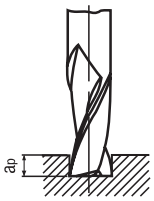
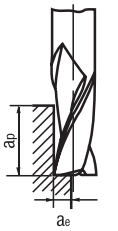
Cutting Conditions

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Grooving



Side Milling



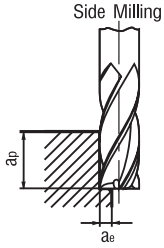
1. When dry milling, reduce the rotation and feed to 70% of table values.
2. Adjust milling condition when an unusual vibration, different sound occur by cutting.

B

• X's-mill Two Flutes L9470

Work Material / Milling Condition / Dia. of Mill mm		Hardended Steels (55~60HRC)		Hardended Steels (45~55HRC)		Hardended Steels Mold Steels (35~45HRC)		Carbon Steels Alloy Steels (~35HRC)		Hardended Steels SUS304 SUS316		Nickel Alloys Titanium Alloys		Cast Irons FC, FCD (~200HB)	
		Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min
1		6400	25	9500	50	15900	95	25500	205	11100	70	8000	40	25500	255
2		3200	32	4800	60	8000	130	12700	255	5600	80	4000	50	12700	305
3		2100	32	3200	75	5300	190	8500	330	3700	100	2700	65	8500	510
5		1300	40	1900	105	3200	225	5100	380	2200	100	1600	65	5100	610
6		1100	40	1600	115	2700	225	4200	380	1900	100	1300	65	4200	610
8		800	40	1200	125	2000	225	3200	380	1400	100	1000	65	3200	610
10		640	40	1000	130	1600	225	2500	380	1100	100	800	65	2500	600
12		530	40	800	125	1300	220	2100	380	930	100	660	65	2100	600
15		420	32	640	75	1100	200	1700	330	740	90	530	55	1700	510
20		320	25	480	60	800	130	1300	260	560	80	400	50	1300	415
Side Milling	ap	1D		1D		1.5D		1.5D		1.5D		1D		1.5D	
	ae	0.02D		0.05D		0.2D		0.35D		0.2D		0.1D		0.25D	
Grooving	ap	0.02D		0.05D		0.3D		0.5D		0.3D		0.1D		0.5D	

Side Milling



1. When dry milling, reduce the rotation and feed to 70% of table values.
2. Adjust milling condition when an unusual vibration, different sound occur by cutting.

• X's-mill Four Flutes L9472

Work Material / Milling Condition / Dia. of Mill mm		Hardended Steels (55~60HRC)		Hardended Steels (45~55HRC)		Hardended Steels Mold Steels (35~45HRC)		Carbon Steels Alloy Steels (~35HRC)		Hardended Steels SUS304 SUS316		Nickel Alloys Titanium Alloys		Cast Irons FC, FCD (~200HB)	
		Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min	Rotation min^{-1}	Feed mm/min
1		6400	35	9500	75	15900	140	25500	300	11100	105	8000	60	25500	380
2		3200	50	4800	90	8000	195	12700	380	5600	120	4000	75	12700	460
3		2100	50	3200	110	5300	290	8500	500	3700	150	2700	100	8500	765
5		1300	60	1900	155	3200	340	5100	570	2200	150	1600	100	5100	920
6		1100	60	1600	170	2700	340	4200	570	1900	150	1300	100	4200	920
8		800	60	1200	190	2000	340	3200	570	1400	150	1000	100	3200	920
10		640	60	1000	195	1600	340	2500	570	1100	150	800	100	2500	900
12		530	60	800	190	1300	330	2100	570	930	150	660	100	2100	900
15		420	50	640	110	1100	300	1700	570	740	135	530	80	1700	765
20		320	35	480	90	800	195	1300	390	560	120	400	75	1300	620
Depth of cut	ap	1D		1D		1.5D		1.5D		1.5D		1D		1.5D	
	ae	0.02D		0.05D		0.2D		0.35D		0.2D		0.1D		0.25D	