

Excelerator® XF Extreme-Feed Mill

Introducing Greenleaf's Excelerator® XF Milling Cutter System.

Excelerator® XF cutters are designed for high-feed milling on a wide variety of materials including hard steels and high-temp alloys using Greenleaf's advanced ceramic and carbide inserts.

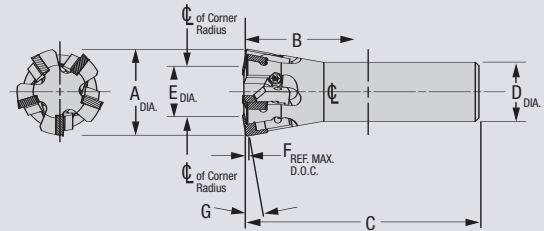
The cutter bodies have been designed with large chip gullets and a fine pitch to give you the most teeth possible for maximum performance and extreme metal removal rates. Cutter sizes range from 1" to 12".

All Excelerator® XF cutters can use Greenleaf's WG-300® whiskered ceramic inserts for use on hardened and difficult-to-machine materials or a variety of Greenleaf carbide grades for easier-to-cut materials. That gives you versatility that no other high-feed cutter on the market can match.

Greenleaf's Excelerator® Milling System maximizes your shop's performance and versatility at an affordable price. *All cutters are available right and left hand.*

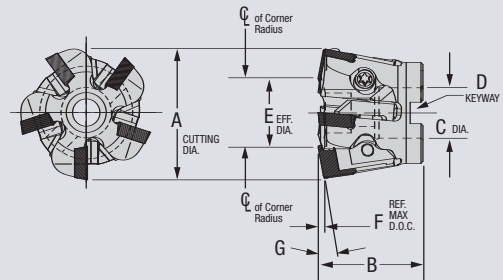
1" and 1-1/2" High-Feed End Mill: Square Positive Inserts

Cutter Order Number	Insert	No. of Inserts	A Dia.	B	C	D Dia.	E Dia.	F D.O.C.	G	Furnished Components			Screw Torque Setting	Max RPM Ceramic	Max RPM Carbide
										Clamp	Clamp Screw				
XFSP-010-EM	SPGN-222	4	1.000	1.250	3.280	0.750	.580	.031	10°	431402	PT-542T	15 in/lbs	26,000	9,500	
XFSP-015-EM	SPGN-322	5	1.500	1.720	4.000	1.250	.830	.052	10°	313256	SE02-01	35 in/lbs	16,500	6,200	



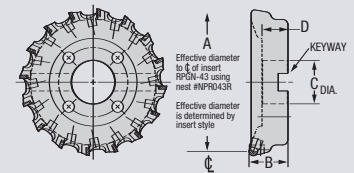
2" High-Feed Face Mill: Square Positive Inserts

Cutter Order Number	Insert	No. of Inserts	A Dia.	B	C Dia.	D Keyway	E Dia.	F D.O.C.	G	Furnished Components			Screw Torque Setting	Max RPM Ceramic	Max RPM Carbide
										Clamp	Clamp Screw	Mount Screw			
XFSP-020-FM	SPGN-432	5	2.000	1.560	.750	.3125	1.076	.076	10°	431628	SE03-23	SHCS 3/8-24	70 in/lbs	13,300	4,600



CP4 Series Positive Rake Face Mill

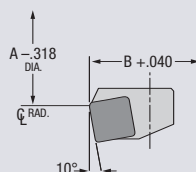
Cutter Part Number		Dimensions (inches)					Keyway	Bolt Circle	No. of Inserts	Standard Components		
Right Hand	Left Hand	A	B	C	D	Wedge				Wedge Screw	Nest Screw	
CP-403R	CP-403L	3.000	2.000	1.250	0.75	1/2 x 9/32	N/A	6	425605	430578	SE03-02	
CP-404R	CP-404L	4.000	2.250	1.500	1.00	5/8 x 3/8	N/A	8	425605	425606	SE03-02	
CP-405R	CP-405L	5.000	2.250	1.500	1.00	5/8 x 3/8	N/A	10	425605	425606	SE03-02	
CP-406R	CP-406L	6.000	2.250	2.000	1.00	3/4 x 7/16	N/A	12	425605	425606	SE03-02	
CP-408R	CP-408L	8.000	2.250	2.500	1.50	1 x 9/16	4	16	425605	425606	SE03-02	
CP-410R	CP-410L	10.000	2.750	2.500	1.50	1 x 9/16	4, 4-3/4	20	425605	425606	SE03-02	
CP-412R	CP-412L	12.000	2.750	2.500	1.50	1 x 9/16	4, 4-3/4, 7	24	425605	425606	SE03-02	



