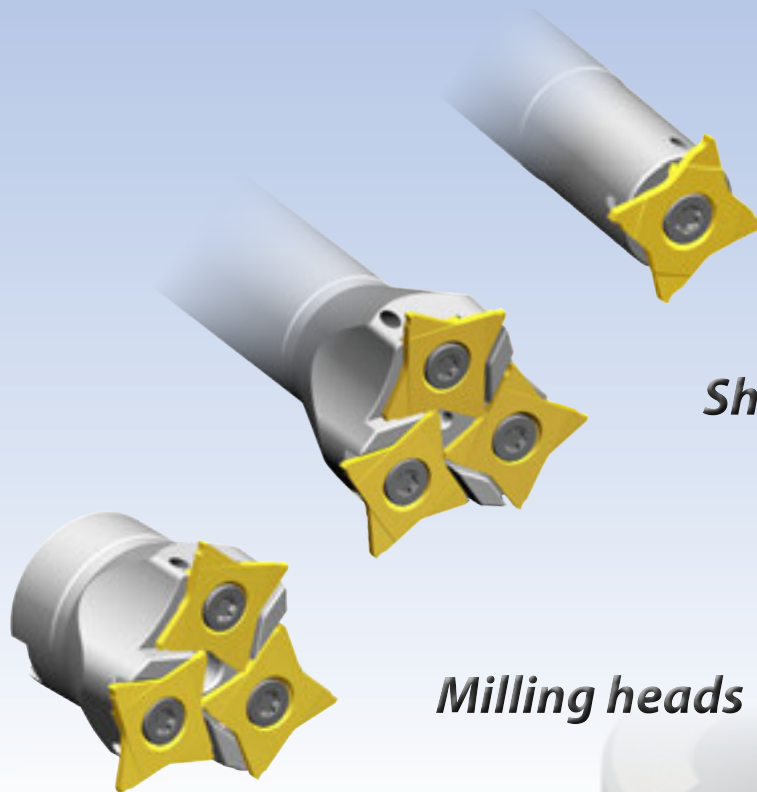


Circular milling cutter MULTICUT 4

*The advantages of MULTICUT 4 System combined
with the applications on rotary tools*

2



Shank end mills

Milling heads



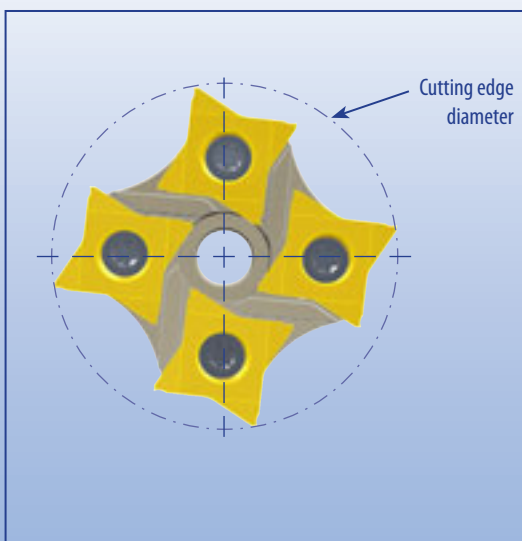
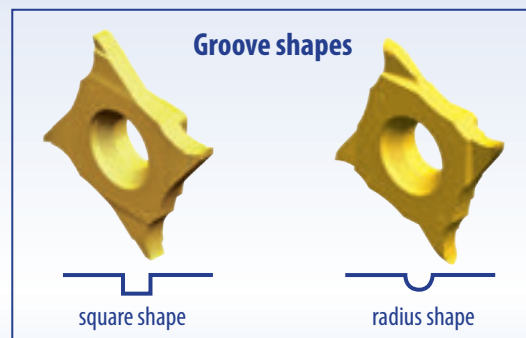
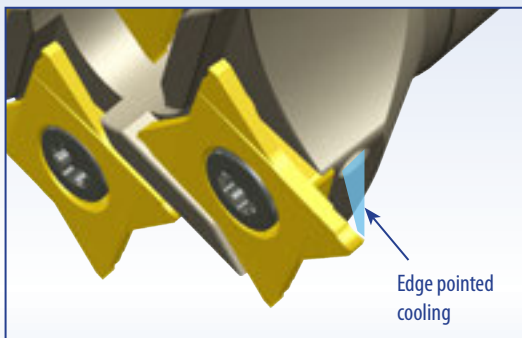
new!



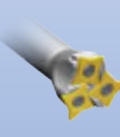
Circular milling cutter MULTICUT 4

The advantages of MULTICUT 4 System combined with the applications of rotary tools

Advantages of the MULTICUT 4 System:

- ▶ Perfect power and form actuated clamping.
- ▶ Reinforced insert
- ▶ Reinforced cutting edges
- ▶ High efficiency (In case a cutting edge is damaged all other edges can be used independently)
- ▶ Only 1 insert pocket size for many different cutting and turning operations

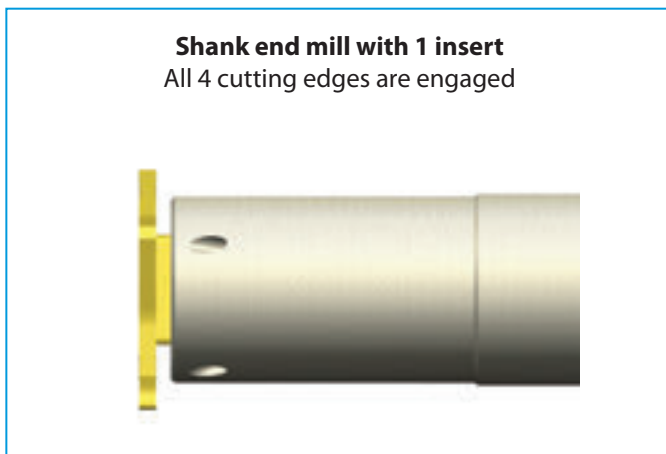
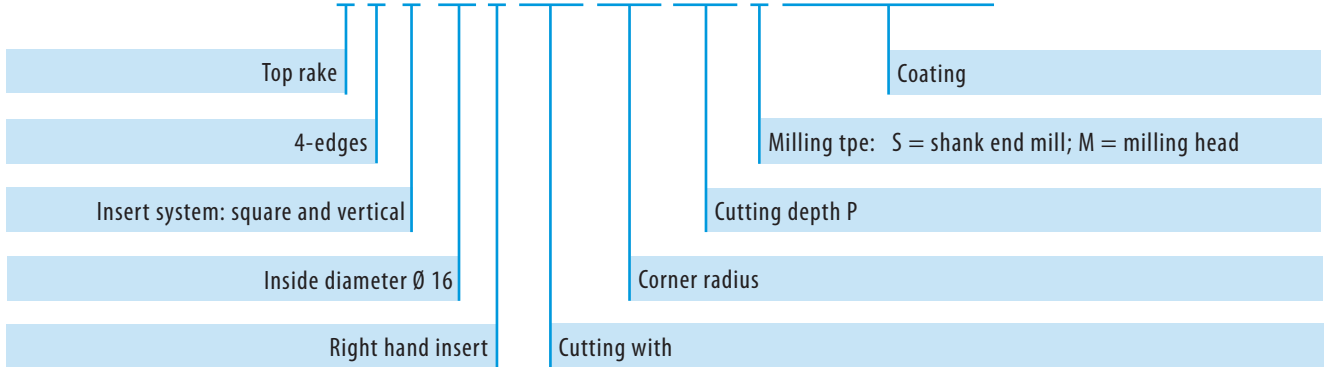


Milling heads	Shank end mills
 <p>Cutting edges: 3-5 cutting edge diameter Ø: 52 mm - 80 mm</p>	 <p>This end mill needs special inserts, displayed on page 9 Cutting edges: 4 Cutting edge diameter Ø: 28 mm</p>
	 <p>More than one pocket Cutting edges: 3 Cutting edge diameter Ø: 52 mm</p>

Dimension Z describes the amount of cutting edges in action. Z does not describe the amount of inserts on a milling cutter.

