



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.

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

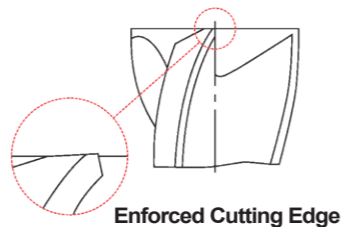
- ▶ Ultra Feinstkorn - Vollhartmetall.
- ▶ Verstärkte Schneidkante.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRC, rostfreien Stählen, Titan und Nickellegierungen.



Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	D1	D2	L1	L2
EH911010	-	1.0	4	2.5	40
EH911901	-	1.0	6	2.5	40
EH911015	-	1.5	4	4	40
EH911902	-	1.5	6	4	40
EH911020	-	2.0	4	6	40
EH911903	-	2.0	6	6	40
EH911025	-	2.5	4	8	40
EH911904	-	2.5	6	8	40
EH911030	-	3.0	6	8	45
EH911035	-	3.5	6	10	45
-	EH912040	4.0	6	11	45
EH911045	EH912045	4.5	6	11	45
EH911050	EH912050	5.0	6	13	50
EH911055	-	5.5	6	13	50
EH911060	-	6.0	6	13	50
EH911065	-	6.5	8	16	60
EH911070	EH912070	7.0	8	16	60
EH911075	-	7.5	8	16	60
EH911080	-	8.0	8	19	60
EH911085	-	8.5	10	19	70

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



▶ 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	35	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

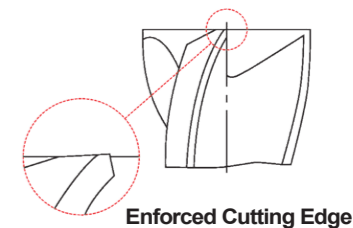
- ▶ Ultra Feinstkorn - Vollhartmetall.
- ▶ Verstärkte Schneidkante.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRC, rostfreien Stählen, Titan und Nickellegierungen.



Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	D1	D2	L1	L2
EH911090	-	9.0	10	19	70
EH911095	-	9.5	10	19	70
EH911100	-	10.0	10	22	70
EH911110	EH912110	11.0	12	22	75
EH911120	-	12.0	12	26	75
EH911140	-	14.0	16	26	85
EH911160	-	16.0	16	32	100
EH911180	-	18.0	16	32	100
EH911250	-	25.0	25	45	120

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	35	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

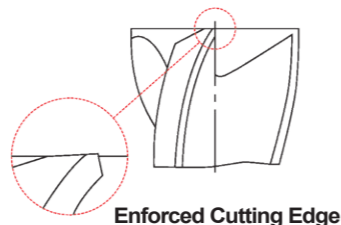
- ▶ Ultra Feinstkorn - Vollhartmetall
- ▶ Verstärkte Schneidkante.
- ▶ Für die Bearbeitung von: Werkstoffen bis 45 HRc, rostfreien Stählen, Titan und Nickellegierungen.



Unit : mm

EDP No.	Mill Diameter		Shank Diameter		Length of Cut		Overall Length	
	PLAIN	FLAT	D1	D2	L1	L2		
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	-	-	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	-	-	5.5	6	13	50		
EH913060	EH914060	-	6.0	6	13	50		
EH913065	-	-	6.5	8	16	60		
EH913070	EH914070	-	7.0	8	16	60		
EH913080	-	-	8.0	8	19	60		
EH913085	EH914085	-	8.5	10	19	70		
EH913090	-	-	9.0	10	19	70		
EH913095	-	-	9.5	10	19	70		
EH913100	EH914100	-	10.0	10	22	70		
EH913110	-	-	11.0	12	22	75		

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	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○

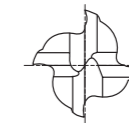
ISO Material Description	N						S					H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	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**

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- ▶ Reduces chipping of corner edges
- ▶ Suitable for low hardness materials (under HRc45), alloy steels, tool steels, carbon steels, prehardened steels, stainless steels, etc

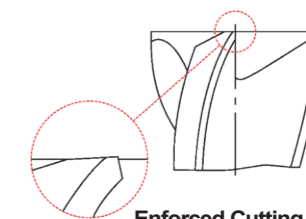
- ▶ Ultra Feinstkorn - Vollhartmetall
- ▶ Verstärkte Schneidkante.
- ▶ Für die Bearbeitung von: Werkstoffen bis 45 HRc, rostfreien Stählen, Titan und Nickellegierungen.



