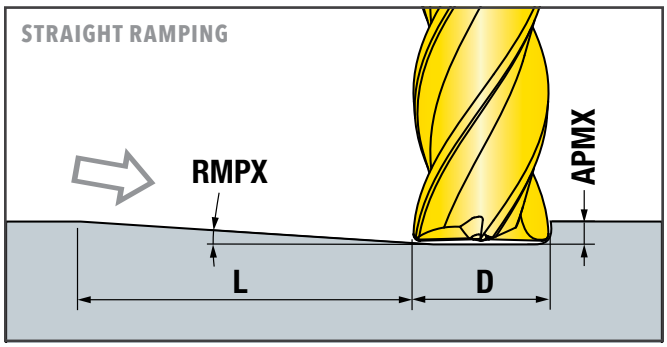
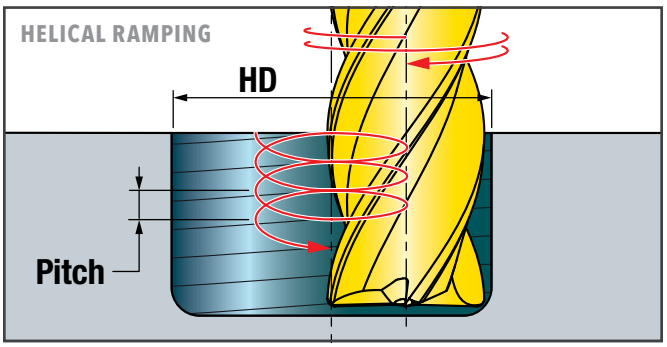
Ramping Guidelines





DC Cutter Dia.	STRAIGHT RAMPING			HELICAL RAMPING • 4-FLUTE													
	RPMX Ramp Angle Max.	APMX Depth of Cut at .75xD	L Ramp Length Min.	HD Hole Diameter Max.							Pitch Max.						
				*Sharp	*R .008"	*R .015"	R .030"	R .060"	R .090"	R .125"	*Sharp	*R .008"	*R .015"	R .030"	R .060"	R .090"	R .125"
.125	2.0	.094	2.7	.238	.222	.209	-	-	-	-	.012	.011	.009	-	-	-	-
.156	2.0	.117	3.4	.297	.282	.268	-	-	-	-	.015	.014	.012	-	-	-	-
.188	2.0	.141	4.0	.356	.341	.328	.299	-	-	-	.019	.017	.015	.012	-	-	-
.250	2.0	.188	5.4	.475	.460	.447	.418	.361	-	-	.025	.023	.022	.018	.012	-	-
.313	2.5	.234	5.4	.594	.579	.565	.537	.480	-	-	.039	.036	.035	.031	.023	-	-
.375	2.5	.281	6.4	.713	-	.684	.656	.599	-	-	.046	-	.042	.038	.031	-	-
.500	3.5	.375	6.1	.950	-	.922	.893	.836	.779	.713	.086	-	.081	.075	.064	.054	.041
.625	3.5	.469	7.7	1.188	-	1.159	1.131	1.074	-	.950	.108	-	.102	.097	.086	-	.062
.750	3.5	.563	9.2	1.425	-	1.397	1.368	1.311	1.254	1.188	.129	-	.124	.119	.108	.097	.084

*Reduce ramp angle and feed when using sharp corner and small corner radius.

HD = Hole Diameter Max. formula when Helical Ramping	
EXAMPLES	
P4M2V-.500A100L150R030C	P4M2V-.750A150L300R125W
DC = .500" with RE = .03"	DC = .750" with RE = .125"
HD = ((DC-(1 x RE)) x 1.9)	HD = ((DC-(1 x RE)) x 1.9)
HD = ((.500-(1 x .03)) x 1.9)	HD = ((.750-(1 x .125)) x 1.9)
HD = .893	HD = 1.188

