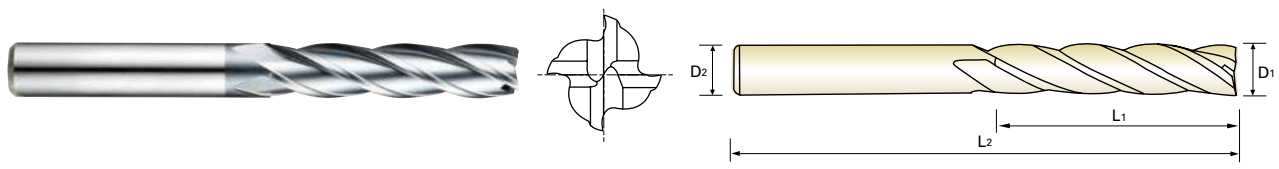


**PM60, 4 FLUTE LONG LENGTH (Center Cut)**

- PM60, 4 Schneiden, lang, Zentrumschnitt
- Revêtue YG-AlCrN - PM60, 4 dents, série longue (Coupe au centre)
- Rivestita PM60, 4 TAGLIENTI SERIE LUNGA (Tagliente al centro)



PM 60 4 30° PLAIN FLAT P.632

Unit: mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	D1	D2	L1	L2
GYG76020	GYG02020	2.0	6	10	54
GYG76030	GYG02030	3.0	6	12	56
GYG76040	GYG02040	4.0	6	19	63
GYG76050	GYG02050	5.0	6	24	68
GYG76060	GYG02060	6.0	6	24	68
GYG76070	GYG02070	7.0	8	30	80
GYG76080	GYG02080	8.0	8	38	88
GYG76090	GYG02090	9.0	10	38	88
GYG76100	GYG02100	10.0	10	45	95
GYG76120	GYG02120	12.0	12	53	110
GYG76140	GYG02140	14.0	12	53	110
GYG76160	GYG02160	16.0	16	63	123
GYG76180	GYG02180	18.0	16	63	123
GYG76200	GYG02200	20.0	20	75	141
GYG76220	GYG02220	22.0	20	75	141
GYG76250	GYG02250	25.0	25	90	166

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ - 0.03	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	3	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	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						○	○	○												○	

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 END MILLS  
ALU-POWER HPC END MILLS  
ALU-POWER END MILLS  
D-POWER GRAPHITE END MILLS  
D-POWER CFRP END MILLS  
ROUTERS  
CRX S END MILLS  
K-2 END MILLS  
ONLY ONE COATED PM60 END MILLS  
TANK-POWER END MILLS  
GENERAL HSS END MILLS  
MILLING CUTTERS  
TECHNICAL DATA



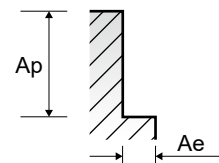
**ONLY ONE**  
COATED PM60 END MILLS

**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOHLENE SCHNEIDPARAMETER**

**GYG74 , GYF96 , GYG76 , GYG02 SERIES 4 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)													
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	69	75	80	83	88	93	87	90	95	97	102	94	87	94
					fz	0.008	0.015	0.023	0.029	0.035	0.046	0.068	0.071	0.076	0.079	0.076	0.088	0.097	0.093
					RPM	10982	7958	6366	5284	4669	3700	2769	2387	2160	1930	1804	1496	1259	1197
	2		0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	84	85	79	79	79
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.09
					RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006
	3-4		0.1D	1.5D	Vc	46	50	54	55	59	60	60	63	58	60	61	59	57	60
					fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.086	0.088	0.093	0.09
					RPM	7321	5305	4297	3501	3130	2387	1910	1671	1319	1194	1079	939	825	764
	5		0.1D	1.5D	Vc	31	31	35	38	41	42	38	40	42	41	43	40	39	39
					fz	0.008	0.017	0.022	0.028	0.032	0.043	0.067	0.068	0.072	0.081	0.077	0.082	0.085	0.09
RPM		4934			3289	2785	2419	2175	1671	1210	1061	955	816	760	637	564	497		
6	0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	84	85	79	79	79		
			fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.09		
			RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006		
7	0.1D	1.5D	Vc	46	50	54	55	59	60	60	63	58	60	61	59	57	60		
			fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.086	0.088	0.093	0.09		
			RPM	7321	5305	4297	3501	3130	2387	1910	1671	1319	1194	1079	939	825	764		
8	0.1D	1.5D	Vc	31	31	35	38	41	42	38	40	42	41	43	40	39	39		
			fz	0.008	0.017	0.022	0.028	0.032	0.043	0.067	0.068	0.072	0.081	0.077	0.082	0.085	0.09		
			RPM	4934	3289	2785	2419	2175	1671	1210	1061	955	816	760	637	564	497		
9	0.05D	1.5D	Vc	25	27	30	32	33	35	34	32	33	33	34	33	33	34		
			fz	0.006	0.013	0.019	0.023	0.031	0.04	0.056	0.064	0.067	0.076	0.075	0.08	0.081	0.087		
			RPM	3979	2865	2387	2037	1751	1393	1082	849	750	657	601	525	477	433		
10	0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	84	85	79	79	79		
			fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.09		
			RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006		
11.1	0.1D	1.5D	Vc	31	31	35	38	41	42	38	40	42	41	43	40	39	39		
			fz	0.008	0.017	0.022	0.028	0.032	0.043	0.067	0.068	0.072	0.081	0.077	0.082	0.085	0.09		
			RPM	4934	3289	2785	2419	2175	1671	1210	1061	955	816	760	637	564	497		
11.2	0.05D	1.5D	Vc	17	19	21	22	23	24	24	23	23	23	24	23	23	24		
			fz	0.006	0.013	0.019	0.024	0.031	0.04	0.057	0.065	0.068	0.076	0.074	0.081	0.081	0.088		
			RPM	2706	2016	1671	1401	1220	955	764	610	523	458	424	366	333	306		
M	14.1	Stainless steel	0.1D	1.5D	Vc	27	30	33	35	36	38	37	36	37	37	37	36	37	37
					fz	0.006	0.013	0.019	0.023	0.031	0.039	0.056	0.063	0.067	0.075	0.076	0.08	0.08	0.088
					RPM	4297	3183	2626	2228	1910	1512	1178	955	841	736	654	573	535	471
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	84	85	79	79	79
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.09
					RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006
H	40	Chilled Cast Iron	0.05D	1.5D	Vc	17	19	21	22	23	24	24	23	23	23	24	23	23	24
					fz	0.006	0.013	0.019	0.024	0.031	0.04	0.057	0.065	0.068	0.076	0.074	0.081	0.081	0.088
					RPM	2706	2016	1671	1401	1220	955	764	610	523	458	424	366	333	306



