

SPEED & FEED GUIDE



Optimum Performance

Series 2100,2105, 2115, 2117

438 4 FLUTE

Material	Axial ↓	Radial →	SFM	1/8		1/4		3/8		1/2		5/8		3/4		
				RPM	IPM	RPM	IPM	RPM	IPM	RPM	IPM	RPM	IPM	RPM	IPM	
P	Carbon Steel 10XX, 11XX, 12XX, 13XX	1 x D	1 x D	220	6723	13	3362	13	2241	16	1681	17	1345	16	1121	15
		1.25 x D	.3 x D	264	8068	19	4034	19	2689	23	2017	24	1614	23	1345	21
		1.5 X D	.1 x D	343	10488	42	5244	42	3496	50	2622	53	2098	51	1748	47
	Alloy Steel 4140, 8620	1 x D	1 x D	180	5501	21	2750	16	1834	13	1375	13	1100	13	917	12
		1.25 x D	.3 x D	225	6876	31	3438	24	2292	19	1719	20	1375	19	1146	17
		1.5 X D	.1 x D	270	8251	63	4126	47	2750	38	2063	40	1650	38	1375	35
	Tool Steel A2, A3, D2, H11, H13	1 x D	.5 x D	180	5501	10	2750	10	1834	13	1375	13	1100	13	917	12
		1.25 x D	.3 x D	225	6876	16	3438	16	2292	19	1719	20	1375	19	1146	17
		1.5 X D	.1 x D	270	8251	31	4126	31	2750	38	2063	40	1650	38	1375	35
M	SS 300 & 400 Series 303, 304, 316, 420, 416	.75 x D	1 x D	140	4278	7	2139	7	1426	8	1070	9	856	8	713	8
		1.25 x D	.3 x D	185	5654	11	2827	11	1885	13	1413	14	1131	13	942	12
		1.5 x D	.1 x D	230	7039	23	3519	23	2346	28	1760	29	1408	28	1173	25
	Precipitation SS 15-5, 16-6, 17-4, 17-5	0.5	1 x D	115	3514	5	1757	5	1171	7	879	7	703	7	586	6
		1.25 x D	.3 x D	180	5501	10	2750	10	1834	12	1375	13	1100	12	917	11
		1.5 x D	.1 x D	250	7640	24	3820	24	2547	28	1910	30	1528	29	1273	26
K	Cast Iron - Grey GG-10 to GG-40	1 x D	1 x D	100	3056	6	1528	6	1019	7	764	7	611	7	509	6
		1.25 x D	.3 x D	125	3820	8	1910	8	1273	10	955	10	764	10	637	9
		1.5 X D	.1 x D	163	4966	18	2483	18	1655	22	1242	23	993	22	828	20
	Cast Iron- Ductile GGG-40, to GGG-70	.75 x D	1 x D	155	4737	8	2368	8	1579	10	1184	10	947	10	789	9
		1.25 x D	.3 x D	180	5501	11	2750	11	1834	14	1375	14	1100	14	917	13
		1.5 x D	.1 x D	216	6601	23	3300	23	2200	27	1650	29	1320	27	1100	25
S	High Temp Alloys Inconel 718, Hastalloy, Waspalloy, A286, CoCr	.25 x D	.4 x D	70	2139	3	1070	3	713	4	535	4	428	4	357	3
		1.25 x D	.2 x D	80	2445	4	1222	4	815	5	611	5	489	5	407	5
		1.5 x D	.07 x D	125	3820	11	1910	11	1273	13	955	14	764	14	637	12
	Titanium Alloy Ti-6Al4V Grades (5-38)	0.5	1 x D	180	5501	8	2750	8	1834	9	1375	10	1100	9	917	9
		1.25 x D	.3 x D	225	6876	12	3438	12	2292	14	1719	15	1375	14	1146	13
		1.5 x D	.1 x D	360	11002	31	5501	31	3667	37	2750	39	2200	37	1834	34

