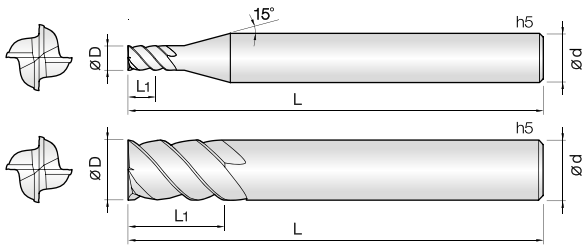


4HEM 4 Flutes High Speed 45° Helix End Mills



- Endmills for pre-hardened and hardened steel (HRc50~62)
- Good wear resistance by Si-based PVD coating.
- High precise edge tolerance.
- Reinforced edge design for preventing edge chipping.
- 45° degree helix design for high speed, feed condition.
- Outstanding performance at high speed machining by ultra fine (0.2 μm) WC grade.

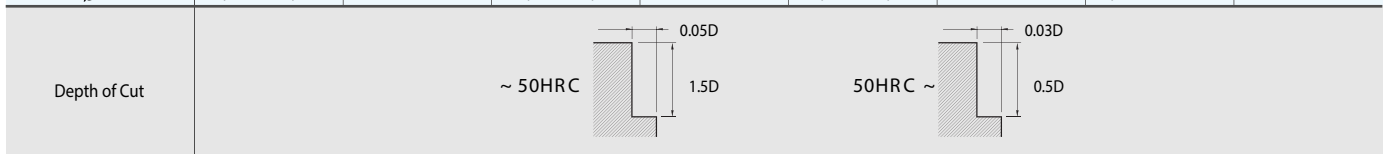


D Size	D Tolerance
ø1 ~ 5	+0 ~ -0.01 mm
ø6 ~ 12	-0.01 ~ -0.025 mm
ø14 ~ 25	-0.015 ~ -0.03 mm

4HEM / 6 & 8HEM

■ Use the same RPM and raise up the feed up to 50% for 6&8HEM. • RPM: rev./min • Feed: mm/min

Side Cutting																
Material	Alloy Steel				Hardened Steels				Hardened Steels				Hardened Steels			
Hardness	30 ~ 40HRC				40 ~ 50HRC				50 ~ 55HRC				55 ~ 60HRC			
Outside Diameter	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth
ø 1	40,000	1,200	1.5	0.05	45,000	1,100	1.5	0.05	40,000	770	0.5	0.03	38,000	308	0.5	0.06
ø 1.5	40,000	1,500	2.25	0.075	40,000	1,250	2.25	0.075	38,500	875	0.75	0.045	35,600	350	0.75	0.24
ø 2	40,000	2,000	3	0.1	38,000	1,800	3	0.1	36,500	1,260	1	0.06	31,000	504	1	0.045
ø 3	38,400	4,560	4.5	0.15	34,560	4,104	4.5	0.15	27,648	2,873	1.5	0.09	22,118	1,149	1.5	0.3
ø 4	28,800	5,280	6	0.2	25,920	4,752	6	0.2	20,736	3,326	2	0.12	16,589	1,331	2	0.03
ø 5	24,000	6,000	7.5	0.25	21,600	5,400	7.5	0.25	17,280	3,780	2.5	0.15	13,824	1,512	2.5	0.09
ø 6	19,200	6,960	9	0.3	17,280	6,264	9	0.3	13,824	4,385	3	0.18	11,059	1,754	3	0.12
ø 8	14,400	6,960	12	0.4	12,960	6,264	12	0.4	10,368	4,385	4	0.24	8,294	1,754	4	0.75
ø 10	11,520	6,960	15	0.5	10,368	6,264	15	0.5	8,294	4,385	5	0.3	6,636	1,754	5	0.6
ø 12	9,600	5,760	18	0.6	8,640	5,184	18	0.6	6,912	3,629	6	0.36	5,530	1,452	6	0.48
ø 16	7,200	4,320	24	0.8	6,480	3,888	24	0.8	5,184	2,722	8	0.48	4,147	1,089	8	0.36
ø 20	5,760	3,480	30	1	5,184	3,132	30	1	4,147	2,192	10	0.6	3,318	877	10	0.15
ø 25	5,150	3,120	37.5	1.25	4,635	2,808	37.5	1.25	3,708	2,246	12.5	0.75	2,966	899	12.5	0.18



- The edge of the flute precisely grinded. If you want to measure the tool, and to avoid damaging on the flutes, use non-contact measuring method.
- The parameters on the table is based on 4flutes. For using 6 or 8flutes, use the same RPM and raise up the feed up to 50% in stable milling condition.
- When milling workpiece, HRC over 60 hardened steel, reduce 20% of the RPM and feed compared to the same diameter.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.