – i.e. 0.2 mm in the diameter. One particular aspect is that the adjustment process does not affect the approach angle of the insert. By rotating the adjustment arrangement an axial adjustment can also be effected in the same way – also axial and radial if two setting wedges are used.

In practice – in which the system has already been tried and tested – using these adjustment methods produces a clear increase in tool life, an increase in feed rates and the economic advantages this provides.



The new MAPAL adjustment system with setting wedges and differential screw allows adjustments of up to 0.2 mm in the diameter in the tightest spaces.





MAPAL ISO cartridges for numerous interesting application areas

To protect the tool body it is advisable to use ISO cartridges – particularly for multi-stepped tool bodies. A minimum diameter is required for using these elements. In addition to setting with a large adjustment range, because they can be replaced quickly and easily the ISO cartridges also offer interesting possibilities for numerous applications. As a result ISO cartridges are used both for external and for internal machining operations. Where changes are required, for example for chamfer angle or for a repair, the ISO cartridges can be replaced at low cost.

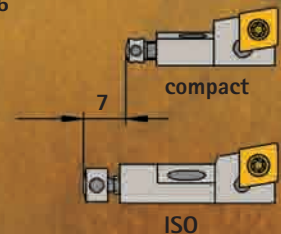
MAPAL's range of ISO cartridges is particularly versatile. In addition to the standard ISO cartridges, a series of compact cartridges is also available. Shorter lengths mean that even more design options are available for special tools. By using these

compact cartridges, complex tools, which are not affected by axial overlap, can often be produced. In addition to this programme, special cartridges are available for any application.

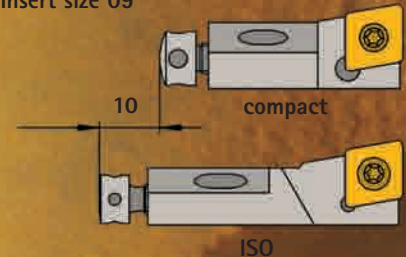
For large and heavy boring bars precise setting for the ISO cartridges is often carried out on the machine. To avoid machine stoppage time and the use of special equipment such as sweep gauges which this involves, MAPAL offers innovative solutions for ISO cartridges which can be set to high precision away from the boring bar. In addition to a ISO cartridge, which is adjusted at an angle, there is also an adjustable ISO cartridge with HFS® connection. These systems guarantee a changeover, which is totally repeatable and often results in considerable savings.

Comparison of ISO cartridge with MAPAL compact cartridge

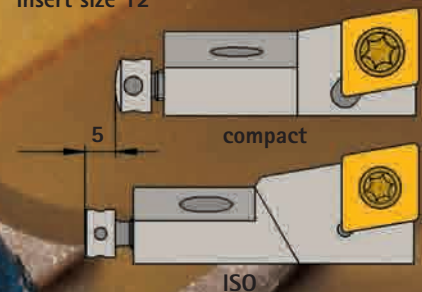
Insert size 06



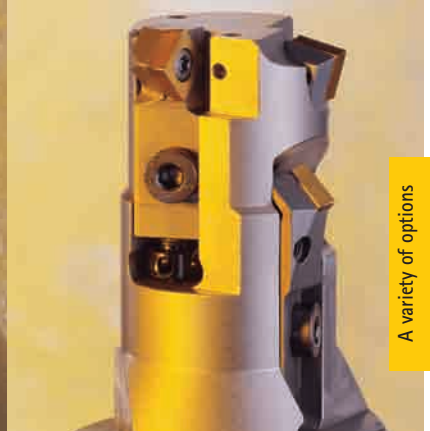
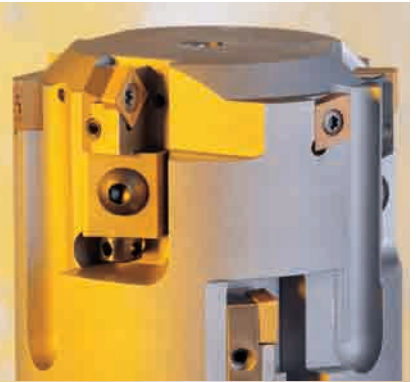
Insert size 09



Insert size 12



Even where ISO cartridges are fitted, special tools are possible for the complete machining of internal and external steps and forms.



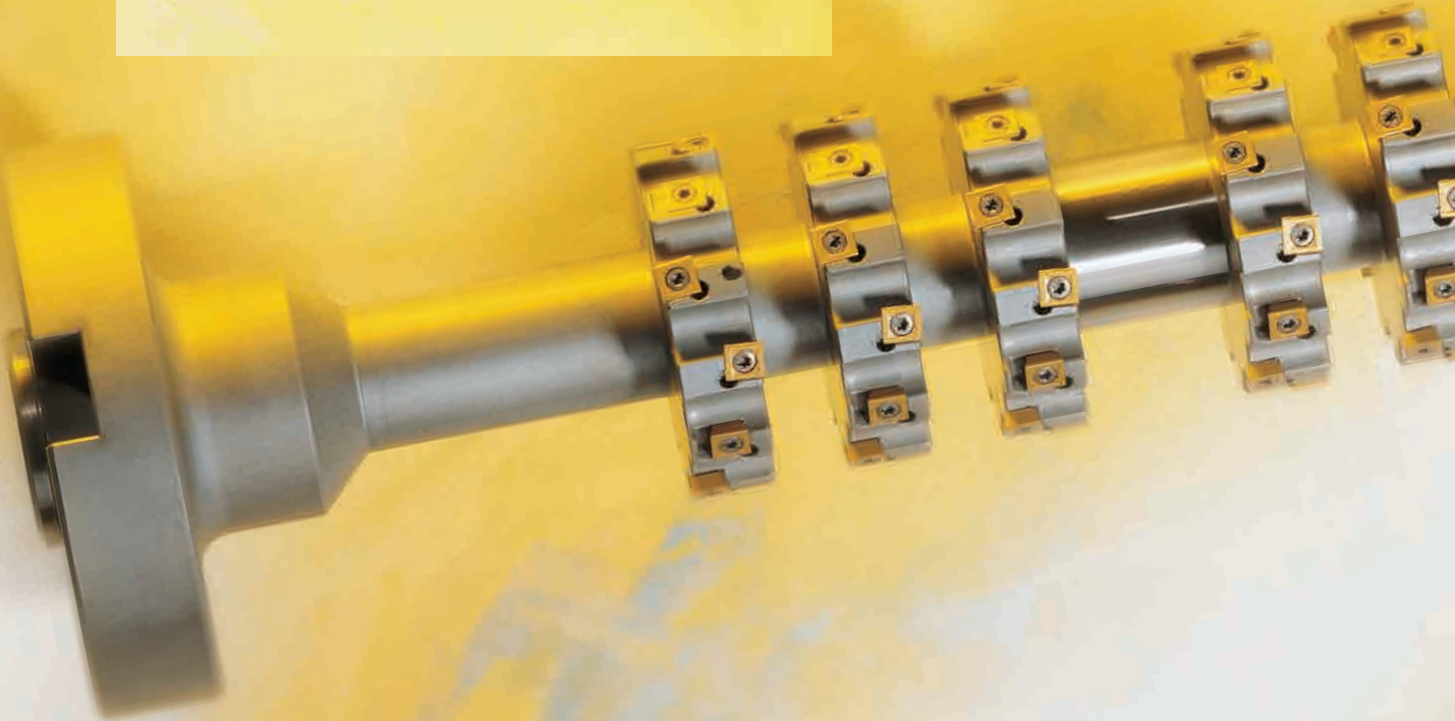
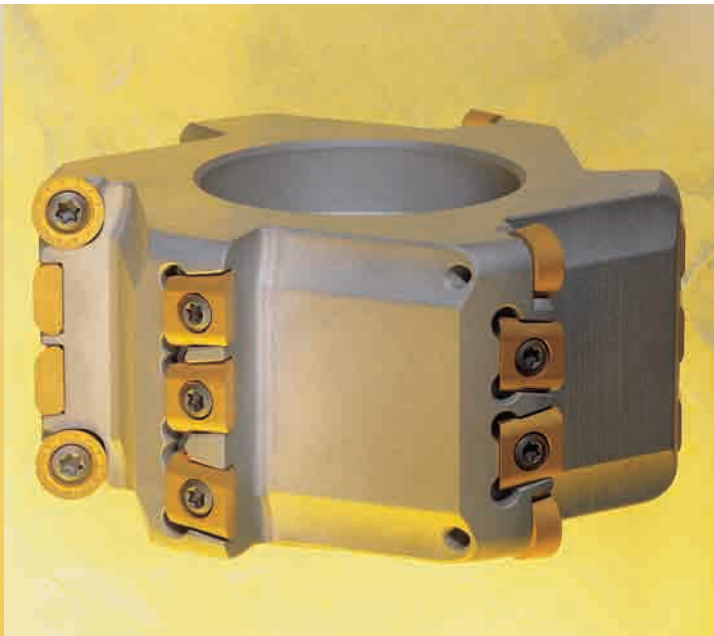
A variety of options



These special MAPAL ISO cartridges from MAPAL are characterised by the fact that they can be set to high precision away from the tools. One version can be set at an angle.

With the other design the new HFS® system is used. With this high precision connection the ISO cartridge (in which a MAPAL adjustment device is incorporated) is held in the tool body and can be changed with repeatable accuracy.





Tangential inserts offer packaging and mounting advantages as well as a smooth cut and high cutting values.



A variety of options



Tangential inserts with special advantages

MAPAL has made interesting developments in the milling area. By using the advantages, which have arisen from tangential inserts MAPAL produces special tools with impressive features.

Fitting MAPAL tangential inserts is carried out to tight tolerances, which corresponds to the performance achieved by inserts in the X category. The positive ground cutting edges on the tangential inserts allow an extremely smooth cut, which produces long tool life and good quality results. Compared to using standard ISO indexable

inserts more inserts can also be incorporated onto the tool with the same or an even higher level of stability in the tool body. This results in higher feed rates being applied.

As for economic machining of bores with complete tools with several steps and transitions, complete tools are also available for milling. For example under stable conditions geometries, which would otherwise be expensive to achieve, are now produced by circular milling. Where it proves viable, suitable form inserts with special milling tools can also produce amazing effects.

S C X T 0 9 T 3 0 4 F 0 1

insert form

S (90°)
C (80°)
T (60°)

tolerance

code	d	m	s
G	± 0.025	± 0.025	$\pm 0.5-0.13$
M	$\pm 0.05-0.15$	$\pm 0.08-0.2$	$\pm 0.5-0.13$
*tolerance depends on insert size			
X	smaller H-tolerance		

insert size

inscribed circle	d	d	d
d(mm)	S	C	T
5.56	-	05	-
6.35	06	06	-
7.938	-	-	-
9.525	09	09	-
12.7	12	12	15

corner radius

	
code	r(mm)
02	0.2
04	0.4
08	0.8
12	1.2

cutting edge form

code	form
F 01	sharp
E 01 99	rounded

clearance angle

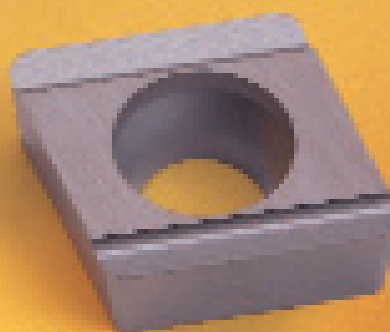
	
C	7°
P	11°

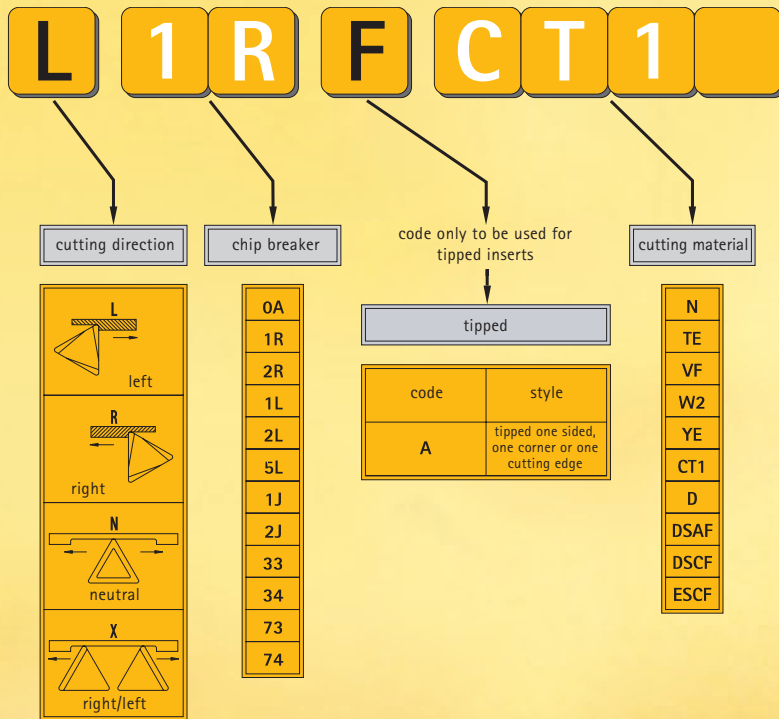
insert type

40°-60°
T
40°-60°
W

insert thickness

	
code	s(mm)
02	2.38
03	3.18
T3	3.97
04	4.76





Indexable inserts

As a natural progression from the various tool concepts and the different mounting methods which these produced, MAPAL offers a range of inserts which covers the requirements with a variety of cutting materials and coatings and the relevant insert geometries and levels of accuracy. In allocating codes for the inserts, a code system was developed which relates closely to the coding under DIN 4987. This then had the specific reference features added for MAPAL. In the reference code illustrated only those features are shown which correspond to the standard supply programme listed from page 16 onwards.

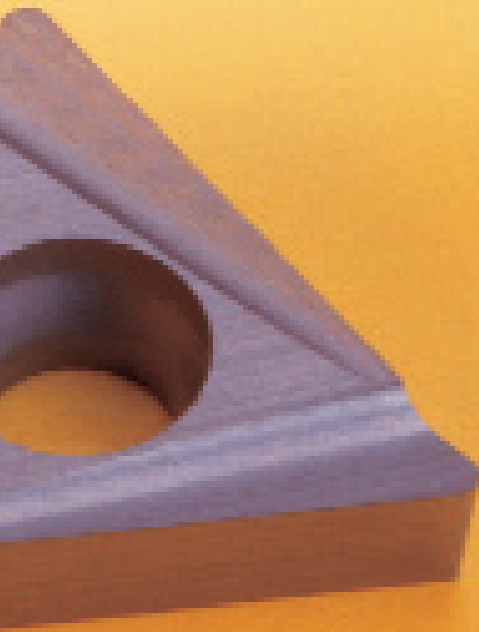
For multiple insert tools, even where these are fixed, the high precision MAPAL inserts in accuracy class X combined with accurately manufactured insert pockets allow only small deviations in the inserts in relation to one another and this in turn produces a 'true' multi-insert function and significant increases in performance. The high-precision inserts are listed in the tables from page 18 onwards and can be supplied in a wide range with regard to geometry and cutting materials.

Other cutting materials can be supplied for the complete range on request.

Also included in the standard programme are the most widely used inserts fitted with PCD synthetic cutting materials.



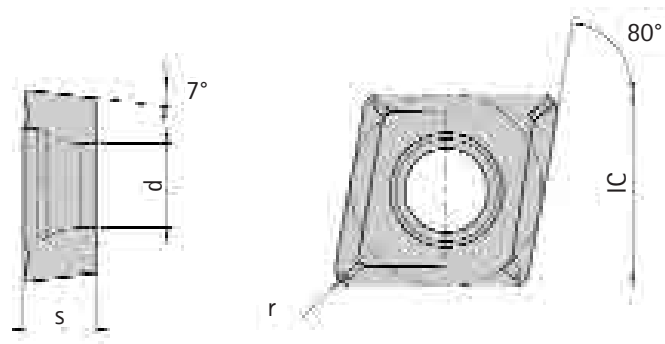
Indexable inserts



MAPAL indexable inserts

M grade – standard

CCMT



Reference code	chipbreaker	IC mm	d mm	s mm	r mm	max ap mm	Order description: Insert with order number			material
							carbide coated			
							DSAF	DSCF	ESCF	
CCMT 060202 N	-33	6,35	2,8	2,38	0,2	1,7			10061391	steel
CCMT 09T304 N	-33	9,525	4,4	3,97	0,4	2			10061392	
CCMT 09T308 N	-34	9,525	4,4	3,97	0,8	0,8			10026967	
CCMT 120408 N	-34	12,7	5,5	4,76	0,8	3,6			10061393	
CCMT 120412 N	-34	12,7	5,5	4,76	1,2	3,6			10061394	
CCMT 060204 N	-73	6,35	2,8	2,38	0,4	1,7	10026974			cast iron
CCMT 09T304 N	-73	9,525	4,4	3,97	0,4	2	10045117	10061397		
CCMT 09T308 N	-74	9,525	4,4	3,97	0,8	3	10046040	10026975		
CCMT 120408 N	-74	12,7	5,5	4,76	0,8	3,6	10034846	10047155		
CCMT 120412 N	-74	12,7	5,5	4,76	1,2	3,6		10061398		

Ordering example: 50 off inserts – order no. 10026974
or
50 off inserts CCMT060204N-73DSAF

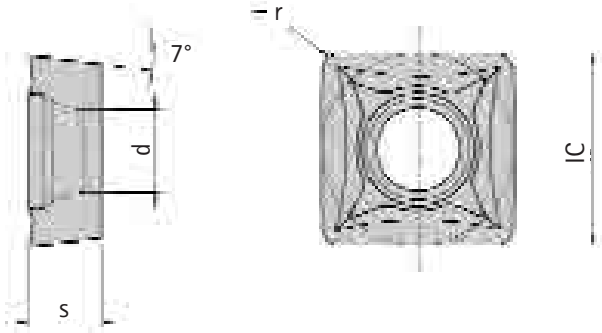
Clamping screw for inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
SP __ 0603 __	M2,5x6	T8	10019600	0,8
SC __ 09T3 __	M3,5x9	T15	10017389	2,5
SC __ 1204 __	M5x11	T20	10059857	5
CC __ 0602 __	M2,5x6	T8	10019600	0,8
CC __ 09T3 __	M3,5x9	T15	10017389	2,5
CC __ 1204 __	M5x11	T20	10059857	5
TC __ 0902 __	M2,2x5,5	T7	10018764	0,6
TC __ 1102 __	M2,5x6	T8	10019600	0,8

MAPAL indexable inserts

M grade – standard

SCMT



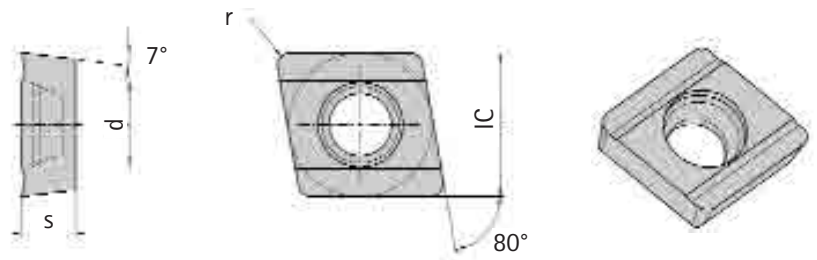
Reference code	chipbreaker	IC mm	d mm	s mm	r mm	max a _p mm	Order description: Insert with order number		material
							carbide coated		
							DSCF	ESCF	
SCMT 09T304 N	-33	9,525	4,4	3,97	0,4	2		10061400	steel
SCMT 09T308 N	-34	9,525	4,4	3,97	0,8	3		10026921	
SCMT 120408 N	-34	12,7	5,5	4,76	0,8	3,6		10026943	
SCMT 120412 N	-34	12,7	5,5	4,76	1,2	3,6		10026944	
SCMT 09T304 N	-74	9,525	4,4	3,97	0,4	2	10052232		cast iron
SCMT 09T308 N	-74	9,525	4,4	3,97	0,8	3	10026960		
SCMT 120408 N	-74	12,7	5,5	4,76	0,8	3,6	10026962		
SCMT 120412 N	-74	12,7	5,5	4,76	1,2	3,6	10026963		

Ordering example: 50 off inserts – order no. 10052232
or
50 off inserts SCMT09T304N-74DSCF

MAPAL indexable inserts

X grade

high precision MAPAL version CCXT



Reference code	IC mm	d mm	s mm	r mm	a _p mm	Order description: Insert with order number					material
						carbide uncoated N	TE	carbide coated VF	W2	YE	Cermet CT1

edge preparation F01 cutting direction L chip breaker 1L

CCXT 060202	6,35	2,8	2,38	0,2	4,3			30085543			30010936	steel
CCXT 060204	6,35	2,8	2,38	0,4	4,3			30085544			30010937	
CCXT 060208	6,35	2,8	2,38	0,8	4,3			30085546			30010938	
CCXT 09T302	9,525	4,4	3,97	0,2	6,4			30085548			30010939	
CCXT 09T304	9,525	4,4	3,97	0,4	6,4			30085549			30010940	
CCXT 09T308	9,525	4,4	3,97	0,8	6,4			30085550			30010941	
CCXT 120402	12,7	5,5	4,76	0,2	8,5			30085551			30010942	
CCXT 120404	12,7	5,5	4,76	0,4	8,5			30085552			30010943	
CCXT 120408	12,7	5,5	4,76	0,8	8,5			30085553			30010944	
CCXT 120412	12,7	5,5	4,76	1,2	8,5			30085554			30010945	

edge preparation F01 cutting direction L chip breaker 1J

CCXT 060202	6,35	2,8	2,38	0,2	4,3	30010692	30085555		30019582	30010842		cast iron
CCXT 060204	6,35	2,8	2,38	0,4	4,3	30010693	30015165		30020098	30010843		
CCXT 060208	6,35	2,8	2,38	0,8	4,3	30010694	30085556		30020099	30010844		
CCXT 09T302	9,525	4,4	3,97	0,2	6,4	30010695	30085557		30020100	30010845		
CCXT 09T304	9,525	4,4	3,97	0,4	6,4	30010696	30025165		30020101	30010846		
CCXT 09T308	9,525	4,4	3,97	0,8	6,4	30010697	30019103		30020102	30010847		
CCXT 120402	12,7	5,5	4,76	0,2	8,5	30010698	30085558		30020103	30010848		
CCXT 120404	12,7	5,5	4,76	0,4	8,5	30010699	30085559		30020104	30010849		
CCXT 120408	12,7	5,5	4,76	0,8	8,5	30010700	30019102		30020105	30010850		
CCXT 120412	12,7	5,5	4,76	1,2	8,5	30010701	30034340		30020106	30010851		

edge preparation F01 cutting direction L chip breaker 1R

CCXT 060202	6,35	2,8	2,38	0,2	4,3	30010702						non ferrous metal
CCXT 060204	6,35	2,8	2,38	0,4	4,3	30010703						
CCXT 060208	6,35	2,8	2,38	0,8	4,3	30010704						
CCXT 09T302	9,525	4,4	3,97	0,2	6,4	30010705						
CCXT 09T304	9,525	4,4	3,97	0,4	6,4	30010706						
CCXT 09T308	9,525	4,4	3,97	0,8	6,4	30010707						
CCXT 120402	12,7	5,5	4,76	0,2	8,5	30010708						
CCXT 120404	12,7	5,5	4,76	0,4	8,5	30010709						
CCXT 120408	12,7	5,5	4,76	0,8	8,5	30010710						
CCXT 120412	12,7	5,5	4,76	1,2	8,5	30010711						

Ordering example: 50 off inserts – order no. 30010692

or

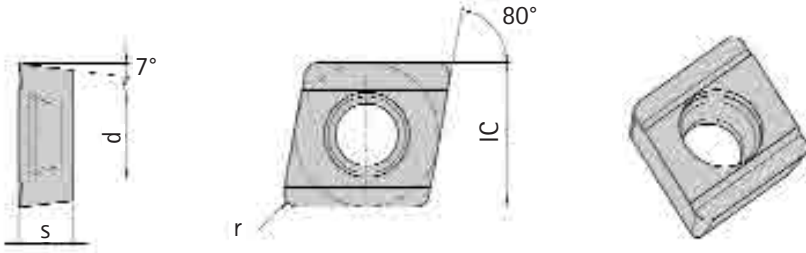
50 off inserts CCXT060202F01L-1JN

For table of clamping screws for inserts, see page 20.

