

CUTTING TOOLS & PRECISION TOOLS

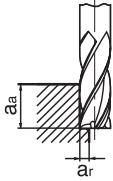
Cutting Conditions

High Speed Milling for GS Mill



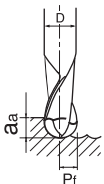
• GS - mill Four Flutes L9384 : High Speed Milling

Work Material		Carbon Steels, Cast Irons SS, SC, FC (150-225HB)		Alloy Steels, Pre-Hardened Steels (25-35HRC)		Hardened Steels (35-45HRC)		Hardened Steels (45-55HRC)		Stainless Steels SUS304, 316	
Milling Condition		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
Dia. of Mill mm		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
2		47800	2200	47800	1600	39800	1200	31800	900	15900	400
4		23900	2600	23900	1900	19900	1400	15900	1100	8000	490
6		16000	2700	16000	2000	13300	1500	10600	1200	5300	510
8		12000	2700	12000	2000	10000	1500	8000	1200	4000	520
10		9600	2700	9600	2000	8000	1500	6400	1200	3200	520
12		8000	2700	8000	2000	6700	1500	5300	1200	2700	520
Depth of cut	aa	1.5D				1D				1.5D	
	ar	0.05D				0.02D				0.05D	



• GS - mill Ball L9386

Work Material		Carbon Steels, Cast Irons SS, SC, FC (150-225HB)		Alloy Steels, Pre-Hardened Steels (25-35HRC)		Hardened Steels (35-45HRC)		Hardened Steels (45-55HRC)		Stainless Steels SUS304, 316	
Milling Condition		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
Dia. of Mill mm		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
R1		51000	2100	39800	1300	35700	960	23700	640	35700	960
R2		25500	2700	19900	1700	17900	1300	11900	830	17900	1300
R3		17000	3000	13300	1900	11900	1400	7900	920	11900	1400
R4		12800	3100	10000	2000	9000	1500	6000	960	9000	1500
R5		10200	3100	8000	2000	7200	1500	4800	960	7200	1500
R6		8500	3100	6700	2000	6000	1500	4000	960	6000	1500
Depth of cut	aa	0.05D				0.02D				0.05D	
	Pf	0.1D				0.05D				0.1D	



1. When using low speed machines, use the maximum speed and adjust the feed rate.
2. Use in wet - condition in case of Stainless Steels, Nickel Alloys and Titanium Alloys.
3. Adjust milling condition when an unusual vibration, different sound occur by cutting.

Conventional Milling for GS Mill

• GS - mill Two Flutes L9382

Work Material		Carbon Steels, Cast Irons SS, SC, FC (150-225HB)		Alloy Steels, Pre-Hardened Steels (25-35HRC)		Hardened Steels (35-45HRC)		Hardened Steels (45-55HRC)		Stainless Steels SUS304, 316		Nickel Alloys, Titanium Alloys	
Milling Condition		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
Dia. of Mill mm		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
2		11200	340	10500	240	7300	130	5300	80	5300	90	3300	50
4		6400	460	6000	320	4200	180	3000	110	3000	130	1900	70
6		4600	550	4300	390	3000	210	2200	130	2200	150	1400	80
8		3400	550	3200	390	2200	210	1600	130	1600	150	1000	80
10		2800	560	2600	390	1800	210	1300	130	1300	150	800	80
12		2300	560	2200	400	1500	210	1100	130	1100	150	700	80
Depth of cut	aa	1.5D				1D				1.5D		1D	
	ar	0.1D				0.05D				0.02D		0.05D	
	H	0.5D				0.3D				0.05D		0.5D	