Unit : mm

EDP No.	Mill Diameter		Shank Diameter		Length of Cut		Overall Length	
	PLAIN	FLAT	D1	D2	L1	L2		
EH913120	EH914120	-	12.0	12	26	75		
EH913140	EH914140	-	14.0	16	26	85		
EH913160	EH914160	-	16.0	16	32	100		
EH913180	-	-	18.0	16	32	100		
EH913200	EH914200	-	20.0	20	38	105		
-	EH914220	-	22.0	20	38	105		
-	EH914250	-	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)		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.

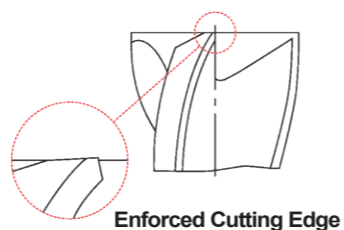


CARBIDE 6&8 45° PLAIN FLAT TiAlN p.C453

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	
						PLAIN
EH915060	EH916060	6.0	6	13	57	6
EH915070	EH916070	7.0	8	16	63	6
EH915080	-	8.0	8	19	63	6
EH915090	EH916090	9.0	10	19	72	6
EH915100	EH916100	10.0	10	22	72	6
EH915120	-	12.0	12	26	83	6
EH915140	-	14.0	14	26	83	6
EH915160	-	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

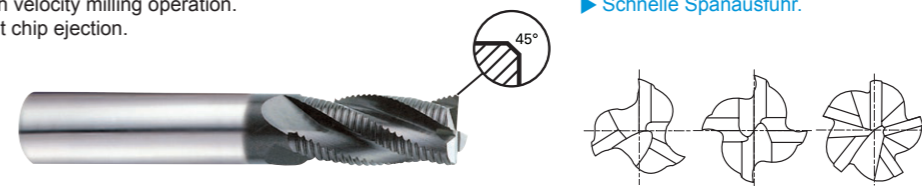
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	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	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							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
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	55	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.



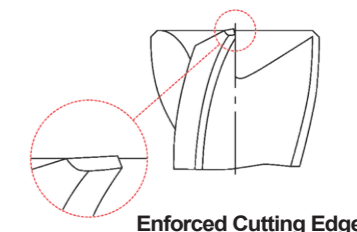
CARBIDE HR 3-5 30° PLAIN FLAT C x 45° TiAlN p.C458-C459

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer	
							PLAIN
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	-	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

Tolerances according to DIN 7160 & 7161

	Tolerance range in μ m				
	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	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	38	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	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							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
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	55	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.



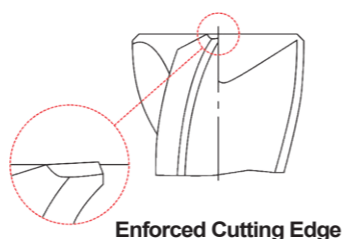
CARBIDE HR 4-6 45° PLAIN FLAT C x 45° TiAlN p.C456~C457

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
PLAIN	FLAT	h10	h5				
EH917060	EH918060	6.0	6	7	54	4	0.15
EH917080	EH918080	8.0	8	9	58	4	0.18
EH917100	EH918100	10.0	10	14	66	4	0.20
EH917120	EH918120	12.0	12	16	73	4	0.20
-	EH918160	16.0	16	22	82	5	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 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	40	29	32	38	45	35	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎	◎	◎	◎	◎

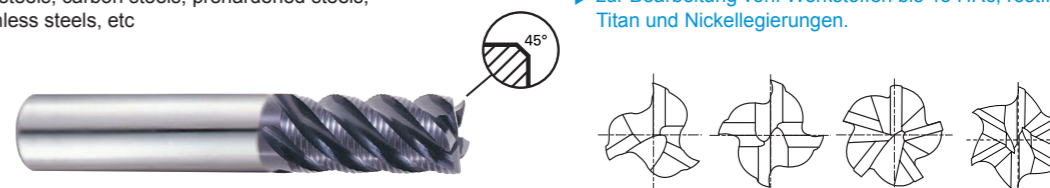
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	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	55	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 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.



