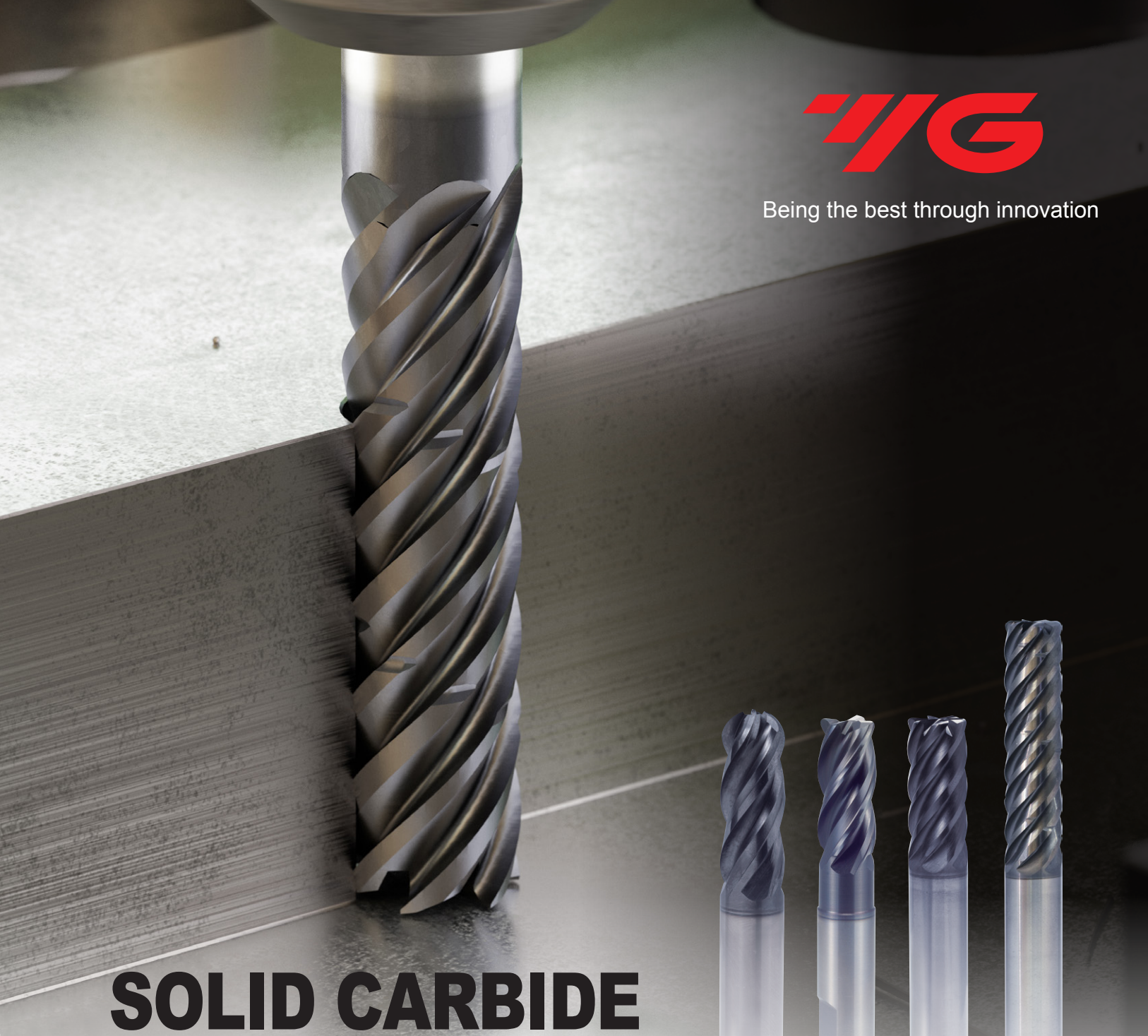




Being the best through innovation



SOLID CARBIDE

V7 PLUS A END MILLS

- High performance carbide end mills for Steels, Cast Iron and Stainless Steels

YG V7 PLUS A END MILLS

RECOMMENDED CUTTING CONDITIONS

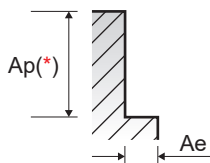
UGMF68, UGMF69, UGMF70, UGMF71, UGMF72 UGMF73, UGMF74, UGMF75, UGMF76, UGMF77 SERIES

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./min.