**SELECTION GUIDE**



SERIES	GYG77 GYF97	GYG72 GYF99	GYG01
FLUTE	2	2	3
HELIX ANGLE	30°	30°	30°
CUTTING EDGE SHAPE	BALL NOSE	SQUARE	SQUARE
SIZE MIN	R0.5	D1.0	D1.0
SIZE MAX	R12.5	D25.0	D25.0
PAGE	618	619	620

**COATED PM60**  
**ONLY ONE**  
**END MILLS**

Perfect solution to protect Carbide chipping problems under vibrations



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P 628

SHORT LENGTH	SHORT LENGTH	SHORT LENGTH (Center Cut)
Y-Coating	Y-Coating	Y-Coating



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc				
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	
	4		About 0.75% C Annealed	270	28	◎	◎	◎	
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	
	7		Quenched & Tempered	275	29	◎	◎	◎	
	8		Quenched & Tempered	300	32	◎	◎	◎	
	9		Quenched & Tempered	350	38	○	○	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎
	11			Quenched & Tempered	325	35	○	○	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎	
	13		Martensitic Quenched & Tempered	240	23	◎	◎	◎	
	14		Austenitic	180	10	◎	◎	◎	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	
	16		Pearlitic (Martensitic)	260	26	◎	◎	◎	
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎	
	18		Pearlitic	250	25	◎	◎	◎	
	19	Malleable cast iron	Ferritic	130		◎	◎	◎	
	20		Pearlitic	230	21	◎	◎	◎	
N	21	Aluminum-wrought alloy	Not Curable	60					
	22		Curable Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75					
	24		≤ 12% Si, Curable Hardened	90					
	25		> 12% Si, Not Curable	130					
	26		Cutting Alloys, PB>1%	110			○	○	○
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		○	○	○	
	28		CuSn, lead-free copper and electrolytic copper	100		○	○	○	
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
	32		Cured	280	30				
	33		Annealed	250	25				
	34		Ni or Co Based Cured	350	38				
	35	Cast	320	34					
	36	Titanium Alloys	Pure Titanium	400 Rm					
	37		Alpha + Beta Alloys Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
	40	Chilled Cast Iron	Cast	400	42	○	○	○	
	41	Hardened Cast Iron	Hardened	550	55				

GYG74 GYF96	GYG52	GYG76 GYG02	GYF95	GYF94	GYF98	GYG03
4	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute
30°	35°/37°	30°	4F: 44°/45° 5F: 44°/44.5°/45°	30°	30°	30°
SQUARE	SQUARE	SQUARE	CORNER RADIUS ROUGHING	ROUGHING	ROUGHING	ROUGHING
D1.0	D3.0	D2.0	D6.0	D6.0	D6.0	D6.0
D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
621	622	623	624	625	626	627
SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating

⊙	⊙	⊙	⊙	⊙	⊙	⊙	1
⊙	⊙	⊙	⊙	⊙	⊙	⊙	2
⊙	⊙	⊙	⊙	⊙	⊙	⊙	3
⊙	⊙	⊙	⊙	⊙	⊙	⊙	4
⊙	⊙	⊙	⊙	⊙	⊙	⊙	5
⊙	⊙	⊙	⊙	⊙	⊙	⊙	6 P
⊙	⊙	⊙	⊙	⊙	⊙	⊙	7
⊙	⊙	⊙	⊙	⊙	⊙	⊙	8
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⊙	⊙	⊙	⊙	⊙	⊙	⊙	13 M
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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  
END MILLS

ALU-POWER  
HPC  
END MILLS

ALU-  
POWER  
END MILLS

D-POWER  
GRAPHITE  
END MILLS

D-POWER  
CFRP  
END MILLS

ROUTERS

CRX S  
END MILLS

K-2  
END MILLS

ONLY ONE  
COATED PM60  
END MILLS

TANK-  
POWER  
END MILLS

GENERAL  
HSS  
END MILLS

MILLING  
CUTTERS

TECHNICAL  
DATA