

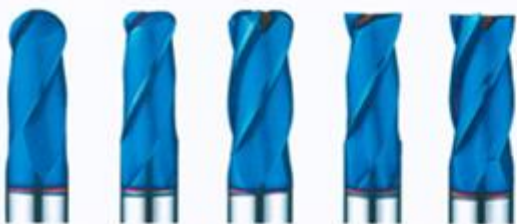


JJ TOOLS Co.,Ltd.

STREULI
technologies



Blue Max Power



streuli technologies ag

CH-8903 Birmensdorf

P-SFULNBT VHM Kugelfräser, Hinterschliff, ungleiche Zahnteilung



Application

Coating	Carbon steel, Alloy steel	High-hardened					Stainless steel	Titanium alloy	Nickel/Inconel alloy	Copper alloy	Aluminum alloy
		Pre-hardened steel	-45HRC	-50HRC	-55HRC	-60HRC					
P-nACo	○	○	○	○	○	●					

● Perfect ○ Excellent ○ Good



Super Micro-Grain für den HSC-Einsatz in gehärteten Stählen und Exotenmaterialien

Order-No.	Dia	VR	SL	Eff.Lg	TL	Schaft	Z
P-SFULNBT 05022.07	0.5	0.25	0.75	2	50	4	2
P-SFULNBT 05042.07	0.5	0.25	0.75	4	50	4	2
P-SFULNBT 05062.07	0.5	0.25	0.75	6	50	4	2
P-SFULNBT 06022.07	0.6	0.3	0.9	2	50	4	2
P-SFULNBT 06042.07	0.6	0.3	0.9	4	50	4	2
P-SFULNBT 06062.07	0.6	0.3	0.9	6	50	4	2
P-SFULNBT 08042.07	0.8	0.4	1.2	4	50	4	2
P-SFULNBT 08062.07	0.8	0.4	1.2	6	50	4	2
P-SFULNBT 08082.07	0.8	0.4	1.2	8	50	4	2
P-SFULNBT 10062.07	1	0.5	1.5	6	50	4	2
P-SFULNBT 10082.07	1	0.5	1.5	8	50	4	2
P-SFULNBT 10102.07	1	0.5	1.5	10	50	4	2
P-SFULNBT 10122.07	1	0.5	1.5	12	50	4	2
P-SFULNBT 15062.07	1.5	0.75	2.3	6	50	4	2
P-SFULNBT 15082.07	1.5	0.75	2.3	8	50	4	2
P-SFULNBT 15102.07	1.5	0.75	2.3	10	50	4	2
P-SFULNBT 15122.07	1.5	0.75	2.3	12	50	4	2
P-SFULNBT 15142.07	1.5	0.75	2.3	14	50	4	2
P-SFULNBT 15162.07	1.5	0.75	2.3	16	50	4	2
P-SFULNBT 15182.07	1.5	0.75	2.3	18	50	4	2
P-SFULNBT 15202.07	1.5	0.75	2.3	20	50	4	2

P-SFULNBT VHM Kugelfräser, Hinterschliff, ungleiche Zahnteilung



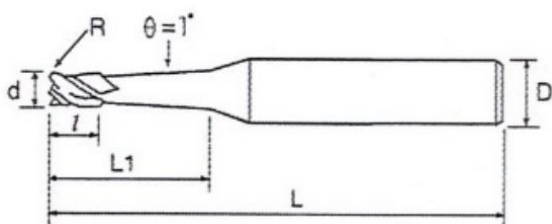
Application							★ Perfect	⊙ Excellent	○ Good		
Coating	Carbon steel Alloy steel	Fe-harden steel	High-hardened				Stainless steel	Titanium alloy	Nickel/Inconel alloy	Copper alloy	Aluminum alloy
		-45HRC	-50HRC	-55HRC	-60HRC	-65HRC					
P-nACo	○	○	○	○	○	★					



Super Micro-Grain für den HSC-Einsatz in gehärteten Stählen und Exotenmaterialien

Order-No.	Dia	VR	SL	Eff.Lg	TL	Schaft	Z
P-SFULNBT 20082.07	2	1	3	8	50	4	2
P-SFULNBT 20102.07	2	1	3	10	50	4	2
P-SFULNBT 20122.07	2	1	3	12	50	4	2
P-SFULNBT 20142.07	2	1	3	14	50	4	2
P-SFULNBT 20162.07	2	1	3	16	50	4	2
P-SFULNBT 20182.07	2	1	3	18	50	4	2
P-SFULNBT 20202.07	2	1	3	20	50	4	2
P-SFULNBT 25082.07	2.5	1.25	4	8	50	4	2
P-SFULNBT 25122.07	2.5	1.25	4	12	50	4	2
P-SFULNBT 25162.07	2.5	1.25	4	16	50	4	2
P-SFULNBT 30102.07	3	1.5	4.5	10	50	6	2
P-SFULNBT 30122.07	3	1.5	4.5	12	50	6	2
P-SFULNBT 30162.07	3	1.5	4.5	16	60	6	2
P-SFULNBT 30202.07	3	1.5	4.5	20	60	6	2
P-SFULNBT 30252.07	3	1.5	4.5	25	75	6	2
P-SFULNBT 40122.07	4	2	6	12	50	6	2
P-SFULNBT 40162.07	4	2	6	16	60	6	2
P-SFULNBT 40202.07	4	2	6	20	75	6	2
P-SFULNBT 40252.07	4	2	6	25	75	6	2
P-SFULNBT 40302.07	4	2	6	30	75	6	2

