



QUADWORX® XL

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

Economic size in XL:

High-feed-milling with enormous chip removal rates

QUADWORX® XL, the modern and proven high-feed talent is even higher performance in the new XL-format.

In large diameters up to 100 mm, the milling system enables enormously fast feed rates with simultaneously extremely large cutting depths.

The indexable inserts with four cutting edges, typical for the system, are adapted to the XL-dimension of the tool holder. They're right in their element during the roughing and pre-finishing of steel, stainless steel and cast iron as well as high-temperature alloys.

A special macrogeometry combining a large radius and plane cutting edge ensure universal applications in 2, 2½ and 3d processing.

The micro geometry with polished rake surface minimizes temperature in the cutting material as well as 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.

Your benefit from a summary of

- One single milling cutter body fits both square shoulder face and high feed milling cutter thanks to the optional use of cutting insert featuring different geometries
- four cutting edges per insert for economic applications
- highest chip removal rates through enormously fast feed rates with extremely large cutting depth
- wiper edge and large corner radius generate high surface accuracy, already in roughing operations
- Screw-in 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

Only 1 XL size milling cutter body for 2 kinds of machining

For square shoulder and face milling, approach angle 90°

Square shoulder and face milling

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

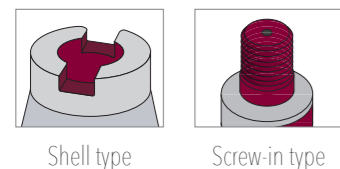
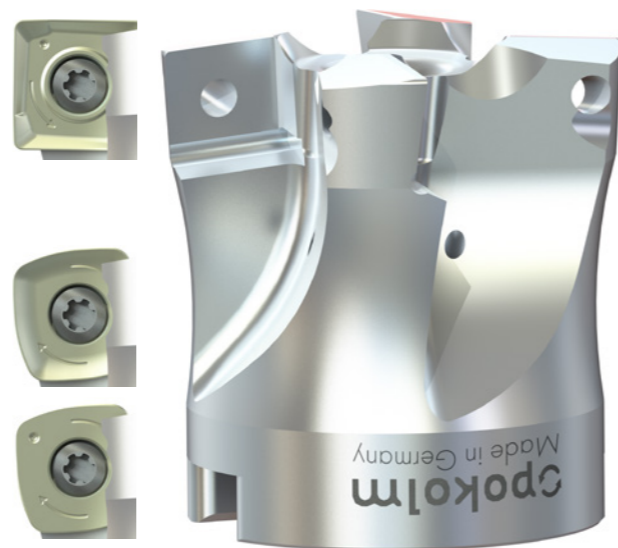
For high feed milling

Inserts with chip groove

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

Inserts without chip groove

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



Practical-Video

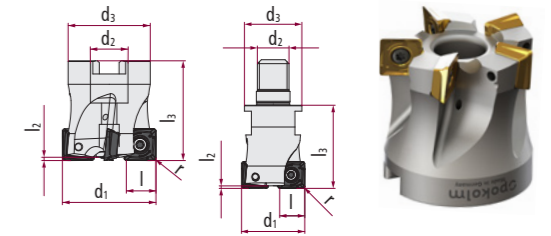
QUADWORX® XL in 1.2379 / X153CrMoV12

More Product-Videos available on:
[youtube.com/pokolmknowhow](https://www.youtube.com/pokolmknowhow)



QUADWORX XL

diam. 32 - 100 mm - square shoulder and face milling, approach angle 90°



	Catalogue no.	d ₁	l/d	r	l ₃	l ₂	l ₁	d ₂	d ₃	z	Accessories	Features
Screw-in type	2 32 251	32	13	1	42	1.5	-	M 16	29	2	A, D, E, F, G	☑ ☑ ☑ ☑
	3 35 251	35	13	1	42	1.5	-	M 16	29	3	A, D, E, F, G	☑ ☑ ☑ ☑
Shell-type	4 40 351	40	13	1	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	☑ ☑ ☑ ☑
	4 42 351	42	13	1	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	☑ ☑ ☑ ☑
	4 50 351	50	13	1	50	2.5	-	diam. 22	40	4	A, D, E, F, G	☑ ☑ ☑ ☑ ☑
	5 50 351	50	13	1	50	2.5	-	diam. 22	40	5	A, D, E, F, G	☑ ☑ ☑ ☑
	4 52 351	52	13	1	50	2.5	-	diam. 22	48	4	A, D, E, F, G	☑ ☑ ☑ ☑ ☑
	5 52 351	52	13	1	50	2.5	-	diam. 22	48	5	A, D, E, F, G	☑ ☑ ☑ ☑
	6 63 351	63	13	1	53	2.5	-	diam. 27	48	6	A, D, E, F, G	☑ ☑ ☑ ☑
	6 66 351	66	13	1	53	2.5	-	diam. 27	48	6	A, D, E, F, G	☑ ☑ ☑ ☑
	6 80 351	80	13	1	53	2.5	-	diam. 27	60	6	A, D, E, F, G	☑ ☑ ☑ ☑ ☑
	8 80 351	80	13	1	53	2.5	-	diam. 27	60	8	A, D, E, F, G	☑ ☑ ☑ ☑
	7 100 351	100	13	1	53	2.5	-	diam. 32	70	7	A, B, D, E, F, G	☑ ☑ ☑ ☑ ☑
9 100 351	100	13	1	53	2.5	-	diam. 32	70	9	A, B, D, E, F, G	☑ ☑ ☑ ☑	

