

YU-HPC18

BEST VALUE IN THE WORLD OF CUTTING TOOLS



FOR ALUMINUM, ALUMINUM DIE CAST, NON-FERROUS ALLOYS AND PLASTICS

ALU-POWER HPC

YG-1'S FIRST 3-FLUTE, HIGH-PERFORMANCE,
SOLID CARBIDE END MILLS

**Keep Your Edge:
SPEED, STRENGTH &
SHARPNESS.**

- 3 Flute
- Square End & Corner Radius
- Standard and Extended Length
- Coated and Uncoated

ALU-POWER HPC

Built to Handle High-Speed Cutting Without Buildup.

- ▶ **Excels in Ultra High-Speed, High HP Applications Up to 35,000 RPM**
- ▶ **Rigid Design for Excellent Ramping**
- ▶ **Reduced Vibration in Heavy Cutting**



While other 3-flute end mills can muster up the speed for rough cutting aluminum, few can make it through without melting down the aluminum that surrounds the work itself. That's where the ALU-POWER HPC has a distinct advantage – speed, strength and sharpness.

Why ALU-POWER HPC Keeps Its Edge Under Tough Conditions

ALU-POWER HPC's highly polished 3-flute design provides more balanced cutting performance – without excessive heat buildup. In fact, while other end mills can gum up at surface speeds of 3,000 or less, ALU-POWER HPC keeps its cool by dissipating heat and providing outstanding chip evacuation. Add that to its ultra-micrograin carbide design and the result is:

- ▶ Longer tool life
- ▶ Balanced cutting with less vibration
- ▶ Ability to run at higher speeds with less heat in aluminum
- ▶ More efficient chip evacuation
- ▶ Ability to counteract extreme radial forces



ALU-POWER 3-FLUTE END MILLS

The Anatomy of Efficiency

Specialized Design of Corner Gash

- ▶ Unique flute design and superior corner protection adds both tool life and protection against catastrophic failure in high feed applications
- ▶ Polished flutes for excellent chip flow



Cylindrical Land

- ▶ Increased performance in a variety of cutting conditions
- ▶ Also helps reduce vibration and chatter



Available in a Wide Variety of Sizes and Corner Radii

Ideal Symmetrical Shape

- ▶ 3-flute design "to the center" (all 3 flutes come to center)
- ▶ Designed with high spindle speeds in mind
- ▶ Highly effective in vertical ramping up to 20 degrees and step-over plunging applications

DLC Diamond-Like Carbon

- ▶ Excels in hard aluminum and high speeds
- ▶ Provides edge strength and unsurpassed tool life



Engineered Flute Design

- ▶ Effective chip evacuation at high feed rates with lower cutting forces than competitive products

GUIDE TO ICONS

The tool is made of micrograin carbide



Helix Angle



Tool Ends:



Square

Cutting Conditions



No. of Flutes



Type of Shank



Plain Shank




Radius



Radius

SELECTION GUIDE

⊙ Excellent ○ Good

ITEM	MODEL	DESCRIPTION	DIAMETER		PAGE	
			Min.	Max.		
JAG95		3-FLUTE STANDARD LENGTH (Plain Shank) COATED	SQUARE END	1/8	1	10
JAG97			CORNER RADIUS	1/8	1	10
E5G95		3-FLUTE STANDARD LENGTH (Plain Shank) UNCOATED	SQUARE END	1/8	1	11
E5G97			CORNER RADIUS	1/8	1	11
JAG96		3-FLUTE EXTENDED LENGTH (Plain Shank) COATED	SQUARE END	1/4	1	12
JAG98			CORNER RADIUS	1/4	1	12
E5G96		3-FLUTE EXTENDED LENGTH (Plain Shank) UNCOATED	SQUARE END	1/4	1	13
E5G98			CORNER RADIUS	1/4	1	13
RECOMMENDED CUTTING CONDITIONS						14

N			
Aluminum	Aluminum Die Cast	Non-Ferrous Alloys	Plastics
⊙	⊙	○	○
⊙	⊙	○	○
⊙	⊙	○	○
⊙	⊙	○	○
⊙	⊙	○	○
⊙	⊙	○	○
⊙	⊙	○	○

Why the Fastest Runners in the Business Bank on ALU-POWER HPC for the Best Returns

From Side Cuts to Rough Cuts to Aggressive Ramping, No One Withstands Extreme Radial Forces Better—or Longer.



▲ Rough Cutting
Ultra-micrograin carbide supplies the rigidity to keep the chips flying. Highly polished 3-flute design ensures they'll keep flying – cut after cut.