P-SFUCRS 2 Lp. Eckradiusfräser / 38°/41° Helix / konischer Hinterschliff

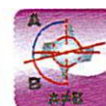


Konischer Antivibrations-Hinterschliff



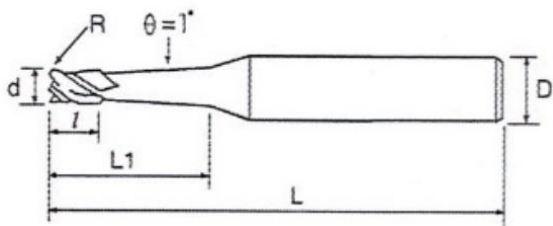
Coating	Application					★ Perfect	⊙ Excellent	○ Good		
	Carbon steel Alloy steel	Pre-hardened steel	High-hardened				Stainless steel	Titanium alloy	Nickel/inconel alloy	Copper alloy
		~45HRC	~50HRC	~55HRC	~60HRC	~65HRC				
P-nACo	○	○	○	⊙	⊙	★				

Super Micro-Grain für den HSC-Einsatz in gehärteten Stählen und Exotenmaterialien



Order-No.	Dia	ER	SL	eff.Lg.	TL	Schaft	Z
P-SFUCRS 010022.07	1.0	0.2	1.0	3	50	4	2
P-SFUCRS 015022.07	1.5	0.2	1.5	4.5	50	4	2
P-SFUCRS 015032.07	1.5	0.3	1.5	4.5	50	4	2
P-SFUCRS 020022.07	2.0	0.2	2.0	6	50	4	2
P-SFUCRS 020032.07	2.0	0.3	2.0	6	50	4	2
P-SFUCRS 020052.07	2.0	0.5	2.0	6	50	4	2
P-SFUCRS 030022.07	3.0	0.2	3.0	9	50	6	2
P-SFUCRS 030032.07	3.0	0.2	3.0	9	50	6	2
P-SFUCRS 030052.07	3.0	0.5	3.0	9	50	6	2
P-SFUCRS 030102.07	3.0	1.0	3.0	9	50	6	2
P-SFUCRS 040022.07	4.0	0.2	4.0	12	50	6	2
P-SFUCRS 040032.07	4.0	0.3	4.0	12	50	6	2
P-SFUCRS 040052.07	4.0	0.5	4.0	12	50	6	2
P-SFUCRS 040102.07	4.0	1.0	4.0	12	50	6	2
P-SFUCRS 050032.07	5.0	0.3	5.0	15	50	6	2
P-SFUCRS 050052.07	5.0	0.5	5.0	15	50	6	2
P-SFUCRS 050102.07	5.0	1.0	5.0	15	50	6	2
P-SFUCRS 060022.07	6.0	0.2	6.0	18	50	6	2
P-SFUCRS 060032.07	6.0	0.3	6.0	18	50	6	2
P-SFUCRS 060052.07	6.0	0.5	6.0	18	50	6	2
P-SFUCRS 060102.07	6.0	1.0	6.0	18	50	6	2
P-SFUCRS 060202.07	6.0	0.2	6.0	18	50	6	2
P-SFUCRS 080032.07	8.0	0.3	8.0	20	60	8	2
P-SFUCRS 080052.07	8.0	0.5	8.0	20	60	8	2
P-SFUCRS 080102.07	8.0	1.0	8.0	20	60	8	2
P-SFUCRS 080202.07	8.0	0.2	8.0	20	60	8	2
P-SFUCRS 100052.07	10.0	0.5	10.0	25	75	10	2
P-SFUCRS 100102.07	10.0	1.0	10.0	25	75	10	2
P-SFUCRS 100152.07	10.0	1.5	10.0	25	75	10	2
P-SFUCRS 100202.07	10.0	2.0	10.0	25	75	10	2
P-SFUCRS 100302.07	10.0	3.0	10.0	25	75	10	2
P-SFUCRS 120052.07	12.0	0.5	12.0	30	75	12	2
P-SFUCRS 120102.07	12.0	1.0	12.0	30	75	12	2
P-SFUCRS 120152.07	12.0	1.5	12.0	30	75	12	2
P-SFUCRS 120202.07	12.0	2.0	12.0	30	75	12	2
P-SFUCRS 120302.07	12.0	3.0	12.0	30	75	12	2

P-SFUCRS 4 Lp. Eckradiusfräser / 38°/41° Helix / konischer Hinterschliff



Konischer Antivibrations-Hinterschliff

P-nACo



Coating	Carbon steel, Alloy steel		High-hardened					Stainless steel	Titanium alloy	Nickel/Inconel alloy	Copper alloy	Aluminum alloy
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC							
P-nACo	○	○	○	⊙	⊙	★						

Super Micro-Grain für den HSC-Einsatz in gehärteten Stählen und Exotenmaterialien



Order-No.	Dia	ER	SL	eff.Lg.	TL	Schaft	Z
P-SFUCRS 020024.07	2.0	0.2	2.0	6	50	4	4
P-SFUCRS 020034.07	2.0	0.3	2.0	6	50	4	4
P-SFUCRS 020054.07	2.0	0.5	2.0	6	50	4	4
P-SFUCRS 030024.07	3.0	0.2	3.0	9	50	6	4
P-SFUCRS 030034.07	3.0	0.2	3.0	9	50	6	4
P-SFUCRS 030054.07	3.0	0.5	3.0	9	50	6	4
P-SFUCRS 030104.07	3.0	1.0	3.0	9	50	6	4
P-SFUCRS 040024.07	4.0	0.2	4.0	12	50	6	4
P-SFUCRS 040034.07	4.0	0.3	4.0	12	50	6	4
P-SFUCRS 040054.07	4.0	0.5	4.0	12	50	6	4
P-SFUCRS 040104.07	4.0	1.0	4.0	12	50	6	4
P-SFUCRS 050034.07	5.0	0.3	5.0	15	50	6	4
P-SFUCRS 050054.07	5.0	0.5	5.0	15	50	6	4
P-SFUCRS 050104.07	5.0	1.0	5.0	15	50	6	4
P-SFUCRS 060024.07	6.0	0.2	6.0	18	50	6	4
P-SFUCRS 060034.07	6.0	0.3	6.0	18	50	6	4
P-SFUCRS 060054.07	6.0	0.5	6.0	18	50	6	4
P-SFUCRS 060104.07	6.0	1.0	6.0	18	50	6	4
P-SFUCRS 060204.07	6.0	0.2	6.0	18	50	6	4
P-SFUCRS 080034.07	8.0	0.3	8.0	20	60	8	4
P-SFUCRS 080054.07	8.0	0.5	8.0	20	60	8	4
P-SFUCRS 080104.07	8.0	1.0	8.0	20	60	8	4
P-SFUCRS 080204.07	8.0	0.2	8.0	20	60	8	4
P-SFUCRS 100054.07	10.0	0.5	10.0	25	75	10	4
P-SFUCRS 100104.07	10.0	1.0	10.0	25	75	10	4
P-SFUCRS 100154.07	10.0	1.5	10.0	25	75	10	4
P-SFUCRS 100204.07	10.0	2.0	10.0	25	75	10	4
P-SFUCRS 100304.07	10.0	3.0	10.0	25	75	10	4
P-SFUCRS 120054.07	12.0	0.5	12.0	30	75	12	4
P-SFUCRS 120104.07	12.0	1.0	12.0	30	75	12	4
P-SFUCRS 120154.07	12.0	1.5	12.0	30	75	12	4
P-SFUCRS 120204.07	12.0	2.0	12.0	30	75	12	4
P-SFUCRS 120304.07	12.0	3.0	12.0	30	75	12	4