Indexable inserts	Catalogue no.	DIN description	Carbide Grade	Coating	l/d	s	r	Torx-screw
	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

Accessories	A	B	C	D	E
	40 505 K	M16X35	GWSTPS8ISK	POKOLM 15 500 P	TV 2-8
	T15 500 P	T15 502 P			

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

Carbide Grade 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)

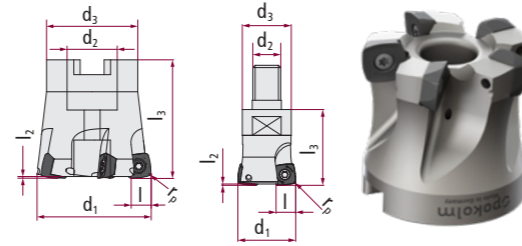
Carbide Grade Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PVGO	roughing semifinishing finishing	▽100 150 200 ▽100 150 200 ▽160 205 250	-	▽110 130 150 ▽110 130 150 ▽120 150 180	-	-	-
P25 PVGO	roughing semifinishing finishing	▽110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

Extended operation data

Plunging		Ramping			Helix		
Cutter diam. d1	X _{max}	Cutter diam. d1	α°	y	Cutter diam. d1	D _{min}	D _{max}
32-35	1.5	32	<9	8.8	32	40.8	62
40-100	2.5	35	<7,0	11.8	35	46.8	68
		40	<6,5	16.8	40	56.8	78
		42	<5,8	18.8	42	60.8	82
		50	<4,1	26.8	50	76.8	98
		52	<3,7	28.8	52	80.8	102
		63	<2,6	39.8	63	102.8	124
		66	<2,4	42.8	66	108.8	130
		80	<1,8	56.8	80	136.8	158
		100	<1,2	72.8	100	176.8	198

QUADWORX XL

Ø 32 - 100 mm - high feed



	Catalogue no.	d ₁	l/d	r _p	l ₃	l ₂	l ₁	d ₂	d ₃	z	Accessories	Features
Screw-in type	2 32 251	32	13	3.3*	42	1.5	-	M 16	29	2	A, D, E, F, G	☑ ☑ ☑ ☑
	3 35 251	35	13	3.3*	42	1.5	-	M 16	29	3	A, D, E, F, G	☑ ☑ ☑ ☑

Shell-type	Catalogue no.	d ₁	l/d	r _p	l ₃	l ₂	l ₁	d ₂	d ₃	z	Accessories	Features
	4 40 351	40	13	3.3*	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	☑ ☑ ☑ ☑
	4 42 351	42	13	3.3*	42.5	2.5	-	diam. 16	35	4	A, C, D, E, F, G	☑ ☑ ☑ ☑
	4 50 351	50	13	3.3*	50	2.5	-	diam. 22	40	4	A, D, E, F, G	☑ ☑ ☑ ☑ ☑
	5 50 351	50	13	3.3*	50	2.5	-	diam. 22	40	5	A, D, E, F, G	☑ ☑ ☑ ☑
	4 52 351	52	13	3.3*	50	2.5	-	diam. 22	48	4	A, D, E, F, G	☑ ☑ ☑ ☑ ☑
	5 52 351	52	13	3.3*	50	2.5	-	diam. 22	48	5	A, D, E, F, G	☑ ☑ ☑ ☑
	6 63 351	63	13	3.3*	53	2.5	-	diam. 27	48	6	A, D, E, F, G	☑ ☑ ☑ ☑
	6 66 351	66	13	3.3*	53	2.5	-	diam. 27	48	6	A, D, E, F, G	☑ ☑ ☑ ☑
	6 80 351	80	13	3.3*	53	2.5	-	diam. 27	60	6	A, D, E, F, G	☑ ☑ ☑ ☑ ☑
8 80 351	80	13	3.3*	53	2.5	-	diam. 27	60	8	A, D, E, F, G	☑ ☑ ☑ ☑	
7 100 351	100	13	3.3*	53	2.5	-	diam. 32	70	7	A, B, D, E, F, G	☑ ☑ ☑ ☑ ☑	
9 100 351	100	13	3.3*	53	2.5	-	diam. 32	70	9	A, B, D, E, F, G	☑ ☑ ☑ ☑	