4 FLUTE - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)																													
						1/8	5/32	3/16	7/32	1/4	9/32	5/16	11/32	3/8	7/16	1/2	5/8	3/4	1																
P	1-4	Non-alloy steel	0.5D	1.5D (1.2D)	SFM	500	500	500	500	500	500	500	525	550	550	550	550	550	550	SFM	350	350	350	350	350	350	350	370	385	385	385	385	385	385	
					IPT	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0022	.0022	.0022	.0022	IPT	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0018	.0021	.0022
	RPM	15250	12200	10170	8710	7630	6780	6100	5830	5620	4810	4210	3370	2810	2110	RPM	10730	8580	7150	6130	5360	4770	4290	4090	3910	3350	2930	2350	1960	1470					
	IPM	12	15	18	19	19	23	26	30	34	32	31	28	29	21	IPM	8	11	12	13	14	16	18	21	23	22	22	20	20	15					
	6-7	Low alloy steel	0.5D	1.5D (1.2D)	SFM	500	500	500	500	500	500	500	525	550	550	550	550	550	SFM	350	350	350	350	350	350	370	385	385	385	385	385	385			
					IPT	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0022	.0022	.0022	IPT	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0018	.0021	.0022	.0025
	8-9			0.5D	1.5D (1.2D)	RPM	15250	12200	10170	8710	7630	6780	6100	5830	5620	4810	4210	3370	2810	2110	RPM	10730	8580	7150	6130	5360	4770	4290	4090	3910	3350	2930	2350	1960	1470
						IPM	12	15	18	19	19	23	26	30	34	32	31	28	29	21	IPM	8	11	12	13	14	16	18	21	23	22	22	20	20	15
	10-11.1		High alloyed steel, and tool steel	0.5D	1.5D (1.2D)	SFM	210	210	210	210	210	210	210	220	230	230	230	230	230	SFM	210	210	210	210	210	210	220	230	230	230	230	230	230		
						IPT	.0001	.0002	.0003	.0004	.0004	.0006	.0007	.0009	.0011	.0012	.0013	.0015	.0018	.0018	.0018	IPT	.0001	.0002	.0003	.0004	.0004	.0006	.0007	.0009	.0011	.0012	.0013	.0015	.0018
M	12-13		0.5D	1.5D (1.2D)	RPM	6420	5130	4280	3670	3210	2850	2570	2450	2340	2010	1760	1410	1170	880	RPM	6420	5130	4280	3670	3210	2850	2570	2450	2340	2010	1760	1410	1170	880	
					IPM	3	5	5	5	6	7	8	9	10	9	9	8	8	6	IPM	3	5	5	5	6	7	8	9	10	9	9	8	8	6	
	14.1	Stainless steel	0.5D	1.5D (1.2D)	SFM	500	500	500	500	500	500	500	525	550	550	550	550	550	SFM	350	350	350	350	350	350	370	385	385	385	385	385	385			
					IPT	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0022	.0022	.0022	IPT	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0018	.0021	.0022	.0025
	14.2		0.5D	1.5D (1.2D)	RPM	15250	12200	10170	8710	7630	6780	6100	5830	5620	4810	4210	3370	2810	2110	RPM	10730	8580	7150	6130	5360	4770	4290	4090	3910	3350	2930	2350	1960	1470	
					IPM	12	15	18	19	19	23	26	30	34	32	31	28	29	21	IPM	8	11	12	13	14	16	18	21	23	22	22	20	20	15	
	K	15-20	Grey cast iron	0.5D	1.5D (1.2D)	SFM	310	310	310	310	310	310	310	310	310	310	310	310	310	SFM	310	310	310	310	310	310	310	310	310	310	310	310			
						IPT	.0002	.0003	.0005	.0006	.0007	.0009	.0011	.0015	.0019	.0020	.0022	.0024	.0030	.0030	IPT	.0002	.0003	.0005	.0006	.0007	.0009	.0011	.0015	.0019	.0020	.0022	.0024	.0030	.0030
	S	31-35	Heat Resistant Super Alloys	0.25D	1.0D	RPM	9540	7630	6360	5450	4770	4240	3810	3470	3180	2720	2380	1910	1590	1190	RPM	9540	7630	6360	5450	4770	4240	3810	3470	3180	2720	2380	1910	1590	1190
						IPM	8	10	13	13	14	15	17	21	24	22	21	19	19	14	IPM	8	10	13	13	14	15	17	21	24	22	21	19	19	14
36-37		Titanium Alloys	0.35D	1.0D	SFM	365	365	365	365	365	365	365	365	385	405	405	405	405	405	SFM	85	85	85	85	85	85	85	85	85	85	85	85	85	85	
					IPT	.0002	.0004	.0006	.0007	.0008	.0011	.0013	.0016	.0019	.0021	.0023	.0026	.0032	.0031	IPT	.0002	.0003	.0003	.0004	.0005	.0006	.0007	.0008	.0010	.0013	.0014	.0015	.0017	.0021	.0020
36-37				0.35D	1.0D	RPM	11220	8970	7480	6410	5610	4990	4490	4290	4120	3530	3090	2470	2060	1540	RPM	2600	2080	1730	1480	1300	1150	1040	950	870	740	650	520	430	330
						IPM	11	14	16	17	18	21	24	28	31	29	28	25	26	19	IPM	2	2	2	2	2	3	3	4	5	4	4	4	4	3
36-37				0.35D	1.0D	SFM	190	190	190	190	190	190	190	190	190	190	190	190	190	SFM	190	190	190	190	190	190	190	190	190	190	190	190			
						IPT	.0002	.0003	.0004	.0005	.0006	.0008	.0010	.0013	.0017	.0018	.0020	.0022	.0027	.0027	IPT	.0002	.0003	.0004	.0005	.0006	.0008	.0010	.0013	.0017	.0018	.0020	.0022	.0027	.0027
36-37				0.35D	1.0D	RPM	5810	4650	3870	3320	2900	2580	2320	2110	1940	1660	1450	1160	970	730	RPM	5810	4650	3870	3320	2900	2580	2320	2110	1940	1660	1450	1160	970	730
						IPM	4	5	7	7	7	8	9	11	13	12	11	10	10	8	IPM	4	5	7	7	7	8	9	11	13	12	11	10	10	8

*(): Short length & Neck type



- NOTES:**
- ▶ Feed to be reduced by approximately 50% if L.O.C. (Length Of Cut) is over 3xD
 - ▶ The above recommendations are based on ideal conditions; for smaller taper machining centers or less rigid conditions please adjust parameters accordingly on diameters greater than 1/2"
 - ▶ In profile operations, engaging more than 2xD, reduce the radial depth of cut by 50%-60%
 - ▶ Finish cuts typically require reduced cutting feeds and speeds; also, it is recommended the radial width of cut (AE) should not exceed 2%xD1



V7 PLUS A END MILLS

RECOMMENDED CUTTING CONDITIONS

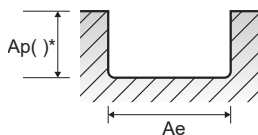
UGMF68, UGMF69, UGMF70, UGMF71, UGMF72 UGMF73, UGMF74, UGMF75, UGMF76, UGMF77 SERIES

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./min.

4 FLUTE - SLOTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)															
						1/8	5/32	3/16	7/32	1/4	9/32	5/16	11/32	3/8	7/16	1/2	5/8	3/4	1		
P	1-4	Non-alloy steel	1.0D	1.0D (0.8D)	SFM (Vc)	500	500	500	500	500	500	500	525	550	550	550	550	550	550	550	
					IPT (fz)	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0026	.0025		
					RPM	15250	12200	10170	8710	7630	6780	6100	5830	5620	4810	4210	3370	2810	2110		
	5	Low alloy steel	1.0D	1.0D (0.8D)	SFM (Vc)	350	350	350	350	350	350	350	370	385	385	385	385	385	385		
					IPT (fz)	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0018	.0021	.0026	.0025		
					RPM	10730	8580	7150	6130	5360	4770	4290	4090	3910	3350	2930	2350	1960	1470		
	6-7	Low alloy steel	1.0D	1.0D (0.8D)	SFM (Vc)	500	500	500	500	500	500	500	525	550	550	550	550	550	550		
					IPT (fz)	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0026	.0025		
					RPM	15250	12200	10170	8710	7630	6780	6100	5830	5620	4810	4210	3370	2810	2110		
	8-9	High alloyed steel, and tool steel	1.0D	1.0D (0.8D)	SFM (Vc)	350	350	350	350	350	350	350	370	385	385	385	385	385	385		
					IPT (fz)	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0018	.0021	.0026	.0025		
					RPM	10730	8580	7150	6130	5360	4770	4290	4090	3910	3350	2930	2350	1960	1470		
	10-11.1	High alloyed steel, and tool steel	1.0D	1.0D (0.8D)	SFM (Vc)	210	210	210	210	210	210	210	220	230	230	230	230	230	230		
					IPT (fz)	.0001	.0002	.0003	.0004	.0004	.0006	.0007	.0009	.0011	.0012	.0013	.0015	.0018	.0018		
					RPM	6420	5130	4280	3670	3210	2850	2570	2450	2340	2010	1760	1410	1170	880		
	M	12-13	Stainless steel	1.0D	1.0D (0.8D)	SFM (Vc)	485	485	485	485	485	485	485	485	485	485	485	485	485		
IPT (fz)						.0002	.0002	.0004	.0004	.0005	.0007	.0009	.0011	.0013	.0014	.0015	.0018	.0022	.0022		
RPM						14852	11882	9901	8487	7426	6601	5941	5401	4951	4243	3713	2970	2475	1857		
14.1		Stainless steel	1.0D	1.0D (0.8D)	SFM (Vc)	350	350	350	350	350	350	350	370	385	385	385	385	385			
					IPT (fz)	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0018	.0021	.0026	.0025		
					RPM	10730	8580	7150	6130	5360	4770	4290	4090	3910	3350	2930	2350	1960	1470		
14.2		Stainless steel	1.0D	1.0D (0.8D)	SFM (Vc)	310	310	310	310	310	310	310	310	310	310	310	310	310			
					IPT (fz)	.0002	.0003	.0005	.0006	.0007	.0009	.0011	.0015	.0019	.0020	.0022	.0024	.0030	.0030		
					RPM	9540	7630	6360	5450	4770	4240	3810	3470	3180	2720	2380	1910	1590	1190		
K		15-20	Grey cast iron	1.0D	1.0D (0.8D)	SFM (Vc)	365	365	365	365	365	365	365	385	405	405	405	405	405		
						IPT (fz)	.0002	.0004	.0006	.0007	.0008	.0011	.0013	.0016	.0019	.0021	.0023	.0026	.0032	.0031	
						RPM	11220	8970	7480	6410	5610	4990	4490	4290	4120	3530	3090	2470	2060	1540	
		S	31-35	Heat Resistant Super Alloys	1.0D	0.5D	SFM (Vc)	85	85	85	85	85	85	85	85	85	85	85	85	85	
							IPT (fz)	.0002	.0003	.0003	.0004	.0005	.0006	.0007	.0010	.0013	.0014	.0015	.0017	.0021	.0020
							RPM	2600	2080	1730	1480	1300	1150	1040	950	870	740	650	520	430	330
			36-37	Titanium Alloys	1.0D	0.5D	SFM (Vc)	190	190	190	190	190	190	190	190	190	190	190	190	190	
	IPT (fz)						.0002	.0003	.0004	.0005	.0006	.0008	.0010	.0013	.0017	.0018	.0020	.0022	.0027	.0027	
	RPM						5810	4650	3870	3320	2900	2580	2320	2110	1940	1660	1450	1160	970	730	