SBAB VHM Kugelfräser Oxidationspunkt 1200°C



Super Micro-Grain für den HSC-Einsatz in gehärteten Stählen und Exotenmaterialien



Order-No.	Dia	VR	SL	TL	Schaft	Order-No.	Dia	VR	SL	TL	Schaft
SBAB0104	1.0	0.5	2	50	4	SBAB1204	12.0	6	24	75	12
SBAB0154	1.5	0.75	3	50	4	SBAB1604	16.0	8	32	100	16
SBAB0204	2.0	1	4	50	4	SBAB2004	20.0	10	40	100	20
SBAB0304	3.0	1.5	6	50	4						
SBAB0404	4.0	2	6	50	4						
SBAB0504	5.0	2.5	10	50	6						
SBAB0604	6.0	3	12	50	6						
SBAB0804	8.0	4	16	60	8						
SBAB1004	10.0	5	20	75	10						

SBMB VHM Kugelfräser Oxidationspunkt 1200°C



Super Micro-Grain für den HSC-Einsatz in gehärteten Stählen und Exotenmaterialien



Order-No.	Dia	VR	SL	TL	Schaft	Order-No.	Dia	VR	SL	TL	Schaft
SBMB0032	0.3	0.15	0.6	50	4	SBMB0162	1.6	0.8	3.2	50	4
SBMB0042	0.4	0.2	0.8	50	4	SBMB0182	1.8	0.9	3.6	50	4
SBMB0052	0.5	0.25	1	50	4	SBMB0202	2.0	1.0	4	50	4
SBMB0062	0.6	0.3	1.2	50	4						
SBMB0072	0.7	0.35	1.4	50	4						
SBMB0082	0.8	0.4	1.6	50	4						
SBMB0102	1.0	0.5	2	50	4						
SBMB0122	1.2	0.6	2.4	50	4						
SBMB0142	1.4	0.7	2.8	50	4						
SBMB0152	1.5	0.75	3	50	4						

SNEB VHM Schaftfräser mit Hinterschliff Oxidationspunkt 1200°C



Super Micro-Grain für den HSC-Einsatz in gehärteten Stählen und Exotenmaterialien



Order-No.	Dia	SL	eff.NL	TL	Schaft	Order-No.	Dia	SL	eff.NL	TL	Schaft
SNEB05022	0.5	1	2	50	4	SNEB20082	2.0	3	8	50	4
SNEB05042	0.5	1	4	50	4	SNEB20102	2.0	3	10	50	4
SNEB05062	0.5	1	6	50	4	SNEB20122	2.0	3	12	50	4
SNEB10062	1.0	1.5	6	50	4	SNEB20162	2.0	3	16	50	4
SNEB10082	1.0	1.5	8	50	4	SNEB30102	3.0	4	10	50	6
SNEB10102	1.0	1.5	10	50	4	SNEB30122	3.0	4	12	50	6
SNEB10122	1.0	1.5	12	50	4	SNEB30162	3.0	4	16	60	6
SNEB15082	1.5	2	8	50	4	SNEB30202	3.0	4	20	60	6
SNEB15102	1.5	2	10	50	4						
SNEB15122	1.5	2	12	50	4						
SNEB15162	1.5	2	16	50	4						

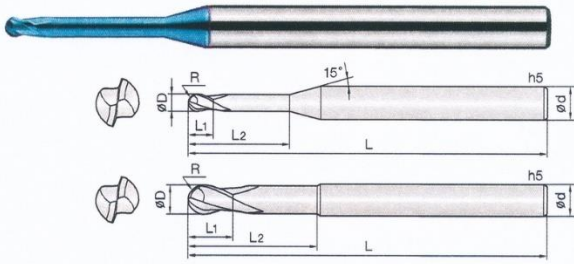
SEMB VHM Schaftfräser Oxidationspunkt 1200°C



Super Micro-Grain für den HSC-Einsatz in gehärteten Stählen und Exotenmaterialien



Order-No.	Dia	SL	TL	Schaft	Order-No.	Dia	SL	TL	Schaft
SEMB0022	0.2	0.4	50	4	SEMB0122	1.2	3	50	4
SEMB0032	0.3	0.6	50	4	SEMB0142	1.4	3.5	50	4
SEMB0042	0.4	0.8	50	4	SEMB0152	1.5	4	50	4
SEMB0052	0.5	1	50	4	SEMB0162	1.6	4	50	4
SEMB0062	0.6	1.2	50	4	SEMB0182	1.8	5	50	4
SEMB0072	0.7	1.4	50	4	SEMB0202	2.0	6	50	4
SEMB0082	0.8	1.6	50	4					
SEMB0092	0.9	1.8	50	4					
SEMB0102	1.0	3	50	4					



• Endmills for various work materials (~HRC52), pre-hardened steel, carbon steel, mold steel.