MAPAL indexable inserts

X grade

high precision MAPAL version CCXT



Reference code	IC mm	d mm	s mm	r mm	a _p mm	Order description: Insert with order number					material
						carbide uncoated N	TE	carbide coated VF	W2	YE	Cermet CT1

edge preparation F01 cutting direction R chip breaker 1L

CCXT 060202	6,35	2,8	2,38	0,2	4,3			30085560			30010946	steel
CCXT 060204	6,35	2,8	2,38	0,4	4,3			30085561			30010947	
CCXT 060208	6,35	2,8	2,38	0,8	4,3			30085562			30010948	
CCXT 09T302	9,525	4,4	3,97	0,2	6,4			30085563			30010949	
CCXT 09T304	9,525	4,4	3,97	0,4	6,4			30085564			30010950	
CCXT 09T308	9,525	4,4	3,97	0,8	6,4			30085565			30010951	
CCXT 120402	12,7	5,5	4,76	0,2	8,5			30085566			30010952	
CCXT 120404	12,7	5,5	4,76	0,4	8,5			30085567			30010953	
CCXT 120408	12,7	5,5	4,76	0,8	8,5			30085568			30010954	
CCXT 120412	12,7	5,5	4,76	1,2	8,5			30085569			30010955	

edge preparation F01 cutting direction R chip breaker 1J

CCXT 060202	6,35	2,8	2,38	0,2	4,3	30010722	30085570		30019583	30010862		cast iron
CCXT 060204	6,35	2,8	2,38	0,4	4,3	30010723	30038721		30020107	30010863		
CCXT 060208	6,35	2,8	2,38	0,8	4,3	30010724	30085571		30020108	30010864		
CCXT 09T302	9,525	4,4	3,97	0,2	6,4	30010725	30085572		30020109	30010865		
CCXT 09T304	9,525	4,4	3,97	0,4	6,4	30010726	30085573		30020110	30010866		
CCXT 09T308	9,525	4,4	3,97	0,8	6,4	30010727	30085574		30020111	30010867		
CCXT 120402	12,7	5,5	4,76	0,2	8,5	30010728	30085575		30020112	30010868		
CCXT 120404	12,7	5,5	4,76	0,4	8,5	30010729	30085576		30020113	30010869		
CCXT 120408	12,7	5,5	4,76	0,8	8,5	30010730	30085577		30020114	30010870		
CCXT 120412	12,7	5,5	4,76	1,2	8,5	30010731	30034141		30020115	30010871		

edge preparation F01 cutting direction R chip breaker 1R

CCXT 060202	6,35	2,8	2,38	0,2	4,3	30010732						non ferrous metal
CCXT 060204	6,35	2,8	2,38	0,4	4,3	30010733						
CCXT 060208	6,35	2,8	2,38	0,8	4,3	30010734						
CCXT 09T302	9,525	4,4	3,97	0,2	6,4	30010735						
CCXT 09T304	9,525	4,4	3,97	0,4	6,4	30010736						
CCXT 09T308	9,525	4,4	3,97	0,8	6,4	30010737						
CCXT 120402	12,7	5,5	4,76	0,2	8,5	30010738						
CCXT 120404	12,7	5,5	4,76	0,4	8,5	30010739						
CCXT 120408	12,7	5,5	4,76	0,8	8,5	30010740						
CCXT 120412	12,7	5,5	4,76	1,2	8,5	30010741						

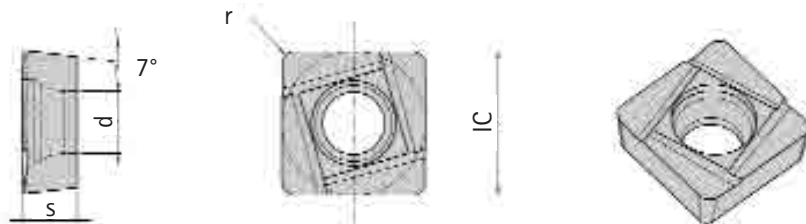
Ordering example: 50 off inserts – order no. 30010722
or
50 off inserts CCXT060202F01R-1JN

For table of clamping screws for inserts, see page 20.

MAPAL indexable inserts

X grade

high precision MAPAL version SCXT/SPXT



Reference code	IC mm	d mm	s mm	r mm	a _p mm	Order description: Insert with order number					material
						carbide uncoated N	TE	carbide coated VF	W2	YE	Cermet CT1

edge preparation F01 cutting direction L chip breaker 2L

SPXT 060304*	6,35	2,8	3,18	0,4	1,9			30085578			30010918	steel
SCXT 09T304	9,525	4,4	3,97	0,4	3,0			30085579			30010919	
SCXT 09T308	9,525	4,4	3,97	0,8	3,0			30085580			30010920	
SCXT 120404	12,7	5,5	4,76	0,4	5,0			30085581			30010921	
SCXT 120408	12,7	5,5	4,76	0,8	5,0			30085582			30010922	
SCXT 120412	12,7	5,5	4,76	1,2	5,0			30085583			30010923	

edge preparation F01 cutting direction L chip breaker 2J

SPXT 060304*	6,35	2,8	3,18	0,4	1,9	30010628	30085584		30020081	30010806		cast iron
SCXT 09T304	9,525	4,4	3,97	0,4	3,0	30010629	30019101		30020082	30010807		
SCXT 09T308	9,525	4,4	3,97	0,8	3,0	30010640	30036294		30020083	30010808		
SCXT 120404	12,7	5,5	4,76	0,4	5,0	30010641	30085585		30020084	30010809		
SCXT 120408	12,7	5,5	4,76	0,8	5,0	30010642	30085586		30020085	30010810		
SCXT 120412	12,7	5,5	4,76	1,2	5,0	30010643	30085587		30020086	30010811		

edge preparation F01 cutting direction L chip breaker 2R

SPXT 060304*	6,35	2,8	3,18	0,4	1,9	30010644						non ferrous metal
SCXT 09T304	9,525	4,4	3,97	0,4	3,0	30010645						
SCXT 09T308	9,525	4,4	3,97	0,8	3,0	30010646						
SCXT 120404	12,7	5,5	4,76	0,4	5,0	30010647						
SCXT 120408	12,7	5,5	4,76	0,8	5,0	30010648						
SCXT 120412	12,7	5,5	4,76	1,2	5,0	30010649						

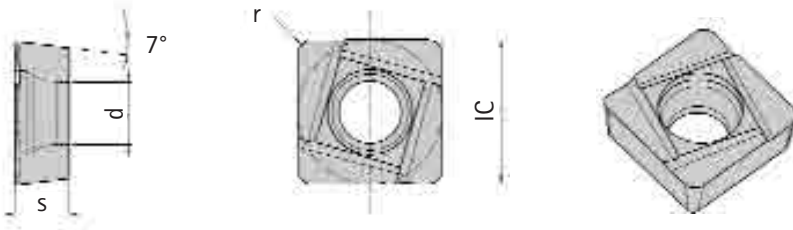
* $\alpha = 11^\circ$

ordering example: 50 off inserts – order no. 30085584
or
50 off inserts SPXT060304F01L-2JTE

Clamping screw for inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
SP __ 0603 __	M2,5x6	T8	10019600	0,8
SC __ 09T3 __	M3,5x9	T15	10017389	2,5
SC __ 1204 __	M5x11	T20	10059857	5
CC __ 0602 __	M2,5x6	T8	10019600	0,8
CC __ 09T3 __	M3,5x9	T15	10017389	2,5
CC __ 1204 __	M5x11	T20	10059857	5
TC __ 0902 __	M2,2x5,5	T7	10018764	0,6
TC __ 1102 __	M2,5x6	T8	10019600	0,8

MAPAL indexable inserts X grade high precision MAPAL version SCXT/SPXT



Reference code	IC mm	d mm	s mm	r mm	a _p mm	Order description: Insert with order number					material
						carbide uncoated N	TE	VF	W2	YE	CT1

edge preparation F01 cutting direction R chip breaker 2L

SPXT 060304*	6,35	2,8	3,18	0,4	1,9			30085588			30010924	steel
SCXT 09T304	9,525	4,4	3,97	0,4	3,0			30085589			30010925	
SCXT 09T308	9,525	4,4	3,97	0,8	3,0			30085590			30010926	
SCXT 120404	12,7	5,5	4,76	0,4	5,0			30085591			30010927	
SCXT 120408	12,7	5,5	4,76	0,8	5,0			30085593			30010928	
SCXT 120412	12,7	5,5	4,76	1,2	5,0			30085594			30010929	

edge preparation F01 cutting direction R chip breaker 2J

SPXT 060304*	6,35	2,8	3,18	0,4	1,9	30010656	30014875		30020087	30010818		cast iron
SCXT 09T304	9,525	4,4	3,97	0,4	3,0	30010657	30085595		30020088	30010819		
SCXT 09T308	9,525	4,4	3,97	0,8	3,0	30010658	30085596		30020089	30010820		
SCXT 120404	12,7	5,5	4,76	0,4	5,0	30010659	30085597		30020090	30010821		
SCXT 120408	12,7	5,5	4,76	0,8	5,0	30010660	30085598		30020091	30010822		
SCXT 120412	12,7	5,5	4,76	1,2	5,0	30010661	30085599		30020092	30010823		

edge preparation F01 cutting direction R chip breaker 2R

SPXT 060304*	6,35	2,8	3,18	0,4	1,9	30010662						non ferrous metal
SCXT 09T304	9,525	4,4	3,97	0,4	3,0	30010663						
SCXT 09T308	9,525	4,4	3,97	0,8	3,0	30010664						
SCXT 120404	12,7	5,5	4,76	0,4	5,0	30010665						
SCXT 120408	12,7	5,5	4,76	0,8	5,0	30010666						
SCXT 120412	12,7	5,5	4,76	1,2	5,0	30010667						

* $\alpha = 11^\circ$

ordering example: 50 off inserts – order no. 30010662
or
50 off inserts SPXT060304F01R-2RN

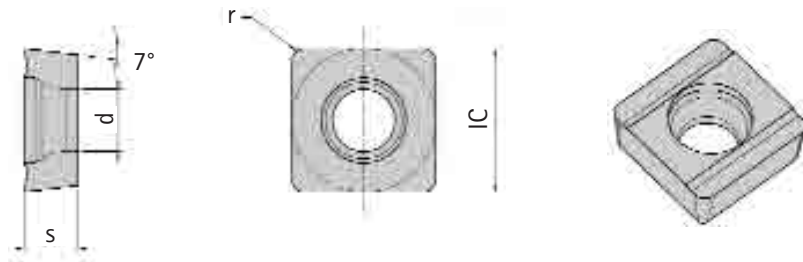
Clamping screw for inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
SP __ 0603 __	M2,5x6	T8	10019600	0,8
SC __ 09T3 __	M3,5x9	T15	10017389	2,5
SC __ 1204 __	M5x11	T20	10059857	5
CC __ 0602 __	M2,5x6	T8	10019600	0,8
CC __ 09T3 __	M3,5x9	T15	10017389	2,5
CC __ 1204 __	M5x11	T20	10059857	5
TC __ 0902 __	M2,2x5,5	T7	10018764	0,6
TC __ 1102 __	M2,5x6	T8	10019600	0,8

MAPAL indexable inserts

X grade

high precision MAPAL version SCXT/SPXT



Reference code	IC mm	d mm	s mm	r mm	a _p mm	Order description: Insert with order number					material
						carbide uncoated N	TE	carbide coated VF	W2	YE	Cermet CT1

edge preparation F01 cutting direction X chip breaker 1L

SPXT 060304*	6,35	2,8	3,18	0,4	4,3			30085600			30010930	steel
SCXT 09T304	9,525	4,4	3,97	0,4	6,4			30085601			30010931	
SCXT 09T308	9,525	4,4	3,97	0,8	6,4			30085602			30010932	
SCXT 120404	12,7	5,5	4,76	0,4	8,5			30085603			30010933	
SCXT 120408	12,7	5,5	4,76	0,8	8,5			30085604			30010934	
SCXT 120412	12,7	5,5	4,76	1,2	8,5			30085605			30010935	

edge preparation F01 cutting direction X chip breaker 1J

SPXT 060304*	6,35	2,8	3,18	0,4	4,3	30010674	30085606		30020093	30010830		cast iron
SCXT 09T304	9,525	4,4	3,97	0,4	6,4	30010675	30085607		30016661	30010831		
SCXT 09T308	9,525	4,4	3,97	0,8	6,4	30010676	30085608		30020094	30010832		
SCXT 120404	12,7	5,5	4,76	0,4	8,5	30010677	30085609		30020095	30010833		
SCXT 120408	12,7	5,5	4,76	0,8	8,5	30010678	30085610		30020096	30010834		
SCXT 120412	12,7	5,5	4,76	1,2	8,5	30010679	30085611		30020097	30010835		

edge preparation F01 cutting direction X chip breaker 1R

SPXT 060304*	6,35	2,8	3,18	0,4	4,3	30010680						non ferrous metal
SCXT 09T304	9,525	4,4	3,97	0,4	6,4	30010681						
SCXT 09T308	9,525	4,4	3,97	0,8	6,4	30010682						
SCXT 120404	12,7	5,5	4,76	0,4	8,5	30010683						
SCXT 120408	12,7	5,5	4,76	0,8	8,5	30010684						
SCXT 120412	12,7	5,5	4,76	1,2	8,5	30010685						

* $\alpha = 11^\circ$

Ordering example: 50 off inserts – order no. 30085606
or
50 off inserts SPXT060304F01X-1JTE

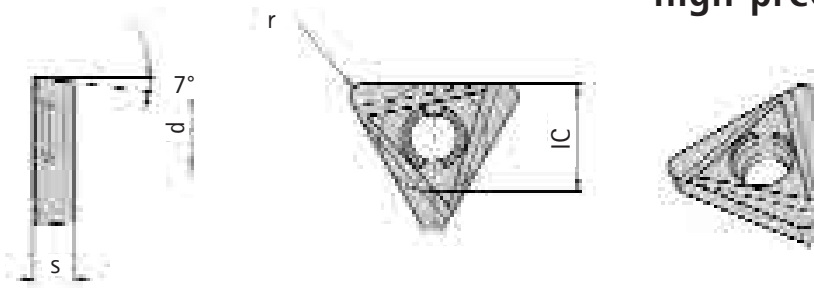
Clamping screw for inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
SP __ 0603 __	M2,5x6	T8	10019600	0,8
SC __ 09T3 __	M3,5x9	T15	10017389	2,5
SC __ 1204 __	M5x11	T20	10059857	5
CC __ 0602 __	M2,5x6	T8	10019600	0,8
CC __ 09T3 __	M3,5x9	T15	10017389	2,5
CC __ 1204 __	M5x11	T20	10059857	5
TC __ 0902 __	M2,2x5,5	T7	10018764	0,6
TC __ 1102 __	M2,5x6	T8	10019600	0,8

MAPAL indexable inserts

X grade

high precision MAPAL version TCXT



Reference code	IC mm	d mm	s mm	r mm	a _p mm	Order description: Insert with order number					material
						carbide uncoated N	TE	carbide coated VF	W2	YE	Cermet CT1

edge preparation F01 cutting direction L chip breaker 2L

TCXT 090202	5,56	2,5	2,38	0,2	2,8			30085612			30010956	steel
TCXT 090204	5,56	2,5	2,38	0,4	2,8			30085613			30010957	
TCXT 090208	5,56	2,5	2,38	0,8	2,8			30085614			30010958	
TCXT 110202	6,35	2,8	2,38	0,2	3,3			30085615			30010959	
TCXT 110204	6,35	2,8	2,38	0,4	3,3			30085616			30010960	
TCXT 110208	6,35	2,8	2,38	0,8	3,3			30085617			30010961	

edge preparation F01 cutting direction L chip breaker 2J

TCXT 090202	5,56	2,5	2,38	0,2	2,8	30010752	30085618		30020116	30010882		cast iron
TCXT 090204	5,56	2,5	2,38	0,4	2,8	30010753	30085619		30020117	30010883		
TCXT 090208	5,56	2,5	2,38	0,8	2,8	30010754	30085620		30020118	30010884		
TCXT 110202	6,35	2,8	2,38	0,2	3,3	30010755	30085621		30020119	30010885		
TCXT 110204	6,35	2,8	2,38	0,4	3,3	30010756	30085622		30020120	30010886		
TCXT 110208	6,35	2,8	2,38	0,8	3,3	30010757	30085623		30020121	30010887		

edge preparation F01 cutting direction L chip breaker 2R

TCXT 090202	5,56	2,5	2,38	0,2	2,8	30010758						non ferrous metal
TCXT 090204	5,56	2,5	2,38	0,4	2,8	30010759						
TCXT 090208	5,56	2,5	2,38	0,8	2,8	30010760						
TCXT 110202	6,35	2,8	2,38	0,2	3,3	30010761						
TCXT 110204	6,35	2,8	2,38	0,4	3,3	30010762						
TCXT 110208	6,35	2,8	2,38	0,8	3,3	30010763						

Ordering example: 50 off inserts – order no. 30010758
or
50 off inserts TCXT090202F01L-2RN

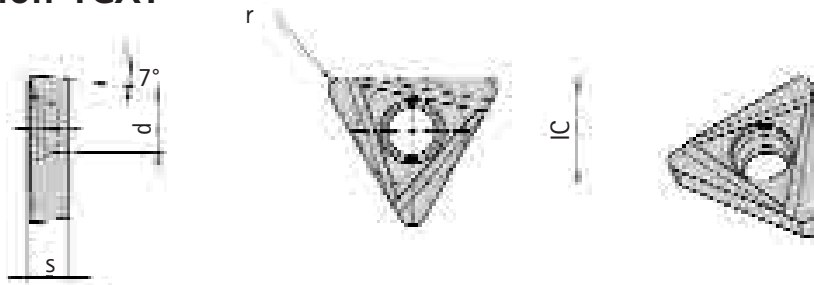
Clamping screw for inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
SP __ 0603 __	M2,5x6	T8	10019600	0,8
SC __ 09T3 __	M3,5x9	T15	10017389	2,5
SC __ 1204 __	M5x11	T20	10059857	5
CC __ 0602 __	M2,5x6	T8	10019600	0,8
CC __ 09T3 __	M3,5x9	T15	10017389	2,5
CC __ 1204 __	M5x11	T20	10059857	5
TC __ 0902 __	M2,2x5,5	T7	10018764	0,6
TC __ 1102 __	M2,5x6	T8	10019600	0,8

MAPAL indexable inserts

X grade

high precision MAPAL version TCXT



Reference code	IC mm	d mm	s mm	r mm	a _p mm	Order description: Insert with order number					material
						carbide uncoated N	TE	VF	W2	YE	Cermet CT1

edge preparation F01 cutting direction R chip breaker 2L

TCXT 090202	5,56	2,5	2,38	0,2	2,8			30085624			30010962	steel
TCXT 090204	5,56	2,5	2,38	0,4	2,8			30085625			30010963	
TCXT 090208	5,56	2,5	2,38	0,8	2,8			30085626			30010964	
TCXT 110202	6,35	2,8	2,38	0,2	3,3			30085627			30010965	
TCXT 110204	6,35	2,8	2,38	0,4	3,3			30085628			30010966	
TCXT 110208	6,35	2,8	2,38	0,8	3,3			30085629			30010967	

edge preparation F01 cutting direction R chip breaker 2J

TCXT 090202	5,56	2,5	2,38	0,2	2,8	30010770	30085630		30020132	30010894		cast iron
TCXT 090204	5,56	2,5	2,38	0,4	2,8	30010771	30085631		30020133	30010895		
TCXT 090208	5,56	2,5	2,38	0,8	2,8	30010772	30085632		30020134	30010896		
TCXT 110202	6,35	2,8	2,38	0,2	3,3	30010773	30085633		30020135	30010897		
TCXT 110204	6,35	2,8	2,38	0,4	3,3	30010774	30085634		30020136	30010898		
TCXT 110208	6,35	2,8	2,38	0,8	3,3	30010775	30085635		30020137	30010899		

edge preparation F01 cutting direction R chip breaker 2R

TCXT 090202	5,56	2,5	2,38	0,2	2,8	30010776						non ferrous metal
TCXT 090204	5,56	2,5	2,38	0,4	2,8	30010777						
TCXT 090208	5,56	2,5	2,38	0,8	2,8	30010778						
TCXT 110202	6,35	2,8	2,38	0,2	3,3	30010779						
TCXT 110204	6,35	2,8	2,38	0,4	3,3	30010780						
TCXT 110208	6,35	2,8	2,38	0,8	3,3	30010781						

Ordering example: 50 off inserts – order no. 30085630
or
50 off inserts TCXT090202F01R-2JTE

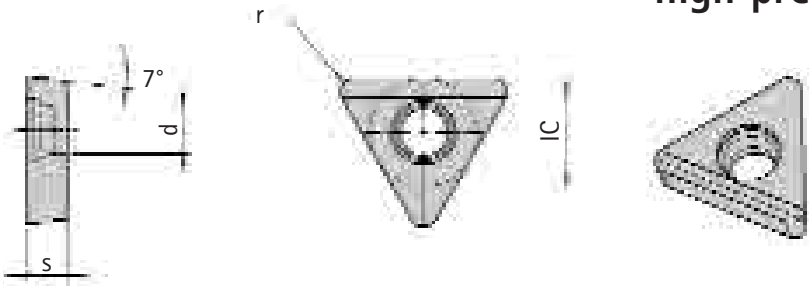
Clamping screw for inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
SP __ 0603 __	M2,5x6	T8	10019600	0,8
SC __ 09T3 __	M3,5x9	T15	10017389	2,5
SC __ 1204 __	M5x11	T20	10059857	5
CC __ 0602 __	M2,5x6	T8	10019600	0,8
CC __ 09T3 __	M3,5x9	T15	10017389	2,5
CC __ 1204 __	M5x11	T20	10059857	5
TC __ 0902 __	M2,2x5,5	T7	10018764	0,6
TC __ 1102 __	M2,5x6	T8	10019600	0,8

MAPAL indexable inserts

X grade

high precision MAPAL version TCXT



Reference code	IC mm	d mm	s mm	r mm	a _p mm	Order description: Insert with order number					material
						carbide uncoated N	TE	carbide coated VF	W2	YE	Cermet CT1

edge preparation F01 cutting direction X chip breaker 1L

TCXT 090202	5,56	2,5	2,38	0,2	6,4			30085636			30010968	steel
TCXT 090204	5,56	2,5	2,38	0,4	6,4			30085637			30010969	
TCXT 090208	5,56	2,5	2,38	0,8	6,4			30085638			30010970	
TCXT 110202	6,35	2,8	2,38	0,2	7,3			30085639			30010971	
TCXT 110204	6,35	2,8	2,38	0,4	7,3			30085640			30010972	
TCXT 110208	6,35	2,8	2,38	0,8	7,3			30085641			30010973	

edge preparation F01 cutting direction X chip breaker 1J

TCXT 090202	5,56	2,5	2,38	0,2	6,4	30010788	30085642		30020148	30010906		cast iron
TCXT 090204	5,56	2,5	2,38	0,4	6,4	30010789	30085643		30020149	30010907		
TCXT 090208	5,56	2,5	2,38	0,8	6,4	30010790	30085644		30020150	30010908		
TCXT 110202	6,35	2,8	2,38	0,2	7,3	30010791	30085645		30020151	30010909		
TCXT 110204	6,35	2,8	2,38	0,4	7,3	30010792	30085646		30020152	30010910		
TCXT 110208	6,35	2,8	2,38	0,8	7,3	30010793	30085647		30020153	30010911		

edge preparation F01 cutting direction X chip breaker 1R

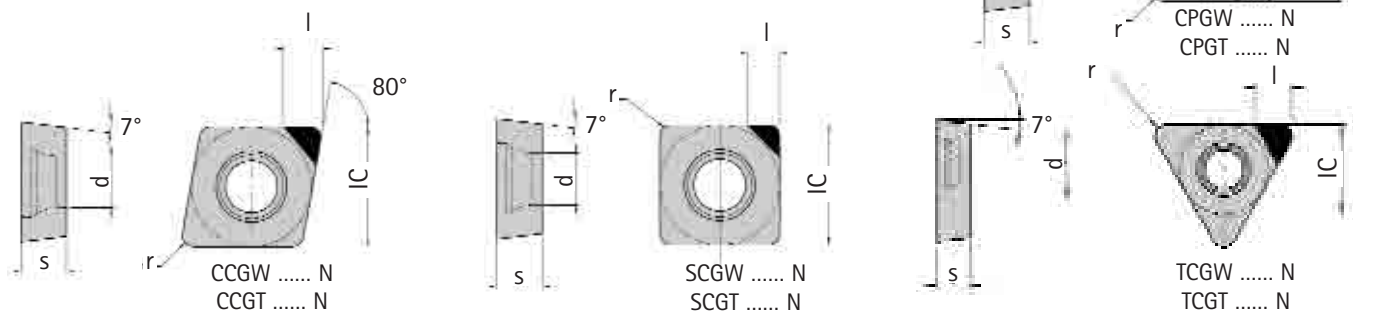
TCXT 090202	5,56	2,5	2,38	0,2	6,4	30010794						non ferrous metal
TCXT 090204	5,56	2,5	2,38	0,4	6,4	30010795						
TCXT 090208	5,56	2,5	2,38	0,8	6,4	30010796						
TCXT 110202	6,35	2,8	2,38	0,2	7,3	30010797						
TCXT 110204	6,35	2,8	2,38	0,4	7,3	30010798						
TCXT 110208	6,35	2,8	2,38	0,8	7,3	30010799						