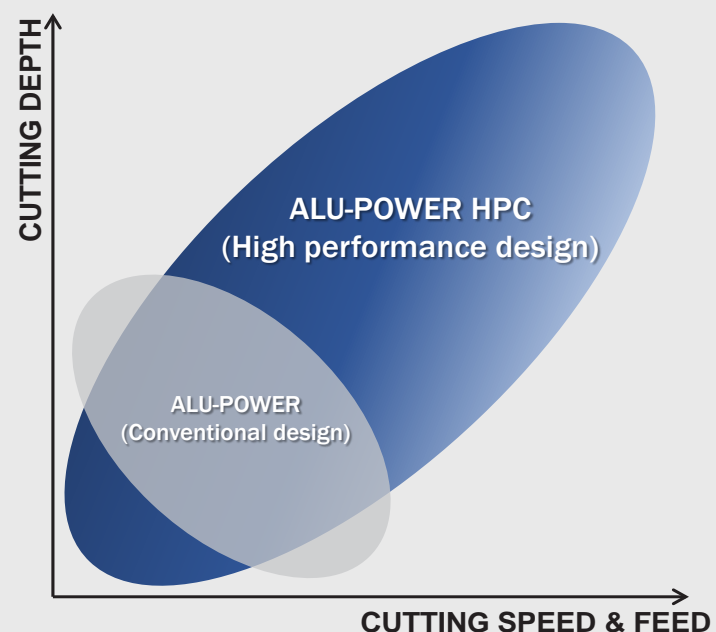
▲ Ramping
In steep, aggressive ramping conditions, the ALU-POWER HPC holds its own to resist the torsional stress from extreme helical output.



▲ Side cutting
No one offers a cooler-running super high-speed end mill. While others melt down the materials they're cutting, ALU-POWER HPC keeps cutting cool in aluminum and softer alloys, to boot.

What do you get when you add 3 flutes to the center, polished ultra-micrograin carbide, extra-large chip gullets and a razor-sharp cylindrical land design? In technical terms, it's called the ALU-POWER HPC. In a machinist's terms, it's called an extremely sharp, highly durable milling monster that won't back down, cut after cut after cut.

Work Materials Aluminum, Non-Ferrous & Non-Metallic Materials



Compared to conventional aluminum-specific end mills, the ALU-POWER HPC provides more versatile performance. Its high-performance design allows you to cut deeper and run at both faster and slower cutting speeds and feeds.