- Good wear resistance by high quality Si-based PVD coating.
- Suitable shape is designed for tooling in wide areas.
- Minimize fracturing by high TRS fine(0.5 μm) WC grade.

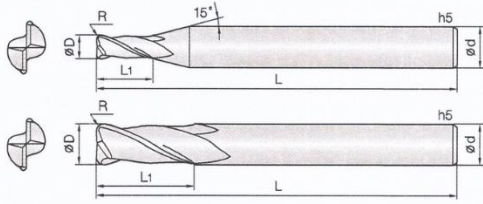


D Size	D Tolerance
ø0.2 - 5	+0 - -0.01mm
ø6 - 12	-0.005 - -0.015mm

E series

Order Number	Diameter R x D	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d	Order Number	Diameter R x D	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d
2HRBE 002 005 S04	0.1R X 0.2	0.2	0.5	40	4	2HRBE 009 060 S04	0.45R X 0.9	0.9	6	45	4
2HRBE 002 010 S04	0.1R X 0.2	0.2	1	40	4	2HRBE 009 080 S04	0.45R X 0.9	0.9	8	45	4
2HRBE 002 015 S04	0.1R X 0.2	0.2	1.5	40	4	2HRBE 009 100 S04	0.45R X 0.9	0.9	10	50	4
2HRBE 002 020 S04	0.1R X 0.2	0.2	2	40	4	2HRBE 010 020 S04	0.5R X 1	1	2	45	4
2HRBE 003 010 S04	0.15R X 0.3	0.3	1	40	4	2HRBE 010 030 S04	0.5R X 1	1	3	45	4
2HRBE 003 015 S04	0.15R X 0.3	0.3	1.5	40	4	2HRBE 010 040 S04	0.5R X 1	1	4	45	4
2HRBE 003 020 S04	0.15R X 0.3	0.3	2	40	4	2HRBE 010 050 S04	0.5R X 1	1	5	45	4
2HRBE 003 030 S04	0.15R X 0.3	0.3	3	40	4	2HRBE 010 060 S04	0.5R X 1	1	6	45	4
2HRBE 003 040 S04	0.15R X 0.3	0.3	4	40	4	2HRBE 010 080 S04	0.5R X 1	1	8	45	4
2HRBE 004 010 S04	0.2R X 0.4	0.4	1	40	4	2HRBE 010 100 S04	0.5R X 1	1	10	50	4
2HRBE 004 020 S04	0.2R X 0.4	0.4	2	40	4	2HRBE 010 120 S04	0.5R X 1	1	12	50	4
2HRBE 004 030 S04	0.2R X 0.4	0.4	3	40	4	2HRBE 010 140 S04	0.5R X 1	1	14	50	4
2HRBE 004 040 S04	0.2R X 0.4	0.4	4	40	4	2HRBE 010 160 S04	0.5R X 1	1	16	50	4
2HRBE 004 050 S04	0.2R X 0.4	0.4	5	40	4	2HRBE 010 180 S04	0.5R X 1	1	18	50	4
2HRBE 004 060 S04	0.2R X 0.4	0.4	6	40	4	2HRBE 010 200 S04	0.5R X 1	1	20	50	4
2HRBE 004 080 S04	0.2R X 0.4	0.4	8	40	4	2HRBE 010 220 S04	0.5R X 1	1	22	60	4
2HRBE 005 010 S04	0.25R X 0.5	0.5	1	45	4	2HRBE 010 250 S04	0.5R X 1	1	25	60	4
2HRBE 005 020 S04	0.25R X 0.5	0.5	2	45	4	2HRBE 012 040 S04	0.6R X 1.2	1.2	4	45	4
2HRBE 005 030 S04	0.25R X 0.5	0.5	3	45	4	2HRBE 012 060 S04	0.6R X 1.2	1.2	6	45	4
2HRBE 005 040 S04	0.25R X 0.5	0.5	4	45	4	2HRBE 012 080 S04	0.6R X 1.2	1.2	8	45	4
2HRBE 005 050 S04	0.25R X 0.5	0.5	5	45	4	2HRBE 012 100 S04	0.6R X 1.2	1.2	10	50	4
2HRBE 005 060 S04	0.25R X 0.5	0.5	6	45	4	2HRBE 012 120 S04	0.6R X 1.2	1.2	12	50	4
2HRBE 005 080 S04	0.25R X 0.5	0.5	8	45	4	2HRBE 012 160 S04	0.6R X 1.2	1.2	16	50	4
2HRBE 005 100 S04	0.25R X 0.5	0.5	10	45	4	2HRBE 012 200 S04	0.6R X 1.2	1.2	20	50	4
2HRBE 005 120 S04	0.25R X 0.5	0.5	12	45	4	2HRBE 012 240 S04	0.6R X 1.2	1.2	24	60	4
2HRBE 006 010 S04	0.3R X 0.6	0.6	1	45	4	2HRBE 014 060 S04	0.7R X 1.4	1.4	6	45	4
2HRBE 006 020 S04	0.3R X 0.6	0.6	2	45	4	2HRBE 014 080 S04	0.7R X 1.4	1.4	8	45	4
2HRBE 006 030 S04	0.3R X 0.6	0.6	3	45	4	2HRBE 014 120 S04	0.7R X 1.4	1.4	12	50	4
2HRBE 006 040 S04	0.3R X 0.6	0.6	4	45	4	2HRBE 014 160 S04	0.7R X 1.4	1.4	16	50	4
2HRBE 006 050 S04	0.3R X 0.6	0.6	5	45	4	2HRBE 015 030 S04	0.75R X 1.5	1.5	3	45	4
2HRBE 006 060 S04	0.3R X 0.6	0.6	6	45	4	2HRBE 015 040 S04	0.75R X 1.5	1.5	4	45	4
2HRBE 006 080 S04	0.3R X 0.6	0.6	8	45	4	2HRBE 015 060 S04	0.75R X 1.5	1.5	6	45	4
2HRBE 006 100 S04	0.3R X 0.6	0.6	10	45	4	2HRBE 015 080 S04	0.75R X 1.5	1.5	8	45	4
2HRBE 006 120 S04	0.3R X 0.6	0.6	12	45	4	2HRBE 015 100 S04	0.75R X 1.5	1.5	10	50	4
2HRBE 006 140 S04	0.3R X 0.6	0.6	14	45	4	2HRBE 015 120 S04	0.75R X 1.5	1.5	12	50	4
2HRBE 007 020 S04	0.35R X 0.7	0.7	2	45	4	2HRBE 015 140 S04	0.75R X 1.5	1.5	14	50	4
2HRBE 007 040 S04	0.35R X 0.7	0.7	4	45	4	2HRBE 015 160 S04	0.75R X 1.5	1.5	16	50	4
2HRBE 007 060 S04	0.35R X 0.7	0.7	6	45	4	2HRBE 015 180 S04	0.75R X 1.5	1.5	18	50	4
2HRBE 007 080 S04	0.35R X 0.7	0.7	8	45	4	2HRBE 015 200 S04	0.75R X 1.5	1.5	20	50	4
2HRBE 007 100 S04	0.35R X 0.7	0.7	10	45	4	2HRBE 015 220 S04	0.75R X 1.5	1.5	22	60	4
2HRBE 007 120 S04	0.35R X 0.7	0.7	12	45	4	2HRBE 015 250 S04	0.75R X 1.5	1.5	25	60	4
2HRBE 008 020 S04	0.4R X 0.8	0.8	2	45	4	2HRBE 015 300 S04	0.75R X 1.5	1.5	30	70	4
2HRBE 008 030 S04	0.4R X 0.8	0.8	3	45	4	2HRBE 016 060 S04	0.8R X 1.6	1.6	6	45	4
2HRBE 008 040 S04	0.4R X 0.8	0.8	4	45	4	2HRBE 016 080 S04	0.8R X 1.6	1.6	8	45	4
2HRBE 008 050 S04	0.4R X 0.8	0.8	5	45	4	2HRBE 016 120 S04	0.8R X 1.6	1.6	12	50	4
2HRBE 008 060 S04	0.4R X 0.8	0.8	6	45	4	2HRBE 016 160 S04	0.8R X 1.6	1.6	16	50	4
2HRBE 008 080 S04	0.4R X 0.8	0.8	8	45	4	2HRBE 016 200 S04	0.8R X 1.6	1.6	20	50	4
2HRBE 008 100 S04	0.4R X 0.8	0.8	10	45	4	2HRBE 018 060 S04	0.9R X 1.8	1.8	6	45	4
2HRBE 008 120 S04	0.4R X 0.8	0.8	12	45	4	2HRBE 018 080 S04	0.9R X 1.8	1.8	8	45	4
2HRBE 009 040 S04	0.45R X 0.9	0.9	4	45	4	2HRBE 018 120 S04	0.9R X 1.8	1.8	12	50	4