Ordering example: 50 off inserts – order no. 30010788
or
50 off inserts TCXT090202F01X-1JN

Clamping screw for inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
SP __ 0603 __	M2,5x6	T8	10019600	0,8
SC __ 09T3 __	M3,5x9	T15	10017389	2,5
SC __ 1204 __	M5x11	T20	10059857	5
CC __ 0602 __	M2,5x6	T8	10019600	0,8
CC __ 09T3 __	M3,5x9	T15	10017389	2,5
CC __ 1204 __	M5x11	T20	10059857	5
TC __ 0902 __	M2,2x5,5	T7	10018764	0,6
TC __ 1102 __	M2,5x6	T8	10019600	0,8

MAPAL PCD inserts



Reference code	chipbreaker	IC mm	d mm	s mm	r mm	a_p^{**} mm	l mm	Order description: Insert with order number Cutting material PCD: D
CCGW 060204 F01N	-0AA-	6,35	2,8	2,38	0,4	0,5	2,5	30011027
CCGW 060208 F01N	-0AA-	6,35	2,8	2,38	0,8	0,5	2,5	30011028
CPGW 060204 F01N*	-0AA-	6,35	2,8	2,38	0,4	0,5	2,5	30011029
CPGW 060208 F01N*	-0AA-	6,35	2,8	2,38	0,8	0,5	2,5	30011030
CCGW 09T304 F01N	-0AA-	9,525	4,4	3,97	0,4	0,5	3	30011031
CCGW 09T308 F01N	-0AA-	9,525	4,4	3,97	0,8	0,5	3	30011032
CCGW 120404 F01N	-0AA-	12,7	5,5	4,76	0,4	0,5	4	30011033
CCGW 120408 F01N	-0AA-	12,7	5,5	4,76	0,8	0,5	4	30011034
SCGW 060204 F01N	-0AA-	6,35	2,8	2,38	0,4	0,5	2,5	30011035
SCGW 060208 F01N	-0AA-	6,35	2,8	2,38	0,8	0,5	2,5	30011036
SPGW 060304 F01N*	-0AA-	6,35	2,8	3,18	0,4	0,5	2,5	30036253
SPGW 060308 F01N*	-0AA-	6,35	2,8	3,18	0,8	0,5	2,5	30085658
SCGW 09T304 F01N	-0AA-	9,525	4,4	3,97	0,4	0,5	3	30011037
SCGW 09T308 F01N	-0AA-	9,525	4,4	3,97	0,8	0,5	3	30011038
SCGW 120404 F01N	-0AA-	12,7	5,5	4,76	0,4	0,5	4	30011039
SCGW 120408 F01N	-0AA-	12,7	5,5	4,76	0,8	0,5	4	30011040
TCGW 090204 F01N	-0AA-	5,56	2,5	2,38	0,4	0,5	2	30011041
TCGW 090208 F01N	-0AA-	5,56	2,5	2,38	0,8	0,5	2	30011042
TCGW 110204 F01N	-0AA-	6,35	2,8	2,38	0,4	0,5	2,5	30011043
TCGW 110208 F01N	-0AA-	6,35	2,8	2,38	0,8	0,5	2,5	30011044
TCGW 16T304 F01N	-0AA-	9,525	4,4	3,97	0,4	0,5	4	30011045
TCGW 16T308 F01N	-0AA-	9,525	4,4	3,97	0,8	0,5	4	30011046

Ordering example: 50 off inserts – order no. 30011027
or
50 off inserts CCGW060204F01N-0AA-D

Clamping screw for inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
SP __ 0603 __	M2,5x6	T8	10019600	0,8
SC __ 09T3 __	M3,5x9	T15	10017389	2,5
SC __ 1204 __	M5x11	T20	10059857	5
CC __ 0602 __	M2,5x6	T8	10019600	0,8
CC __ 09T3 __	M3,5x9	T15	10017389	2,5
CC __ 1204 __	M5x11	T20	10059857	5
TC __ 0902 __	M2,2x5,5	T7	10018764	0,6
TC __ 1102 __	M2,5x6	T8	10019600	0,8

On request CBN tipped
blades are also available.

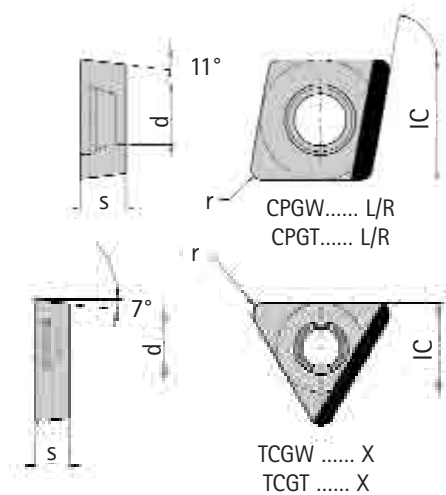
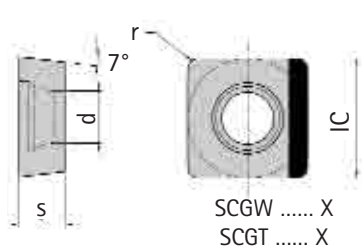
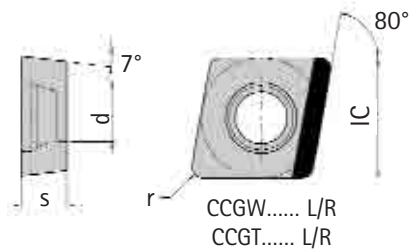
MAPAL PCD inserts

Reference code	chipbreaker	IC mm	d mm	s mm	r mm	a _p ** mm	l mm	Order description: Insert with order number Cutting material PCD: D
CCGT 060204 F01N	-5LA-	6,35	2,8	2,38	0,4	0,5	2,5	30046179
CCGT 060208 F01N	-5LA-	6,35	2,8	2,38	0,8	0,5	2,5	30081181
CPGT 060204 F01N*	-5LA-	6,35	2,8	2,38	0,4	0,5	2,5	30085661
CPGT 060208 F01N*	-5LA-	6,35	2,8	2,38	0,8	0,5	2,5	30085662
CCGT 09T304 F01N	-5LA-	9,525	4,4	3,97	0,4	0,5	3	30029194
CCGT 09T308 F01N	-5LA-	9,525	4,4	3,97	0,8	0,5	3	30039802
CCGT 120404 F01N	-5LA-	12,7	5,5	4,76	0,4	0,5	4	30085663
CCGT 120408 F01N	-5LA-	12,7	5,5	4,76	0,8	0,5	4	30085664
SCGT 060204 F01N	-5LA-	6,35	2,8	2,38	0,4	0,5	2,5	30085665
SCGT 060208 F01N	-5LA-	6,35	2,8	2,38	0,8	0,5	2,5	30085666
SPGT 060304 F01N*	-5LA-	6,35	2,8	3,18	0,4	0,5	2,5	30085667
SPGT 060308 F01N*	-5LA-	6,35	2,8	3,18	0,8	0,5	2,5	30085668
SCGT 09T304 F01N	-5LA-	9,525	4,4	3,97	0,4	0,5	3	30037904
SCGT 09T308 F01N	-5LA-	9,525	4,4	3,97	0,8	0,5	3	30058354
SCGT 120404 F01N	-5LA-	12,7	5,5	4,76	0,4	0,5	4	30085670
SCGT 120408 F01N	-5LA-	12,7	5,5	4,76	0,8	0,5	4	30039810
TCGT 090204 F01N	-5LA-	5,56	2,5	2,38	0,4	0,5	2	30085671
TCGT 090208 F01N	-5LA-	5,56	2,5	2,38	0,8	0,5	2	30085672
TCGT 110204 F01N	-5LA-	6,35	2,8	2,38	0,4	0,5	2,5	30085673
TCGT 110208 F01N	-5LA-	6,35	2,8	2,38	0,8	0,5	2,5	30085674
TCGT 16T304 F01N	-5LA-	9,525	4,4	3,97	0,4	0,5	4	30085675
TCGT 16T308 F01N	-5LA-	9,525	4,4	3,97	0,8	0,5	4	30085676

* $\alpha = 11^\circ$

** We should be pleased to assist you in calculating the a_p value for your specific application.

MAPAL PCD inserts



Reference code	chipbreaker	IC mm	d mm	s mm	r mm	a _p ** mm	Order description: Insert with order number Cutting material PCD: D
CCGW 060204 F01L	-0AA-	6,35	2,8	2,38	0,4	5	30034583
CCGW 060208 F01L	-0AA-	6,35	2,8	2,38	0,8	4	30034582
CPGW 060204 F01L*	-0AA-	6,35	2,8	2,38	0,4	5	30085677
CPGW 060208 F01L*	-0AA-	6,35	2,8	2,38	0,8	4	30085678
CCGW 09T304 F01L	-0AA-	9,525	4,4	3,97	0,4	8	30034581
CCGW 09T308 F01L	-0AA-	9,525	4,4	3,97	0,8	7	30030896
CCGW 120404 F01L	-0AA-	12,7	5,5	4,76	0,4	11	30034580
CCGW 120408 F01L	-0AA-	12,7	5,5	4,76	0,8	10	30085679
CCGW 060204 F01R	-0AA-	6,35	2,8	2,38	0,4	5	30041499
CCGW 060208 F01R	-0AA-	6,35	2,8	2,38	0,8	4	30085716
CPGW 060204 F01R*	-0AA-	6,35	2,8	2,38	0,4	5	30040594
CPGW 060208 F01R*	-0AA-	6,35	2,8	2,38	0,8	4	30085717
CCGW 09T304 F01R	-0AA-	9,525	4,4	3,97	0,4	8	30083391
CCGW 09T308 F01R	-0AA-	9,525	4,4	3,97	0,8	7	30036478
CCGW 120404 F01R	-0AA-	12,7	5,5	4,76	0,4	11	30085719
CCGW 120408 F01R	-0AA-	12,7	5,5	4,76	0,8	10	30085720
SCGW 060204 F01X	-0AA-	6,35	2,8	2,38	0,4	5	30085680
SCGW 060208 F01X	-0AA-	6,35	2,8	2,38	0,8	4	30085681
SPGW 060304 F01X*	-0AA-	6,35	2,8	3,18	0,4	5	30085682
SPGW 060308 F01X*	-0AA-	6,35	2,8	3,18	0,8	4	30085683
SCGW 09T304 F01X	-0AA-	9,525	4,4	3,97	0,4	8	30025529
SCGW 09T308 F01X	-0AA-	9,525	4,4	3,97	0,8	7	30037231
SCGW 120404 F01X	-0AA-	12,7	5,5	4,76	0,4	11	30083392
SCGW 120408 F01X	-0AA-	12,7	5,5	4,76	0,8	10	30085687
TCGW 090204 F01X	-0AA-	5,56	2,5	2,38	0,4	8	30085688
TCGW 090208 F01X	-0AA-	5,56	2,5	2,38	0,8	7	30085689
TCGW 110204 F01X	-0AA-	6,35	2,8	2,38	0,4	10	30034491
TCGW 110208 F01X	-0AA-	6,35	2,8	2,38	0,8	9	30085691
TCGW 16T304 F01X	-0AA-	9,525	4,4	3,97	0,4	15	30085692
TCGW 16T308 F01X	-0AA-	9,525	4,4	3,97	0,8	14	30085693

MAPAL PCD inserts

Reference code	chipbreaker	IC mm	s mm	r mm	d mm	a _p ** mm	Order description: Insert with order number Cutting material PCD: D
CCGT 060204 F01L	-1LA-	6,35	2,8	2,38	0,4	5	30085694
CCGT 060208 F01L	-1LA-	6,35	2,8	2,38	0,8	4	30085695
CPGT 060204 F01L	-1LA-	6,35	2,8	2,38	0,4	5	30085696
CPGT 060208 F01L	-1LA-	6,35	2,8	2,38	0,8	4	30085697
CCGT 09T304 F01L	-1LA-	9,525	4,4	3,97	0,4	8	30085698
CCGT 09T308 F01L	-1LA-	9,525	4,4	3,97	0,8	7	30039803
CCGT 120404 F01L	-1LA-	12,7	5,5	4,76	0,4	11	30085700
CCGT 120408 F01L	-1LA-	12,7	5,5	4,76	0,8	10	30085701
CCGT 060204 F01R	-1LA-	6,35	2,8	2,38	0,4	5	30085721
CCGT 060208 F01R	-1LA-	6,35	2,8	2,38	0,8	4	30085722
CPGT 060204 F01R*	-1LA-	6,35	2,8	2,38	0,4	5	30085723
CPGT 060208 F01R*	-1LA-	6,35	2,8	2,38	0,8	4	30085724
CCGT 09T304 F01R	-1LA-	9,525	4,4	3,97	0,4	8	30039812
CCGT 09T308 F01R	-1LA-	9,525	4,4	3,97	0,8	7	30039811
CCGT 120404 F01R	-1LA-	12,7	5,5	4,76	0,4	11	30085727
CCGT 120408 F01R	-1LA-	12,7	5,5	4,76	0,8	10	30085728
SCGT 060204 F01X	-1LA-	6,35	2,8	2,38	0,4	5	30085702
SCGT 060208 F01X	-1LA-	6,35	2,8	2,38	0,8	4	30085703
SPGT 060304 F01X*	-1LA-	6,35	2,8	3,18	0,4	5	30085704
SPGT 060308 F01X*	-1LA-	6,35	2,8	3,18	0,8	4	30085705
SCGT 09T304 F01X	-1LA-	9,525	4,4	3,97	0,4	8	30047583
SCGT 09T308 F01X	-1LA-	9,525	4,4	3,97	0,8	7	30085707
SCGT 120404 F01X	-1LA-	12,7	5,5	4,76	0,4	11	30085708
SCGT 120408 F01X	-1LA-	12,7	5,5	4,76	0,8	10	30085709
TCGT 090204 F01X	-1LA-	5,56	2,5	2,38	0,4	8	30085710
TCGT 090208 F01X	-1LA-	5,56	2,5	2,38	0,8	7	30085711
TCGT 110204 F01X	-1LA-	6,35	2,8	2,38	0,4	10	30085712
TCGT 110208 F01X	-1LA-	6,35	2,8	2,38	0,8	9	30085713
TCGT 16T304 F01X	-1LA-	12,7	4,4	3,97	0,4	15	30085714
TCGT 16T308 F01X	-1LA-	12,7	4,4	3,97	0,8	14	30085715

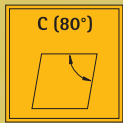
Ordering example: 50 off inserts – order no. 30034583 or
50 off inserts CCGW060204F01L-OAA-D

* $\alpha = 11^\circ$

** a_p value only for face machining. We should be pleased to assist you in calculating the a_p value for your specific application.

C T X W 0 9 T 3 0 4 F 0 1

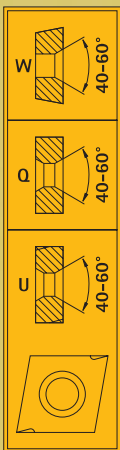
insert form



tolerance

code	d	s
H	$\pm 0,013$	$\pm 0,013$
X	tol. smaller than "H"	

insert type



insert size

d(mm)	C
6.35	06-09
9.525	09-13
12.7	12-18

thickness

code	s(mm)
03	3.18
T3	3.97
04	4.76
05	5.56

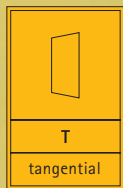
corner radius

code	r(mm)
02	0.2
04	0.4
08	0.8
12	1.2

cutting edge form

code	form
F 01	sharp
E 01 99	rounded
T 01 99	f chamfered
S 01 99	f chamfered and rounded

indexable insert



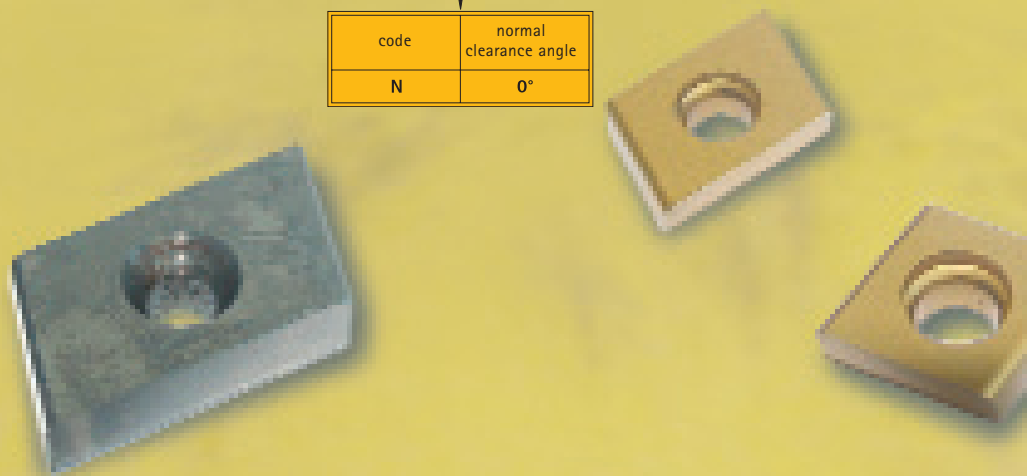
face cutting

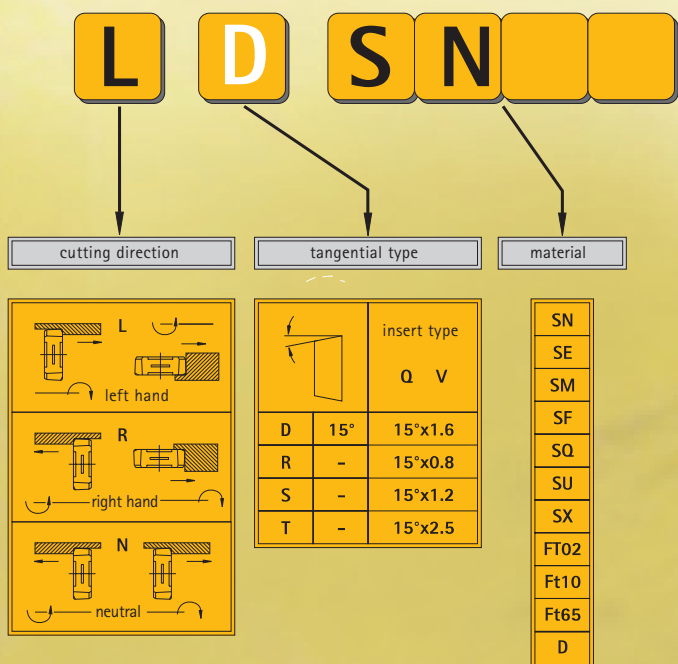


code	angle
E	75°
Z	special

code	normal clearance angle
N	0°

code	form
A	sharp
B	rounded
C	f chamfered
D	f chamfered and rounded





Tangential inserts

The positive ground cutting edges on the tangential inserts allow an extremely smooth cut, which produces long tool life and good quality results. Compared to using standard ISO indexable inserts more inserts can also be incorporated onto the tool with the same or an even higher level of stability in tool body. This results in higher feed rates being applied.

As for economic machining of bores with complete tools with several steps and transitions, such tools are also available for milling. For example under stable conditions geometries, which would otherwise be expensive to achieve, are now produced by circular milling. Where it proves viable, suitable form inserts with special milling tools can produce excellent results.

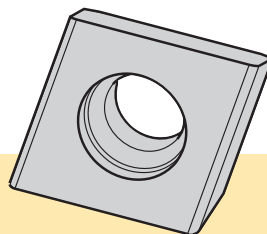
The table on page 32 will help you select the right blade for the operation.

MAPAL tangential blades are listed in various sizes and coatings from page 34 onwards.



Tangential inserts

MAPAL tangential inserts – guideline



2 cutting edges

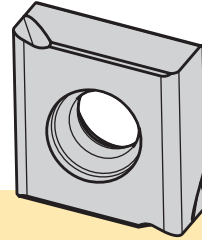
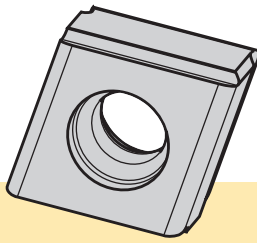
		CTXW-.....-L-... CTXW-.....-R-...	CTXW-.....-L-... CTXW-.....-R-...	CTXW- -EN-L- ... CTXW- -ZN-R- ... CTXW- -EN-L- ... CTXW- -ZN-R- ...	
Application		-L- = left cutting -R- = right cutting boring	-L- = left cutting -R- = right cutting milling*	-L- = left cutting -R- = right cutting EN (for K = 75°) ZN (for K = 90°) milling	
P	steel		SQ		
M	stainless steel				
K	grey cast iron	SN, SM, SF, FT02	SU	SU, FT10	
N	non ferrous metal	SN, D	SN, D	SN, D	
S	high-temperature alloys				
H	hardened material	FT65			
catalogue page		page 34 – 39	page 40 – 43	page 44 – 45	

SE: PVD/TiAlN-coating
SF: CVD/TiN-coating
SM: PVD/TiAlN-coating
SN: uncoated

SP: uncoated
SQ: PVD/TiAlN-coating
SU: PVD/TiAlN-coating
SX: PVD/TiAlN-coating

FT02: with PCBN-corner
FT10: with PCBN-corner
FT65: with PCBN-corner
D: with PCD-full edge or with PCD-corner

MAPAL tangential inserts – guideline



4 cutting edges

CTXQ- -L- ...
CTXQ- -R- ...

CTXQ- -L- ...
CTXQ- -R- ...

4 cutting edges

CTXU- -L- ...
CTXU- -R- ...

-L- = left cutting
-R- = right cutting

-L- = left cutting
-R- = right cutting

-L- = left cutting
-R- = right cutting

boring

milling

boring

SX

SX

SX

SM, SF

SE, SU

SM, SF

SN, D

SN, D

SN, D

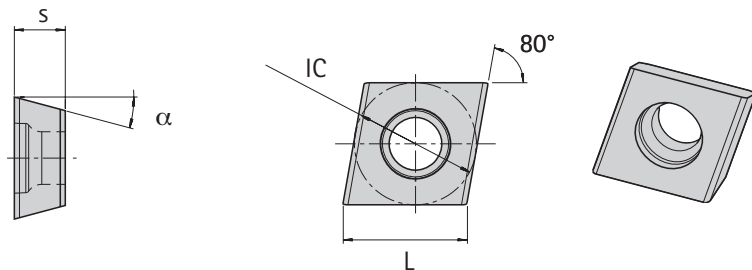
page 46 – 49

page 50 – 53

page 54 – 55

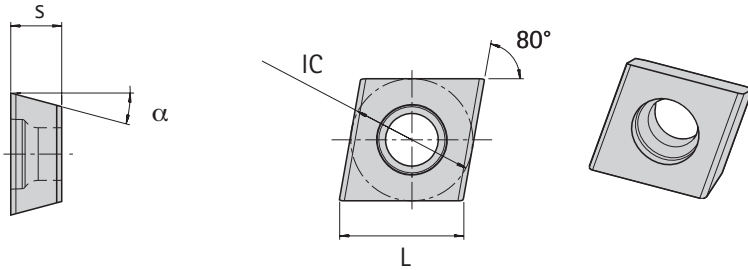
*steel grades only for side milling cutters.

