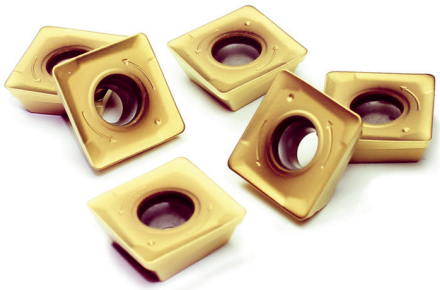
QUADWORX® XL

XL-sized talent for enormous chip removal rates in square shoulder face- and high feed milling



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PREMIUMTOOLS. WE KNOW HOW.

ECONOMIC SIZE IN XL: ENORMOUS CHIP REMOVAL RATES IN SQUARE SHOULDER FACE- AND HIGH FEED MILLING

QUADWORX®XL, the modern and proven high-feed talent is even higher performance with the new inserts for square shoulder face milling.

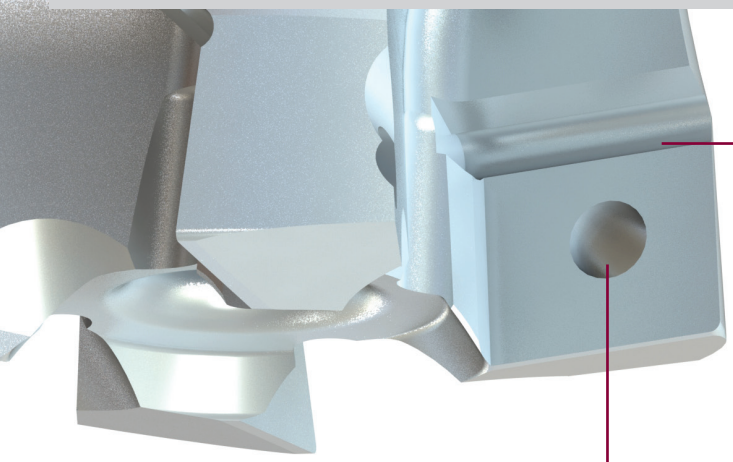
In large diameters up to 100 mm, the milling system enables enormously fast feed rates with simultaneously extremely large cutting depths from now on aditionally for this machining mode.

The indexable inserts for square shoulder face milling with four-each cutting edges, typical for the system, are adapted to the XL-dimension of the tool holder as well.

Regardless of whether square shoulder face or high feed milling they're right in their element during roughing and pre-finishing of steel, stainless steel and cast iron as well as high-temperature alloys.

A special macrogeometry of the high-feed-inserts combining a large radius and plane cutting edge ensure universal applications in 2, 2½ and 3d processing. The microgeometry with a polished tool face helps minimise the temperature in the cutting material and ensures uniform chip removal.

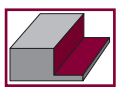
In practical application, the user profits from the new XL format with more efficient processing, which adds up to higher machine capacity.

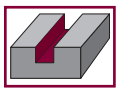


ONLY 1 XL SIZE MILLING CUTTER BODY...

...FOR 2 KINDS OF MACHINING

⇾ for SQUARE SHOULDER FACE MILLING, approach angle 90°





Square shoulder face milling

For efficient machining of steel, stainless steel, cast iron as well as high-temperature alloys, inserts of quality P40, P25 and M40, coated with PVGO and PVST are recommended.