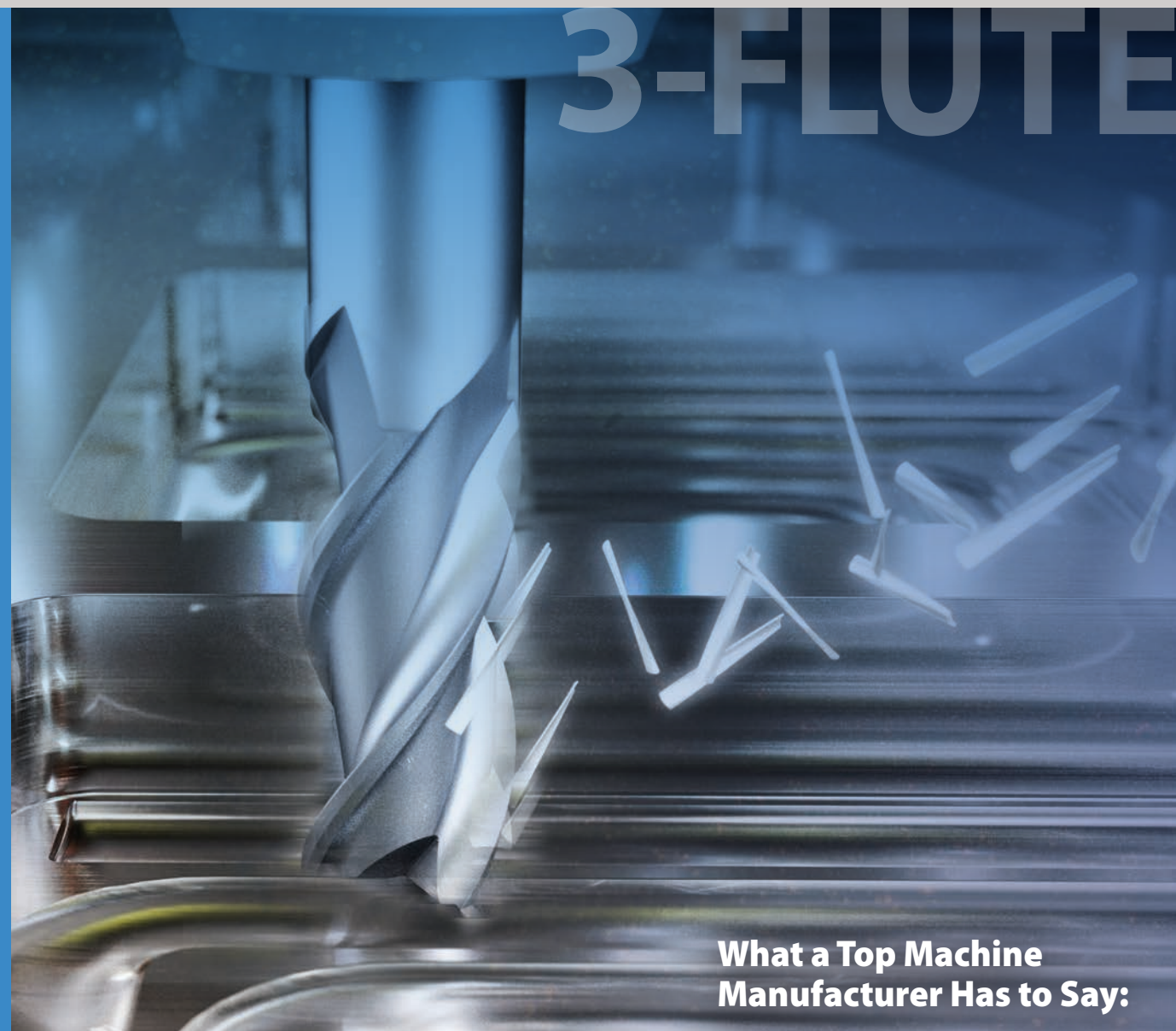
The Benefits of Balanced Cutting

When you lock an ALU-POWER HPC into your milling machine, you've unleashed the fastest-running, lowest-heat-producing end mill in the business. And that means you've got the speed and sharpness to take on not only the tough materials but even more fragile mixed alloy castings with ease. Discover the ALU-POWER HPC and start pushing your productivity higher.

Another Advantage of YG-1's Perfect Geometry and Superior Coating

Whether you're running parts in today's most advanced 5-axis machining centers on the market today, or in machines built decades ago, ALU-POWER HPC makes the most of your manufacturing assets. That's because its unique 3-flute, 37-degree helix design can operate at lower speeds with higher efficiency.





What a Top Machine Manufacturer Has to Say:

“ There is no comparison to the performance of the ALU-POWER HPC. The chips get out and stay out. Never a need to stop the machine to clean. ”

COATED AND UNCOATED 3-FLUTE CARBIDE END MILLS

Outside Diameter Tolerances (inch)		Shank Diameter Tolerance
Diameter	Tolerance	
1/8–3/16	+0/-0.00032	h6
1/4–3/8	+0/-0.00035	
1/2–5/8	+0/-0.00043	
3/4–1	+0/-0.00051	



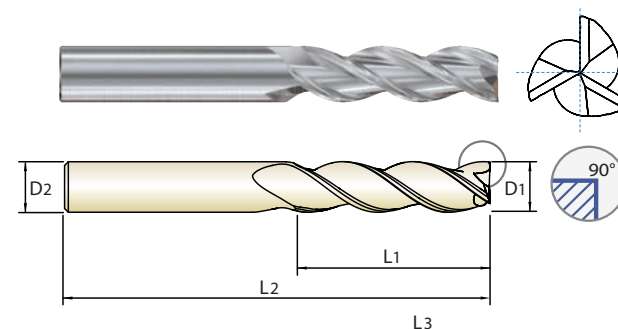
N			
Aluminum	Aluminum Die Cast	Non-Ferrous Alloys	Plastics
◎	◎	○	○

