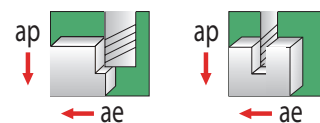


# GARR TOOL Milling Guide for V4 Series End Mills

## Metric

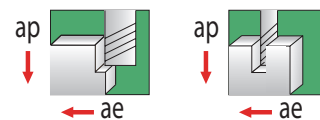
	Material Group S	Material Group M	Material Group S	Material Group P	Material Group K
	Nickel or Cobalt-based	Stainless	Titanium Alloys	Carbon Steels	Grey Cast Iron
	Inconel, Cobalt Chrome	Invar, 400, 316, pH Series	6Al4V	1000 Series	
	-	SMM = 30 - 70	SMM = 30 - 60	SMM = 75 - 120	SMM = 60 - 120
DIAMETER	CPT (Fz)	CPT (Fz)	CPT (Fz)	CPT (Fz)	CPT (Fz)
4.0 - 7.0	-	.010 - .025	.010 - .020	.020 - .050	.020 - .050
7.0 - 8.0	-	.015 - .030	.012 - .025	.025 - .055	.025 - .055
8.0 - 10.0	-	.020 - .040	.015 - .030	.030 - .065	.030 - .065
10.0 - 13.0	-	.025 - .045	.020 - .040	.050 - .080	.050 - .080
13.0 - 16.0	-	.030 - .050	.025 - .045	.055 - .085	.055 - .085
16.0 - 19.0	-	.035 - .055	.030 - .050	.060 - .090	.060 - .090
19.0 - 22.0	-	.045 - .065	.035 - .055	.065 - .095	.065 - .095
22.0 - 25.0	-	.055 - .075	.045 - .065	.070 - .100	.070 - .100

	Profiling Side Cutting	Slotting Pocket Milling
Axial (ap)	1xD	100% of Dia.
Radial (ae)	100% of Dia.	1xD



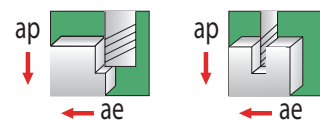
	Nickel or Cobalt-based	Stainless	Titanium Alloys	Carbon Steels	Grey Cast Iron
	SMM = 20 - 40	SMM = 45 - 90	SMM = 45 - 75	SMM = 90 - 150	SMM = 80 - 140
DIAMETER	CPT (Fz)	CPT (Fz)	CPT (Fz)	CPT (Fz)	CPT (Fz)
4.0 - 7.0	.010 - .020	.020 - .030	.020 - .030	.025 - .065	.025 - .065
7.0 - 8.0	.013 - .025	.025 - .045	.025 - .040	.035 - .080	.035 - .080
8.0 - 10.0	.018 - .030	.030 - .050	.030 - .045	.045 - .090	.045 - .090
10.0 - 13.0	.020 - .040	.035 - .055	.030 - .050	.055 - .100	.055 - .100
13.0 - 16.0	.025 - .045	.045 - .075	.035 - .060	.075 - .105	.075 - .105
16.0 - 19.0	.030 - .050	.050 - .080	.045 - .075	.085 - .105	.085 - .105
19.0 - 22.0	.035 - .055	.055 - .095	.050 - .080	.095 - .115	.095 - .115
22.0 - 25.0	.045 - .065	.065 - .105	.060 - .090	.105 - .125	.105 - .125

	Profiling Side Cutting	Slotting Pocket Milling
Axial (ap)	1xD	50% of Dia.
Radial (ae)	50% of Dia.	1xD



	Nickel or Cobalt-based	Stainless	Titanium Alloys	Carbon Steels	Grey Cast Iron
	SMM = 90 - 150	SMM = 30 - 60	SMM = 75 - 120	SMM = 130 - 180	SMM = 100 - 150
DIAMETER	CPT (Fz)	CPT (Fz)	CPT (Fz)	CPT (Fz)	CPT (Fz)
4.0 - 7.0	.020 - .030	.025 - .035	.025 - .035	.040 - .065	.040 - .065
7.0 - 8.0	.020 - .040	.030 - .050	.030 - .050	.045 - .070	.045 - .070
8.0 - 10.0	.025 - .055	.035 - .065	.035 - .065	.050 - .090	.050 - .090
10.0 - 13.0	.030 - .060	.050 - .075	.050 - .075	.075 - .105	.075 - .105
13.0 - 16.0	.035 - .065	.065 - .090	.065 - .090	.085 - .110	.085 - .110
16.0 - 19.0	.040 - .065	.070 - .095	.070 - .095	.095 - .115	.095 - .115
19.0 - 22.0	.045 - .070	.075 - .100	.075 - .100	.105 - .125	.105 - .125
22.0 - 25.0	.050 - .075	.085 - .125	.085 - .125	.120 - .150	.120 - .150

	Profiling Side Cutting	Slotting Pocket Milling
Axial (ap)	1xD	20% of Dia.
Radial (ae)	20% of Dia.	1xD



**NOTE - ABOVE ARE STARTING PARAMETERS ONLY. HIGHER RESULTS MAY BE ACHIEVED WITH OPTIMUM CONDITIONS.**