Designation Code of milling heads and shank end mills

O F Q 16 L 000 000 P00 S NANOSPEED

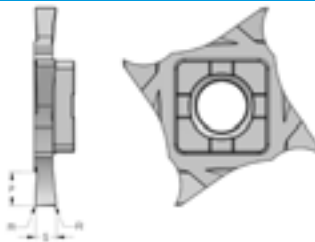


Cutting inserts for shank end mills with D = 28 mm

new!



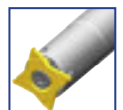
OFQ16L..P..S
Circular



Enlarged view

Ref.	KM NANOSPEED	()	P	R	ϒ ±0,05
	ID-Nr.				
OFQ16L 050 000 P25 S	43091	L	2,5	0,10	0,50
OFQ16L 100 000 P35 S	43092	L	3,5	0,10	1,00
OFQ16L 150 010 P35 S	43093	L	3,5	0,15	1,50
OFQ16L 200 010 P35 S	43094	L	3,5	0,15	2,00
OFQ16L 250 010 P35 S	43095	L	3,5	0,15	2,50
OFQ16L 300 010 P35 S	43096	L	3,5	0,15	3,00

Fitting milling tools



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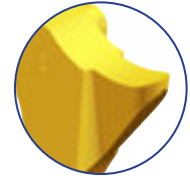
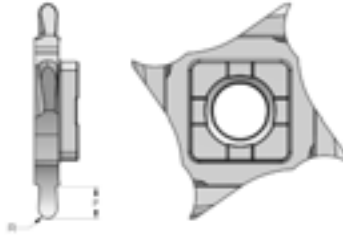
Technical section
page 175 onwards

new!

Full radius inserts for shank end mills with D = 28 mm



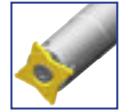
OFQ16L..R..P..S
Circular



Enlarged view

Ref.	KM NANOSPEED	()	P	R	s ^{+0,05}
	ID-Nr.				
OFQ16L 100 R050 P35 S	43110	L	3,5	0,50	1,00
OFQ16L 150 R075 P35 S	43111	L	3,5	0,75	1,50
OFQ16L 200 R100 P35 S	43112	L	3,5	1,00	2,00
OFQ16L 250 R125 P35 S	43113	L	3,5	1,25	2,50
OFQ16L 300 R150 P35 S	43114	L	3,5	1,50	3,00

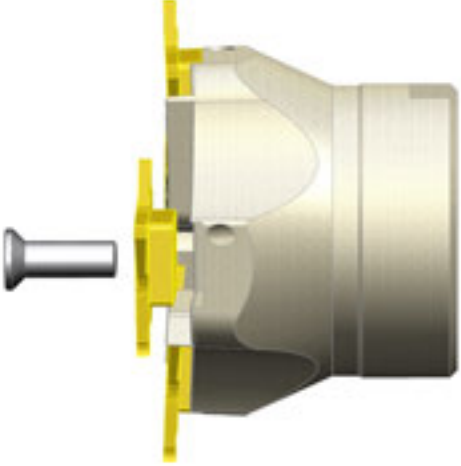
Fitting milling tools



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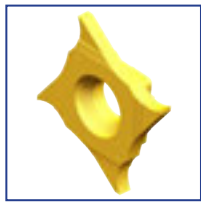


Technical section
page 175 onwards



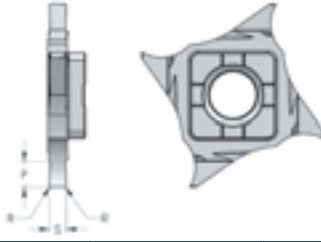
Application: left hand insert
Only left hand inserts fit in milling heads and shank end mills.

Precision grooving inserts for shank end mills with D = 28 mm



OFQ16L..P..S
Circular

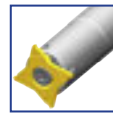
Inserts without chamfer



Enlarged view

Ref.	KM NANOSPEED	(C)	P	R		s ^{-0,05}
	ID-Nr.					
OFQ16L 130 010 P35 S	43115	L	3,5	0,10	1,30	1,44
OFQ16L 160 010 P35 S	43116	L	3,5	0,10	1,60	1,74
OFQ16L 185 015 P35 S	43117	L	3,5	0,15	1,85	1,99
OFQ16L 215 015 P35 S	43118	L	3,5	0,15	2,15	2,29
OFQ16L 265 015 P35 S	43119	L	3,5	0,15	2,65	2,79
OFQ16L 315 015 P35 S	43120	L	3,5	0,15	3,15	3,29

Fitting milling tools

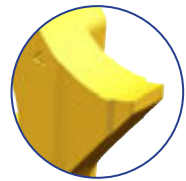
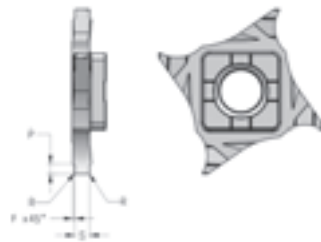


p. 41



OFQ16L..P..S
Circular

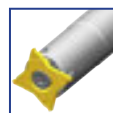
Inserts with chamfer



Enlarged view

Ref.	KM NANOSPEED	(C)	F	P	R		s ^{-0,05}
	ID-Nr.						
OFQ16L 110 010 P050 S	43121	L	0,15	0,50	0,10	1,10	1,24
OFQ16L 130 010 P067 S	43122	L	0,15	0,67	0,10	1,30	1,44
OFQ16L 160 010 P100 S	43123	L	0,15	1,00	0,10	1,60	1,74
OFQ16L 185 015 P125 S	43124	L	0,20	1,25	0,15	1,85	1,99
OFQ16L 215 015 P150 S	43125	L	0,20	1,50	0,15	2,15	2,29
OFQ16L 265 015 P150 S	43126	L	0,20	1,50	0,15	2,65	2,79
OFQ16L 265 015 P175 S	43127	L	0,20	1,75	0,15	2,65	2,79

Fitting milling tools



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Technical section
page 175 onwards

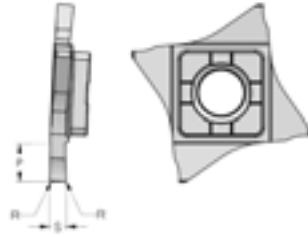
new!

Precision inserts for milling heads and shank end mills



OFQ16L..P..M
Circular

Inserts without chamfer



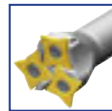
Enlarged view

Ref.	KM NANOSPEED	(C)	P	R		S ^{-0,05}
	ID-Nr.					
OFQ16L 130 010 P55 M	43097	L	5,5	0,10	1,30	1,44
OFQ16L 160 010 P55 M	43098	L	5,5	0,10	1,60	1,74
OFQ16L 185 015 P55 M	43099	L	5,5	0,15	1,85	1,99
OFQ16L 215 015 P55 M	43100	L	5,5	0,15	2,15	2,29
OFQ16L 265 015 P55 M	43101	L	5,5	0,15	2,65	2,79
OFQ16L 315 015 P55 M	43102	L	5,5	0,15	3,15	3,29

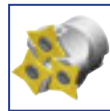
Remark:

These inserts may as well be used with the MULTICUT 4 cutting tool holders as displayed in the GripLock catalogue.
Recommended for grooves to DIN 471 (outside) and DIN 472 (inside).