◎ : Excellent ○ : Good

3-FLUTE STANDARD LENGTH

SQUARE END

Pages 10 and 11

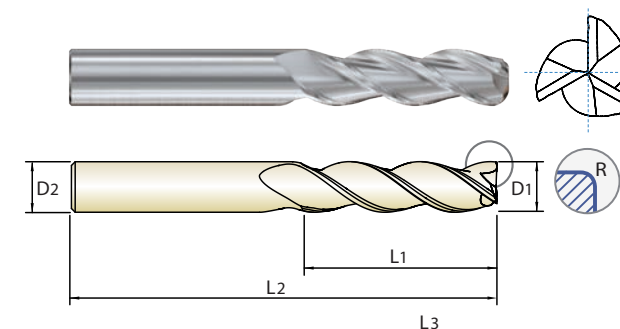


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3-FLUTE STANDARD LENGTH

CORNER RADIUS

Pages 10 and 11

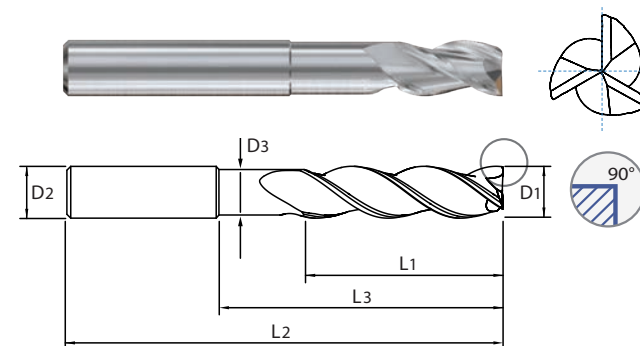


Pages 14 and 15

3-FLUTE EXTENDED LENGTH

SQUARE END

Page 12

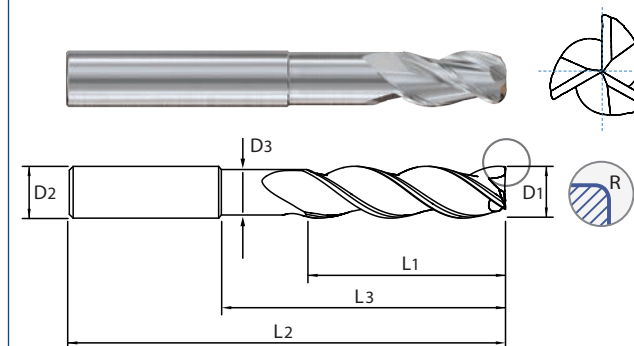


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3-FLUTE EXTENDED LENGTH

CORNER RADIUS

Page 12



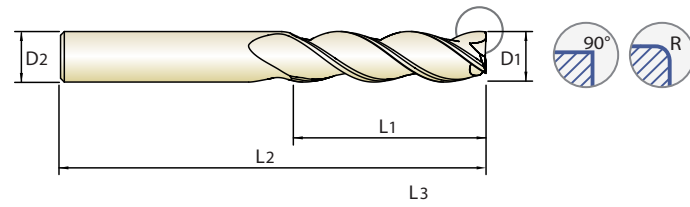
Pages 14 and 15

3-FLUTE STANDARD LENGTH (PLAIN SHANK) – COATED

JAG95 | JAG97 SERIES



Pages 14 and 15



Unit: INCH

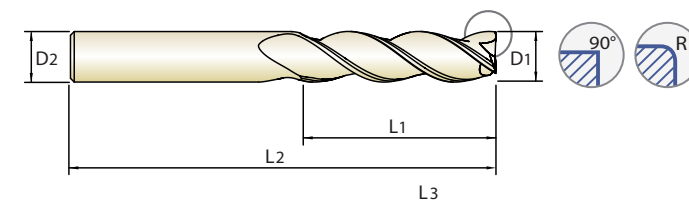
OD (D ₁)	SD (D ₂)	LOC (L ₁)	OAL (L ₂)	Square End	Corner Radius									
					.010	.030	.060	.090	.120	.190	.250			
					EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.			
1/8	1/8	1/4	1-1/2	JAG95008	JAG97008	JAG97901								
		3/8	1-1/2	JAG95901	JAG97902	JAG97903								
3/16	3/16	5/16	2	JAG95012	JAG97012	JAG97904								
		9/16	2	JAG95902	JAG97905	JAG97906								
1/4	1/4	3/8	2	JAG95016	JAG97016	JAG97907	JAG97908							
		5/8	2-1/2	JAG95903	JAG97909	JAG97910	JAG97911							
		1-1/4	3-1/4	JAG95904	JAG97912	JAG97913	JAG97914							
5/16	5/16	7/16	2	JAG95020	JAG97020	JAG97915	JAG97916	JAG97917						
		5/8	2-1/2	JAG95905	JAG97918	JAG97919	JAG97920	JAG97921						
		1-1/4	3-1/2	JAG95906	JAG97922	JAG97923	JAG97924	JAG97925						
3/8	3/8	1/2	2	JAG95024	JAG97024	JAG97926	JAG97927	JAG97928	JAG97929					
		1	2-1/2	JAG95907	JAG97930	JAG97931	JAG97932	JAG97933	JAG97934					
		1-1/2	3-1/2	JAG95908	JAG97935	JAG97936	JAG97937	JAG97938	JAG97939					
		2	4	JAG95909	JAG97940	JAG97941	JAG97942	JAG97943	JAG97944					
7/16	7/16	9/16	2-1/2	JAG95028	JAG97028	JAG97945	JAG97946	JAG97947	JAG97948					
		1-1/4	2-3/4	JAG95910	JAG97949	JAG97950	JAG97951	JAG97952	JAG97953					
1/2	1/2	2	4	JAG95911	JAG97954	JAG97955	JAG97956	JAG97957	JAG97958					
		5/8	2-1/2	JAG95032	JAG97032	JAG97959	JAG97960	JAG97961	JAG97962	JAG97963				
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		1-1/4	3	JAG95912	JAG97964	JAG97965	JAG97966	JAG97967	JAG97968	JAG97969				
		1-5/8	4	JAG95913	JAG97970	JAG97971	JAG97972	JAG97973	JAG97974	JAG97975				
		2	4	JAG95914	JAG97976	JAG97977	JAG97978	JAG97979	JAG97980	JAG97981				
		2-1/2	5	JAG95915	JAG97982	JAG97983	JAG97984	JAG97985	JAG97986	JAG97987				
5/8	5/8	3	5	JAG95916	JAG97988	JAG97989	JAG97990	JAG97991	JAG97992	JAG97993				
		3/4	3	JAG95040	JAG97040	JAG97994	JAG97995	JAG97996	JAG97997	JAG97998				
		1-5/8	3-1/2	JAG95917	JAG97999	JAG97801	JAG97802	JAG97803	JAG97804	JAG97805				
		2-1/2	5	JAG95918	JAG97806	JAG97807	JAG97808	JAG97809	JAG97810	JAG97811				
3/4	3/4	3	5-1/4	JAG95919	JAG97812	JAG97813	JAG97814	JAG97815	JAG97816	JAG97817				
		1	3	JAG95048	JAG97048	JAG97818	JAG97819	JAG97820	JAG97821	JAG97822	JAG97823			
		1-5/8	4	JAG95920	JAG97824	JAG97825	JAG97826	JAG97827	JAG97828	JAG97829	JAG97830			
		2-1/4	5	JAG95921	JAG97831	JAG97832	JAG97833	JAG97834	JAG97835	JAG97836	JAG97837			
		3-1/4	6	JAG95922	JAG97838	JAG97839	JAG97840	JAG97841	JAG97842	JAG97843	JAG97844			
1	1	4	6-1/4	JAG95923	JAG97845	JAG97846	JAG97847	JAG97848	JAG97849	JAG97850	JAG97851			
		1-1/4	3	JAG95064	JAG97064	JAG97852	JAG97853	JAG97854	JAG97855	JAG97856	JAG97857			
		1-1/4	4	JAG95928	JAG97885	JAG97886	JAG97887	JAG97888	JAG97889	JAG97890	JAG97891			
		2	5	JAG95924	JAG97858	JAG97859	JAG97860	JAG97861	JAG97862	JAG97863	JAG97864			
3-1/4	6	JAG95925	JAG97865	JAG97866	JAG97867	JAG97868	JAG97869	JAG97870	JAG97871					
		4	7	JAG95926	JAG97872	JAG97873	JAG97874	JAG97875	JAG97876	JAG97877	JAG97878			