*() : Short length & Neck type



- NOTES:**
- ▶ Feed to be reduced by approximately 50% if L.O.C. (Length Of Cut) is over 3xD
 - ▶ The above recommendations are based on ideal conditions; for smaller taper machining centers or less rigid conditions please adjust parameters according on diameters greater than 1/2"
 - ▶ In profile operations, engaging more that 2xD, reduce the radial depth of cut by 50%-60%
 - ▶ Finish cuts typically require reduced cutting feeds and speeds; also, it is recommended the radial width of cut (AE) should not exceed 2%xD1



V7 PLUS A END MILLS

RECOMMENDED CUTTING CONDITIONS

CARBIDE

HSS

CBN
END MILLS

i-Xmill
END MILLS

i-SMART
MODULAR
END MILLS

X5070
END MILLS

4G MILL
END MILLS

X-POWER
PRO
END MILLS

TitaNox-
POWER
END MILLS

JET-POWER
END MILLS

V7 PLUS A
END MILLS

V7 MILL
INOX

ALU-POWER
HPC
END MILLS

ALU-
POWER
END MILLS

D-POWER
GRAPHITE
END MILLS

STANDARD
CARBIDE

ONLY ONE
COATED PM60
END MILLS

SINE-
POWER

TANK-
POWER
END MILLS

STANDARD
COBALT &
HSS

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

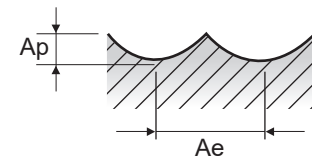
TECHNICAL
DATA

UGMG53, UGMG54, UGMH10 SERIES

4 FLUTE BALL NOSE

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						1/8	3/16	13/64	1/4	5/16	3/8	1/2	5/8	11/16	3/4	1		
P	1-4	Non-alloy steel	0.5D	1.0D	SFM (Vc)	530	530	530	530	530	530	530	530	530	530	530	530	
					IPT (fz)	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0030	.0032	.0035	.0039		
					RPM	16230	10820	9990	8110	6490	5410	4060	3250	2950	2710	2030		
					IPM (FEED)	64	46	47	51	61	55	45	38	37	38	32		
	5	Low alloy steel	0.5D	1.0D	SFM (Vc)	370	370	370	370	370	370	370	370	370	370	370	370	
					IPT (fz)	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0029	.0031	.0035	.0039		
					RPM	11340	7560	6980	5670	4540	3780	2830	2260	2060	1890	1420		
					IPM (FEED)	45	32	33	36	43	39	31	26	26	27	22		
	6-7	Low alloy steel	0.5D	1.0D	SFM (Vc)	530	530	530	530	530	530	530	530	530	530	530		
					IPT (fz)	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0030	.0032	.0035	.0039		
					RPM	16230	10820	9990	8110	6490	5410	4060	3250	2950	2710	2030		
					IPM (FEED)	64	46	47	51	61	55	45	38	37	38	32		
	8-9	Low alloy steel	0.5D	1.0D	SFM (Vc)	370	370	370	370	370	370	370	370	370	370	370		
					IPT (fz)	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0029	.0031	.0035	.0039		
					RPM	11340	7560	6980	5670	4540	3780	2830	2260	2060	1890	1420		
					IPM (FEED)	45	32	33	36	43	39	31	26	26	27	22		
	10-11.1	High alloyed steel, and tool steel	0.5D	1.0D	SFM (Vc)	225	225	225	225	225	225	225	225	225	225	225		
					IPT (fz)	.0007	.0007	.0008	.0011	.0017	.0018	.0019	.0020	.0022	.0025	.0028		
					RPM	6820	4540	4190	3410	2730	2270	1700	1360	1240	1140	850		
					IPM (FEED)	18	14	14	15	18	16	13	11	11	11	9		
M	12-13	Stainless steel	0.5D	1.0D	SFM (Vc)	255	255	255	255	255	255	255	255	255	255	255		
					IPT (fz)	.0006	.0006	.0010	.0012	.0016	.0018	.0020	.0021	.0023	.0023	.0023		
					RPM	7730	5150	4760	3870	3090	2580	1930	1550	1410	1290	970		
					IPM (FEED)	18	12	19	18	19	18	15	13	13	12	9		
	14.1	Stainless steel	0.5D	1.0D	SFM (Vc)	280	280	280	280	280	280	280	280	280	280	280		
					IPT (fz)	.0008	.0008	.0010	.0016	.0018	.0020	.0022	.0024	.0025	.0026	.0027		
					RPM	8530	5680	5250	4260	3410	2840	2130	1710	1550	1420	1070		
					IPM (FEED)	27	18	21	28	24	22	18	16	16	15	11		
	14.2	Stainless steel	0.5D	1.0D	SFM (Vc)	255	255	255	255	255	255	255	255	255	255	255		
					IPT (fz)	.0008	.0008	.0010	.0016	.0018	.0020	.0022	.0024	.0025	.0026	.0027		
					RPM	7730	5150	4760	3870	3090	2580	1930	1550	1410	1290	970		
					IPM (FEED)	24	16	19	25	22	20	17	15	14	13	10		
K	15-20	Grey cast iron	0.5D	1.0D	SFM (Vc)	390	390	390	390	390	390	390	390	390	390	390		
					IPT (fz)	.0012	.0013	.0015	.0020	.0029	.0032	.0034	.0037	.0039	.0044	.0049		
					RPM	11920	7950	7330	5960	4770	3970	2980	2380	2170	1990	1490		
					IPM (FEED)	58	41	43	47	56	51	41	35	34	35	29		
S	31-35	Heat Resistant Super Alloys	0.2D	0.3D	SFM (Vc)	70	70	70	70	70	70	70	70	70	70	70		
					IPT (fz)	.0006	.0006	.0007	.0011	.0012	.0014	.0015	.0017	.0018	.0018	.0019		
					RPM	2110	1410	1300	1050	840	700	530	420	380	350	260		
					IPM (FEED)	5	3	3	5	4	4	3	3	3	2	2		
	36-37	Titanium Alloys	0.5D	0.3D	SFM (Vc)	155	155	155	155	155	155	155	155	155	155	155		
					IPT (fz)	.0007	.0007	.0009	.0015	.0016	.0018	.0019	.0021	.0023	.0023	.0024		
					RPM	4710	3140	2900	2350	1880	1570	1180	940	860	780	590		
					IPM (FEED)	13	9	10	14	12	11	9	8	8	7	6		



