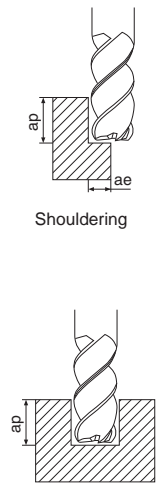
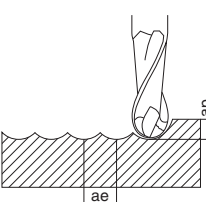


3RFRS, 4RFRS

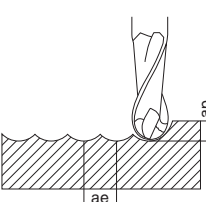
Application	Workpiece Material	Application	Depth of Cut (apxae) (mm)	Outside Dia. Dc (mm)	ø4	ø5	ø6	ø8	ø10	ø12
 <p>Shouldering</p> <p>Slotting</p>	Steel	< 30HRC	Shouldering 0.8Dc×0.5Dc	Spindle Revolution (min ⁻¹)	14,300	11,500	9,600	7,200	5,700	4,800
				Feed Rate (mm/min)	860	860	1,150	1,150	1,150	1,150
		30~40HRC	Slotting 0.8Dc	Spindle Revolution (min ⁻¹)	11,500	9,200	7,600	5,700	4,600	3,800
				Feed Rate (mm/min)	690	690	920	920	920	920
		40~50HRC	Shouldering 0.8Dc×0.4Dc	Spindle Revolution (min ⁻¹)	9,600	7,600	6,400	4,800	3,800	3,200
				Feed Rate (mm/min)	430	460	640	610	610	570
	50~60HRC	Slotting 0.8Dc	Spindle Revolution (min ⁻¹)	7,600	6,100	5,100	3,800	3,100	2,500	
			Feed Rate (mm/min)	340	370	490	490	490	460	
	60~70HRC	Shouldering 0.8Dc×0.4Dc	Spindle Revolution (min ⁻¹)	6,400	5,100	4,200	3,200	2,500	2,100	
			Feed Rate (mm/min)	190	230	320	320	320	340	
	Titanium Alloys	50~60HRC	Shouldering 0.8Dc×0.25Dc	Spindle Revolution (min ⁻¹)	4,800	3,800	3,200	2,400	1,900	1,600
				Feed Rate (mm/min)	100	100	130	140	150	160
60~70HRC		Slotting 0.3Dc	Spindle Revolution (min ⁻¹)	3,800	3,100	2,500	1,900	1,500	1,300	
			Feed Rate (mm/min)	80	80	100	120	120	130	
60~70HRC		Shouldering 0.8Dc×0.2Dc	Spindle Revolution (min ⁻¹)	3,200	2,500	2,100	1,600	1,300	1,100	
			Feed Rate (mm/min)	60	60	70	70	80	90	
60~70HRC	Slotting 0.25Dc	Spindle Revolution (min ⁻¹)	2,500	2,000	1,700	1,300	1,000	800		
		Feed Rate (mm/min)	50	50	60	60	60	70		
Titanium Alloys	Shouldering 0.8Dc×0.4Dc	Spindle Revolution (min ⁻¹)	6,400	5,100	4,200	3,200	2,500	2,100		
		Feed Rate (mm/min)	190	230	340	320	350	380		
Titanium Alloys	Slotting 0.5Dc	Spindle Revolution (min ⁻¹)	4,000	3,200	2,700	2,000	1,600	1,300		
		Feed Rate (mm/min)	80	100	150	140	160	170		

* Cutting with coolant is recommended for titanium alloys.

2UEBS

Application	Workpiece Material	Depth of Cut (apxae) (mm)	Outside Dia. Dc (mm)	ø4	ø6	ø8	ø10	ø12	ø16	ø20		
 <p>Copying</p>	Steel	0.3Dc×0.7Dc		Spindle Revolution (min ⁻¹)	9,600	6,400	4,800	3,800	3,200	2,400		
				Feed Rate (mm/min)	380	420	380	380	340	300	310	
				Spindle Revolution (min ⁻¹)	8,000	5,300	4,000	3,200	2,700	2,000	1,600	
				Feed Rate (mm/min)	300	330	300	290	270	240	240	
				Spindle Revolution (min ⁻¹)	6,400	4,200	3,200	2,500	2,100	1,600	1,300	
				Feed Rate (mm/min)	190	210	190	190	170	150	150	
	Cast Iron				Spindle Revolution (min ⁻¹)	12,700	8,500	6,400	5,100	4,200	3,200	
					Feed Rate (mm/min)	760	850	760	750	690	610	610
					Spindle Revolution (min ⁻¹)	11,100	7,400	5,600	4,500	3,700	2,800	2,200
					Feed Rate (mm/min)	540	590	540	530	480	420	430

3UEBS

Application	Workpiece Material	Depth of Cut (apxae) (mm)	Outside Dia. Dc (mm)	ø3	ø4	ø5	ø6	ø8	ø10	ø12	
 <p>Copying</p>	Carbon Steel < 20HRC	0.2Dc×0.3Dc		Spindle Revolution (min ⁻¹)	13,300	10,000	8,000	6,600	5,000	4,000	
				Feed Rate (mm/min)	600	870	840	850	1,400	1,200	990
	Alloy Steel < 35HRC	0.2Dc×0.3Dc			Spindle Revolution (min ⁻¹)	10,600	8,000	6,400	5,300	4,000	3,200
					Feed Rate (mm/min)	410	500	610	640	940	830
	Pre-hardened steel 30~45HRC	0.1Dc×0.2Dc			Spindle Revolution (min ⁻¹)	7,400	5,600	4,500	3,700	2,800	2,200
					Feed Rate (mm/min)	220	250	257	280	250	240
	Stainless steel SUS	0.05Dc×0.1Dc			Spindle Revolution (min ⁻¹)	5,800	4,400	3,500	2,900	2,200	1,800
					Feed Rate (mm/min)	160	180	190	180	190	190

* Cutting with coolant is recommended for stainless steel.