3-FLUTE STANDARD LENGTH (PLAIN SHANK) – UNCOATED

E5G95 | E5G97 SERIES



Pages 14 and 15



Unit: INCH

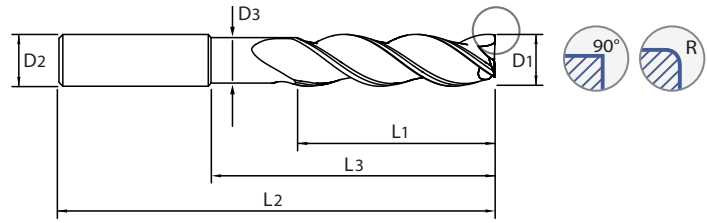
OD (D ₁)	SD (D ₂)	LOC (L ₁)	OAL (L ₂)	Square End	Corner Radius									
					.010	.030	.060	.090	.120	.190	.250			
					EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.			
1/8	1/8	1/4	1-1/2	E5G95008	E5G97008	E5G97901								
		3/8	1-1/2	E5G95901	E5G97902	E5G97903								
3/16	3/16	5/16	2	E5G95012	E5G97012	E5G97904								
		9/16	2	E5G95902	E5G97905	E5G97906								
1/4	1/4	3/8	2	E5G95016	E5G97016	E5G97907	E5G97908							
		5/8	2-1/2	E5G95903	E5G97909	E5G97910	E5G97911							
		1-1/4	3-1/4	E5G95904	E5G97912	E5G97913	E5G97914							
5/16	5/16	7/16	2	E5G95020	E5G97020	E5G97915	E5G97916	E5G97917						
		5/8	2-1/2	E5G95905	E5G97918	E5G97919	E5G97920	E5G97921						
		1-1/4	3-1/2	E5G95906	E5G97922	E5G97923	E5G97924	E5G97925						
3/8	3/8	1/2	2	E5G95024	E5G97024	E5G97926	E5G97927	E5G97928	E5G97929					
		1	2-1/2	E5G95907	E5G97930	E5G97931	E5G97932	E5G97933	E5G97934					
		1-1/2	3-1/2	E5G95908	E5G97935	E5G97936	E5G97937	E5G97938	E5G97939					
		2	4	E5G95909	E5G97940	E5G97941	E5G97942	E5G97943	E5G97944					
7/16	7/16	9/16	2-1/2	E5G95028	E5G97028	E5G97945	E5G97946	E5G97947	E5G97948					
		1-1/4	2-3/4	E5G95910	E5G97949	E5G97950	E5G97951	E5G97952	E5G97953					
1/2	1/2	2	4	E5G95911	E5G97954	E5G97955	E5G97956	E5G97957	E5G97958					
		5/8	2-1/2	E5G95032	E5G97032	E5G97959	E5G97960	E5G97961	E5G97962	E5G97963				
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5/8	5/8	3	5	E5G95916	E5G97988	E5G97989	E5G97990	E5G97991	E5G97992	E5G97993				
		3/4	3	E5G95040	E5G97040	E5G97994	E5G97995	E5G97996	E5G97997	E5G97998				
		1-5/8	3-1/2	E5G95917	E5G97999	E5G97801	E5G97802	E5G97803	E5G97804	E5G97805				
		2-1/2	5	E5G95918	E5G97806	E5G97807	E5G97808	E5G97809	E5G97810	E5G97811				
3/4	3/4	3	5-1/4	E5G95919	E5G97812	E5G97813	E5G97814	E5G97815	E5G97816	E5G97817				
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		3-1/4	6	E5G95922	E5G97838	E5G97839	E5G97840	E5G97841	E5G97842	E5G97843	E5G97844			
1	1	4	6-1/4	E5G95923	E5G97845	E5G97846	E5G97847	E5G97848	E5G97849	E5G97850	E5G97851			
		1-1/4	3	E5G95064	E5G97064	E5G97852	E5G97853	E5G97854	E5G97855	E5G97856	E5G97857			
		1-1/4	4	E5G95928	E5G97885	E5G97886	E5G97887	E5G97888	E5G97889	E5G97890	E5G97891			
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		4	7	E5G95926	E5G97872	E5G97873	E5G97874	E5G97875	E5G97876	E5G97877	E5G97878			