Order Number	Diameter R x D	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d	Order Number	Diameter R x D	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d
2HRBE 018 160 S04	0.9R X 1.8	1.8	16	50	4	2HRBE 100 300 070	5R X 10	16	30	70	10
2HRBE 018 200 S04	0.9R X 1.8	1.8	20	50	4	2HRBE 120 300 075	6R X 12	18	30	75	12
2HRBE 020 040 S04	1R X 2	2	4	45	4						
2HRBE 020 060 S04	1R X 2	2	6	45	4						
2HRBE 020 080 S04	1R X 2	2	8	45	4						
2HRBE 020 100 S04	1R X 2	2	10	50	4						
2HRBE 020 120 S04	1R X 2	2	12	50	4						
2HRBE 020 140 S04	1R X 2	2	14	50	4						
2HRBE 020 160 S04	1R X 2	2	16	50	4						
2HRBE 020 180 S04	1R X 2	2	18	50	4						
2HRBE 020 200 S04	1R X 2	2	20	50	4						
2HRBE 020 220 S04	1R X 2	2	22	60	4						
2HRBE 020 250 S04	1R X 2	2	25	60	4						
2HRBE 020 300 S04	1R X 2	2	30	60	4						
2HRBE 025 080 S04	1.25R X 2.5	2.5	8	45	4						
2HRBE 025 100 S04	1.25R X 2.5	2.5	10	50	4						
2HRBE 025 120 S04	1.25R X 2.5	2.5	12	50	4						
2HRBE 025 160 S04	1.25R X 2.5	2.5	16	50	4						
2HRBE 025 200 S04	1.25R X 2.5	2.5	20	60	4						
2HRBE 025 250 S04	1.25R X 2.5	2.5	25	60	4						
2HRBE 025 300 S04	1.25R X 2.5	2.5	30	70	4						
2HRBE 030 060 S06	1.5R X 3	3	6	50	6						
2HRBE 030 080 S06	1.5R X 3	3	8	50	6						
2HRBE 030 100 S06	1.5R X 3	3	10	50	6						
2HRBE 030 120 S06	1.5R X 3	3	12	50	6						
2HRBE 030 160 S06	1.5R X 3	3	16	60	6						
2HRBE 030 200 S06	1.5R X 3	3	20	60	6						
2HRBE 030 250 S06	1.5R X 3	3	25	65	6						
2HRBE 030 300 S06	1.5R X 3	3	30	70	6						
2HRBE 030 350 S06	1.5R X 3	3	35	75	6						
2HRBE 030 400 S06	1.5R X 3	3	40	80	6						
2HRBE 030 450 S06	1.5R X 3	3	45	90	6						
2HRBE 040 080 S06	2R X 4	4	8	50	6						
2HRBE 040 100 S06	2R X 4	4	10	50	6						
2HRBE 040 120 S06	2R X 4	4	12	50	6						
2HRBE 040 160 S06	2R X 4	4	16	60	6						
2HRBE 040 200 S06	2R X 4	4	20	60	6						
2HRBE 040 250 S06	2R X 4	4	25	65	6						
2HRBE 040 300 S06	2R X 4	4	30	70	6						
2HRBE 040 350 S06	2R X 4	4	35	75	6						
2HRBE 040 400 S06	2R X 4	4	40	80	6						
2HRBE 040 450 S06	2R X 4	4	45	90	6						
2HRBE 050 160 S06	2.5R X 5	6	16	60	6						
2HRBE 050 200 S06	2.5R X 5	6	20	60	6						
2HRBE 050 250 S06	2.5R X 5	6	25	70	6						
2HRBE 050 300 S06	2.5R X 5	6	30	75	6						
2HRBE 050 400 S06	2.5R X 5	6	40	80	6						
2HRBE 050 500 S06	2.5R X 5	6	50	90	6						
2HRBE 060 150 S06	3R X 6	10	15	55	6						
2HRBE 080 250 060	4R X 8	12	25	60	8						



