

RECOMMENDED CUTTING CONDITIONS

■ Dry cutting

	Work Material	Hardness	Grade	Vc (m/min)	fz (mm/t.)
M	Austenitic Stainless Steel	≤200HB	MC7020	220 (170–270)	0.2 (0.1–0.35)
			MP7130	200 (150–250)	0.2 (0.1–0.35)
	Austenitic Stainless Steel	>200HB	MC7020	190 (140–240)	0.2 (0.1–0.35)
			MP7130	170 (120–220)	0.2 (0.1–0.35)
	Two-phase Stainless Steel	≤280HB	MC7020	180 (130–230)	0.2 (0.1–0.35)
			MP7130	160 (110–210)	0.2 (0.1–0.35)
	Ferritic and Martensitic Stainless Steel	≤200MPa	MC7020	240 (190–290)	0.2 (0.1–0.35)
			MP7130	200 (150–250)	0.2 (0.1–0.35)
	Ferritic and Martensitic Stainless Steel	>200HB	MC7020	240 (190–290)	0.2 (0.1–0.35)
			MP7130	200 (150–250)	0.2 (0.1–0.35)
	Hardened Stainless Steel	<450HB	MC7020	170 (120–220)	0.2 (0.1–0.35)
			MP7130	150 (100–200)	0.2 (0.1–0.35)

■ Wet cutting

	Work Material	Hardness	Grade	Vc (m/min)	fz (mm/t.)
M	Austenitic Stainless Steel	≤200HB	MC7020	150 (100–200)	0.2 (0.1–0.35)
			MP7130	130 (80–180)	0.2 (0.1–0.35)
	Austenitic Stainless Steel	>200HB	MC7020	120 (70–170)	0.2 (0.1–0.35)
			MP7130	100 (80–150)	0.2 (0.1–0.35)
	Two-phase Stainless Steel	≤280HB	MC7020	120 (70–170)	0.2 (0.1–0.35)
			MP7130	100 (80–150)	0.2 (0.1–0.35)
	Ferritic and Martensitic Stainless Steel	≤200MPa	MC7020	170 (120–220)	0.2 (0.1–0.35)
			MP7130	130 (80–180)	0.2 (0.1–0.35)
	Ferritic and Martensitic Stainless Steel	>200HB	MC7020	170 (120–220)	0.2 (0.1–0.35)
			MP7130	130 (80–180)	0.2 (0.1–0.35)
	Hardened Stainless Steel	<450HB	MC7020	110 (60–160)	0.2 (0.1–0.35)
			MP7130	90 (50–140)	0.2 (0.1–0.35)
S	Titanium Alloy	—	MP9130	45 (30–55)	0.1 (0.05–0.15)
	Heat Resistant Alloy	—	MP9130	35 (15–45)	0.1 (0.05–0.15)

Note 1) Actual cutting conditions are estimated to avoid chatter vibration with high rigidity of a machine or workpiece.

Make appropriate adjustments when chatter and/or insert chipping occurs during cutting.

Use with lowered conditions when there is a big overhang and/or when pocket-cutting.

Note 2) The setting level for feeding 1 blade is $a_p = 2.5\text{mm}$ with ARP5 axial cutting. With ARP6, use $a_p = 3\text{mm}$.

Use while matching the a_p fluctuation and correction value F of the respective table.

Ex. Feed for the recommended 1 blade when ARP5, SUS304, MP7130, $a_p=1$: $0.2\text{ mm/t.} \times 1.5$ (correction value F) = 0.3 mm/t.

Note 3) For grooving, use feed at the recommended 70% level. For ramping, drilling, and plunging, use 50% level.

Note 4) Internal coolant is recommended in titanium alloy and heat resistant alloy cutting.

When the coolant nozzle separately sold is used, it is more effective.