

STANDARD CUTTING CONDITIONS

■ Bore, shank type TPD05/EPD05

ISO	Workpiece material	Brinell hardness HB	Grade	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)
P	Low carbon steels S15C / C15E4, etc.	~ 200	AH725	230 ~ 320	0.04 ~ 0.1
	High carbon steels S45C / C45, etc.	200 ~ 300	AH725	150 ~ 230	0.04 ~ 0.1
	Alloyed steels SCM440 / 42CrMo4, etc.	150 ~ 300	AH725	150 ~ 230	0.04 ~ 0.1
	Tool steels SKD11 / X153CrMoV12, etc.	~ 300	AH725	110 ~ 130	0.03 ~ 0.09
M	Stainless steels SUS304 / X5CrNi18-9, etc.	-	AH140	100 ~ 200	0.03 ~ 0.09
K	Grey cast irons FC250 / 250, etc.	150 ~ 250	AH725	200 ~ 300	0.05 ~ 0.12
	Ductile cast irons FCD450 / 450-10S, etc.	150 ~ 250	AH725	160 ~ 240	0.05 ~ 0.12
N	Aluminium alloys Si < 13%	-	TH10	350 ~ 500	0.05 ~ 0.15
	Aluminium alloys Si ≥ 13%	-	TH10	100 ~ 200	0.05 ~ 0.15

* For deep and wide cutting, set the Vc and fz to the lower recommended limits and check the vibration and spindle load of the machine.

■ Roughing type ELD05

ISO	Workpiece material	Brinell hardness HB	Grade	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)
P	Low carbon steels S15C / C15E4, etc.	~ 200	AH725	100 ~ 250	0.04 ~ 0.1
	High carbon steels S45C / C45, etc.	200 ~ 300	AH725	100 ~ 200	0.04 ~ 0.1
	Alloyed steels SCM440 / 42CrMo4, etc.	150 ~ 300	AH725	100 ~ 200	0.04 ~ 0.1
	Tool steels SKD11 / X153CrMoV12, etc.	~ 300	AH725	100 ~ 130	0.03 ~ 0.09
M	Stainless steels SUS304 / X5CrNi18-9, etc.	-	AH140	100 ~ 150	0.03 ~ 0.09
K	Grey cast irons FC250 / 250, etc.	150 ~ 250	AH725	100 ~ 250	0.05 ~ 0.12
	Ductile cast irons FCD450 / 450-10S, etc.	150 ~ 250	AH725	80 ~ 200	0.05 ~ 0.12
N	Aluminium alloys Si < 13%	-	TH10	200 ~ 500	0.05 ~ 0.15
	Aluminium alloys Si ≥ 13%	-	TH10	100 ~ 200	0.05 ~ 0.15

New**■ Interpolated or back chamfering type**

ISO	Workpiece material	Grade	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)
P	Low carbon steels S15C / C15E4, etc.	AH725	230 ~ 320	0.04 ~ 0.1
	High carbon steels S45C / C45, etc.	AH725	150 ~ 230	0.04 ~ 0.1
	Alloyed steels SCM440 / 42CrMo4, etc.	AH725	150 ~ 230	0.04 ~ 0.1
	Tool steels SKD11 / X153CrMoV12, etc.	AH725	110 ~ 130	0.03 ~ 0.09
M	Stainless steels SUS304 / X5CrNi18-9, etc.	AH140	100 ~ 200	0.03 ~ 0.09
K	Grey cast irons FC250 / 250, etc.	AH725	150 ~ 250	0.05 ~ 0.12
	Ductile cast irons FCD450 / 450-10S, etc.	AH725	100 ~ 180	0.05 ~ 0.12
N	Aluminium alloys Si < 13%	TH10	350 ~ 500	0.05 ~ 0.15
	Copper alloys	TH10	100 ~ 200	0.05 ~ 0.15

New**■ Front chamfering type**

ISO	Workpiece material	Grade	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)
P	Low carbon steels S15C / C15E4, etc.	AH725	160 ~ 220	0.04 ~ 0.1
	High carbon steels S45C / C45, etc.	AH725	110 ~ 160	0.04 ~ 0.1
	Alloyed steels SCM440 / 42CrMo4, etc.	AH725	110 ~ 160	0.04 ~ 0.1
	Tool steels SKD11 / X153CrMoV12, etc.	AH725	80 ~ 90	0.03 ~ 0.09
M	Stainless steels SUS304 / X5CrNi18-9, etc.	AH140	70 ~ 140	0.03 ~ 0.09
K	Grey cast irons FC250 / 250, etc.	AH725	110 ~ 180	0.05 ~ 0.12
	Ductile cast irons FCD450 / 450-10S, etc.	AH725	70 ~ 130	0.05 ~ 0.12
N	Aluminium alloys Si < 13%	TH10	250 ~ 350	0.05 ~ 0.15
	Copper alloys	TH10	70 ~ 140	0.05 ~ 0.15

* When chamfering over C1.0 (45° x 1.0 mm), decrease the cutting parameters to 70% of the above parameters.