



PLAIN SHANK

**GMG55** SERIES

FLAT SHANK

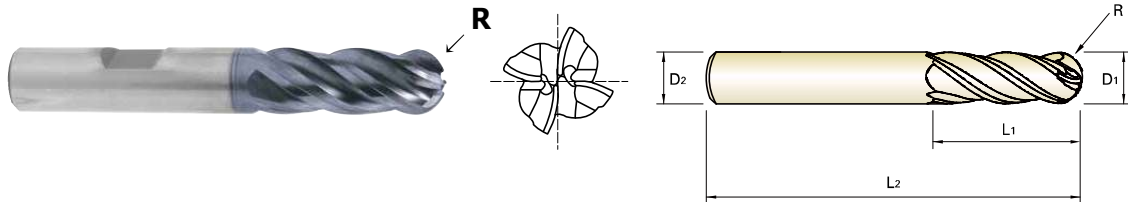
**GMG56** SERIES

**CARBIDE, 4 FLUTE BALL NOSE**

- **VOLLHARTMETALL, 4 SCHNEIDEN STIRNRADIUS**
- **CARBURE, 4 DENTS, HÉMISPHERIQUE**
- **MD, 4 TAGLIENTI SEMISFERICA**

- ▶ Special flute geometry and multiple helix eliminate vibrations
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40

- ▶ Die spezielle Schneidengeometrie und der ungleiche Drill verhindern Vibrationen
- ▶ Exzellente Leistung in Edelmetallen, Baustählen, Guss und Stählen unter 40HRc



Unit : mm

EDP No.		Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
<b>GMG55030</b>	<b>GMG56030</b>	R1.5	<b>3.0</b>	6	8	57
<b>GMG55040</b>	<b>GMG56040</b>	R2.0	<b>4.0</b>	6	11	57
<b>GMG55050</b>	<b>GMG56050</b>	R2.5	<b>5.0</b>	6	13	57
<b>GMG55060</b>	<b>GMG56060</b>	R3.0	<b>6.0</b>	6	13	57
<b>GMG55080</b>	<b>GMG56080</b>	R4.0	<b>8.0</b>	8	19	63
<b>GMG55100</b>	<b>GMG56100</b>	R5.0	<b>10.0</b>	10	22	72
<b>GMG55120</b>	<b>GMG56120</b>	R6.0	<b>12.0</b>	12	26	83
<b>GMG55160</b>	<b>GMG56160</b>	R8.0	<b>16.0</b>	16	32	92
<b>GMG55200</b>	<b>GMG56200</b>	R10.0	<b>20.0</b>	20	38	104
<b>GMG55250</b>	<b>GMG56250</b>	R12.5	<b>25.0</b>	25	38	104

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

**GMG55, GMG56 SERIES 4 FLUTE BALL NOSE**

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)																																																		
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	18.0	20.0	25.0																																								
P	1-4	Non-alloy steel	0.5D	1.0D	Vc	162	162	162	162	162	162	162	162	162	162	162	162	fz	0.025	0.027	0.03	0.04	0.06	0.065	0.07	0.075	0.08	0.09	0.099	RPM	17189	12892	10313	8594	6446	5157	4297	3223	2865	2578	2063	FEED	1719	1392	1238	1375	1547	1341	1203	967	917	928	817			
	5	Low alloy steel	0.5D	1.0D	Vc	113	113	113	113	113	113	113	113	113	113	113	113	fz	0.025	0.027	0.03	0.04	0.06	0.065	0.07	0.074	0.079	0.09	0.099	RPM	11990	8992	7194	5995	4496	3597	2997	2248	1998	1798	1439	FEED	1199	971	863	959	1079	935	839	665	631	647	570			
	6-7				Vc	162	162	162	162	162	162	162	162	162	162	162	162	162	162	fz	0.025	0.027	0.03	0.04	0.06	0.065	0.07	0.075	0.08	0.09	0.099	RPM	17189	12892	10313	8594	6446	5157	4297	3223	2865	2578	2063	FEED	1719	1392	1238	1375	1547	1341	1203	967	917	928	817	
	8-9				Vc	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	fz	0.025	0.027	0.03	0.04	0.06	0.065	0.07	0.074	0.079	0.09	0.099	RPM	11990	8992	7194	5995	4496	3597	2997	2248	1998	1798	1439	FEED	1199	971	863	959	1079	935	839	665	631	647	570
	10-11.1				High alloyed steel, and tool steel	0.5D	1.0D	Vc	68	68	68	68	68	68	68	68	68	68	68	68	68	fz	0.017	0.019	0.021	0.028	0.042	0.045	0.049	0.052	0.056	0.063	0.07	RPM	7215	5411	4329	3608	2706	2165	1804	1353	1203	1082	866	FEED	491	411	364	404	455	390	354	281	269	273
M	12-13	Stainless steel	0.5D	1.0D	Vc	77	77	77	77	77	77	77	77	77	77	77	77	fz	0.015	0.015	0.025	0.03	0.04	0.045	0.05	0.054	0.059	0.058	0.059	RPM	8170	6127	4902	4085	3064	2451	2042	1532	1362	1225	980	FEED	490	368	490	490	490	441	408	331	321	284	231			
	14.1				Vc	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	fz	0.02	0.02	0.025	0.041	0.045	0.05	0.055	0.06	0.064	0.065	0.068	RPM	9019	6764	5411	4509	3382	2706	2255	1691	1503	1353	1082	FEED	722	541	541	740	609	541	496	406	385	352	294
	14.2				Vc	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	fz	0.02	0.02	0.025	0.041	0.045	0.05	0.055	0.06	0.064	0.065	0.068	RPM	8170	6127	4902	4085	3064	2451	2042	1532	1362	1225	980	FEED	654	490	490	670	551	490	449	368	349	319	267
K	15-20	Grey cast iron	0.5D	1.0D	Vc	119	119	119	119	119	119	119	119	119	119	119	119	fz	0.031	0.033	0.037	0.05	0.074	0.081	0.087	0.093	0.099	0.112	0.124	RPM	12626	9470	7576	6313	4735	3788	3157	2367	2104	1894	1515	FEED	1566	1250	1121	1263	1402	1227	1098	881	833	848	752			
S	31-35	Heat Resistant Super Alloys	0.2D	0.3D	Vc	21	21	21	21	21	21	21	21	21	21	21	21	fz	0.014	0.014	0.017	0.028	0.031	0.035	0.038	0.042	0.045	0.045	0.048	RPM	2228	1671	1337	1114	836	668	557	418	371	334	267	FEED	125	94	91	125	104	94	85	70	67	60	51			
	36-37	Titanium Alloys	0.5D	0.3D	Vc	47	47	47	47	47	47	47	47	47	47	47	47	fz	0.018	0.018	0.022	0.037	0.04	0.045	0.049	0.054	0.058	0.058	0.061	RPM	4987	3740	2992	2493	1870	1496	1247	935	831	748	598	FEED	359	269	263	369	299	269	244	202	193	174	146			