ULTIMATE PERFORMANCE

Premium High Performance Carbide End Mills for Ferrous Materials



Series 2105 438RN | 4FL | Reduced Neck | Square & Radius | PYSTL

Diameter	Shank Dia.	LOC	OAL	Radius	Length Below Shank	EDP
1/8	1/8	5/32	2	-	3/8	310697
1/8	1/8	5/32	2	0.010	3/8	310701
1/8	1/8	5/32	2	0.020	3/8	310704
1/8	1/8	5/32	2	0.030	3/8	310706
1/8	1/8	5/32	2	-	1/2	310709
1/8	1/8	5/32	2	0.010	1/2	310711
1/8	1/8	5/32	2	0.020	1/2	310714
1/8	1/8	5/32	2	0.030	1/2	310717
1/8	1/8	5/32	2	-	3/4	310719
1/8	1/8	5/32	2	0.010	3/4	310722
1/8	1/8	5/32	2	0.020	3/4	310724
1/8	1/8	5/32	2	0.030	3/4	310727
3/16	3/16	7/32	2	-	1/2	310729
3/16	3/16	7/32	2	0.010	1/2	310732
3/16	3/16	7/32	2	0.020	1/2	310735
3/16	3/16	7/32	2	0.030	1/2	310738
3/16	3/16	7/32	2-1/2	-	3/4	310741
3/16	3/16	7/32	2-1/2	0.010	3/4	310745
3/16	3/16	7/32	2-1/2	0.020	3/4	310748
3/16	3/16	7/32	2-1/2	0.030	3/4	310750
3/16	3/16	7/32	2-1/2	-	1-1/8	310754
3/16	3/16	7/32	2-1/2	0.010	1-1/8	310758
3/16	3/16	7/32	2-1/2	0.020	1-1/8	310760
3/16	3/16	7/32	2-1/2	0.030	1-1/8	310762
1/4	1/4	3/8	4	-	3/4	310765
1/4	1/4	3/8	4	0.010	3/4	310767
1/4	1/4	3/8	4	0.020	3/4	310769
1/4	1/4	3/8	4	0.030	3/4	310772
1/4	1/4	3/8	4	0.060	3/4	310776
1/4	1/4	3/8	4	-	1-1/8	310780
1/4	1/4	3/8	4	0.010	1-1/8	310783
1/4	1/4	3/8	4	0.020	1-1/8	310787
1/4	1/4	3/8	4	0.030	1-1/8	310791
1/4	1/4	3/8	4	0.060	1-1/8	310794
1/4	1/4	3/8	4	-	2-1/8	310798
1/4	1/4	3/8	4	0.010	2-1/8	310802
1/4	1/4	3/8	4	0.020	2-1/8	310806
1/4	1/4	3/8	4	0.030	2-1/8	310810
1/4	1/4	3/8	4	0.060	2-1/8	310814
3/8	3/8	1/2	4	-	1-1/8	310817
3/8	3/8	1/2	4	0.020	1-1/8	310819
3/8	3/8	1/2	4	0.030	1-1/8	310821

PYSTL_{series}

More About the Series 2105

Special edge preparation makes this an ideal tool for a broad spectrum of work materials

PYSTL features a variable index design with 38 degree helix that reduces chatter and enables more aggressive and stable milling

Reduced neck for extended reach



★ Best ☆ Good

ULTIMATE PERFORMANCE

Premium High Performance Carbide End Mills for Ferrous Materials



Series 2105 | 438RN | 4FL | Reduced Neck | Square & Radius | PYSTL

Diameter	Shank Dia.	LOC	OAL	Radius	Length Below Shank	EDP
3/8	3/8	1/2	4	0.060	1-1/8	310823
3/8	3/8	1/2	4	0.090	1-1/8	310825
3/8	3/8	1/2	4	-	2-1/8	310829
3/8	3/8	1/2	4	0.020	2-1/8	310831
3/8	3/8	1/2	4	0.030	2-1/8	310835
3/8	3/8	1/2	4	0.060	2-1/8	310837
3/8	3/8	1/2	4	0.090	2-1/8	310839
3/8	3/8	1/2	6	-	3-1/8	310841
3/8	3/8	1/2	6	0.020	3-1/8	310843
3/8	3/8	1/2	6	0.030	3-1/8	310845
3/8	3/8	1/2	6	0.060	3-1/8	310848
3/8	3/8	1/2	6	0.090	3-1/8	310850
3/8	3/8	1/2	6	-	4-1/8	310853
3/8	3/8	1/2	6	0.020	4-1/8	310857
3/8	3/8	1/2	6	0.030	4-1/8	310860
3/8	3/8	1/2	6	0.060	4-1/8	310863
3/8	3/8	1/2	6	0.090	4-1/8	310866
1/2	1/2	5/8	4	-	1-1/2	310870
1/2	1/2	5/8	4	0.020	1-1/2	310874
1/2	1/2	5/8	4	0.060	1-1/2	310878
1/2	1/2	5/8	4	0.090	1-1/2	310881
1/2	1/2	5/8	4	0.120	1-1/2	310884
1/2	1/2	5/8	4	-	2-1/4	310888
1/2	1/2	5/8	4	0.020	2-1/4	310890
1/2	1/2	5/8	4	0.030	2-1/4	310893
1/2	1/2	5/8	4	0.060	2-1/4	310895
1/2	1/2	5/8	4	0.090	2-1/4	310897
1/2	1/2	5/8	4	0.120	2-1/4	310900
1/2	1/2	5/8	6	-	3-3/8	310903
1/2	1/2	5/8	6	0.020	3-3/8	310906
1/2	1/2	5/8	6	0.030	3-3/8	310910
1/2	1/2	5/8	6	0.060	3-3/8	310912
1/2	1/2	5/8	6	0.090	3-3/8	310915
1/2	1/2	5/8	6	0.120	3-3/8	310917
1/2	1/2	5/8	6	-	4-1/8	310921
1/2	1/2	5/8	6	0.020	4-1/8	310925
1/2	1/2	5/8	6	0.030	4-1/8	310927
1/2	1/2	5/8	6	0.060	4-1/8	310929
1/2	1/2	5/8	6	0.090	4-1/8	310933

