

**CORE CUTTER**  
*SOLID CARBIDE CUTTING TOOLS*

**Core Cutter, LLC • 362 Maine Avenue  
Farmingdale, ME 04344**

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[www.corecutterusa.com](http://www.corecutterusa.com)**



# Check Out What's New:

- **Added Over 900 Reduced Neck Options**
- **NEW! Customizable Long Reach Reduced Neck Blanks, Custom LBS at Time of Order**
- **NEW! 1" LOC Option for 1/4" Diameter**
- **NEW! .090 Radius Additions**
- **NEW! 60°, 82°, 100°, and 120° Chamfer Mill Series**
- **NEW Item EDPs are highlighted**

# About Us

Core Cutter, LLC is a family owned and operated high performance carbide cutting tool manufacturer located in Farmingdale, Maine. We manufacture a variety of standard, modified and custom-made solid carbide tooling with fast turnaround from print to ship. We are honored to have the opportunity to present you with the fundamentals of our company:

**Our Promise:** We are committed to outstanding customer service and superior product quality. We promise to continually meet or exceed your expectations in all aspects of the cutting tool industry.

**Our Team:** The Core Cutter Family consists of exceptionally skilled engineers, machine operators, quality inspectors, technical support and customer service professionals. We are dedicated to providing you with 100% customer satisfaction from start to finish.

**Our Focus:** In order to continually meet our customers' needs, we remain focused on continual improvement in all aspects of carbide tool manufacturing. We are fueled by a passion for innovation, motivating us to design better tools, better processes and creative solutions to our customers' machining needs.

We look forward to being of service to you and your team.



James R. Graham, President/Owner



# Catalog Offering

AL2 & AL2-RN		Page 9	<b>2 Flute End Mill for Non-Ferrous Applications</b> Hard Carbon Coated & Uncoated Options
AL3 & AL3-RN		Page 18	<b>3 Flute End Mill for Non-Ferrous Applications</b> Hard Carbon Coated & Uncoated Options
AL3-CB		Page 29	<b>3 Flute Rougher for Non-Ferrous Applications</b> Staggered Chipbreakers, Coated & Uncoated
QTR3		Page 31	<b>3 Flute for Non-Ferrous &amp; Ferrous Applications</b> Miniature on 1/4" Shank, Alcrona Pro Coated, Variable Helix
VST4 & VST4-RN		Page 34	<b>4 Flute End Mill for Ferrous Applications</b> Latuma Coated, Variable Pitch
VST4-CB		Page 45	<b>4 Flute Rougher for Ferrous Applications</b> Staggered Chipbreakers, Latuma Coated, Variable Pitch
FEM5		Page 47	<b>5 Flute Finisher for Ferrous Applications</b> Latuma Coated, Square End Finisher
VST5 & VST5-RN		Page 49	<b>5 Flute End Mill for Ferrous Applications</b> Alcrona Pro Coated, Variable Pitch
VST5-CB		Page 60	<b>5 Flute Rougher for Ferrous Applications</b> Staggered Chipbreakers, Alcrona Pro Coated, Variable Pitch
VMF		Page 62	<b>Multi-Flute End Mill for Ferrous Applications</b> C-Max Coated, High Speed, Variable Pitch
VMF-CB		Page 64	<b>Multi-Flute Rougher for Ferrous Applications</b> Staggered Chipbreakers, C-Max Coated, Variable Pitch
CMS		Page 66	<b>Straight Flute 60°, 90° &amp; 120° Chamfer Mill</b> Alcrona Pro Coated, 2 & 4 Flute Options
CMH		Page 68	<b>Helical Flute 60°, 82°, 90°, 100° &amp; 120° Chamfer Mill</b> Alcrona Pro Coated, 2, 3 & 5 Flute Options

# A Guide to Tool Coatings

## Hard Carbon



A thin, dark black, smooth coating with a high hardness level. Hard Carbon's properties make it ideal for machining aluminum and other non-ferrous metals, while providing exceptional wear protection and allowing the tool to maintain a sharper cutting edge. Known as a DLC (Diamond Like Coating), Hard Carbon has a high thermal stability resulting in longer tool life.

## Latuma



Dark grey in appearance, this coating has a high aluminum content, allowing superior oxidation resistance and hot hardness. Latuma is ideal for wet and dry machining of ferrous metals, and is designed to allow for higher cutting speeds and feed rates.

## Alcrona Pro



Light grey in appearance, Alcrona Pro has a modified layer structure that allows for a broad range of applications. This versatile coating provides excellent wear resistance, thermal shock stability and hot hardness. Ideal for both wet and dry machining, Alcrona Pro is designed for high cutting speeds in ferrous metals.

## C-Max



Dark grey with violet gradations, this coating provides optimum adhesion with a superior smooth finish, two key factors in optimizing edge strength. Used in high temperature applications on ferrous and hardened metals, C-Max maintains high thermal shock stability and wear protection that surpasses the competition. This proprietary Silicon infused coating is proven for durability and extended tool life.

# Our Capabilities



Core Cutter is proud to offer a wide variety of carbide cutting tool services including, but not limited to: Design, Manufacture, Inspection, Edge Preparation, Tool Coatings and more. We are confident our tooling will exceed your expectations and improve productivity by reducing cycle time and increasing tool life. We design all of our products to perform at the highest level of machining in all applications. We specialize in quick deliveries on all standard, reconditioned and custom-made tooling.

## Machinery:

### CNC 5-Axis Tool & Cutter Grinders:

- Walter Visions w/ Loaders
- Walter Powers w/ Loaders
- Schneeberger Gemini



## Edge Preparation:

BelAir Drag Finishing Machines





### Laser Marking:

Cobalt Dominator

### Manual / NC Grinders:

Super Tec Cylindrical

Myford Cylindrical

#2 Cincinnati Grinders

Harig Surface Grinders

Tru-Tech Revolution Grinder

### Inspection Equipment:

Walter Helicheck Pro

Flexbar Video Inspection

Jones & Lamson PC-14

Optical Comparators

Mitutoyo Optical  
Comparator



### Coatings:

We use Oerlikon Balzers® for all tool coatings. With pick up and drop off services every Monday, Wednesday and Friday, the turnaround for coated tools is convenient and fast. Our primary coating offerings are BALINIT ALCRONA PRO™ (Alcrona Pro), BALINIT LATUMA™ (Latuma, traditionally known as AlTiN) for ferrous materials, and BALINIT HARD CARBON™ (Hard Carbon) for non-ferrous materials. We are excited to offer the new C-MAX Coating, designed for the toughest milling applications. C-MAX now comes standard on our VMF Series End Mills.

# Custom-Made Tooling

At Core Cutter, we understand that timing is everything. In this fast-paced industry, we pull ahead of the competition with our **quick turnaround** of custom-made tooling. From end mills, drills and form tools, to dovetails, countersinks and reamers, we specialize in top quality, high performance carbide tooling of all shapes and sizes.

**Need assistance with a specific application?** Our engineers are experienced in recommending, designing and building a variety of custom tailored tools to meet your machining needs. We are qualified to help you step by step through the troubleshooting, designing and manufacturing processes.

