



Leading Through Innovation



SOLID CARBIDE

JET-POWER END MILLS

JET - POWER VHM - FRÄSERFRÄSER

- For Exotic materials like Stainless Steels, Nickel Alloys and Titanium
- Für Sonderwerkstoffe wie rostfreie Stähle, Nickellegierungen und Titan.

SELECTION GUIDE



SOLID CARBIDE
JET-POWER
END MILLS

Exotic materials like Stainless Steels
Nickel alloys and Titanium

Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

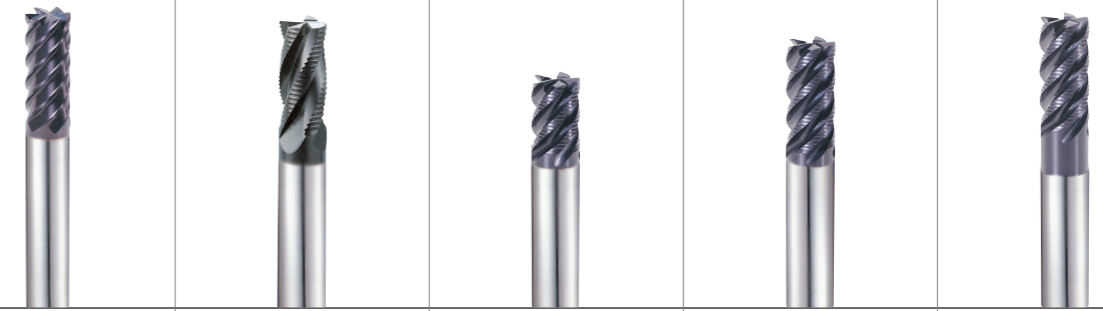
Recommended cutting conditions : p. C469

SERIES	EH911 EH912	EH913 EH914
FLUTE	2	4
HELIX ANGLE	35°	35°
CUTTING EDGE SHAPE	SQUARE	SQUARE
SIZE MIN	D1.0	D2.0
SIZE MAX	D25.0	D25.0
PAGE	C460	C462
	SHORT LENGTH	SHORT LENGTH
	TiAIN	TiAIN



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		Ferritic	130		
20	Malleable cast iron	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	Cutting Alloys, PB>1%	110		
	27		CuZn, CuSnZn (Brass)	90		
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100		
	29		Duroplastic, Fiber Reinforced Plastic			
30	Rubber, Wood, etc.					
S	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 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	

EH915 EH916	EH831 EH841	EH917 EH918	EH919 EH920	EH921 EH942
6&8	Multi Flute	Multi Flute	Multi Flute	Multi Flute
45°	30°	45°	45°	45°
SQUARE	ROUGHING	ROUGHING	ROUGHING	ROUGHING
D6.0	D6.0	D6.0	D4.0	D6.0
D25.0	D25.0	D20.0	D25.0	D20.0
C464	C465	C466	C467	C468
LONG LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	LONG LENGTH
TiAIN	TiAIN	TiAIN	TiAIN	TiAIN



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○	○	○	○	○	2
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◎	◎	◎	◎	◎	4
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◎	◎	◎	◎	◎	36
◎	◎	◎	◎	◎	37
					38
					39
○	○	○	○	○	40
					41

CARBIDE, 2 FLUTE 35° HELIX SHORT LENGTH

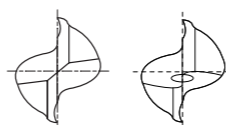
● **VOLLHARTMETALL, 2 SCHNEIDEN 35° RECHTSSPIRALE KURZ**

○ **Fraise carbure, 2 dents, hélice 35°, courte**

○ **2 TAGLIENTI, ELICA 35°, CORTA**

- ▶ Ultra micro grain carbide
- ▶ Reduces chipping of corner edges
- ▶ Suitable for low hardness materials (under HRC45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc

- ▶ Ultra Feinstkorn - Vollhartmetall.
- ▶ Verstärkte Schneidkante.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRC, rostfreien Stählen, Titan und Nickellegierungen.



up to Ø3mm over Ø3mm

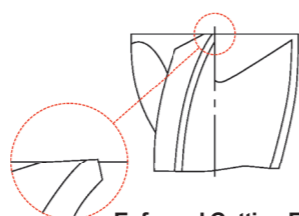
CARBIDE 2 35° PLAIN FLAT TiAIN p.C469

Recommended Toolholder	Flat Shank	Plain Shank
⊗	END MILL HOLDER	POWER MILLING CHUCK
⊙	-	HYDRAULIC CHUCK
○	-	SHRINK FIT HOLDER
○	-	ER COLLET CHUCK

Unit : mm

EDP No.	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
	PLAIN	FLAT			
EH911010	-	1.0	4	2.5	40
EH911901	EH912901	1.0	6	2.5	40
EH911015	-	1.5	4	4	40
EH911902	EH912902	1.5	6	4	40
EH911020	-	2.0	4	6	40
EH911903	EH912903	2.0	6	6	40
EH911025	-	2.5	4	8	40
EH911904	EH912904	2.5	6	8	40
EH911030	EH912030	3.0	6	8	45
EH911035	EH912035	3.5	6	10	45
EH911040	EH912040	4.0	6	11	45
EH911045	EH912045	4.5	6	11	45
EH911050	EH912050	5.0	6	13	50
EH911055	EH912055	5.5	6	13	50
EH911060	EH912060	6.0	6	13	50
EH911065	EH912065	6.5	8	16	60
EH911070	EH912070	7.0	8	16	60
EH911075	EH912075	7.5	8	16	60
EH911080	EH912080	8.0	8	19	60
EH911085	EH912085	8.5	10	19	70

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



Enforced Cutting Edge

▶ NEXT PAGE

◎ : 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	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											◎	◎				◎	◎			○	

CARBIDE, 2 FLUTE 35° HELIX SHORT LENGTH

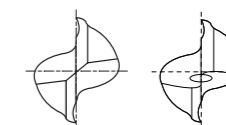
● **VOLLHARTMETALL, 2 SCHNEIDEN 35° RECHTSSPIRALE KURZ**