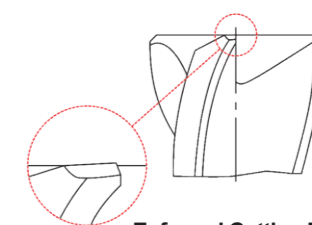
CARBIDE HR 3-6 45° PLAIN FLAT C x 45° TiAlN p.C476~C477

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
PLAIN	FLAT	h10	h5				
EH919040	EH920040	4.0	6	11	57	3	0.1
EH919050	EH920050	5.0	6	13	57	4	0.13
EH919060	EH920060	6.0	6	16	57	4	0.15
EH919070	EH920070	7.0	8	16	63	4	0.15
EH919080	EH920080	8.0	8	16	63	4	0.18
EH919090	EH920090	9.0	10	19	72	4	0.18
EH919100	EH920100	10.0	10	22	72	4	0.2
EH919120	EH920120	12.0	12	26	83	4	0.2
EH919140	EH920140	14.0	14	26	83	5	0.2
EH919160	EH920160	16.0	16	32	92	5	0.2
EH919200	EH920200	20.0	20	38	104	6	0.2
EH919250	EH920250	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 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	40	29	32	38	45	35	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎	◎	◎	◎	◎

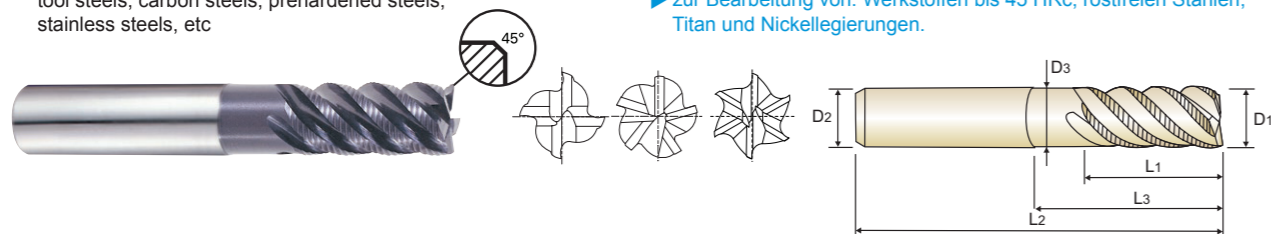
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	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	55	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 LONG REACH ROUGHING - FINE

● **VOLLHARTMETALL, MULTI SCHNEIDEN 45° RECHTSSPIRALE GROÙE REICHWEITE SCHRUPPFRAÙSER - 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

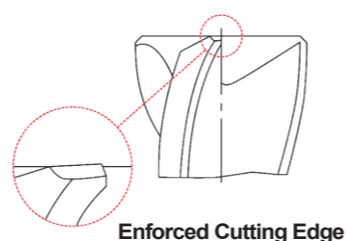
- ▶ Ultra Feinstkorn - Vollhartmetall
- ▶ Schnelle Spanausfuhr und Minimierung von Abbrechen von Schneidkanten.
- ▶ zur Bearbeitung von: Werkstoffen bis 45 HRC, rostfreien Stählen, Titan und Nickellegierungen.



EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	No. of Flute	Chamfer
PLAIN	FLAT	D1(h10)	D2(h5)	L1	L3	L2	D3		
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	-	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

	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	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					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21			
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	160	250	130	230			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	160	250	130	230			
Recommend	○	○	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○		

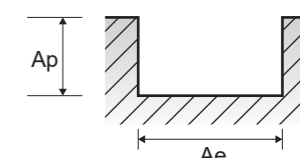
ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30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

**RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER**

EH911, EH912 SERIES 2 FLUTE - SLOTTING

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

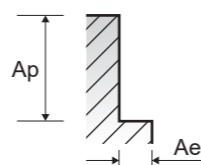
ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)																
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0						
P	1-4	Non-alloy steel	1.0D	0.5D (up to Ø3:0.2D)	Vc	75	85	95	100	105	105	100	105	110	105	105						
					fz	0.008	0.012	0.02	0.025	0.031	0.045	0.051	0.051	0.05	0.051	0.048						
	5	Non-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						
	6-7	Low 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						
	8-9	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						
	10	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						
11.1	High alloy steel, and tool 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							
11.2	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							
M	14.1	Stainless steel	1.0D	0.5D (up to Ø3:0.2D)	Vc	40	45	50	50	55	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						
S	36-37	Titanium Alloys	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						
H	40	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						