YG V7 PLUS A END MILLS

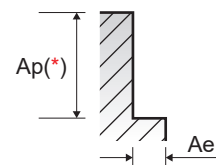
RECOMMENDED CUTTING CONDITIONS

UGMG20, UGMG21, UGMG22 UGMG23, UGMH08, UGMH09 SERIES

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./min.

6 FLUTE - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)							
						1/4	5/16	3/8	1/2	5/8	3/4	1	
P	1-4	Non-alloy steel	0.05D	2.0D	SFM(Vc)	985	985	985	985	985	985	985	
					IPT(fz)	.0027	.0046	.0057	.0068	.0080	.0089	.0091	
					RPM	15040	12030	10020	7520	6010	5010	3760	
						IPM(Feed)	242	330	341	307	287	266	206
	5	Low alloy steel	0.05D	2.0D	SFM(Vc)	665	665	665	665	665	665	665	
					IPT(fz)	.0020	.0034	.0042	.0050	.0059	.0066	.0069	
					RPM	10180	8140	6780	5090	4070	3390	2540	
						IPM(Feed)	120	163	170	154	143	134	105
	6-7	Low alloy steel	0.05D	2.0D	SFM(Vc)	985	985	985	985	985	985	985	
					IPT(fz)	.0027	.0046	.0057	.0068	.0080	.0089	.0091	
					RPM	15040	12030	10020	7520	6010	5010	3760	
						IPM(Feed)	242	330	341	307	287	266	206
8-9	Low alloy steel	0.05D	2.0D	SFM(Vc)	665	665	665	665	665	665	665		
				IPT(fz)	.0020	.0034	.0042	.0050	.0059	.0066	.0069		
				RPM	10180	8140	6780	5090	4070	3390	2540		
					IPM(Feed)	120	163	170	154	143	134	105	
10-11.1	High alloyed steel, and tool steel	0.05D	2.0D	SFM(Vc)	330	330	330	330	330	330	330		
				IPT(fz)	.0016	.0028	.0035	.0041	.0048	.0054	.0057		
				RPM	5010	4010	3340	2510	2010	1670	1250		
					IPM(Feed)	49	67	69	62	58	54	43	
M	12-13	Stainless steel	0.05D	2.0D	SFM(Vc)	700	700	700	700	700	700	700	
					IPT(fz)	.0019	.0033	.0041	.0049	.0058	.0064	.0066	
					RPM	10680	8550	7120	5340	4270	3560	2670	
					IPM(Feed)	124	170	175	158	147	136	106	
14.1	Stainless steel	0.05D	2.0D	SFM(Vc)	480	480	480	480	480	480	480		
				IPT(fz)	.0016	.0028	.0035	.0041	.0048	.0054	.0056		
				RPM	7370	5890	4910	3680	2950	2460	1840		
					IPM(Feed)	71	99	102	91	86	79	62	
14.2	Stainless steel	0.05D	2.0D	SFM(Vc)	440	440	440	440	440	440	440		
				IPT(fz)	.0016	.0028	.0035	.0041	.0048	.0054	.0056		
				RPM	6720	5380	4480	3360	2690	2240	1680		
					IPM(Feed)	65	90	93	83	78	73	56	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	2.0D	SFM(Vc)	740	740	740	740	740	740	740	
					IPT(fz)	.0032	.0055	.0068	.0082	.0095	.0106	.0110	
					RPM	11310	9050	7540	5650	4520	3770	2830	
					IPM(Feed)	218	297	308	277	259	240	186	
S	31-35	Heat Resistant Super Alloys	0.05D	2.0D	SFM(Vc)	110	110	110	110	110	110	110	
					IPT(fz)	.0013	.0022	.0028	.0032	.0038	.0044	.0045	
					RPM	1650	1320	1100	830	660	550	410	
					IPM(Feed)	13	17	18	16	15	15	11	
36-37	Titanium Alloys	0.05D	2.0D	SFM(Vc)	380	380	380	380	380	380	380		
				IPT(fz)	.0013	.0022	.0028	.0033	.0038	.0045	.0046		
				RPM	5820	4660	3880	2910	2330	1940	1460		
					IPM(Feed)	45	61	64	57	53	52	40	