○ **Fraise carbure, 2 dents, hélice 35°, courte**

○ **2 TAGLIENTI, ELICA 35°, CORTA**

- ▶ Ultra micro grain carbide
- ▶ Reduces chipping of corner edges
- ▶ Suitable for low hardness materials (under HRC45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc

- ▶ Ultra Feinstkorn - Vollhartmetall.
- ▶ Verstärkte Schneidkante.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRC, rostfreien Stählen, Titan und Nickellegierungen.



up to Ø3mm over Ø3mm

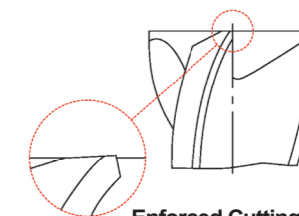
CARBIDE 2 35° PLAIN FLAT TiAIN p.C469

Recommended Toolholder	Flat Shank	Plain Shank
⊗	END MILL HOLDER	POWER MILLING CHUCK
⊙	-	HYDRAULIC CHUCK
○	-	SHRINK FIT HOLDER
○	-	ER COLLET CHUCK

Unit : mm

EDP No.	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
	PLAIN	FLAT			
EH911090	EH912090	9.0	10	19	70
EH911095	EH912095	9.5	10	19	70
EH911100	EH912100	10.0	10	22	70
EH911110	EH912110	11.0	12	22	75
EH911120	EH912120	12.0	12	26	75
EH911140	EH912140	14.0	16	26	85
EH911160	EH912160	16.0	16	32	100
EH911180	EH912180	18.0	16	32	100
EH911200	EH912200	20.0	20	38	105
EH911220	EH912220	22.0	20	38	105
EH911250	EH912250	25.0	25	45	120

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



Enforced Cutting Edge

◎ : 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	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											◎	◎				◎	◎			○	

CARBIDE, 4 FLUTE 35° HELIX SHORT LENGTH

● **VOLLHARTMETALL, 4 SCHNEIDEN 35° RECHTSSPIRALE KURZ**
 (●) **Fraise carbure, 4 dents, hélice 35°, courte**
 (●) **4 TAGLIENTI, ELICA 35°, CORTA**

- ▶ Ultra micro grain carbide
- ▶ Reduces chipping of corner edges
- ▶ Suitable for low hardness materials (under HRC45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc

- ▶ Ultra Feinstkorn - Vollhartmetall
- ▶ Verstärkte Schneidkante.
- ▶ Für die Bearbeitung von: Werkstoffen bis 45 HRC, rostfreien Stählen, Titan und Nickellegierungen.

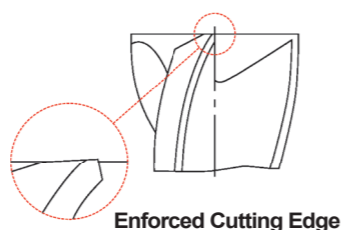


Recommended Toolholder	Flat Shank	Plain Shank
	END MILL HOLDER	POWER MILLING CHUCK
	-	HYDRAULIC CHUCK SHRINK FIT HOLDER
	-	ER COLLET CHUCK

Unit : mm

EDP No.	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
	PLAIN	FLAT			
EH913020	-	2.0	4	6	40
EH913901	EH914901	2.0	6	6	40
EH913025	-	2.5	4	8	40
EH913902	EH914902	2.5	6	8	40
EH913030	EH914030	3.0	6	8	45
EH913035	EH914035	3.5	6	10	45
EH913040	EH914040	4.0	6	11	45
EH913045	EH914045	4.5	6	11	45
EH913050	EH914050	5.0	6	13	50
EH913055	EH914055	5.5	6	13	50
EH913060	EH914060	6.0	6	13	50
EH913065	EH914065	6.5	8	16	60
EH913070	EH914070	7.0	8	16	60
EH913075	EH914075	7.5	8	16	60
EH913080	EH914080	8.0	8	19	60
EH913085	EH914085	8.5	10	19	70
EH913090	EH914090	9.0	10	19	70
EH913095	EH914095	9.5	10	19	70
EH913100	EH914100	10.0	10	22	70
EH913110	EH914110	11.0	12	22	75

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



Enforced Cutting Edge

▶ NEXT PAGE

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	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○

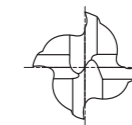
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28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

CARBIDE, 4 FLUTE 35° HELIX SHORT LENGTH

● **VOLLHARTMETALL, 4 SCHNEIDEN 35° RECHTSSPIRALE KURZ**
 (●) **Fraise carbure, 4 dents, hélice 35°, courte**
 (●) **4 TAGLIENTI, ELICA 35°, CORTA**

- ▶ Ultra micro grain carbide
- ▶ Reduces chipping of corner edges
- ▶ Suitable for low hardness materials (under HRC45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc

- ▶ Ultra Feinstkorn - Vollhartmetall
- ▶ Verstärkte Schneidkante.
- ▶ Für die Bearbeitung von: Werkstoffen bis 45 HRC, rostfreien Stählen, Titan und Nickellegierungen.