Tangential inserts, 2 cutting edges boring, X grade high precision MAPAL version CTXW left cutting



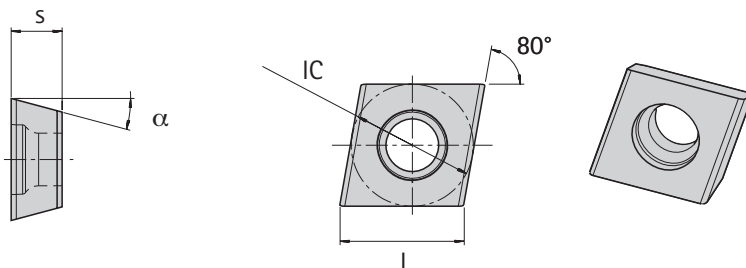
standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number								material
						carbide uncoated SN	carbide coated		with PCD- corner D	with PCD- full edge D	with PCBN- corner FT02	with PCBN- corner FT65		
							SM	SF						
CTXW 060302 E02LD	15°	6,35	3,18	0,2	6,0		30056792	30056744					cast iron	
CTXW 060304 E02LD	15°	6,35	3,18	0,4	6,0		30056793	30056745						
CTXW 060308 E02LD	15°	6,35	3,18	0,8	6,0		30056794	30056746						
CTXW 090302 E02LD	15°	6,35	3,18	0,2	9,0		30056796	30056748						
CTXW 090304 E02LD	15°	6,35	3,18	0,4	9,0		30056797	30056749						
CTXW 090308 E02LD	15°	6,35	3,18	0,8	9,0		30056798	30056750						
CTXW 090312 E02LD	15°	6,35	3,18	1,2	9,0		30056799	30056751						
CTXW 09T302 E02LD	15°	9,525	3,97	0,2	9,0		30056800	30056752						
CTXW 09T304 E02LD	15°	9,525	3,97	0,4	9,0		30056801	30056753						
CTXW 09T308 E02LD	15°	9,525	3,97	0,8	9,0		30056802	30041600						
CTXW 09T312 E02LD	15°	9,525	3,97	1,2	9,0		30056803	30056755						
CTXW 13T302 E02LD	15°	9,525	3,97	0,2	13,0		30056804	30056756						
CTXW 13T304 E02LD	15°	9,525	3,97	0,4	13,0		30056805	30056757						
CTXW 13T308 E02LD	15°	9,525	3,97	0,8	13,0		30056806	30056758						
CTXW 13T312 E02LD	15°	9,525	3,97	1,2	13,0		30056807	30056759						
CTXW 120402 E02LD	15°	12,7	4,76	0,2	12,0		30056808	30056760						
CTXW 120404 E02LD	15°	12,7	4,76	0,4	12,0		30056809	30056761						
CTXW 120408 E02LD	15°	12,7	4,76	0,8	12,0		30056810	30056762						
CTXW 120412 E02LD	15°	12,7	4,76	1,2	12,0		30056811	30056763						
CTXW 180402 E02LD	15°	12,7	4,76	0,2	18,0		30056812	30056764						
CTXW 180404 E02LD	15°	12,7	4,76	0,4	18,0		30056813	30056765						
CTXW 180408 E02LD	15°	12,7	4,76	0,8	18,0		30056814	30056766						
CTXW 180412 E02LD	15°	12,7	4,76	1,2	18,0		30056815	30056767						
CTXW 060302 F01LD	15°	6,35	3,18	0,2	6,0	30029676	30030385	30029848					cast iron	
CTXW 060304 F01LD	15°	6,35	3,18	0,4	6,0	30029679	30030386	30029849						
CTXW 060308 F01LD	15°	6,35	3,18	0,8	6,0	30029690	30030387	30029850						
CTXW 090302 F01LD	15°	6,35	3,18	0,2	9,0	30029692	30030389	30029852						
CTXW 090304 F01LD	15°	6,35	3,18	0,4	9,0	30029693	30030390	30029853						
CTXW 090308 F01LD	15°	6,35	3,18	0,8	9,0	30029694	30030391	30029854						
CTXW 090312 F01LD	15°	6,35	3,18	1,2	9,0	30029695	30030392	30029855						
CTXW 09T302 F01LD	15°	9,525	3,97	0,2	9,0	30029696	30030393	30029856						
CTXW 09T304 F01LD	15°	9,525	3,97	0,4	9,0	30029697	30030394	30029857						
CTXW 09T308 F01LD	15°	9,525	3,97	0,8	9,0	30029698	30030395	30029858						
CTXW 09T312 F01LD	15°	9,525	3,97	1,2	9,0	30029699	30030396	30029859						

Tangential inserts, 2 cutting edges boring, X grade high precision MAPAL version CTXW left cutting



standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number								material
						carbide uncoated SN	carbide coated		with PCD- corner D	with PCD- full edge D	with PCBN- corner FT02	with PCBN- corner FT65		
							SM	SF						
CTXW 13T302 F01LD	15°	9,525	3,97	0,2	13,0	30029700	30030397	30029860					cast iron	
CTXW 13T304 F01LD	15°	9,525	3,97	0,4	13,0	30029701	30030398	30029861						
CTXW 13T308 F01LD	15°	9,525	3,97	0,8	13,0	30029702	30030399	30029862						
CTXW 13T312 F01LD	15°	9,525	3,97	1,2	13,0	30029703	30030400	30029863						
CTXW 120402 F01LD	15°	12,7	4,76	0,2	12,0	30029704	30030401	30029864						
CTXW 120404 F01LD	15°	12,7	4,76	0,4	12,0	30029705	30030402	30029865						
CTXW 120408 F01LD	15°	12,7	4,76	0,8	12,0	30029706	30030403	30029866						
CTXW 120412 F01LD	15°	12,7	4,76	1,2	12,0	30029707	30030404	30029867						
CTXW 180402 F01LD	15°	12,7	4,76	0,2	18,0	30036937	30036938	30036939						
CTXW 180404 F01LD	15°	12,7	4,76	0,4	18,0	30030329	30030405	30030408						
CTXW 180408 F01LD	15°	12,7	4,76	0,8	18,0	30030370	30030406	30030409						
CTXW 180412 F01LD	15°	12,7	4,76	1,2	18,0	30030371	30030407	30030410						
CTXW 09T304 C35LD	15°	9,525	3,97	0,4	9,0						30057150		cast iron	
CTXW 09T308 C35LD	15°	9,525	3,97	0,8	9,0						30057151			
CTXW 09T312 C35LD	15°	9,525	3,97	1,2	9,0						30057152			
CTXW 120404 C35LD	15°	12,7	4,76	0,4	12,0						30057158			
CTXW 120408 C35LD	15°	12,7	4,76	0,8	12,0						30057159			
CTXW 120412 C35LD	15°	12,7	4,76	1,2	12,0						30057160			
CTXW 060302 F01LD	15°	6,35	3,18	0,2	6,0	30029676				30037902			non ferrous metal	
CTXW 060302 A01LD	15°	6,35	3,18	0,2	6,0				30075379					
CTXW 060304 F01LD	15°	6,35	3,18	0,4	6,0	30029679				30037900				
CTXW 060304 A01LD	15°	6,35	3,18	0,4	6,0				30075391					
CTXW 060308 F01LD	15°	6,35	3,18	0,8	6,0	30029690				30056913				
CTXW 060308 A01LD	15°	6,35	3,18	0,8	6,0				30075392					
CTXW 090302 F01LD	15°	6,35	3,18	0,2	9,0	30029692				30056915				
CTXW 090304 F01LD	15°	6,35	3,18	0,4	9,0	30029693				30056916				
CTXW 090308 F01LD	15°	6,35	3,18	0,8	9,0	30029694				30056917				
CTXW 090312 F01LD	15°	6,35	3,18	1,2	9,0	30029695				30056918				
CTXW 09T302 F01LD	15°	9,525	3,97	0,2	9,0	30029696				30048372				
CTXW 09T302 A01LD	15°	9,525	3,97	0,2	9,0				30075393					
CTXW 09T304 F01LD	15°	9,525	3,97	0,4	9,0	30029697				30037922				
CTXW 09T304 A01LD	15°	9,525	3,97	0,4	9,0				30075394					
CTXW 09T308 F01LD	15°	9,525	3,97	0,8	9,0	30029698				30037929				
CTXW 09T308 A01LD	15°	9,525	3,97	0,8	9,0				30075395					

Tangential inserts, 2 cutting edges boring, X grade high precision MAPAL version CTXW left cutting

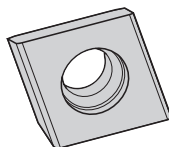
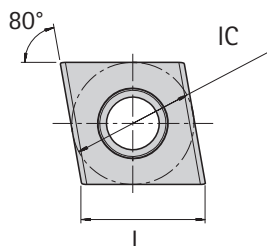
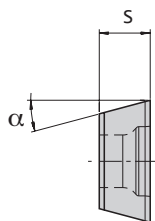


standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number								material
						carbide uncoated SN	carbide coated		with PCD- corner D	with PCD- full edge D	with PCBN- corner FT02	with PCBN- corner FT65		
CTXW 09T312 F01LD	15°	9,525	3,97	1,2	9,0	30029699				30056922			non ferrous metal	
CTXW 09T312 A01LD	15°	9,525	3,97	1,2	9,0				30075396					
CTXW 13T302 F01LD	15°	9,525	3,97	0,2	13,0	30029700				30056923				
CTXW 13T304 F01LD	15°	9,525	3,97	0,4	13,0	30029701				30056924				
CTXW 13T308 F01LD	15°	9,525	3,97	0,8	13,0	30029702				30056925				
CTXW 13T312 F01LD	15°	9,525	3,97	1,2	13,0	30029703				30056926				
CTXW 120402 F01LD	15°	12,7	4,76	0,2	12,0	30029704				30056927				
CTXW 120402 A01LD	15°	12,7	4,76	0,2	12,0				30075397					
CTXW 120404 F01LD	15°	12,7	4,76	0,4	12,0	30029705				30056928				
CTXW 120404 A01LD	15°	12,7	4,76	0,4	12,0				30075398					
CTXW 120408 F01LD	15°	12,7	4,76	0,8	12,0	30029706				30038156				
CTXW 120408 A01LD	15°	12,7	4,76	0,8	12,0				30075399					
CTXW 120412 F01LD	15°	12,7	4,76	1,2	12,0	30029707				30056930				
CTXW 120412 A01LD	15°	12,7	4,76	1,2	12,0				30075400					
CTXW 180402 F01LD	15°	12,7	4,76	0,2	18,0	30036937								
CTXW 180404 F01LD	15°	12,7	4,76	0,4	18,0	30030329								
CTXW 180408 F01LD	15°	12,7	4,76	0,8	18,0	30030370								
CTXW 180412 F01LD	15°	12,7	4,76	1,2	18,0	30030371								
CTXW 09T304 C35LD	15°	9,525	3,97	0,4	9,0							30057198	hardened steel	
CTXW 09T308 C35LD	15°	9,525	3,97	0,8	9,0							30057199		
CTXW 09T312 C35LD	15°	9,525	3,97	1,2	9,0							30057200		
CTXW 120404 C35LD	15°	12,7	4,76	0,4	12,0							30057206		
CTXW 120408 C35LD	15°	12,7	4,76	0,8	12,0							30057207		
CTXW 120412 C35LD	15°	12,7	4,76	1,2	12,0							30057208		

Clamping screw for tangential inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
CTXW 0603 _	M2,5x6	T8	10019600	0,8
CTXW 0903 _	M2,5x6	T8	10019600	0,8
CTXW 09T3 _	M3,5x9,4	T15	10007315	2,5
CTXW 13T3 _	M3,5x9,4	T15	10007315	2,5
CTXW 1204 _	M5x11	T20	10059857	5
CTXW 1804 _	M5x11	T20	10059857	5

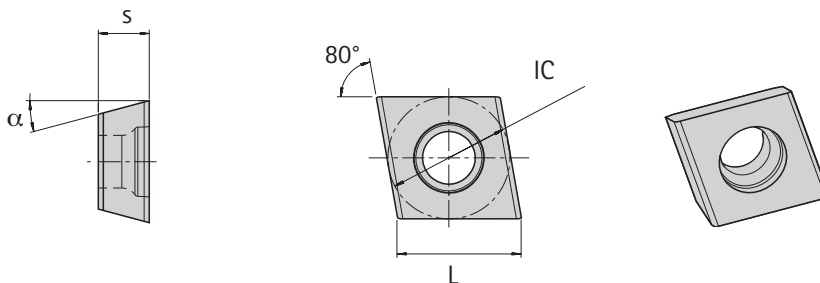
Tangential inserts, 2 cutting edges boring, X grade high precision MAPAL version CTXW right cutting



standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number								material
						carbide uncoated SN	carbide coated		with PCD- corner D	with PCD- full edge D	with PCBN- corner FT02	with PCBN- corner FT65		
							SM	SF						
CTXW 060302 E02RD	15°	6,35	3,18	0,2	6,0		30056816	30056768					cast iron	
CTXW 060304 E02RD	15°	6,35	3,18	0,4	6,0		30056817	30056769						
CTXW 060308 E02RD	15°	6,35	3,18	0,8	6,0		30056818	30056770						
CTXW 090302 E02RD	15°	6,35	3,18	0,2	9,0		30056820	30056772						
CTXW 090304 E02RD	15°	6,35	3,18	0,4	9,0		30056821	30056773						
CTXW 090308 E02RD	15°	6,35	3,18	0,8	9,0		30056822	30056774						
CTXW 090312 E02RD	15°	6,35	3,18	1,2	9,0		30056823	30056775						
CTXW 09T302 E02RD	15°	9,525	3,97	0,2	9,0		30056824	30056776						
CTXW 09T304 E02RD	15°	9,525	3,97	0,4	9,0		30056825	30056777						
CTXW 09T308 E02RD	15°	9,525	3,97	0,8	9,0		30056826	30056778						
CTXW 09T312 E02RD	15°	9,525	3,97	1,2	9,0		30056827	30056779						
CTXW 13T302 E02RD	15°	9,525	3,97	0,2	13,0		30056828	30056780						
CTXW 13T304 E02RD	15°	9,525	3,97	0,4	13,0		30056829	30056781						
CTXW 13T308 E02RD	15°	9,525	3,97	0,8	13,0		30056830	30056782						
CTXW 13T312 E02RD	15°	9,525	3,97	1,2	13,0		30056831	30056783						
CTXW 120402 E02RD	15°	12,7	4,76	0,2	12,0		30056832	30056784						
CTXW 120404 E02RD	15°	12,7	4,76	0,4	12,0		30056833	30039447						
CTXW 120408 E02RD	15°	12,7	4,76	0,8	12,0		30056834	30056786						
CTXW 120412 E02RD	15°	12,7	4,76	1,2	12,0		30056835	30056787						
CTXW 180402 E02RD	15°	12,7	4,76	0,2	18,0		30056836	30056788						
CTXW 180404 E02RD	15°	12,7	4,76	0,4	18,0		30056837	30056789						
CTXW 180408 E02RD	15°	12,7	4,76	0,8	18,0		30056838	30056790						
CTXW 180412 E02RD	15°	12,7	4,76	1,2	18,0		30056839	30056791						

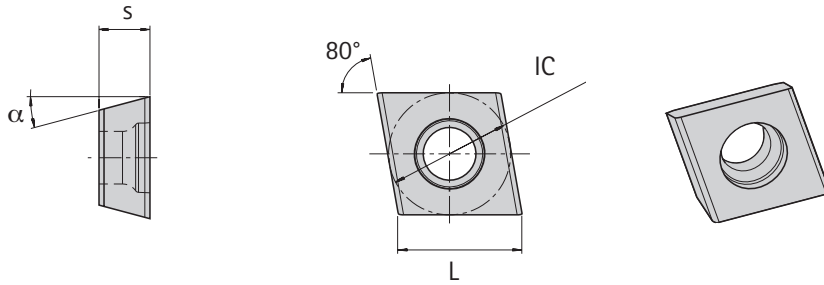
CTXW 060302 F01RD	15°	6,35	3,18	0,2	6,0	30029728	30030434	30029928					cast iron
CTXW 060304 F01RD	15°	6,35	3,18	0,4	6,0	30029729	30030435	30029929					
CTXW 060308 F01RD	15°	6,35	3,18	0,8	6,0	30029730	30030436	30029930					
CTXW 090302 F01RD	15°	6,35	3,18	0,2	9,0	30029732	30030438	30029932					
CTXW 090304 F01RD	15°	6,35	3,18	0,4	9,0	30029733	30030439	30029933					
CTXW 090308 F01RD	15°	6,35	3,18	0,8	9,0	30029734	30030440	30029934					
CTXW 090312 F01RD	15°	6,35	3,18	1,2	9,0	30029735	30030441	30029935					
CTXW 09T302 F01RD	15°	9,525	3,97	0,2	9,0	30029736	30030442	30029936					
CTXW 09T304 F01RD	15°	9,525	3,97	0,4	9,0	30029737	30030443	30029937					
CTXW 09T308 F01RD	15°	9,525	3,97	0,8	9,0	30029738	30030444	30029938					
CTXW 09T312 F01RD	15°	9,525	3,97	1,2	9,0	30029739	30030445	30029939					
CTXW 13T302 F01RD	15°	9,525	3,97	0,2	13,0	30029740	30030446	30029940					
CTXW 13T304 F01RD	15°	9,525	3,97	0,4	13,0	30029741	30030447	30029941					

Tangential inserts, 2 cutting edges boring, X grade high precision MAPAL version CTXW right cutting



standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number								material
						carbide uncoated SN	carbide coated SM SF		with PCD- corner D	with PCD- full edge D	with PCBN- corner FT02	with PCBN- corner FT65		
CTXW 13T308 F01RD	15°	9,525	3,97	0,8	13,0	30029742	30030448	30029942					cast iron	
CTXW 13T312 F01RD	15°	9,525	3,97	1,2	13,0	30029743	30030449	30029943						
CTXW 120402 F01RD	15°	12,7	4,76	0,2	12,0	30029744	30030450	30029944						
CTXW 120404 F01RD	15°	12,7	4,76	0,4	12,0	30029745	30030451	30029945						
CTXW 120408 F01RD	15°	12,7	4,76	0,8	12,0	30029746	30030452	30029946						
CTXW 120412 F01RD	15°	12,7	4,76	1,2	12,0	30029747	30030453	30029947						
CTXW 180402 F01RD	15°	12,7	4,76	0,2	18,0	30036869	30036930	30036931						
CTXW 180404 F01RD	15°	12,7	4,76	0,4	18,0	30030375	30030454	30030456						
CTXW 180408 F01RD	15°	12,7	4,76	0,8	18,0	30030376	30030455	30030457						
CTXW 180412 F01RD	15°	12,7	4,76	1,2	18,0	30030377	30032572	30030458						
CTXW 09T304 C35RD	15°	9,525	3,97	0,4	9,0						30057174		cast iron	
CTXW 09T308 C35RD	15°	9,525	3,97	0,8	9,0						30057175			
CTXW 09T312 C35RD	15°	9,525	3,97	1,2	9,0						30057176			
CTXW 120404 C35RD	15°	12,7	4,76	0,4	12,0						30057182			
CTXW 120408 C35RD	15°	12,7	4,76	0,8	12,0						30057183			
CTXW 120412 C35RD	15°	12,7	4,76	1,2	12,0						30057184			
CTXW 060302 F01RD	15°	6,35	3,18	0,2	6,0	30029728				30041233			non ferrous metal	
CTXW 060302 A01RD	15°	6,35	3,18	0,2	6,0				30075401					
CTXW 060304 F01RD	15°	6,35	3,18	0,4	6,0	30029729				30056960				
CTXW 060304 A01RD	15°	6,35	3,18	0,4	6,0				30075402					
CTXW 060308 F01RD	15°	6,35	3,18	0,8	6,0	30029730				30037901				
CTXW 060308 A01RD	15°	6,35	3,18	0,8	6,0				30075403					
CTXW 090302 F01RD	15°	6,35	3,18	0,2	9,0	30029732				30037901				
CTXW 090304 F01RD	15°	6,35	3,18	0,4	9,0	30029733				30056964				
CTXW 090308 F01RD	15°	6,35	3,18	0,8	9,0	30029734				30056965				
CTXW 090312 F01RD	15°	6,35	3,18	1,2	9,0	30029735				30056966				
CTXW 09T302 F01RD	15°	9,525	3,97	0,2	9,0	30029736				30048371				
CTXW 09T302 A01RD	15°	9,525	3,97	0,2	9,0				30075404					
CTXW 09T304 F01RD	15°	9,525	3,97	0,4	9,0	30029737				30056968				
CTXW 09T304 A01RD	15°	9,525	3,97	0,4	9,0				30075405					
CTXW 09T308 F01RD	15°	9,525	3,97	0,8	9,0	30029738				30037864				
CTXW 09T308 A01RD	15°	9,525	3,97	0,8	9,0				30058497					
CTXW 09T312 F01RD	15°	9,525	3,97	1,2	9,0	30029739				30056970				

Tangential inserts, 2 cutting edges boring, X grade high precision MAPAL version CTXW right cutting

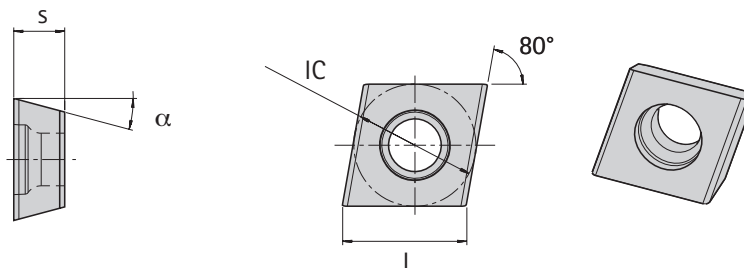


standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number								material
						carbide uncoated SN	carbide coated		with PCD- corner D	with PCD- full edge D	with PCBN- corner FT02	with PCBN- corner FT65		
CTXW 09T312 A01RD	15°	9,525	3,97	1,2	9,0				30075407					non ferrous metal
CTXW 13T302 F01RD	15°	9,525	3,97	0,2	13,0	30029740				30056971				
CTXW 13T304 F01RD	15°	9,525	3,97	0,4	13,0	30029741				30056972				
CTXW 13T308 F01RD	15°	9,525	3,97	0,8	13,0	30029742				30056973				
CTXW 13T312 F01RD	15°	9,525	3,97	1,2	13,0	30029743				30056974				
CTXW 120402 F01RD	15°	12,7	4,76	0,2	12,0	30029744				30048979				
CTXW 120402 A01RD	15°	12,7	4,76	0,2	12,0				30075408					
CTXW 120404 F01RD	15°	12,7	4,76	0,4	12,0	30029745				30056976				
CTXW 120404 A01RD	15°	12,7	4,76	0,4	12,0				30075409					
CTXW 120408 F01RD	15°	12,7	4,76	0,8	12,0	30029746				30048030				
CTXW 120408 A01RD	15°	12,7	4,76	0,8	12,0				30075410					
CTXW 120412 F01RD	15°	12,7	4,76	1,2	12,0	30029747				30056978				
CTXW 120412 A01RD	15°	12,7	4,76	1,2	12,0				30075411					
CTXW 180402 F01RD	15°	12,7	4,76	0,2	18,0	30036869								
CTXW 180404 F01RD	15°	12,7	4,76	0,4	18,0	30030375								
CTXW 180408 F01RD	15°	12,7	4,76	0,8	18,0	30030376								
CTXW 180412 F01RD	15°	12,7	4,76	1,2	18,0	30030377								
CTXW 09T304 C35RD	15°	9,525	3,97	0,4	9,0							30057222	hardened steel	
CTXW 09T308 C35RD	15°	9,525	3,97	0,8	9,0							30057223		
CTXW 09T312 C35RD	15°	9,525	3,97	1,2	9,0							30057224		
CTXW 120404 C35RD	15°	12,7	4,76	0,4	12,0							30057230		
CTXW 120408 C35RD	15°	12,7	4,76	0,8	12,0							30057231		
CTXW 120412 C35RD	15°	12,7	4,76	1,2	12,0							30057232		

Clamping screw for tangential inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
CTXW 0603 _	M2,5x6	T8	10019600	0,8
CTXW 0903 _	M2,5x6	T8	10019600	0,8
CTXW 09T3 _	M3,5x9,4	T15	10007315	2,5
CTXW 13T3 _	M3,5x9,4	T15	10007315	2,5
CTXW 1204 _	M5x11	T20	10059857	5
CTXW 1804 _	M5x11	T20	10059857	5