- Endmills for various work materials (~HRc52), pre-hardened steel, carbon steel, mold steel.
- Good wear resistance by high quality Si-based PVD coating.
- Designed for minimizing edge chipping by corner R shape.
- Various corner R and overall length for wide range application.
- Maximize the manufacturing cost saving with low price of products.
- Minimize fracturing by high TRS fine(0.5 μm) WC grade.

2

WC
마립자

BLUE
Coating

R
±0.005

R
±0.01

R
±0.015

D
+0 -0.01

D
-0.005 -0.015

30°
Helix Angle

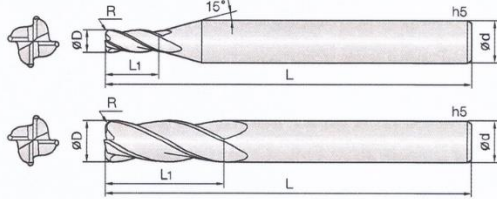
CUTTING
DATA

0.1 ~ 0.5R 1 ~ 1.5R 2R ø1-ø5 ø6-ø12 325P

D Size	D Tolerance
ø1 ~ 5	+0 ~ -0.01mm
ø6 ~ 12	-0.005 ~ -0.015mm

Order Number	Diameter D x R	Length of cut L1	Overall Length L	Shank Dia d	Order Number	Diameter D x R	Length of cut L1	Overall Length L	Shank Dia d
2NCRE 010 001 S04	1 X R0.1	3	50	4	2NCRE 120 010 110	12 X R1	26	110	12
2NCRE 010 002 S04	1 X R0.2	3	50	4	2NCRE 120 020 110	12 X R2	26	110	12
2NCRE 010 003 S04	1 X R0.3	3	50	4					
New 2NCRE 012 001 S04	1.2 X R0.1	4	50	4					
New 2NCRE 012 002 S04	1.2 X R0.2	4	50	4					
New 2NCRE 012 003 S04	1.2 X R0.3	4	50	4					
2NCRE 015 001 S04	1.5 X R0.1	4	50	4					
2NCRE 015 002 S04	1.5 X R0.2	4	50	4					
2NCRE 015 003 S04	1.5 X R0.3	4	50	4					
2NCRE 015 005 S04	1.5 X R0.5	4	50	4					
2NCRE 020 001 S04	2 X R0.1	6	50	4					
2NCRE 020 002 S04	2 X R0.2	6	50	4					
2NCRE 020 003 S04	2 X R0.3	6	50	4					
2NCRE 020 005 S04	2 X R0.5	6	50	4					
2NCRE 025 001 S04	2.5 X R0.1	6	50	4					
2NCRE 025 002 S04	2.5 X R0.2	6	50	4					
2NCRE 025 003 S04	2.5 X R0.3	6	50	4					
2NCRE 025 005 S04	2.5 X R0.5	6	50	4					
2NCRE 030 001 S06	3 X R0.1	8	60	6					
2NCRE 030 002 S06	3 X R0.2	8	60	6					
2NCRE 030 003 S06	3 X R0.3	8	60	6					
2NCRE 030 005 S06	3 X R0.5	8	60	6					
2NCRE 030 010 S06	3 X R1	8	60	6					
2NCRE 040 001 S04	4 X R0.1	10	50	4					
2NCRE 040 001 S06	4 X R0.1	10	70	6					
2NCRE 040 002 S04	4 X R0.2	10	50	4					
2NCRE 040 002 S06	4 X R0.2	10	70	6					
2NCRE 040 003 S04	4 X R0.3	10	50	4					
2NCRE 040 003 S06	4 X R0.3	10	70	6					
2NCRE 040 005 S04	4 X R0.5	10	50	4					
2NCRE 040 005 S06	4 X R0.5	10	70	6					
2NCRE 040 010 S04	4 X R1	10	50	4					
2NCRE 040 010 S06	4 X R1	10	70	6					
2NCRE 050 001 S06	5 X R0.1	13	75	6					
2NCRE 050 002 S06	5 X R0.2	13	75	6					
2NCRE 050 003 S06	5 X R0.3	13	75	6					
2NCRE 050 005 S06	5 X R0.5	13	75	6					
2NCRE 050 010 S06	5 X R1	13	75	6					
2NCRE 060 002 080	6 X R0.2	13	80	6					
2NCRE 060 003 080	6 X R0.3	13	80	6					
2NCRE 060 005 080	6 X R0.5	13	80	6					
2NCRE 060 010 080	6 X R1	13	80	6					
2NCRE 080 003 090	8 X R0.3	19	90	8					
2NCRE 080 005 090	8 X R0.5	19	90	8					
2NCRE 080 010 090	8 X R1	19	90	8					
2NCRE 100 003 100	10 X R0.3	22	100	10					
2NCRE 100 005 100	10 X R0.5	22	100	10					
2NCRE 100 010 100	10 X R1	22	100	10					
2NCRE 120 003 110	12 X R0.3	26	110	12					
2NCRE 120 005 110	12 X R0.5	26	110	12					

VHM 4-Lp. Eckradiusfräser, schwerzerspanbare Materialien



• Endmills for various work materials (~HRC52), pre-hardened steel, carbon steel, mold steel.