Fitting tool holders



p. 41



p. 42



p. 33



p. 34



p. 34

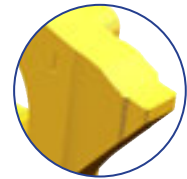
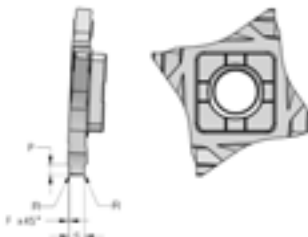


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OFQ16L..P..M
Circular

Inserts with chamfer



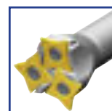
Enlarged view

Ref.	KM NANOSPEED	(C)	F	P	R		S ^{-0,05}
	ID-Nr.						
OFQ16L 110 010 P050 M	43103	L	0,15	0,50	0,10	1,10	1,24
OFQ16L 130 010 P067 M	43104	L	0,15	0,67	0,10	1,30	1,44
OFQ16L 160 010 P100 M	43105	L	0,15	1,00	0,10	1,60	1,74
OFQ16L 185 015 P125 M	43106	L	0,20	1,25	0,15	1,85	1,99
OFQ16L 215 015 P150 M	43107	L	0,20	1,50	0,15	2,15	2,29
OFQ16L 265 015 P150 M	43108	L	0,20	1,50	0,15	2,65	2,79
OFQ16L 265 015 P175 M	43109	L	0,20	1,75	0,15	2,65	2,79

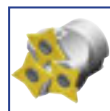
Remark:

These inserts may as well be used with the MULTICUT 4 cutting tool holders as displayed in the GripLock catalogue.
Special inserts to machine grooves to DIN 471 or DIN 472.

Fitting tool holders



p. 41



p. 42



p. 33



p. 34



p. 34



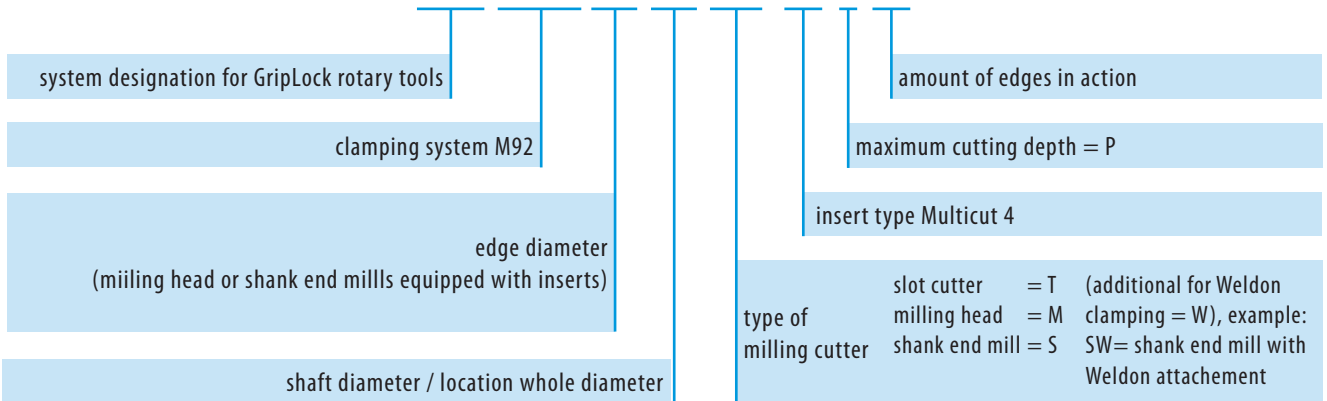
p. 152



Technical section
page 175 onwards

Designation code for shank end mills and milling heads

GLR M92 28 20 SW 16 3 04



Shank end mills

new!

Attention, please! On the shank end mills and milling heads, only **left** hand MC4 inserts will fit



GLRM92 28..SW...
Circular

Shank end mill with one insert pocket



Ref.	ID-Nr.	D	d1	Insert pockets	P	Z	d	L	
GLR M92 28 20 SW 16 3.5 04	41052	28	20	1	3.5	4	-	125	29

Attention, please!

On the shank end mill diameter = 28mm only the inserts, described on pages 37-39 will fit.

Fitting inserts



p. 37



p. 38

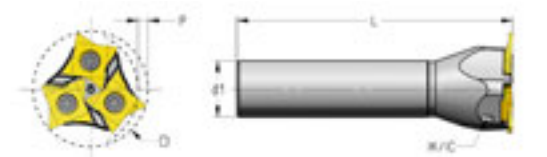


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GLRM92 52..SW...
Circular

Shank end mill with more than 1 insert pocket



Ref.	ID-Nr.	D	d1	Insert pockets	P	Z	d	L	
GLR M92 52 25 SW 16 3.5 03	41053	52	25	3	3.5	3	-	125	29

Fitting inserts



p. 27-28



p. 29



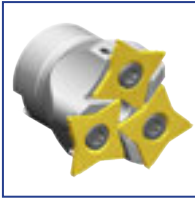
p. 30



p. 40

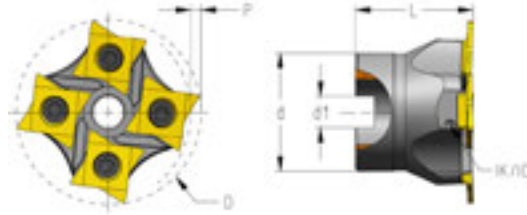
new!

Milling heads



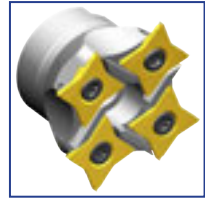
GLRM92..M...
Circular

Milling head with 3 insert pockets



GLRM92..M...
Circular

Milling head with 4 insert pockets



Ref.	ID-Nr.	D	d1	Insert pockets	Pmax	Z	d	L	
GLR M92 52 16 M 16 3.5 03	41054	52	16	3	3.5	3	32	40	29 + 32
GLR M92 63 22 M 16 4.5 04	41055	63	22	4	4.5	4	40	40	29
GLR M92 80 27 M 16 5.5 05	41056	80	27	5	5.5	5	55	50	29

Attention, please!

Only **left hand** MC4 inserts will fit on shank end mills and milling heads



Fitting inserts



p. 27-28



p. 29



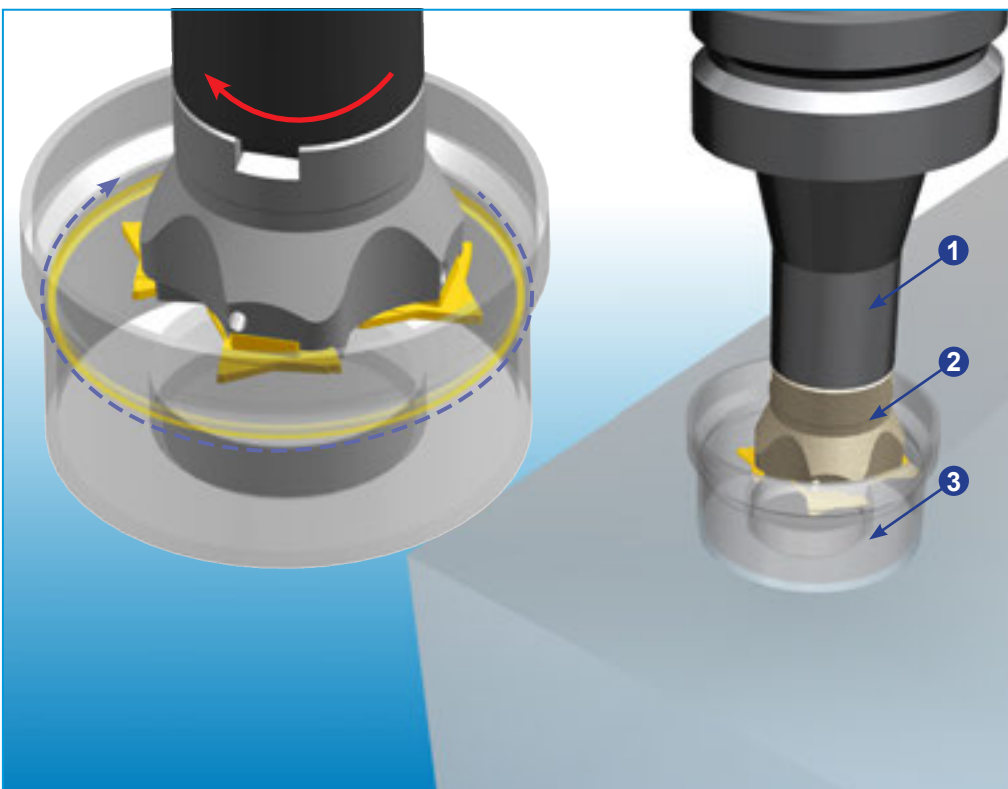
p. 30



p. 40

Spare parts

ET	ID-Nr.		ID-Nr.		Recommended torque [Nm]
29	37353	LM 6x20 (Oval head screw)	38549	TX25	12
32	44188	M6x20/1	14747	P5	14



