



PLAIN SHANK

GMG16 SERIES

FLAT SHANK

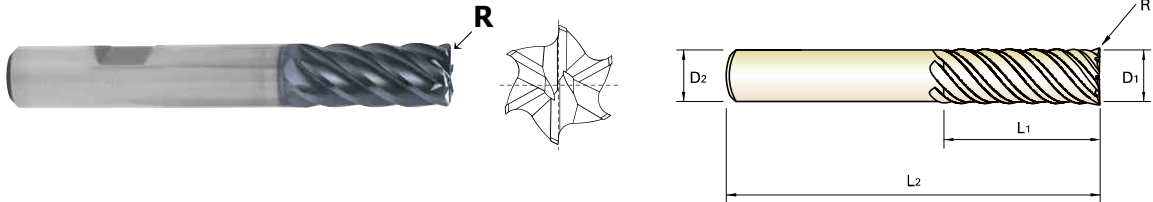
GMG17 SERIES

CARBIDE, 6 FLUTE CORNER RADIUS LONG LENGTH

- VOLLHARTMETALL, 6 SCHNEIDEN ECKENRADIUS LANG
- CARBURE, 6 DENTS, SÉRIE LONGUE, RAYONNÉE
- MD, 6 TAGLIENTI SERIE LUNGA TORICA

▶ The unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling
 ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40

▶ Durch die einzigartige Geometrie und die ungleiche Teilung der Schneiden, eignet sich Fräser Bestens für hohe Bearbeitungsgeschwindigkeiten und trochiodales Fräsen.
 ▶ Exzellente Leistung in Edelstählen, Baustählen, Guss und Stählen unter 40HRc



Unit : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT					
GMG16060	GMG17060	R0.5	6.0	6	13	57
GMG16901	GMG17901	R1.0	6.0	6	13	57
GMG16080	GMG17080	R0.5	8.0	8	19	63
GMG16902	GMG17902	R1.0	8.0	8	19	63
GMG16100	GMG17100	R0.5	10.0	10	22	72
GMG16903	GMG17903	R1.0	10.0	10	22	72
GMG16904	GMG17904	R1.5	10.0	10	22	72
GMG16905	GMG17905	R2.0	10.0	10	22	72
GMG16120	GMG17120	R0.5	12.0	12	26	83
GMG16906	GMG17906	R1.0	12.0	12	26	83
GMG16907	GMG17907	R1.5	12.0	12	26	83
GMG16908	GMG17908	R2.0	12.0	12	26	83
GMG16909	GMG17909	R3.0	12.0	12	26	83
GMG16160	GMG17160	R1.0	16.0	16	32	92
GMG16910	GMG17910	R1.5	16.0	16	32	92
GMG16911	GMG17911	R2.0	16.0	16	32	92
GMG16912	GMG17912	R3.0	16.0	16	32	92
GMG16200	GMG17200	R1.0	20.0	20	38	104
GMG16913	GMG17913	R1.5	20.0	20	38	104
GMG16914	GMG17914	R2.0	20.0	20	38	104
GMG16915	GMG17915	R3.0	20.0	20	38	104
GMG16250	GMG17250	R1.0	25.0	25	44	104
GMG16916	GMG17916	R1.5	25.0	25	44	104
GMG16917	GMG17917	R2.0	25.0	25	44	104
GMG16918	GMG17918	R3.0	25.0	25	44	104

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
Up to Ø12	0 ~ - 0.02
Over Ø12	0 ~ - 0.03
	h5
	* Shank Dia. ≥ Ø12 : h6

◎ : Excellent ○ : Good

ISO Material Description	P											M				K				
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				



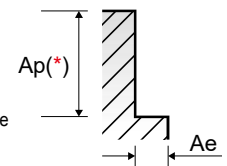
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

GMG16 GMG17 **GMG18 GMG19** **GMG12 GMG13** **GMG14 GMG15**

6 FLUTE - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)							
						6.0	8.0	10.0	12.0	16.0	20.0	25.0	
P	1-4	Non-alloy steel	0.05D	2.0D	Vc	300	300	300	300	300	300	300	
					fz	0.068	0.116	0.144	0.173	0.202	0.225	0.232	
					RPM	15915	11937	9549	7958	5968	4775	3820	
	5	Low alloy steel	0.05D	2.0D	Vc	203	203	203	203	203	203	203	
					fz	0.05	0.085	0.106	0.128	0.149	0.167	0.174	
					RPM	10769	8077	6462	5385	4039	3231	2585	
	6-7	Low alloy steel	0.05D	2.0D	Vc	300	300	300	300	300	300	300	
					fz	0.068	0.116	0.144	0.173	0.202	0.225	0.232	
					RPM	15915	11937	9549	7958	5968	4775	3820	
	8-9	Low alloy steel	0.05D	2.0D	Vc	203	203	203	203	203	203	203	
					fz	0.05	0.085	0.106	0.128	0.149	0.167	0.174	
					RPM	10769	8077	6462	5385	4039	3231	2585	
10-11.1	High alloyed steel, and tool steel	0.05D	2.0D	Vc	100	100	100	100	100	100	100		
				fz	0.041	0.071	0.088	0.105	0.123	0.137	0.144		
				RPM	5305	3979	3183	2653	1989	1592	1273		
M	12-13	Stainless steel	0.05D	2.0D	Vc	213	213	213	213	213	213	213	
					fz	0.049	0.084	0.104	0.125	0.146	0.162	0.168	
					RPM	11300	8475	6780	5650	4238	3390	2712	
	14.1	Stainless steel	0.05D	2.0D	Vc	147	147	147	147	147	147	147	
					fz	0.041	0.071	0.088	0.105	0.123	0.137	0.143	
					RPM	7799	5849	4679	3899	2924	2340	1872	
	14.2	Stainless steel	0.05D	2.0D	Vc	134	134	134	134	134	134	134	
					fz	0.041	0.071	0.088	0.105	0.123	0.137	0.142	
					RPM	7109	5332	4265	3554	2666	2133	1706	
	S	31-35	Heat Resistant Super Alloys	0.05D	2.0D	Vc	33	33	33	33	33	33	33
						fz	0.033	0.055	0.07	0.082	0.097	0.112	0.115
						RPM	1751	1313	1050	875	657	525	420
36-37		Titanium Alloys	0.05D	2.0D	Vc	116	116	116	116	116	116	116	
					fz	0.033	0.055	0.07	0.083	0.097	0.113	0.117	
					RPM	6154	4615	3692	3077	2308	1846	1477	



(*) : If product's Length of Cut(L.O.C) is below 2D, it must be applied with L.O.C x 90%