EH913, EH914 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	16.0	20.0	25.0
P	1-4	Non-alloy steel	0.05D	1.0D	Vc	75	85	95	100	105	105	100	105	110	105	105
					fz	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048	0.046
	RPM				11937	9019	7560	6366	5570	4178	3183	2785	2188	1671	1337	
	FEED				286	325	575	611	668	702	598	524	411	321	246	
	Vc				50	50	60	60	65	65	65	65	70	65	65	
	fz				0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.037	0.038	0.039	
	RPM	7958	5305	4775	3820	3448	2586	2069	1724	1393	1035	828				
	FEED	191	191	363	367	428	393	314	255	206	157	129				
	Low alloy steel	0.05D	1.0D	Vc	75	85	95	100	105	105	100	105	110	105	105	
				fz	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048	0.046	
				RPM	11937	9019	7560	6366	5570	4178	3183	2785	2188	1671	1337	
				FEED	286	325	575	611	668	702	598	524	411	321	246	
Vc				50	50	60	60	65	65	65	65	70	65	65		
fz				0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.037	0.038	0.039		
RPM	7958	5305	4775	3820	3448	2586	2069	1724	1393	1035	828					
FEED	191	191	363	367	428	393	314	255	206	157	129					
High alloyed steel, and tool steel	0.05D	1.0D	Vc	75	85	95	100	105	105	100	105	110	105	105		
			fz	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048	0.046		
			RPM	11937	9019	7560	6366	5570	4178	3183	2785	2188	1671	1337		
			FEED	286	325	575	611	668	702	598	524	411	321	246		
			Vc	50	50	60	60	65	65	65	65	70	65	65		
			fz	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.037	0.038	0.039		
RPM	7958	5305	4775	3820	3448	2586	2069	1724	1393	1035	828					
FEED	191	191	363	367	428	393	314	255	206	157	129					
M	14.1	Stainless steel	0.05D	1.0D	Vc	40	45	50	50	55	55	55	50	55	55	55
					fz	0.006	0.009	0.018	0.024	0.029	0.042	0.045	0.044	0.047	0.045	0.044
					RPM	6366	4775	3979	3183	2918	2188	1751	1326	1094	875	700
					FEED	153	172	286	306	338	368	315	233	206	158	123
S	36-37	Titanium Alloys	0.05D	1.0D	Vc	40	45	50	50	55	55	55	50	55	55	55
					fz	0.006	0.009	0.018	0.024	0.029	0.042	0.045	0.044	0.047	0.045	0.044
					RPM	6366	4775	3979	3183	2918	2188	1751	1326	1094	875	700
					FEED	153	172	286	306	338	368	315	233	206	158	123
H	40	Chilled Cast Iron	0.05D	1.0D	Vc	50	50	60	60	65	65	65	65	70	65	65
					fz	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.037	0.038	0.039
					RPM	7958	5305	4775	3820	3448	2586	2069	1724	1393	1035	828
					FEED	191	191	363	367	428	393	314	255	206	157	129



EH915, EH916 SERIES 6&8 FLUTE - SIDE CUTTING

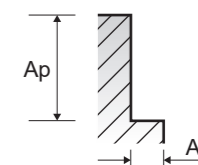
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