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



V7 PLUS A END MILLS

RECOMMENDED CUTTING CONDITIONS

CARBIDE

HSS

CBN
END MILLS

i-Xmill
END MILLS

i-SMART
MODULAR
END MILLS

X5070
END MILLS

4G MILL
END MILLS

X-POWER
PRO
END MILLS

TitaNox-
POWER
END MILLS

JET-POWER
END MILLS

V7 PLUS A
END MILLS

V7 MILL
INOX

ALU-POWER
HPC
END MILLS

ALU-
POWER
END MILLS

D-POWER
GRAPHITE
END MILLS

STANDARD
CARBIDE

ONLY ONE
COATED PM60
END MILLS

SINE-
POWER

TANK-
POWER
END MILLS

STANDARD
COBALT &
HSS

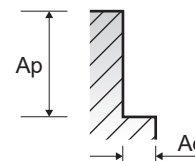
TECHNICAL
DATA

GMH72 SERIES

6 FLUTE CHIP SPLITTER - SIDE CUTTING

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)				
						3/8	1/2	5/8	3/4	1
P	1-4	Non-alloy steel	0.05D	3.0D	SFM(Vc)	985	985	985	985	985
					IPT(fz)	.0057	.0068	.0080	.0089	.0091
					RPM	10020	7520	6010	5010	3760
					IPM(Feed)	341	307	287	266	206
	5	Low alloy steel	0.05D	3.0D	SFM(Vc)	665	665	665	665	665
					IPT(fz)	.0042	.0050	.0059	.0066	.0069
					RPM	6780	5090	4070	3390	2540
					IPM(Feed)	170	154	143	134	105
	6-7	Low alloy steel	0.05D	3.0D	SFM(Vc)	985	985	985	985	985
					IPT(fz)	.0057	.0068	.0080	.0089	.0091
					RPM	10020	7520	6010	5010	3760
					IPM(Feed)	341	307	287	266	206
	8-9	Low alloy steel	0.05D	3.0D	SFM(Vc)	665	665	665	665	665
					IPT(fz)	.0042	.0050	.0059	.0066	.0069
					RPM	6780	5090	4070	3390	2540
					IPM(Feed)	170	154	143	134	105
10-11.1	High alloyed steel, and tool steel	0.05D	3.0D	SFM(Vc)	330	330	330	330	330	
				IPT(fz)	.0035	.0041	.0048	.0054	.0057	
				RPM	3340	2510	2010	1670	1250	
				IPM(Feed)	69	62	58	54	43	
M	12-13	Stainless steel	0.05D	3.0D	SFM(Vc)	700	700	700	700	700
					IPT(fz)	.0041	.0049	.0058	.0064	.0066
					RPM	7120	5340	4270	3560	2670
					IPM(Feed)	175	158	147	136	106
	14.1	Stainless steel	0.05D	3.0D	SFM(Vc)	480	480	480	480	480
					IPT(fz)	.0035	.0041	.0048	.0054	.0056
					RPM	4910	3680	2950	2460	1840
					IPM(Feed)	102	91	86	79	62
	14.2	Stainless steel	0.05D	3.0D	SFM(Vc)	440	440	440	440	440
					IPT(fz)	.0035	.0041	.0048	.0054	.0056
					RPM	4480	3360	2690	2240	1680
					IPM(Feed)	93	83	78	73	56
K	15-20	Grey cast iron	0.05D	3.0D	SFM(Vc)	740	740	740	740	740
					IPT(fz)	.0068	.0082	.0095	.0106	.0110
					RPM	7540	5650	4520	3770	2830
					IPM(Feed)	308	277	259	240	186
S	31-35	Heat Resistant Super Alloys	0.05D	3.0D	SFM(Vc)	110	110	110	110	110
					IPT(fz)	.0028	.0032	.0038	.0044	.0045
					RPM	1100	830	660	550	410
					IPM(Feed)	18	16	15	15	11
	36-37	Titanium Alloys	0.05D	3.0D	SFM(Vc)	380	380	380	380	380
					IPT(fz)	.0028	.0033	.0038	.0045	.0046
					RPM	3880	2910	2330	1940	1460
					IPM(Feed)	64	57	53	52	40





V7 PLUS A END MILLS

RECOMMENDED CUTTING CONDITIONS

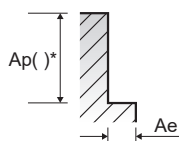
GMF52, GMF53, GMF54, GMF55, GMF56, GMF57 GMF58, GMF59, GMF60, GMF61, GMF62, GMF63 SERIES

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./min.

4 FLUTE - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0	
P	1-4	Non-alloy steel	0.5D	1.5D (1.2D)	SFM (Vc)	500	500	500	500	500	550	550	550	550	550	550	550	550
					IPT (fz)	.0002	.0003	.0004	.0006	.0011	.0015	.0019	.0021	.0021	.0023	.0026	.0025	
					RPM	16130	12100	9680	8060	6050	5350	4460	3820	3340	2970	2670	2140	
	5	Low alloy steel	0.5D	1.5D (1.2D)	SFM (Vc)	350	350	350	350	350	385	385	385	385	385	385	385	385
					IPT (fz)	.0002	.0003	.0004	.0006	.0011	.0015	.0018	.0019	.0021	.0023	.0026	.0025	
					RPM	11350	8520	6810	5680	4260	3720	3100	2660	2330	2070	1860	1490	
	6-7	Low alloy steel	0.5D	1.5D (1.2D)	SFM (Vc)	500	500	500	500	500	550	550	550	550	550	550	550	
					IPT (fz)	.0002	.0003	.0004	.0006	.0011	.0015	.0019	.0019	.0021	.0023	.0026	.0025	
					RPM	16130	12100	9680	8060	6050	5350	4460	3820	3340	2970	2670	2140	
	8-9	High alloyed steel, and tool steel	0.5D	1.5D (1.2D)	SFM (Vc)	350	350	350	350	350	385	385	385	385	385	385	385	
					IPT (fz)	.0002	.0003	.0004	.0006	.0011	.0015	.0018	.0019	.0021	.0023	.0026	.0025	
					RPM	11350	8520	6810	5680	4260	3720	3100	2660	2330	2070	1860	1490	
	10-11.1	High alloyed steel, and tool steel	0.5D	1.5D (1.2D)	SFM (Vc)	210	210	210	210	210	230	230	230	230	230	230	230	
					IPT (fz)	.0001	.0002	.0003	.0004	.0008	.0011	.0013	.0013	.0015	.0016	.0018	.0018	
					RPM	6790	5090	4070	3400	2550	2230	1860	1590	1390	1240	1110	890	
	M	12-13	Stainless steel	0.5D	1.5D (1.2D)	SFM (Vc)	485	485	485	485	485	485	485	485	485	485	485	485
IPT (fz)						.0002	.0002	.0004	.0005	.0009	.0013	.0015	.0017	.0018	.0020	.0022	.0022	
RPM						15700	11780	9420	7850	5890	4710	3930	3370	2940	2620	2360	1880	
14.1		Stainless steel	0.5D	1.5D (1.2D)	SFM (Vc)	350	350	350	350	350	350	350	350	350	350	350	350	
					IPT (fz)	.0002	.0003	.0005	.0007	.0011	.0019	.0022	.0023	.0024	.0028	.0030	.0030	
					RPM	11250	8440	6750	5620	4220	3370	2810	2410	2110	1870	1690	1350	
14.2		Stainless steel	0.5D	1.5D (1.2D)	SFM (Vc)	310	310	310	310	310	310	310	310	310	310	310	310	
					IPT (fz)	.0002	.0003	.0005	.0007	.0011	.0019	.0022	.0023	.0024	.0027	.0030	.0030	
					RPM	10080	7560	6050	5040	3780	3020	2520	2160	1890	1680	1510	1210	
K		15-20	Grey cast iron	0.5D	1.5D (1.2D)	SFM (Vc)	365	365	365	365	365	405	405	405	405	405	405	405
						IPT (fz)	.0002	.0004	.0006	.0008	.0013	.0019	.0023	.0024	.0026	.0029	.0032	.0031
						RPM	11880	8910	7130	5940	4460	3920	3260	2800	2450	2180	1960	1570
S		31-35	Heat Resistant Super Alloys	0.25D	1.0D	SFM (Vc)	85	85	85	85	85	85	85	85	85	85	85	85
						IPT (fz)	.0002	.0003	.0003	.0005	.0008	.0013	.0015	.0016	.0017	.0019	.0021	.0021
						RPM	2760	2070	1660	1380	1040	830	690	590	520	460	410	330
36-37		Titanium Alloys	0.35D	1.0D	SFM (Vc)	190	190	190	190	190	190	190	190	190	190	190	190	
	IPT (fz)				.0002	.0003	.0004	.0006	.0010	.0017	.0020	.0021	.0022	.0024	.0027	.0027		
	RPM				6150	4620	3690	3080	2310	1850	1540	1320	1150	1030	920	740		

