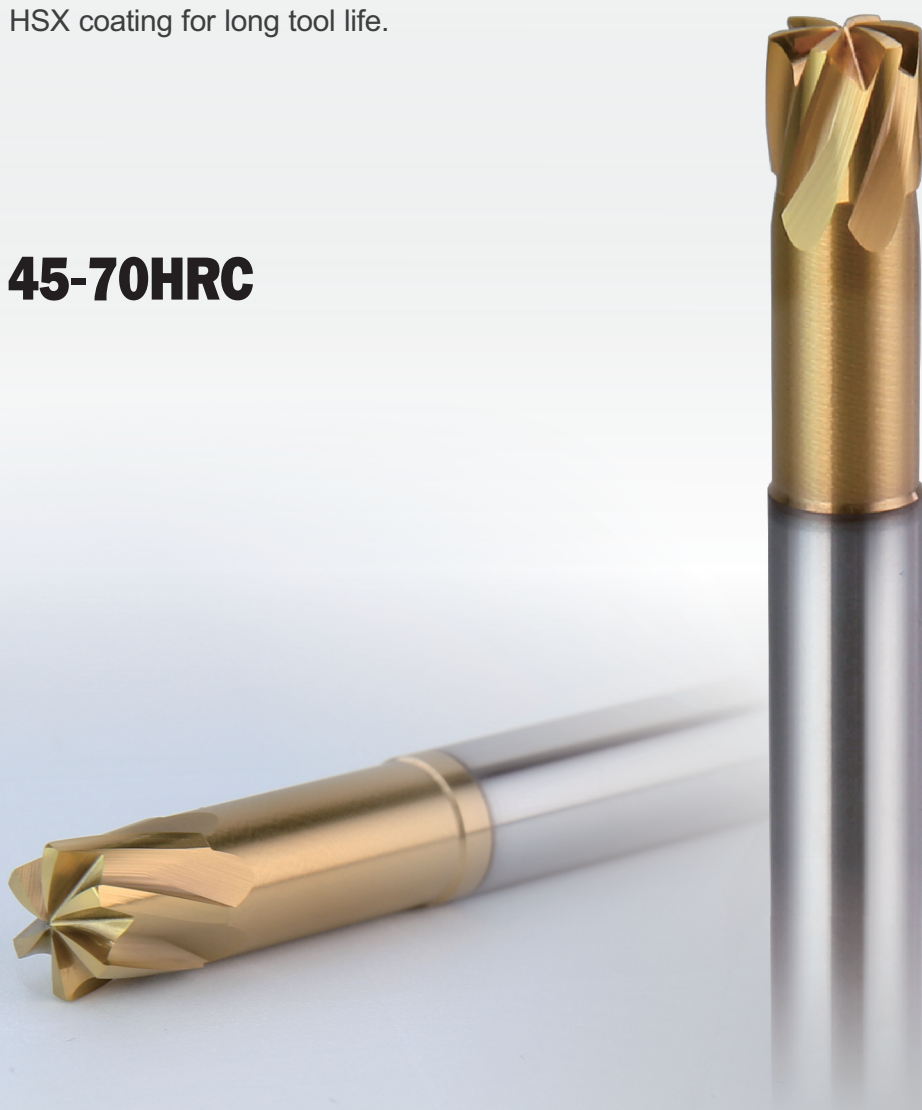


HSX SERIES

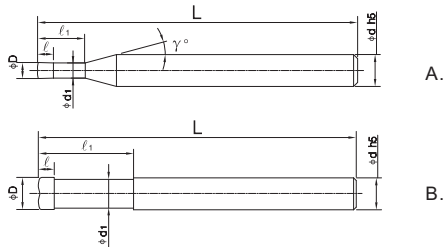
HSXHR-Highlights

- Axial cutting force minimizes vibration.
- Optimized high feed radius for lower cutting resistance.
- Multi-edge design for high efficiency.
- Suitable for 45–70HRC materials.
- HSX coating for long tool life.

