

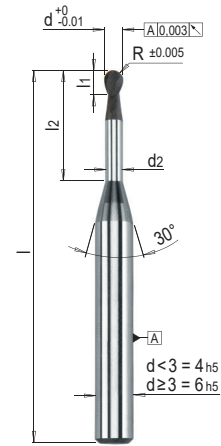


PRODUCT DESCRIPTION

- » High-performance milling cutter for graphite
- » Ultimate precision in the μ range
- » For highly precise contours and perfect concentricity

MATERIAL

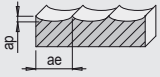
- » Carbide, diamond coated



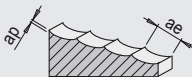
d2	l	l1	R	d	l2	No.	EUR
0.18	40	0.3	0.1	0.2	0.6	WZF 28996/0,2/ 0,6	<>
0.18	40	0.3	0.1	0.2	1	WZF 28996/0,2/ 1	<>
0.18	40	0.3	0.1	0.2	1.5	WZF 28996/0,2/ 1,5	<>
0.27	40	0.5	0.15	0.3	1	WZF 28996/0,3/ 1	<>
0.27	40	0.5	0.15	0.3	1.5	WZF 28996/0,3/ 1,5	<>
0.27	40	0.5	0.15	0.3	3	WZF 28996/0,3/ 3	<>
0.27	40	0.5	0.15	0.3	4.5	WZF 28996/0,3/ 4,5	<>
0.36	40	0.6	0.2	0.4	2	WZF 28996/0,4/ 2	<>
0.36	40	0.6	0.2	0.4	4	WZF 28996/0,4/ 4	<>
0.36	40	0.6	0.2	0.4	6	WZF 28996/0,4/ 6	<>
0.36	60	0.6	0.2	0.4	8	WZF 28996/0,4/ 8	<>
0.45	40	0.7	0.25	0.5	2.5	WZF 28996/0,5/ 2,5	<>
0.45	40	0.7	0.25	0.5	3.5	WZF 28996/0,5/ 3,5	<>
0.45	60	0.7	0.25	0.5	5	WZF 28996/0,5/ 5	<>
0.45	60	0.7	0.25	0.5	7.5	WZF 28996/0,5/ 7,5	<>
0.45	60	0.7	0.25	0.5	10	WZF 28996/0,5/10	<>
0.55	60	1	0.3	0.6	3	WZF 28996/0,6/ 3	<>
0.55	60	1	0.3	0.6	6	WZF 28996/0,6/ 6	<>
0.55	60	1	0.3	0.6	9	WZF 28996/0,6/ 9	<>
0.55	60	1	0.3	0.6	11	WZF 28996/0,6/11	<>
0.75	60	1.2	0.4	0.8	4	WZF 28996/0,8/ 4	<>
0.75	60	1.2	0.4	0.8	8	WZF 28996/0,8/ 8	<>
0.75	60	1.2	0.4	0.8	12	WZF 28996/0,8/12	<>
0.95	60	1.6	0.5	1	5	WZF 28996/1 / 5	<>
0.95	60	1.6	0.5	1	10	WZF 28996/1 /10	<>
0.95	60	1.6	0.5	1	15	WZF 28996/1 /15	<>
0.95	60	1.6	0.5	1	20	WZF 28996/1 /20	<>
0.95	60	1.6	0.5	1	25	WZF 28996/1 /25	<>
1.15	60	1.6	0.6	1.2	10	WZF 28996/1,2/10	<>
1.15	60	1.6	0.6	1.2	15	WZF 28996/1,2/15	<>

d2	l	l1	R	d	l2	No.	EUR
1.4	60	2.4	0.75	1.5	5	WZF 28996/1,5/ 5	<>
1.4	60	2.4	0.75	1.5	10	WZF 28996/1,5/10	<>
1.4	60	2.4	0.75	1.5	15	WZF 28996/1,5/15	<>
1.4	60	2.4	0.75	1.5	20	WZF 28996/1,5/20	<>
1.9	60	3	1	2	12	WZF 28996/2 /12	<>
1.9	60	3	1	2	18	WZF 28996/2 /18	<>
1.9	60	3	1	2	20	WZF 28996/2 /20	<>
1.9	60	3	1	2	24	WZF 28996/2 /24	<>
1.9	60	3	1	2	30	WZF 28996/2 /30	<>
2.8	60	3.5	1.5	3	12	WZF 28996/3 /12	<>
2.8	60	3.5	1.5	3	18	WZF 28996/3 /18	<>
2.8	60	3.5	1.5	3	24	WZF 28996/3 /24	<>
2.8	60	3.5	1.5	3	30	WZF 28996/3 /30	<>
2.8	100	3.5	1.5	3	45	WZF 28996/3 /45	<>
3.8	60	4	2	4	12	WZF 28996/4 /12	<>
3.8	60	4	2	4	24	WZF 28996/4 /24	<>
3.8	60	4	2	4	30	WZF 28996/4 /30	<>
3.8	100	4	2	4	40	WZF 28996/4 /40	<>
4.8	60	5	2.5	5	30	WZF 28996/5 /30	<>
4.8	100	5	2.5	5	50	WZF 28996/5 /50	<>
5.8	60	6	3	6	20	WZF 28996/6 /20	<>
5.8	60	6	3	6	30	WZF 28996/6 /30	<>
5.8	100	6	3	6	45	WZF 28996/6 /45	<>
5.8	100	6	3	6	60	WZF 28996/6 /60	<>
7.7	70	16	4	8	30	WZF 28996/8 /30	<>
7.7	120	16	4	8	80	WZF 28996/8 /80	<>
9.7	70	20	5	10	30	WZF 28996/10 /30	<>
9.7	120	20	5	10	80	WZF 28996/10 /80	<>
11.7	120	24	6	12	80	WZF 28996/12 /80	<>

