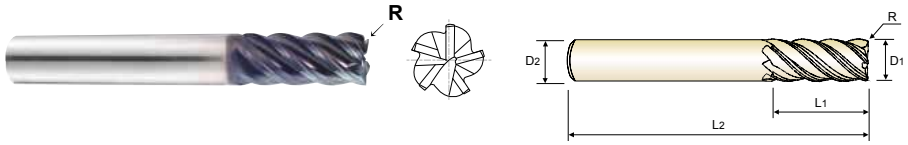
Y-COATED SOLID CARBIDE END MILLS
5 FLUTE LONG LENGTH CORNER RADIUS

GMG30 PLAIN SHANK
GMG31 FLAT SHANK

- ▶ Excellent results and long tool life when machining Titanium and other hard to machine materials.
- ▶ High rigidity of flutes making it possible to use for heavy profile and high speed milling.
- ▶ Protected corner chipping of end teeth, also Corner Radius & Chamfer are adopted



MG HM | 5 | 43/44/45° | PLAIN | FLAT | P. 15

Unit : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D_1	D_2	L_1	L_2
GMG30060	GMG31060	R0.3	6.0	6	13	57
GMG30901	GMG31901	R0.5		6	13	57
GMG30902	GMG31902	R1.0		6	13	57
GMG30080	GMG31080	R0.5	8.0	8	19	63
GMG30903	GMG31903	R1.0		8	19	63
GMG30904	GMG31904	R1.5		8	19	63
GMG30905	GMG31905	R2.0		8	19	63
GMG30100	GMG31100	R0.5	10.0	10	22	72
GMG30906	GMG31906	R1.0		10	22	72
GMG30907	GMG31907	R1.5		10	22	72
GMG30908	GMG31908	R2.0		10	22	72
GMG30120	GMG31120	R0.5	12.0	12	26	83
GMG30909	GMG31909	R1.0		12	26	83
GMG30910	GMG31910	R1.5		12	26	83
GMG30911	GMG31911	R2.0		12	26	83
GMG30912	GMG31912	R2.5		12	26	83
GMG30913	GMG31913	R3.0		12	26	83
GMG30160	GMG31160	R1.0	16.0	16	36	92
GMG30914	GMG31914	R1.5		16	36	92
GMG30915	GMG31915	R2.0		16	36	92
GMG30916	GMG31916	R2.5		16	36	92
GMG30917	GMG31917	R3.0		16	36	92
GMG30918	GMG31918	R4.0		16	36	92

▶ NEXT PAGE

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ -0.03	h6

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HB30~40	HRc40~45	HRc45~55	HRc55~70									
○	○	○				◎							◎	○

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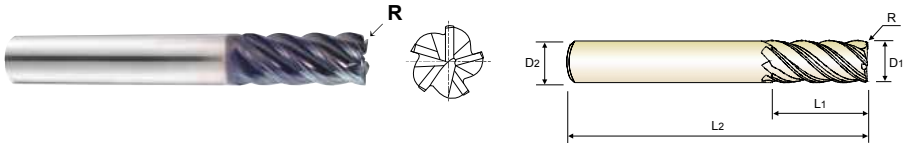


MG HM | 5 | 43/44/45° | PLAIN | FLAT | P. 15

Unit : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D_1	D_2	L_1	L_2
GMG30200	GMG31200	R1.0	20.0	20	44	104
GMG30919	GMG31919	R1.5		20	44	104
GMG30920	GMG31920	R2.0		20	44	104
GMG30921	GMG31921	R2.5		20	44	104
GMG30922	GMG31922	R3.0		20	44	104
GMG30923	GMG31923	R4.0		20	44	104
GMG30924	GMG31924	R5.0		20	44	104
GMG30250	GMG31250	R1.0	25.0	25	54	121
GMG30925	GMG31925	R1.5		25	54	121
GMG30926	GMG31926	R2.0		25	54	121
GMG30927	GMG31927	R2.5		25	54	121
GMG30928	GMG31928	R3.0		25	54	121
GMG30929	GMG31929	R4.0		25	54	121
GMG30930	GMG31930	R5.0		25	54	121

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ -0.03	h6

◎ : Excellent ○ : Good

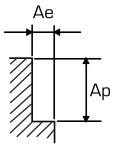
P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HB30~40	HRc40~45	HRc45~55	HRc55~70									
○	○	○				◎							◎	○