Internal milling with MC4 milling head

- 1 Milling head fixture
- 2 Milling head MC4
- 3 Component

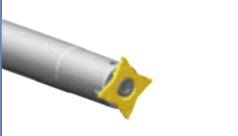



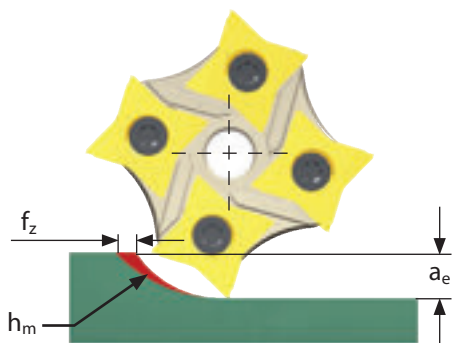
Attention please!

For internal milling operations, the milling head (equipped with inserts) diameter has got to be smaller than the diameter of the component.

Milling parameters

Recommendations

type of milling tool	insert type	feed per tooth f_z in [mm]			max. chip thickness h_m in [mm]		
		min	-	max	min	-	max
	OFQ16L...P...S	0,04	-	0,22	0,02	-	0,07
	OFQ16L...P...M	0,11	-	0,20	0,06	-	0,14



Drawing: dimensions for groove milling

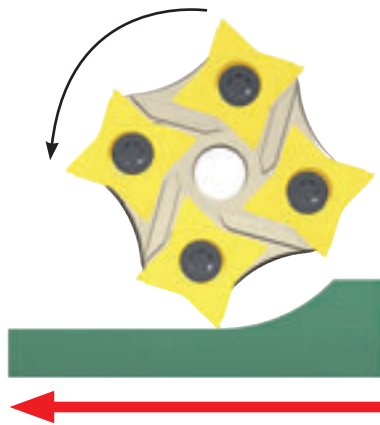
Calculation

average chip thickness	feed per tooth
$h_m = f_z \cdot \sqrt{\frac{a_e}{D}} \text{ [mm]}$	$f_z = h_m \cdot \sqrt{\frac{D}{a_e}} \text{ [mm]}$

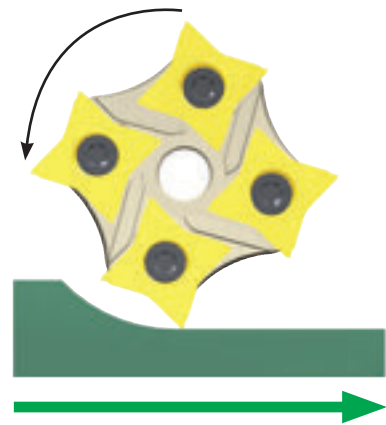
recommended values for the chip thickness:

steel: 0,06 mm

grey cast iron: 0,08 mm



OPPOSED MILLING
not recommended



CUT-DOWN MILLING
recommended to achieve best results

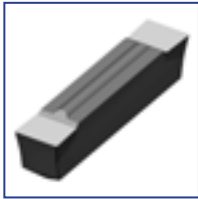
Formulars

Cutting speed	Feed per tooth
$V_c = \frac{D \cdot \pi \cdot n}{1000} \text{ [m/min]}$	$f_z = \frac{V_f}{n \cdot z} \text{ [mm]}$
Revolution	Feed speed
$n = \frac{V_c \cdot 1000}{D \cdot \pi} \text{ [min}^{-1}\text{]}$	$V_f = f_z \cdot z \cdot n \text{ [mm/min]}$

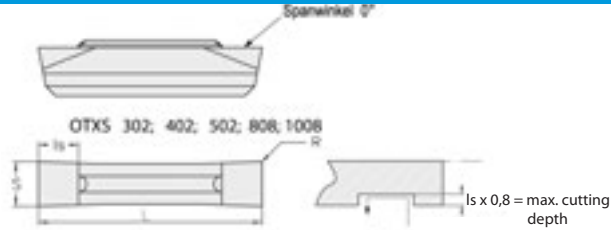
caption

V_c = Cutting speed
 f_z = Feed per tooth
 n = Revolution
 V_f = Feed speed
 h_m = Average chip thickness
 a_e = Cutting depth
 D = Tool diameter
 z = Amount of cutting edges in action
 π = Basic circle dimension = 3,14

Inserts for grooving and turning



OTXS
System P92

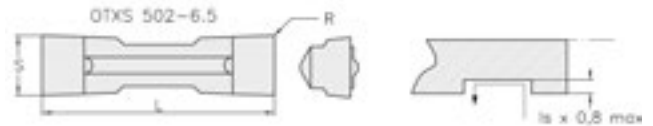


Enlarged view

Ref.	PM	KM	()	L	Is	R	S
	ID-Nr.	ID-Nr.					
OTXS 302	11199	11198	N	20	3,5	0,2	3,0 ^{+0,15}
OTXS 402	11201	11200	N	20	3,5	0,2	4,0 ^{+0,20}
OTXS 502	11203	11202	N	25	4,2	0,2	5,0 ^{+0,25}
OTXS 502 6,5	11205	11204	N	25	4,9	0,2	6,5 ^{+0,25}
OTXS 808	-	20544	N	30	6,4	0,8	8,05 ^{+0,25}
OTXS 1008	-	20543	N	30	8,1	0,8	10,05 ^{+0,25}

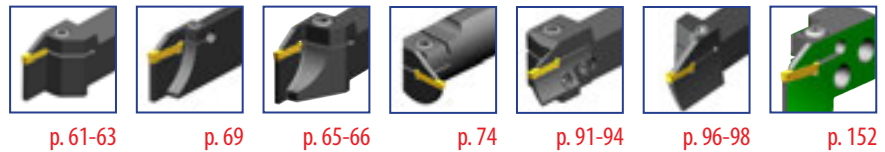
OTXS-Semi finishing

Ground top rake with 0° rake angle. Recommended for cast materials and for **customers applications**.



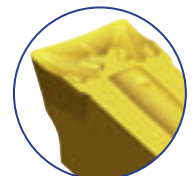
Technical section
page 175 onwards

Fitting tool holders



STNZ / STNG
System P92

new!



Enlarged view

Bezeichnung	KM	KM Aluspeed	KM HYPERSPEED	KM TILOX	()	L	R	S
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.				
STNZ 504	-	45003	45009	45117	N	25,0	0,4	5,25 ^{±0,075}
STNG 502	45014	45004	45010	45118	N	25,0	0,2	5,10 ^{-0,050}
STNG 504	45015	45005	45011	45119	N	25,0	0,4	5,10 ^{-0,050}

Comment:

STNG has been developed, to machine materials, which are difficult to cut, like:

- nonferrous heavy metals
- nickel alloys
- plastic materials
- composite materials
- aluminum alloys

STNZ = polished surfaces, honed edges

STNG = polished surfaces, sharp cutting edges

Passende Werkzeuge

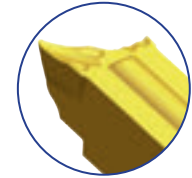
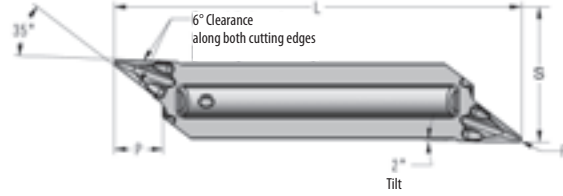


Inserts for grooving and copying



STV R/L
System P92

new!



