

UNIWORX® PLUS

diam. 10 - 20 mm - HF



New UNIWORX®PLUS corner radius- and HighFeed end mills for roughing and finishing steel

- Roughing, stock material machining with HighFeed inserts
- precision grinded corner radius inserts for high end finishing
- asymmetrical contact flats for error-free positioning
- unique coolant supply with fan opening through the insert

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

DuoPlug®												
	10 215 SG	10	10	22*	27	-	-	M 7	9.6	2	A, D, I, J, M	
	12 215 SG	12	12	0.5	30	-	-	M 7	10.8	2	B, E, G, K, N	
	16 215 SG	16	16	1	38	-	-	M 10	15	2	C, F, H, L, O	
	20 215 SG	20	20	1	43	-	-	M 12	18.5	2	C, F, H, L, O	

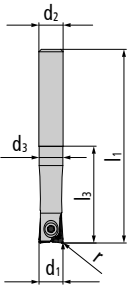
Threaded shank end mill bodies												
	10 215 M6	10	10	0.5	20	-	-	M 6	9.75	2	A, D, I, J, M	
	12 215 M6	12	12	0.5	20	-	-	M 6	11.5	2	B, E, G, K, N	
	16 215	16	16	1	25	-	-	M 8	13.8	2	C, F, H, L, O	
	20 215	20	20	1	30	-	-	M 10	18	2	C, F, H, L, O	

* corner radius to be programmed

Milling cutter bodies
















Catalogue no. d_1 d r_p^* l_3 l_2 l_1 d_2 d_3 z Accessories Features

Plain shank end mill bodies



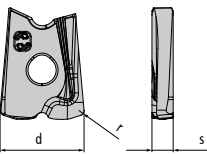
40 10 115 G	10	10	0.5	40	-	-	diam. 10	9.8	2	A, D, I, J, M	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
48 12 115 G	12	12	0.5	48	-	-	diam. 12	11.8	2	B, E, G, K, N	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
64 16 115 G	16	16	1	64	-	-	diam. 16	13.8	2	C, F, H, L, O	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
80 20 115 G	20	20	1	80	-	-	diam. 20	18	2	C, F, H, L, O	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

Accessories

 30 530 locating screw A > Page ???	 35 530 locating screw B > Page ???	 50 530 locating screw C > Page ???	 POKOLM 08 500 Torx-screwdriver D > Page 196	 POKOLM 10 500 Torx-screwdriver E > Page 196	 POKOLM 20 500 Torx-screwdriver F > Page 196
 TV 1-5 Screwdriver torque Vario®-S with window scale G > Page 197	 TV 2-8 Screwdriver torque Vario®-S with window scale H > Page 197	 TV 08-2 Screwdriver torque Vario®-S with window scale I > Page 197	 T8 500 Torx interchangeable bit for Torque Vario® J > Page 197	 T10 500 Torx interchangeable bit for Torque Vario® K > Page 197	 T20 500 Torx interchangeable bit for Torque Vario® L > Page 197
 T8 502 Torx MagicSpring compatible bit f. Torque Vario® M > Page 198	 T10 502 Torx MagicSpring compatible bit f. Torque Vario® N > Page 198	 T20 502 Torx MagicSpring compatible bit f. Torque Vario® O > Page 198			

Indexable inserts

Catalogue no. DIN Specification Carbide Grade Coating d s r M



15 10 8060 HF	XOGX 1025 ER	K10	PPTi	10	2.5	-	M 3.0
15 12 8060 HF	XOGX 1225 ER	K10	PPTi	12	2.5	-	M 3.5
15 16 8060 HF	XOGX 1630 ER	K10	PPTi	16	3	-	M 5.0
15 20 8060 HF	XOGX 2030 ER	K10	PPTi	20	3	-	M 5.0

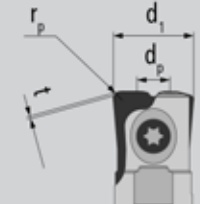
Feed per tooth (fz) | d.o.c. (ap)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Feed per tooth d.o.c.						
d=10 mm							
K10 PPTi	f _z (mm)	0,1-0,75	0,1-0,28	0,1-0,75	0,1-0,75	0,1-0,22	0,1-0,55
	a _p (mm)	0,05-0,4	0,05-0,15	0,05-0,4	0,05-0,5	0,05-0,15	0,05-0,25
d=12 mm							
K10 PPTi	f _z (mm)	0,1-0,9	0,1-0,32	0,1-0,9	0,1-0,9	0,1-0,32	0,1-0,7
	a _p (mm)	0,1-0,5	0,1-0,2	0,1-0,5	0,1-0,6	0,1-0,2	0,05-0,35
d=16 mm							
K10 PPTi	f _z (mm)	0,15-1,2	0,15-0,4	0,15-1,2	0,15-1,2	0,1-0,4	0,1-0,8
	a _p (mm)	0,1-0,6	0,1-0,25	0,1-0,6	0,1-0,8	0,1-0,25	0,1-0,45
d=20 mm							
K10 PPTi	f _z (mm)	0,15-1,5	0,15-0,5	0,15-1,5	0,15-1,5	0,1-0,5	0,1-1
	a _p (mm)	0,1-0,8	1-0,35	0,1-0,8	0,1-1	0,1-0,35	0,1-0,6

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
K10 PPTi	roughing pre finishing finishing	▽90 140 190	-	▽120 180 240	▽150 375 600	-	▽80 120 160
		▽110 160 210	▽80 135 190	▽140 205 270	▽200 450 700	▽30 50 70	▽100 140 180
		-	-	-	-	-	-

Technical information



For the **CAD/CAM set-up** please program **corner radius (r_p)** and **remainder of material (t)** according to the list on the right.
Please use „d_p” for **tool length measurement**.

Ø	r _p	t
10	1,00	0,300
12	1,30	0,379
16	1,70	0,570
20	1,95	0,720