⇾ for HIGH FEED MILLING

High feed milling with chip groove

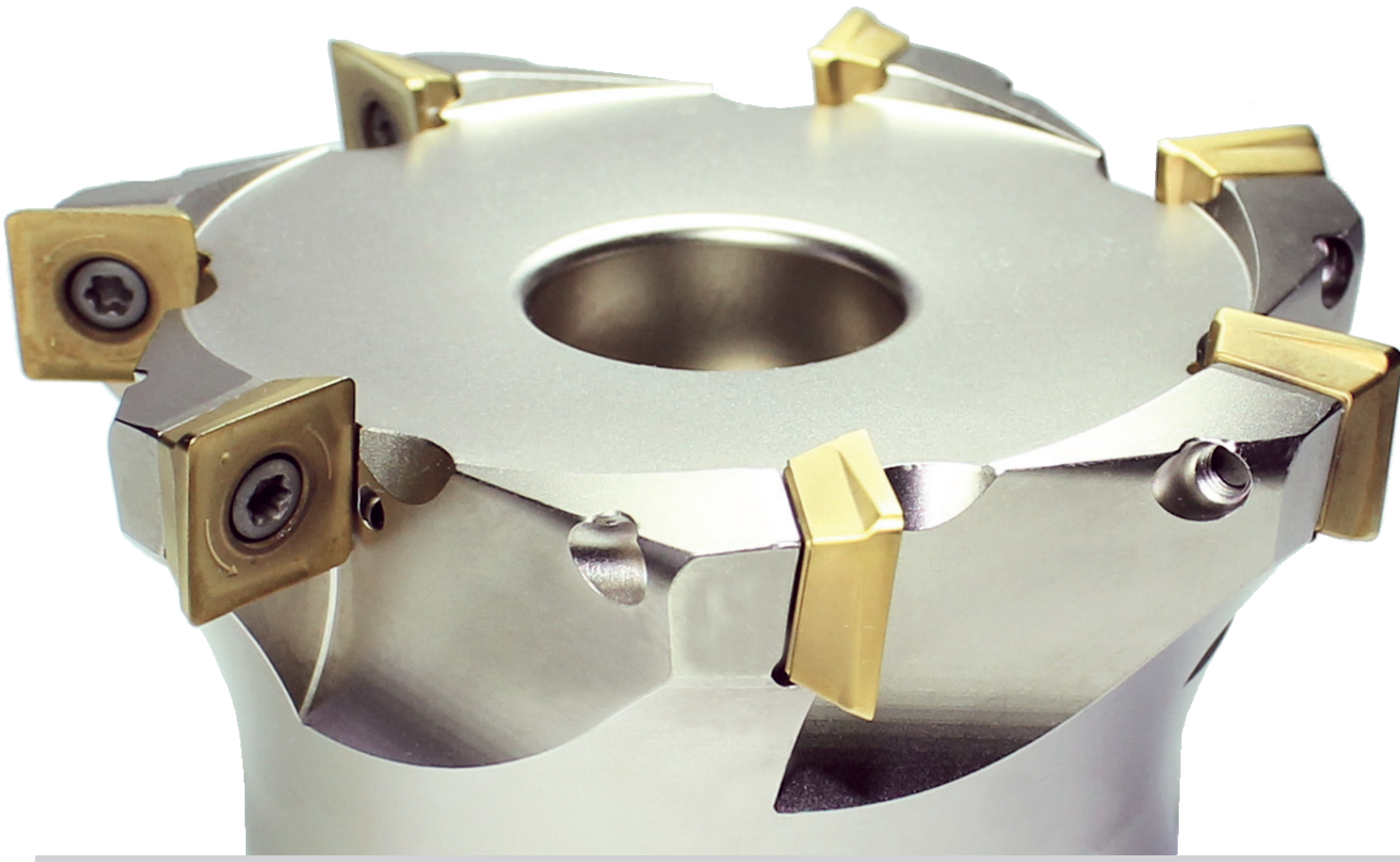
For efficient machining of steel, stainless steel, cast iron as well as high-temperature alloys, inserts of quality P40, P25, K10 and M40, coated with PVGO and PVST are the best choice.

High feed milling without chip groove

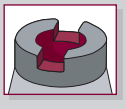
For efficient machining of steel and cast iron, inserts of quality P25 and K10 with a PVTi-coating are available.

YOUR BENEFIT
FROM A SUMMARY OF ADVANTAGES:

- One single milling cutter body fit use both as square shoulder face or high feed milling cutter thanks to the optional use of cutting insert featuring different geometries
- four cutting edges per insert for extreme economic applications
- highest chip removal rates through enormously fast feed rates with extremely large cutting depth
- wiper edge and large corner radius generate high accuracy surfaces, already in roughing operations
- Threaded shank end mill bodies: diam. 32 and 35 mm
  Shell type milling cutter bodies: diam. 40 - 100 mm
- lower costs per unit, higher manufacturing capacity
- maximum process reliability specially in interrupted cutting applications thanks to the ablsolutely safe inserts positioning



Connection
The **QUADWORX® XL** cutters are available as shell type version and with threaded shank from stock.
All cutters are manufactured with internal coolant supply for best process reliability.