3-FLUTE EXTENDED LENGTH (PLAIN SHANK) – COATED

JAG96 | JAG98 SERIES



Pages 14 and 15



Unit : INCH

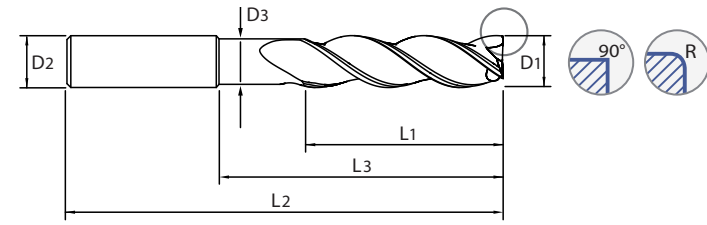
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															.010	.030	.060	.090	.120	.190	.250
							EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.			
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		1	3-3/8	.710	6	JAG96907	JAG98955	JAG98956	JAG98957	JAG98958	JAG98959	JAG98960	JAG98961								
		1	5	.710	7	JAG96908	JAG98962	JAG98963	JAG98964	JAG98965	JAG98966	JAG98967	JAG98968								
1	1	1-1/4	2-5/8	.960	5	JAG96064	JAG98064	JAG98969	JAG98970	JAG98971	JAG98972	JAG98973	JAG98974								
		1-1/4	3-3/8	.960	6	JAG96909	JAG98975	JAG98976	JAG98977	JAG98978	JAG98979	JAG98980	JAG98981								
		1-1/4	4-3/8	.960	7	JAG96910	JAG98982	JAG98983	JAG98984	JAG98985	JAG98986	JAG98987	JAG98988								
		1-1/4	6	.960	9	JAG96911	JAG98989	JAG98990	JAG98991	JAG98992	JAG98993	JAG98994	JAG98995								

3-FLUTE EXTENDED LENGTH (PLAIN SHANK) – UNCOATED

E5G96 | E5G98 SERIES



Pages 14 and 15



Unit : INCH

OD (D1)	SD (D2)	LOC (L1)	LBS (L3)	Neck Dia. (D3)	OAL (L2)	Square End	Corner Radius														
															.010	.030	.060	.090	.120	.190	.250
							EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.	EDP No.			
1/4	14	3/8	3/4	.220	2-1/2	E5G96016	E5G98016	E5G98901	E5G98902												
		3/8	1-1/8	.220	3	E5G96901	E5G98903	E5G98904	E5G98905												
3/8	3/8	1/2	1-1/8	.345	3	E5G96024	E5G98024	E5G98906	E5G98907	E5G98908	E5G98909										
		1/2	2-1/8	.345	4	E5G96902	E5G98910	E5G98911	E5G98912	E5G98913	E5G98914										
1/2	1/2	5/8	1-3/8	.470	3	E5G96032	E5G98032	E5G98915	E5G98916	E5G98917	E5G98918	E5G98919									
		5/8	2-1/4	.470	4	E5G96903	E5G98920	E5G98921	E5G98922	E5G98923	E5G98924	E5G98925									
		5/8	3-3/8	.470	5	E5G96904	E5G98926	E5G98927	E5G98928	E5G98929	E5G98930	E5G98931									
		5/8	4-1/4	.470	6	E5G96905	E5G98932	E5G98933	E5G98934	E5G98935	E5G98936	E5G98937									
5/8	5/8	3/4	1-5/8	.585	4	E5G96040	E5G98040	E5G98938	E5G98939	E5G98940	E5G98941	E5G98942									
		3/4	3-3/8	.585	6	E5G96906	E5G98943	E5G98944	E5G98945	E5G98946	E5G98947	E5G98948									
3/4	3/4	1	2	.710	4	E5G96048	E5G98048	E5G98949	E5G98950	E5G98951	E5G98952	E5G98953	E5G98954								
		1	3-3/8	.710	6	E5G96907	E5G98955	E5G98956	E5G98957	E5G98958	E5G98959	E5G98960	E5G98961								
		1	5	.710	7	E5G96908	E5G98962	E5G98963	E5G98964	E5G98965	E5G98966	E5G98967	E5G98968								
1	1	1-1/4	2-5/8	.960	5	E5G96064	E5G98064	E5G98969	E5G98970	E5G98971	E5G98972	E5G98973	E5G98974								
		1-1/4	3-3/8	.960	6	E5G96909	E5G98975	E5G98976	E5G98977	E5G98978	E5G98979	E5G98980	E5G98981								
		1-1/4	4-3/8	.960	7	E5G96910	E5G98982	E5G98983	E5G98984	E5G98985	E5G98986	E5G98987	E5G98988								
		1-1/4	6	.960	9	E5G96911	E5G98989	E5G98990	E5G98991	E5G98992	E5G98993	E5G98994	E5G98995								

CASE STUDY | Field Test Report

The Goal: Reduce cycle time by at least 25%.