**Need it fast?** We are committed to providing the fastest possible deliveries, leading the industry in on-time order fulfillment. Custom-made tooling is quoted same day, whenever possible, eliminating unnecessary or lengthy manufacturing delays.

**Guaranteed top quality.** We are driven by our passion for excellence in all areas of tool manufacturing. We strictly use high quality carbide material, superior industry coatings and proven finishing processes, ensuring you always receive an exceptional, high performance product.





# Tool Reconditioning & Modifications

We understand the importance of tool **value and cost savings**. One of the best ways to reduce machining costs is to recondition your used carbide tooling. However, it is essential to ensure that all of your reconditioned tooling maintains the same high quality performance and repeatability that you need. At Core Cutter, we provide factory reconditioning that will hold up to your most stringent demands.

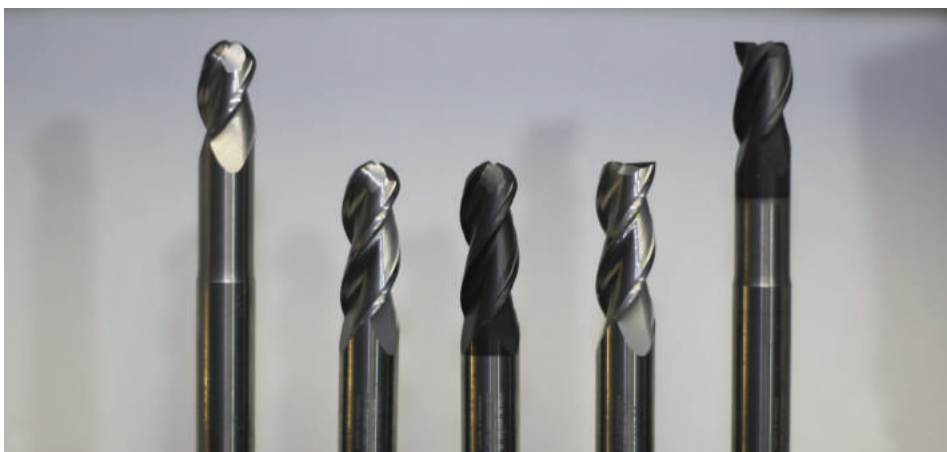
## Looking for quality reconditioning?

Tool performance is our number one priority. We condition your tooling to the original manufacturer specifications and extend tool life with our edge prep process and superior industry coatings.

## Need a modified tool?

Whether you are adding a corner radius, Weldon flat, or a custom alteration, let Core Cutter assist you in providing precision modified tooling that will stand up in the toughest applications.

**Need it fast?** We know that in order for you to be successful, you need to receive your reconditioned tooling as quickly as possible. We have created an easy-to-use standard tool reconditioning order form, in order to expedite the requisition process. In addition, we have dedicated on-site machinery, reserved for reconditioned and modified tooling as a priority. We are committed to providing the fastest deliveries possible to ensure that you always have what you need.



Standard Catalog Offering

# Non-Ferrous AL2 & AL2-RN Series



## SERIES: AL2

### 2 Flute, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1/8"	1/8	1/4	1 1/2	2	SQ	AL2-S-0125-SQ	A	210000	A	210001
	1/8	1/4	1 1/2	2	0.015	AL2-S-0125-R015	A	210010	A	210011
	1/8	1/4	1 1/2	2	0.063	AL2-S-0125-R063 (BALL)	A	210040	A	210041
	1/8	3/8	2	2	SQ	AL2-SR-0125-SQ	A	210100	A	210101
	1/8	3/8	2	2	0.015	AL2-SR-0125-R015	B	210110	D	210111
	1/8	3/8	2	2	0.063	AL2-SR-0125-R063 (BALL)	A	210140	A	210141
	1/8	1/2	2 1/2	2	SQ	AL2-R-0125-SQ	A	210200	A	210201
	1/8	1/2	2 1/2	2	0.015	AL2-R-0125-R015	B	210210	D	210211
1/8	1/2	2 1/2	2	0.063	AL2-R-0125-R063 (BALL)	A	210240	A	210241	
3/16"	3/16	5/16	2	2	SQ	AL2-S-0187-SQ	A	200000	A	200001
	3/16	5/16	2	2	0.015	AL2-S-0187-R015	B	200010	D	200011
	3/16	5/16	2	2	0.094	AL2-S-0187-R094 (BALL)	A	200040	A	200041
	3/16	7/16	2	2	SQ	AL2-SR-0187-SQ	B	200100	D	200101
	3/16	7/16	2	2	0.015	AL2-SR-0187-R015	B	200110	D	200111
	3/16	7/16	2	2	0.094	AL2-SR-0187-R094 (BALL)	A	200140	A	200141
	3/16	9/16	2 1/2	2	SQ	AL2-R-0187-SQ	A	200200	A	200201
	3/16	9/16	2 1/2	2	0.015	AL2-R-0187-R015	B	200210	D	200211
3/16	9/16	2 1/2	2	0.094	AL2-R-0187-R094 (BALL)	A	200240	A	200241	
1/4"	1/4	3/8	2	2	SQ	AL2-S-0250-SQ	A	201000	A	201001
	1/4	3/8	2	2	0.015	AL2-S-0250-R015	B	201010	D	201011
	1/4	3/8	2	2	0.030	AL2-S-0250-R030	B	201020	D	201021
	1/4	3/8	2	2	0.060	AL2-S-0250-R060	B	201030	D	201031
	1/4	3/8	2	2	BALL	AL2-S-0250-R125 (BALL)	A	201040	A	201041
	1/4	1/2	2 1/2	2	SQ	AL2-SR-0250-SQ	A	201100	A	201101
	1/4	1/2	2 1/2	2	0.015	AL2-SR-0250-R015	B	201110	D	201111
	1/4	1/2	2 1/2	2	0.030	AL2-SR-0250-R030	B	201120	D	201121
	1/4	1/2	2 1/2	2	0.060	AL2-SR-0250-R060	B	201130	D	201131
	1/4	1/2	2 1/2	2	BALL	AL2-SR-0250-R125 (BALL)	A	201140	A	201141
	1/4	3/4	2 1/2	2	SQ	AL2-R-0250-SQ	A	201200	A	201201
	1/4	3/4	2 1/2	2	0.015	AL2-R-0250-R015	B	201210	D	201211
	1/4	3/4	2 1/2	2	0.030	AL2-R-0250-R030	B	201220	D	201221
	1/4	3/4	2 1/2	2	0.060	AL2-R-0250-R060	B	201230	D	201231
	1/4	3/4	2 1/2	2	BALL	AL2-R-0250-R125 (BALL)	A	201240	A	201241
	1/4	1 1/4	3	2	SQ	AL2-M-0250-SQ	A	201300	A	201301
1/4	1 1/4	3	2	0.015	AL2-M-0250-R015	A	201310	A	201311	
1/4	1 1/4	3	2	0.030	AL2-M-0250-R030	A	201320	A	201321	
1/4	1 1/4	3	2	0.060	AL2-M-0250-R060	A	201330	A	201331	
1/4	1 1/4	3	2	BALL	AL2-M-0250-R125 (BALL)	A	201340	A	201341	
5/16"	5/16	1/2	2	2	SQ	AL2-SR-0312-SQ	A	202100	A	202101
	5/16	1/2	2	2	0.015	AL2-SR-0312-R015	B	202110	D	202111
	5/16	1/2	2	2	0.030	AL2-SR-0312-R030	B	202120	D	202121
	5/16	1/2	2	2	BALL	AL2-SR-0312-R157 (BALL)	A	202140	A	202141
	5/16	3/4	2 1/2	2	SQ	AL2-R-0312-SQ	A	202200	A	202201
	5/16	3/4	2 1/2	2	0.015	AL2-R-0312-R015	B	202210	D	202211
	5/16	3/4	2 1/2	2	0.030	AL2-R-0312-R030	B	202220	D	202221
	5/16	3/4	2 1/2	2	BALL	AL2-R-0312-R157 (BALL)	A	202240	A	202241
	5/16	1 1/4	3	2	SQ	AL2-M-0312-SQ	A	202300	A	202301
	5/16	1 1/4	3	2	0.015	AL2-M-0312-R015	B	202310	D	202311
5/16	1 1/4	3	2	0.030	AL2-M-0312-R030	B	202320	D	202321	
5/16	1 1/4	3	2	BALL	AL2-M-0312-R157 (BALL)	A	202340	A	202341	
3/8"	3/8	1/2	2	2	SQ	AL2-S-0375-SQ	A	203000	A	203001
	3/8	1/2	2	2	0.015	AL2-S-0375-R015	B	203010	D	203011
	3/8	1/2	2	2	0.030	AL2-S-0375-R030	B	203020	D	203021
	3/8	1/2	2	2	0.060	AL2-S-0375-R060	B	203030	D	203031
	3/8	1/2	2	2	BALL	AL2-S-0375-R188 (BALL)	A	203040	A	203041