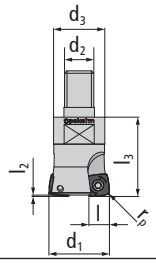


QUADWORX XL

Size XL - diam. 32 - 100 mm

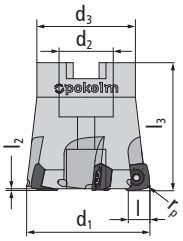
- four cutting edges per insert for extremely efficient operations
- very big metal removal rates and extremely easy cutting
- as a standard, every tool has internal coolant supply
- allows extremely high feed rates per tooth up to fz = 2.8 mm

Threaded shank end mill bodies



Milling cutter bodies Catalogue no.	d_1	l	r/r_p*	l_3	l_2	l_1	d_2	d_3	z	Accessories	Features
2 32 251	32	13	1/3.3*	42	1.5	-	M 16	29	2	A, D, E, F	
3 35 251	35	13	1/3.3*	42	1.5	-	M 16	29	3	A, D, E, F	

Shell type milling cutter bodies



4 40 351	40	13	1/3.3*	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	
4 42 351	42	13	1/3.3*	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	
4 50 351	50	13	1/3.3*	50	2.5	-	diam. 22	40	4	A, D, E, F, G	
5 50 351	50	13	1/3.3*	50	2.5	-	diam. 22	40	5	A, D, E, F, G	
4 52 351	52	13	1/3.3*	50	2.5	-	diam. 22	48	4	A, D, E, F, G	
5 52 351	52	13	1/3.3*	50	2.5	-	diam. 22	48	5	A, D, E, F, G	
6 63 351	63	13	1/3.3*	53	2.5	-	diam. 27	48	6	A, D, E, F, G	
6 66 351	66	13	1/3.3*	53	2.5	-	diam. 27	48	6	A, D, E, F, G	
6 80 351	80	13	1/3.3*	53	2.5	-	diam. 27	60	6	A, D, E, F, G	
8 80 351	80	13	1/3.3*	53	2.5	-	diam. 27	60	8	A, D, E, F, G	
7 100 351	100	13	1/3.3*	53	2.5	-	diam. 32	70	7	A, B, D, E, F, G	
9 100 351	100	13	1/3.3*	53	2.5	-	diam. 32	70	9	A, B, D, E, F, G	

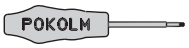
* corner radius to be programmed

Accessories

40 505 K
Torx screw
A > Page 7

M16X35
cylinder screw, hexagon socket, short head
B > Page 7

GWSTPS8ISK
hexagon socket set screw
C > Page 7



15 500 P
Torx-screwdriver (Torx-Plus)
D > Page 7

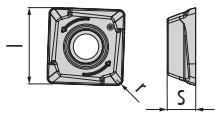
TV 2-8
Screwdriver torque Vario®-S with window scale
E > Page 7

T15 500 P
Torx interchangeable bit for Torque Vario®
F > Page 7

T15 502 P
Torx MagicSpring compatible bit f. Torque Vario®
G > Page 7

NEW latest items! ⚠ available as long as stock lasts ? on request ✓ stock item, subject to confirmation

Inserts for square shoulder face milling

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	05 51 848	SDMT 135010 SN	P40	PVGO	13	5	1	M 4.0
	05 51 858	SDMT 135010 SN	P25	PVGO	13	5	1	M 4.0
	05 51 896	SDMT 135020 EN	M40	PVST	13	5	1	M 4.0

Feed per tooth (fz) | d.o.c. (ap)