Y-COATED SOLID CARBIDE END MILLS
5 FLUTE

GMG24, GMG25, GMG26, GMG27, GMG28, GMG29, GMG30, GMG31 SERIES

Speed and Feed Recommendations							Diameter (mm)								
ISO Hardness (Brinell)	Work Materials	Type of Cut	Ap x D1	Ae x D1	Vc	Parameters	6	8	10	12	14	16	18	20	25
P < 300	CARBON STEELS 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMn 28) 1.0718(9 SMnPb 28)	Side Cutting	1.5	0.3	144 (115-173)	RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833
						Fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
						FEED	1299	1089	1146	1203	1130	1089	1057	1020	926
P > 300 P < 380	ALLOY STEELS 1.2330(35 CrMo 4) 1.6565(40NiCrMo6) 1.7033(34Cr4) 1.6523(21 NiCrMo2)	Side Cutting	1.5	0.3	101 (81-121)	RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286
						Fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
						FEED	911	764	804	844	792	764	741	715	649
P < 380	TOOL STEELS 1.2363(X100 CrMoV 5 1) 1.2379(X155 CrVMo 12 1) 1.2344(X40 CrMoV 5 1) 1.3243(S 6-5-2-5)	Side Cutting	1.5	0.3	60 (48-72)	RPM	3183	2387	1910	1592	1364	1194	1061	955	764
						Fz	0.024	0.027	0.035	0.044	0.049	0.054	0.058	0.062	0.071
						FEED	382	322	334	350	334	322	308	296	271
K < 260	CAST IRON 0.6020(GG20) 0.8145(GTS-45-06) 0.7060(GGG-60)	Side Cutting	1.5	0.3	106 (85-127)	RPM	5623	4218	3374	2812	2410	2109	1874	1687	1350
						Fz	0.043	0.048	0.063	0.079	0.087	0.096	0.103	0.111	0.126
						FEED	1209	1012	1063	1111	1048	1012	965	936	850
M	STAINLESS STEELS 300 1.4301(X5 CrNi 18 10) 1.4436(X3 CrNiMo 17 13 3) 1.4306(X2 CrNi 19 11) 1.4435(X2 CrNiMo 18 14 3)	Side Cutting	1.5	0.3	82 (66-98)	RPM	4350	3263	2610	2175	1864	1631	1450	1305	1044
						Fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
						FEED	653	522	496	685	606	563	508	496	459
M	STAINLESS STEELS 400 1.4005(X12 CrS 13) 1.4104(X12 CrMoS 17)	Side Cutting	1.5	0.3	117 (94-140)	RPM	6207	4655	3724	3104	2660	2328	2069	1862	1490
						Fz	0.024	0.025	0.030	0.046	0.051	0.054	0.057	0.061	0.071
						FEED	745	582	559	714	678	628	590	568	529
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	Side Cutting	1.5	0.3	59 (47-71)	RPM	3130	2348	1878	1565	1341	1174	1043	939	751
						Fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
						FEED	470	376	357	493	436	405	365	357	331
S	TITANIUM Ti6Al4V Ti5Al5V5Mo Ti7Al4Mo	Side Cutting	1.5	0.3	69 (55-83)	RPM	3661	2745	2196	1830	1569	1373	1220	1098	879
						Fz	0.027	0.029	0.034	0.057	0.059	0.062	0.063	0.069	0.079
						FEED	494	398	373	522	463	426	384	379	347
S	HIGH TEMPERATURE ALLOYS RENE, INCONEL WASPALOY HASTELLOY	Side Cutting	1.5	0.1	31 (25-37)	RPM	1645	1233	987	822	705	617	548	493	395
						Fz	0.021	0.022	0.027	0.044	0.046	0.048	0.049	0.053	0.062
						FEED	173	136	133	181	162	148	134	131	122

Side Cutting



RPM = rev./min.
FEED = mm/min.
Vc = m/min.
Fz = mm/tooth

Note
* Maximum recommended depth shown
* Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x D1 or less
* Reduce speed and feed recommendations for materials harder than listed
* Above recommendations are based on ideal conditions.
  Adjust parameters accordingly for smaller taper machining centers or less rigid conditions
* Special design available for Inconel applications