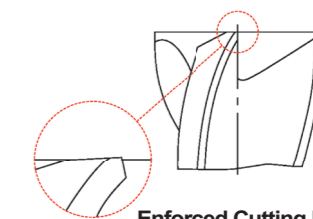


Recommended Toolholder	Flat Shank	Plain Shank
	END MILL HOLDER	POWER MILLING CHUCK
	-	HYDRAULIC CHUCK SHRINK FIT HOLDER
	-	ER COLLET CHUCK

Unit : mm

EDP No.	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
	PLAIN	FLAT			
EH913120	EH914120	12.0	12	26	75
EH913140	EH914140	14.0	16	26	85
EH913160	EH914160	16.0	16	32	100
EH913180	EH914180	18.0	16	32	100
EH913200	EH914200	20.0	20	38	105
EH913220	EH914220	22.0	20	38	105
EH913250	EH914250	25.0	25	45	120

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



Enforced Cutting Edge

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	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											◎	◎				◎	◎			○	

CARBIDE, 6&8 FLUTE 45° HELIX LONG LENGTH (Positive Rake Angle)

- VOLLHARTMETALL, 6&8 SCHNEIDEN 45° RECHTSSPIRALE LANG
- Fraise carbure, 6&8 dents, hélice 45°, longue (Angle de coupe positif)
- 6&8 TAGLIENTI, ELICA 45°, LUNGA (Tagliente positivizzato)

- ▶ Ultra micro grain carbide
- ▶ Reduces chipping of corner edges
- ▶ Suitable for low hardness materials(under HRC45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc
- ▶ Ultra Feinstkorn - Vollhartmetall
- ▶ Verstärkte Schneidkante.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRc, rostfreien Stählen, Titan und Nickellegierungen.



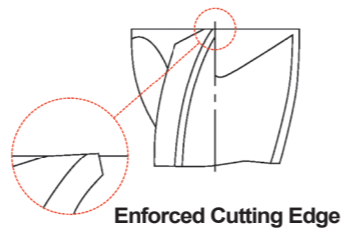
CARBIDE 6&8 45° PLAIN FLAT TiAIN p.C471

Recommended ToolHolder	Flat Shank	Plain Shank
⊙	END MILL HOLDER	POWER MILLING CHUCK
○	-	HYDRAULIC CHUCK SHRINK FIT HOLDER
○	-	ER COLLET CHUCK

Unit : mm

EDP No.	Mill Diameter		Shank Diameter		Length of Cut		Overall Length	No. of Flute
	PLAIN	FLAT	D1	D2	L1	L2		
EH915060	EH916060	6.0	6	13	57	6		
EH915070	EH916070	7.0	8	16	63	6		
EH915080	EH916080	8.0	8	19	63	6		
EH915090	EH916090	9.0	10	19	72	6		
EH915100	EH916100	10.0	10	22	72	6		
EH915120	EH916120	12.0	12	26	83	6		
EH915140	EH916140	14.0	14	26	83	6		
EH915160	EH916160	16.0	16	32	92	6		
EH915180	EH916180	18.0	18	32	92	8		
EH915200	EH916200	20.0	20	38	104	8		
EH915250	EH916250	25.0	25	44	104	8		

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



◎ : Excellent ○ : Good

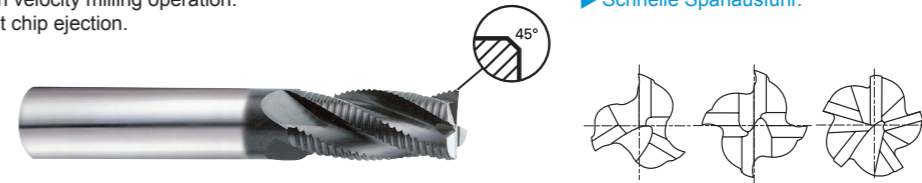
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	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	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, MULTI FLUTE LONG LENGTH ROUGHING - FINE

- VOLLHARTMETALL, MULTI SCHNEIDEN LANG SCHRUPPFRÄSER - FEIN
- Fraise carbure, multi-dents ébauche, pas fin, longue
- 3 - 4 - 5 TAGLIENTI, PER SGROSSATURA, LUNGA - Bombato fine

- ▶ Suitable for low hardness materials(under HRC45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc.
- ▶ High velocity milling operation.
- ▶ Fast chip ejection.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRc, rostfreien Stählen, Titan und Nickellegierungen..
- ▶ Hochgeschwindigkeitsfräsen.
- ▶ Schnelle Spanausfuhr.



CARBIDE HR 3-5 30° PLAIN FLAT C x 45° TiAIN p.C472~C473

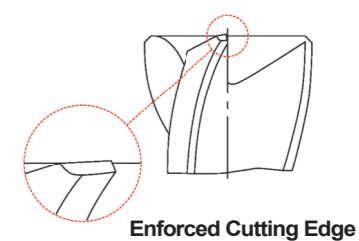
Recommended ToolHolder	Flat Shank	Plain Shank
⊙	END MILL HOLDER	POWER MILLING CHUCK
○	-	HYDRAULIC CHUCK SHRINK FIT HOLDER
○	-	ER COLLET CHUCK

Unit : mm

EDP No.	Mill Diameter		Shank Diameter		Length of Cut	Overall Length	No. of Flute	Chamfer
	PLAIN	FLAT	h10	h5				
EH831060	EH841060	6.0	6	16	57	3	0.38	
EH831070	EH841070	7.0	8	16	63	3	0.38	
EH831080	EH841080	8.0	8	16	63	3	0.38	
EH831090	EH841090	9.0	10	19	72	4	0.38	
EH831100	EH841100	10.0	10	22	72	4	0.38	
EH831120	EH841120	12.0	12	26	83	4	0.55	
EH831140	EH841140	14.0	14	26	83	4	0.55	
EH831160	EH841160	16.0	16	32	92	4	0.55	
EH831180	EH841180	18.0	18	32	92	4	0.55	
EH831200	EH841200	20.0	20	38	104	4	0.55	
EH831250	EH841250	25.0	25	45	121	5	0.55	

Tolerances according to DIN 7160 & 7161

	Tolerance range in μm				
	Nominal-Diameter in mm				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
h5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9



◎ : 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	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	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	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	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	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, MULTI FLUTE 45° HELIX SHORT LENGTH ROUGHING - FINE

- VOLLHARTMETALL, MULTI SCHNEIDEN 45° RECHTSSPIRALE KURZ SCHRUPPFRÄSER - FEIN
- Fraise carbure, multi-dents ébauche, hélice 45°, pas fin, courte
- 4 - 5 - 6 TAGLIENTI, ELICA 45°, PER SGROSSATURA, CORTA - Bombato fine

- ▶ Ultra micro grain carbide
- ▶ High chip removal and minimizing breakages of cutting edges.
- ▶ Suitable for low hardness materials (under HRC45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc

- ▶ Ultra Feinstkorn - Vollhartmetall
- ▶ Schnelle Spanausfuhr und Minimierung von Abbrechen von Schneidkanten.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRc, rostfreien Stählen, Titan und Nickellegierungen.



