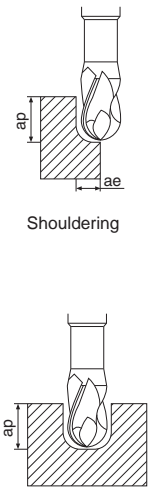


# Recommended Cutting Conditions

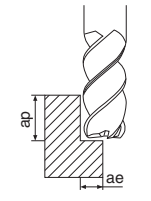
## 4YE8M

Application	Workpiece Material	Application	Depth of Cut (аpxae) (mm)	Outside Dia. Dc (mm)	ø5	ø6	ø8	ø10	ø12	ø16	ø20
 <p>Shouldering</p> <p>Slotting</p>	Soft Steel	Shouldering	1Dc×0.5Dc	Spindle Revolution (min <sup>-1</sup> )	9,400	7,900	5,900	4,700	3,900	2,900	2,400
				Feed Rate (mm/min)	1,020	1,130	1,270	1,020	990	800	760
		Slotting	1Dc	Spindle Revolution (min <sup>-1</sup> )	8,600	7,200	5,400	4,300	3,600	2,700	2,200
				Feed Rate (mm/min)	930	1,030	1,160	930	900	730	700
	Stainless steel SUS	Shouldering	1Dc×0.5Dc	Spindle Revolution (min <sup>-1</sup> )	5,700	4,800	3,600	2,900	2,400	1,800	1,400
				Feed Rate (mm/min)	620	630	630	640	560	450	390
		Slotting	1Dc	Spindle Revolution (min <sup>-1</sup> )	5,100	4,200	3,200	2,500	2,100	1,600	1,300
				Feed Rate (mm/min)	550	610	570	550	500	400	350
	Titanium Alloys	Shouldering	1Dc×0.3Dc	Spindle Revolution (min <sup>-1</sup> )	3,200	2,700	2,000	1,600	1,300	1,000	800
				Feed Rate (mm/min)	180	190	220	170	170	160	160
		Slotting	0.5Dc	Spindle Revolution (min <sup>-1</sup> )	2,900	2,400	1,800	1,400	1,200	900	700
				Feed Rate (mm/min)	160	170	190	170	170	160	160
Heat-resistant Alloys	Shouldering	1Dc×0.2Dc	Spindle Revolution (min <sup>-1</sup> )	1,700	1,400	1,000	800	700	500	400	
			Feed Rate (mm/min)	70	80	100	80	90	90	80	
	Slotting	0.5Dc	Spindle Revolution (min <sup>-1</sup> )	1,400	1,200	900	700	600	400	400	
			Feed Rate (mm/min)	60	70	80	80	80	80	70	
Gray Cast Iron	Shouldering	1Dc×0.4Dc	Spindle Revolution (min <sup>-1</sup> )	7,800	6,500	4,900	3,900	3,200	2,400	1,900	
			Feed Rate (mm/min)	840	930	1,050	840	820	660	630	
	Slotting	1Dc	Spindle Revolution (min <sup>-1</sup> )	7,000	5,800	4,400	3,500	2,900	2,200	1,800	
			Feed Rate (mm/min)	760	840	950	760	740	600	570	

\* Cutting with coolant is recommended for stainless steel, titanium alloys and heat-resistant alloys.

## 4HFSS, 5HFSS, 6HFSS, 7HFSS (Shouldering)

## 4HF8M, 5HF8M, 6HF8M, 7HF8M, 8HF8M (Shouldering)

Application	Workpiece Material	Depth of Cut (аpxae) (mm)	Outside Dia. Dc (mm)	ø1	ø2	ø4	ø6	ø8	ø12
 <p>Shouldering</p>	Tool Steel (< 40HRC) Pre-hardened steel	1.5Dc×0.05Dc (Dc < ø3)	Spindle Revolution (min <sup>-1</sup> )	20,700	20,000	11,100	7,400	5,600	3,700
			Feed Rate (mm/min)	910	1,750	2,000	2,900	2,930	2,930
	Tool Steel / Hardened Steel (40~45HRC) Pre-hardened steel	1.5Dc×0.1Dc (ø3 ≤ Dc)	Spindle Revolution (min <sup>-1</sup> )	20,700	20,000	9,900	6,600	5,000	3,300
			Feed Rate (mm/min)	910	1,750	1,800	2,630	2,650	2,650
	Hardened Steel 45~55HRC	1.5Dc×0.05Dc	Spindle Revolution (min <sup>-1</sup> )	20,700	16,000	8,000	5,300	4,000	2,700
			Feed Rate (mm/min)	910	1,400	1,400	2,100	2,100	2,100
	Hardened Steel 55~60HRC	1.5Dc×0.02Dc	Spindle Revolution (min <sup>-1</sup> )	20,700	12,000	6,000	4,000	3,000	2,000
			Feed Rate (mm/min)	640	730	740	1,100	1,100	1,100
	Hardened Steel 60~65HRC	1.5Dc×0.02Dc	Spindle Revolution (min <sup>-1</sup> )	20,700	11,100	5,600	3,700	2,800	1,900
			Feed Rate (mm/min)	550	600	600	880	880	880
	Hardened Steel 65~70HRC	1.5Dc×0.02Dc	Spindle Revolution (min <sup>-1</sup> )	15,900	8,000	4,000	2,700	2,000	1,330
			Feed Rate (mm/min)	370	370	370	560	560	550

\* Above is even number flute condition. In case of Odd number flute, please take standard with increasing feed rate 15-20% condition.

**Slotting is not recommended.**

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Solid End Mill