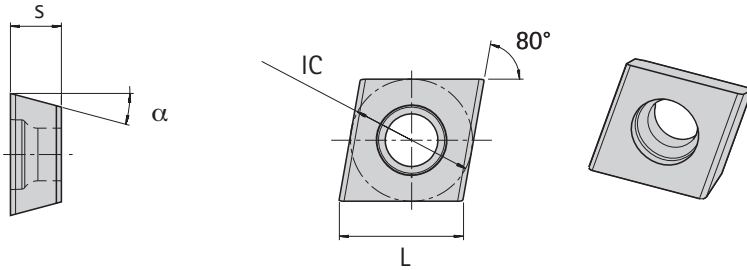
Tangential inserts, 2 cutting edges milling, X grade high precision MAPAL version CTXW left cutting



standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number					material
						carbide uncoated SN	carbide coated SQ	carbide coated SU	with PCD-corner D	with PCD-full edge D	
CTXW 09T302 S04LD	15°	9,525	3,97	0,2	9,0		30075157				steel*
CTXW 09T304 S04LD	15°	9,525	3,97	0,4	9,0		30075160				
CTXW 09T308 S04LD	15°	9,525	3,97	0,8	9,0		30075164				
CTXW 09T312 S04LD	15°	9,525	3,97	1,2	9,0		30075168				
CTXW 09T302 S04LD	15°	9,525	3,97	0,2	9,0			30056847			cast iron
CTXW 09T304 S04LD	15°	9,525	3,97	0,4	9,0			30056848			
CTXW 09T308 S04LD	15°	9,525	3,97	0,8	9,0			30056849			
CTXW 09T312 S04LD	15°	9,525	3,97	1,2	9,0			30056850			
CTXW 060302 F01LD	15°	6,35	3,18	0,2	6,0	30029676				30037902	non ferrous metal
CTXW 060302 A01LD	15°	6,35	3,18	0,2	6,0				30075379		
CTXW 060304 F01LD	15°	6,35	3,18	0,4	6,0	30029679				30037900	
CTXW 060304 A01LD	15°	6,35	3,18	0,4	6,0				30075391		
CTXW 060308 F01LD	15°	6,35	3,18	0,8	6,0	30029690				30056913	
CTXW 060308 A01LD	15°	6,35	3,18	0,8	6,0				30075392		
CTXW 090302 F01LD	15°	6,35	3,18	0,2	9,0	30029692				30056915	
CTXW 090304 F01LD	15°	6,35	3,18	0,4	9,0	30029693				30056916	
CTXW 090308 F01LD	15°	6,35	3,18	0,8	9,0	30029694				30056917	
CTXW 090312 F01LD	15°	6,35	3,18	1,2	9,0	30029695				30056918	
CTXW 09T302 F01LD	15°	9,525	3,97	0,2	9,0	30029696				30048372	
CTXW 09T302 A01LD	15°	9,525	3,97	0,2	9,0				30075393		
CTXW 09T304 F01LD	15°	9,525	3,97	0,4	9,0	30029697				30037922	
CTXW 09T304 A01LD	15°	9,525	3,97	0,4	9,0				30075394		
CTXW 09T308 F01LD	15°	9,525	3,97	0,8	9,0	30029698				30037929	
CTXW 09T308 A01LD	15°	9,525	3,97	0,8	9,0				30075395		
CTXW 09T312 F01LD	15°	9,525	3,97	1,2	9,0	30029699				30056922	
CTXW 09T312 A01LD	15°	9,525	3,97	1,2	9,0				30075396		
CTXW 13T302 F01LD	15°	9,525	3,97	0,2	13,0	30029700				30056923	
CTXW 13T304 F01LD	15°	9,525	3,97	0,4	13,0	30029701				30056924	
CTXW 13T308 F01LD	15°	9,525	3,97	0,8	13,0	30029702				30056925	
CTXW 13T312 F01LD	15°	9,525	3,97	1,2	13,0	30029703				30056926	

*Steel grades only for side milling cutters.

Tangential inserts, 2 cutting edges milling, X grade high precision MAPAL version CTXW left cutting



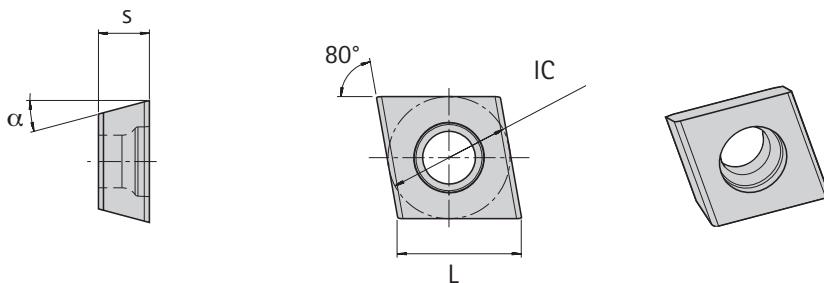
standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number					material
						carbide uncoated SN	carbide coated SQ	carbide coated SU	with PCD-corner D	with PCD-full edge D	
CTXW 120402 F01LD	15°	12,7	4,76	0,2	12,0	30029704				30056927	non ferrous metal
CTXW 120402 A01LD	15°	12,7	4,76	0,2	12,0				30075397		
CTXW 120404 F01LD	15°	12,7	4,76	0,4	12,0	30029705				30056928	
CTXW 120404 A01LD	15°	12,7	4,76	0,4	12,0				30075398		
CTXW 120408 F01LD	15°	12,7	4,76	0,8	12,0	30029706				30038156	
CTXW 120408 A01LD	15°	12,7	4,76	0,8	12,0				30075399		
CTXW 120412 F01LD	15°	12,7	4,76	1,2	12,0	30029707				30056930	
CTXW 120412 A01LD	15°	12,7	4,76	1,2	12,0				30075400		
CTXW 180402 F01LD	15°	12,7	4,76	0,2	18,0	30036937					
CTXW 180404 F01LD	15°	12,7	4,76	0,4	18,0	30030329					
CTXW 180408 F01LD	15°	12,7	4,76	0,8	18,0	30030370					
CTXW 180412 F01LD	15°	12,7	4,76	1,2	18,0	30030371					

Ordering example: 50 tangential inserts – order no. 30029704
or
50 tangential inserts CTXW120402F01LD-SN

Clamping screw for tangential inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
CTXW 0603 __	M2,5x6	T8	10019600	0,8
CTXW 0903 __	M2,5x6	T8	10019600	0,8
CTXW 09T3 __	M3,5x9,4	T15	10007315	2,5
CTXW 13T3 __	M3,5x9,4	T15	10007315	2,5
CTXW 1204 __	M5x11	T20	10059857	5
CTXW 1804 __	M5x11	T20	10059857	5

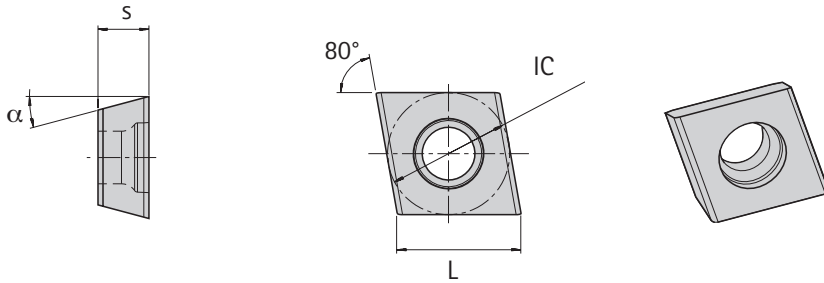
Tangential inserts, 2 cutting edges milling, X grade high precision MAPAL version CTXW right cutting



standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number					material
						carbide uncoated SN	carbide coated SQ	carbide coated SU	with PCD-corner D	with PCD-full edge D	
CTXW 09T302 S04RD	15°	9,525	3,97	0,2	9,0		30075567				steel*
CTXW 09T304 S04RD	15°	9,525	3,97	0,4	9,0		30075162				
CTXW 09T308 S04RD	15°	9,525	3,97	0,8	9,0		30075166				
CTXW 09T312 S04RD	15°	9,525	3,97	1,2	9,0		30075170				
CTXW 09T302 S04RD	15°	9,525	3,97	0,2	9,0			30056870			cast iron
CTXW 09T304 S04RD	15°	9,525	3,97	0,4	9,0			30056871			
CTXW 09T308 S04RD	15°	9,525	3,97	0,8	9,0			30056872			
CTXW 09T312 S04RD	15°	9,525	3,97	1,2	9,0			30056873			
CTXW 060302 F01RD	15°	6,35	3,18	0,2	6,0	30029728				30041233	non ferrous metal
CTXW 060302 A01RD	15°	6,35	3,18	0,2	6,0				30075401		
CTXW 060304 F01RD	15°	6,35	3,18	0,4	6,0	30029729				30056960	
CTXW 060304 A01RD	15°	6,35	3,18	0,4	6,0				30075402		
CTXW 060308 F01RD	15°	6,35	3,18	0,8	6,0	30029730				30037901	
CTXW 060308 A01RD	15°	6,35	3,18	0,8	6,0				30075403		
CTXW 090302 F01RD	15°	6,35	3,18	0,2	9,0	30029732				30037901	
CTXW 090304 F01RD	15°	6,35	3,18	0,4	9,0	30029733				30056964	
CTXW 090308 F01RD	15°	6,35	3,18	0,8	9,0	30029734				30056965	
CTXW 090312 F01RD	15°	6,35	3,18	1,2	9,0	30029735				30056966	
CTXW 09T302 F01RD	15°	9,525	3,97	0,2	9,0	30029736				30048371	
CTXW 09T302 A01RD	15°	9,525	3,97	0,2	9,0				30075404		
CTXW 09T304 F01RD	15°	9,525	3,97	0,4	9,0	30029737				30056968	
CTXW 09T304 A01RD	15°	9,525	3,97	0,4	9,0				30075405		
CTXW 09T308 F01RD	15°	9,525	3,97	0,8	9,0	30029738				30037864	
CTXW 09T308 A01RD	15°	9,525	3,97	0,8	9,0				30058497		
CTXW 09T312 F01RD	15°	9,525	3,97	1,2	9,0	30029739				30056970	
CTXW 09T312 A01RD	15°	9,525	3,97	1,2	9,0				30075407		
CTXW 13T302 F01RD	15°	9,525	3,97	0,2	13,0	30029740				30056971	
CTXW 13T304 F01RD	15°	9,525	3,97	0,4	13,0	30029741				30056972	
CTXW 13T308 F01RD	15°	9,525	3,97	0,8	13,0	30029742				30056973	
CTXW 13T312 F01RD	15°	9,525	3,97	1,2	13,0	30029743				30056974	

*Steel grades only for side milling cutters.

Tangential inserts, 2 cutting edges milling, X grade high precision MAPAL version CTXW right cutting



standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number					material
						carbide uncoated SN	carbide coated SQ	carbide coated SU	with PCD-corner D	with PCD-full edge D	
CTXW 120402 F01RD	15°	12,7	4,76	0,2	12,0	30029744				30048979	non ferrous metal
CTXW 120402 A01RD	15°	12,7	4,76	0,2	12,0				30075408		
CTXW 120404 F01RD	15°	12,7	4,76	0,4	12,0	30029745				30056976	
CTXW 120404 A01RD	15°	12,7	4,76	0,4	12,0				30075409		
CTXW 120408 F01RD	15°	12,7	4,76	0,8	12,0	30029746				30048030	
CTXW 120408 A01RD	15°	12,7	4,76	0,8	12,0				30075410		
CTXW 120412 F01RD	15°	12,7	4,76	1,2	12,0	30029747				30056978	
CTXW 120412 A01RD	15°	12,7	4,76	1,2	12,0				30075411		
CTXW 180402 F01RD	15°	12,7	4,76	0,2	18,0	30036869					
CTXW 180404 F01RD	15°	12,7	4,76	0,4	18,0	30030375					
CTXW 180408 F01RD	15°	12,7	4,76	0,8	18,0	30030376					
CTXW 180412 F01RD	15°	12,7	4,76	1,2	18,0	30030377					

Ordering example: 50 tangential inserts – order no. 30029744

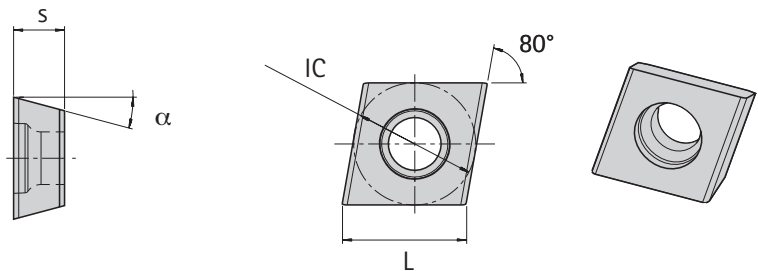
or

50 tangential inserts CTXW120402F01RD-SN

Clamping screw for tangential inserts

insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
CTXW 0603 __	M2,5x6	T8	10019600	0,8
CTXW 0903 __	M2,5x6	T8	10019600	0,8
CTXW 09T3 __	M3,5x9,4	T15	10007315	2,5
CTXW 13T3 __	M3,5x9,4	T15	10007315	2,5
CTXW 1204 __	M5x11	T20	10059857	5
CTXW 1804 __	M5x11	T20	10059857	5

Tangential inserts, 2 cutting edges milling, X grade – for finishing high precision MAPAL version CTXW left cutting

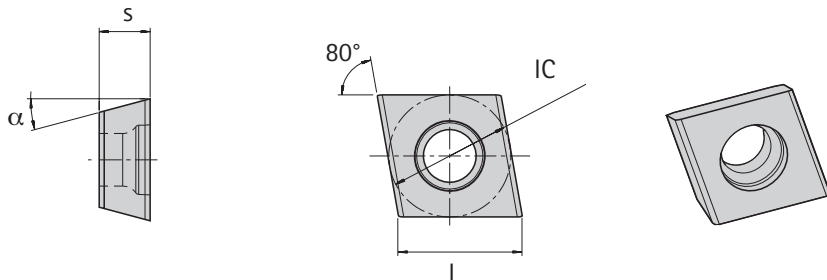


standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number					material
						carbide uncoated SN	carbide coated SU	with PCD- corner D	with PCD- full edge D	with PCBN- corner FT10	
CTXW 09T3EN S04LD	15°	9,525	3,97	0,8	9,0		30075172				cast iron
CTXW 09T3EN C35LD	15°	9,525	3,97	0,8	9,0					30075418	
CTXW 09T3ZN S04LD	15°	9,525	3,97	0,8	9,0		30048717				
CTXW 09T3ZN C35LD	15°	9,525	3,97	0,8	9,0					30075419	
CTXW 09T3EN F01LD	15°	9,525	3,97	0,8	9,0	30031713					non ferrous metal
CTXW 09T3EN A01LD	15°	9,525	3,97	0,8	9,0			30075414			
CTXW 09T3EN F01LD	15°	9,525	3,97	0,8	9,0				30057103		
CTXW 09T3ZN F01LD	15°	9,525	3,97	0,8	9,0	30075140					
CTXW 09T3ZN A01LD	15°	9,525	3,97	0,8	9,0			30075415			
CTXW 09T3ZN F01LD	15°	9,525	3,97	0,8	9,0				30075413		

EN (for Kappa = 75°)

ZN (for Kappa = 90°)

Tangential inserts, 2 cutting edges milling, X grade – for finishing high precision MAPAL version CTXW right cutting



standard description	α	IC mm	s mm	r mm	L mm	Order description: Insert with order number					material
						carbide uncoated SN	carbide coated SU	with PCD-corner D	with PCD-full edge D	with PCBN-corner FT10	
CTXW 09T3EN S04RD	15°	9,525	3,97	0,8	9,0		30043437				cast iron
CTXW 09T3EN C35RD	15°	9,525	3,97	0,8	9,0					30043439	
CTXW 09T3ZN S04RD	15°	9,525	3,97	0,8	9,0		30043438				
CTXW 09T3ZN C35RD	15°	9,525	3,97	0,8	9,0					30043460	
CTXW 09T3EN F01RD	15°	9,525	3,97	0,8	9,0	30030939					non ferrous metal
CTXW 09T3EN A01RD	15°	9,525	3,97	0,8	9,0			30075416			
CTXW 09T3EN F01RD	15°	9,525	3,97	0,8	9,0				30043509		
CTXW 09T3ZN F01RD	15°	9,525	3,97	0,8	9,0	30043436					
CTXW 09T3ZN A01RD	15°	9,525	3,97	0,8	9,0			30075417			
CTXW 09T3ZN F01RD	15°	9,525	3,97	0,8	9,0				30043435		

EN (for Kappa = 75°)

ZN (for Kappa = 90°)

Ordering example: 50 tangential inserts – order no. 30043437

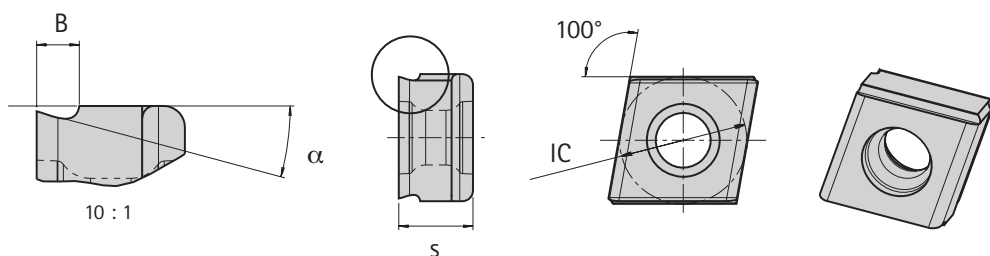
or

50 tangential inserts CTXW09T3ENS04RD-SU

Clamping screw for tangential inserts

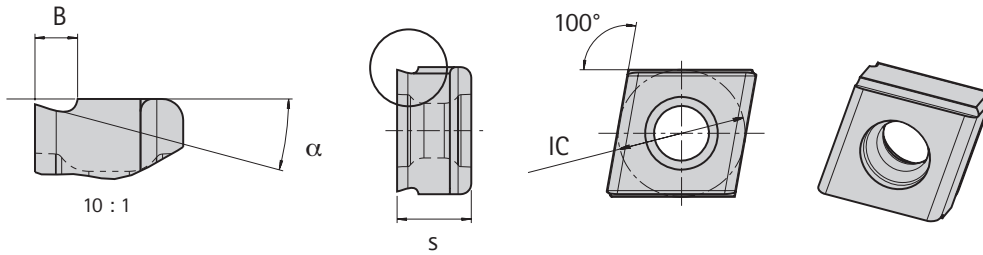
insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
CTXW 0603 __	M2,5x6	T8	10019600	0,8
CTXW 0903 __	M2,5x6	T8	10019600	0,8
CTXW 09T3 __	M3,5x9,4	T15	10007315	2,5
CTXW 13T3 __	M3,5x9,4	T15	10007315	2,5
CTXW 1204 __	M5x11	T20	10059857	5

Tangential inserts, 4 cutting edges boring, X grade high precision MAPAL version CTXQ left cutting



standard description	B mm	α	IC mm	s mm	r mm	Order description: Insert with order number						material
						carbide uncoated SN	SF	carbide coated SM	SX	with PCD-corner D	with PCD-full edge D	
CTXQ 090504 E02LR	0,8	15°	9,525	5,56	0,4				30075193			steel
CTXQ 090504 E02LS	1,2	15°	9,525	5,56	0,4				30075194			
CTXQ 090504 E02LD	1,6	15°	9,525	5,56	0,4				30047664			
CTXQ 090504 E02LT	2,5	15°	9,525	5,56	0,4				30075196			
CTXQ 090508 E02LS	1,2	15°	9,525	5,56	0,8				30075198			
CTXQ 090508 E02LD	1,6	15°	9,525	5,56	0,8				30075199			
CTXQ 090508 E02LT	2,5	15°	9,525	5,56	0,8				30075200			
CTXQ 090504 S04LR	0,8	15°	9,525	5,56	0,4				30075201			steel
CTXQ 090504 S04LS	1,2	15°	9,525	5,56	0,4				30075202			
CTXQ 090504 S04LD	1,6	15°	9,525	5,56	0,4				30075203			
CTXQ 090504 S04LT	2,5	15°	9,525	5,56	0,4				30075204			
CTXQ 090508 S04LS	1,2	15°	9,525	5,56	0,8				30075206			
CTXQ 090508 S04LD	1,6	15°	9,525	5,56	0,8				30075207			
CTXQ 090508 S04LT	2,5	15°	9,525	5,56	0,8				30075208			
CTXQ 090504 E02LR	0,8	15°	9,525	5,56	0,4		30075209	30075223				cast iron
CTXQ 090504 E02LS	1,2	15°	9,525	5,56	0,4		30075210	30075224				
CTXQ 090504 E02LD	1,6	15°	9,525	5,56	0,4		30039491	30075225				
CTXQ 090504 E02LT	2,5	15°	9,525	5,56	0,4		30075211	30075226				
CTXQ 090508 E02LS	1,2	15°	9,525	5,56	0,8		30075213	30075228				
CTXQ 090508 E02LD	1,6	15°	9,525	5,56	0,8		30039493	30075229				
CTXQ 090508 E02LT	2,5	15°	9,525	5,56	0,8		30075214	30075230				
CTXQ 090504 S04LR	0,8	15°	9,525	5,56	0,4		30075215	30075231				cast iron
CTXQ 090504 S04LS	1,2	15°	9,525	5,56	0,4		30075216	30075232				
CTXQ 090504 S04LD	1,6	15°	9,525	5,56	0,4		30075217	30075233				
CTXQ 090504 S04LT	2,5	15°	9,525	5,56	0,4		30075218	30075234				
CTXQ 090508 S04LS	1,2	15°	9,525	5,56	0,8		30075220	30075236				
CTXQ 090508 S04LD	1,6	15°	9,525	5,56	0,8		30075221	30075237				
CTXQ 090508 S04LT	2,5	15°	9,525	5,56	0,8		30075222	30075238				

Tangential inserts, 4 cutting edges boring, X grade high precision MAPAL version CTXQ left cutting



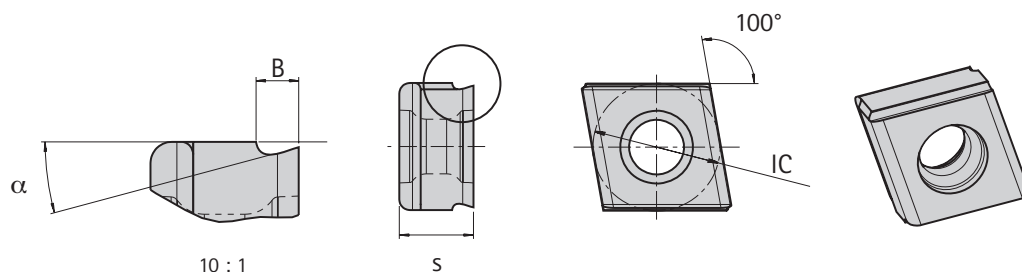
standard description	B mm	α	IC mm	s mm	r mm	Order description: Insert with order number						material
						carbide uncoated SN	SF	carbide coated SM	SX	with PCD- corner D	with PCD- full edge D	
CTXQ 090504 F01LR	0,8	15°	9,525	5,56	0,4	30075173					30075428	non ferrous metal
CTXQ 090504 A01LR	0,8	15°	9,525	5,56	0,4					30075420		
CTXQ 090504 F01LS	1,2	15°	9,525	5,56	0,4	30075174					30075429	
CTXQ 090504 A01LS	1,2	15°	9,525	5,56	0,4					30075421		
CTXQ 090504 F01LD	1,6	15°	9,525	5,56	0,4	30075175					30075430	
CTXQ 090504 A01LD	1,6	15°	9,525	5,56	0,4					30075422		
CTXQ 090504 F01LT	2,5	15°	9,525	5,56	0,4	30075176					30075431	
CTXQ 090504 A01LT	2,5	15°	9,525	5,56	0,4					30075423		
CTXQ 090508 F01LS	1,2	15°	9,525	5,56	0,8	30075178					30075433	
CTXQ 090508 A01LS	1,2	15°	9,525	5,56	0,8					30075425		
CTXQ 090508 F01LD	1,6	15°	9,525	5,56	0,8	30057658					30075434	
CTXQ 090508 A01LD	1,6	15°	9,525	5,56	0,8					30075426		
CTXQ 090508 F01LT	2,5	15°	9,525	5,56	0,8	30075180					30075435	
CTXQ 090508 A01LT	2,5	15°	9,525	5,56	0,8					30075427		

Ordering example: 50 tangential inserts – order no. 30075173
or
50 tangential inserts CTXQ090504F01LR-SN

