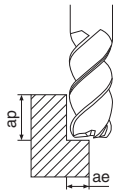
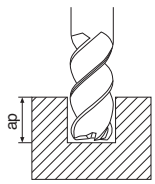
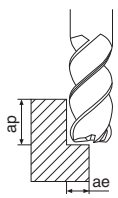
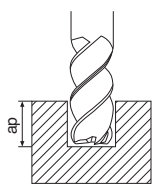
Recommended Cutting Conditions

4FESW

Application	Workpiece Material	Application	Outside Dia. Dc (mm)	ø3	ø4	ø5	ø6	ø8	ø10	ø12	ø13
 Shouldering Depth of Cut (ap×ae) (mm) 1Dc×0.2Dc	Carbon Steel SxxC	Shouldering	Spindle Revolution (min^{-1})	11,000	8,000	6,400	5,300	4,000	3,200	2,700	2,500
			Feed Rate (mm/min)	960	960	960	960	780	680	620	570
		Slotting	Spindle Revolution (min^{-1})	11,000	8,000	6,400	5,300	4,000	3,200	2,700	2,500
			Feed Rate (mm/min)	960	960	960	960	780	680	620	570
	Alloy Steel SCM, SNCM	Shouldering	Spindle Revolution (min^{-1})	7,400	5,600	4,500	3,700	2,800	2,200	1,900	1,700
			Feed Rate (mm/min)	640	640	640	640	520	450	410	370
		Slotting	Spindle Revolution (min^{-1})	7,400	5,600	4,500	3,700	2,800	2,200	1,900	1,700
			Feed Rate (mm/min)	640	640	640	640	520	450	410	370
 Slotting Depth of Cut (ap) (mm) 0.2Dc	Pre-hardened steel NAK, 30~45HRC	Shouldering	Spindle Revolution (min^{-1})	7,400	5,600	4,500	3,700	2,800	2,200	1,900	1,700
			Feed Rate (mm/min)	640	640	640	640	520	450	410	370
		Slotting	Spindle Revolution (min^{-1})	7,400	5,600	4,500	3,700	2,800	2,200	1,900	1,700
			Feed Rate (mm/min)	640	640	640	640	520	450	410	370
	Stainless steel SUS	Shouldering	Spindle Revolution (min^{-1})	6,400	4,800	3,800	3,200	2,400	1,900	1,600	1,500
			Feed Rate (mm/min)	480	480	480	480	390	340	310	290
		Slotting	Spindle Revolution (min^{-1})	6,400	4,800	3,800	3,200	2,400	1,900	1,600	1,500
			Feed Rate (mm/min)	480	480	480	480	390	340	310	290

* Cutting with coolant is recommended for stainless steel.

3UFSM

Application	Workpiece Material	Application	Outside Dia. Dc (mm)	ø2	ø3	ø4	ø5	ø6	ø8	ø10	ø12	ø16	ø20
 Shouldering Depth of Cut (ap×ae) (mm) 1.5Dc×0.1Dc	Carbon Steel Cast Iron	Shouldering	Spindle Revolution (min^{-1})	18,000	12,000	9,200	7,300	6,100	4,600	3,700	3,100	2,300	1,800
			Feed Rate (mm/min)	380	430	440	500	510	500	560	560	590	590
		Slotting	Spindle Revolution (min^{-1})	16,000	11,000	8,000	6,400	5,300	4,000	3,200	2,700	2,000	1,600
			Feed Rate (mm/min)	190	230	240	290	300	290	280	290	310	350
	Alloy Steel SCM, SNCM	Shouldering	Spindle Revolution (min^{-1})	14,000	9,000	6,800	5,400	4,500	3,400	2,700	2,300	1,700	1,400
			Feed Rate (mm/min)	250	270	270	320	350	340	360	350	390	420
		Slotting	Spindle Revolution (min^{-1})	11,000	7,400	5,600	4,500	3,700	2,800	2,200	1,900	1,400	1,100
			Feed Rate (mm/min)	130	130	150	180	190	180	170	180	190	210
 Slotting Depth of Cut (ap) (mm) 0.25Dc (Carbon steel/Cast iron 0.5Dc)	Stainless steel SUS	Shouldering	Spindle Revolution (min^{-1})	10,000	6,400	4,800	3,800	3,200	2,400	1,900	1,600	1,200	1,000
			Feed Rate (mm/min)	180	170	170	210	230	220	230	220	220	230
		Slotting	Spindle Revolution (min^{-1})	10,000	6,400	4,800	3,800	3,200	2,400	1,900	1,600	1,200	1,000
			Feed Rate (mm/min)	120	120	120	140	150	140	140	140	150	180
	Titanium Alloys Heat-resistant Alloys (40~50HRC)	Shouldering	Spindle Revolution (min^{-1})	6,000	4,200	3,200	2,500	2,100	1,600	1,300	1,100	800	600
			Feed Rate (mm/min)	60	90	100	120	110	110	120	110	120	130
		Slotting	Spindle Revolution (min^{-1})	6,000	4,200	3,200	2,500	2,100	1,600	1,300	1,100	800	600
			Feed Rate (mm/min)	50	60	70	80	90	90	90	80	90	100
	Aluminum Alloys	Shouldering	Spindle Revolution (min^{-1})	32,000	21,000	16,000	13,000	11,000	8,000	6,400	5,300	4,000	3,200
			Feed Rate (mm/min)	670	760	770	900	920	860	1,000	1,100	1,100	1,200
		Slotting	Spindle Revolution (min^{-1})	32,000	21,000	16,000	13,000	11,000	8,000	6,400	5,300	4,000	3,200
			Feed Rate (mm/min)	480	440	480	590	630	580	670	730	860	960

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