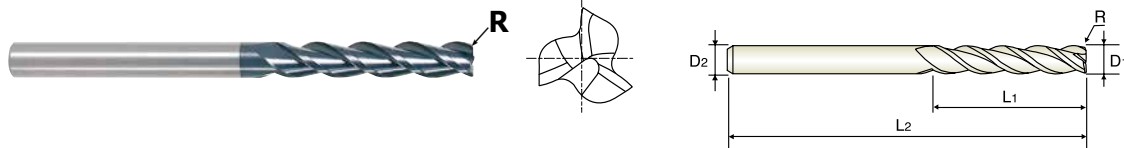


CARBIDE, 3 FLUTE 40° HELIX CORNER RADIUS LONG LENGTH

- **VOLLHARTMETALL, 3 SCHNEIDN 40° RECHTSSPIRALE ECKENRADIUS LANG**
- **Fraise carbure, 3 dents, torique, hélice 40°, longue**
- **3 TAGLIENTI, ELICA 40°, TORICA, SERIE LUNGA**

- ▶ Higher hardness of film and excellent wear-resistance increase the tool life surprisingly.
- ▶ Ultra fine film of YG-1's diamond coated carbide end mills ensure the smooth and excellent surface on work materials.
- ▶ High performance on graphite, wrought aluminum, bakelite, plastics, wood, brass etc. YG-1's diamond coated carbide end mills have good result for the machining of non-ferrous metals and non-metallic materials.
- ▶ **Höhere Härte der Beschichtung und ausgezeichnete Verschleißfestigkeit verlängern die Standzeit beachtlich.**
- ▶ **Ultrafeiner Film auf YG-1 Diamant - beschichteten Hartmetall Schafffräser gewährleisten eine glatte und ausgezeichnete Oberflächengüte.**
- ▶ **Hohe Leistungsfähigkeit bei Graphit, Aluminium ohne Silicon, Bakelit, Plastik, Holz, Messing, etc. YG-1 Diamant - beschichtete Hartmetall Schafffräser zeigen gute Ergebnisse beim Bearbeiten von NE - Metallen und Nichtmetall - Werkstoffen.**



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R	D1	D2	L1	L2
EIA14020	R0.15	2.0	3	9	60
EIA14030	R0.15	3.0	3	30	60
EIA14040	R0.2	4.0	4	30	60
EIA14050	R0.3	5.0	5	35	70
EIA14060	R0.3	6.0	6	40	100
EIA14080	R0.5	8.0	8	40	100
EIA14100	R0.5	10.0	10	40	100
EIA14120	R0.5	12.0	12	45	100

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ - 0.03	h5

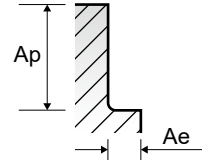
◎ : Excellent ○ : Good

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	
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	○	○	○	○	○					◎												

EIA13, EIA14 SERIES 3 FLUTE CORNER RADIUS - SIDE CUTTING

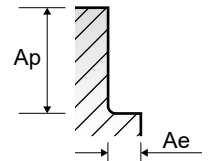
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

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
N	29.2	Graphite	0.3D	0.3D	Vc	250	375	505	630	755	805	815	790
					fz	0.025	0.035	0.05	0.06	0.07	0.088	0.11	0.13
					RPM	39789	39789	40187	40107	40054	32030	25942	20955
					FEED	2984	4178	6028	7219	8411	8456	8561	8173



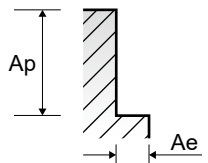
EIB88 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)			
						6.0	8.0	10.0	12.0
N	29.2	Graphite	0.3D	0.3D	Vc	755	805	815	790
					fz	0.035	0.044	0.055	0.065
					RPM	40054	32030	25942	20955
					FEED	5608	5637	5707	5448



EIB04 SERIES 2 FLUTE - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						0.4	0.6	0.8	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
N	29.2	Graphite	0.1D	1.5D	Vc	50	75	100	125	190	155	190	225	220	205	200	205	205
					fz	0.003	0.004	0.007	0.009	0.010	0.016	0.020	0.026	0.043	0.064	0.081	0.092	0.109
					RPM	39789	39789	39789	39789	40319	24669	20160	17905	14006	10876	7958	6525	5438
					FEED	239	318	557	716	806	789	806	931	1204	1392	1289	1201	1185



SELECTION GUIDE



SERIES	EI997	EIB93	EI880
FLUTE	2	2	2
HELIX ANGLE	30°	30°	30°
CUTTING EDGE SHAPE	BALL NOSE	BALL NOSE	BALL NOSE
SIZE MIN	R0.1	R0.2	R1.0
SIZE MAX	R3.0	R2.0	R6.0
PAGE	502	504	505

SOLID CARBIDE
D-POWER
 for GRAPHITE
END MILLS

High performance on graphite



Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P 517

MINIATURE NECK	MINIATURE NECK	SHORT LENGTH NECK
Diamond	Diamond	Diamond



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
	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		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90
	27	Copper and Copper Alloys (Bronze / Brass)	CuSn, lead-free copper and electrolytic copper	100	
	28				
	29.1				
	29.2	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic		
29.3	Graphite				
30	CFRP, GFRP				
31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15
32			Cured	280	30
33		Ni or Co Based	Annealed	250	25
34			Cured	350	38
35			Cast	320	34
36	Titanium Alloys	Pure Titanium	400 Rm		
37		Alpha + Beta Alloys	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

EI451	EI450	EIB87	EI881	EI996	EIB86	EIA13	EIA14	EIB88	EIB04
2	2	2	3	2	2	3	3	4	2
30°	30°	30°	30°	30°	30°	40°	40°	30°	30°
BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	SQUARE
R1.0	R1.0	R0.5	R1.0	D0.2	D1.0	D2.0	D2.0	D6.0	D0.5
R6.0	R6.0	R1.0	R6.0	D6.0	D2.0	D12.0	D12.0	D12.0	D12.0
506	507	508	509	510	512	513	514	515	516
LONG LENGTH NECK	LONG REACH NECK	TAPER NECK	SHORT LENGTH NECK	MINIATURE NECK	TAPER NECK	SHORT LENGTH	LONG LENGTH	NECK	LONG LENGTH NECK
Diamond	Diamond	Diamond	Diamond	Diamond	Diamond	Diamond	Diamond	Diamond	Diamond



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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 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