## SERIES: AL2

### 2 Flute, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
3/8"	3/8	3/4	2 1/2	2	SQ	AL2-SR-0375-SQ	B	203100	D	203101
	3/8	3/4	2 1/2	2	0.015	AL2-SR-0375-R015	B	203110	D	203111
	3/8	3/4	2 1/2	2	0.030	AL2-SR-0375-R030	B	203120	D	203121
	3/8	3/4	2 1/2	2	0.060	AL2-SR-0375-R060	B	203130	D	203131
	3/8	3/4	2 1/2	2	BALL	AL2-SR-0375-R188 (BALL)	B	203140	D	203141
	3/8	7/8	3	2	SQ	AL2-SP-0375-SQ	B	293200	D	293201
	3/8	7/8	3	2	0.015	AL2-SP-0375-R015	B	293210	D	293211
	3/8	7/8	3	2	0.030	AL2-SP-0375-R030	B	293220	D	293221
	3/8	7/8	3	2	0.060	AL2-SP-0375-R060	B	293230	D	293231
	3/8	7/8	3	2	BALL	AL2-SP-0375-R188 (BALL)	B	293240	D	293241
	3/8	1	3	2	SQ	AL2-R-0375-SQ	A	203200	A	203201
	3/8	1	3	2	0.015	AL2-R-0375-R015	A	203210	A	203211
	3/8	1	3	2	0.030	AL2-R-0375-R030	B	203220	D	203221
	3/8	1	3	2	0.060	AL2-R-0375-R060	B	203230	D	203231
	3/8	1	3	2	BALL	AL2-R-0375-R188 (BALL)	A	203240	A	203241
	3/8	1 1/4	3	2	SQ	AL2-M-0375-SQ	B	203300	D	203301
	3/8	1 1/4	3	2	0.015	AL2-M-0375-R015	B	203310	D	203311
	3/8	1 1/4	3	2	0.030	AL2-M-0375-R030	B	203320	D	203321
	3/8	1 1/4	3	2	0.060	AL2-M-0375-R060	B	203330	D	203331
	3/8	1 1/4	3	2	BALL	AL2-M-0375-R188 (BALL)	A	203340	A	203341
3/8	1 1/2	4	2	SQ	AL2-L-0375-SQ	A	203400	A	203401	
3/8	1 1/2	4	2	0.015	AL2-L-0375-R015	A	203410	A	203411	
3/8	1 1/2	4	2	0.030	AL2-L-0375-R030	B	203420	D	203421	
3/8	1 1/2	4	2	0.060	AL2-L-0375-R060	B	203430	D	203431	
3/8	1 1/2	4	2	BALL	AL2-L-0375-R188 (BALL)	B	203440	D	203441	
1/2"	1/2	5/8	2 1/2	2	SQ	AL2-S-0500-SQ	A	205000	A	205001
	1/2	5/8	2 1/2	2	0.015	AL2-S-0500-R015	B	205010	D	205011
	1/2	5/8	2 1/2	2	0.030	AL2-S-0500-R030	A	205020	A	205021
	1/2	5/8	2 1/2	2	0.060	AL2-S-0500-R060	B	205030	D	205031
	1/2	5/8	2 1/2	2	0.125	AL2-S-0500-R125	B	205040	D	205041
	1/2	5/8	2 1/2	2	BALL	AL2-S-0500-R250 (BALL)	A	205050	A	205051
	1/2	1	3	2	SQ	AL2-SR-0500-SQ	A	205100	A	205101
	1/2	1	3	2	0.015	AL2-SR-0500-R015	B	205110	D	205111
	1/2	1	3	2	0.030	AL2-SR-0500-R030	A	205120	A	205121
	1/2	1	3	2	0.060	AL2-SR-0500-R060	B	205130	D	205131
	1/2	1	3	2	0.125	AL2-SR-0500-R125	B	205140	D	205141
	1/2	1	3	2	BALL	AL2-SR-0500-R250 (BALL)	B	205150	D	205151
	1/2	1 1/4	3	2	SQ	AL2-R-0500-SQ	A	205200	A	205201
	1/2	1 1/4	3	2	0.015	AL2-R-0500-R015	A	205210	A	205211
	1/2	1 1/4	3	2	0.030	AL2-R-0500-R030	A	205220	A	205221
	1/2	1 1/4	3	2	0.060	AL2-R-0500-R060	A	205230	A	205231
	1/2	1 1/4	3	2	0.125	AL2-R-0500-R125	A	205240	A	205241
	1/2	1 1/4	3	2	BALL	AL2-R-0500-R250 (BALL)	A	205250	A	205251
	1/2	1 1/2	4	2	SQ	AL2-M-0500-SQ	A	205300	A	205301
	1/2	1 1/2	4	2	0.015	AL2-M-0500-R015	B	205310	D	205311
	1/2	1 1/2	4	2	0.030	AL2-M-0500-R030	B	205320	D	205321
	1/2	1 1/2	4	2	0.060	AL2-M-0500-R060	B	205330	D	205331
	1/2	1 1/2	4	2	0.125	AL2-M-0500-R125	B	205340	D	205341
	1/2	1 1/2	4	2	BALL	AL2-M-0500-R250 (BALL)	B	205350	D	205351
	1/2	1 5/8	4	2	SQ	AL2-SP-0500-SQ	A	295300	A	295301
	1/2	1 5/8	4	2	0.015	AL2-SP-0500-R015	A	295310	A	295311
	1/2	1 5/8	4	2	0.030	AL2-SP-0500-R030	A	295320	A	295321
	1/2	1 5/8	4	2	0.060	AL2-SP-0500-R060	A	295330	A	295331
1/2	1 5/8	4	2	0.125	AL2-SP-0500-R125	A	295340	A	295341	
1/2	1 5/8	4	2	BALL	AL2-SP-0500-R250 (BALL)	A	295350	A	295351	