Enlarged view

Bezeichnung	KM	KM Aluspeed	KM HYPERSPEED	KM TILOX	↻	L	R	P	S
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
STVL 501	45034	45018	45026	45121	L	25,0	0,1	2,50	5,00
STVL 502	45035	45019	45027	45122	L	25,0	0,2	2,50	5,00
STVR 501	45038	45022	45030	45123	R	25,0	0,1	2,50	5,00
STVR 502	45039	45023	45031	45124	R	25,0	0,2	2,50	5,00

Comment:

STV R/L has been developed, to machine materials, which are difficult to cut, like:

- nonferrous heavy metals
- nickel alloys
- plastic materials
- composite materials
- aluminum alloys

Passende Werkzeuge



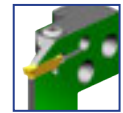
p. 111



p.109-110,114



p. 112, 114



p. 153

STVL/R = polished surfaces, sharp cutting edges



Technical section
page 175 onwards

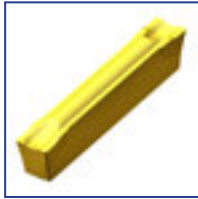
Recommended application of STV R/L, copying insert

Longitudinal turning, semi finishing and finishing

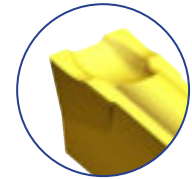
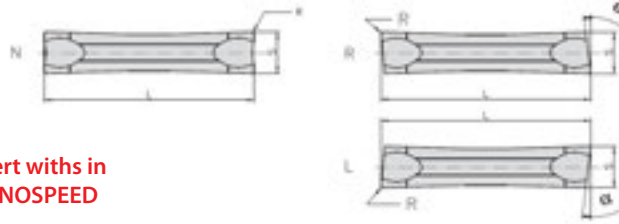
Semi finishing and finishing face cuts

Clearance cuts for threads and others

Parting off and grooving inserts with 2 edges



BTNN/R/L
System P92



Enlarged view

All insert with in
PM NANOSPEED

new!

Ref.	KM NANO SPEED	PM NANO SPEED	KM TILOX	PM TILOX	KM CARBO SPEED	GS 530 NANO SPEED	⌀	L	R	S	α°
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
BTNN 1,5	-	45058	30595	-	43845	43561	N	15,50	0,2	1,50	0
BTNN 2	34208	45059	30944	-	43846	-	N	20,02	0,2	2,05	0
BTNN 2,5	33999	45060	30850	-	43847	-	N	20,03	0,2	2,50	0
BTNN 3	-	20532	12689	20917	43848	-	N	20,10	0,2	3,05	0
BTNN 4	-	20533	15843	30597	43849	-	N	20,10	0,2	4,05	0
BTNR 1,5 6D	-	45061	30576	-	43850	-	R	15,50	0,2	1,50	6
BTNR 1,5 10D	-	45062	30666	-	43852	-	R	15,50	0,2	1,50	10
BTNR 1,5 16D	-	45063	30667	-	43854	-	R	15,50	0,2	1,50	16
BTNR 2 6D	34210	45064	34209	-	43855	-	R	20,02	0,2	1,99	6
BTNR 2 10D	34207	45065	34206	-	43856	-	R	20,02	0,2	1,99	10
BTNR 2,5 6D	34003	45066	34002	-	43857	-	R	20,03	0,2	2,49	6
BTNR 2,5 10D	34001	45067	34000	-	43858	-	R	20,03	0,2	2,49	10
BTNR 3 6D	-	20534	12690	-	43859	-	R	20,10	0,2	3,05	6
BTNR 3 10D	-	20536	19665	-	43860	-	R	20,10	0,2	3,05	10
BTNR 4 6D	-	20538	15844	-	43861	-	R	20,10	0,2	4,05	6
BTNR 4 10D	-	20540	19667	-	43864	-	R	20,10	0,2	4,05	10
BTNL 1,5 6D	-	45068	30665	-	43866	-	L	15,50	0,2	1,50	6
BTNL 1,5 10D	-	45069	30663	-	43867	-	L	15,50	0,2	1,50	10
BTNL 1,5 16D	-	45070	30664	-	43869	-	L	15,50	0,2	1,50	16
BTNL 2 6D	33994	45071	33993	-	43870	-	L	20,02	0,2	1,99	6
BTNL 2 10D	34205	45072	34204	-	43871	-	L	20,02	0,2	1,99	10
BTNL 2,5 6D	33996	45073	33995	-	43872	-	L	20,03	0,2	2,49	6
BTNL 2,5 10D	33998	45074	33997	-	43873	-	L	20,03	0,2	2,49	10
BTNL 3 6D	-	20535	12688	-	43874	-	L	20,10	0,2	3,05	6
BTNL 3 10D	-	20537	19666	-	43875	-	L	20,10	0,2	3,05	10
BTNL 4 6D	-	20539	15845	-	43877	-	L	20,10	0,2	4,05	6
BTNL 4 10D	-	20541	19668	-	43879	-	L	20,10	0,2	4,05	10

BTN Parting off chip breaker

Grooved parting off edge with reinforced flanks. The deep and spacious chip-trough gives excellent chip control. Efficient on almost all materials.

Fitting tool holders



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p. 96-97

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Technical section
page 175 onwards

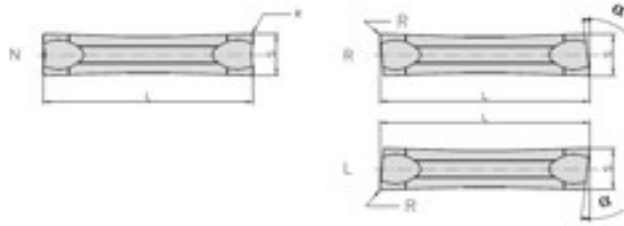


Parting off and grooving inserts with special surface preparation and cutting edge honing



BTNN/R/L
System P92

New Procedure



Enlarged view

Ref.	GF110 CarboSpeed	GF110 NanoSpeed	GF110 HyperSpeed	(C)	L	R	S	α°
	ID-Nr.	ID-Nr.	ID-Nr.					
BTNN 1,5	new! 45075	45076	45077	N	15,5	0,2	1,50	0
BTNN 2	new! 45078	45079	45080	N	20,02	0,2	2,05	0
BTNN 2,5	new! 45081	45082	45083	N	20,03	0,2	2,50	0
BTNN 3	42824	42825	42826	N	20,10	0,2	3,05	0
BTNN 4	new! 45085	45086	45087	N	20,1	0,2	4,05	0

Remark

The new technology increases bonding strength of coating and tool life.