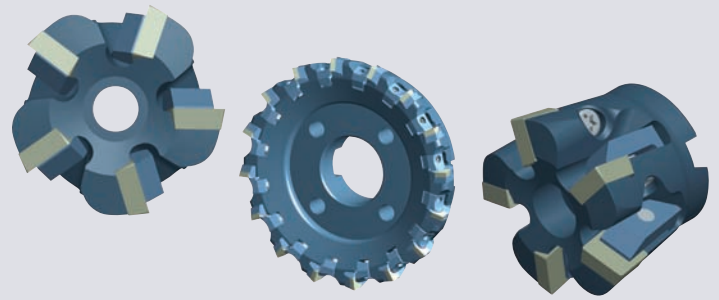
Right-Hand Face Mill Shown

CP4 Series Nest

Nest Part Number		Gage Insert
Right Hand	Left Hand	
XFNPS8043R	—	SPGN-433
—	XFNPS8043L	SPGN-433



Excellerator® XF



Starting Speeds and Feeds

Work Material	Insert Grades	Cutting Speed (SFM)	1" Diameter			1.5" Diameter			2" Diameter			CP4 3"-12"	
			RPM	IPM	IPT	RPM	IPM	IPT	RPM	IPM	IPT	FPT	
Hardened Steel (60-65rc)	WG-300 N/A	700 -	2674 -	100 -	0.0093 -	1783 -	80 -	0.0090 -	1337 -	65 -	0.0097 -	ACTUAL CHIP THICKNESS	.002"
Hardened Steel (50-59rc)	WG-300 N/A	800 -	3056 -	160 -	0.0131 -	2165 -	160 -	0.0148 -	1623 -	120 -	0.0148 -		.003"
Hardened Steel (40-49rc)	WG-300 N/A	1400 -	5348 -	260 -	0.0122 -	3565 -	260 -	0.0146 -	2674 -	200 -	0.0150 -		.003"
Steel (30-39rc)	WG-300 GA-5036	1400 600	5348 2292	280 150	0.0131 0.0164	3565 1528	280 140	0.0157 0.0183	2674 1146	230 100	0.0172 0.0175		.003"
Steel	N/A GA-5036	- 800	- 3056	- 200	- 0.0164	- 2037	- 180	- 0.0177	- 1528	- 140	- 0.0183		.005"
Maximum Stepmover			.580"			.830"			1.050"				
Maximum Cutting Depth			.031"			.052"			.076"				.071"
Maximum Width of Cut			1.0"			1.5"			2.0"				

High-Feed Mill D.O.C. vs Effective Diameter

D.O.C.	1"	1.5"	2"	3"	4"	5"	6"	8"	10"	12"
0.01	0.578	0.832	1.086	2.694	3.694	4.694	5.694	7.694	9.694	11.694
0.02	0.692	0.946	1.200	2.807	3.807	4.807	5.807	7.807	9.807	11.807
0.03	0.806	1.059	1.313	2.921	3.921	4.921	5.921	7.921	9.921	11.921
0.04		1.173	1.426	3.034	4.034	5.034	6.034	8.034	10.034	12.034
0.05		1.287	1.540	3.148	4.148	5.148	6.148	8.148	10.148	12.148
0.06		1.401	1.653	3.261	4.261	5.261	6.261	8.261	10.261	12.261
0.07			1.767	3.374	4.374	5.374	6.374	8.374	10.374	12.374
0.08			1.880	3.488	4.488	5.588	6.588	8.588	10.588	12.588



Greenleaf
Excellerating Solutions™

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