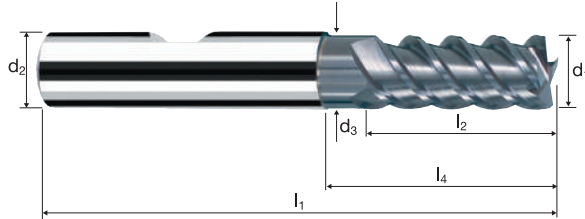


# Cylindrical end mills

Smooth-edged, normal version, short neck



HM  
MG10      $\lambda$  55°  
                   $\gamma$  15°



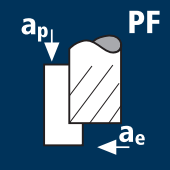
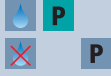
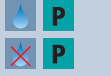
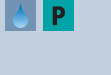

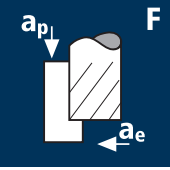


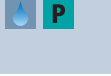
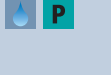
Roughing

Finishing



Rm < 850	Rm 850-1100	Rm 1100-1300						Inox Stainless	Ti Titanium	GG(G)
-------------	----------------	-----------------	--	--	--	--	--	-------------------	----------------	-------

Ø Code	d <sub>1</sub> e8	d <sub>2</sub> h6	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	45°	α	z	POLYCHROM	
												<b>P45355</b>
												<b>P45255</b>
<b>180</b>	3.00	6.00	2.80	57	8.00	14.00	20.63	0.10	4.5°	4		●
<b>220</b>	4.00	6.00	3.70	57	11.00	16.00	20.95	0.10	3.0°	4		●
<b>260</b>	5.00	6.00	4.60	57	13.00	18.00	21.27	0.15	1.5°	4		●
<b>300</b>	6.00	6.00	5.50	57	13.00	19.34	20.00	0.15	0.0°	4		●
<b>391</b>	8.00	8.00	7.40	63	19.00	25.29	26.00	0.15	0.0°	4		●
<b>450</b>	10.00	10.00	9.20	72	22.00	30.20	31.00	0.20	0.0°	4		●
<b>501</b>	12.00	12.00	11.00	83	26.00	36.13	37.00	0.20	0.0°	4		●
<b>570</b>	14.00	14.00	13.00	83	26.00	36.13	37.00	0.20	0.0°	4		●
<b>610</b>	16.00	16.00	15.00	92	32.00	42.13	43.00	0.20	0.0°	4		●
<b>640</b>	18.00	18.00	17.00	92	32.00	42.13	43.00	0.20	0.0°	4		●
<b>682</b>	20.00	20.00	19.00	104	38.00	52.13	53.00	0.20	0.0°	4		●