The new high performance coatings

CARBOSPEED a new generation of a heat- and wear resisting nitride coating	NANOSPEED a super nitride coating	HYPERSPEED a super nitride coating
<ul style="list-style-type: none"> ▶ the special HiPMS technology combines the advantages of the different PVD coating processes. ▶ It features a dense and hard coating layer, with low residual stress. ▶ It also features an excellent adhesive force with a fine and smooth surface. 	<ul style="list-style-type: none"> ▶ Owing to the nano layer-structure, it combines extreme hardness with high toughness. ▶ The layer has been processed with the new sputter-technology. Therefore the surface is extremely even and smooth. ▶ Owing to the golden colour of the coating, wearmarks can be seen easily. 	<ul style="list-style-type: none"> ▶ Features an extremely fine layer-structure and surface hardness. ▶ Due to outstanding oxidation-stability, red hardness and, owing to the high aluminum contents, this coating is especially suitable for machining without cooling. It performs with an amazing wear-resistance.
<p>It has been developed especially to machine low and high alloy steels.</p>	<p>It has been developed especially to machine steels in general and stainless steels.</p>	<p>It has been developed especially to machine difficult to cut materials.</p>

HiPIMS: special coating technology
Morphology: structur
Nanocomposit: coating structure consists of several layer components in nm (nanometer thickness)

Nitride: reaction product with nitrogen.
Sputter: PVD-coating technology (Physical Vapour Deposition), which creates an extremely flat surface.

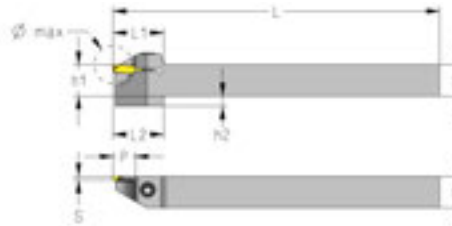


Holders for parting off, grooving and turning for cutting width 1,5 mm

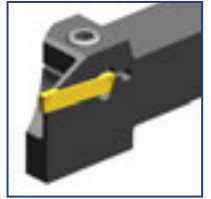


P92 CXCBL
System P92

LH holder



P92 CXCBR
System P92



RH holder

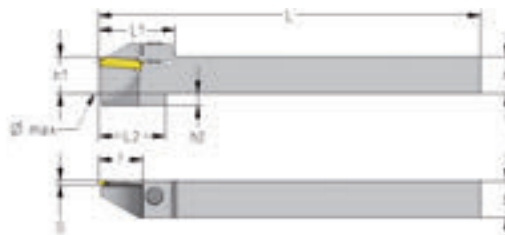
Ref.	ID-Nr.	(C)	Ø max	h	h1	h2	b	P	S	L	L1	L2	
P92 CXCBL 0808 K15	33450	L	16	8	8	4	8	8	1,5	125	19	19	10
P92 CXCBL 1010 K15	30110	L	16	10	10	6	10	8	1,5	125	19	19	10
P92-CXCBL 1010 K15 14	new! 44738	L	28	10	10	6	10	14	1,5	125	25	22	10
P92 CXCBL 1212 K15	30109	L	16	12	12	4	12	8	1,5	125	19	19	10
P92-CXCBL 1212 K15 14	new! 44739	L	28	12	12	4	12	14	1,5	125	25	22	10
P92 CXCBL 1616 K15	30100	L	16	16	16	-	16	8	1,5	125	19	-	10
P92-CXCBL 1616 K15 14	new! 44740	L	28	16	16	-	16	14	1,5	125	25	-	10
P92 CXCBL 2020 K15	33458	L	28	20	20	-	20	14	1,5	125	30	-	1
P92-CXCBL 2020 K15 14	new! 44741	L	28	20	20	-	25	14	1,5	125	25	-	10
P92 CXCBL 2525 M15	33460	L	28	25	25	-	25	14	1,5	150	30	-	1
<hr/>													
P92 CXCBR 0808 K15	33449	R	16	8	8	4	8	8	1,5	125	19	19	10
P92 CXCBR 1010 K15	30124	R	16	10	10	6	10	8	1,5	125	19	19	10
P92-CXCBR 1010 K15 14	new! 44733	R	28	10	10	6	10	14	1,5	125	25	22	10
P92 CXCBR 1212 K15	30125	R	16	12	12	4	12	8	1,5	125	19	19	10
P92-CXCBR 1212 K15 14	new! 44734	R	28	12	12	4	12	14	1,5	125	25	22	10
P92 CXCBR 1616 K15	30126	R	16	16	16	-	16	8	1,5	125	19	-	10
P92-CXCBR 1616 K15 14	new! 44735	R	28	16	16	-	16	14	1,5	125	25	-	10
P92 CXCBR 2020 K15	33457	R	28	20	20	-	20	14	1,5	125	30	-	1
P92-CXCBR 2020 K15 14	new! 44736	R	28	20	20	-	25	14	1,5	125	25	-	10
P92 CXCBR 2525 M15	33459	R	28	25	25	-	25	14	1,5	150	30	-	1

new!



P92 CXCBL...14
System P92

LH holder



P92 CXCBR...14
System P92



RH holder

new!

Comment

Tool holders with an extension of 17 mm offer an enlarged range for parting off. When used for turning, moderate feeds should be applied.

Holder and inserts with the same "S" dimension fit together.



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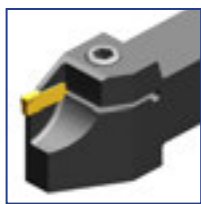
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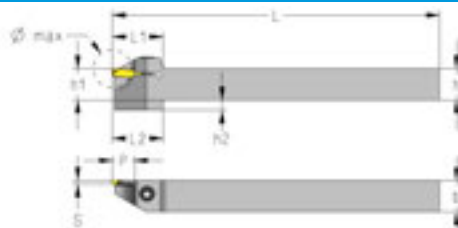
Fitting inserts

HOLDERS for parting off, grooving and turning for cutting width 2 and 2,5 mm

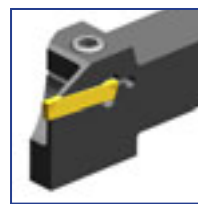


P92 CXCBL
System P92

LH holder



P92 CXCBR
System P92



RH holder

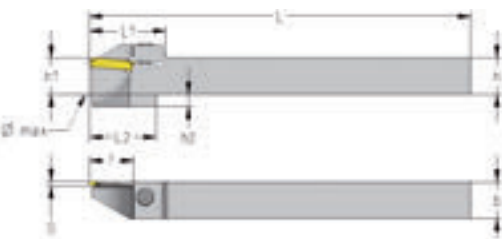
Ref.	ID-Nr.	(C)	Ø max	h	h1	h2	b	P	S	L	L1	L2	
P92 CXCBL 0808 K20+25	33444	L	22	8	8	4	8	11	2+2,5	125	19,5	19,5	10
P92 CXCBL 1010 K20+25	33445	L	22	10	10	6	10	11	2+2,5	125	19,5	19,5	10
P92 CXCBL 1212 K20+25	33448	L	22	12	12	4	12	11	2+2,5	125	19,5	19,5	10
P92-CXCBL 1212 K20+25 14 new!	44742	L	28	12	12	4	12	14	2+2,5	125	25	22	10
P92 CXCBL 1616 K20+25 11	33452	L	22	16	16	-	16	11	2+2,5	125	19,5	-	10
P92 CXCBL 1616 K20+25 17	33473	L	34	16	16	5	16	17	2+2,5	125	34	26	1
P92 CXCBL 2020 K20+25 14	33454	L	28	20	20	-	20	14	2+2,5	125	30	-	1
P92 CXCBL 2020 K20+25 17	33474	L	34	20	20	-	20	17	2+2,5	125	34	-	1
P92 CXCBL 2525 M20+25 14	33455	L	28	25	25	-	25	14	2+2,5	150	30	-	1
P92 CXCBL 2525 M20+25 17	33475	L	34	25	25	-	25	17	2+2,5	150	34	-	1
<hr/>													
P92 CXCBR 0808 K20+25	33336	R	22	8	8	4	8	11	2+2,5	125	19,5	19,5	10
P92 CXCBR 1010 K20+25	33446	R	22	10	10	6	10	11	2+2,5	125	19,5	19,5	10
P92 CXCBR 1212 K20+25	33447	R	22	12	12	4	12	11	2+2,5	125	19,5	19,5	10
P92-CXCBR 1212 K20+25 14 new!	44737	R	28	12	12	4	12	14	2+2,5	125	25	22	10
P92 CXCBR 1616 K20+25 11	33451	R	22	16	16	-	16	11	2+2,5	125	19,5	-	10
P92 CXCBR 1616 K20+25 17	33470	R	34	16	16	5	16	17	2+2,5	125	34	26	1
P92 CXCBR 2020 K20+25 14	33453	R	28	20	20	-	20	14	2+2,5	125	30	-	1
P92 CXCBR 2020 K20+25 17	33471	R	34	20	20	-	20	17	2+2,5	125	34	-	1
P92 CXCBR 2525 M20+25 14	33456	R	28	25	25	-	25	14	2+2,5	150	30	-	1
P92 CXCBR 2525 M20+25 17	33472	R	34	25	25	-	25	17	2+2,5	150	34	-	1

new!