- Good wear resistance by high quality Si-based PVD coating.
- Designed for minimizing edge chipping by corner R shape.
- Various corner R and overall length for wide range application.
- Maximize the manufacturing cost saving with low price of products.
- Minimize fracturing by high TRS fine(0.5 μm) WC grade.

E series

4

WC
미립자

BLUE
Coating

R
±0.005

R
±0.01

R
±0.015

D
+0 -0.01

D
-0.005 -0.015

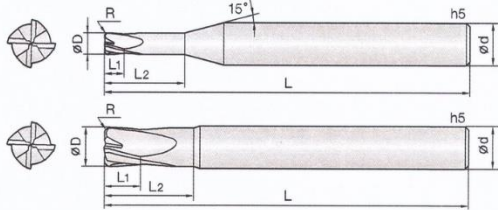
30°
Helix Angle

CUTTING
DATA

0.1 - 0.5R 1 - 1.5R 2R Ø1 - Ø5 Ø6 - Ø12 325P

D Size	D Tolerance
Ø1 ~ 5	+0 ~ -0.01mm
Ø6 ~ 12	-0.005 ~ -0.015mm

Order Number	Diameter D×R	Length of cut L1	Overall Length L	Shank Dia d	Order Number	Diameter D×R	Length of cut L1	Overall Length L	Shank Dia d
4NCRE 010 001 S04	1 X R0.1	3	50	4	4NCRE 050 002 S06	5 X R0.2	10	50	6
4NCRE 010 002 S04	1 X R0.2	3	50	4	4NCRE 050 002 075	5 X R0.2	13	75	6
4NCRE 010 003 S04	1 X R0.3	3	50	4	4NCRE 050 003 S06	5 X R0.3	10	50	6
New 4NCRE 012 001 S04	1.2 X R0.1	4	50	4	4NCRE 050 003 075	5 X R0.3	13	75	6
New 4NCRE 012 002 S04	1.2 X R0.2	4	50	4	4NCRE 050 005 S06	5 X R0.5	10	50	6
New 4NCRE 012 003 S04	1.2 X R0.3	4	50	4	4NCRE 050 005 075	5 X R0.5	13	75	6
4NCRE 015 001 S04	1.5 X R0.1	4	50	4	4NCRE 050 010 S06	5 X R1	10	50	6
4NCRE 015 002 S04	1.5 X R0.2	4	50	4	4NCRE 050 010 075	5 X R1	13	75	6
4NCRE 015 003 S04	1.5 X R0.3	4	50	4	4NCRE 060 001 050	6 X R0.1	10	50	6
4NCRE 015 005 S04	1.5 X R0.5	4	50	4	4NCRE 060 001 080	6 X R0.1	13	80	6
4NCRE 020 001 S04	2 X R0.1	6	50	4	4NCRE 060 002 050	6 X R0.2	10	50	6
4NCRE 020 002 S04	2 X R0.2	6	50	4	4NCRE 060 002 080	6 X R0.2	13	80	6
4NCRE 020 003 S04	2 X R0.3	6	50	4	4NCRE 060 003 050	6 X R0.3	10	50	6
4NCRE 020 005 S04	2 X R0.5	6	50	4	4NCRE 060 003 080	6 X R0.3	13	80	6
4NCRE 025 001 S04	2.5 X R0.1	6	50	4	4NCRE 060 005 050	6 X R0.5	10	50	6
4NCRE 025 002 S04	2.5 X R0.2	6	50	4	4NCRE 060 005 080	6 X R0.5	13	80	6
4NCRE 025 003 S04	2.5 X R0.3	6	50	4	4NCRE 060 010 050	6 X R1	10	50	6
4NCRE 025 005 S04	2.5 X R0.5	6	50	4	4NCRE 060 010 080	6 X R1	13	80	6
4NCRE 030 001 S04	3 X R0.1	8	50	4	4NCRE 080 002 060	8 X R0.2	16	60	8
4NCRE 030 001 S06	3 X R0.1	8	50	6	4NCRE 080 002 090	8 X R0.2	19	90	8
4NCRE 030 001 060	3 X R0.1	8	60	6	4NCRE 080 003 060	8 X R0.3	16	60	8
4NCRE 030 002 S04	3 X R0.2	8	50	4	4NCRE 080 003 090	8 X R0.3	19	90	8
4NCRE 030 002 S06	3 X R0.2	8	50	6	4NCRE 080 005 060	8 X R0.5	16	60	8
4NCRE 030 002 060	3 X R0.2	8	60	6	4NCRE 080 005 090	8 X R0.5	19	90	8
4NCRE 030 003 S04	3 X R0.3	8	50	4	4NCRE 080 010 060	8 X R1	16	60	8
4NCRE 030 003 S06	3 X R0.3	8	50	6	4NCRE 080 010 090	8 X R1	19	90	8
4NCRE 030 003 060	3 X R0.3	8	60	6	4NCRE 080 020 060	8 X R2	16	60	8
4NCRE 030 005 S04	3 X R0.5	8	50	4	4NCRE 080 020 090	8 X R2	19	90	8
4NCRE 030 005 S06	3 X R0.5	8	50	6	4NCRE 100 002 075	10 X R0.2	18	75	10
4NCRE 030 005 060	3 X R0.5	8	60	6	4NCRE 100 002 100	10 X R0.2	22	100	10
4NCRE 030 010 S04	3 X R1	8	50	4	4NCRE 100 003 075	10 X R0.3	18	75	10
4NCRE 030 010 S06	3 X R1	8	50	6	4NCRE 100 003 100	10 X R0.3	22	100	10
4NCRE 030 010 060	3 X R1	8	60	6	4NCRE 100 005 075	10 X R0.5	18	75	10
4NCRE 040 001 S04	4 X R0.1	10	50	4	4NCRE 100 005 100	10 X R0.5	22	100	10
4NCRE 040 001 S06	4 X R0.1	10	50	6	4NCRE 100 010 075	10 X R1	18	75	10
4NCRE 040 001 070	4 X R0.1	10	70	6	4NCRE 100 010 100	10 X R1	22	100	10
4NCRE 040 002 S04	4 X R0.2	10	50	4	4NCRE 100 020 075	10 X R2	18	75	10
4NCRE 040 002 S06	4 X R0.2	10	50	6	4NCRE 100 020 100	10 X R2	22	100	10
4NCRE 040 002 070	4 X R0.2	10	70	6	4NCRE 120 002 075	12 X R0.2	22	75	12
4NCRE 040 003 S04	4 X R0.3	10	50	4	4NCRE 120 002 110	12 X R0.2	26	110	12
4NCRE 040 003 S06	4 X R0.3	10	50	6	4NCRE 120 003 075	12 X R0.3	22	75	12
4NCRE 040 003 070	4 X R0.3	10	70	6	4NCRE 120 003 110	12 X R0.3	26	110	12
4NCRE 040 005 S04	4 X R0.5	10	50	4	4NCRE 120 005 075	12 X R0.5	22	75	12
4NCRE 040 005 S06	4 X R0.5	10	50	6	4NCRE 120 005 110	12 X R0.5	26	110	12
4NCRE 040 005 070	4 X R0.5	10	70	6	4NCRE 120 010 075	12 X R1	22	75	12
4NCRE 040 010 S04	4 X R1	10	50	4	4NCRE 120 010 110	12 X R1	26	110	12
4NCRE 040 010 S06	4 X R1	10	50	6	4NCRE 120 020 075	12 X R2	22	75	12
4NCRE 040 010 070	4 X R1	10	70	6	4NCRE 120 020 110	12 X R2	26	110	12
4NCRE 050 001 S06	5 X R0.1	10	50	6					
4NCRE 050 001 075	5 X R0.1	13	75	6					