# SERIES: AL2

## 2 Flute, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1/2"	1/2	2	4	2	SQ	AL2-L-0500-SQ	A	205400	A	205401
	1/2	2	4	2	0.015	AL2-L-0500-R015	B	205410	D	205411
	1/2	2	4	2	0.030	AL2-L-0500-R030	B	205420	D	205421
	1/2	2	4	2	0.060	AL2-L-0500-R060	B	205430	D	205431
	1/2	2	4	2	0.125	AL2-L-0500-R125	B	205440	D	205441
	1/2	2	4	2	BALL	AL2-L-0500-R250 (BALL)	B	205450	D	205451
5/8"	5/8	3/4	3	2	SQ	AL2-S-0625-SQ	B	206000	D	206001
	5/8	3/4	3	2	0.030	AL2-S-0625-R030	B	206010	D	206011
	5/8	3/4	3	2	0.060	AL2-S-0625-R060	B	206020	D	206021
	5/8	3/4	3	2	0.125	AL2-S-0625-R125	B	206030	D	206031
	5/8	3/4	3	2	BALL	AL2-S-0625-R313 (BALL)	A	206040	A	206041
	5/8	1 1/4	3 1/2	2	SQ	AL2-SR-0625-SQ	A	206100	A	206101
	5/8	1 1/4	3 1/2	2	0.030	AL2-SR-0625-R030	B	206110	D	206111
	5/8	1 1/4	3 1/2	2	0.060	AL2-SR-0625-R060	B	206120	D	206121
	5/8	1 1/4	3 1/2	2	0.125	AL2-SR-0625-R125	B	206130	D	206131
	5/8	1 1/4	3 1/2	2	BALL	AL2-SR-0625-R313 (BALL)	B	206140	D	206141
	5/8	1 1/2	3 1/2	2	SQ	AL2-R-0625-SQ	A	206200	A	206201
	5/8	1 1/2	3 1/2	2	0.030	AL2-R-0625-R030	B	206210	D	206211
	5/8	1 1/2	3 1/2	2	0.060	AL2-R-0625-R060	B	206220	D	206221
	5/8	1 1/2	3 1/2	2	0.125	AL2-R-0625-R125	B	206230	D	206231
	5/8	1 1/2	3 1/2	2	BALL	AL2-R-0625-R313 (BALL)	A	206240	A	206241
	5/8	1 5/8	3 1/2	2	SQ	AL2-SP-0625-SQ	B	296200	D	296201
	5/8	1 5/8	3 1/2	2	0.030	AL2-SP-0625-R030	B	296210	D	296211
	5/8	1 5/8	3 1/2	2	0.060	AL2-SP-0625-R060	B	296220	D	296221
	5/8	1 5/8	3 1/2	2	0.125	AL2-SP-0625-R125	B	296230	D	296231
	5/8	1 5/8	3 1/2	2	BALL	AL2-SP-0625-R313 (BALL)	A	296240	A	296241
	5/8	2	4	2	SQ	AL2-M-0625-SQ	A	206300	A	206301
	5/8	2	4	2	0.030	AL2-M-0625-R030	B	206310	D	206311
	5/8	2	4	2	0.060	AL2-M-0625-R060	B	206320	D	206321
	5/8	2	4	2	0.125	AL2-M-0625-R125	B	206330	D	206331
5/8	2	4	2	BALL	AL2-M-0625-R313 (BALL)	B	206340	D	206341	
5/8	2 1/2	5	2	SQ	AL2-L-0625-SQ	B	206400	D	206401	
5/8	2 1/2	5	2	0.030	AL2-L-0625-R030	B	206410	D	206411	
5/8	2 1/2	5	2	0.060	AL2-L-0625-R060	B	206420	D	206421	
5/8	2 1/2	5	2	0.125	AL2-L-0625-R125	B	206430	D	206431	
5/8	2 1/2	5	2	BALL	AL2-L-0625-R313 (BALL)	B	206440	D	206441	
3/4"	3/4	1	3	2	SQ	AL2-S-0750-SQ	A	207000	A	207001
	3/4	1	3	2	0.030	AL2-S-0750-R030	B	207010	D	207011
	3/4	1	3	2	0.060	AL2-S-0750-R060	B	207020	D	207021
	3/4	1	3	2	0.125	AL2-S-0750-R125	B	207030	D	207031
	3/4	1	3	2	BALL	AL2-S-0750-R375 (BALL)	A	207040	A	207041
	3/4	1 1/2	4	2	SQ	AL2-SR-0750-SQ	A	207100	A	207101
	3/4	1 1/2	4	2	0.030	AL2-SR-0750-R030	B	207110	D	207111
	3/4	1 1/2	4	2	0.060	AL2-SR-0750-R060	B	207120	D	207121
	3/4	1 1/2	4	2	0.125	AL2-SR-0750-R125	B	207130	D	207131
	3/4	1 1/2	4	2	BALL	AL2-SR-0750-R375 (BALL)	A	207140	A	207141
	3/4	1 5/8	4	2	SQ	AL2-SP-0750-SQ	A	297100	A	297101
	3/4	1 5/8	4	2	0.030	AL2-SP-0750-R030	B	297110	D	297111
	3/4	1 5/8	4	2	0.060	AL2-SP-0750-R060	B	297120	D	297121
	3/4	1 5/8	4	2	0.125	AL2-SP-0750-R125	B	297130	D	297131
	3/4	1 5/8	4	2	BALL	AL2-SP-0750-R375 (BALL)	B	297140	D	297141
	3/4	2	5	2	SQ	AL2-R-0750-SQ	A	207200	A	207201
	3/4	2	5	2	0.030	AL2-R-0750-R030	B	207210	D	207211
	3/4	2	5	2	0.060	AL2-R-0750-R060	B	207220	D	207221
3/4	2	5	2	0.125	AL2-R-0750-R125	B	207230	D	207231	
3/4	2	5	2	BALL	AL2-R-0750-R375 (BALL)	A	207240	A	207241	

