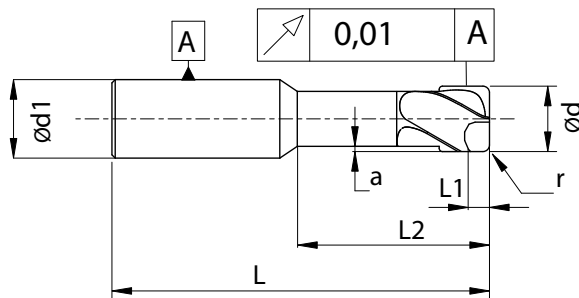


4 Flute

Centre cutting high performance torus cutter for high feed machining


P3-P4
K1-K2
H1

Unit : mm

Ød (mm)	r (mm)	Ød1 (mm)	L (mm)	L1 (mm)	L2 (mm)	a (mm)	z	γ (°)	EDP No
2	0.5	6	60	1	4	0.1	4	15	FBK0503979
2	0.5	6	60	1	8	0.1	4	15	FBK0503980
3	0.75	6	60	1.5	6	0.15	4	15	FBK0503981
3	0.75	6	60	1.5	12	0.15	4	15	FBK0503982
4	1	6	60	2	8	0.2	4	15	FBK0503983
4	1	6	60	2	16	0.2	4	15	FBK0503984
6	1.5	6	80	3	12	0.25	4	-	FBK0503659
6	1.5	6	80	3	24	0.25	4	-	FBK0503986
8	2	8	90	4	16	0.3	4	-	FBK0503987
8	2	8	90	4	32	0.3	4	-	FBK0503988
10	2.5	10	100	5	20	0.4	4	-	FBK0503989
10	2.5	10	100	5	40	0.4	4	-	FBK0503990
12	3	12	110	6	24	0.5	4	-	FBK0503991
12	3	12	110	6	48	0.5	4	-	FBK0503992

Tolerance chart


Diameter range	Shank	Cutting diameter	Cutting diameter	Cutting diameter	Cutting diameter
	Ød1-h5	Ød-e8	Ød-f7	Ød-g7	ØFHC
d ≤ 3	0	-0.014	-0.006	-0.002	0
	-0.004	-0.028	-0.016	-0.012	-0.025
3 < d ≤ 6	0	-0.020	-0.010	-0.004	0
	-0.005	-0.038	-0.022	-0.016	-0.030
6 < d ≤ 10	0	-0.025	-0.013	-0.005	0
	-0.006	-0.047	-0.028	-0.02	-0.036
10 < d ≤ 18	0	-0.032	-0.016	-0.006	0
	-0.008	-0.059	-0.034	-0.024	-0.043
18 < d ≤ 30	0	-0.040	-0.020	-0.006	0
	-0.009	-0.073	-0.041	-0.024	-0.052

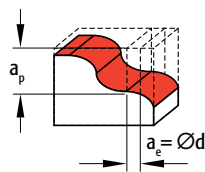


Cutting conditions

Centre cutting high performance torus cutter for high feed machining

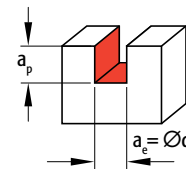
Material group	TSR	Hardness	Cutting speed	Coolant
	(N/mm ²)	HRc	Vc m/min	
P3	< 750	< 35 HRc	200 - 300	emulsion
P4	< 1000	< 35-48 HRc	150 - 200	emulsion
P4	< 1400	< 35 HRc	120 - 180	emulsion
H1		42-50 HRc	80 - 120	min.lub.
K1	125-500	< 32 HRc	100 - 200	emulsion

Tips: 
Radial runout determines tool life- manufactured with precision tolerance



Shoulder milling

Ød (mm)	ap max. (mm)	ae max. (mm)	fz (mm/tooth)
2	< 0.1	< 1.2	0.3 - 0.7
3	< 0.2	< 1.8	0.3 - 0.7
4	< 0.3	< 2.4	0.3 - 0.7
6	< 0.4	< 4.0	0.5 - 1.0
8	< 0.5	< 5.5	0.5 - 1.0
10	< 0.6	< 7.0	0.5 - 1.0
12	< 0.8	< 8.4	0.5 - 1.0



Slot milling

Ød (mm)	ap max. (mm)	ae max. (mm)	fz (mm/tooth)
2	< 0.1	< 2.0	0.3 - 0.6
3	< 0.2	< 3.0	0.3 - 0.6
4	< 0.3	< 4.0	0.3 - 0.6
6	< 0.4	< 6.0	0.4 - 0.9
8	< 0.5	< 8.0	0.4 - 0.9
10	< 0.6	< 10.0	0.4 - 0.9
12	< 0.8	< 12.0	0.4 - 0.9

FBK0503987

Workpiece material: 1.2311

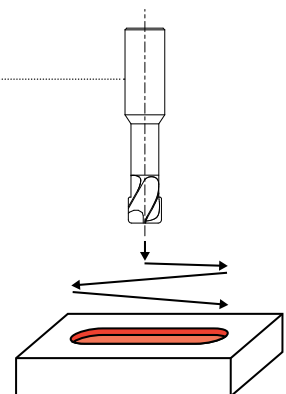
	Totem
Ø	8mm
Z	4 Flute
vc	150 m/min
n	6000 rpm
fz	0.,70 mm/t
vf	16800 mm/min
ap	0.,5 mm
ae	8.0 mm
Coolant	emulsion

Q	67.2 cm ³ /min
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Advantages

- High feed rates
- Lower cycle time for roughing

This endmill can be used for pocket milling; for strategy see drawings above.



Always mill from inside to outside. If possible use helicoidal down-milling, otherwise ramping down.