The Test:

Three YG-1 3-flute ALU-POWER HPC end mills are pitted against two strong competitors using similar configurations for milling aluminum alloy.

The Results:

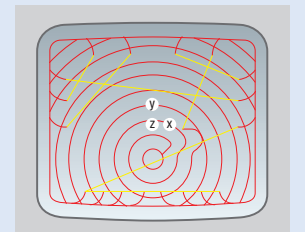
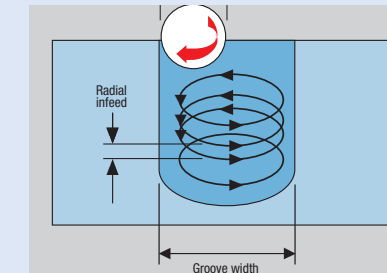
Saved up to \$2 million by improving the process by 27%.

The combination of advanced geometry and the superior coating of the YG-1 3-Flute ALU-POWER HPC end mills beat both competitors in:

- ▶ Trochoidal machining
- ▶ Peel milling
- ▶ Cutter path performance

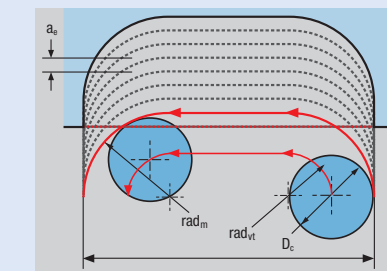
These process improvements resulted in a savings of seven minutes per part. The process was rolled out to all machines in the company.

Cutting Conditions			
Material	7075 T-6 (Ribs)		
Machine	5-axis horizontal machining center		
Coolant	High pressure		
Tool Holder	Shrink fit Haimer		
Speed (mm)	RPM	V _c (SMM)	
	25mm tool	33,000 2,594	
	20mm tool	30,000 1,886	
Speed (in.)	RPM	SFM	
	.9843 in. tool	33,000 8,510	
	.7874 in. tool	30,000 6,189	
Feed (mm)	m/min	mm/rev	
	25mm tool	20 .6071	
	20mm tool	24.5 .8179	
Feed (in.)	in./min	in./rev	
	.9843 in. tool	787.4 .0239	
	.7874 in. tool	964.565 .0322	
Step (mm)	0.5 – 18		
	Step (in.)	.01968 – .7087	
		Axial (mm)	13
Axial (in.)		.5118	
Competitor	U.S. Manufacturer and UK Manufacturer		
YG-1 Tools	3 ALU-POWER HPC Tools		
Fixture	Screws & Vacuum		



▲ In trochoidal milling applications, the cutter follows a spiral path by moving radially as it rotates providing faster machining times, lower tooling costs and reduced loads on machine components.

▲ Outstanding chip evacuation through deep gullet design coupled with high speed milling leaves a well-defined clean cutter path.



◀ Peel milling applications benefit from ALU-POWER HPC's super sharp high-speed milling ability.



