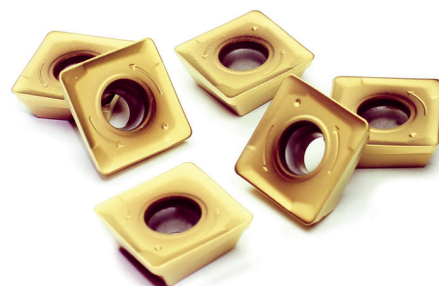




QUADWORX® XL

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



 **pokolm**
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 additionally 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.

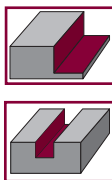
In practical application, the user profits from the new **XL** format with more efficient processing, which adds up to higher machine capacity.

ONLY **1** XL SIZE MILLING CUTTER BODY...

...FOR **2** KINDS OF MACHINING

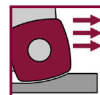
⊖ for **SQUARE SHOULDER FACE MILLING**, approach angle 90°

⊖ for **HIGH FEED MILLING**



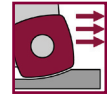
Square shoulder face milling

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.



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.

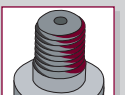
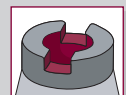
YOUR BENEFIT FROM A SUMMARY OF ADVANTAGES:

- ⊖ 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 absolutely 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 $f_z = 2.8 \text{ mm}$

Milling cutter bodies

Catalogue no.

d_1 l r/r_p^* l_3 l_2 l_1 d_2 d_3 z

Accessories
Features

Threaded shank end mill bodies

	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

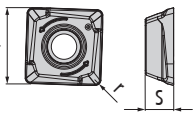
	4 40 351	40	13	1/3.3*	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	✓
	4 42 351	42	13	1/3.3*	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	✓
	4 50 351	50	13	1/3.3*	50	2.5	-	diam. 22	40	4	A, D, E, F, G	✓
	5 50 351	50	13	1/3.3*	50	2.5	-	diam. 22	40	5	A, D, E, F, G	✓
	4 52 351	52	13	1/3.3*	50	2.5	-	diam. 22	48	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	POKOLM 15 500 P Torx-screwdriver (Tor- x-Plus) D > Page 7	TV 2-8 Screwdriver torque Va- rio®-S with window scale E > Page 7	T15 500 P Torx interchangeable bit for Torque Vario® F > Page 7
T15 502 P Torx MagicSpring compati- ble bit f. Torque Vario® G > Page 7					

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

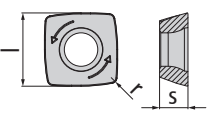
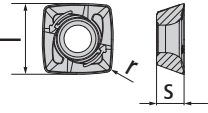
Feed per tooth (fz) | d.o.c. (ap)

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	▽100 150 200	-	▽110 130 150	-	-	-
	pre finishing	▽100 150 200		▽110 130 150			
	finishing	▽160 205 250		▽120 150 180			
P25 PVGO	roughing	▽110 165 220	-	▽120 145 170	-	-	-
	pre finishing	▽120 185 250		▽130 150 170			
	finishing	▽150 225 300		▽135 193 250			
M40 PVST	roughing	-	▽80 130 180	-	-	▽30 55 80	-
	pre finishing		▽100 155 210				
	finishing		▽120 185 250			▽40 65 90 ▽60 90 120	

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

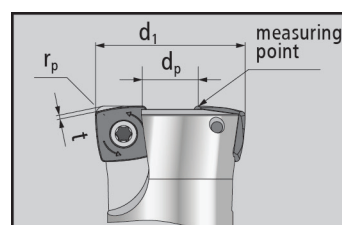
Feed per tooth (fz) | d.o.c. (ap)

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

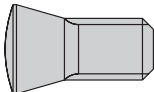
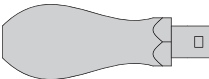


For the **CAD/CAM set-up** please program **3.3 mm** corner radius (r_p).
The remainder of the material is theoretically **0.86 mm** (t).
Please use „d_p“ for tool length measurement.

Extended operation data

Plunging			Ramping			Helix		
Cutter diam. d1	d _p	X _{max}	Cutter diam. d1	α°	y	Cutter diam. d1	D _{min}	D _{max}
32	11.8	1.5	32	<9	8.8	32	40.8	62
35	14.8	1.5	35	<7,0	11.8	35	46.8	68
40	19.8	2.5	40	<6,5	16.8	40	56.8	78
42	21.8	2.5	42	<5,8	18.8	42	60.8	82
50	29.8	2.5	50	<4,1	26.8	50	76.8	98
52	31.8	2.5	52	<3,7	28.8	52	80.8	102
63	42.8	2.5	63	<2,6	39.8	63	102.8	124
66	45.8	2.5	66	<2,4	42.8	66	108.8	130
80	59.8	2.5	80	<1,8	56.8	80	136.8	158
100	79.8	2.5	100	<1,2	72.8	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



Pokolm
Frästechnik GmbH & Co. KG

Adam-Opel-Straße 5
33428 Harsewinkel
Germany

fon: +49 5247 9361-0
fax: +49 5247 9361-99

info@pokolm.com
www.pokolm.com



www.pokolm.com