*() : Short length & Neck type



- NOTES:**
- ▶ Feed to be reduced by approximately 50% if L.O.C. (Length Of Cut) is over 3xD
 - ▶ The above recommendations are based on ideal conditions; for smaller taper machining centers or less rigid conditions please adjust parameters accordingly on diameters greater than 1/2"
 - ▶ In profile operations, engaging more than 2xD, reduce the radial depth of cut by 50%-60%
 - ▶ Finish cuts typically require reduced cutting feeds and speeds; also, it is recommended the radial width of cut (AE) should not exceed 2%xD1

YG V7 PLUS A END MILLS

RECOMMENDED CUTTING CONDITIONS

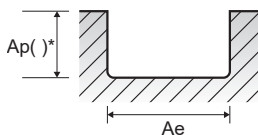
GMF52, GMF53, GMF54, GMF55, GMF56, GMF57 GMF58, GMF59, GMF60, GMF61, GMF62, GMF63 SERIES

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./min.

4 FLUTE - SLOTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0	
P	1-4	Non-alloy steel	1.0D	1.0D (0.8D)	SFM(Vc)	500	500	500	500	500	550	550	550	550	550	550	550	550
					IPT(fz)	.0002	.0003	.0004	.0006	.0011	.0015	.0019	.0019	.0021	.0021	.0023	.0026	.0025
					RPM	16130	12100	9680	8060	6050	5350	4460	3820	3340	2970	2670	2140	
					IPM(Feed)	13	15	17	20	26	32	33	29	28	28	27	22	
	5	Low alloy steel	1.0D	1.0D (0.8D)	SFM(Vc)	350	350	350	350	350	385	385	385	385	385	385	385	
					IPT(fz)	.0002	.0003	.0004	.0006	.0011	.0015	.0018	.0019	.0021	.0023	.0026	.0025	
					RPM	11350	8520	6810	5680	4260	3720	3100	2660	2330	2070	1860	1490	
					IPM(Feed)	9	11	12	14	18	22	23	21	19	19	19	15	
	6-7	Low alloy steel	1.0D	1.0D (0.8D)	SFM(Vc)	500	500	500	500	500	550	550	550	550	550	550	550	
					IPT(fz)	.0002	.0003	.0004	.0006	.0011	.0015	.0019	.0019	.0021	.0023	.0026	.0025	
					RPM	16130	12100	9680	8060	6050	5350	4460	3820	3340	2970	2670	2140	
					IPM(Feed)	13	15	17	20	26	32	33	29	28	28	27	22	
	8-9	Low alloy steel	1.0D	1.0D (0.8D)	SFM(Vc)	350	350	350	350	350	385	385	385	385	385	385	385	
					IPT(fz)	.0002	.0003	.0004	.0006	.0011	.0015	.0018	.0019	.0021	.0023	.0026	.0025	
					RPM	11350	8520	6810	5680	4260	3720	3100	2660	2330	2070	1860	1490	
					IPM(Feed)	9	11	12	14	18	22	23	21	19	19	19	15	
10-11.1	High alloyed steel, and tool steel	1.0D	1.0D (0.8D)	SFM(Vc)	210	210	210	210	210	230	230	230	230	230	230	230		
				IPT(fz)	.0001	.0002	.0003	.0004	.0008	.0011	.0013	.0013	.0015	.0016	.0018	.0018		
				RPM	6790	5090	4070	3400	2550	2230	1860	1590	1390	1240	1110	890		
				IPM(Feed)	3	5	5	6	8	9	9	9	8	8	8	6		
M	12-13	Stainless steel	1.0D	1.0D (0.8D)	SFM(Vc)	485	485	485	485	485	485	485	485	485	485	485	485	
					IPT(fz)	.0002	.0002	.0004	.0005	.0009	.0013	.0015	.0017	.0018	.0020	.0022	.0022	
					RPM	15700	11780	9420	7850	5890	4710	3930	3370	2940	2620	2360	1880	
					IPM(Feed)	10	11	13	16	20	25	24	22	21	21	20	16	
	14.1	Stainless steel	1.0D	1.0D (0.8D)	SFM(Vc)	350	350	350	350	350	350	350	350	350	350	350	350	
					IPT(fz)	.0002	.0003	.0005	.0007	.0011	.0019	.0022	.0023	.0024	.0028	.0030	.0030	
					RPM	11250	8440	6750	5620	4220	3370	2810	2410	2110	1870	1690	1350	
					IPM(Feed)	9	11	14	16	19	26	24	22	21	21	20	16	
	14.2	Stainless steel	1.0D	1.0D (0.8D)	SFM(Vc)	310	310	310	310	310	310	310	310	310	310	310	310	
					IPT(fz)	.0002	.0003	.0005	.0007	.0011	.0019	.0022	.0023	.0024	.0027	.0030	.0030	
					RPM	10080	7560	6050	5040	3780	3020	2520	2160	1890	1680	1510	1210	
					IPM(Feed)	8	10	12	14	17	23	22	20	18	18	18	14	
K	15-20	Grey cast iron	1.0D	1.0D (0.8D)	SFM(Vc)	365	365	365	365	365	405	405	405	405	405	405	405	
					IPT(fz)	.0002	.0004	.0006	.0008	.0013	.0019	.0023	.0024	.0026	.0029	.0032	.0031	
					RPM	11880	8910	7130	5940	4460	3920	3260	2800	2450	2180	1960	1570	
					IPM(Feed)	11	14	16	19	24	30	30	27	25	25	25	19	
S	31-35	Heat Resistant Super Alloys	1.0D	0.5D	SFM(Vc)	85	85	85	85	85	85	85	85	85	85	85	85	
					IPT(fz)	.0002	.0003	.0003	.0005	.0008	.0013	.0015	.0016	.0017	.0019	.0021	.0021	
					RPM	2760	2070	1660	1380	1040	830	690	590	520	460	410	330	
					IPM(Feed)	2	2	2	3	3	4	4	4	4	3	4	3	
	36-37	Titanium Alloys	1.0D	0.5D	SFM(Vc)	190	190	190	190	190	190	190	190	190	190	190	190	
					IPT(fz)	.0002	.0003	.0004	.0006	.0010	.0017	.0020	.0021	.0022	.0024	.0027	.0027	
					RPM	6150	4620	3690	3080	2310	1850	1540	1320	1150	1030	920	740	
					IPM(Feed)	4	5	6	8	9	12	12	11	10	10	10	8	

*() : Short length & Neck type



- NOTES:**
- ▶ Feed to be reduced by approximately 50% if L.O.C. (Length Of Cut) is over 3xD
 - ▶ The above recommendations are based on ideal conditions; for smaller taper machining centers or less rigid conditions please adjust parameters accordingly on diameters greater than 1/2"
 - ▶ In profile operations, engaging more than 2xD, reduce the radial depth of cut by 50%-60%
 - ▶ Finish cuts typically require reduced cutting feeds and speeds; also, it is recommended the radial width of cut (AE) should not exceed 2%xD1



V7 PLUS A END MILLS

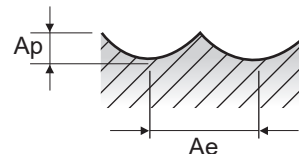
RECOMMENDED CUTTING CONDITIONS

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./min.