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Diameter	Shank Dia.	LOC	OAL	Radius	Length Below Shank	EDP
5/8	5/8	3/4	4	-	1-5/8	310937
5/8	5/8	3/4	4	0.030	1-5/8	310941
5/8	5/8	3/4	4	0.060	1-5/8	310943
5/8	5/8	3/4	4	0.090	1-5/8	310945
5/8	5/8	3/4	4	0.120	1-5/8	310949
5/8	5/8	3/4	6	-	2-3/8	310951
5/8	5/8	3/4	6	0.030	2-3/8	310955
5/8	5/8	3/4	6	0.060	2-3/8	310957
5/8	5/8	3/4	6	0.090	2-3/8	310961
5/8	5/8	3/4	6	0.120	2-3/8	310964
5/8	5/8	3/4	6	-	3-3/8	310968
5/8	5/8	3/4	6	0.030	3-3/8	310972
5/8	5/8	3/4	6	0.060	3-3/8	310975
5/8	5/8	3/4	6	0.090	3-3/8	310979
5/8	5/8	3/4	6	0.120	3-3/8	310982
5/8	5/8	3/4	6	-	4-1/8	310985
5/8	5/8	3/4	6	0.030	4-1/8	310987
5/8	5/8	3/4	6	0.060	4-1/8	310989
5/8	5/8	3/4	6	0.090	4-1/8	310992
5/8	5/8	3/4	6	0.120	4-1/8	310994
3/4	3/4	1	4	-	2	310997
3/4	3/4	1	4	0.030	2	310999
3/4	3/4	1	4	0.060	2	311002
3/4	3/4	1	4	0.090	2	311006
3/4	3/4	1	4	0.120	2	311010
3/4	3/4	1	4	0.190	2	311013
3/4	3/4	1	4	0.250	2	311016
3/4	3/4	1	6	-	2-1/2	311019
3/4	3/4	1	6	0.030	2-1/2	311023
3/4	3/4	1	6	0.060	2-1/2	311027
3/4	3/4	1	6	0.090	2-1/2	311031
3/4	3/4	1	6	0.120	2-1/2	311034
3/4	3/4	1	6	0.190	2-1/2	311037
3/4	3/4	1	6	0.250	2-1/2	311041
3/4	3/4	1	6	-	3-3/8	311043
3/4	3/4	1	6	0.030	3-3/8	311045
3/4	3/4	1	6	0.060	3-3/8	311049
3/4	3/4	1	6	0.090	3-3/8	311051
3/4	3/4	1	6	0.120	3-3/8	311053
3/4	3/4	1	6	0.190	3-3/8	311056
3/4	3/4	1	6	0.250	3-3/8	311059
3/4	3/4	1	6	-	4-1/8	311063

PYSTL_{series}

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Diameter	Shank Dia.	LOC	OAL	Radius	Length Below Shank	EDP
3/4	3/4	1	6	0.030	4-1/8	311067
3/4	3/4	1	6	0.060	4-1/8	311071
3/4	3/4	1	6	0.090	4-1/8	311075
3/4	3/4	1	6	0.120	4-1/8	311077
3/4	3/4	1	6	0.190	4-1/8	311079
3/4	3/4	1	6	0.250	4-1/8	311082
1	1	1-1/4	4	-	2-1/4	311084
1	1	1-1/4	4	0.030	2-1/4	311088
1	1	1-1/4	4	0.060	2-1/4	311090
1	1	1-1/4	4	0.090	2-1/4	311092
1	1	1-1/4	4	0.120	2-1/4	311096
1	1	1-1/4	4	0.190	2-1/4	311099
1	1	1-1/4	4	0.250	2-1/4	311102
1	1	1-1/4	6	-	2-5/8	311104
1	1	1-1/4	6	0.030	2-5/8	311108
1	1	1-1/4	6	0.060	2-5/8	311110
1	1	1-1/4	6	0.090	2-5/8	311114
1	1	1-1/4	6	0.120	2-5/8	311118
1	1	1-1/4	6	0.190	2-5/8	311121
1	1	1-1/4	6	0.250	2-5/8	311124
1	1	1-1/4	6	-	3-3/8	311127
1	1	1-1/4	6	0.030	3-3/8	311131
1	1	1-1/4	6	0.060	3-3/8	311135
1	1	1-1/4	6	0.090	3-3/8	311138
1	1	1-1/4	6	0.120	3-3/8	311142
1	1	1-1/4	6	0.190	3-3/8	311144
1	1	1-1/4	6	0.250	3-3/8	311146
1	1	1-1/4	6	-	4-1/8	311149

PYSTL_{series}

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Diameter	Shank Dia.	LOC	OAL	Radius	Length Below Shank	EDP
1	1	1-1/4	6	0.030	4-1/8	311152
1	1	1-1/4	6	0.060	4-1/8	311156
1	1	1-1/4	6	0.090	4-1/8	311158
1	1	1-1/4	6	0.120	4-1/8	311160
1	1	1-1/4	6	0.190	4-1/8	311163
1	1	1-1/4	6	0.250	4-1/8	311167

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