NORMAL SPEED

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	0.1D	1.5D	Vc	105	105	105	105	105	105	120
					fz	0.06	0.079	0.099	0.099	0.1	0.075	0.075
	RPM				5570	4178	3342	2785	2089	1671	1528	
	FEED				2005	1980	1985	1654	1253	1003	917	
	Vc				75	75	75	75	75	75	85	
	fz				0.059	0.078	0.098	0.097	0.099	0.074	0.068	
	RPM	3979	2984	2387	1989	1492	1194	1082				
	FEED	1409	1397	1404	1158	886	707	589				
	Low alloy steel	0.1D	1.5D	Vc	105	105	105	105	105	105	120	
				fz	0.06	0.079	0.099	0.099	0.1	0.075	0.075	
				RPM	5570	4178	3342	2785	2089	1671	1528	
				FEED	2005	1980	1985	1654	1253	1003	917	
Vc				75	75	75	75	75	75	85		
fz				0.059	0.078	0.098	0.097	0.099	0.074	0.068		
RPM	3979	2984	2387	1989	1492	1194	1082					
FEED	1409	1397	1404	1158	886	707	589					
High alloyed steel, and tool steel	0.1D	1.5D	Vc	105	105	105	105	105	105	120		
			fz	0.06	0.079	0.099	0.099	0.1	0.075	0.075		
			RPM	5570	4178	3342	2785	2089	1671	1528		
			FEED	2005	1980	1985	1654	1253	1003	917		
			Vc	75	75	75	75	75	75	85		
			fz	0.059	0.078	0.098	0.097	0.099	0.074	0.068		
RPM	3979	2984	2387	1989	1492	1194	1082					
FEED	1409	1397	1404	1158	886	707	589					
M	14.1	Stainless steel	0.05D	1.5D	Vc	65	65	60	60	60	55	65
					fz	0.054	0.074	0.095	0.104	0.111	0.086	0.079
					RPM	3448	2586	1910	1592	1194	875	828
FEED	1117	1148	1089	993	795	602	523					
S	31-35	Heat Resistant Super Alloys	0.02D	1.0D	Vc	25	25	15	15	15	15	15
					fz	0.035	0.047	0.106	0.104	0.102	0.078	0.077
					RPM	1326	995	477	398	298	239	191
	FEED	279	281	304	248	183	149	118				
	36-37	Titanium Alloys	0.05D	1.5D	Vc	65	65	60	60	60	55	65
					fz	0.054	0.074	0.095	0.104	0.111	0.086	0.079
RPM					3448	2586	1910	1592	1194	875	828	
FEED	1117	1148	1089	993	795	602	523					
H	40	Chilled Cast Iron	0.05D	1.5D	Vc	75	75	75	75	75	75	85
					fz	0.059	0.078	0.098	0.097	0.099	0.074	0.068
					RPM	3979	2984	2387	1989	1492	1194	1082
					FEED	1409	1397	1404	1158	886	707	589

HIGH SPEED

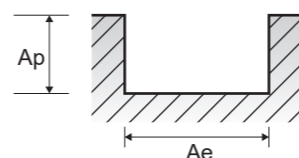
ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1-4	Non-alloy steel	0.1D	1.5D	Vc	420	420	420	430	420	420	470
					fz	0.060	0.079	0.100	0.099	0.100	0.075	0.075
	RPM				22282	16711	13369	11406	8356	6685	5984	
	FEED				8021	7921	8021	6775	5013	4011	3591	
	Vc				315	315	315	315	315	315	355	
	fz				0.060	0.081	0.100	0.100	0.100	0.076	0.075	
	RPM	16711	12533	10027	8356	6267	5013	4520				
	FEED	6016	6091	6016	5013	3760	3048	2712				
	Low alloy steel	0.1D	1.5D	Vc	420	420	420	430	420	420	470	
				fz	0.060	0.079	0.100	0.099	0.100	0.075	0.075	
				RPM	22282	16711	13369	11406	8356	6685	5984	
				FEED	8021	7921	8021	6775	5013	4011	3591	
Vc				315	315	315	315	315	315	355		
fz				0.060	0.081	0.100	0.100	0.100	0.076	0.075		
RPM	16711	12533	10027	8356	6267	5013	4520					
FEED	6016	6091	6016	5013	3760	3048	2712					
High alloyed steel, and tool steel	0.1D	1.5D	Vc	420	420	420	430	420	420	470		
			fz	0.060	0.079	0.100	0.099	0.100	0.075	0.075		
			RPM	22282	16711	13369	11406	8356	6685	5984		
			FEED	8021	7921	8021	6775	5013	4011	3591		
			Vc	315	315	315	315	315	315	355		
			fz	0.060	0.081	0.100	0.100	0.100	0.076	0.075		
RPM	16711	12533	10027	8356	6267	5013	4520					
FEED	6016	6091	6016	5013	3760	3048	2712					
H	40	Chilled Cast Iron	0.05D	1.5D	Vc	315	315	315	315	315	315	355
					fz	0.060	0.081	0.100	0.100	0.100	0.076	0.075
					RPM	16711	12533	10027	8356	6267	5013	4520
					FEED	6016	6091	6016	5013	3760	3048	2712



