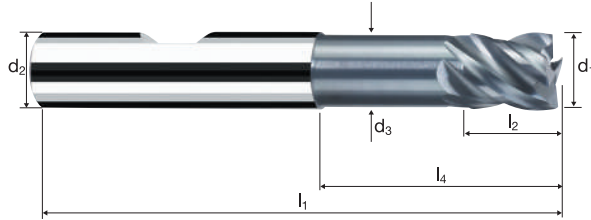


# Cylindrical end mills

Smooth-edged, normal version, neck

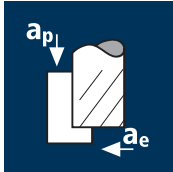
HM  
MG10  $\lambda$  40°  
 $\gamma$  0°



Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500				Inox Stainless	Ti Titanium	GG(G) Tool Steel Nickel-Alloys
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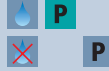
Ø Code	d <sub>1</sub> e8	d <sub>2</sub> h6	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	45°	α	z	POLYCHROM	
											Example: Order-N°.	Coating
												<b>P5325</b>
												<b>P5225</b>
<b>180</b>	3.00	6.00	2.80	57	4.00	14.00	20.63	0.10	4.5°	4		●
<b>220</b>	4.00	6.00	3.70	57	5.00	16.00	20.95	0.10	3.0°	4		●
<b>260</b>	5.00	6.00	4.60	57	6.00	18.00	21.27	0.15	1.5°	4		●
<b>300</b>	6.00	6.00	5.50	57	7.00	19.34	20.00	0.15	0.0°	4		●
<b>391</b>	8.00	8.00	7.40	63	9.00	25.29	26.00	0.15	0.0°	4		●
<b>450</b>	10.00	10.00	9.20	72	11.00	30.20	31.00	0.20	0.0°	4		●
<b>501</b>	12.00	12.00	11.00	83	13.00	36.13	37.00	0.20	0.0°	4		●
<b>610</b>	16.00	16.00	15.00	92	17.00	42.13	43.00	0.20	0.0°	4		●
<b>682</b>	20.00	20.00	19.00	104	21.00	52.13	53.00	0.20	0.0°	4		●

## Application



## Material

Steel  
< 850 N/mm<sup>2</sup>



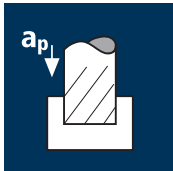
Steel  
850 - 1100 N/mm<sup>2</sup>



Cold work tool steel  
(12% Cr),  
high alloyed  
[1.2379]



Inox normal  
[Cr-Ni/1.4301]  
[Cr-Ni-Mo/1.4571]



Steel  
< 850 N/mm<sup>2</sup>



Steel  
850 - 1100 N/mm<sup>2</sup>



Cold work tool steel  
(12% Cr),  
high alloyed  
[1.2379]



Inox normal  
[Cr-Ni/1.4301]  
[Cr-Ni-Mo/1.4571]