RECOMMENDED CUTTING CONDITIONS – INCH

JAG95 | JAG96 | JAG97 | JAG98 SERIES
E5G95 | E5G96 | E5G97 | E5G98 SERIES

RPM = rev./min. Feed = in./min.
Vc = ft./min. Fz = in./tooth

Speed and Feed Recommendations							Diameter (D)						
ISO Hardness (BHN)	Coolant	Cutting Method	Ap x D	Ae x D	Vc (SFM)	Parameters	1/8	1/4	3/8	1/2	5/8	3/4	1
N < 16% Silicon Aluminum Alloys: 2024, 5052, 5086, 6061,6063,7075	Emulsion	Slotting 	1	1	2000	RPM	61100	30500	20400	15300	12200	10200	7600
					1300~10000	Fz	.0010	.0030	.0045	.0060	.0066	.0075	.0100
						Feed (IPM)	183	275	275	275	242	230	228
		Profiling 	1.5	0.5	3000	RPM	91700	45800	30600	23000	18300	15300	11500
					1600~10000	Fz	.0010	.0030	.0045	.0060	.0066	.0075	.0100
						Feed (IPM)	275	412	413	414	362	344	345
		HSM 	2	0.05	8000	RPM	244500	122200	81500	61100	48900	40700	30600
					1600~10000	Fz	.0021	.0055	.0105	.0140	.0150	.0165	.0195
						Feed (IPM)	1540	2016	2567	2566	2201	2015	1790
N > 16% Silicon Aluminum Die Cast Alloys: A-390, A392, B-390 [YG-1 recommends the use of coated tools only]	Emulsion	Slotting 	1	1	600	RPM	18336	9168	6112	4584	3667	3056	2292
					(480-720)	Fz	.0010	.0030	.0045	.0060	.0066	.0075	.0100
						Feed (IPM)	55	83	83	83	73	69	69
		Profiling 	1.5	0.5	800	RPM	24448	12224	8149	6112	4890	4075	3056
					(640-960)	Fz	.0010	.0030	.0045	.0060	.0066	.0075	.0100
						Feed (IPM)	73	110	110	110	97	92	92
		HSM 	2	0.05	1200	RPM	36672	18336	12224	9168	7334	6112	4584
					(960-1440)	Fz	.0021	.0055	.0105	.0140	.0150	.0165	.0195
						Feed (IPM)	231	303	385	385	330	303	268
N Non-Ferrous Alloys: Copper Alloys, Aluminum Bronze, Brass, Naval Brass, Red Brass	Emulsion	Slotting 	1	1	880	RPM	26893	13446	8964	6723	5379	4482	3362
					(704-1056)	Fz	.0008	.0020	.0040	.0050	.0055	.0060	.0070
						Feed (IPM)	65	81	108	101	89	81	71
		Profiling 	1.5	0.5	1150	RPM	35144	17572	11715	8786	7029	5857	4393
					(920-1380)	Fz	.0008	.0020	.0040	.0050	.0055	.0060	.0070
						Feed (IPM)	84	105	141	132	116	105	92
		HSM 	2	0.05	1850	RPM	56536	28268	18845	14134	11307	9423	7067
					(1480-2220)	Fz	.0017	.0045	.0085	.0115	.0130	.0140	.0160
						Feed (IPM)	288	382	481	488	441	396	339

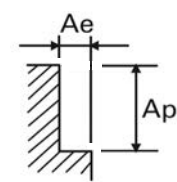
RECOMMENDED CUTTING CONDITIONS – INCH

JAG95 | JAG96 | JAG97 | JAG98 SERIES
E5G95 | E5G96 | E5G97 | E5G98 SERIES

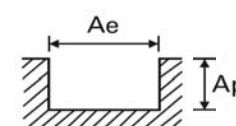
RPM = rev./min. Feed = in./min.
Vc = ft./min. Fz = in./tooth

Speed and Feed Recommendations							Diameter (D)						
ISO Hardness (BHN)	Coolant	Cutting Method	Ap x D	Ae x D	Vc (SFM)	Parameters	1/8	1/4	3/8	1/2	5/8	3/4	1
N Non-Ferrous Alloys: Copper Alloys, Beryllium Copper, C110, Manganese Bronze, Tin Bronze	Emulsion	Slotting 	1	1	300	RPM	9168	4584	3056	2292	1834	1528	1146
					(240-360)	Fz	.0008	.0020	.0040	.0050	.0055	.0060	.0070
						Feed (IPM)	22	28	37	34	30	28	24
		Profiling 	1.5	0.5	450	RPM	13752	6876	4584	3438	2750	2292	1719
					(360-540)	Fz	.0008	.0020	.0040	.0050	.0055	.0060	.0070
						Feed (IPM)	33	41	55	52	45	41	36
		HSM 	2	0.05	750	RPM	22920	11460	7640	5730	4584	3820	2865
					(600-900)	Fz	.0017	.0045	.0085	.0115	.0130	.0140	.0160
						Feed (IPM)	117	155	195	198	179	160	138
Plastics: ABS, Polycarbonate, PVC, Polycarbonate	Air	Slotting 	1	1	1670	RPM	51035	25518	17012	12759	10207	8506	6379
					(1336-2004)	Fz	.0015	.0040	.0075	.0100	.0110	.0120	.0140
						Feed (IPM)	230	306	383	383	337	306	268
		Profiling 	1.5	0.5	2070	RPM	63259	31630	21086	15815	12652	10543	7907
					(1656-2484)	Fz	.0015	.0040	.0075	.0100	.0110	.0120	.0140
						Feed (IPM)	285	380	474	474	418	380	332
		HSM 	2	0.05	3350	RPM	102376	51188	34125	25594	20475	17063	12797
					(2680-4020)	Fz	.0034	.0090	.0170	.0230	.0250	.0275	.0320
						Feed (IPM)	1044	1382	1740	1766	1536	1408	1229

Profiling/HSM

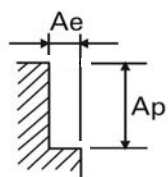


Slotting

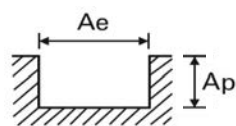


- NOTES:**
- ▶ All cutting data are target values
 - ▶ Maximum recommended depth shown
 - ▶ Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x D or less
 - ▶ Reduce speed and feed recommendations for materials harder than listed
 - ▶ Reduce cut depth and feed by 50% for long-flute or long-reach tools
 - ▶ Above recommendations are based on ideal conditions. Adjust parameters accordingly for smaller taper machining centers or less rigid conditions
 - ▶ HSM = high-speed machining

Profiling/HSM



Slotting



- NOTES:**
- ▶ All cutting data are target values
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ALU-POWER HPC

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Tool specifications are subject to change without prior notice.



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