

FLAT SHANK

EH916 SERIES

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)**

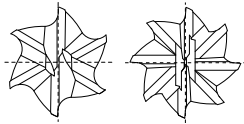
- ▶ Ultra micro grain carbide

▶ 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

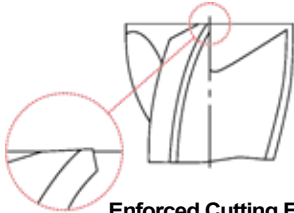


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Recommended ToolHolder	Flat Shank		Plain Shank	
	END MILL HOLDER	Page	POWER MILLING CHUCK	Page
	⊙	D118 - 137	HYDRAULIC CHUCK	D161 - 176
	○	-	SHRINK FIT HOLDER	D15 - 46 D47 - 72
○	-	-	ER COLLET CHUCK	D73 - 116

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



Enforced Cutting Edge

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



PLAIN SHANK **EH917** SERIES
FLAT SHANK **EH918** SERIES

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.



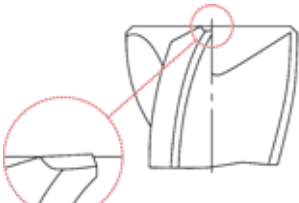
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Recommended ToolHolder	Flat Shank		Plain Shank	
	END MILL HOLDER	Page	POWER MILLING CHUCK	Page
⊙	-	-	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
○	-	-	ER COLLET CHUCK	D73 - 116

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
EH917160	EH918160	16.0	16	22	82	5	0.20
EH917200	EH918200	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

ISO	P										M					K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel				
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	125	13	25	28	32	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	N										S					H				
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRC	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

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YG-1 CO., LTD.



PLAIN SHANK **EH919** SERIES
FLAT SHANK **EH920** SERIES

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.



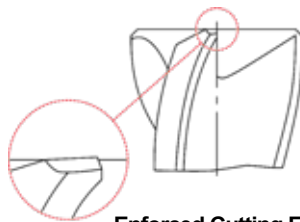
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Recommended ToolHolder	Flat Shank		Plain Shank	
	END MILL HOLDER	Page	POWER MILLING CHUCK	Page
⊙	-	-	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
○	-	-	ER COLLET CHUCK	D73 - 116

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

ISO	P										M					K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel				
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	125	13	25	28	32	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	N										S					H				
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRC	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

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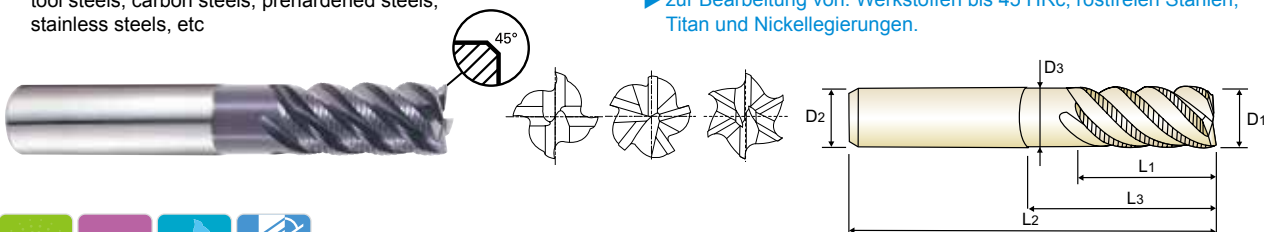
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CARBIDE, MULTI FLUTE 45° HELIX LONG REACH ROUGHING - FINE

VOLLHARTMETALL, MULTI SCHNEIDEN 45° RECHTSSPIRALE GROßE REICHWEITE SCHRUPPFÄßER - 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.



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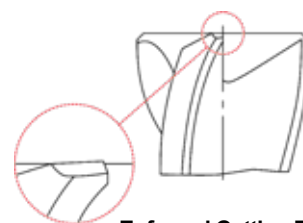
Recommended Tool Holder	Flat Shank		Plain Shank	
	END MILL HOLDER	Page	POWER MILLING CHUCK	Page
⊙	-	-	HYDRAULIC CHUCK	D15 - 46
⊙	-	-	SHRINK FIT HOLDER	D47 - 72
⊙	-	-	ER COLLET CHUCK	D73 - 116

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	No. of Flute	Chamfer
PLAIN	FLAT	D ₁ (h10)	D ₂ (h5)	L ₁	L ₃	L ₂	D ₃		
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

	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							
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		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					
Material Description	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											○	○	○	○	⊙	⊙	⊙			○		