Application	Material	d1 [mm]	z	v <sub>c</sub> [m/min]	f <sub>t</sub> [mm]	a <sub>p</sub> [mm]	a <sub>e</sub> [mm]	n [min <sup>-1</sup> ]	v <sub>r</sub> [mm/min]
	Steel < 850 N/mm <sup>2</sup> 	4.00	4	160	0.015	6.000	1.000	12730	765
		6.00	4	160	0.020	9.000	1.500	8490	680
		8.00	4	160	0.025	12.000	2.000	6365	635
		10.00	4	160	0.035	15.000	2.500	5095	715
		12.00	4	160	0.040	18.000	3.000	4245	680
		14.00	4	160	0.045	21.000	3.500	3640	655
		16.00	4	160	0.055	24.000	4.000	3185	700
		18.00	4	160	0.060	27.000	4.500	2830	680
		20.00	4	160	0.065	30.000	5.000	2545	660
			Steel 850 - 1100 N/mm <sup>2</sup> 	4.00	4	120	0.015	6.000	1.000
6.00	4			120	0.020	9.000	1.500	6365	510
8.00	4			120	0.025	12.000	2.000	4775	475
10.00	4			120	0.035	15.000	2.500	3820	535
12.00	4			120	0.040	18.000	3.000	3185	510
14.00	4			120	0.045	21.000	3.500	2730	490
16.00	4			120	0.055	24.000	4.000	2385	525
18.00	4			120	0.060	27.000	4.500	2120	510
20.00	4			120	0.065	30.000	5.000	1910	495
	Inox normal [Cr-Ni/1.4301] [Cr-Ni-Mo/1.4571] 			4.00	4	90	0.015	6.000	1.000
		6.00	4	90	0.020	9.000	1.500	4775	380
		8.00	4	90	0.025	12.000	2.000	3580	360
		10.00	4	90	0.035	15.000	2.500	2865	400
		12.00	4	90	0.040	18.000	3.000	2385	380
		14.00	4	90	0.045	21.000	3.500	2045	370
		16.00	4	90	0.055	24.000	4.000	1790	395
		18.00	4	90	0.060	27.000	4.500	1590	380
		20.00	4	90	0.065	30.000	5.000	1430	370
			Titanium alloys > 300 HB [Ti6Al4V] 	4.00	4	50	0.015	6.000	1.000
6.00	4			50	0.020	9.000	1.500	2655	210
8.00	4			50	0.025	12.000	2.000	1990	200
10.00	4			50	0.035	15.000	2.500	1590	225
12.00	4			50	0.040	18.000	3.000	1325	210
14.00	4			50	0.045	21.000	3.500	1135	205
16.00	4			50	0.055	24.000	4.000	995	220
18.00	4			50	0.060	27.000	4.500	885	210
20.00	4			50	0.065	30.000	5.000	795	205
	Steel < 850 N/mm <sup>2</sup> 			4.00	4	170	0.010	6.000	0.100
		6.00	4	170	0.015	9.000	0.100	9020	540
		8.00	4	170	0.025	12.000	0.150	6765	675
		10.00	4	170	0.030	15.000	0.150	5410	650
		12.00	4	170	0.035	18.000	0.200	4510	630
		14.00	4	170	0.040	21.000	0.200	3865	620
		16.00	4	170	0.045	24.000	0.250	3380	610
		18.00	4	170	0.050	27.000	0.250	3005	600
		20.00	4	170	0.055	30.000	0.300	2705	595
			Steel 850 - 1100 N/mm <sup>2</sup> 	4.00	4	140	0.010	6.000	0.100
6.00	4			140	0.015	9.000	0.100	7425	445
8.00	4			140	0.025	12.000	0.150	5570	555
10.00	4			140	0.030	15.000	0.150	4455	535
12.00	4			140	0.035	18.000	0.200	3715	520
14.00	4			140	0.040	21.000	0.200	3185	510
16.00	4			140	0.045	24.000	0.250	2785	500
18.00	4			140	0.050	27.000	0.250	2475	495
20.00	4			140	0.055	30.000	0.300	2230	490
	Inox normal [Cr-Ni/1.4301] [Cr-Ni-Mo/1.4571] 			4.00	4	100	0.010	6.000	0.100
		6.00	4	100	0.015	9.000	0.100	5305	320
		8.00	4	100	0.025	12.000	0.150	3980	400
		10.00	4	100	0.030	15.000	0.150	3185	380
		12.00	4	100	0.035	18.000	0.200	2655	370
		14.00	4	100	0.040	21.000	0.200	2275	365
		16.00	4	100	0.045	24.000	0.250	1990	360
		18.00	4	100	0.050	27.000	0.250	1770	355
		20.00	4	100	0.055	30.000	0.300	1590	350
			Titanium alloys > 300 HB [Ti6Al4V] 	4.00	4	60	0.010	6.000	0.100
6.00	4			60	0.015	9.000	0.100	3185	190
8.00	4			60	0.025	12.000	0.150	2385	240
10.00	4			60	0.030	15.000	0.150	1910	230
12.00	4			60	0.035	18.000	0.200	1590	225
14.00	4			60	0.040	21.000	0.200	1365	220
16.00	4			60	0.045	24.000	0.250	1195	215
18.00	4			60	0.050	27.000	0.250	1060	210
20.00	4			60	0.055	30.000	0.300	955	210