



## QUADWORX® XL

XL-sized high-feed talent for enormous chip removal rates



 **pokolm**  
PREMIUMTOOLS. WE KNOW HOW.

# ECONOMIC SIZE IN XL: HIGH-FEED-MILLING WITH ENORMOUS CHIP REMOVAL RATES

**Q**UADWORX®, 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-each 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 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.

## XL MILLING CUTTER BODY



## XL INDEXABLE INSERT



### Inserts without chip groove

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



### Inserts 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.

## YOUR BENEFIT FROM A SUMMARY OF ADVANTAGES:

- ⊖ 4 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
- ⊖ XL-size milling cutter bodies  $\varnothing$  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 mill version from stock.  
All cutters are manufactured with internal coolant supply for best process reliability.





# QUADWORX XL

Size XL

- 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  $fz = 2.8 \text{ mm}$

Milling cutter bodies	Catalogue no.											Accessories	Features
		$d_1$	$l$	$r_p^*$	$l_3$	$l_2$	$l_1$	$d_2$	$d_3$	$z$			

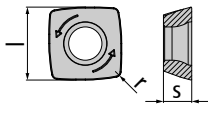
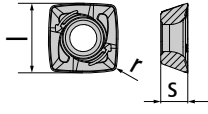
## Shell type milling cutter bodies

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

## Accessories

\* corner radius to be programmed

<p>40 505 K Torx screw A &gt; Page 7</p>	<p>M16X35 screw B &gt; Page 7</p>	<p>GWSTPS8ISK hexagon socket set screw C &gt; Page 7</p>	<p>15 500 P Torx-screwdriver (Torx-Plus) D &gt; Page 7</p>	<p>TV 2-8 Screwdriver torque Vario®-S with window scale, E &gt; Page 7</p>	<p>T15 500 P Torx interchangeable bit for Torque Vario® F &gt; Page 7</p>
<p>T15 502 P Torx MagicSpring compatible bit f. Torque Vario® G &gt; Page 7</p>					

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 51 862 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		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth   d.o.c.						
P25 PVTi	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,6-2,8 0,5-2	-	0,6-2,5 0,6-2,2	-	-	-
K10 PVTi	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,6-2,8 0,5-2	-	0,6-2,5 0,6-2,2	-	-	-
P40 PVGO	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,5-2,5 0,4-2	-	0,6-2,5 0,5-2,2	-	-	-
P25 PVGO	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,5-2,5 0,4-2	-	0,6-2,5 0,5-2,2	-	-	-
K10 PVGO	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,5-2,5 0,4-2	-	0,6-2,5 0,5-2,2	-	-	-
M40 PVST	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	-	0,3-1,7 0,5-1,5	-	-	0,3-1,2 0,4-1,5	-

### Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
P25 PVTi	roughing finishing	100 200 300 -	-	100 140 180	-	-	-
K10 PVTi	roughing finishing	130 175 220 -	-	150 185 220	-	-	-
P40 PVGO	roughing finishing	100 150 200 -	-	110 130 150	-	-	-
P25 PVGO	roughing finishing	110 180 250 -	-	120 145 170	-	-	-
K10 PVGO	roughing finishing	130 175 220 -	-	150 185 220	-	-	-
M40 PVST	roughing finishing	-	80 145 210 -	-	-	30 60 90 -	-

## Extended operation data

Plunging		
Cutter diam. d1	$d_p$	$X_{max}$
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

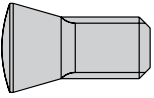
Ramping		
Cutter diam. d1	$\alpha^\circ$	y
40	<6,5	16.8
42	<5,8	18.8
50	<4,1	26.8
52	<3,7	28.8
63	<2,6	39.8
66	<2,4	42.8
80	<1,8	56.8
100	<1,2	72.8


Helix		
Cutter diam. d1	$D_{min}$	$D_{max}$
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


## Technical information


	<p>For the <b>CAD/CAM set-up</b> please program <b>3.3 mm</b> corner radius (<math>r_p</math>).                  The remainder of the material is theoretically <b>0.86 mm</b> (t).                  Please use „<math>d_p</math>” for tool length measurement.</p>
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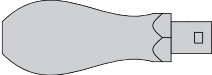
Accessories	Catalogue no.		Description			


Torx@screws   Torx@screws						
	40 505 K	Torx screw M 4.0   L 9.35   T 15 Plus	M 4.0	L 9.35	T 15 Plus	

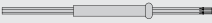
Cylindrical screws with hexagon socket   for shell-type and threaded shank adapters						
	M16X35	screw M 16   L 35   DIN 7984   12.9	M 16	L 35	DIN 7984	12.9

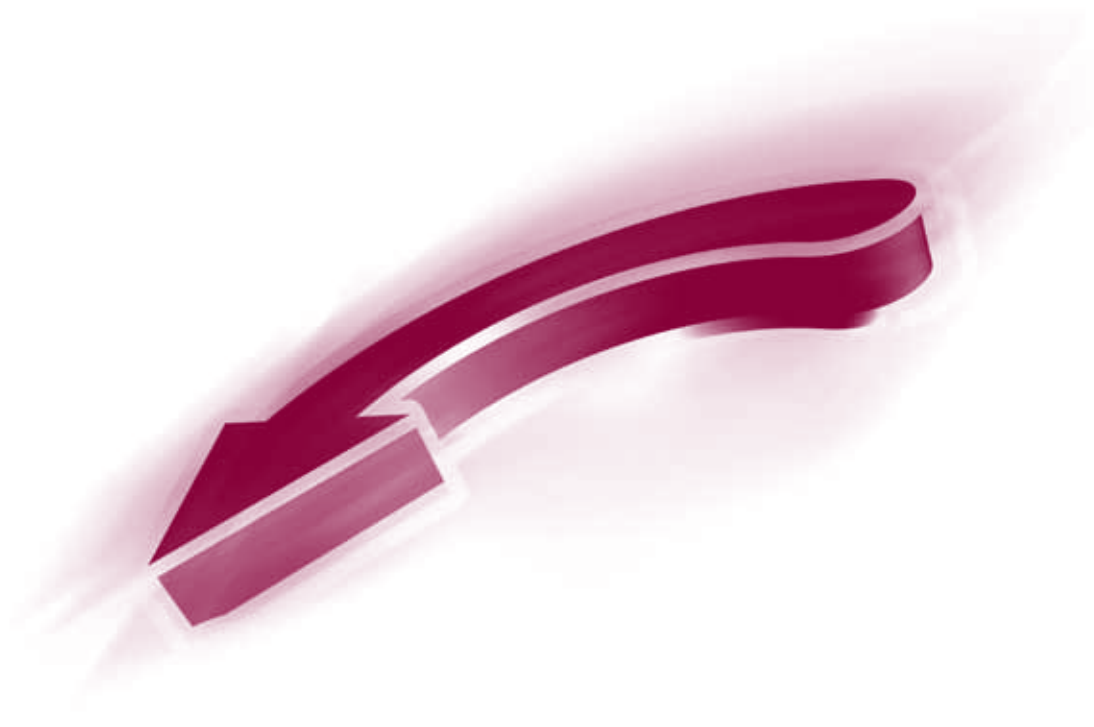
Additional screws and washers   hexagon socket set screw						
	GWSTPS8ISK	hexagon socket set screw M 8x1.25   M8x0.75   hexa. size 4	M 8x1.25	M8x0.75	hexa. size 4	

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	from Nm 2.0	up to 8,0 Nm	with scale	

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	



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