



UNIWORX®

Ø 8 mm - Ø 20 mm

Our ball nose and bull end combi end mills provide maximum precision because of both the V-shaped insert seat and because the insert was ground in only one setup. The helix-shaped rake angle allows very easy cutting and extremely smooth operation. **Only for finishing and pre-finishing operations.**

Milling cutter bodies

	Catalogue no.										Accessories	Features
	d_1	d	r	l_3	l_2	l_1	d_2	d_3	z			
DuoPlug®												
	10 214 SG	10	10	4 5	30.5	-	-	M 5	9.6	2	B, F, I, M, Q	✓
	12 214 SG	12	12	5 6	33.5	-	-	M 7	10.8	2	C, G, J, N, R	✓
	16 214 SG	16	16	7 8	40	-	-	M 10	15	2	D, H, J, O, S	✓
	20 214 SG	20	20	8 10	42.5	-	-	M 12	18.5	2	D, H, J, O, S	✓

Threaded shank end mill bodies

	08 214 M6	8	8	3 4	26	-	18.9	M 6	9.6	2	A, E, K, L, P	✓
	08 214	8	8	3 4	26	-	18.9	M 5	9.6	2	A, E, K, L, P	✓
	10 214 M6	10	10	4 5	24.5	-	-	M 6	9.75	2	B, F, I, M, Q	✓
	12 214 M6	12	12	5 6	28.5	-	-	M 6	11.5	2	C, G, J, N, R	✓
	16 214	16	16	7 8	36.5	-	-	M 8	13.8	2	D, H, J, O, S	✓
	20 214	20	20	8 10	37	-	-	M 10	18	2	D, H, J, O, S	✓

Milling cutter bodies

Catalogue no.

d_1 d r l_3 l_2 l_1 d_2 d_3 z

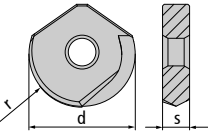
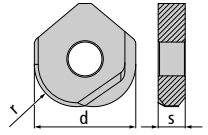
Accessories Features

Plain shank end mill bodies

	50 08 114	8	8	3 4	50	-	20	diam. 12	-	2	A, E, K, L, P	
	30 10 114	10	10	4 5	30	-	20	diam. 12	-	2	B, F, I, M, Q	
	50 12 114	12	12	5 6	50	-	50	diam. 12	-	2	C, G, J, N, R	
	60 16 114	16	16	7 8	60	-	26	diam. 20	-	2	D, H, J, O, S	
	80 20 114	20	20	8 10	80	-	80	diam. 20	-	2	D, H, J, O, S	

Accessories

<p>30 522 locating screw A > Page 195</p>	<p>35 520 locating screw B > Page 195</p>	<p>40 520 locating screw C > Page 195</p>	<p>50 520 locating screw D > Page 195</p>	<p>POKOLM 08 500 Torx-screwdriver E > Page 196</p>	<p>POKOLM 10 500 Torx-screwdriver F > Page 196</p>
<p>POKOLM 15 500 Torx-screwdriver G > Page 196</p>	<p>POKOLM 20 500 Torx-screwdriver H > Page 196</p>	<p>TV 1-5 Screwdriver torque Vario®-S with window scale, I > Page 197</p>	<p>TV 2-8 Screwdriver torque Vario®-S with window scale, J > Page 197</p>	<p>TV 08-2 Screwdriver torque Va- rio®-S with window scale K > Page 197</p>	<p>T8 500 Torx interchangeable bit for Torque Vario® L > Page 197</p>
<p>T10 500 Torx interchangeable bit for Torque Vario® M > Page 197</p>	<p>T15 500 Torx interchangeable bit for Torque Vario® N > Page 197</p>	<p>T20 500 Torx interchangeable bit for Torque Vario® O > Page 197</p>	<p>T8 502 Torx MagicSpring compatible bit f. Torque Vario®, P > Page 198</p>	<p>T10 502 Torx MagicSpring compati- ble bit f. Torque Vario® Q > Page 198</p>	<p>T15 502, Torx Magic- Spring compatible bit f. Torque Vario® R > Page 198</p>
<p>T20 502 Torx MagicSpring compati- ble bit f. Torque Vario® S > Page 198</p>					

