



# FOURWORX®

Size S - Ø16 ... 42 mm

- Four cutting edges per indexable insert for ultimate efficiency
- Very high material removal rates and extremely easy cutting
- All tools possess internal coolant supply as standard.
- Extremely high feedrates up to fz 1.2 mm/teeth

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

DuoPlug®												
	FR05-016-D10-03	16	9	1.4*	35	0.35	-	M 10	15	3	A, B, C, D, E, F	
	FR05-020-D12-04	20	9	1.4*	35	0.4	-	M 12	18.6	4	A, B, C, D, E, F	
	FR05-025-D16-05	25	9	1.4*	40	0.45	-	M 16	23.5	5	A, B, C, D, E, F	

Threaded shank end mill bodies												
	FR05-016-E08-02	16	9	1.4*	29	0.35	-	M 8	13.8	2	A, B, C, D, E, F	
	FR05-016-E08-03	16	9	1.4*	29	0.35	-	M 8	13.8	3	A, B, C, D, E, F	
	FR05-020-E10-04	20	9	1.4*	29	0.4	-	M 10	18	4	A, B, C, D, E, F	
	FR05-025-E12-05	25	9	1.4*	33	0.45	-	M 12	21	5	A, B, C, D, E, F	
	FR05-032-E16-05	32	9	1.4*	42	0.5	-	M 16	29	5	A, B, C, D, E, F	
	FR05-035-E16-06	35	9	1.4*	42	0.5	-	M 16	29	6	A, B, C, D, E, F	
	FR05-042-E16-06	42	9	1.4*	42	0.55	-	M 16	29	6	A, B, C, D, E, F	

Plain shank end mill bodies												
	FR05-016-Z16-03-32	16	9	1.4*	32	0.35	80	diam. 16	13.8	3	A, B, C, D, E, F	
	FR05-020-Z20-04-40	20	9	1.4*	40	0.4	90	diam. 20	18	4	A, B, C, D, E, F	

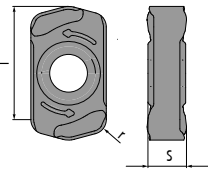
Accessories						* corner radius to be programmed
<p>22 500 P Torx screw A &gt; Page 7</p>	<p>POKOLM 07 500 P Torx-screwdriver (Torx-Plus) B &gt; Page 7</p>	<p>TV 04-1 Screwdriver torque Vario®-S with window scale, C &gt; Page 7</p>	<p>TV 500 Torque Vario® setter adjusting tool D &gt; Page 7</p>	<p>T7 500 P Torx interchangeable bit for Torque Vario® E &gt; Page 7</p>	<p>T7 502 P, Torx Magic-Spring compatible bit f. Torque Vario® F &gt; Page 7</p>	

latest items!

available as long as stock lasts

on request

stock item, subject to confirmation

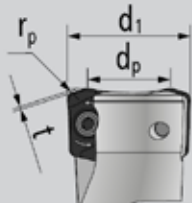
Indexable inserts	Catalogue no.	DIN Specification	Carbide Grade	Coating	l	s	r	M
	FR05-8042-HF-RP	LNKX 0925 ZSR	P40	PCSR	9	2.5	1	M 2.2
	FR05-8048-HF-RP	LNKX 0925 ZSR	P40	PPGO	9	2.5	1	M 2.2
	FR05-8062-HF-RK	LNKX 0925 ZSR	K10	PPTi	9	2.5	1	M 2.2
	FR05-8042-HF-MP	LNKX 0925 ZER	P40	PCSR	9	2.5	1	M 2.2
	FR05-8096-HF-MM	LNKX 0925 ZER	M40	PPST	9	2.5	1	M 2.2

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

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Carbide Grade	Coating						
Feed per tooth   d.o.c.							
Size S   LNKX   M							
P40	PCSR	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,25-1 0,05-0,7	-	0,2-0,95 0,05-0,6	-	-
M40	PPST	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,25-1 0,05-0,6	-	-	0,15-0,75 0,05-0,6	-
Size S   LNKX   R							
P40	PCSR	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,3-1,2 0,1-0,75	-	0,25-1,1 0,1-0,7	-	-
P40	PPGO	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,3-1,2 0,1-0,75	-	0,25-1,1 0,1-0,7	-	-
K10	PPTi	f <sub>z</sub> (mm) a <sub>p</sub> (mm)	0,3-1,2 0,1-0,75	-	0,3-1,2 0,1-0,75	-	0,1-1 0,1-0,6

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

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Carbide Grade	Coating						
P40	PCSR	roughing pre finishing finishing	▽130 190 250 ▽150 225 300 -	-	▽120 170 220 ▽150 200 250 -	-	-
	PPGO	roughing pre finishing finishing	▽100 150 200 ▽100 150 200 -	-	▽110 130 150 ▽110 130 150 -	-	-
K10	PPTi	roughing pre finishing finishing	▽90 140 190 ▽110 160 210 -	-	▽120 180 240 ▽140 205 270 -	-	▽80 120 160 ▽100 140 180 -
	PPST	roughing pre finishing finishing	▽80 140 200 ▽100 150 200 -	▽80 130 180 ▽100 155 210 -	-	-	▽30 55 80 ▽40 65 90 -



For the **CAD/CAM set-up** please program **1.4 mm** corner radius (r<sub>p</sub>).  
The remainder of the material is theoretically **0.342 mm** (t).  
Please use „d<sub>p</sub>“ for tool length measurement.

## Extended operation data

Plunging	
Cutter diam. d1	X <sub>max</sub>
16	0.35
20	0.4
25	0.45
32-35	0.5
42	0.55

Ramping		
Cutter diam. d1	$\alpha^\circ$	y
16	<2,5	7
20	<1,9	11
25	<1,5	16
32	<1,2	23
35	<1,0	26
42	<0,9	33

Helix		
Cutter diam. d1	D <sub>min</sub>	D <sub>max</sub>
16	23	31
20	31	39
25	41	49
32	55	63
35	61	69
42	75	83

Accessories	Catalogue no.	Description				
<b>Torx@screws   Torx@screws</b>						
	22 500 P	Torx screw M 2.2   L 5.2   T 7 Plus   0.65 Nm	M 2.2	L 5.2	T 7 Plus	0.65 Nm
<b>Spanners / screwdrivers   Torx-screwdriver</b>						
	07 500 P	Torx-screwdriver (Torx-Plus) T 7 Plus	T 7 Plus			
<b>Torque screwdrivers and accessories   Torque screwdrivers</b>						
	TV 04-1	Screwdriver torque Vario®-S with window scale from Nm 0.4   up to 1.0 Nm   with scale, inc setter				
<b>Torque screwdrivers and accessories   Torque Vario® setter adjusting tool</b>						
	TV 500	Torque Vario® setter adjusting tool				
<b>Torque screwdrivers and accessories   Torx bits, standard</b>						
	T7 500 P	Torx interchangeable bit for Torque Vario® T 7 IP   L 175   max. 0.9 Nm	T 7 IP	L 175	max. 0.9 Nm	
<b>Torque screwdrivers and accessories   Torx bits with retaining spring</b>						
	T7 502 P	Torx MagicSpring compatible bit f. Torque Vario® T 7   L 175   max. 0.9 Nm	T 7	L 175	max. 0.9 Nm	