GMG55, GMG56 SERIES

4 FLUTE BALL NOSE

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	SFM(Vc)	530	530	530	530	530	530	530	530	530	530	530	530
					IPT(fz)	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0030	.0032	.0035	.0039	
	RPM	17190	12890	10310	8590	6450	5160	4300	3220	2870	2580	2060					
	IPM(Feed)	68	55	49	54	61	53	47	38	36	37	32					
	5	0.5D	1.0D	SFM(Vc)	370	370	370	370	370	370	370	370	370	370	370	370	
				IPT(fz)	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0029	.0031	.0035	.0039		
				RPM	11990	8990	7190	6000	4500	3600	3000	2250	2000	1800	1440		
	IPM(Feed)	47	38	34	38	42	37	33	26	25	25	22					
	6-7	Low alloy steel	0.5D	1.0D	SFM(Vc)	530	530	530	530	530	530	530	530	530	530	530	
					IPT(fz)	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0030	.0032	.0035	.0039	
RPM	17190	12890	10310	8590	6450	5160	4300	3220	2870	2580	2060						
IPM(Feed)	68	55	49	54	61	53	47	38	36	37	32						
8-9	0.5D	1.0D	SFM(Vc)	370	370	370	370	370	370	370	370	370	370	370			
			IPT(fz)	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0029	.0031	.0035	.0039			
RPM	11990	8990	7190	6000	4500	3600	3000	2250	2000	1800	1440						
IPM(Feed)	47	38	34	38	42	37	33	26	25	25	22						
10-11.1	High alloyed steel, and tool steel	0.5D	1.0D	SFM(Vc)	225	225	225	225	225	225	225	225	225	225	225		
				IPT(fz)	.0007	.0007	.0008	.0011	.0017	.0018	.0019	.0020	.0022	.0025	.0028		
				RPM	7220	5410	4330	3610	2710	2170	1800	1350	1200	1080	870		
IPM(Feed)	19	16	14	16	18	15	14	11	11	11	10						
M	12-13	0.5D	1.0D	SFM(Vc)	255	255	255	255	255	255	255	255	255	255	255		
				IPT(fz)	.0006	.0006	.0010	.0012	.0016	.0018	.0020	.0021	.0023	.0023	.0023		
	RPM	8170	6130	4900	4090	3060	2450	2040	1530	1360	1230	980					
	IPM(Feed)	19	14	19	19	19	17	16	13	13	11	9					
	14.1	Stainless steel	0.5D	1.0D	SFM(Vc)	280	280	280	280	280	280	280	280	280	280	280	
					IPT(fz)	.0008	.0008	.0010	.0016	.0018	.0020	.0022	.0024	.0025	.0026	.0027	
RPM	9020	6760	5410	4510	3380	2710	2260	1690	1500	1350	1080						
IPM(Feed)	28	21	21	29	24	21	20	16	15	14	12						
14.2	0.5D	1.0D	SFM(Vc)	255	255	255	255	255	255	255	255	255	255	255			
			IPT(fz)	.0008	.0008	.0010	.0016	.0018	.0020	.0022	.0024	.0025	.0026	.0027			
RPM	8170	6130	4900	4090	3060	2450	2040	1530	1360	1230	980						
IPM(Feed)	26	19	19	26	22	19	18	14	14	13	11						
K	15-20	Grey cast iron	0.5D	1.0D	SFM(Vc)	390	390	390	390	390	390	390	390	390	390	390	
					IPT(fz)	.0012	.0013	.0015	.0020	.0029	.0032	.0034	.0037	.0039	.0044	.0049	
					RPM	12630	9470	7580	6310	4740	3790	3160	2370	2100	1890	1520	
					IPM(Feed)	62	49	44	50	55	48	43	35	33	33	30	
S	31-35	Heat Resistant Super Alloys	0.2D	0.3D	SFM(Vc)	70	70	70	70	70	70	70	70	70	70	70	
					IPT(fz)	.0006	.0006	.0007	.0011	.0012	.0014	.0015	.0017	.0018	.0018	.0019	
	RPM	2230	1670	1340	1110	840	670	560	420	370	330	270					
	IPM(Feed)	5	4	4	5	4	4	3	3	3	2	2					
	36-37	Titanium Alloys	0.5D	0.3D	SFM(Vc)	155	155	155	155	155	155	155	155	155	155	155	
					IPT(fz)	.0007	.0007	.0009	.0015	.0016	.0018	.0019	.0021	.0023	.0023	.0024	
RPM	4990	3740	2990	2490	1870	1500	1250	940	830	750	600						
IPM(Feed)	14	11	10	15	12	11	10	8	8	7	6						





