

# MSTAR END MILLS

CARBIDE

## MS4EC

End mill, 4 flute, For small automatic lathes

### RECOMMENDED CUTTING CONDITIONS

Work material	Carbon steel, Cast iron, Alloy steel (—30HRC)		Alloy steel, Tool steel, Pre-hardened steel		Austenitic stainless steel, Titanium alloy		Hardened steel (45—55HRC)	
	AISI 1050, AISI No 35 B, AISI P20		AISI H13, AISI W1-10, AISI P21		AISI 304, AISI 306, Ti-6Al-4V		AISI H13	
Dia. DC (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)
<b>3</b>	10000	900	7000	600	6000	450	5000	180
<b>4</b>	7500	900	5200	600	4500	450	4000	180
<b>5</b>	6000	900	4200	600	3600	450	3200	180
<b>6</b>	5000	900	3500	600	3000	450	2700	180
<b>7</b>	4500	840	3000	540	2700	420	2300	160
<b>8</b>	4000	780	2800	520	2400	390	2000	160
<b>10</b>	3200	680	2200	450	1900	340	1600	140
<b>12</b>	2700	620	1900	410	1600	310	1300	120
<b>14</b>	2300	550	1600	350	1400	280	1200	120

  

Depth of cut	Carbon steel, Cast iron, Alloy steel (—30HRC)		Alloy steel, Tool steel, Pre-hardened steel		Austenitic stainless steel, Titanium alloy		Hardened steel (45—55HRC)	
		$\leq 0.2DC$ $\leq 1DC$		$\leq 0.2DC$		$\leq 0.05DC$ $\leq 1DC$		$\leq 0.1DC$

DC: Dia.

- 1) When cutting austenitic stainless steels, the use of water-soluble cutting fluid is effective.
- 2) If the depth of cut is shallow, the revolution and feed rate can be increased.
- 3) When drilling, please set the feed rate at 1/3 or below the values above.
- 4) If the rigidity of the machine or the work materials installation is very low, or chattering and noise are generated, reduce the revolution and feed rate proportionately.

SOLID END MILLS