CARBIDE HR 4-6 45° PLAIN FLAT C x 45° TiAIN p.C474~C475

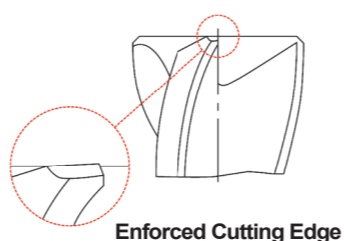
Flat Shank	Plain Shank
END MILL HOLDER	POWER MILLING CHUCK
-	HYDRAULIC CHUCK
-	SHRINK FIT HOLDER
-	ER COLLET CHUCK

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
EH917060	6.0	6	7	54	4	0.15
EH917080	8.0	8	9	58	4	0.18
EH917100	10.0	10	14	66	4	0.20
EH917120	12.0	12	16	73	4	0.20
EH917160	16.0	16	22	82	5	0.20
EH917200	20.0	20	26	92	6	0.20

Tolerances according to DIN 7160 & 7161

	Tolerance range in μm				
	Nominal-Diameter in mm				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 -40	0 -48	0 -58	0 -70	0 -84
h5	0 -4	0 -5	0 -6	0 -8	0 -9



Enforced Cutting Edge

◎ : Excellent ○ : Good

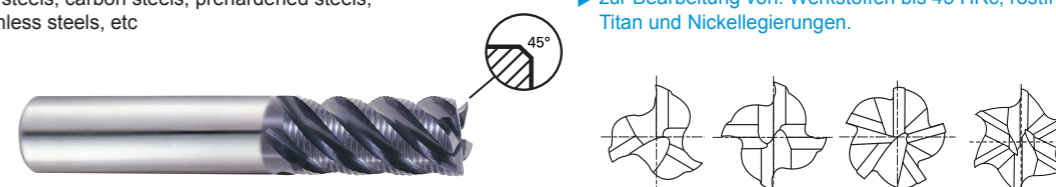
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	45	48	52	55	58	62	65	68	72	75	78	82	85
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	◎	◎	○	◎	◎	◎	◎	◎

CARBIDE, MULTI FLUTE 45° HELIX LONG LENGTH ROUGHING - FINE

- VOLLHARTMETALL, MULTI SCHNEIDEN 45° RECHTSSPIRALE LANG SCHRUPPFRÄSER - FEIN
- Fraise carbure, multi-dents ébauche, hélice 45°, pas fin, longue
- MULTITAGLIENTI, ELICA 45°, PER SGROSSATURA, LUNGA - Bombato fine

- ▶ Ultra micro grain carbide
- ▶ High chip removal and minimizing breakages of cutting edges.
- ▶ Suitable for low hardness materials (under HRC45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc

- ▶ Ultra Feinstkorn - Vollhartmetall
- ▶ Schnelle Spanausfuhr und Minimierung von Abbrechen von Schneidkanten.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRc, rostfreien Stählen, Titan und Nickellegierungen.



CARBIDE HR 3-6 45° PLAIN FLAT C x 45° TiAIN p.C476~C477

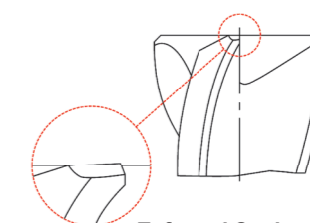
Flat Shank	Plain Shank
END MILL HOLDER	POWER MILLING CHUCK
-	HYDRAULIC CHUCK
-	SHRINK FIT HOLDER
-	ER COLLET CHUCK

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
EH919040	4.0	6	11	57	3	0.1
EH919050	5.0	6	13	57	4	0.13
EH919060	6.0	6	16	57	4	0.15
EH919070	7.0	8	16	63	4	0.15
EH919080	8.0	8	16	63	4	0.18
EH919090	9.0	10	19	72	4	0.18
EH919100	10.0	10	22	72	4	0.2
EH919120	12.0	12	26	83	4	0.2
EH919140	14.0	14	26	83	5	0.2
EH919160	16.0	16	32	92	5	0.2
EH919200	20.0	20	38	104	6	0.2
EH919250	25.0	25	45	121	6	0.2

Tolerances according to DIN 7160 & 7161

	Tolerance range in μm				
	Nominal-Diameter in mm				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 -40	0 -48	0 -58	0 -70	0 -84
h5	0 -4	0 -5	0 -6	0 -8	0 -9



Enforced Cutting Edge

◎ : Excellent ○ : Good

ISO	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		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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	35	38	42	45	48	52	55	58	62	65	68	72	75	78	82	85
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	◎	◎	○	◎	◎	◎	◎	◎

PLAIN SHANK **EH921** SERIES

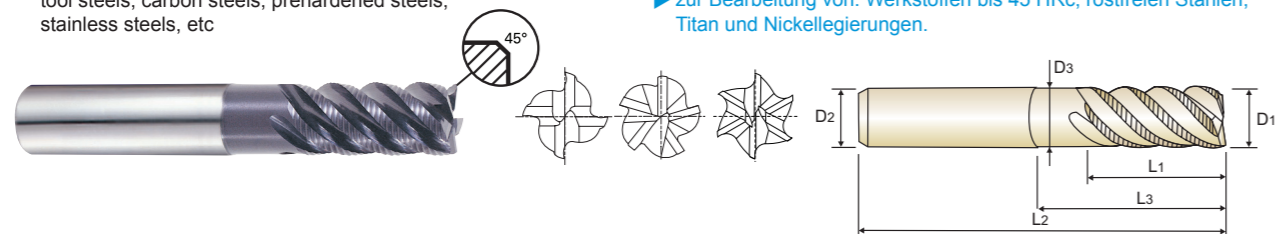
FLAT SHANK **EH942** SERIES

CARBIDE, MULTI FLUTE 45° HELIX LONG REACH ROUGHING - FINE

● VOLLHARTMETALL, MULTI SCHNEIDEN 45° RECHTSSPIRALE GROÙE REICHWEITE SCHRUPPFRÄSER - FEIN
○ Fraise carbure, multi-dents ébauche longue portée, hélice 45°, pas fin
● MULTITAGLIENTI, ELICA 45° SCARICATA, PER SGROSSATURA, LUNGA - Bombato fine