d1 [mm]	z	v <sub>c</sub> [m/min]	f <sub>s</sub> [mm]	a <sub>p</sub> [mm]	a <sub>e</sub> [mm]	n [min <sup>-1</sup> ]	v <sub>r</sub> [mm/min]	Q [cm <sup>3</sup> /min]
3.00	4	190	0.020	3.000	1.400	20160	1615	6.8
4.00	4	190	0.030	4.000	1.800	15120	1815	13.1
5.00	4	190	0.040	5.000	2.300	12095	1935	22.3
6.00	4	190	0.050	6.000	2.700	10080	2015	32.7
8.00	4	190	0.065	8.000	3.600	7560	1965	56.6
10.00	4	190	0.080	10.000	4.500	6050	1935	87.1
12.00	4	190	0.095	12.000	5.400	5040	1915	124.1
16.00	4	190	0.125	16.000	7.200	3780	1890	217.7
20.00	4	190	0.155	20.000	9.000	3025	1875	337.5
3.00	4	140	0.020	3.000	1.400	14855	1190	5.0
4.00	4	140	0.030	4.000	1.800	11140	1335	9.6
5.00	4	140	0.040	5.000	2.300	8915	1425	16.4
6.00	4	140	0.050	6.000	2.700	7425	1485	24.1
8.00	4	140	0.065	8.000	3.600	5570	1450	41.7
10.00	4	140	0.080	10.000	4.500	4455	1425	64.2
12.00	4	140	0.095	12.000	5.400	3715	1410	91.4
16.00	4	140	0.125	16.000	7.200	2785	1395	160.4
20.00	4	140	0.155	20.000	9.000	2230	1380	248.7
3.00	4	70	0.020	3.000	1.400	7425	595	2.5
4.00	4	70	0.030	4.000	1.800	5570	670	4.8
5.00	4	70	0.035	5.000	2.300	4455	625	7.2
6.00	4	70	0.045	6.000	2.700	3715	670	10.8
8.00	4	70	0.060	8.000	3.600	2785	670	19.3
10.00	4	70	0.070	10.000	4.500	2230	625	28.1
12.00	4	70	0.085	12.000	5.400	1855	630	40.9
16.00	4	70	0.110	16.000	7.200	1395	615	70.6
20.00	4	70	0.140	20.000	9.000	1115	625	112.3
3.00	4	90	0.015	3.000	1.400	9550	575	2.4
4.00	4	90	0.020	4.000	1.800	7160	575	4.1
5.00	4	90	0.025	5.000	2.300	5730	575	6.6
6.00	4	90	0.030	6.000	2.700	4775	575	9.3
8.00	4	90	0.040	8.000	3.600	3580	575	16.5
10.00	4	90	0.050	10.000	4.500	2865	575	25.8
12.00	4	90	0.060	12.000	5.400	2385	575	37.1
16.00	4	90	0.080	16.000	7.200	1790	575	66.0
20.00	4	90	0.100	20.000	9.000	1430	575	103.1
3.00	4	155	0.015	2.400	3.000	16445	985	7.1
4.00	4	155	0.020	3.200	4.000	12335	985	12.6
5.00	4	155	0.030	4.000	5.000	9870	1185	23.7
6.00	4	155	0.040	4.800	6.000	8225	1315	37.9
8.00	4	155	0.050	6.400	8.000	6165	1235	63.2
10.00	4	155	0.065	8.000	10.000	4935	1285	102.6
12.00	4	155	0.075	9.600	12.000	4110	1235	142.1
16.00	4	155	0.075	8.000	16.000	3085	925	118.4
20.00	4	155	0.095	10.000	20.000	2465	935	187.5
3.00	4	105	0.015	2.400	3.000	11140	670	4.8
4.00	4	105	0.020	3.200	4.000	8355	670	8.6
5.00	4	105	0.030	4.000	5.000	6685	800	16.0
6.00	4	105	0.040	4.800	6.000	5570	890	25.7
8.00	4	105	0.050	6.400	8.000	4180	835	42.8
10.00	4	105	0.065	8.000	10.000	3340	870	69.5
12.00	4	105	0.075	9.600	12.000	2785	835	96.3
16.00	4	105	0.075	8.000	16.000	2090	625	80.2
20.00	4	105	0.095	10.000	20.000	1670	635	127.0
3.00	4	55	0.015	2.400	3.000	5835	350	2.5
4.00	4	55	0.020	3.200	4.000	4375	350	4.5
5.00	4	55	0.030	4.000	5.000	3500	420	8.4
6.00	4	55	0.035	4.800	6.000	2920	410	11.8
8.00	4	55	0.045	6.400	8.000	2190	395	20.2
10.00	4	55	0.055	8.000	10.000	1750	385	30.8
12.00	4	55	0.060	9.600	12.000	1460	350	40.3
16.00	4	55	0.075	8.000	16.000	1095	330	42.0
20.00	4	55	0.095	10.000	20.000	875	335	66.5
3.00	4	75	0.015	2.400	3.000	7960	475	3.4
4.00	4	75	0.015	3.200	4.000	5970	360	4.6
5.00	4	75	0.025	4.000	5.000	4775	475	9.5
6.00	4	75	0.030	4.800	6.000	3980	475	13.8
8.00	4	75	0.040	6.400	8.000	2985	475	24.4
10.00	4	75	0.050	8.000	10.000	2385	475	38.2
12.00	4	75	0.050	9.600	12.000	1990	400	45.8
16.00	4	75	0.065	8.000	16.000	1490	390	49.7
20.00	4	75	0.080	10.000	20.000	1195	380	76.4