45-70HRC



HSXHR 4/6-flute High Feed End Mill



φD	D Tol. [mm]
D<12	0~+0.02

Unit : mm

Type No.	Dia.	CAM-R	Length of Cut	Under Neck Length	Neck Dia.	Neck Taper Angle	Overall Length	Flute No.	Shank Dia.	Shape
	φD	R	ℓ	ℓ ₁	φd ₁	γ/°	L		φd	
HSXHR4010 0450	1	R0.130	1	3	0.95	15	50	4	4	A
HSXHR4010 0650	1	R0.130	1	3	0.95	15	50	4	6	A
HSXHR4020 0450	2	R0.183	2	6	1.9	15	50	4	4	A
HSXHR4020 0650	2	R0.183	2	6	1.9	15	50	4	6	A
HSXHR4030 0450	3	R0.315	3	9	2.9	15	50	4	4	A
HSXHR4030 0660	3	R0.315	3	9	2.9	15	60	4	6	A
HSXHR6040 0450	4	R0.370	4	12	3.9	—	50	6	4	B
HSXHR6040 0660	4	R0.370	4	12	3.9	15	60	6	6	A
HSXHR6050 0660	5	R0.500	5	15	4.85	15	60	6	6	A
HSXHR6060 0660	6	R0.530	6	18	5.85	—	60	6	6	B
HSXHR6080 0875	8	R0.800	8	24	7.8	—	75	6	8	B
HSXHR6080 08100	8	R0.800	8	24	7.8	—	100	6	8	B
HSXHR6100 1075	10	R0.900	10	30	9.8	—	75	6	10	B
HSXHR6100 10100	10	R0.900	10	30	9.8	—	100	6	10	B
HSXHR6120 12100	12	R1.000	12	36	11.7	—	100	6	12	B

Diameter D	CAM (R)	Leftover	Diameter D	CAM (R)	Leftover
1	0.13	0.023	6	0.53	0.168
2	0.183	0.06	8	0.8	0.229
3	0.315	0.083	10	0.9	0.305
4	0.37	0.12	12	1	0.383
5	0.5	0.138			

• Please set up CAM R as radius.
• If you need DXF or STP files, please contact with us.

TABLE OF RECOMMENDED MILLING MATERIALS										
CARBON STEELS	ALLOY STEELS	PREHARDENED STEELS	HARDENED STEELS				CAST IRON DUCTILE CAST IRON	COPPER ALLOYS	ALUMINUM ALLOY	GRAPHITE
			~55HRC	~60HRC	~65HRC	~70HRC				
		○	○	○	○	○	○			

Cutting Parameter

HSXHR 4/6-Flute High Feed End Mill Z constant Roughing

Workpiece	Hardened Steels (≤52HRC)				Hardened Steels (58-62HRC)				Hardened Steels (63-69HRC)			
Type No.	n min ⁻¹	Vf mm/min	ap mm	ae mm	n min ⁻¹	Vf mm/min	ap mm	ae mm	n min ⁻¹	Vf mm/min	ap mm	ae mm
HSXHR4010R0.13 0450	25500	3800	0.04	0.53	19100	1800	0.02	0.53	15900	1070	0.012	0.5
HSXHR4010R0.13 0650	25500	3800	0.04	0.53	19100	1800	0.02	0.53	15900	1070	0.012	0.5
HSXHR4020R0.183 0450	12700	3800	0.08	1.11	9600	2000	0.04	1.11	8000	1080	0.02	1
HSXHR4020R0.183 0650	12700	3800	0.08	1.11	9600	2000	0.04	1.11	8000	1080	0.02	1
HSXHR4030R0.315 0450	8500	4000	0.12	1.62	6400	2400	0.06	1.62	5300	1120	0.03	1.5
HSXHR4030R0.315 0660	8500	4000	0.12	1.62	6400	2400	0.06	1.62	5300	1120	0.03	1.5
HSXHR6040R0.37 0450	6400	5850	0.16	2.18	4800	2700	0.08	2.18	4000	1710	0.05	2
HSXHR6040R0.37 0650	6400	5850	0.16	2.18	4800	2700	0.08	2.18	4000	1710	0.05	2
HSXHR6050R0.5 0660	5100	6000	0.2	2.73	3800	2750	0.1	2.73	4000	1710	0.05	2
HSXHR6060R0.53 0650	4200	5870	0.24	3.27	3200	2800	0.1	3.27	2700	1770	0.08	3
HSXHR6060R0.53 0660	4200	5870	0.24	3.27	3200	2800	0.1	3.27	2700	1770	0.08	3
HSXHR6080R0.8 0860	3200	6150	0.28	4.36	2400	3000	0.15	4.36	2000	1800	0.1	4
HSXHR6080R0.8 0875	4200	5870	0.24	3.27	2400	2900	0.15	3.27	2000	1800	0.1	4
HSXHR6080R0.8 08100	4200	5870	0.24	3.27	2400	2800	0.15	3.27	2000	1800	0.1	4
HSXHR6100R0.9 1075	2500	6000	0.3	5.46	1900	3150	0.2	5.46	1600	1800	0.15	5
HSXHR6100R0.9 10100	2500	6000	0.3	5.46	1900	3000	0.2	5.46	1600	1800	0.15	5
HSXHR6120R1 1275	2100	5750	0.35	6.57	1600	3000	0.25	6.57	1300	1670	0.18	6
HSXHR6120R1 12100	2100	5750	0.35	6.57	1600	3000	0.25	6.57	1300	1670	0.18	6