## SERIES: AL2

### 2 Flute, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
3/4"	3/4	2 1/2	5	2	SQ	AL2-M-0750-SQ	A	207300	A	207301
	3/4	2 1/2	5	2	0.030	AL2-M-0750-R030	B	207310	D	207311
	3/4	2 1/2	5	2	0.060	AL2-M-0750-R060	B	207320	D	207321
	3/4	2 1/2	5	2	0.125	AL2-M-0750-R125	A	207330	A	207331
	3/4	2 1/2	5	2	BALL	AL2-M-0750-R375 (BALL)	B	207340	D	207341
	3/4	3	6	2	SQ	AL2-L-0750-SQ	B	207400	D	207401
	3/4	3	6	2	0.030	AL2-L-0750-R030	B	207410	D	207411
	3/4	3	6	2	0.060	AL2-L-0750-R060	B	207420	D	207421
	3/4	3	6	2	0.125	AL2-L-0750-R125	B	207430	D	207431
3/4	3	6	2	BALL	AL2-L-0750-R375 (BALL)	B	207440	D	207441	
1"	1	1 3/4	4	2	SQ	AL2-SR-1000-SQ	B	208100	D	208101
	1	1 3/4	4	2	0.030	AL2-SR-1000-R030	B	208110	D	208111
	1	1 3/4	4	2	0.060	AL2-SR-1000-R060	B	208120	D	208121
	1	1 3/4	4	2	0.125	AL2-SR-1000-R125	B	208130	D	208131
	1	1 3/4	4	2	BALL	AL2-SR-1000-R500 (BALL)	B	208140	D	208141
	1	2 1/2	5	2	SQ	AL2-R-1000-SQ	A	208200	A	208201
	1	2 1/2	5	2	0.030	AL2-R-1000-R030	B	208210	D	208211
	1	2 1/2	5	2	0.060	AL2-R-1000-R060	B	208220	D	208221
	1	2 1/2	5	2	0.125	AL2-R-1000-R125	B	208230	D	208231
	1	2 1/2	5	2	BALL	AL2-R-1000-R500 (BALL)	A	208240	A	208241
	1	3	6	2	SQ	AL2-M-1000-SQ	A	208300	A	208301
	1	3	6	2	0.030	AL2-M-1000-R030	B	208310	D	208311
	1	3	6	2	0.060	AL2-M-1000-R060	B	208320	D	208321
	1	3	6	2	0.125	AL2-M-1000-R125	B	208330	D	208331
	1	3	6	2	BALL	AL2-M-1000-R500 (BALL)	B	208340	D	208341
	1	3 1/2	6	2	SQ	AL2-L-1000-SQ	B	208400	D	208401
	1	3 1/2	6	2	0.030	AL2-L-1000-R030	B	208410	D	208411
	1	3 1/2	6	2	0.060	AL2-L-1000-R060	B	208420	D	208421
	1	3 1/2	6	2	0.125	AL2-L-1000-R125	B	208430	D	208431
	1	3 1/2	6	2	BALL	AL2-L-1000-R500 (BALL)	B	208440	D	208441

#### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

## SERIES: AL2-RN

### 2 Flute, Reduced Neck, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1/8"	1/8	3/16	2	2	SQ	1/2	AL2-RN-R-0125-SQ	C	210700	D	210701
	1/8	3/16	2	2	0.015	1/2	AL2-RN-R-0125-R015	C	210710	D	210711
	1/8	3/16	2	2	BALL	1/2	AL2-RN-R-0125-R063 (BALL)	C	210740	D	210741
	1/8	3/16	2 1/2	2	SQ	3/4	AL2-RN-M-0125-SQ	C	210800	D	210801
	1/8	3/16	2 1/2	2	0.015	3/4	AL2-RN-M-0125-R015	C	210810	D	210811
	1/8	3/16	2 1/2	2	BALL	3/4	AL2-RN-M-0125-R063 (BALL)	C	210840	D	210841
3/16"	3/16	1/4	2 1/2	2	SQ	1/2	AL2-RN-R-0187-SQ	C	200700	D	200701
	3/16	1/4	2 1/2	2	0.015	1/2	AL2-RN-R-0187-R015	C	200710	D	200711
	3/16	1/4	2 1/2	2	BALL	1/2	AL2-RN-R-0187-R094 (BALL)	C	200740	D	200741
	3/16	1/4	3	2	SQ	3/4	AL2-RN-M-0187-SQ	C	200800	D	200801
	3/16	1/4	3	2	0.015	3/4	AL2-RN-M-0187-R015	C	200810	D	200811
	3/16	1/4	3	2	BALL	3/4	AL2-RN-M-0187-R094 (BALL)	C	200840	D	200841
	3/16	1/4	3	2	SQ	1	AL2-RN-L-0187-SQ	C	200900	D	200901
1/4"	1/4	3/8	2 1/2	2	SQ	3/4	AL2-RN-S-0250-SQ	C	201600	D	201601
	1/4	3/8	2 1/2	2	0.015	3/4	AL2-RN-S-0250-R015	C	201610	D	201611
	1/4	3/8	2 1/2	2	0.030	3/4	AL2-RN-S-0250-R030	C	201620	D	201621
	1/4	3/8	2 1/2	2	0.060	3/4	AL2-RN-S-0250-R060	C	201630	D	201631
	1/4	3/8	2 1/2	2	BALL	3/4	AL2-RN-S-0250-R125 (BALL)	C	201640	D	201641
	1/4	3/8	3	2	SQ	1	AL2-RN-SR-0250-SQ	C	201600N	D	201601N
	1/4	3/8	3	2	0.015	1	AL2-RN-SR-0250-R015	C	201610N	D	201611N
	1/4	3/8	3	2	0.030	1	AL2-RN-SR-0250-R030	C	201620N	D	201621N
	1/4	3/8	3	2	0.060	1	AL2-RN-SR-0250-R060	C	201630N	D	201631N
	1/4	3/8	3	2	BALL	1	AL2-RN-SR-0250-R125 (BALL)	C	201640N	D	201641N
	1/4	3/8	4	2	SQ	1 1/4	AL2-RN-R-0250-SQ	A	201700	A	201701
	1/4	3/8	4	2	0.015	1 1/4	AL2-RN-R-0250-R015	B	201710	D	201711
	1/4	3/8	4	2	0.030	1 1/4	AL2-RN-R-0250-R030	B	201720	D	201721
	1/4	3/8	4	2	0.060	1 1/4	AL2-RN-R-0250-R060	B	201730	D	201731
	1/4	3/8	4	2	BALL	1 1/4	AL2-RN-R-0250-R125 (BALL)	A	201740	A	201741
	1/4	3/8	4	2	SQ	1 1/2	AL2-RN-SP-0250-SQ	C	201800	D	201801
	1/4	3/8	4	2	0.015	1 1/2	AL2-RN-SP-0250-R015	C	201810	D	201811
1/4	3/8	4	2	0.030	1 1/2	AL2-RN-SP-0250-R030	C	201820	D	201821	
1/4	3/8	4	2	0.060	1 1/2	AL2-RN-SP-0250-R060	C	201830	D	201831	
1/4	3/8	4	2	BALL	1 1/2	AL2-RN-SP-0250-R125 (BALL)	C	201840	D	201841	
5/16"	5/16	1/2	3	2	SQ	1 1/4	AL2-RN-SR-0312-SQ	C	202600N	D	202601N
	5/16	1/2	3	2	0.015	1 1/4	AL2-RN-SR-0312-R015	C	202610N	D	202611N
	5/16	1/2	3	2	0.030	1 1/4	AL2-RN-SR-0312-R030	C	202620N	D	202621N
	5/16	1/2	3	2	BALL	1 1/4	AL2-RN-SR-0312-R063 (BALL)	C	202640N	D	202641N
	5/16	1/2	4	2	SQ	2	AL2-RN-M-0312-SQ	C	202800	D	202801
	5/16	1/2	4	2	0.015	2	AL2-RN-M-0312-R015	C	202810	D	202811
	5/16	1/2	4	2	0.030	2	AL2-RN-M-0312-R030	C	202820	D	202821
3/8"	3/8	5/8	3	2	SQ	1 5/8	AL2-RN-SR-0375-SQ	C	203600N	D	203601N
	3/8	5/8	3	2	0.015	1 5/8	AL2-RN-SR-0375-R015	C	203610N	D	203611N
	3/8	5/8	3	2	0.030	1 5/8	AL2-RN-SR-0375-R030	C	203620N	D	203621N
	3/8	5/8	3	2	0.060	1 5/8	AL2-RN-SR-0375-R060	C	203630N	D	203631N
	3/8	5/8	3	2	BALL	1 5/8	AL2-RN-SR-0375-R188 (BALL)	C	203640N	D	203641N
	3/8	5/8	4	2	SQ	2	AL2-RN-R-0375-SQ	A	203700	A	203701
	3/8	5/8	4	2	0.015	2	AL2-RN-R-0375-R015	B	203710	D	203711
	3/8	5/8	4	2	0.030	2	AL2-RN-R-0375-R030	B	203720	D	203721
	3/8	5/8	4	2	0.060	2	AL2-RN-R-0375-R060	B	203730	D	203731
3/8	5/8	4	2	BALL	2	AL2-RN-R-0375-R188 (BALL)	A	203740	A	203741	