Indexable inserts	Catalogue no.	DIN description	Carbide Grade	Coating	l/d	s	r	Torx-screw
	05 51 8042 HF	SDMW 135020 SN	P40	PCSR	13	5	2	M 4.0
	05 51 852 HF	SDMW 135020 SN	P25	PVTi	13	5	2	M 4.0
	05 51 8052 HF	SDMW 135020 SN	P25	PCSR	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

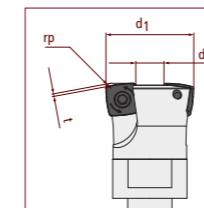
Accessories	A	B	C	D	E
	40 505 K	M16X35	GWSTPS8ISK	15 500 P	TV 2-8
	T15 500 P	T15 502 P			

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

Carbide Grade Coating	Feed per tooth d.o.c.	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PCSR	f _z (mm) a _p (mm)	0,6-2,8 0,5-2	-	0,6-2,5 0,6-2,2	-	-	0,4-0,8 0,4-1
P25 PVTi	f _z (mm) a _p (mm)	0,6-2,8 0,5-2	-	0,6-2,5 0,6-2,2	-	-	-
P25 PCSR	f _z (mm) a _p (mm)	0,6-2,8 0,5-2	-	0,6-2,5 0,6-2,2	-	-	0,3-0,8 0,3-1
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)

Carbide Grade Coating	Application	steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
P40 PCSR	roughing	▽130 190 250	-	▽120 170 220	-	-	-
	semifinishing finishing	▽150 225 300 -	-	▽150 200 250 -	-	-	-
P25 PVTi	roughing	▽100 200 300	-	▽130 155 180	-	-	-
	semifinishing finishing	▽100 125 150 -	-	▽100 135 170 -	-	-	-
P25 PCSR	roughing	▽140 205 270	-	▽130 185 240	-	-	-
	semifinishing finishing	▽150 215 280 -	-	▽150 210 270 -	-	-	-
K10 PVTi	roughing	▽130 170 210	-	▽150 175 200	-	-	-
	semifinishing finishing	▽150 185 220 -	-	▽150 175 200 -	-	-	▽50 95 140 -
P40 PVGO	roughing	▽100 150 200	-	▽110 130 150	-	-	-
	semifinishing finishing	▽100 150 200 -	-	▽110 130 150 -	-	-	-
P25 PVGO	roughing	▽110 165 220	-	▽120 145 170	-	-	-
	semifinishing finishing	▽120 185 250 -	-	▽130 150 170 -	-	-	-
K10 PVGO	roughing	▽130 170 210	-	▽110 155 200	-	-	-
	semifinishing finishing	▽150 185 220 -	-	▽150 175 200 -	-	-	-
M40 PVST	roughing	-	▽80 130 180	-	-	▽30 55 80	-
	semifinishing finishing	▽130 190 250 -	▽100 155 210 -	-	-	▽40 65 90 -	-



*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 „dp“ for tool length measurement.