Clamping screw for tangential inserts

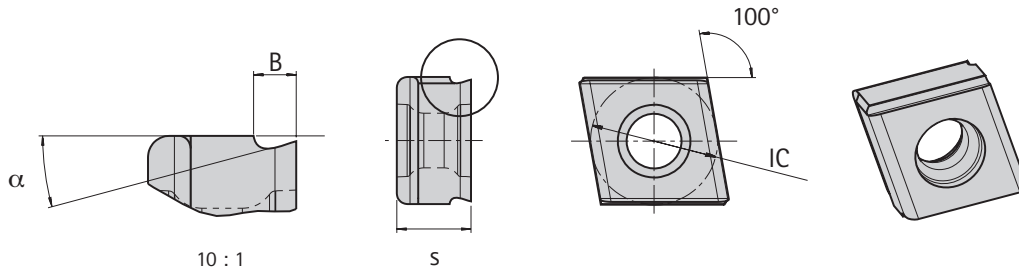
insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
CTXQ 0905 __	M3,5x11	T9	10048466	2

Tangential inserts, 4 cutting edges boring, X grade high precision MAPAL version CTXQ right cutting



standard description	B mm	α	IC mm	s mm	r mm	Order description: Insert with order number						material
						carbide uncoated SN	SF	carbide coated SM	SX	with PCD-corner D	with PCD-full edge D	
CTXQ 090504 E02RR	0,8	15°	9,525	5,56	0,4				30075239			steel
CTXQ 090504 E02RS	1,2	15°	9,525	5,56	0,4				30075240			
CTXQ 090504 E02RD	1,6	15°	9,525	5,56	0,4				30075241			
CTXQ 090504 E02RT	2,5	15°	9,525	5,56	0,4				30075242			
CTXQ 090508 E02RS	1,2	15°	9,525	5,56	0,8				30075244			
CTXQ 090508 E02RD	1,6	15°	9,525	5,56	0,8				30075245			
CTXQ 090508 E02RT	2,5	15°	9,525	5,56	0,8				30075246			
CTXQ 090504 S04RR	0,8	15°	9,525	5,56	0,4				30075247			steel
CTXQ 090504 S04RS	1,2	15°	9,525	5,56	0,4				30075248			
CTXQ 090504 S04RD	1,6	15°	9,525	5,56	0,4				30075249			
CTXQ 090504 S04RT	2,5	15°	9,525	5,56	0,4				30075250			
CTXQ 090508 S04RS	1,2	15°	9,525	5,56	0,8				30075252			
CTXQ 090508 S04RD	1,6	15°	9,525	5,56	0,8				30075253			
CTXQ 090508 S04RT	2,5	15°	9,525	5,56	0,8				30075254			
CTXQ 090504 E02RR	0,8	15°	9,525	5,56	0,4		30075255	30075271				cast iron
CTXQ 090504 E02RS	1,2	15°	9,525	5,56	0,4		30075256	30075272				
CTXQ 090504 E02RD	1,6	15°	9,525	5,56	0,4		30039449	30075273				
CTXQ 090504 E02RT	2,5	15°	9,525	5,56	0,4		30075257	30075274				
CTXQ 090508 E02RS	1,2	15°	9,525	5,56	0,8		30075259	30075276				
CTXQ 090508 E02RD	1,6	15°	9,525	5,56	0,8		30039490	30075277				
CTXQ 090508 E02RT	2,5	15°	9,525	5,56	0,8		30075261	30075278				
CTXQ 090504 S04RR	0,8	15°	9,525	5,56	0,4		30075263	30075279				cast iron
CTXQ 090504 S04RS	1,2	15°	9,525	5,56	0,4		30075264	30075280				
CTXQ 090504 S04RD	1,6	15°	9,525	5,56	0,4		30075265	30075281				
CTXQ 090504 S04RT	2,5	15°	9,525	5,56	0,4		30075266	30075282				
CTXQ 090508 S04RS	1,2	15°	9,525	5,56	0,8		30075268	30075284				
CTXQ 090508 S04RD	1,6	15°	9,525	5,56	0,8		30075269	30075285				
CTXQ 090508 S04RT	2,5	15°	9,525	5,56	0,8		30075270	30075286				

Tangential inserts, 4 cutting edges boring, X grade high precision MAPAL version CTXQ right cutting



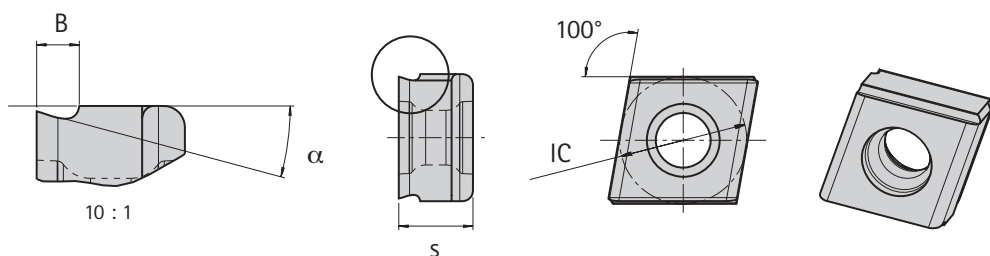
standard description	B mm	α	IC mm	s mm	r mm	Order description: Insert with order number						material
						carbide uncoated SN	SF	carbide coated SM	SX	with PCD- corner D	with PCD- full edge D	
CTXQ 090504 F01RR	0,8	15°	9,525	5,56	0,4	30075181					30075444	non ferrous metal
CTXQ 090504 A01RR	0,8	15°	9,525	5,56	0,4					30075436		
CTXQ 090504 F01RS	1,2	15°	9,525	5,56	0,4	30075182					30075445	
CTXQ 090504 A01RS	1,2	15°	9,525	5,56	0,4					30075437		
CTXQ 090504 F01RD	1,6	15°	9,525	5,56	0,4	30075183					30075446	
CTXQ 090504 A01RD	1,6	15°	9,525	5,56	0,4					30075438		
CTXQ 090504 F01RT	2,5	15°	9,525	5,56	0,4	30075184					30075447	
CTXQ 090504 A01RT	2,5	15°	9,525	5,56	0,4					30075439		
CTXQ 090508 F01RS	1,2	15°	9,525	5,56	0,8	30075186					30075449	
CTXQ 090508 A01RS	1,2	15°	9,525	5,56	0,8					30075441		
CTXQ 090508 F01RD	1,6	15°	9,525	5,56	0,8	30075187					30075450	
CTXQ 090508 A01RD	1,6	15°	9,525	5,56	0,8					30075442		
CTXQ 090508 F01RT	2,5	15°	9,525	5,56	0,8	30075188					30075451	
CTXQ 090508 A01RT	2,5	15°	9,525	5,56	0,8					30075443		

Ordering example: 50 tangential inserts – order no. 30075181
or
50 tangential inserts CTXQ090504F01RR-SN

Clamping screw for tangential inserts

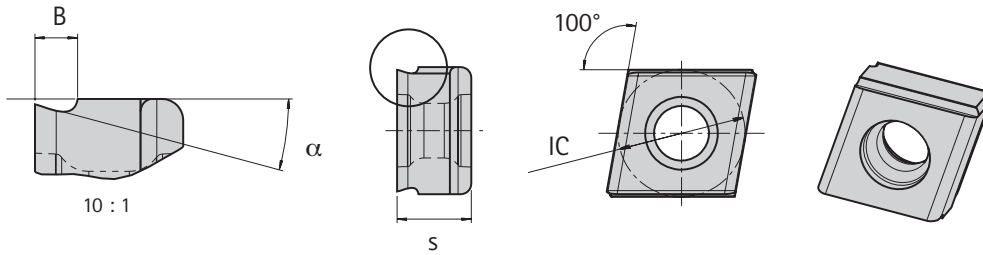
insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
CTXQ 0905 __	M3,5x11	T9	10048466	2

Tangential inserts, 4 cutting edges milling, X grade high precision MAPAL version CTXQ left cutting



standard description	B mm	α	IC mm	s mm	r mm	Order description: Insert with order number						material
						carbide uncoated SN	SF	carbide coated SM	SX	with PCD-corner D	with PCD-full edge D	
CTXQ 090504 E01LR	0,8	15°	9,525	5,56	0,4				30075193			steel
CTXQ 090504 E01LS	1,2	15°	9,525	5,56	0,4				30075194			
CTXQ 090504 E01LD	1,6	15°	9,525	5,56	0,4				30047664			
CTXQ 090504 E01LT	2,5	15°	9,525	5,56	0,4				30075196			
CTXQ 090508 E01LS	1,2	15°	9,525	5,56	0,8				30075198			
CTXQ 090508 E01LD	1,6	15°	9,525	5,56	0,8				30075199			
CTXQ 090508 E01LT	2,5	15°	9,525	5,56	0,8				30075200			
CTXQ 090504 S04LR	0,8	15°	9,525	5,56	0,4				30075201			steel
CTXQ 090504 S04LS	1,2	15°	9,525	5,56	0,4				30075202			
CTXQ 090504 S04LD	1,6	15°	9,525	5,56	0,4				30075203			
CTXQ 090504 S04LT	2,5	15°	9,525	5,56	0,4				30075204			
CTXQ 090508 S04LS	1,2	15°	9,525	5,56	0,8				30075206			
CTXQ 090508 S04LD	1,6	15°	9,525	5,56	0,8				30075207			
CTXQ 090508 S04LT	2,5	15°	9,525	5,56	0,8				30075208			
CTXQ 090504 E01LR	0,8	15°	9,525	5,56	0,4		30075287	30075302				cast iron
CTXQ 090504 E01LS	1,2	15°	9,525	5,56	0,4		30075288	30075303				
CTXQ 090504 E01LD	1,6	15°	9,525	5,56	0,4		30075289	30075304				
CTXQ 090504 E01LT	2,5	15°	9,525	5,56	0,4		30075290	30075305				
CTXQ 090508 E01LS	1,2	15°	9,525	5,56	0,8		30075292	30075307				
CTXQ 090508 E01LD	1,6	15°	9,525	5,56	0,8		30044046	30075308				
CTXQ 090508 E01LT	2,5	15°	9,525	5,56	0,8		30075293	30075309				
CTXQ 090504 S04LR	0,8	15°	9,525	5,56	0,4		30075294	30075310				cast iron
CTXQ 090504 S04LS	1,2	15°	9,525	5,56	0,4		30075295	30075311				
CTXQ 090504 S04LD	1,6	15°	9,525	5,56	0,4		30075296	30075312				
CTXQ 090504 S04LT	2,5	15°	9,525	5,56	0,4		30075297	30075313				
CTXQ 090508 S04LS	1,2	15°	9,525	5,56	0,8		30075299	30075315				
CTXQ 090508 S04LD	1,6	15°	9,525	5,56	0,8		30075300	30044316				
CTXQ 090508 S04LT	2,5	15°	9,525	5,56	0,8		30075301	30075316				

Tangential inserts, 4 cutting edges milling, X grade high precision MAPAL version CTXQ left cutting



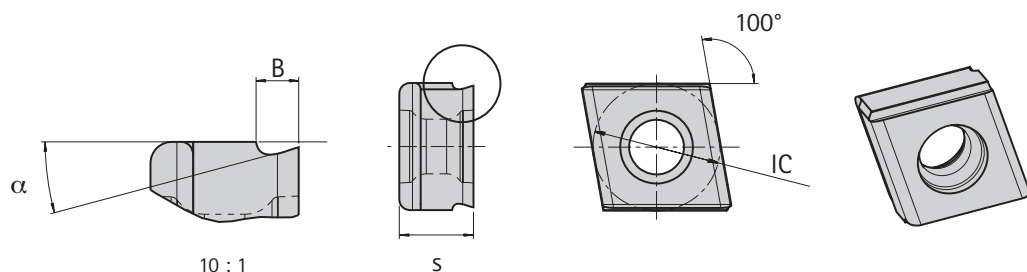
standard description	B mm	α	IC mm	s mm	r mm	Order description: Insert with order number						material
						carbide uncoated SN	SE	carbide coated SU	SX	with PCD- corner D	with PCD- full edge D	
CTXQ 090504 S04LR	0,8	15°	9,525	5,56	0,4	30075173					30075428	non ferrous metal
CTXQ 090504 A01LR	0,8	15°	9,525	5,56	0,4					30075420		
CTXQ 090504 S04LS	1,2	15°	9,525	5,56	0,4	30075174					30075429	
CTXQ 090504 A01LS	1,2	15°	9,525	5,56	0,4					30075421		
CTXQ 090504 S04LD	1,6	15°	9,525	5,56	0,4	30075175					30075430	
CTXQ 090504 A01LD	1,6	15°	9,525	5,56	0,4					30075422		
CTXQ 090504 S04LT	2,5	15°	9,525	5,56	0,4	30075176					30075431	
CTXQ 090504 A01LT	2,5	15°	9,525	5,56	0,4					30075423		
CTXQ 090508 S04LS	1,2	15°	9,525	5,56	0,8	30075178					30075433	
CTXQ 090508 A01LS	1,2	15°	9,525	5,56	0,8					30075425		
CTXQ 090508 S04LD	1,6	15°	9,525	5,56	0,8	30057658					30075434	
CTXQ 090508 A01LD	1,6	15°	9,525	5,56	0,8					30075426		
CTXQ 090508 S04LT	2,5	15°	9,525	5,56	0,8	30075180					30075435	
CTXQ 090508 A01LT	2,5	15°	9,525	5,56	0,8					30075427		

Ordering example: 50 tangential inserts – order no. 30075173
or
50 tangential inserts CTXQ090504S04LR-SN

Clamping screw for tangential inserts

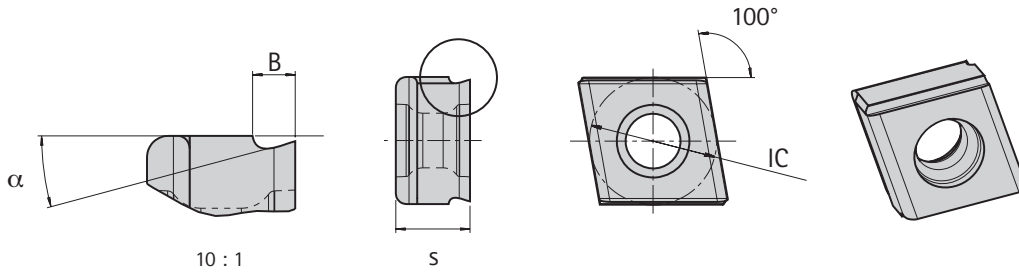
insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
CTXQ 0905 __	M3,5x11	T9	10048466	2

Tangential inserts, 4 cutting edges milling, X grade high precision MAPAL version CTXQ right cutting



standard description	B mm	α	IC mm	s mm	r mm	Order description: Insert with order number						material
						carbide uncoated SN	SE	carbide coated SU	SX	with PCD-corner D	with PCD-full edge D	
CTXQ 090504 E01RR	0,8	15°	9,525	5,56	0,4				30075239			steel
CTXQ 090504 E01RS	1,2	15°	9,525	5,56	0,4				30075240			
CTXQ 090504 E01RD	1,6	15°	9,525	5,56	0,4				30075241			
CTXQ 090504 E01RT	2,5	15°	9,525	5,56	0,4				30075242			
CTXQ 090508 E01RS	1,2	15°	9,525	5,56	0,8				30075244			
CTXQ 090508 E01RD	1,6	15°	9,525	5,56	0,8				30075245			
CTXQ 090508 E01RT	2,5	15°	9,525	5,56	0,8				30075246			
CTXQ 090504 S04RR	0,8	15°	9,525	5,56	0,4				30075247			steel
CTXQ 090504 S04RS	1,2	15°	9,525	5,56	0,4				30075248			
CTXQ 090504 S04RD	1,6	15°	9,525	5,56	0,4				30075249			
CTXQ 090504 S04RT	2,5	15°	9,525	5,56	0,4				30075250			
CTXQ 090508 S04RS	1,2	15°	9,525	5,56	0,8				30075252			
CTXQ 090508 S04RD	1,6	15°	9,525	5,56	0,8				30075253			
CTXQ 090508 S04RT	2,5	15°	9,525	5,56	0,8				30075254			
CTXQ 090504 E01RR	0,8	15°	9,525	5,56	0,4		30075317	30075333				cast iron
CTXQ 090504 E01RS	1,2	15°	9,525	5,56	0,4		30075318	30075334				
CTXQ 090504 E01RD	1,6	15°	9,525	5,56	0,4		30075319	30075335				
CTXQ 090504 E01RT	2,5	15°	9,525	5,56	0,4		30075320	30075336				
CTXQ 090508 E01RS	1,2	15°	9,525	5,56	0,8		30075322	30075338				
CTXQ 090508 E01RD	1,6	15°	9,525	5,56	0,8		30044045	30075339				
CTXQ 090508 E01RT	2,5	15°	9,525	5,56	0,8		30075324	30075340				
CTXQ 090504 S04RR	0,8	15°	9,525	5,56	0,4		30075325	30075341				cast iron
CTXQ 090504 S04RS	1,2	15°	9,525	5,56	0,4		30075326	30075342				
CTXQ 090504 S04RD	1,6	15°	9,525	5,56	0,4		30075327	30075343				
CTXQ 090504 S04RT	2,5	15°	9,525	5,56	0,4		30075328	30075344				
CTXQ 090508 S04RS	1,2	15°	9,525	5,56	0,8		30075330	30075346				
CTXQ 090508 S04RD	1,6	15°	9,525	5,56	0,8		30075331	30044315				
CTXQ 090508 S04RT	2,5	15°	9,525	5,56	0,8		30075332	30075347				

Tangential inserts, 4 cutting edges milling, X grade high precision MAPAL version CTXQ right cutting



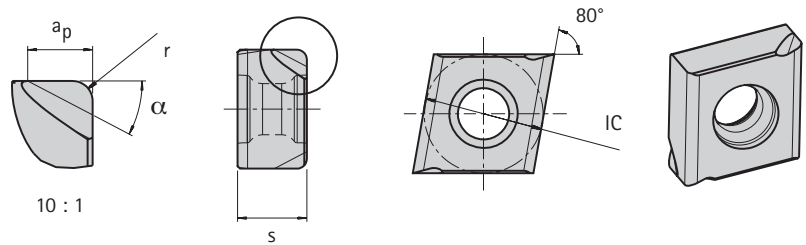
standard description	B mm	α	IC mm	s mm	r mm	Order description: Insert with order number						material
						carbide uncoated SN	SE	carbide coated SU	SX	with PCD- corner D	with PCD- full edge D	
CTXQ 090504 F01RR	0,8	15°	9,525	5,56	0,4	30075181					30075444	non ferrous metal
CTXQ 090504 A01RR	0,8	15°	9,525	5,56	0,4					30075436		
CTXQ 090504 F01RS	1,2	15°	9,525	5,56	0,4	30075182					30075445	
CTXQ 090504 A01RS	1,2	15°	9,525	5,56	0,4					30075437		
CTXQ 090504 F01RD	1,6	15°	9,525	5,56	0,4	30075183					30075446	
CTXQ 090504 A01RD	1,6	15°	9,525	5,56	0,4					30075438		
CTXQ 090504 F01RT	2,5	15°	9,525	5,56	0,4	30075184					30075447	
CTXQ 090504 A01RT	2,5	15°	9,525	5,56	0,4					30075439		
CTXQ 090508 F01RS	1,2	15°	9,525	5,56	0,8	30075186					30075449	
CTXQ 090508 A01RS	1,2	15°	9,525	5,56	0,8					30075441		
CTXQ 090508 F01RD	1,6	15°	9,525	5,56	0,8	30075187					30075450	
CTXQ 090508 A01RD	1,6	15°	9,525	5,56	0,8					30075442		
CTXQ 090508 F01RT	2,5	15°	9,525	5,56	0,8	30075188					30075451	
CTXQ 090508 A01RT	2,5	15°	9,525	5,56	0,8					30075443		

Ordering example: 50 tangential inserts – order no. 30075181
or
50 tangential inserts CTXQ090504F01RR-SN

Clamping screw for tangential inserts

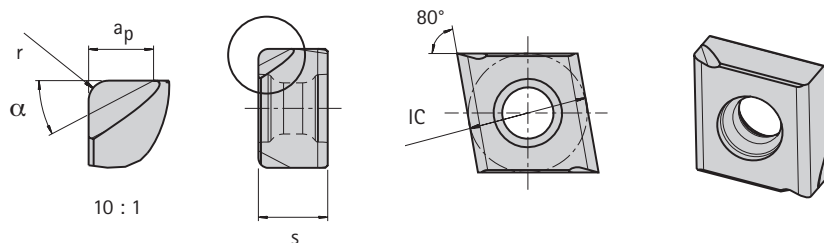
insert size	torx screw	torx screwdriver	order no.	torque value (Nm)
CTXQ 0905 __	M3,5x11	T9	10048466	2

Tangential inserts, 4 cutting edges boring, X grade high precision MAPAL version CTXU left cutting



standard description	α	IC mm	s mm	r mm	a_p mm	Order description: Insert with order number					material
						carbide uncoated SN	SF	carbide coated SM	SX	with PCD- corner D	
CTXU 090504 E01LD	15°	9,525	5,56	0,4	2,6				30075356		steel
CTXU 090508 E01LD	15°	9,525	5,56	0,8	2,6				30075357		
CTXU 090504 E01LD	15°	9,525	5,56	0,4	2,6		30075348	30075352			cast iron
CTXU 090508 E01LD	15°	9,525	5,56	0,8	2,6		30075349	30075353			
CTXU 090504 F01LD	15°	9,525	5,56	0,4	2,6	30075189					non ferrous
CTXU 090504 A01LD	15°	9,525	5,56	0,4	2,6					30075452	
CTXU 090508 F01LD	15°	9,525	5,56	0,8	2,6	30075190					
CTXU 090508 A01LD	15°	9,525	5,56	0,8	2,6					30075453	

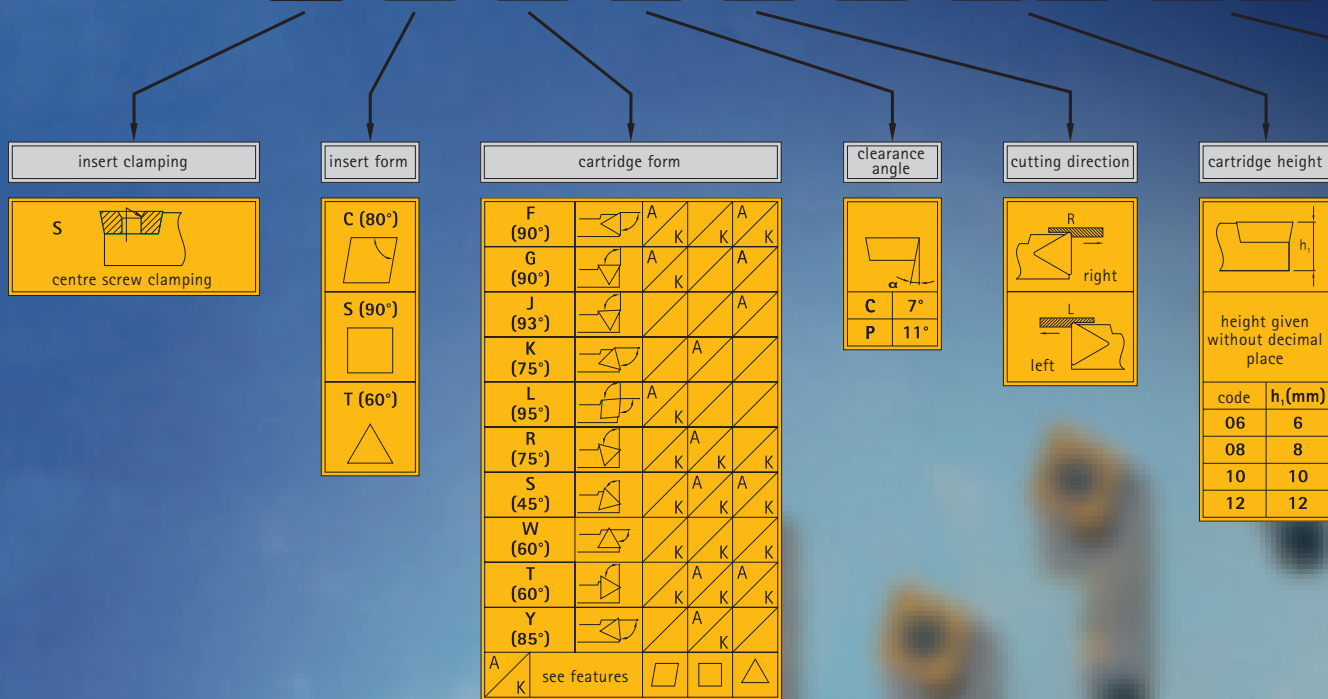
Tangential inserts, 4 cutting edges boring, X grade high precision MAPAL version CTXU right cutting



standard description	α	IC mm	s mm	r mm	ap mm	Order description: Insert with order number				with PCD-corner D	material
						carbide uncoated SN	SF	carbide coated SM	SX		
CTXU 090504 E01RD	15°	9,525	5,56	0,4	2,6				30075358		steel
CTXU 090508 E01RD	15°	9,525	5,56	0,8	2,6				30075359		
CTXU 090504 E01RD	15°	9,525	5,56	0,4	2,6		30075350	30075354			cast iron
CTXU 090508 E01RD	15°	9,525	5,56	0,8	2,6		30075351	30075355			
CTXU 090504 F01RD	15°	9,525	5,56	0,4	2,6	30075191					non ferrous
CTXU 090504 A01RD	15°	9,525	5,56	0,4	2,6					30075454	
CTXU 090508 F01RD	15°	9,525	5,56	0,8	2,6	30075192					
CTXU 090508 A01RD	15°	9,525	5,56	0,8	2,6					30075455	

Ordering example: 50 tangential inserts – order no. 30075358
or
50 tangential inserts CTXU090504E01RD-SX

S T F C R 0 8 C K



- 0 9

features

1 st point	significance
C	ISO cartridges
2 nd point	significance
A	ISO cartridges to DIN 4985
K	compact cartridges similar to DIN 4985

insert size

	d	d	d
inscribed circle			
d(mm)	S	C	T
5.56	05	-	09
6.35	06	06	11
7.938	-	-	-
9.525	09	09	16
12.7	12	12	-

Cartridges

The ISO cartridge designs included in MAPAL's programme have been given a reference code which relates closely to the coding under DIN 4983. The code letters CK have been added to these and this designates the MAPAL compact cartridge; the DIN 4985 form is identified by the designation CA. In addition the features indicated by the designation code are simply those, which correspond to the standard supply programme as, listed in the tables from page 58 onwards. The individual cartridges are allocated to accessory groups in these tables and these can be found on page 68 along with the table of cartridges.