REFERENCE VALUES FOR ROUGHING

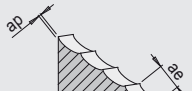
WZF 28996	Material	Grit size	Vc ¹ m/min.	d													
				0.2	0.4	0.6	0.8	1	1.5	2	3	4	5	6	8	10	12
				fz ² (mm/z)													
	Graphite	1 - 4 μ	200	0.002	0.004	0.006	0.008	0.010	0.015	0.020	0.030	0.040	0.050	0.060	0.070	0.084	0.094
	Graphite	5 - 8 μ	250	0.002	0.005	0.007	0.010	0.012	0.018	0.024	0.036	0.048	0.060	0.072	0.078	0.093	0.105
	Graphite	9 - 12 μ	300	0.003	0.006	0.008	0.011	0.014	0.021	0.028	0.042	0.056	0.070	0.084	0.092	0.110	0.124
	Graphite	13 - 25 μ	350	0.003	0.006	0.010	0.013	0.016	0.024	0.032	0.048	0.064	0.080	0.096	0.105	0.124	0.138
ap (mm)				0.10	0.20	0.30	0.40	0.50	0.75	1.00	1.50	2.00	2.50	3.00	4.00	5.00	6.00
ae (mm)				0.06	0.12	0.18	0.24	0.30	0.45	0.60	0.90	1.20	1.50	1.80	2.70	4.05	6.07

REFERENCE VALUES FOR FINISH MILLING

WZF 28996	Material	Grit size	Vc ¹ m/min.	d													
				0.2	0.4	0.6	0.8	1	1.5	2	3	4	5	6	8	10	12
				fz ² (mm/z)													
	Graphite	1 - 4 μ	250	0.002	0.004	0.005	0.007	0.009	0.014	0.018	0.027	0.036	0.045	0.054	0.064	0.075	0.090
	Graphite	5 - 8 μ	300	0.002	0.004	0.006	0.009	0.011	0.016	0.022	0.032	0.043	0.054	0.065	0.075	0.089	0.100
	Graphite	9 - 12 μ	350	0.003	0.005	0.008	0.010	0.013	0.019	0.025	0.038	0.050	0.063	0.076	0.089	0.106	0.115
	Graphite	13 - 25 μ	400	0.003	0.006	0.009	0.012	0.014	0.022	0.029	0.043	0.058	0.072	0.086	0.100	0.119	0.125
ap (mm)				0.03	0.06	0.09	0.12	0.15	0.23	0.30	0.30	0.40	0.50	0.60	0.80	1.00	1.20
ae (mm)				0.01	0.02	0.03	0.04	0.05	0.08	0.10	0.15	0.20	0.25	0.30	0.36	0.43	0.51

0 - 28 degrees flat

REFERENCE VALUES FOR FINISH MILLING

WZF 28996	Material	Grit size	Vc ¹ m/min.	d													
				0.2	0.4	0.6	0.8	1	1.5	2	3	4	5	6	8	10	12
				fz ² (mm/z)													
	Graphite	1 - 4 μ	250	0.002	0.004	0.005	0.007	0.009	0.014	0.018	0.027	0.036	0.045	0.054	0.064	0.075	0.090
	Graphite	5 - 8 μ	300	0.002	0.004	0.006	0.009	0.011	0.016	0.022	0.032	0.043	0.054	0.065	0.075	0.089	0.100
	Graphite	9 - 12 μ	350	0.003	0.005	0.008	0.010	0.013	0.019	0.025	0.038	0.050	0.063	0.076	0.089	0.106	0.115
	Graphite	13 - 25 μ	400	0.003	0.006	0.009	0.012	0.014	0.022	0.029	0.043	0.058	0.072	0.086	0.100	0.119	0.125
ap (mm)				0.04	0.08	0.12	0.16	0.20	0.30	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80
ae (mm)				0.12	0.24	0.36	0.48	0.60	0.90	1.20	1.80	2.40	3.00	3.60	5.40	8.10	12.10

29 - 89 degrees steep

1) Vc: cutting speed (m/min.)

2) fz: feed per cut (mm per tooth)

i You can find further materials and cutting values in the cutting data calculator.

CORRECTION FACTORS

For two-edged milling cutters with a neck length of up to 6xD, you can work with an infeed (ap) that equals 100% of the diameter.

ø / L	max. ap	fz
<10	ap x 0.8	fz x 0.8
<15	ap x 0.5	fz x 0.5
>15	ap x 0.2	fz x 0.2