V7 PLUS A END MILLS

RECOMMENDED CUTTING CONDITIONS

CARBIDE

HSS

CBN
END MILLS

i-Xmill
END MILLS

i-SMART
MODULAR
END MILLS

X5070
END MILLS

4G MILL
END MILLS

X-POWER
PRO
END MILLS

TitaNox-
POWER
END MILLS

JET-POWER
END MILLS

V7 PLUS A
END MILLS

V7 MILL
INOX

ALU-POWER
HPC
END MILLS

ALU-
POWER
END MILLS

D-POWER
GRAPHITE
END MILLS

STANDARD
CARBIDE

ONLY ONE
COATED PM60
END MILLS

SINE-
POWER

TANK-
POWER
END MILLS

STANDARD
COBALT &
HSS

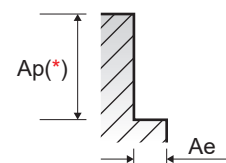
TECHNICAL
DATA

GMG12, GMG13, GMG14, GMG15 GMG16, GMG17, GMG18, GMG19 SERIES

6 FLUTE - SIDE CUTTING

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./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	SFM (Vc)	985	985	985	985	985	985	985					
					IPT (fz)	.0027	.0046	.0057	.0068	.0080	.0089	.0091					
					RPM	15920	11940	9550	7960	5970	4780	3820					
					IPM (FEED)	256	327	325	325	285	254	209					
	5	Low alloy steel	0.05D	2.0D	SFM (Vc)	665	665	665	665	665	665	665					
					IPT (fz)	.0020	.0034	.0042	.0050	.0059	.0066	.0069					
					RPM	10770	8080	6460	5390	4040	3230	2590					
					IPM (FEED)	127	162	162	163	142	127	106					
	6-7	Low alloy steel	0.05D	2.0D	SFM (Vc)	985	985	985	985	985	985	985					
					IPT (fz)	.0027	.0046	.0057	.0068	.0080	.0089	.0091					
					RPM	15920	11940	9550	7960	5970	4780	3820					
					IPM (FEED)	256	327	325	325	285	254	209					
	8-9	Low alloy steel	0.05D	2.0D	SFM (Vc)	665	665	665	665	665	665	665					
					IPT (fz)	.0020	.0034	.0042	.0050	.0059	.0066	.0069					
					RPM	10770	8080	6460	5390	4040	3230	2590					
					IPM (FEED)	127	162	162	163	142	127	106					
10-11.1	High alloyed steel, and tool steel	0.05D	2.0D	SFM (Vc)	330	330	330	330	330	330	330						
				IPT (fz)	.0016	.0028	.0035	.0041	.0048	.0054	.0057						
				RPM	5310	3980	3180	2650	1990	1590	1270						
				IPM (FEED)	51	67	66	66	58	52	43						
M	12-13	Stainless steel	0.05D	2.0D	SFM (Vc)	700	700	700	700	700	700	700					
					IPT (fz)	.0019	.0033	.0041	.0049	.0058	.0064	.0066					
					RPM	11300	8480	6780	5650	4240	3390	2710					
	14.1	Stainless steel	0.05D	2.0D	SFM (Vc)	480	480	480	480	480	480	480					
					IPT (fz)	.0016	.0028	.0035	.0041	.0048	.0054	.0056					
					RPM	7800	5850	4680	3900	2920	2340	1870					
	14.2	Stainless steel	0.05D	2.0D	SFM (Vc)	440	440	440	440	440	440	440					
					IPT (fz)	.0016	.0028	.0035	.0041	.0048	.0054	.0056					
					RPM	7110	5330	4270	3550	2670	2130	1710					
	K	15-20	Grey cast iron	0.05D	2.0D	SFM (Vc)	740	740	740	740	740	740	740				
						IPT (fz)	.0032	.0055	.0068	.0082	.0095	.0106	.0110				
						RPM	11940	8950	7160	5970	4480	3580	2870				
IPM (FEED)						230	294	292	293	256	228	188					
S						31-35	Heat Resistant Super Alloys	0.05D	2.0D	SFM (Vc)	110	110	110	110	110	110	110
										IPT (fz)	.0013	.0022	.0028	.0032	.0038	.0044	.0045
	RPM	1750	1310	1050	880					660	530	420					
	36-37	Titanium Alloys	0.05D	2.0D	SFM (Vc)	380	380	380	380	380	380	380					
					IPT (fz)	.0013	.0022	.0028	.0033	.0038	.0045	.0046					
					RPM	6150	4620	3690	3080	2310	1850	1480					
					IPM (FEED)	48	60	61	60	53	49	41					



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



V7 PLUS A END MILLS

RECOMMENDED CUTTING CONDITIONS

GMH56, GMH58, GMH57, GMH59 SERIES

6 FLUTE CHIP SPLITTER - SIDE CUTTING

SFM(Vc) = ft./min.
IPT(fz) = in./tooth
RPM = rev./min.
IPM(Feed) = in./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	3.0D	SFM(Vc)	985	985	985	985	985	985	985
					IPT(fz)	.0027	.0046	.0057	.0068	.0080	.0089	.0091
					RPM	15920	11940	9550	7960	5970	4780	3820
					IPM(FEED)	256	327	325	325	285	254	209
	5	Low alloy steel	0.05D	3.0D	SFM(Vc)	665	665	665	665	665	665	665
					IPT(fz)	.0020	.0034	.0042	.0050	.0059	.0066	.0069
					RPM	10770	8080	6460	5390	4040	3230	2590
					IPM(FEED)	127	162	162	163	142	127	106
	6-7	Low alloy steel	0.05D	3.0D	SFM(Vc)	985	985	985	985	985	985	985
					IPT(fz)	.0027	.0046	.0057	.0068	.0080	.0089	.0091
					RPM	15920	11940	9550	7960	5970	4780	3820
					IPM(FEED)	256	327	325	325	285	254	209
8-9	Low alloy steel	0.05D	3.0D	SFM(Vc)	665	665	665	665	665	665	665	
				IPT(fz)	.0020	.0034	.0042	.0050	.0059	.0066	.0069	
				RPM	10770	8080	6460	5390	4040	3230	2590	
				IPM(FEED)	127	162	162	163	142	127	106	
10-11.1	High alloyed steel, and tool steel	0.05D	3.0D	SFM(Vc)	330	330	330	330	330	330	330	
				IPT(fz)	.0016	.0028	.0035	.0041	.0048	.0054	.0057	
				RPM	5310	3980	3180	2650	1990	1590	1270	
				IPM(FEED)	51	67	66	66	58	52	43	
M	12-13	Stainless steel	0.05D	3.0D	SFM(Vc)	700	700	700	700	700	700	700
					IPT(fz)	.0019	.0033	.0041	.0049	.0058	.0064	.0066
					RPM	11300	8480	6780	5650	4240	3390	2710
					IPM(FEED)	131	168	167	167	146	130	108
	14.1	Stainless steel	0.05D	3.0D	SFM(Vc)	480	480	480	480	480	480	480
					IPT(fz)	.0016	.0028	.0035	.0041	.0048	.0054	.0056
					RPM	7800	5850	4680	3900	2920	2340	1870
					IPM(FEED)	76	98	97	97	85	76	63
	14.2	Stainless steel	0.05D	3.0D	SFM(Vc)	440	440	440	440	440	440	440
					IPT(fz)	.0016	.0028	.0035	.0041	.0048	.0054	.0056
					RPM	7110	5330	4270	3550	2670	2130	1710
					IPM(FEED)	69	89	89	88	77	69	57
K	15-20	Grey cast iron	0.05D	3.0D	SFM(Vc)	740	740	740	740	740	740	740
					IPT(fz)	.0032	.0055	.0068	.0082	.0095	.0106	.0110
					RPM	11940	8950	7160	5970	4480	3580	2870
					IPM(FEED)	230	294	292	293	256	228	188
S	31-35	Heat Resistant Super Alloys	0.05D	3.0D	SFM(Vc)	110	110	110	110	110	110	110
					IPT(fz)	.0013	.0022	.0028	.0032	.0038	.0044	.0045
					RPM	1750	1310	1050	880	660	530	420
					IPM(FEED)	14	17	17	17	15	14	11
	36-37	Titanium Alloys	0.05D	3.0D	SFM(Vc)	380	380	380	380	380	380	380
					IPT(fz)	.0013	.0022	.0028	.0033	.0038	.0045	.0046
					RPM	6150	4620	3690	3080	2310	1850	1480
					IPM(FEED)	48	60	61	60	53	49	41