EH831, EH841 SERIES MULTI FLUTES ROUGHING - SLOTTING

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

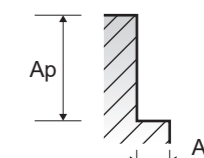
ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)								
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	1-4	Non-alloy steel	1.0D	0.5D	Vc	294	292	289	302	299	302	294	302	338
					fz	0.03	0.04	0.038	0.045	0.053	0.06	0.067	0.068	0.06
	RPM	15597	11618	9199	8011	6798	6008	5199	4806	4304				
	FEED	1404	1394	1398	1442	1441	1442	1393	1307	1291				
	5	Non-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	Low 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				
8-9	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					
10	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					
11.1 11.2	High alloyed steel, and tool 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					
M	14.1	Stainless steel	1.0D	0.04 ~10:0.25D 0.12~16:0.15D 0.18~25:0.1D	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	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	0.04 ~10:0.25D 0.12~16:0.15D 0.18~25:0.1D	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					



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	Non-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	Low 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				
8-9	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					
10	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					
11.1 11.2	High alloyed steel, and tool 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					
M	14.1	Stainless steel	0.04 ~10:0.15D 0.12~16:0.10D 0.18~25:0.05D	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	0.04 ~10:0.15D 0.12~16:0.10D 0.18~25:0.05D	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					

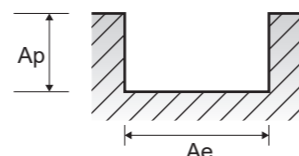


EH917, EH918 SERIES
EH921, EH942 SERIES

MULTI FLUTES ROUGHING - 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	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	
	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	
	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	
	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	
	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	
	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	
M	14.1	Stainless steel	1.0D	0.5D	Vc	294	292	289	302	302	302	
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	
	36-37	Titanium Alloys	1.0D	0.5D	Vc	158	158	160	158	166	151	
					fz	0.01	0.013	0.017	0.02	0.019	0.015	
	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

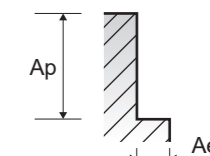


EH917, EH918 SERIES
EH921, EH942 SERIES

MULTI FLUTES ROUGHING - SIDE CUTTING

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

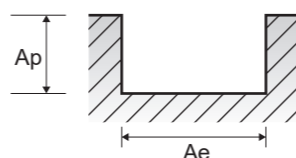
ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						6.0	8.0	10.0	12.0	16.0	20.0	
P	1-4	Non-alloy steel	0.3D	1.5D	Vc	294	292	289	302	302	302	
					fz	0.037	0.05	0.063	0.075	0.08	0.075	
	5	Non-alloy steel	0.3D	1.5D	Vc	234	231	239	226	241	226	
					fz	0.017	0.023	0.028	0.033	0.032	0.026	
	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	
	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	
	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	
	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	
M	14.1	Stainless steel	0.3D	1.5D	Vc	294	292	289	302	302	302	
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	
	36-37	Titanium Alloys	0.3D	1.5D	Vc	158	158	160	158	166	151	
					fz	0.017	0.023	0.028	0.034	0.031	0.025	
	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



EH919, EH920 SERIES MULTI FLUTES ROUGHING - SLOTTING

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

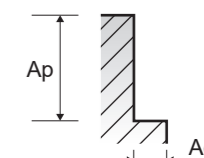
Table with columns: ISO, VDI 3323, Material Description, Ae, Ap, Parameter, Diameter (Ø) [4.0, 6.0, 8.0, 10.0, 12.0, 14.0, 16.0, 20.0, 25.0]. Rows include Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Heat Resistant Super Alloys, Titanium Alloys, and Chilled Cast Iron.



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 Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Heat Resistant Super Alloys, Titanium Alloys, and Chilled Cast Iron.





Global Cutting Tool Leader **YG-1**



MILLING