## SERIES: AL2-RN

2 Flute, Reduced Neck, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
3/8"	3/8	5/8	4	2	SQ	2 1/2	AL2-RN-M-0375-SQ	C	203800	D	203801
	3/8	5/8	4	2	0.015	2 1/2	AL2-RN-M-0375-R015	C	203810	D	203811
	3/8	5/8	4	2	0.030	2 1/2	AL2-RN-M-0375-R030	C	203820	D	203821
	3/8	5/8	4	2	0.060	2 1/2	AL2-RN-M-0375-R060	C	203830	D	203831
	3/8	5/8	4	2	BALL	2 1/2	AL2-RN-M-0375-R188 (BALL)	C	203840	D	203841
	3/8	5/8	4	2	SQ	3	AL2-RN-L-0375-SQ	C	203900	D	203901
	3/8	5/8	5	2	0.015	3	AL2-RN-L-0375-R015	C	203910	D	203911
	3/8	5/8	5	2	0.030	3	AL2-RN-L-0375-R030	C	203920	D	203921
	3/8	5/8	5	2	0.060	3	AL2-RN-L-0375-R060	C	203930	D	203931
3/8	5/8	5	2	BALL	3	AL2-RN-L-0375-R188 (BALL)	C	203940	D	203941	
1/2"	1/2	3/4	3	2	SQ	1 1/4	AL2-RN-S-0500-SQ	B	205600	D	205601
	1/2	3/4	3	2	0.015	1 1/4	AL2-RN-S-0500-R015	B	205610	D	205611
	1/2	3/4	3	2	0.030	1 1/4	AL2-RN-S-0500-R030	B	205620	D	205621
	1/2	3/4	3	2	0.060	1 1/4	AL2-RN-S-0500-R060	B	205630	D	205631
	1/2	3/4	3	2	0.125	1 1/4	AL2-RN-S-0500-R125	A	205640	A	205641
	1/2	3/4	3	2	BALL	1 1/4	AL2-RN-S-0500-R250 (BALL)	B	205650	D	205651
	1/2	3/4	3	2	SQ	1 3/4	AL2-RN-SR-0500-SQ	C	205600N	D	205601N
	1/2	3/4	3	2	0.015	1 3/4	AL2-RN-SR-0500-R015	C	205610N	D	205611N
	1/2	3/4	3	2	0.030	1 3/4	AL2-RN-SR-0500-R030	C	205620N	D	205621N
	1/2	3/4	3	2	0.060	1 3/4	AL2-RN-SR-0500-R060	C	205630N	D	205631N
	1/2	3/4	3	2	0.125	1 3/4	AL2-RN-SR-0500-R125	C	205640N	D	205641N
	1/2	3/4	3	2	BALL	1 3/4	AL2-RN-SR-0500-R250 (BALL)	C	205650N	D	205651N
	1/2	3/4	4	2	SQ	2	AL2-RN-R-0500-SQ	A	205700	A	205701
	1/2	3/4	4	2	0.015	2	AL2-RN-R-0500-R015	B	205710	D	205711
	1/2	3/4	4	2	0.030	2	AL2-RN-R-0500-R030	B	205720	D	205721
	1/2	3/4	4	2	0.060	2	AL2-RN-R-0500-R060	B	205730	D	205731
	1/2	3/4	4	2	0.125	2	AL2-RN-R-0500-R125	B	205740	D	205741
	1/2	3/4	4	2	BALL	2	AL2-RN-R-0500-R250 (BALL)	A	205750	A	205751
	1/2	3/4	4	2	SQ	2 1/4	AL2-RN-SP-0500-SQ	C	205700N	D	205701N
	1/2	3/4	4	2	0.015	2 1/4	AL2-RN-SP-0500-R015	C	205710N	D	205711N
	1/2	3/4	4	2	0.030	2 1/4	AL2-RN-SP-0500-R030	C	205720N	D	205721N
	1/2	3/4	4	2	0.060	2 1/4	AL2-RN-SP-0500-R060	C	205730N	D	205731N
	1/2	3/4	4	2	0.125	2 1/4	AL2-RN-SP-0500-R125	C	205740N	D	205741N
	1/2	3/4	4	2	BALL	2 1/4	AL2-RN-SP-0500-R250 (BALL)	C	205750N	D	205751N
	1/2	3/4	5	2	SQ	2 1/2	AL2-RN-M-0500-SQ	B	205800	D	205801
	1/2	3/4	5	2	0.015	2 1/2	AL2-RN-M-0500-R015	B	205810	D	205811
	1/2	3/4	5	2	0.030	2 1/2	AL2-RN-M-0500-R030	B	205820	D	205821
	1/2	3/4	5	2	0.060	2 1/2	AL2-RN-M-0500-R060	B	205830	D	205831
	1/2	3/4	5	2	0.125	2 1/2	AL2-RN-M-0500-R125	A	205840	A	205841
	1/2	3/4	5	2	BALL	2 1/2	AL2-RN-M-0500-R250 (BALL)	B	205850	D	205851
	1/2	3/4	6	2	SQ	3 1/2	AL2-RN-L-0500-SQ	B	205900	D	205901
	1/2	3/4	6	2	0.015	3 1/2	AL2-RN-L-0500-R015	B	205910	D	205911
	1/2	3/4	6	2	0.030	3 1/2	AL2-RN-L-0500-R030	B	205920	D	205921
1/2	3/4	6	2	0.060	3 1/2	AL2-RN-L-0500-R060	B	205930	D	205931	
1/2	3/4	6	2	0.125	3 1/2	AL2-RN-L-0500-R125	A	205940	A	205941	
1/2	3/4	6	2	BALL	3 1/2	AL2-RN-L-0500-R250 (BALL)	A	205950	A	205951	
5/8"	5/8	1	4	2	SQ	2	AL2-RN-R-0625-SQ	C	206700	D	206701
	5/8	1	4	2	0.030	2	AL2-RN-R-0625-R030	C	206710	D	206711
	5/8	1	4	2	0.060	2	AL2-RN-R-0625-R060	C	206720	D	206721
	5/8	1	4	2	0.125	2	AL2-RN-R-0625-R125	C	206730	D	206731
	5/8	1	4	2	BALL	2	AL2-RN-R-0625-R313 (BALL)	C	206740	D	206741
	5/8	1	5	2	SQ	2 1/2	AL2-RN-M-0625-SQ	B	206800	D	206801
	5/8	1	5	2	0.030	2 1/2	AL2-RN-M-0625-R030	B	206810	D	206811
	5/8	1	5	2	0.060	2 1/2	AL2-RN-M-0625-R060	B	206820	D	206821
	5/8	1	5	2	0.125	2 1/2	AL2-RN-M-0625-R125	B	206830	D	206831
5/8	1	5	2	BALL	2 1/2	AL2-RN-M-0625-R313 (BALL)	B	206840	D	206841	