P92 CXCBL...14
System P92

LH holder



P92 CXCBR...14
System P92



RH holder

new!

Comment

Tool holders with an extension of 17 mm offer an enlarged range for parting off. When used for turning, moderate feeds should be applied.

Holder and inserts with the same "S" dimension fit together.

Advantage!

In these tool holders 2 different insert fit: width 2,0 mm or 2,5 mm.



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Fitting inserts

TWIN blade parting off blade



P92 TMS
System P92



Ref.	ID-Nr.	(C)	A	a	P1	S	L	
P92 TMS 26 20+25	36644	N	26	21,4	18,5	2+2,5	110	28
P92 TMS 26 30	36645	N	26	21,4	18,5	3,0	110	28
P92 TMS 32 20+25	36643	N	32	25,0	18,5	2+2,5	150	28
P92 TMS 32 30	33429	N	32	25,0	18,5	3,0	150	28
P92 TMS 32 40	36642	N	32	25,0	18,5	4,0	150	28
P92 TMS 32 50	44524	N	32	25,0	23,5	5,0	150	28
P92 TMS 32 60	44537	N	32	25,0	28,5	6,0	150	28

Remark

Blades and tool blocks with the same "A" dimension fit together.

If the cutting depth exceeds the length of the cutting insert, the second edge of the insert penetrates into the slot and may cause shaving marks on the components faces. To prevent from shaving the insert type A-BTNN is recommended.

Holders and inserts with the same "S" dimension fit together.

Fitting inserts and tool blocks



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p. 143

new!



P92 TMS 52
System P92



Ref.	ID-Nr.	(C)	A	a	S	L	
P92 TMS 52 80	31464	N	52,6	45,0	8,0	250	11
P92 TMS 52 100	44539	N	52,6	45,0	10,0	250	11

Remark

These blades fit in basic tool holders and tool blocks.

Holders and inserts with the same "S" dimension fit together.

Fitting inserts



p. 48-55



p. 144.

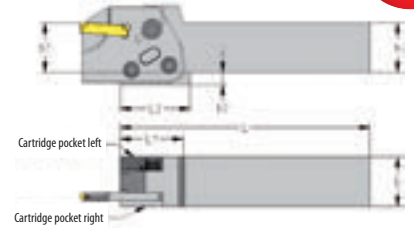
Holders with cartridges for parting off, grooving and turning

new!

new!



P92 C N...H
System P92



Ref.	ID-Nr.	()	h	h1	h2	b	L	L1	L2	
P92 C N 2020 H	44744	N	20	20	5	20	100	24	24	36+37
P92 C N 2525 H	44745	N	25	25	0	25	100	24	24	36+37

Comment:

On these tool holders, five different cartridges fit. These holders can be used as left hand **and** right hand holders.

Fitting cartridges



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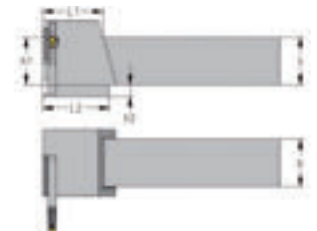
p. 72

new!



P92 C90 R/L
System P92

RH holder



Ref.	ID-Nr.	()	h	h1	h2	b	L	L1	L2	
P92 C90 R 2020 H	44746	R	20	20	5	20	100	20	20	36+37
P92 C90 R 2525 H	44747	R	25	25	0	25	100	20	20	36+37
P92 C90 L 2020 H	44748	L	20	20	5	20	100	20	20	36+37
P92 C90 L 2525 H	44749	L	25	25	0	25	100	20	20	36+37

Comment:

These 90° tool holders can be used as left hand or right hand holders. On these holders, five different cartridges fit.

Fitting cartridges



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p. 72



p. 72

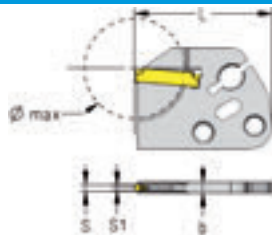
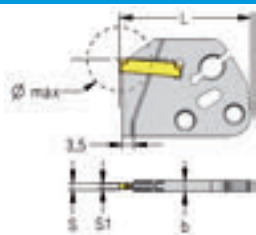
Cartridges for holders for parting off, grooving and turning

new!

new!



P92 CN (Type A)
System P92



P92 CN (Type B)
System P92



Ref.	ID-Nr.	()	Ømax	b	S1	S	L	P1	Type
P92-CN 15 16	44750	N	16	3,2	1,0	1,5	36,8	12	A
P92-CN 15 20	44822	N	20	3,2	1,0	1,5	41,0	16	A
P92-CN 20+25 20	44751	N	20	3,2	1,6	2,0+2,5	41,0	16	A
P92-CN 20+25 32	44752	N	32	3,2*	1,6	2,0+2,5	41,0	16	B

Comment:

These reinforced cartridges allow to use very small inserts. An advantage, especially, when producing short components on multi spindle automatics.

They fit on special basic tool holders, e.g. on:

- New Britain
- Conomatic
- Wickman
- Acme Gridley
- Tornos

Fitting inserts



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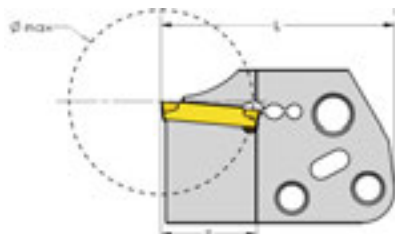



p.56

new!



P92 CT
System P92



Ref.	ID-Nr.	()	Ømax	b	S1	S	L	P	P1	
P92-CT N 15 28	44823	N	28	3,2	1	1,5	42,5	14	17,5	28
P92-CT N 20+25 32	44753	N	32	3,2	1,6	2,0+2,5	45,8	16	20,8	28
P92-CT N 30 32	44754	N	32	4,0	2,4	3,0	45,8	16	20,8	28

Comment:

These cartridges allow to use small inserts. An advantage, especially, when producing short components on multi spindle automatics.

They fit on special basic tool holders, e.g. on:

- New Britain
- Conomatic
- Wickman
- Acme Gridley
- Tornos

Fitting inserts



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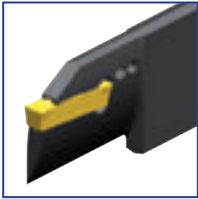
p. 55



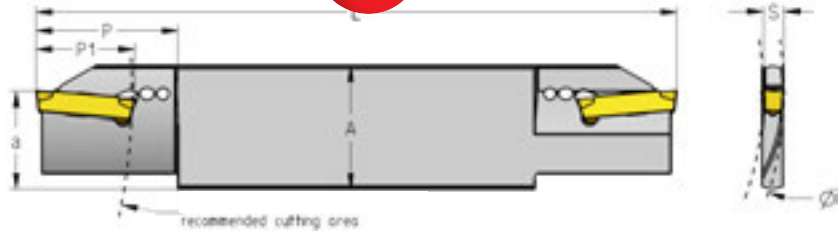
p. 56-58

Blades for face grooving

new!