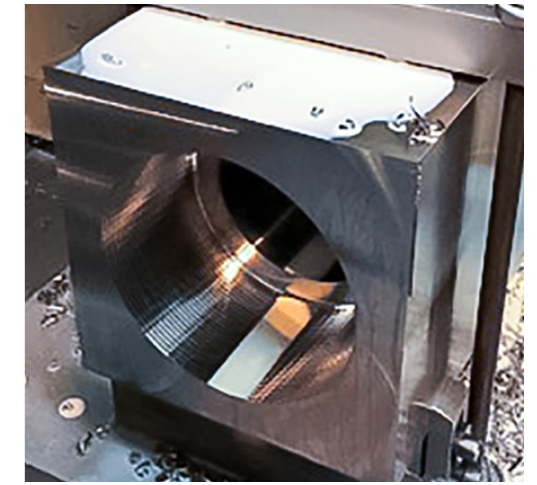
Extended operation data

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

QUADWORX® XL in field testing

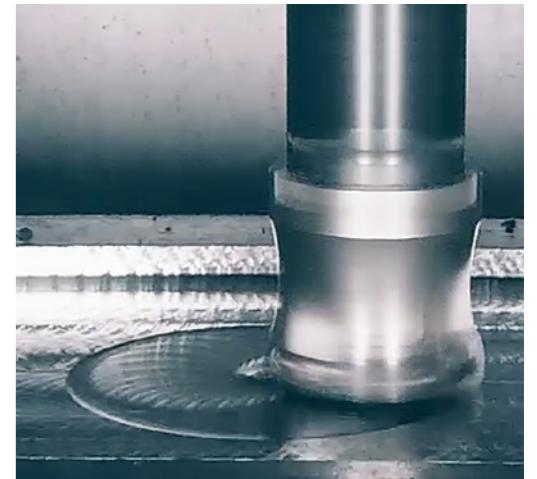
Processing task in 1.7147, 217 HB, Cold working steel

Milling cutter:	6 80 351
D _c (nominal diameter):	80 mm
Arbor:	---
Overhang:	500 mm
Cooling:	mit Wasser
Indexable insert:	05 51 896 HF
V _c (speed):	150 m/min
n (revolutions):	600 min ⁻¹
f _z (feed per tooth):	1,0 mm
V _f (feed rate):	3.600 mm/min
a _p (depth of cut):	1,5 mm
a _e (width of cut):	27,5 mm



Processing task in 1.4404, tensile strength R_m (N/mm²) 700, stainless steel

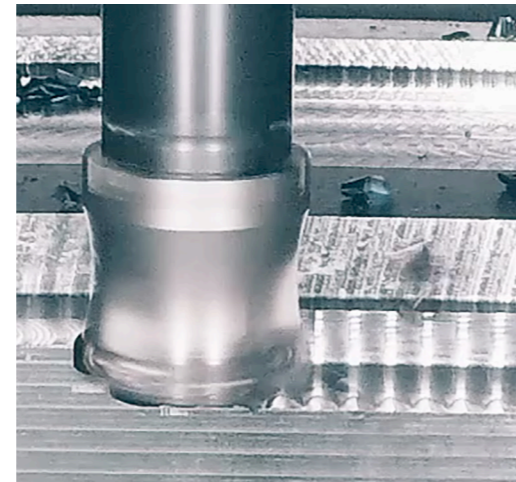
Milling cutter:	5 52 351
D _c (nominal diameter):	52 mm
Arbor:	50 22 710
Overhang:	119,1 mm
Cooling:	with air
Indexable insert:	05 51 896 HF
V _c (speed):	180 m/min
n (revolutions):	1102 min ⁻¹
f _z (feed per tooth):	1 mm
V _f (feed rate):	5500 mm/min
a _p (depth of cut):	1,25 mm
a _e (width of cut):	31 mm











QUADWORX® XL in field testing

Processing task in 1.2312, 48 HRC, Working steel

Milling cutter:	5 52 351
D_c (nominal diameter):	52 mm
Arbor:	100 22 710
Overhang:	169,1 mm
Cooling:	with air
Indexable insert:	05 51 858 HF
V_c (speed):	200 m/min
n (revolutions):	1240 min ⁻¹
f_z (feed per tooth):	1,0 mm
V_f (feed rate):	6200 mm/min
a_p (depth of cut):	1,2 mm
a_e (width of cut):	32 mm



Accessories

	Catalogue no.	Description			
Torx® screws					
	40 505 K	Torx® screw	M 4.0	L 9.35	T 15 Plus 3.6 Nm
For shell-type and threaded-shank adapters					
	M16X35	cylinder screw, hexagon socket, short head	M 16	L 35	DIN 7984
Actuator					
	GWSTPS8ISK	Hexagon socket set screw	M8x1.25	M8x0.75	Hexagon socket 4
Torx® wrench					
	15 500 P	Torx® screwdriver (Torx® Plus)	T 15 IP		
Torque screwdriver					
	TV 2-8	Torque screwdriver Vario®-S	From 2.0 Nm	Up to 8.0 Nm	With scale, incl. setter
Torx® interchangeable blades, standard					
	TV 500	Torx® interchangeable blade for Torque Vario®			
Torx® interchangeable blades, standard					
	T15 500 P	Torx® interchangeable blade for Torque Vario®	T 15 IP	L 175	Max. 5.5 Nm
Torx® interchangeable blades with retaining spring					
	T15 502 P	Torx® MagicSpring compatible bit f. Torque Vario®	T 15 IP	L 175	Max. 5.5 Nm



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