- Endmills for various work materials (~HRc52), pre-hardened steel, carbon steel, mold steel.
- Good wear resistance by high quality Si-based PVD coating.
- Designed for low speed with high feed condition.
- Suitable for heavy duty and roughing application.
- Minimize fracturing at high feed by high TRS ultra fine WC grade.

4

WC
마립자

BLUE
Coating

R
±0.005

R
±0.01

R
±0.015

D
+0-0.01

D
-0.005-0.015

15°
Helix Angle

CUTTING
DATA

0.2 ~ 0.5R 1 ~ 1.5R 2 ~ 3R ø1-ø5 ø6-ø12 326P

D Size	D Tolerance
ø1 ~ 5	+0 ~ -0.01mm
ø6 ~ 12	-0.005 ~ -0.015mm

Order Number	Diameter D x R	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d	Order Number	Diameter D x R	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d
4RCUE 010 002 025	1 X R0.2	0.75	2.5	50	4						
4RCUE 015 005 040	1.5 X R0.5	1.2	4	50	4						
4RCUE 020 005 060	2 X R0.5	1.5	6	50	6						
4RCUE 030 005 080	3 X R0.5	2.3	8	50	6						
4RCUE 040 005 120	4 X R0.5	3	12	60	6						
4RCUE 040 005 160	4 X R0.5	3	16	60	6						
4RCUE 040 010 120	4 X R1	3	12	60	6						
4RCUE 040 010 160	4 X R1	3	16	60	6						
4RCUE 050 005 150	5 X R0.5	4	15	60	6						
4RCUE 050 010 150	5 X R1	4	15	60	6						
4RCUE 060 005 150	6 X R0.5	4.5	15	60	6						
4RCUE 060 005 250	6 X R0.5	4.5	25	80	6						
4RCUE 060 010 150	6 X R1	4.5	15	60	6						
4RCUE 060 010 250	6 X R1	4.5	25	80	6						
4RCUE 060 015 150	6 X R1.5	4.5	15	60	6						
4RCUE 060 015 250	6 X R1.5	4.5	25	80	6						
4RCUE 080 005 200	8 X R0.5	6	20	60	8						
4RCUE 080 005 300	8 X R0.5	6	30	90	8						
4RCUE 080 010 200	8 X R1	6	20	60	8						
4RCUE 080 010 300	8 X R1	6	30	90	8						
4RCUE 080 020 200	8 X R2	6	20	60	8						
4RCUE 080 020 300	8 X R2	6	30	90	8						
4RCUE 100 005 250	10 X R0.5	7.5	25	70	10						
4RCUE 100 005 400	10 X R0.5	7.5	40	100	10						
4RCUE 100 010 250	10 X R1	7.5	25	70	10						
4RCUE 100 010 400	10 X R1	7.5	40	100	10						
4RCUE 100 020 250	10 X R2	7.5	25	70	10						
4RCUE 100 020 400	10 X R2	7.5	40	100	10						
4RCUE 120 005 300	12 X R0.5	9	30	80	12						
4RCUE 120 005 400	12 X R0.5	9	40	100	12						
4RCUE 120 010 300	12 X R1	9	30	80	12						
4RCUE 120 010 400	12 X R1	9	40	100	12						
4RCUE 120 020 300	12 X R2	9	30	80	12						
4RCUE 120 020 400	12 X R2	9	40	100	12						
4RCUE 120 030 300	12 X R3	9	30	80	12						