STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness	Priority	Grade	Chip-breaker	Cutting speed	Feed per tooth
P	Carbon steels C45, C55, etc.	< 300 HB	First choice	AH725	MJ	120 - 250	0.3 - 0.7
		< 300 HB	for impact resistance	AH130	MJ	120 - 250	0.3 - 0.7
	Alloy steels 42CrMo4, 17Cr3, etc.	150 - 300 HB	First choice	AH725	MJ	100 - 250	0.2 - 0.6
		150 - 300 HB	for impact resistance	AH130	MJ	100 - 250	0.2 - 0.6
	Tool steels X153CrMoV12, etc.	< 300 HB		AH725	ML	80 - 180	0.2 - 0.4
M	Stainless steels X5CrNi18-9, X5CrNiMo17-12-3, etc.	< 200 HB	First choice	AH130	ML	100 - 250	0.2 - 0.6
		< 200 HB	for impact resistance	AH130	MJ	100 - 250	0.2 - 0.6
	Stainless steels X6Cr17, etc.	< 200 HB	First choice	AH4035	ML	100 - 300	0.2 - 0.6
		< 200 HB	for impact resistance	AH4035	MJ	100 - 300	0.2 - 0.6
K	Grey cast irons 250, etc.	150 - 250 HB	-	AH725	ML	120 - 250	0.3 - 0.7
	Ductile cast irons 400-15S, etc.	150 - 250 HB	-	AH725	ML	100 - 200	0.3 - 0.7
H	Hardened steels X40CrMoV5-1, etc.	40 - 50 HRC	-	AH725	MJ	60 - 140	0.1 - 0.3
	Hardened steels X153CrMoV12, etc.	50 - 60 HRC	-	AH725	MJ	20 - 60	0.05 - 0.2

Profile Milling

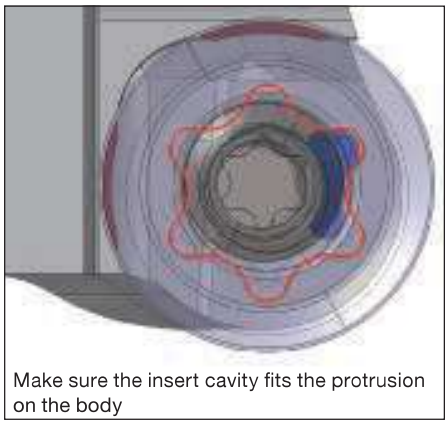
· Use air blast to remove chips from the work area in slot milling or pocketing operation.
· When machining at high cutting speeds of more than *Vc* = 1000 m/min, the dynamic balance of the tools must be adjusted.
· Cutting conditions are limited by machine power, workpiece rigidity and spindle output. When the cutting width or depth is large, set *Vc* and *fz* to the lower recommended values and check the machine power and vibration.

Tool dia.: ø*D*c (mm), Number of revolutions: *n* (min^{-1}), Feed speed: *V*f (mm/min), Depth of cut: ap = 2.0 mm

ø20		ø25		ø32			ø35		ø40				ø50		ø63		
n	*V*f E/HRP10	*n*	*V*f E/HRP10, E/HRP12	*n*	*V*f E/HRP10	E/HRP12	*n*	*V*f ERP10	*n*	*V*f TRP10	ERP12	ERP16	*n*	*V*f ERP12	*n*	*V*f TRP12	TRP16
2870	2870	2290	2290	1790	3580	2690	1640	3280	1430	3580	2860	1430	1150	2880	910	2730	2280
Vc = 180 m/min, *fz* = 0.5 mm/t																	
2870	2870	2290	2290	1790	3580	2690	1640	3280	1430	3580	2860	1430	1150	2880	910	2730	2280
Vc = 180 m/min, *fz* = 0.5 mm/t																	
2710	2160	2170	1740	1690	2700	2030	1550	2480	1350	2700	2160	1080	1080	2160	860	2060	1720
Vc = 170 m/min, *fz* = 0.4 mm/t																	
2710	2160	2170	1740	1690	2700	2030	1550	2480	1350	2700	2160	1080	1080	2160	860	2060	1720
Vc = 170 m/min, *fz* = 0.4 mm/t																	
2070	1240	1660	1000	1290	1550	1160	1180	1420	1030	1550	1240	620	830	1250	660	1190	990
Vc = 130 m/min, *fz* = 0.3 mm/t																	
2710	2160	2170	1740	1690	2700	2030	1550	2480	1350	2700	2160	1080	1080	2160	860	2060	1720
Vc = 170 m/min, *fz* = 0.4 mm/t																	
2710	2160	2170	1740	1690	2700	2030	1550	2480	1350	2700	2160	1080	1080	2160	860	2060	1720
Vc = 170 m/min, *fz* = 0.4 mm/t																	
3180	2540	2550	2040	1990	3180	2390	1820	2910	1590	3180	2540	1270	1270	2540	1010	2420	2020
Vc = 200 m/min, *fz* = 0.4 mm/t																	
3180	2540	2550	2040	1990	3180	2390	1820	2910	1590	3180	2540	1270	1270	2540	1010	2420	2020
Vc = 200 m/min, *fz* = 0.4 mm/t																	
2870	2870	2290	2290	1790	3580	2690	1640	3280	1430	3580	2860	1430	1150	2880	910	2730	2280
Vc = 180 m/min, *fz* = 0.5 mm/t																	
2390	2390	1910	1910	1490	2980	2240	1360	2720	1190	2980	2380	1190	950	2380	760	2280	1900
Vc = 150 m/min, *fz* = 0.5 mm/t																	
1590	630	1270	510	990	790	590	910	730	800	800	640	320	640	640	510	610	510
Vc = 100 m/min, *fz* = 0.2 mm/t																	
640	150	510	120	400	190	140	360	170	320	190	150	75	250	150	200	140	120
Vc = 40 m/min, *fz* = 0.12 mm/t																	

■ Notification for clamping

· When installing the insert, please carefully locate the insert in the seat and fasten the screw.



Make sure the insert cavity fits the protrusion on the body