

# COOL STAR END MILL SERIES

CARBIDE

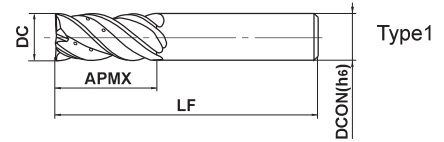
## VFMHVCH

End mill, Medium cut length, 4 flute, Irregular helix flutes, with multiple internal through coolant holes



Carbon Steel, Alloy Steel, Cast Iron (<30HRC)	Tool Steel, Pre-Hardened Steel, Hardened Steel (≤45HRC)	Hardened Steel (≤55HRC)	Hardened Steel (>55HRC)	Austenitic Stainless Steel	Titanium Alloy, Heat Resistant Alloy	Copper Alloy	Aluminium Alloy
				○	○		

**CoolStar**  
END MILLS



SQUARE

BALL

	16 ≤ DC ≤ 20				
	0	-0.03			
	DCON=16	DCON=20			
	0	-0.011	0	-0.013	

RADIUS

● Vibration control end mill with multiple internal through coolant holes ensures stable machining on difficult-to-cut materials and applications requiring long overhangs.

Unit : mm

Order Number	DC	APMX	LF	DCON	No. of Flutes	Stock	Type
VFMHVCHD1600	16	35	90	16	4	●	1
VFMHVCHD2000	20	45	110	20	4	●	1

TAPER

## RECOMMENDED CUTTING CONDITIONS

### Side milling

Work material	Austenitic stainless steel, Titanium alloy		Heat resistant alloys	
	AISI 304, AISI 306, Ti-6Al-4V		Inconel718	
Dia. DC (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)
16	2000	560	800	110
20	1600	510	600	100

Depth of cut	≤0.1DC		≤0.05DC	
	0.5DC—1.5DC		0.5DC—1.5DC	

DC: Dia.

### Slotting

Work material	Austenitic stainless steel, Titanium alloy	
	AISI 304, AISI 306, Ti-6Al-4V	
Dia. DC (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)
16	1400	170
20	1100	130

Depth of cut	DC	
	0.5DC—1.5DC	

DC: Dia.

- 1) If the depth of cut is shallow, the revolution and feed rate can be increased.
- 2) The irregular helix flute end mill has a larger effect on controlling vibration when compared to standard end mills. However, if the rigidity of the machine or the workpiece installation is poor, vibration or abnormal sound can occur. In this case, please reduce the revolution and feed rate proportionately, or set a lower depth of cut.

● : Inventory maintained in Japan.