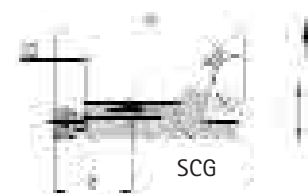
The full range of compact cartridges, which offer important advantages in many situations because of their short dimensions, can be found from page 62 onwards. This wide selection covers the majority of design variations for tool mounting. MAPAL can also supply ISO cartridges and compact cartridges in special designs on request, e.g. with approach angle to customer requirements.



Cartridges

MAPAL ISO cartridge

form F, form G



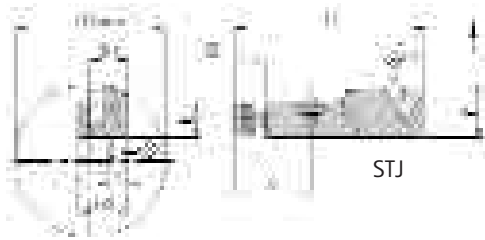
Reference code								Order description ISO cartridge with order no.	Insert required	h1	f (ref. nom. R)	nom.R	l1	e	l3	h2	b	t	d1 min.	Spare parts group*
S	C	F	C	R	08	CA-	06	30011050	CC__T/W 06 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	4
S	C	F	C	L	08	CA-	06	30011051	CC__T/W 06 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	4
S	C	F	P	R	08	CA-	06	30011052	CP__T/W 06 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	4
S	C	F	P	L	08	CA-	06	30011053	CP__T/W 06 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	4
S	C	F	C	R	10	CA-	09	30011054	CC__T/W 09 T3 ..	10	14	0,8	50	20	8	13	9,5	5	40	6
S	C	F	C	L	10	CA-	09	30011055	CC__T/W 09 T3 ..	10	14	0,8	50	20	8	13	9,5	5	40	6
S	C	F	C	R	12	CA-	12	30011056	CC__T/W 12 04 ..	12	20	0,8	55	20	8	17	12,7	6	50	1
S	C	F	C	L	12	CA-	12	30011057	CC__T/W 12 04 ..	12	20	0,8	55	20	8	17	12,7	6	50	1
S	T	F	C	R	08	CA-	09	30011058	TC__T/W 09 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	3
S	T	F	C	L	08	CA-	09	30011059	TC__T/W 09 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	3
S	T	F	C	R	10	CA-	11	30011060	TC__T/W 11 02 ..	10	14	0,4	50	20	8	13	9,5	5	40	5
S	T	F	C	L	10	CA-	11	30011061	TC__T/W 11 02 ..	10	14	0,4	50	20	8	13	9,5	5	40	5
S	T	F	C	R	12	CA-	16	30011062	TC__T/W 16 T3 ..	12	20	0,8	55	20	8	17	12,7	6	50	7
S	T	F	C	L	12	CA-	16	30011063	TC__T/W 16 T3 ..	12	20	0,8	55	20	8	17	12,7	6	50	7
S	C	G	C	R	08	CA-	06	30011064	CC__T/W 06 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	4
S	C	G	C	L	08	CA-	06	30011065	CC__T/W 06 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	4
S	C	G	P	R	08	CA-	06	30011066	CP__T/W 06 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	4
S	C	G	P	L	08	CA-	06	30011067	CP__T/W 06 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	4
S	C	G	C	R	10	CA-	09	30011068	CC__T/W 09 T3 ..	10	14	0,8	50	20	8	13	9,5	5	40	6
S	C	G	C	L	10	CA-	09	30011069	CC__T/W 09 T3 ..	10	14	0,8	50	20	8	13	9,5	5	40	6
S	C	G	C	R	12	CA-	12	30011070	CC__T/W 12 04 ..	12	20	0,8	55	20	8	17	12,7	6	50	1
S	C	G	C	L	12	CA-	12	30011071	CC__T/W 12 04 ..	12	20	0,8	55	20	8	17	12,7	6	50	1
S	T	G	C	R	08	CA-	09	30011072	TC__T/W 09 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	3
S	T	G	C	L	08	CA-	09	30011073	TC__T/W 09 02 ..	8	10	0,4	32	17	7	9,5	6,5	4,5	25	3
S	T	G	C	R	10	CA-	11	30011074	TC__T/W 11 02 ..	10	14	0,4	50	20	8	13	9,5	5	40	5
S	T	G	C	L	10	CA-	11	30011075	TC__T/W 11 02 ..	10	14	0,4	50	20	8	13	9,5	5	40	5
S	T	G	C	R	12	CA-	16	30011076	TC__T/W 16 T3 ..	12	20	0,8	55	20	8	17	12,7	6	50	7
S	T	G	C	L	12	CA-	16	30011077	TC__T/W 16 T3 ..	12	20	0,8	55	20	8	17	12,7	6	50	7

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts, torx key and shim not included.

* see page 68/69

MAPAL ISO cartridge

form J, form K, form L



Reference code										Order description ISO cartridge with order no.		Insert required	h1	f (ref. nom. R)	nom.R	l1	a	e	l3	h2	b	t	d1 min.	Spare parts group*
S	T	J	C	R	08	CA-	09			30011078	TC__T/W 09 02 ..		8	10	0,4	32		17	7	9,5	6,5	4,5	25	3
S	T	J	C	L	08	CA-	09			30011079	TC__T/W 09 02 ..		8	10	0,4	32		17	7	9,5	6,5	4,5	25	3
S	T	J	C	R	10	CA-	11			30011080	TC__T/W 11 02 ..		10	14	0,4	50		20	8	13	9,5	5	40	5
S	T	J	C	L	10	CA-	11			30011081	TC__T/W 11 02 ..		10	14	0,4	50		20	8	13	9,5	5	40	5
S	T	J	C	R	12	CA-	16			30011082	TC__T/W 16 T3 ..		12	20	0,8	55		20	8	17	12,7	6	50	7
S	T	J	C	L	12	CA-	16			30011083	TC__T/W 16 T3 ..		12	20	0,8	55		20	8	17	12,7	6	50	7
S	S	K	C	R	08	CA-	06			30011084	SC__T/W 06 02 ..		8	10	0,4	32	1,5	17	7	9,5	6,5	4,5	25	4
S	S	K	C	L	08	CA-	06			30011085	SC__T/W 06 02 ..		8	10	0,4	32	1,5	17	7	9,5	6,5	4,5	25	4
S	S	K	C	R	10	CA-	09			30011086	SC__T/W 09 T3 ..		10	14	0,8	50	2,2	20	8	13	9,5	5	40	6
S	S	K	C	L	10	CA-	09			30011087	SC__T/W 09 T3 ..		10	14	0,8	50	2,2	20	8	13	9,5	5	40	6
S	S	K	C	R	12	CA-	12			30011088	SC__T/W 12 04 ..		12	20	0,8	55	3,1	20	8	17	12,7	6	50	1
S	S	K	C	L	12	CA-	12			30011089	SC__T/W 12 04 ..		12	20	0,8	55	3,1	20	8	17	12,7	6	50	1
S	C	L	C	R	08	CA-	06			30011090	CC__T/W 06 02 ..		8	10	0,4	32		17	7	9,5	6,5	4,5	25	4
S	C	L	C	L	08	CA-	06			30011091	CC__T/W 06 02 ..		8	10	0,4	32		17	7	9,5	6,5	4,5	25	4
S	C	L	P	R	08	CA-	06			30011092	CP__T/W 06 02 ..		8	10	0,4	32		17	7	9,5	6,5	4,5	25	4
S	C	L	P	L	08	CA-	06			30011093	CP__T/W 06 02 ..		8	10	0,4	32		17	7	9,5	6,5	4,5	25	4
S	C	L	C	R	10	CA-	09			30011094	CC__T/W 09 T3 ..		10	14	0,8	50		20	8	13	9,5	5	40	6
S	C	L	C	L	10	CA-	09			30011095	CC__T/W 09 T3 ..		10	14	0,8	50		20	8	13	9,5	5	40	6
S	C	L	C	R	12	CA-	12			30011096	CC__T/W 12 04 ..		12	20	0,8	55		20	8	17	12,7	6	50	1
S	C	L	C	L	12	CA-	12			30011097	CC__T/W 12 04 ..		12	20	0,8	55		20	8	17	12,7	6	50	1

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts, torx key and shim not included.

* see page 68/69

MAPAL ISO cartridge

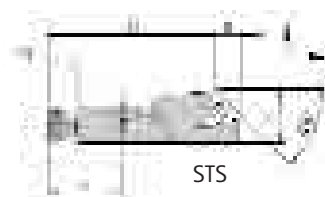
form R, form S



SSR



SSS



STS

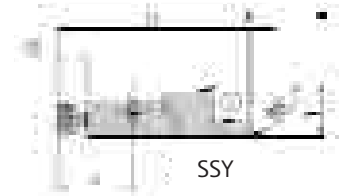
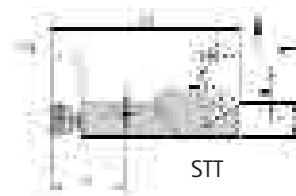
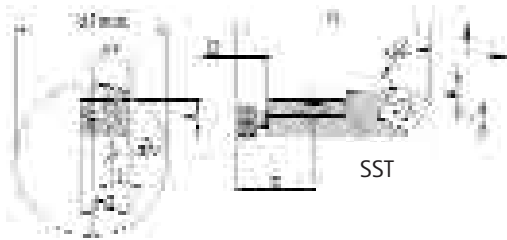
Reference code								Order description ISO cartridge with order no.	Insert required	h1	f (ref. nom. R)	nom.R	l1	a	e	l3	h2	b	t	d1 min.	Spare parts group*
S	S	R	C	R	08	CA-	06	30011098	SC__T/W 06 02 ..	8	10	0,4	32	1,6	17	7	9,5	6,5	4,5	25	4
S	S	R	C	L	08	CA-	06	30011099	SC__T/W 06 02 ..	8	10	0,4	32	1,6	17	7	9,5	6,5	4,5	25	4
S	S	R	C	R	10	CA-	09	30011100	SC__T/W 09 T3 ..	10	14	0,8	50	2,2	20	8	13	9,5	5	40	6
S	S	R	C	L	10	CA-	09	30011101	SC__T/W 09 T3 ..	10	14	0,8	50	2,2	20	8	13	9,5	5	40	6
S	S	R	C	R	12	CA-	12	30011102	SC__T/W 12 04 ..	12	20	0,8	55	3,1	20	8	17	12,7	6	50	1
S	S	R	C	L	12	CA-	12	30011103	SC__T/W 12 04 ..	12	20	0,8	55	3,1	20	8	17	12,7	6	50	1
S	S	S	C	R	08	CA-	06	30011104	SC__T/W 06 02 ..	8	10	0,4	28	4,2	17	7	9,5	6,5	4,5	25	4
S	S	S	C	L	08	CA-	06	30011105	SC__T/W 06 02 ..	8	10	0,4	28	4,2	17	7	9,5	6,5	4,5	25	4
S	S	S	C	R	10	CA-	09	30011106	SC__T/W 09 T3 ..	10	14	0,8	44	6,1	20	8	13	9,5	5	40	6
S	S	S	C	L	10	CA-	09	30011107	SC__T/W 09 T3 ..	10	14	0,8	44	6,1	20	8	13	9,5	5	40	6
S	S	S	C	R	12	CA-	12	30011108	SC__T/W 12 04 ..	12	20	0,8	47	8,3	20	8	17	12,7	6	50	1
S	S	S	C	L	12	CA-	12	30011109	SC__T/W 12 04 ..	12	20	0,8	47	8,3	20	8	17	12,7	6	50	1
S	T	S	C	R	08	CA-	09	30011110	TC__T/W 09 02 ..	8	10	0,4	28	6,1	17	7	9,5	6,5	4,5	25	3
S	T	S	C	L	08	CA-	09	30011111	TC__T/W 09 02 ..	8	10	0,4	28	6,1	17	7	9,5	6,5	4,5	25	3
S	T	S	C	R	10	CA-	11	30011112	TC__T/W 11 02 ..	10	14	0,4	44	7	20	8	13	9,5	5	40	5
S	T	S	C	L	10	CA-	11	30011113	TC__T/W 11 02 ..	10	14	0,4	44	7	20	8	13	9,5	5	40	5
S	T	S	C	R	12	CA-	16	30011114	TC__T/W 16 T3 ..	12	20	0,8	47	10,2	20	8	17	12,7	6	50	7
S	T	S	C	L	12	CA-	16	30011115	TC__T/W 16 T3 ..	12	20	0,8	47	10,2	20	8	17	12,7	6	50	7

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts, torx key and shim not included.

* see page 68/69

MAPAL ISO cartridge

form T, form Y



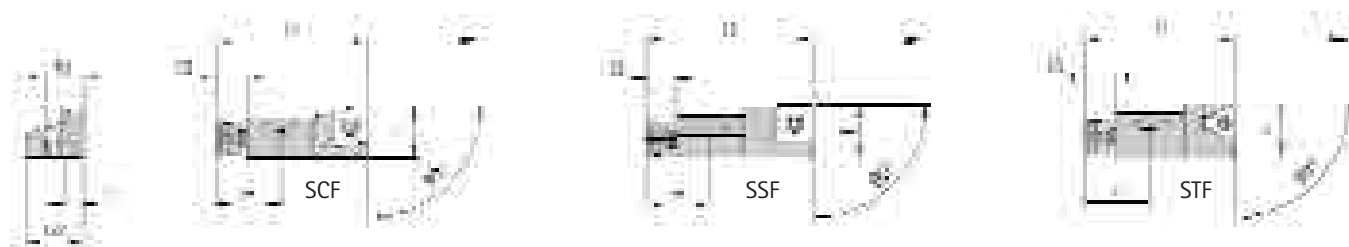
Reference code										Order description ISO cartridge with order no.		Insert required	h1	f (ref. nom. R)	nom.R	l1	a	e	l3	h2	b	t	d1 min.	Spare parts group*
S	S	T	C	R	08	CA-	06			30011116	SC__T/W 06 02 ..		8	6	0,4	32	3	17	7	9,5	6,5	4,5	25	4
S	S	T	C	L	08	CA-	06			30011117	SC__T/W 06 02 ..		8	6	0,4	32	3	17	7	9,5	6,5	4,5	25	4
S	S	T	C	R	10	CA-	09			30011118	SC__T/W 09 T3 ..		10	9	0,8	50	4,3	20	8	13	9,5	5	40	6
S	S	T	C	L	10	CA-	09			30011119	SC__T/W 09 T3 ..		10	9	0,8	50	4,3	20	8	13	9,5	5	40	6
S	S	T	C	R	12	CA-	12			30011120	SC__T/W 12 04 ..		12	13	0,8	55	5,9	20	8	17	12,7	6	50	1
S	S	T	C	L	12	CA-	12			30011121	SC__T/W 12 04 ..		12	13	0,8	55	5,9	20	8	17	12,7	6	50	1
S	T	T	C	R	08	CA-	09			30011122	TC__T/W 09 02 ..		8	6	0,4	32	4,3	17	7	9,5	6,5	4,5	25	3
S	T	T	C	L	08	CA-	09			30011123	TC__T/W 09 02 ..		8	6	0,4	32	4,3	17	7	9,5	6,5	4,5	25	3
S	T	T	C	R	10	CA-	11			30011124	TC__T/W 11 02 ..		10	9	0,4	50	5	20	8	13	9,5	5	40	5
S	T	T	C	L	10	CA-	11			30011125	TC__T/W 11 02 ..		10	9	0,4	50	5	20	8	13	9,5	5	40	5
S	T	T	C	R	12	CA-	16			30011126	TC__T/W 16 T3 ..		12	13	0,8	55	7,2	20	8	17	12,7	6	50	7
S	T	T	C	L	12	CA-	16			30011127	TC__T/W 16 T3 ..		12	13	0,8	55	7,2	20	8	17	12,7	6	50	7
S	S	Y	C	R	08	CA-	06			30011128	SC__T/W 06 02 ..		8	10	0,4	32	—	17	7	9,5	6,5	4,5	25	4
S	S	Y	C	L	08	CA-	06			30011129	SC__T/W 06 02 ..		8	10	0,4	32	—	17	7	9,5	6,5	4,5	25	4
S	S	Y	C	R	10	CA-	09			30011130	SC__T/W 09 T3 ..		10	14	0,8	50	0,8	20	8	13	9,5	5	40	6
S	S	Y	C	L	10	CA-	09			30011131	SC__T/W 09 T3 ..		10	14	0,8	50	0,8	20	8	13	9,5	5	40	6
S	S	Y	C	R	12	CA-	12			30011132	SC__T/W 12 04 ..		12	20	0,8	55	1	20	8	17	12,7	6	50	1
S	S	Y	C	L	12	CA-	12			30011133	SC__T/W 12 04 ..		12	20	0,8	55	1	20	8	17	12,7	6	50	1

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts, torx key and shim not included.

* see page 68/69

MAPAL compact cartridge

form F



Reference code								Order description ISO cartridge with order no.	Insert required	h1	r (ref. nom. R)	nom.R	l1	e	l3	h2	t	Spare parts group*
S	C	F	C	R	06	CK-	06	30011134	CC_0602__	6	8,5	0,4	25	11	5	6	2,5	9
S	C	F	C	L	06	CK-	06	30011135	CC_0602__	6	8,5	0,4	25	11	5	6	2,5	9
S	C	F	C	R	06	CK-	06	30011136	CC_0602__	6	9,7	0,4	25	11	5	6	2,5	9
S	C	F	C	L	06	CK-	06	30011137	CC_0602__	6	9,7	0,4	25	11	5	6	2,5	9
S	C	F	C	R	10	CK-	09	30011138	CC_09T3__	10	14	0,8	40	17	8	15	5	13
S	C	F	C	L	10	CK-	09	30011139	CC_09T3__	10	14	0,8	40	17	8	15	5	13
S	C	F	C	R	12	CK-	12	30011140	CC_1204__	12	18	0,8	50	20	8	16	5	8
S	C	F	C	L	12	CK-	12	30011141	CC_1204__	12	18	0,8	50	20	8	16	5	8
S	S	F	P	R	08	CK-	06	30011142	SP_0603__	8	10	0,4	32	17	5	10	4,5	12
S	S	F	P	L	08	CK-	06	30011143	SP_0603__	8	10	0,4	32	17	5	10	4,5	12
S	S	F	C	R	10	CK-	09	30011144	SC_09T3__	10	14	0,8	44	17	8	15	5	13
S	S	F	C	L	10	CK-	09	30011145	SC_09T3__	10	14	0,8	44	17	8	15	5	13
S	S	F	C	R	12	CK-	12	30011146	SC_1204__	12	18	0,8	50	20	8	16	5	8
S	S	F	C	L	12	CK-	12	30011147	SC_1204__	12	18	0,8	50	20	8	16	5	8
S	T	F	C	R	06	CK-	09	30011148	TC_0902__	6	10	0,4	25	11	5	6	2,5	14
S	T	F	C	L	06	CK-	09	30011149	TC_0902__	6	10	0,4	25	11	5	6	2,5	14
S	T	F	C	R	10	CK-	11	30011150	TC_1102__	10	14	0,4	40	17	8	15	5	10
S	T	F	C	L	10	CK-	11	30011151	TC_1102__	10	14	0,4	40	17	8	15	5	10
S	T	F	C	R	12	CK-	16	30011152	TC_16T3__	12	18	0,8	50	20	8	16	5	11
S	T	F	C	L	12	CK-	16	30011153	TC_16T3__	12	18	0,8	50	20	8	16	5	11

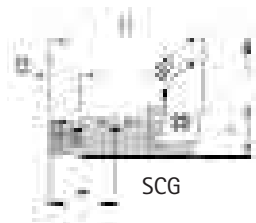
Other approach angles available on request.

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts and torx key not included.

* see page 68/69

MAPAL compact cartridge

form G, L



SCG



SCL

Reference code								Order description ISO cartridge with order no.	Insert required	h1	f (ref. nom. R)	nom.R	l1	e	l3	h2	t	Spare parts group*
S	C	G	C	R	06	CK-	06	30011154	CC__0602__	6	8,5	0,4	25	11	5	6	2,5	9
S	C	G	C	L	06	CK-	06	30011155	CC__0602__	6	8,5	0,4	25	11	5	6	2,5	9
S	C	G	C	R	06	CK-	06	30011156	CC__0602__	6	9,7	0,4	25	11	5	6	2,5	9
S	C	G	C	L	06	CK-	06	30011157	CC__0602__	6	9,7	0,4	25	11	5	6	2,5	9
S	C	G	C	R	10	CK-	09	30011158	CC__09T3__	10	14	0,8	40	17	8	15	5	13
S	C	G	C	L	10	CK-	09	30011159	CC__09T3__	10	14	0,8	40	17	8	15	5	13
S	C	G	C	R	12	CK-	12	30011160	CC__1204__	12	18	0,8	50	20	8	16	5	8
S	C	G	C	L	12	CK-	12	30011161	CC__1204__	12	18	0,8	50	20	8	16	5	8
S	C	L	C	R	06	CK-	06	30011162	CC__0602__	6	8,5	0,4	25	11	5	6	2,5	9
S	C	L	C	L	06	CK-	06	30011163	CC__0602__	6	8,5	0,4	25	11	5	6	2,5	9
S	C	L	C	R	06	CK-	06	30011164	CC__0602__	6	9,7	0,4	25	11	5	6	2,5	9
S	C	L	C	L	06	CK-	06	30011165	CC__0602__	6	9,7	0,4	25	11	5	6	2,5	9
S	C	L	C	R	10	CK-	09	30011166	CC__09T3__	10	14	0,8	40	17	8	15	5	13
S	C	L	C	L	10	CK-	09	30011167	CC__09T3__	10	14	0,8	40	17	8	15	5	13
S	C	L	C	R	12	CK-	12	30011168	CC__1204__	12	18	0,8	50	20	8	16	5	8
S	C	L	C	L	12	CK-	12	30011169	CC__1204__	12	18	0,8	50	20	8	16	5	8

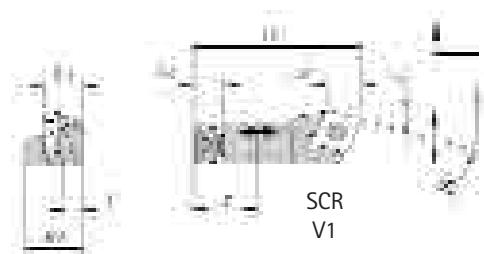
Other approach angles available on request.

