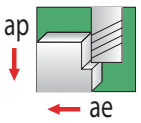
GARR TOOL High Performance Milling Guide for VX-7, VX-7C
(HIGH EFFICIENCY MILLING)

NOTE - DATA DOES NOT REFLECT CHIP THINNING.

SPINDLE INTERFACE MUST BE SCRUTINIZED WHEN USING 16mm DIAMETER AND LARGER END MILLS

ISO Material		HRC	M/Min. (Vc)	CHIPLOAD PER TOOTH (Fz)					
				8.0mm	10.0mm	12.0mm	16.0mm	20.0mm	25.0mm
S	**COBALT BASE ALLOYS**								
	Haynes 25/188, Stellite 21, Cobalt Chrome	< 40 > 40	35 - 75 30 - 60	.024 - .046 .018 - .040	.033 - .066 .025 - .061	.048 - .091 .036 - .079	.053 - .109 .043 - .097	.066 - .132 .051 - .122	.097 - .183 .071 - .157
	NICKEL BASE ALLOYS								
	Inconel-625/718, Waspaloy, Invar, Rene, Hastelloy, Monel	< 40 > 40	35 - 75 30 - 60	.024 - .046 .018 - .040	.033 - .066 .025 - .061	.048 - .091 .036 - .079	.053 - .109 .043 - .097	.066 - .132 .051 - .122	.097 - .183 .071 - .157
	IRON BASE ALLOYS								
	A286, Discaloy, Haynes 556, Carpenter 22, Greek Ascolloy	< 40 > 40	35 - 75 30 - 60	.024 - .046 .018 - .040	.033 - .066 .025 - .061	.048 - .091 .036 - .079	.053 - .109 .043 - .097	.066 - .132 .051 - .122	.097 - .183 .071 - .157
	TITANIUM ALLOYS								
	Commercially Pure, 6Al-4V, Astm 1/2/3, 6Al-25N-4Zr-2Mo-Si		80 - 150	.026 - .051	.036 - .071	.053 - .102	.066 - .122	.071 - .142	.107 - .203
	5553 / Beta Titanium		60 - 110	.026 - .046	.036 - .066	.053 - .091	.066 - .109	.071 - .132	.107 - .183
M	**STAINLESS STEELS**								
	13/8, 15/5, 17-4, pH Types	< 40 > 40	90 - 150 70 - 110	.024 - .046 .018 - .040	.033 - .066 .025 - .061	.048 - .091 .036 - .079	.056 - .109 .043 - .099	.066 - .132 .051 - .122	.097 - .183 .071 - .157
	300 Series, 304L, Nitronic 50, Duplex, Super-Austenitic	< 40 > 40	100 - 160 70 - 110	.024 - .052 .018 - .040	.033 - .066 .025 - .061	.048 - .091 .036 - .079	.056 - .109 .043 - .099	.066 - .132 .051 - .122	.097 - .183 .071 - .157
	400 Series - 403, 405, 420, 455	< 40 > 40	90 - 170 70 - 130	.024 - .051 .018 - .043	.033 - .071 .025 - .064	.048 - .097 .036 - .086	.056 - .117 .043 - .104	.066 - .142 .051 - .127	.097 - .193 .071 - .173
P	**HIGH STRENGTH TOOL STEELS**								
	A2, D2, P20, H13, S7, O1	< 40 > 40	90 - 160 60 - 130	.032 - .051 .026 - .040	.041 - .071 .036 - .061	.061 - .097 .056 - .079	.066 - .117 .061 - .097	.081 - .142 .071 - .122	.122 - .193 .112 - .157
	MEDIUM ALLOY TOOL STEELS								
	4140, 4340, 52100, 6150, 8620	< 40 > 40	140 - 200 100 - 150	.032 - .053 .026 - .040	.041 - .074 .036 - .061	.061 - .102 .056 - .084	.066 - .122 .061 - .102	.081 - .147 .071 - .122	.122 - .203 .112 - .168
	CARBON STEELS								
	1000's - 1018, 1020, 12L14	< 40	150 - 240	.032 - .053	.041 - .076	.061 - .109	.066 - .127	.081 - .152	.122 - .218
K	**CAST MATERIAL**								
	Ductile Iron		140 - 210	.035 - .057	.046 - .079	.074 - .117	.079 - .135	.091 - .157	.147 - .234
	Gray Iron		180 - 235	.036 - .060	.048 - .081	.079 - .122	.086 - .140	.097 - .163	.157 - .244

	Profile/Trochoidal Milling
Axial (ap)	up to 2xD
Radial (ae)	5% - 15% of Dia.



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