Material Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVGO	f_z (mm) a_p (mm)	0,1-0,5 0,2-8	-	0,1-0,5 0,2-8	-	-	-
P25 PVGO	f_z (mm) a_p (mm)	0,1-0,5 0,2-8	-	0,1-0,5 0,2-8	-	-	-
M40 PVST	f_z (mm) a_p (mm)	-	0,05-0,3 0,1-6	-	-	0,05-0,25 0,05-6	-

Cutting speed (Vc in m/min)

Material Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVGO	roughing pre finishing finishing	100 **150** 200 100 **150** 200 160 **205** 250	-	110 **130** 150 110 **130** 150 120 **150** 180	-	-	-
P25 PVGO	roughing pre finishing finishing	110 **165** 220 120 **185** 250 150 **225** 300	-	120 **145** 170 130 **150** 170 135 **193** 250	-	-	-
M40 PVST	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 120 **185** 250	-	-	30 **55** 80 40 **65** 90 60 **90** 120	-

major application *minor application* roughing pre-finishing finishing

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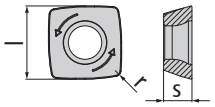
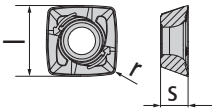
Inserts for high feed milling

Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	05 51 852 HF	SDMW 135020 SN	P25	PVTi	13	5	2	M 4.0
	05 51 860 HF	SDHX 135020 SN	K10	PVTi	13	5	2	M 4.0
	05 51 862 HF	SDMW 135020 SN	K10	PVTi	13	5	2	M 4.0
	05 51 848 HF	SDMT 135020 SN	P40	PVGO	13	5	2	M 4.0
	05 51 858 HF	SDMT 135020 SN	P25	PVGO	13	5	2	M 4.0
	05 51 868 HF	SDMT 135020 SN	K10	PVGO	13	5	2	M 4.0
	05 51 896 HF	SDMT 135020 EN	M40	PVST	13	5	2	M 4.0

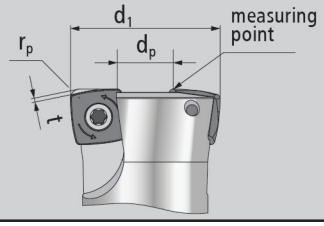
Feed per tooth (fz) | d.o.c. (ap)

Material: Quality Coating	Feed per tooth | d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P25 PVTi	f_z (mm) a_p (mm)	0,6-2,8 0,5-2	-	0,6-2,5 0,6-2,2	-	-	-
K10 PVTi	f_z (mm) a_p (mm)	0,6-2,8 0,5-2	-	0,6-2,5 0,6-2,2	-	-	-
P40 PVGO	f_z (mm) a_p (mm)	0,5-2,5 0,4-2	-	0,6-2,5 0,5-2,2	-	-	-
P25 PVGO	f_z (mm) a_p (mm)	0,5-2,5 0,4-2	-	0,6-2,5 0,5-2,2	-	-	-
K10 PVGO	f_z (mm) a_p (mm)	0,5-2,5 0,4-2	-	0,6-2,5 0,5-2,2	-	-	-
M40 PVST	f_z (mm) a_p (mm)	-	0,3-1,7 0,5-1,5	-	-	0,3-1,2 0,4-1,5	-

Cutting speed (Vc in m/min)

Material: Quality Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P25 PVTi	roughing pre finishing finishing	100 **200** 300 100 **125** 150 -	-	130 **155** 180 100 **135** 170 -	-	-	-
K10 PVTi	roughing pre finishing finishing	130 **170** 210 150 **185** 220 -	-	150 **175** 200 150 **175** 200 -	-	-	-
P40 PVGO	roughing pre finishing finishing	100 **150** 200 100 **150** 200 -	-	110 **130** 150 110 **130** 150 -	-	-	-
P25 PVGO	roughing pre finishing finishing	110 **165** 220 120 **185** 250 -	-	120 **145** 170 130 **150** 170 -	-	-	-
K10 PVGO	roughing pre finishing finishing	130 **170** 210 150 **185** 220 -	-	110 **155** 200 150 **175** 200 -	-	-	-
M40 PVST	roughing pre finishing finishing	-	80 **130** 180 100 **155** 210 -	-	-	30 **55** 80 40 **65** 90 -	-

Technical information

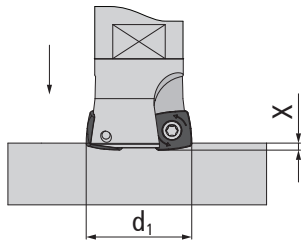


For the **CAD/CAM set-up** please program **3.3 mm** corner radius (r_p).
The **remainder of the material** is theoretically **0.86 mm** (t).
Please use „d_p" for **tool length measurement**.