Indexable inserts		Catalogue no.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	08 835 V	ROHX 08T1	HSC 05	PVTi		8	2	4	M 3.0
	08 836 V	ROHX 08T1	HSC 05	PVTiH		8	2	4	M 3.0
	10 835 V	ROHX 10T2	HSC 05	PVTi		10	2.75	5	M 3.5
	10 836 V	ROHX 10T2	HSC 05	PVTiH		10	2.75	5	M 3.5
	12 835 V	ROHX 1233	HSC 05	PVTi		12	3.3	6	M 4.0
	12 836 V	ROHX 1233	HSC 05	PVTiH		12	3.3	6	M 4.0
	16 835 V	ROHX 16T3	HSC 05	PVTi		16	4	8	M 5.0
	16 836 V	ROHX 16T3	HSC 05	PVTiH		16	4	8	M 5.0
	20 835 V	ROHX 2050	HSC 05	PVTi		20	5	10	M 5.0
	20 836 V	ROHX 2050	HSC 05	PVTiH		20	5	10	M 5.0
	08 093 V R3	ROHX 08T1	CBN for cast iron	uncoated		8	2	3	M 3.0
	08 835 V R3	ROHX 08T1	HSC 05	PVTi		8	2	3	M 3.0
	08 836 V R3	ROHX 08T1	HSC 05	PVTiH		8	2	3	M 3.0
	10 093 V R4	ROHX 10T2	CBN for cast iron	uncoated		10	2.75	4	M 3.5
	10 835 V R4	ROHX 10T2	HSC 05	PVTi		10	2.75	4	M 3.5
	10 836 V R4	ROHX 10T2	HSC 05	PVTiH		10	2.75	4	M 3.5
	12 093 V R5	ROHX 1233	CBN for cast iron	uncoated		12	3.3	5	M 4.0
	12 835 V R5	ROHX 1233	HSC 05	PVTi		12	3.3	5	M 4.0
	12 836 V R5	ROHX 1233	HSC 05	PVTiH		12	3.3	5	M 4.0
	16 093 V R7	ROHX 16T3	CBN for cast iron	uncoated		16	4	7	M 5.0
	16 835 V R7	ROHX 16T3	HSC 05	PVTi		16	4	7	M 5.0
	16 836 V R7	ROHX 16T3	HSC 05	PVTiH		16	4	7	M 5.0
	20 836 V R8	ROHX 2050	HSC 05	PVTiH		20	5	8	M 5.0
	20 093 V R8	ROHX 2050	CBN for cast iron	uncoated		20	5	8	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=8 mm							
HSC 05 PVTi	f _z (mm)	0,08-0,12	0,04-0,08	0,08-0,12	0,08-0,12	-	0,08
	a _p (mm)	0,1-0,2	0,05-0,1	0,1-0,2	0,1-0,2	-	0,1
HSC 05 PVTiH	f _z (mm)	0,08-0,12	0,04-0,08	0,08-0,12	0,08-0,12	-	0,08
	a _p (mm)	0,1-0,2	0,05-0,1	0,1-0,2	0,1-0,2	-	0,1
CBN for cast iron uncoated	f _z (mm)	-	-	0,1-0,2	-	-	-
	a _p (mm)	-	-	0,1-0,2	-	-	-
d=10 mm							
HSC 05 PVTi	f _z (mm)	0,08-0,12	0,05-0,08	0,08-0,12	0,08-0,12	-	0,08
	a _p (mm)	0,1-0,2	0,05-0,1	0,1-0,2	0,1-0,2	-	0,1
HSC 05 PVTiH	f _z (mm)	0,08-0,12	0,05-0,1	0,08-0,12	0,08-0,12	-	0,08
	a _p (mm)	0,1-0,2	0,05-0,1	0,1-0,2	0,1-0,2	-	0,1
CBN for cast iron uncoated	f _z (mm)	-	-	0,1-0,2	-	-	-
	a _p (mm)	-	-	0,1-0,2	-	-	-
d=12 mm							
HSC 05 PVTi	f _z (mm)	0,12-0,18	0,06-0,12	0,12-0,18	0,12-0,18	-	0,12
	a _p (mm)	0,1-0,2	0,05-0,15	0,1-0,2	0,1-0,2	-	0,1
HSC 05 PVTiH	f _z (mm)	0,12-0,18	0,06-0,12	0,12-0,18	0,12-0,18	-	0,12
	a _p (mm)	0,1-0,2	0,05-0,15	0,1-0,2	0,1-0,2	-	0,1
CBN for cast iron uncoated	f _z (mm)	-	-	0,1-0,2	-	-	-
	a _p (mm)	-	-	0,1-0,2	-	-	-
d=16 mm							
HSC 05 PVTi	f _z (mm)	0,16-0,24	0,08-0,16	0,16-0,24	0,16-0,24	-	0,16
	a _p (mm)	0,1-0,3	0,05-0,2	0,1-0,3	0,1-0,3	-	0,1
HSC 05 PVTiH	f _z (mm)	0,16-0,24	0,08-0,16	0,16-0,24	0,16-0,24	-	0,16
	a _p (mm)	0,1-0,3	0,05-0,2	0,1-0,3	0,1-0,3	-	0,1
CBN for cast iron uncoated	f _z (mm)	-	-	0,1-0,2	-	-	-
	a _p (mm)	-	-	0,1-0,2	-	-	-
d=20 mm							
HSC 05 PVTi	f _z (mm)	0,08-0,3	0,08-0,2	0,08-0,12	0,08-0,12	-	0,08
	a _p (mm)	0,1-0,2	0,05-0,2	0,1-0,2	0,1-0,2	-	0,1
HSC 05 PVTiH	f _z (mm)	0,08-0,3	0,08-0,2	0,08-0,12	0,08-0,12	-	0,08
	a _p (mm)	0,1-0,2	0,05-0,2	0,1-0,2	0,1-0,2	-	0,1
CBN for cast iron uncoated	f _z (mm)	-	-	0,1-0,2	-	-	-
	a _p (mm)	-	-	0,1-0,2	-	-	-

Cutting speed (Vc in m/min)

Material		steel	stainless steel	cast iron	non-ferrous materials	high-temperature alloys	hardened steel
Quality Coating	Application						
HSC 05 PVTi	roughing	-	-	-	-	-	-
	pre finishing	▽150 275 400	-	▽150 225 300	▽200 500 800	-	-
HSC 05 PVTiH	roughing	-	-	-	-	-	-
	pre finishing	▽150 275 400	▽100 150 200	▽200 275 350	▽200 500 800	-	▽35 143 250
CBN for cast iron uncoated	roughing	-	-	-	-	-	-
	pre finishing	-	-	▽500 750 1000	-	-	-