- ▶ Ultra micro grain carbide
- ▶ High chip removal and minimizing breakages of cutting edges.
- ▶ Suitable for low hardness materials(under HRC45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc

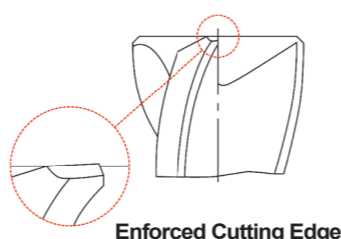
- ▶ Ultra Feinstkorn - Vollhartmetall
- ▶ Schnelle Spanausfuhr und Minimierung von Abbrechen von Schneidkanten.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRC, rostfreien Stählen, Titan und Nickellegierungen.



EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	No. of Flute	Chamfer	Unit : mm
									PLAIN
EH921060	EH942060	6.0	6	16	20	57	5.5	4	0.15
EH921080	EH942080	8.0	8	16	26	63	7.5	4	0.18
EH921100	EH942100	10.0	10	22	31	72	9.5	4	0.2
EH921120	EH942120	12.0	12	26	37	83	11.5	4	0.2
EH921160	EH942160	16.0	16	32	51	100	15.5	5	0.2
EH921200	EH942200	20.0	20	38	59	110	19.2	6	0.2

Tolerances according to DIN 7160 & 7161

Nominal-Diameter in mm	Tolerance range in μm				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
h5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9



◎ : Excellent ○ : Good

ISO	P														M				K			
	Non-alloy steel						Low alloy steel				High alloy 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	30	29	32	38	35	35	25	23	10		26	3	25		21			
HB	190	250	270	300	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	◎	◎	◎								

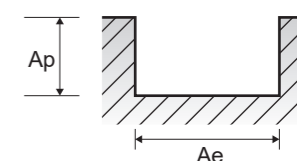
ISO	N									S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35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

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EH911, EH912 SERIES **2 FLUTE - SLOTTING**

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	16.0	20.0	25.0
P	1-4	Non-alloy steel	1.0D	0.5D (up to Ø3:0.2D)	Vc	75	85	95	100	105	105	100	105	110	105	105
					fz	0.008	0.012	0.02	0.025	0.031	0.045	0.051	0.051	0.05	0.051	0.048
	RPM	11937	9019	7560	6366	5570	4178	3183	2785	2188	1671	1337				
	FEED	191	216	302	318	345	376	325	284	219	170	128				
	5	Low alloy steel	1.0D	0.5D (up to Ø3:0.2D)	Vc	50	50	60	60	65	65	65	65	70	65	65
					fz	0.008	0.013	0.019	0.025	0.033	0.04	0.04	0.039	0.04	0.038	0.042
RPM	7958	5305	4775	3820	3448	2586	2069	1724	1393	1035	828					
FEED	127	138	181	191	228	207	166	134	111	79	70					
6-7	High alloy steel, and tool steel	1.0D	0.5D (up to Ø3:0.2D)	Vc	75	85	95	100	105	105	100	105	110	105	105	
				fz	0.008	0.012	0.02	0.025	0.031	0.045	0.051	0.051	0.05	0.051	0.048	
RPM	11937	9019	7560	6366	5570	4178	3183	2785	2188	1671	1337					
FEED	191	216	302	318	345	376	325	284	219	170	128					
8-9	Stainless steel	1.0D	0.5D (up to Ø3:0.2D)	Vc	50	50	60	60	65	65	65	65	70	65	65	
				fz	0.008	0.013	0.019	0.025	0.033	0.04	0.04	0.039	0.04	0.038	0.042	
RPM	7958	5305	4775	3820	3448	2586	2069	1724	1393	1035	828					
FEED	127	138	181	191	228	207	166	134	111	79	70					
10	Titanium Alloys	1.0D	0.5D (up to Ø3:0.2D)	Vc	75	85	95	100	105	105	100	105	110	105	105	
				fz	0.008	0.012	0.02	0.025	0.031	0.045	0.051	0.051	0.05	0.051	0.048	
RPM	11937	9019	7560	6366	5570	4178	3183	2785	2188	1671	1337					
FEED	191	216	302	318	345	376	325	284	219	170	128					
11.1	Chilled Cast Iron	1.0D	0.5D (up to Ø3:0.2D)	Vc	50	50	60	60	65	65	65	65	70	65	65	
				fz	0.008	0.013	0.019	0.025	0.033	0.04	0.04	0.039	0.04	0.038	0.042	
RPM	7958	5305	4775	3820	3448	2586	2069	1724	1393	1035	828					
FEED	127	138	181	191	228	207	166	134	111	79	70					
M	36-37	Grey cast iron	1.0D	0.5D (up to Ø3:0.2D)	Vc	40	45	50	50	55	55	55	55	55	55	
					fz	0.007	0.013	0.019	0.025	0.032	0.043	0.048	0.048	0.052	0.048	0.044
RPM	6366	4775	3979	3183	2918	2188	1751	1326	1094	875	700					
FEED	89	124	151	159	187	188	168	127	114	84	62					
S	40	Nodular cast iron	1.0D	0.5D (up to Ø3:0.2D)	Vc	40	45	50	50	55	55	55	55	55	55	
					fz	0.007	0.013	0.019	0.025	0.032	0.043	0.048	0.048	0.052	0.048	0.044
RPM	6366	4775	3979	3183	2918	2188	1751	1326	1094	875	700					
FEED	89	124	151	159	187	188	168	127	114	84	62					
H		Malleable cast iron	1.0D	0.5D (up to Ø3:0.2D)	Vc	50	50	60	60	65	65	65	65	70	65	65
					fz	0.008	0.013	0.019	0.025	0.033	0.04	0.04	0.039	0.04	0.038	0.042
RPM	7958	5305	4775	3820	3448	2586	2069	1724	1393	1035	828					
FEED	127	138	181	191	228	207	166	134	111	79	70					





RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

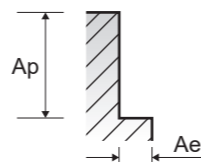


RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EH913, EH914 SERIES 4 FLUTE - SIDE CUTTING

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

Table with columns for ISO, VDI 3323, Material Description, Ae, Ap, Parameter (Vc, fz, RPM, FEED), and Diameter (ø) from 2.0 to 25.0. Rows include Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, and Titanium Alloys.



EH915, EH916 SERIES 6&8 FLUTE - SIDE CUTTING

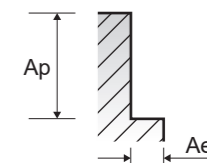
Vc = m/min.
fz = mm/tooth
RPM = rev/min.
FEED = mm/min.

NORMAL SPEED

Table for Normal Speed with columns for ISO, VDI 3323, Material Description, Ae, Ap, Parameter, and Diameter (ø) from 6.0 to 25.0. Rows include Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Heat Resistant Super Alloys, Titanium Alloys, and Chilled Cast Iron.

HIGH SPEED

Table for High Speed with columns for ISO, VDI 3323, Material Description, Ae, Ap, Parameter, and Diameter (ø) from 6.0 to 25.0. Rows include Non-alloy steel, Low alloy steel, High alloyed steel, and Chilled Cast Iron.



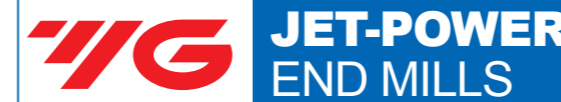
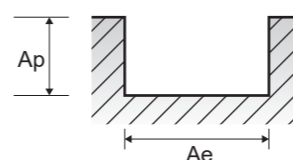


RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EH831, EH841 SERIES MULTI FLUTES ROUGHING - SLOTTING

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	14.0	16.0	18.0	20.0	25.0	
P	1-4	Non-alloy steel	1.0D	0.5D	Vc	294	292	289	302	299	302	294	302	338	
					fz	0.03	0.04	0.038	0.045	0.053	0.06	0.067	0.068	0.06	
	RPM		15597	11618	9199	8011	6798	6008	5199	4806	4304				
	FEED		1404	1394	1398	1442	1441	1442	1393	1307	1291				
	5		Low alloy steel	1.0D	0.5D	Vc	234	231	239	226	229	241	249	226	251
						fz	0.013	0.018	0.016	0.02	0.024	0.024	0.024	0.024	0.023
	RPM	12414		9191	7608	5995	5207	4795	4403	3597	3196				
	FEED	484		496	487	480	500	460	423	345	368				
	6-7	High alloyed steel, and tool steel		1.0D	0.5D	Vc	294	292	289	302	299	302	294	302	338
						fz	0.03	0.04	0.038	0.045	0.053	0.06	0.067	0.068	0.06
	RPM		15597	11618	9199	8011	6798	6008	5199	4806	4304				
	FEED		1404	1394	1398	1442	1441	1442	1393	1307	1291				
8-9	Stainless steel		1.0D	0.5D	Vc	234	231	239	226	229	241	249	226	251	
					fz	0.013	0.018	0.016	0.02	0.024	0.024	0.024	0.024	0.023	
RPM		12414	9191	7608	5995	5207	4795	4403	3597	3196					
FEED		484	496	487	480	500	460	423	345	368					
10		Heat Resistant Super Alloys	1.0D	0.5D	Vc	294	292	289	302	299	302	294	302	338	
					fz	0.03	0.04	0.038	0.045	0.053	0.06	0.067	0.068	0.06	
RPM	15597		11618	9199	8011	6798	6008	5199	4806	4304					
FEED	1404		1394	1398	1442	1441	1442	1393	1307	1291					
11.1 11.2	Titanium Alloys		1.0D	0.5D	Vc	234	231	239	226	229	241	249	226	251	
					fz	0.013	0.018	0.016	0.02	0.024	0.024	0.024	0.024	0.023	
RPM		12414	9191	7608	5995	5207	4795	4403	3597	3196					
FEED		484	496	487	480	500	460	423	345	368					
M 14.1		Chilled Cast Iron	1.0D	0.5D	Vc	158	158	160	158	158	166	153	151	170	
					fz	0.013	0.018	0.017	0.02	0.024	0.023	0.023	0.023	0.023	
RPM	8382		6287	5093	4191	3592	3302	2706	2403	2165					
FEED	327		339	346	335	345	304	249	221	249					
S 31-35	Heat Resistant Super Alloys		1.0D	0.05D	Vc	45	45	41	45	40	40	40	41	47	
					fz	0.016	0.02	0.022	0.024	0.022	0.02	0.021	0.023	0.022	
RPM		2387	1790	1305	1194	909	796	707	653	598					
FEED		115	107	115	115	80	64	59	60	66					
S 36-37		Titanium Alloys	1.0D	0.05D	Vc	158	158	160	158	158	166	153	151	170	
					fz	0.013	0.018	0.017	0.02	0.024	0.023	0.023	0.023	0.023	
RPM	8382		6287	5093	4191	3592	3302	2706	2403	2165					
FEED	327		339	346	335	345	304	249	221	249					
H 40	Chilled Cast Iron		1.0D	0.5D	Vc	234	231	239	226	229	241	249	226	251	
					fz	0.013	0.018	0.016	0.02	0.024	0.024	0.024	0.024	0.023	
RPM		12414	9191	7608	5995	5207	4795	4403	3597	3196					
FEED		484	496	487	480	500	460	423	345	368					