NEW latest items! ⚠ available as long as stock lasts ? on request ✔ stock item, subject to confirmation

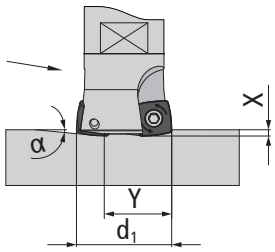
Extended operation data

Plunging



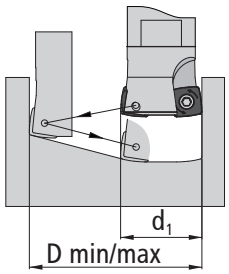
Cutter diam. d1	d_p	X_{max}
32	11.8	1.5
35	14.8	1.5
40	19.8	2.5
42	21.8	2.5
50	29.8	2.5
52	31.8	2.5
63	42.8	2.5
66	45.8	2.5
80	59.8	2.5
100	79.8	2.5

Ramping



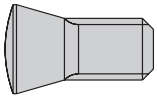
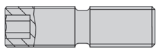
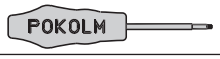
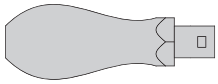
Cutter diam. d1	α°	y
32	<9	8.8
35	<7,0	11.8
40	<6,5	16.8
42	<5,8	18.8
50	<4,1	26.8
52	<3,7	28.8
63	<2,6	39.8
66	<2,4	42.8
80	<1,8	56.8
100	<1,2	72.8

Helix



Cutter diam. d1	D_{min}	D_{max}
32	40.8	62
35	46.8	68
40	56.8	78
42	60.8	82
50	76.8	98
52	80.8	102
63	102.8	124
66	108.8	130
80	136.8	158
100	176.8	198

Accessories

Accessories	Catalogue no.	Description				
Torx®screws | Torx®screws						
	40 505 K	Torx screw M 4.0 | L 9.35 | T 15 Plus | 3.6 Nm	M 4.0	L 9.35	T 15 Plus	3.6 Nm
Cylindrical screws with hexagon socket | for shell-type and threaded shank adapters						
	M16X35	cylinder screw, hexagon socket, short head M 16 | L 35 | DIN 7984	M 16	L 35	DIN 7984	
Additional screws and washers | hexagon socket set screw						
	GWSTPS8ISK	hexagon socket set screw M 8x1.25 | M8x0.75 | hexa. size 4	M 8x1.25	M8x0.75	hexa. size 4	
Spanners / screwdrivers | Torx-screwdriver						
	15 500 P	Torx-screwdriver (Torx-Plus) T 15 Plus	T 15 Plus			
Torque screwdrivers and accessories | Torque screwdrivers						
	TV 2-8	Screwdriver torque Vario®-S with window scale from Nm 2.0 up to 8,0 Nm | with scale, inc setter	from Nm 2.0	up to 8,0 Nm		
Torque screwdrivers and accessories | Torx bits, standard						
	T15 500 P	Torx interchangeable bit for Torque Vario® T 15 IP | L 175 | max. 5.5 Nm	T 15 IP	L 175	max. 5.5 Nm	
Torque screwdrivers and accessories | Torx bits with retaining spring						
	T15 502 P	Torx MagicSpring compatible bit f. Torque Vario® T 15 IP | L 175 | max. 5.5 Nm	T 15 IP	L 175	max. 5.5 Nm	

▼ ***major application*** ▽ ***minor application*** ▼▼ roughing ▼▽ pre-finishing ▽▽ finishing

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