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts and torx key not included.

* see page 68/69

MAPAL compact cartridge

form R



SCR
V1



SCR
V2



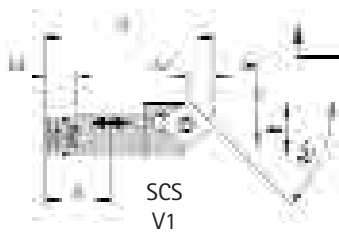
SSR

Reference code										Order description ISO cartridge with order no.	Insert required	h1	f (ref. nom. R)	nom.R	l1	a1	e	l3	h2	a2	t	Spare parts group*
S	C	R	C	R	06	CK-	06	V1		30011170	CC__0602__	6	9,7	0,4	25	1,55	11	5	6	5,79	2,5	9
S	C	R	C	L	06	CK-	06	V1		30011171	CC__0602__	6	9,7	0,4	25	1,55	11	5	6	5,79	2,5	9
S	C	R	C	R	10	CK-	09	V1		30011172	CC__09T3__	10	14	0,8	44	2,27	17	8	15	8,46	5	13
S	C	R	C	L	10	CK-	09	V1		30011173	CC__09T3__	10	14	0,8	44	2,27	17	8	15	8,46	5	13
S	C	R	C	R	06	CK-	06	V2		30011174	CC__0602__	6	10	0,4	25	1,55	11	5	6	5,79	2,5	9
S	C	R	C	L	06	CK-	06	V2		30011175	CC__0602__	6	10	0,4	25	1,55	11	5	6	5,79	2,5	9
S	C	R	C	R	10	CK-	09	V2		30011176	CC__09T3__	10	14	0,8	44	2,27	17	8	15	8,46	5	13
S	C	R	C	L	10	CK-	09	V2		30011177	CC__09T3__	10	14	0,8	44	2,27	17	8	15	8,46	5	13
S	S	R	P	R	08	CK-	06			30011178	SP__0603__	8	10	0,4	32	1,53	17	5	10	5,71	4,5	12
S	S	R	P	L	08	CK-	06			30011179	SP__0603__	8	10	0,4	32	1,53	17	5	10	5,71	4,5	12
S	S	R	C	R	10	CK-	09			30011180	SC__09T3__	10	14	0,8	44	2,24	17	8	15	8,35	5	13
S	S	R	C	L	10	CK-	09			30011181	SC__09T3__	10	14	0,8	44	2,24	17	8	15	8,35	5	13
S	S	R	C	R	12	CK-	12			30011182	SC__1204__	12	18	0,8	50	3,06	20	8	16	11,42	5	8
S	S	R	C	L	12	CK-	12			30011183	SC__1204__	12	18	0,8	50	3,06	20	8	16	11,42	5	8
S	T	R	C	R	06	CK-	09			30011184	TC__0902__	6	10	0,4	25	2,23	11	5	6	8,31	2,5	14
S	T	R	C	L	06	CK-	09			30011185	TC__0902__	6	10	0,4	25	2,23	11	5	6	8,31	2,5	14
S	T	R	C	R	10	CK-	11			30011186	TC__1102__	10	14	0,4	40	2,58	17	8	15	9,63	5	10
S	T	R	C	L	10	CK-	11			30011187	TC__1102__	10	14	0,4	40	2,58	17	8	15	9,63	5	10
S	T	R	C	R	12	CK-	16			30011188	TC__16T3__	12	18	0,8	50	3,74	20	8	16	13,95	5	11
S	T	R	C	L	12	CK-	16			30011189	TC__16T3__	12	18	0,8	50	3,74	20	8	16	13,95	5	11

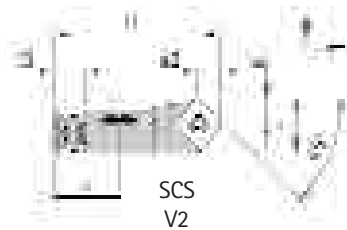
Other approach angles available on request.

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts and torx key not included.

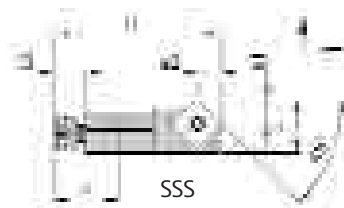
* see page 68/69



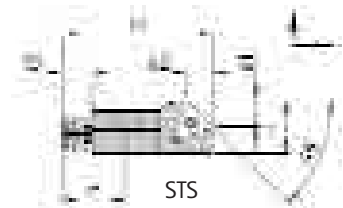
SCS
V1



SCS
V2



SSS



STS

MAPAL compact cartridge form S

Reference code										Order description ISO cartridge with order no.	Insert required	h1	f (ref. nom. R)	nom.R	l1	a1	e	l3	h2	a2	t	Spare parts group*
S	C	S	C	R	06	CK-	06	V1		30011190	CC_0602__	6	9,7	0,4	25	4,22	11	5	6	4,22	2,5	9
S	C	S	C	L	06	CK-	06	V1		30011191	CC_0602__	6	9,7	0,4	25	4,22	11	5	6	4,22	2,5	9
S	C	S	C	R	10	CK-	09	V1		30011192	CC_09T3__	10	14	0,8	44	6,16	17	8	15	6,16	5	13
S	C	S	C	L	10	CK-	09	V1		30011193	CC_09T3__	10	14	0,8	44	6,16	17	8	15	6,16	5	13
S	C	S	C	R	06	CK-	06	V2		30011194	CC_0602__	6	10	0,4	25	4,22	11	5	6	4,22	2,5	9
S	C	S	C	L	06	CK-	06	V2		30011195	CC_0602__	6	10	0,4	25	4,22	11	5	6	4,22	2,5	9
S	C	S	C	R	10	CK-	09	V2		30011196	CC_09T3__	10	14,3	0,8	44	6,16	17	8	15	6,16	5	13
S	C	S	C	L	10	CK-	09	V2		30011197	CC_09T3__	10	14,3	0,8	44	6,16	17	8	15	6,16	5	13
S	S	S	P	R	08	CK-	06			30011198	SP_0603__	8	10	0,4	32	4,16	17	5	10	4,16	4,5	12
S	S	S	P	L	08	CK-	06			30011199	SP_0603__	8	10	0,4	32	4,16	17	5	10	4,16	4,5	12
S	S	S	C	R	10	CK-	09			30011200	SC_09T3__	10	14	0,8	44	6,07	17	8	15	6,07	5	13
S	S	S	C	L	10	CK-	09			30011201	SC_09T3__	10	14	0,8	44	6,07	17	8	15	6,07	5	13
S	S	S	C	R	12	CK-	12			30011202	SC_1204__	12	18	0,8	50	8,32	20	8	16	8,32	5	8
S	S	S	C	L	12	CK-	12			30011203	SC_1204__	12	18	0,8	50	8,32	20	8	16	8,32	5	8
S	T	S	C	R	06	CK-	09			30011204	TC_0902__	6	10	0,4	25	6,06	11	5	6	6,06	2,5	14
S	T	S	C	L	06	CK-	09			30011205	TC_0902__	6	10	0,4	25	6,06	11	5	6	6,06	2,5	14
S	T	S	C	R	10	CK-	11			30011206	TC_1102__	10	14	0,4	40	7,03	17	8	15	7,03	5	10
S	T	S	C	L	10	CK-	11			30011207	TC_1102__	10	14	0,4	40	7,03	17	8	15	7,03	5	10
S	T	S	C	R	12	CK-	16			30011208	TC_16T3__	12	18	0,8	50	10,18	20	8	16	10,17	5	11
S	T	S	C	L	12	CK-	16			30011209	TC_16T3__	12	18	0,8	50	10,18	20	8	16	10,17	5	11

Other approach angles available on request.

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts and torx key not included.

* see page 68/69

MAPAL compact cartridge

form T

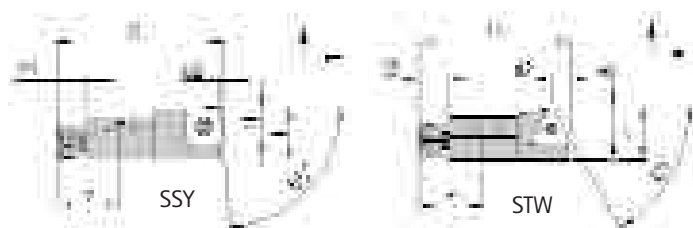


Reference code										Order description ISO cartridge with order no.	Insert required	h1	f (ref. nom. R)	nom.R	l1	a1	e	l3	h2	a2	t	Spare parts group*
S	C	T	C	R	06	CK-	06	V1		30011210	CC__0602__	6	9,7	0,4	25	2,99	11	5	6	5,17	2,5	9
S	C	T	C	L	06	CK-	06	V1		30011211	CC__0602__	6	9,7	0,4	25	2,99	11	5	6	5,17	2,5	9
S	C	T	C	R	10	CK-	09	V1		30011212	CC__09T3__	10	14	0,8	44	4,35	17	8	15	7,54	5	13
S	C	T	C	L	10	CK-	09	V1		30011213	CC__09T3__	10	14	0,8	44	4,35	17	8	15	7,54	5	13
S	C	T	C	R	06	CK-	06	V2		30011214	CC__0602__	6	10	0,4	25	2,99	11	5	6	5,17	2,5	9
S	C	T	C	L	06	CK-	06	V2		30011215	CC__0602__	6	10	0,4	25	2,99	11	5	6	5,17	2,5	9
S	C	T	C	R	10	CK-	09	V2		30011216	CC__09T3__	10	14	0,8	44	4,36	17	8	15	7,55	5	13
S	C	T	C	L	10	CK-	09	V2		30011217	CC__09T3__	10	14	0,8	44	4,36	17	8	15	7,55	5	13
S	S	T	P	R	08	CK-	06			30011218	SP__0603__	8	10	0,4	32	2,94	17	5	10	5,1	4,5	12
S	S	T	P	L	08	CK-	06			30011219	SP__0603__	8	10	0,4	32	2,94	17	5	10	5,1	4,5	12
S	S	T	C	R	10	CK-	09			30011220	SC__09T3__	10	14	0,8	44	4,3	17	8	15	7,45	5	13
S	S	T	C	L	10	CK-	09			30011221	SC__09T3__	10	14	0,8	44	4,3	17	8	15	7,45	5	13
S	S	T	C	R	12	CK-	12			30011222	SC__1204__	12	18	0,8	50	5,89	20	8	16	10,2	5	8
S	S	T	C	L	12	CK-	12			30011223	SC__1204__	12	18	0,8	50	5,89	20	8	16	10,2	5	8
S	T	T	C	R	06	CK-	09			30011224	TC__0902__	6	10	0,4	25	4,29	11	5	6	7,43	2,5	14
S	T	T	C	L	06	CK-	09			30011225	TC__0902__	6	10	0,4	25	4,29	11	5	6	7,43	2,5	14
S	T	T	C	R	10	CK-	11			30011226	TC__1102__	10	14	0,4	40	4,98	17	8	15	8,62	5	10
S	T	T	C	L	10	CK-	11			30011227	TC__1102__	10	14	0,4	40	4,98	17	8	15	8,62	5	10
S	T	T	C	R	12	CK-	16			30011228	TC__16T3__	12	18	0,8	50	7,2	20	8	16	12,47	5	11
S	T	T	C	L	12	CK-	16			30011229	TC__16T3__	12	18	0,8	50	7,2	20	8	16	12,47	5	11

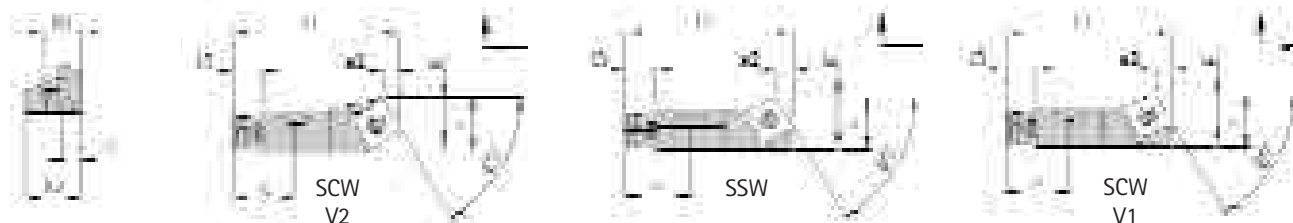
Other approach angles available on request.

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts and torx key not included.

* see page 68/69



MAPAL compact cartridge form W, Y



Reference code										Order description ISO cartridge with order no.	Insert required	h1	f (ref. nom. R)	nom.R	l1	a1	e	l3	h2	a2	t	Spare parts group*
S	C	W	C	R	06	CK-	06	V1		30011230	CC_0602__	6	9,7	0,4	25	5,17	11	5	6	2,99	2,5	9
S	C	W	C	L	06	CK-	06	V1		30011231	CC_0602__	6	9,7	0,4	25	5,17	11	5	6	2,99	2,5	9
S	C	W	C	R	10	CK-	09	V1		30011232	CC_09T3__	10	14	0,8	44	7,55	17	8	15	4,36	5	13
S	C	W	C	L	10	CK-	09	V1		30011233	CC_09T3__	10	14	0,8	44	7,55	17	8	15	4,36	5	13
S	C	W	C	R	06	CK-	06	V2		30011234	CC_0602__	6	10	0,4	25	5,17	11	5	6	2,99	2,5	9
S	C	W	C	L	06	CK-	06	V2		30011235	CC_0602__	6	10	0,4	25	5,17	11	5	6	2,99	2,5	9
S	C	W	C	R	10	CK-	09	V2		30011236	CC_09T3__	10	14,3	0,8	44	7,55	17	8	15	4,36	5	13
S	C	W	C	L	10	CK-	09	V2		30011237	CC_09T3__	10	14,3	0,8	44	7,55	17	8	15	4,36	5	13
S	S	W	P	R	08	CK-	06			30011238	SP_0603__	8	10	0,4	32	5,1	17	5	10	2,94	4,5	12
S	S	W	P	L	08	CK-	06			30011239	SP_0603__	8	10	0,4	32	5,1	17	5	10	2,94	4,5	12
S	S	W	C	R	10	CK-	09			30011240	SC_09T3__	10	14	0,8	44	7,45	17	8	15	4,3	5	13
S	S	W	C	L	10	CK-	09			30011241	SC_09T3__	10	14	0,8	44	7,45	17	8	15	4,3	5	13
S	S	W	C	R	12	CK-	12			30011242	SC_1204__	12	18	0,8	50	10,2	20	8	16	5,89	5	8
S	S	W	C	L	12	CK-	12			30011243	SC_1204__	12	18	0,8	50	10,2	20	8	16	5,89	5	8
S	T	W	C	R	06	CK-	09			30011244	TC_0902__	6	10	0,4	25	7,43	11	5	6	4,29	2,5	14
S	T	W	C	L	06	CK-	09			30011245	TC_0902__	6	10	0,4	25	7,43	11	5	6	4,29	2,5	14
S	T	W	C	R	10	CK-	11			30011246	TC_1102__	10	14	0,4	40	8,62	17	8	15	4,98	5	10
S	T	W	C	L	10	CK-	11			30011247	TC_1102__	10	14	0,4	40	8,62	17	8	15	4,98	5	10
S	T	W	C	R	12	CK-	16			30011248	TC_16T3__	12	18	0,8	50	12,47	20	8	16	7,2	5	11
S	T	W	C	L	12	CK-	16			30011249	TC_16T3__	12	18	0,8	50	12,47	20	8	16	7,2	5	11
S	S	Y	P	R	08	CK-	06			30011250	SP_0603__	8	10	0,4	32	5,91	17	5	10	0,52	4,5	12
S	S	Y	P	L	08	CK-	06			30011251	SP_0603__	8	10	0,4	32	5,91	17	5	10	0,52	4,5	12
S	S	Y	C	R	10	CK-	09			30011252	SC_09T3__	10	14	0,8	44	8,66	17	8	15	0,76	5	13
S	S	Y	C	L	10	CK-	09			30011253	SC_09T3__	10	14	0,8	44	8,66	17	8	15	0,76	5	13
S	S	Y	C	R	12	CK-	12			30011254	SC_1204__	12	18	0,8	50	11,82	20	8	16	1,03	5	8
S	S	Y	C	L	12	CK-	12			30011255	SC_1204__	12	18	0,8	50	11,82	20	8	16	1,03	5	8

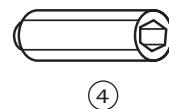
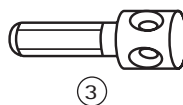
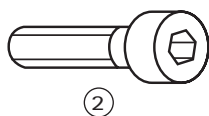
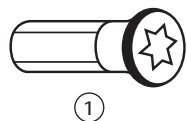
Other approach angles available on request.

Supply includes: ISO cartridge with axial and radial screw, clamping screw for insert, holding screw for ISO cartridge.
Inserts and torx key not included.

* see page 68/69

MAPAL

Standard accessories for ISO cartridges and compact cartridges

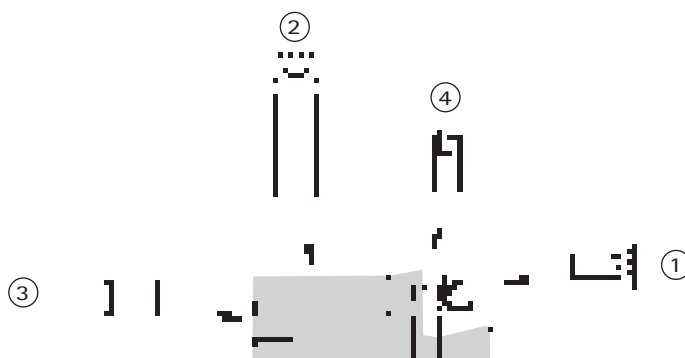


Spare parts group	Clamping screw for insert		Holding screw holder		Axial adjustment screw		Radial adjustment screw	
	Order reference torx screw	Order No.	Order reference cap head screw	Order No.	Order reference length adj. screw	Order No.	Order reference adj. screw	Order No.
1	M5x11	10059857	M6x20-10.9 DIN7984	10019671	M5x10	10029150	M4x10-45H DIN913	10003433
2	M2,2x5,5	10018764	M3,5x12	10029151	M2,5x4	10029149	M3x5-45H DIN913	10003421
3	M2,2x5,5	10018764	M4x12-10.9 DIN7984	10019695	M3x8	10002641	M3x6-45H DIN913	10003422
4	M2,5x6	10019600	M4x12-10.9 DIN7984	10019695	M3x8	10002641	M3x6-45H DIN913	10003422
5	M2,5x6	10019600	M6x16-10.9 DIN7984	10019703	M5x10	10029150	M4x8-45H DIN913	10003432
6	M3,5x9	10017389	M6x16-10.9 DIN7984	10019703	M5x10	10029150	M4x8-45H DIN913	10003432
7	M3,5x9	10017389	M6x20-10.9 DIN7984	10019671	M5x10	10029150	M4x10-45H DIN913	10003433
8	M5x11	10059857	M6x20-10.9 ISO7380	10027182	M5x7	10018493	M4x10-45H DIN915	10003900
9	M2,5x5,5	10015377	M3x10-10.9 ISO7380	30005484	M3x5	10025039	M3x6-45H DIN915	10003894
10	M2,5x6	10019600	M6x16-10.9 ISO7380	10019367	M5x7	10018493	M4x10-45H DIN915	10003900
11	M3,5x9	10017389	M6x20-10.9 ISO7380	10027182	M5x7	10018493	M4x10-45H DIN915	10003900
12	M2,5x6	10019600	M4x14-10.9 ISO7380	30002941	M3x5	10025039	M3x6-45H DIN915	10003894
13	M3,5x9	10017389	M6x16-10.9 ISO7380	10019367	M5x7	10018493	M4x10-45H DIN915	10003900
14	M2,2x5,5	10018764	M3x10-10.9 ISO7380	30005484	M3x5	10025039	M3x6-45H DIN915	10003894

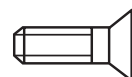
These parts are included in the cartridge supply and can also be ordered individually as spares.

Please provide the following information with your order:

Order reference and order number: e.g. adj. screw M4x10-45H DIN915 Order No. 10003900



Standard accessories for ISO cartridges and compact cartridges



Spare parts group	Torx screwdriver		R.H. shim		L.H. shim		Holding screw shim	
	Order reference screwdriver with handle	Order No.	Order reference shim	Order No.	Order reference shim	Order No.	Order reference countersunk screw	Order No.
1	T20x100	10019470	UR 12-1A	10022309	UL 12-1A	10022310	M3x8-10.9 ISO10642	10003769
2	T7x60	10019466	UR 06-1A	10022320	UL 06-1A	10022318	M2x4-4.8 ISO2009	10029153
3	T7x60	10019466	UR 08-1A	10022305	UL 08-1A	10022306	M3x6-10.9 ISO10642	10003768
4	T8x60	10019467	UR 08-1A	10022305	UL 08-1A	10022306	M3x6-10.9 ISO10642	10003768
5	T8x60	10019467	UR 10-1A	10015042	UL 10-1A	10022304	M3x8-10.9 ISO10642	10003769
6	T15x80	10019469	UR 10-1A	10015042	UL 10-1A	10022304	M3x8-10.9 ISO10642	10003769
7	T15x80	10019469	UR 12-1A	10022309	UL 12-1A	10022310	M3x8-10.9 ISO10642	10003769
8	T20x100	10019470						
9	T8x60	10019467		On request shims and appropriate holding screws can be supplied for MAPAL compact holders.				
10	T8x60	10019467						
11	T15x80	10019469						
12	T8x60	10019467						
13	T15x80	10019469						
14	T7x60	10019466						

Please provide the following information with your order:

Order reference and order number: e.g. screwdriver with handle T20x100 Order No. 10019470





Special inserts

Form inserts are frequently used where highly complex contours are to be produced with high accuracy of form. For small tool diameters there is often little space and the only solution is therefore special inserts. MAPAL also offers all options in this area with regard to form, cutting material and coating. Modern production systems guarantee maximum precision and flexibility when producing MAPAL special inserts.

Inserts with PCD and CBN tips can also be supplied in the same variety of forms. Special tools of this kind fitted into high precision pockets produce the best possible results both from an economic and quality point of view.



Special inserts

A Review of MAPAL's Competence

Reaming and Fine Boring

From the wide range of single and twin-bladed reamers with guide pads, together with fine boring tools with guide pads and WP or HX blades, to the HPR high performance reamers combined with the MAPAL HFS® Head Fitting System for exact concentricity and accurate changeover – to give you a general view of our complete knowledge and experience in precision machining bores.

PCD Tools

For pre-machining and finish machining, MAPAL also offers an extensive programme of precision tools with fixed PCD (polycrystalline diamond) blades. This includes precision gun boring tools plus circular and end milling tools. The programme of face milling heads from the PowerMill and EcoMill series is characterised by simple, sturdy design and rapid, accurate blade setting.

ISO Tools

This aspect of MAPAL competence is made up of special tools with ISO elements for gun boring and milling. This includes precision ground blades in the widest variety of cutting materials and coatings. The use of MAPAL's tried and tested adjustment system ensures that the blades are accurately matched to the task. MAPAL offers particular knowledge and experience in tangential technology.

Generating Slide Tools

Generating slide tools offer a high potential for rationalisation and optimisation on special machines and machining centres. In addition to the conventional facing heads, MAPAL also supplies EAT and LAT performance-enhanced actuating systems for generating slide tools. MAPAL TOOLTRONIC® tools with their extraordinary range of functions are the latest development.

Drilling

Yet another area is the product programme for drilling. MAPAL offers the right tool concept for every task, whether for machining aluminium, steel or cast iron, hard machining or dry machining or for use in HSC areas. Specially developed coatings and PCD blades complete the broad-based drilling programme.

Clamping

MAPAL's modern clamping systems, in conjunction with MAPAL's tried and tested reaming and fine boring tools, guarantee maximum productivity and economy. Whether HSK, ISO or HFS®, these high-precision connections and interfaces provide the concentricity and changeover accuracy essential to modern production.

Customer Services

Project planning, maintenance, management and optimisation – the complete CTS® service package from MAPAL will accompany you from process design to permanent process optimisation and will ensure optimum and cost-saving use of your tools with the best possible results.

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