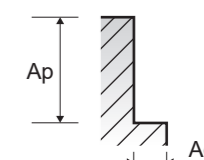


RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EH831, EH841 SERIES MULTI FLUTES ROUGHING - 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	14.0	16.0	18.0	20.0	25.0	
P	1-4	Non-alloy steel	0.3D	1.5D	Vc	294	292	289	302	299	302	294	302	338	
					fz	0.05	0.067	0.063	0.075	0.088	0.1	0.112	0.113	0.1	
	RPM		15597	11618	9199	8011	6798	6008	5199	4806	4304				
	FEED		2340	2335	2318	2403	2393	2403	2329	2173	2152				
	5		Low alloy steel	0.3D	1.5D	Vc	234	231	239	226	229	241	249	226	251
						fz	0.023	0.03	0.028	0.033	0.04	0.04	0.041	0.039	0.039
	RPM	12414		9191	7608	5995	5207	4795	4403	3597	3196				
	FEED	857		827	852	791	833	767	722	561	623				
	6-7	High alloyed steel, and tool steel		0.3D	1.5D	Vc	294	292	289	302	299	302	294	302	338
						fz	0.05	0.067	0.063	0.075	0.088	0.1	0.112	0.113	0.1
	RPM		15597	11618	9199	8011	6798	6008	5199	4806	4304				
	FEED		2340	2335	2318	2403	2393	2403	2329	2173	2152				
8-9	Stainless steel		0.3D	1.5D	Vc	234	231	239	226	229	241	249	226	251	
					fz	0.023	0.03	0.028	0.033	0.04	0.04	0.041	0.039	0.039	
RPM		12414	9191	7608	5995	5207	4795	4403	3597	3196					
FEED		857	827	852	791	833	767	722	561	623					
10		Heat Resistant Super Alloys	0.3D	1.5D	Vc	294	292	289	302	299	302	294	302	338	
					fz	0.05	0.067	0.063	0.075	0.088	0.1	0.112	0.113	0.1	
RPM	15597		11618	9199	8011	6798	6008	5199	4806	4304					
FEED	2340		2335	2318	2403	2393	2403	2329	2173	2152					
11.1 11.2	Titanium Alloys		0.3D	1.5D	Vc	234	231	239	226	229	241	249	226	251	
					fz	0.023	0.03	0.028	0.033	0.04	0.04	0.041	0.039	0.039	
RPM		12414	9191	7608	5995	5207	4795	4403	3597	3196					
FEED		857	827	852	791	833	767	722	561	623					
M 14.1		Chilled Cast Iron	0.4 ~ 10:0.15D Ø12-16:0.10D Ø18-25:0.05D	1.5D	Vc	158	158	160	158	158	166	153	151	170	
					fz	0.023	0.03	0.028	0.034	0.04	0.039	0.039	0.038	0.038	
RPM	8382		6287	5093	4191	3592	3302	2706	2403	2165					
FEED	578		566	570	570	575	515	422	365	411					
S 31-35	Heat Resistant Super Alloys		0.05D	1.0D	Vc	45	45	41	45	40	40	40	41	47	
					fz	0.026	0.033	0.037	0.04	0.036	0.034	0.036	0.038	0.037	
RPM		2387	1790	1305	1194	909	796	707	653	598					
FEED		186	177	193	191	131	108	102	99	111					
S 36-37		Titanium Alloys	0.4 ~ 10:0.15D Ø12-16:0.10D Ø18-25:0.05D	1.5D	Vc	158	158	160	158	158	166	153	151	170	
					fz	0.023	0.03	0.028	0.034	0.04	0.039	0.039	0.038	0.038	
RPM	8382		6287	5093	4191	3592	3302	2706	2403	2165					
FEED	578		566	570	570	575	515	422	365	411					
H 40	Chilled Cast Iron		0.3D	1.5D	Vc	234	231	239	226	229	241	249	226	251	
					fz	0.023	0.03	0.028	0.033	0.04	0.04	0.041	0.039	0.039	
RPM		12414	9191	7608	5995	5207	4795	4403	3597	3196					
FEED		857	827	852	791	833	767	722	561	623					

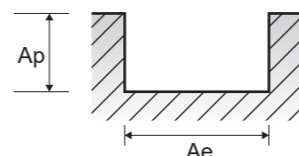


EH917, EH918 SERIES
EH921, EH942 SERIES

MULTI FLUTES ROUGHING - **SLOTING**

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
P	1-4	Non-alloy steel	1.0D	0.5D	Vc	294	292	289	302	302	302
					fz	0.022	0.03	0.038	0.045	0.048	0.045
	RPM	15597	11618	9199	8011	6008	4806				
	FEED	1373	1394	1398	1442	1442	1298				
	5	Non-alloy steel	1.0D	0.5D	Vc	234	231	239	226	241	226
					fz	0.01	0.014	0.016	0.02	0.019	0.016
	RPM	12414	9191	7608	5995	4795	3597				
	FEED	497	515	487	480	455	345				
	6-7	Low alloy steel	1.0D	0.5D	Vc	294	292	289	302	302	302
					fz	0.022	0.03	0.038	0.045	0.048	0.045
	RPM	15597	11618	9199	8011	6008	4806				
	FEED	1373	1394	1398	1442	1442	1298				
8-9	Low alloy steel	1.0D	0.5D	Vc	234	231	239	226	241	226	
				fz	0.01	0.014	0.016	0.02	0.019	0.016	
RPM	12414	9191	7608	5995	4795	3597					
FEED	497	515	487	480	455	345					
10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	294	292	289	302	302	302	
				fz	0.022	0.03	0.038	0.045	0.048	0.045	
RPM	15597	11618	9199	8011	6008	4806					
FEED	1373	1394	1398	1442	1442	1298					
11.1-11.2	High alloyed steel, and tool steel	1.0D	0.5D	Vc	234	231	239	226	241	226	
				fz	0.01	0.014	0.016	0.02	0.019	0.016	
RPM	12414	9191	7608	5995	4795	3597					
FEED	497	515	487	480	455	345					
M	14.1	Stainless steel	1.0D	Ø4 ~10:0.25D Ø12~16:0.15D Ø18~25:0.10D	Vc	158	158	160	158	166	151
fz	0.01	0.013	0.017	0.02	0.019	0.015					
RPM	8382	6287	5093	4191	3302	2403					
FEED	335	327	346	335	314	216					
S	31-35	Heat Resistant Super Alloys	1.0D	0.5D	Vc	45	45	41	45	40	41
					fz	0.012	0.015	0.022	0.024	0.016	0.015
RPM	2387	1790	1305	1194	796	653					
FEED	115	107	115	115	64	59					
S	36-37	Titanium Alloys	1.0D	Ø4 ~10:0.25D Ø12~16:0.15D Ø18~25:0.10D	Vc	158	158	160	158	166	151
					fz	0.01	0.013	0.017	0.02	0.019	0.015
RPM	8382	6287	5093	4191	3302	2403					
FEED	335	327	346	335	314	216					
H	40	Chilled Cast Iron	1.0D	0.5D	Vc	234	231	239	226	241	226
					fz	0.01	0.014	0.016	0.02	0.019	0.016
RPM	12414	9191	7608	5995	4795	3597					
FEED	372	386	487	480	455	345					