P92 2 TMS
System P92-2



Ref.	ID-Nr.	()	Ømin	Ømax	A	a	P	P1	S	L	
P92 2 TMS 32 4 85 R	44531	R	85	160	32	25,0	32	18,5	4,0	160	28
P92 2 TMS 32 4 140 R	44542	R	140	260	32	25,0	32	18,5	4,0	160	28
P92 2 TMS 32 4 240 R	44543	R	240	~	32	25,0	32	18,5	4,0	160	28
P92 2 TMS 32 5 85 R	44538	R	85	160	32	25,0	35	23,5	5,0	160	28
P92 2 TMS 32 5 140 R	44540	R	140	260	32	25,0	35	23,5	5,0	160	28
P92 2 TMS 32 5 240 R	44541	R	240	~	32	25,0	35	23,5	5,0	160	28

Comment

For correct application refer to page 186.

Blades and tool blocks with the same "A" dimension fit together.

Holder and inserts with the same "S" dimension fit together.

Fitting inserts



Torque
p.176-177,186



p. 48-54



p. 55



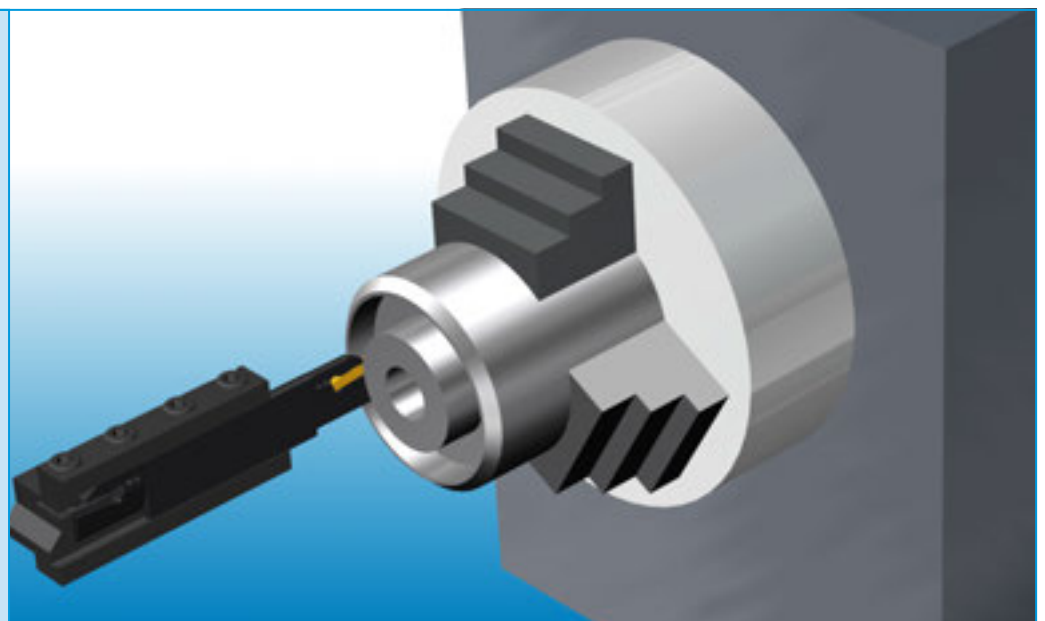
p. 56-58



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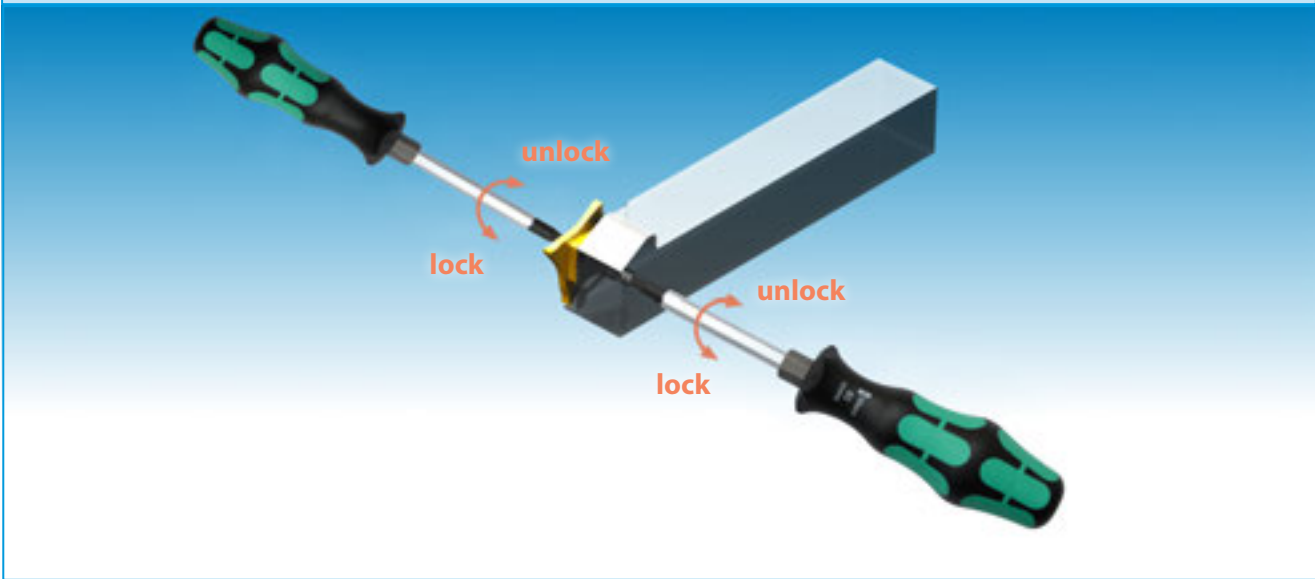
Application

P92 2 TMS 32



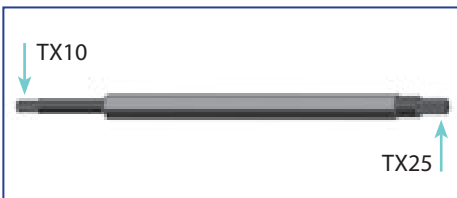
Torque key for MULTICUT 4 holders and blades

Clamping screw and torque key with interchangeable blade to change MULTICUT 4 inserts in confined spaces



TX 6
Handle

ET-Nr.	Ref.	ID-Nr.	Item
40	TX 6	45112	Handle



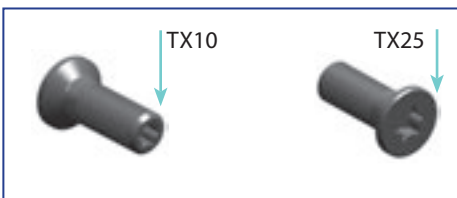
WK 25 10
interchangeable blade

ET-Nr.	Ref.	ID-Nr.	Item
39	WK 25 10	45113	Blade



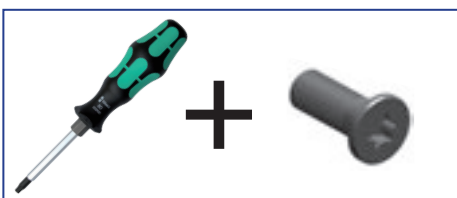
TX 25 10
Torque screwdriver

ET-Nr.	Ref.	ID-Nr.	Item
41	TX 25 10	45130	Torque screwdriver



TXM5x14 10 25
Torx screw

ET-Nr.	Ref.	ID-Nr.	Items	Recommended Torque max. [Nm]
33	TXM5x14 10 25	44641	Torx screw L=14	4,5
34	TXM5x10 10 25	44817	Torx screw L=10	4,5



TX 25 10 1
TX 25 10 2
Torque screwdriver

Offer assembly

Ref.	ID-Nr.	Items
TX25 10 1	45131	Setcontents: ET 39 + 40 + 33
TX25 10 2	45132	Setcontents: ET 39 + 40 + 34