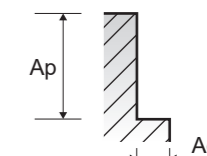


EH917, EH918 SERIES
EH921, EH942 SERIES

MULTI FLUTES ROUGHING - **SIDE CUTTING**

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

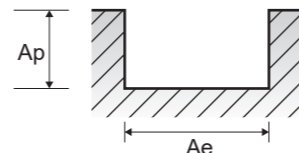
ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)					
						6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.3D	1.5D	Vc	294	292	289	302	302	302
					fz	0.037	0.05	0.063	0.075	0.08	0.075
	RPM	15597	11618	9199	8011	6008	4806				
	FEED	2308	2324	2318	2403	2403	2163				
	5	Non-alloy steel	0.3D	1.5D	Vc	234	231	239	226	241	226
					fz	0.017	0.023	0.028	0.033	0.032	0.026
	RPM	12414	9191	7608	5995	4795	3597				
	FEED	844	846	852	791	767	561				
	6-7	Low alloy steel	0.3D	1.5D	Vc	294	292	289	302	302	302
					fz	0.037	0.05	0.063	0.075	0.08	0.075
	RPM	15597	11618	9199	8011	6008	4806				
	FEED	2308	2324	2318	2403	2403	2163				
8-9	Low alloy steel	0.3D	1.5D	Vc	234	231	239	226	241	226	
				fz	0.017	0.023	0.028	0.033	0.032	0.026	
RPM	12414	9191	7608	5995	4795	3597					
FEED	844	846	852	791	767	561					
10	High alloyed steel, and tool steel	0.3D	1.5D	Vc	294	292	289	302	302	302	
				fz	0.037	0.05	0.063	0.075	0.08	0.075	
RPM	15597	11618	9199	8011	6008	4806					
FEED	2308	2324	2318	2403	2403	2163					
11.1-11.2	High alloyed steel, and tool steel	0.3D	1.5D	Vc	234	231	239	226	241	226	
				fz	0.017	0.023	0.028	0.033	0.032	0.026	
RPM	12414	9191	7608	5995	4795	3597					
FEED	844	846	852	791	767	561					
M	14.1	Stainless steel	Ø4 ~10:0.15D Ø12~16:0.10D Ø18~25:0.05D	1.5D	Vc	158	158	160	158	166	151
fz	0.017	0.023	0.028	0.034	0.031	0.025					
RPM	8382	6287	5093	4191	3302	2403					
FEED	570	578	570	570	512	360					
S	31-35	Heat Resistant Super Alloys	0.05D	1.0D	Vc	45	45	41	45	40	41
					fz	0.02	0.025	0.037	0.04	0.028	0.025
RPM	2387	1790	1305	1194	796	653					
FEED	191	179	193	191	111	98					
S	36-37	Titanium Alloys	Ø4 ~10:0.15D Ø12~16:0.10D Ø18~25:0.05D	1.5D	Vc	158	158	160	158	166	151
					fz	0.017	0.023	0.028	0.034	0.031	0.025
RPM	8382	6287	5093	4191	3302	2403					
FEED	570	578	570	570	512	360					
H	40	Chilled Cast Iron	0.3D	1.5D	Vc	234	231	239	226	241	226
					fz	0.017	0.023	0.028	0.033	0.032	0.026
RPM	12414	9191	7608	5995	4795	3597					
FEED	844	846	852	791	767	561					



EH919, EH920 SERIES MULTI FLUTES ROUGHING - SLOTTING

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

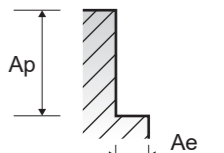
Table with columns: ISO, VDI 3323, Material Description, Ae, Ap, Parameter, Diameter (Ø) [4.0, 6.0, 8.0, 10.0, 12.0, 14.0, 16.0, 20.0, 25.0]. Rows include categories P (Non-alloy steel, Low alloy steel, High alloyed steel, and tool steel), M (Stainless steel), S (Heat Resistant Super Alloys, Titanium Alloys), and H (Chilled Cast Iron).



EH919, EH920 SERIES MULTI FLUTES ROUGHING - SIDE CUTTING

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

Table with columns: ISO, VDI 3323, Material Description, Ae, Ap, Parameter, Diameter (Ø) [4.0, 6.0, 8.0, 10.0, 12.0, 14.0, 16.0, 20.0, 25.0]. Rows include categories P (Non-alloy steel, Low alloy steel, High alloyed steel, and tool steel), M (Stainless steel), S (Heat Resistant Super Alloys, Titanium Alloys), and H (Chilled Cast Iron).





Global Cutting Tool Leader **YG-1**



MILLING