## SERIES: AL2-RN

2 Flute, Reduced Neck, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
5/8"	5/8	1	5	2	SQ	3 1/2	AL2-RN-L-0625-SQ	C	206900	D	206901
	5/8	1	5	2	0.030	3 1/2	AL2-RN-L-0625-R030	C	206910	D	206911
	5/8	1	5	2	0.060	3 1/2	AL2-RN-L-0625-R060	C	206920	D	206921
	5/8	1	5	2	0.125	3 1/2	AL2-RN-L-0625-R125	C	206930	D	206931
	5/8	1	5	2	BALL	3 1/2	AL2-RN-L-0625-R313 (BALL)	C	206940	D	206941
3/4"	3/4	1 1/8	4	2	SQ	1 3/4	AL2-RN-SR-0750-SQ	C	207600N	D	207601N
	3/4	1 1/8	4	2	0.030	1 3/4	AL2-RN-SR-0750-R030	C	207610N	D	207611N
	3/4	1 1/8	4	2	0.060	1 3/4	AL2-RN-SR-0750-R060	C	207620N	D	207621N
	3/4	1 1/8	4	2	0.125	1 3/4	AL2-RN-SR-0750-R125	C	207630N	D	207631N
	3/4	1 1/8	4	2	BALL	1 3/4	AL2-RN-SR-0750-R375 (BALL)	C	207640N	D	207641N
	3/4	1 1/8	4	2	SQ	2	AL2-RN-R-0750-SQ	A	207700	A	207701
	3/4	1 1/8	4	2	0.030	2	AL2-RN-R-0750-R030	B	207710	D	207711
	3/4	1 1/8	4	2	0.060	2	AL2-RN-R-0750-R060	B	207720	D	207721
	3/4	1 1/8	4	2	0.125	2	AL2-RN-R-0750-R125	B	207730	D	207731
	3/4	1 1/8	4	2	BALL	2	AL2-RN-R-0750-R375 (BALL)	A	207740	A	207741
	3/4	1 1/8	5	2	SQ	2 1/2	AL2-RN-SP-0750-SQ	C	207700N	D	207701N
	3/4	1 1/8	5	2	0.030	2 1/2	AL2-RN-SP-0750-R030	C	207710N	D	207711N
	3/4	1 1/8	5	2	0.060	2 1/2	AL2-RN-SP-0750-R060	C	207720N	D	207721N
	3/4	1 1/8	5	2	0.125	2 1/2	AL2-RN-SP-0750-R125	C	207730N	D	207731N
	3/4	1 1/8	5	2	BALL	2 1/2	AL2-RN-SP-0750-R375 (BALL)	C	207740N	D	207741N
	3/4	1 1/8	6	2	SQ	3	AL2-RN-M-0750-SQ	B	207800	D	207801
	3/4	1 1/8	6	2	0.030	3	AL2-RN-M-0750-R030	B	207810	D	207811
	3/4	1 1/8	6	2	0.060	3	AL2-RN-M-0750-R060	B	207820	D	207821
	3/4	1 1/8	6	2	0.125	3	AL2-RN-M-0750-R125	A	207830	A	207831
	3/4	1 1/8	6	2	BALL	3	AL2-RN-M-0750-R375 (BALL)	B	207840	D	207841
3/4	1 1/8	6	2	SQ	4	AL2-RN-X-0750-SQ	C	207900N	D	207901N	
3/4	1 1/8	6	2	0.030	4	AL2-RN-X-0750-R030	C	207910N	D	207911N	
3/4	1 1/8	6	2	0.060	4	AL2-RN-X-0750-R060	C	207920N	D	207921N	
3/4	1 1/8	6	2	0.125	4	AL2-RN-X-0750-R125	C	207930N	D	207931N	
3/4	1 1/8	6	2	BALL	4	AL2-RN-X-0750-R375 (BALL)	C	207940N	D	207941N	
1"	1	1 1/2	5	2	SQ	2 1/2	AL2-RN-R-1000-SQ	A	208700	A	208701
	1	1 1/2	5	2	0.030	2 1/2	AL2-RN-R-1000-R030	B	208710	D	208711
	1	1 1/2	5	2	0.060	2 1/2	AL2-RN-R-1000-R060	B	208720	D	208721
	1	1 1/2	5	2	0.125	2 1/2	AL2-RN-R-1000-R125	B	208730	D	208731
	1	1 1/2	5	2	BALL	2 1/2	AL2-RN-R-1000-R500 (BALL)	A	208740	A	208741
	1	1 1/2	6	2	SQ	3 1/2	AL2-RN-M-1000-SQ	B	208800	D	208801
	1	1 1/2	6	2	0.030	3 1/2	AL2-RN-M-1000-R030	B	208810	D	208811
	1	1 1/2	6	2	0.060	3 1/2	AL2-RN-M-1000-R060	B	208820	D	208821
	1	1 1/2	6	2	0.125	3 1/2	AL2-RN-M-1000-R125	B	208830	D	208831
	1	1 1/2	6	2	BALL	3 1/2	AL2-RN-M-1000-R500 (BALL)	B	208840	D	208841
	1	1 1/2	7	2	SQ	4 1/2	AL2-RN-L-1000-SQ	C	208900	D	208901
	1	1 1/2	7	2	0.030	4 1/2	AL2-RN-L-1000-R030	C	208910	D	208911
	1	1 1/2	7	2	0.060	4 1/2	AL2-RN-L-1000-R060	C	208920	D	208921
	1	1 1/2	7	2	0.125	4 1/2	AL2-RN-L-1000-R125	C	208930	D	208931
1	1 1/2	7	2	BALL	4 1/2	AL2-RN-L-1000-R500 (BALL)	C	208940	D	208941	

Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

## SERIES: AL2-RN BLANKS

2 Flute, Un-Necked Blanks, LBS Necked to Size at Time of Order

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1/2"	1/2	3/4	7	2	SQ	Custom LBS	AL2-RN-7-0500-SQ	C	205700-BLK	D	205701-BLK
	1/2	3/4	7	2	0.015	Custom LBS	AL2-RN-7-0500-R015	C	205710-BLK	D	205711-BLK
	1/2	3/4	7	2	0.030	Custom LBS	AL2-RN-7-0500-R030	C	205720-BLK	D	205721-BLK
	1/2	3/4	7	2	0.060	Custom LBS	AL2-RN-7-0500-R060	C	205730-BLK	D	205731-BLK
	1/2	3/4	7	2	0.125	Custom LBS	AL2-RN-7-0500-R125	C	205740-BLK	D	205741-BLK
	1/2	3/4	7	2	BALL	Custom LBS	AL2-RN-7-0500-R250 (BALL)	C	205750-BLK	D	205751-BLK
	1/2	3/4	8	2	SQ	Custom LBS	AL2-RN-8-0500-SQ	C	205800-BLK	D	205801-BLK
	1/2	3/4	8	2	0.015	Custom LBS	AL2-RN-8-0500-R015	C	205810-BLK	D	205811-BLK
	1/2	3/4	8	2	0.030	Custom LBS	AL2-RN-8-0500-R030	C	205820-BLK	D	205821-BLK
	1/2	3/4	8	2	0.060	Custom LBS	AL2-RN-8-0500-R060	C	205830-BLK	D	205831-BLK
1/2	3/4	8	2	0.125	Custom LBS	AL2-RN-8-0500-R125	C	205840-BLK	D	205841-BLK	
1/2	3/4	8	2	BALL	Custom LBS	AL2-RN-8-0500-R250 (BALL)	C	205850-BLK	D	205851-BLK	
5/8"	5/8	1	7	2	SQ	Custom LBS	AL2-RN-7-0625-SQ	C	206700-BLK	D	206701-BLK
	5/8	1	7	2	0.030	Custom LBS	AL2-RN-7-0625-R030	C	206710-BLK	D	206711-BLK
	5/8	1	7	2	0.060	Custom LBS	AL2-RN-7-0625-R060	C	206720-BLK	D	206721-BLK
	5/8	1	7	2	0.125	Custom LBS	AL2-RN-7-0625-R125	C	206730-BLK	D	206731-BLK
	5/8	1	7	2	BALL	Custom LBS	AL2-RN-7-0625-R313 (BALL)	C	206740-BLK	D	206741-BLK
	5/8	1	8	2	SQ	Custom LBS	AL2-RN-8-0625-SQ	C	206800-BLK	D	206801-BLK
	5/8	1	8	2	0.030	Custom LBS	AL2-RN-8-0625-R030	C	206810-BLK	D	206811-BLK
	5/8	1	8	2	0.060	Custom LBS	AL2-RN-8-0625-R060	C	206820-BLK	D	206821-BLK
	5/8	1	8	2	0.125	Custom LBS	AL2-RN-8-0625-R125	C	206830-BLK	D	206831-BLK
5/8	1	8	2	BALL	Custom LBS	AL2-RN-8-0625-R313 (BALL)	C	206840-BLK	D	206841-BLK	
3/4"	3/4	1 1/8	7	2	SQ	Custom LBS	AL2-RN-7-0750-SQ	C	207700-BLK	D	207701-BLK
	3/4	1 1/8	7	2	0.030	Custom LBS	AL2-RN-7-0750-R030	C	207710-BLK	D	207711-BLK
	3/4	1 1/8	7	2	0.060	Custom LBS	AL2-RN-7-0750-R060	C	207720-BLK	D	207721-BLK
	3/4	1 1/8	7	2	0.125	Custom LBS	AL2-RN-7-0750-R125	C	207730-BLK	D	207731-BLK
	3/4	1 1/8	7	2	BALL	Custom LBS	AL2-RN-7-0750-R375 (BALL)	C	207740-BLK	D	207741-BLK
	3/4	1 1/8	8	2	SQ	Custom LBS	AL2-RN-8-0750-SQ	C	207800-BLK	D	207801-BLK
	3/4	1 1/8	8	2	0.030	Custom LBS	AL2-RN-8-0750-R030	C	207810-BLK	D	207811-BLK
	3/4	1 1/8	8	2	0.060	Custom LBS	AL2-RN-8-0750-R060	C	207820-BLK	D	207821-BLK
	3/4	1 1/8	8	2	0.125	Custom LBS	AL2-RN-8-0750-R125	C	207830-BLK	D	207831-BLK
3/4	1 1/8	8	2	BALL	Custom LBS	AL2-RN-8-0750-R375 (BALL)	C	207840-BLK	D	207841-BLK	
1"	1	1 1/2	7	2	SQ	Custom LBS	AL2-RN-7-1000-SQ	C	208700-BLK	D	208701-BLK
	1	1 1/2	7	2	0.030	Custom LBS	AL2-RN-7-1000-R030	C	208710-BLK	D	208711-BLK
	1	1 1/2	7	2	0.060	Custom LBS	AL2-RN-7-1000-R060	C	208720-BLK	D	208721-BLK
	1	1 1/2	7	2	0.125	Custom LBS	AL2-RN-7-1000-R125	C	208730-BLK	D	208731-BLK
	1	1 1/2	7	2	BALL	Custom LBS	AL2-RN-7-1000-R500 (BALL)	C	208740-BLK	D	208741-BLK
	1	1 1/2	8	2	SQ	Custom LBS	AL2-RN-8-1000-SQ	C	208800-BLK	D	208801-BLK
	1	1 1/2	8	2	0.030	Custom LBS	AL2-RN-8-1000-R030	C	208810-BLK	D	208811-BLK
	1	1 1/2	8	2	0.060	Custom LBS	AL2-RN-8-1000-R060	C	208820-BLK	D	208821-BLK
	1	1 1/2	8	2	0.125	Custom LBS	AL2-RN-8-1000-R125	C	208830-BLK	D	208831-BLK
1	1 1/2	8	2	BALL	Custom LBS	AL2-RN-8-1000-R500 (BALL)	C	208840-BLK	D	208841-BLK	

### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)



Standard Catalog Offering

# Non-Ferrous AL3 & AL3-RN Series



# SERIES: AL3

## 3 Flute, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1/8"	1/8	1/4	1 1/2	3	SQ	AL3-S-0125-SQ	A	310000	A	310001
	1/8	1/4	1 1/2	3	0.015	AL3-S-0125-R015	A	310010	A	310011
	1/8	1/4	1 1/2	3	0.063	AL3-S-0125-R063 (BALL)	A	310040	A	310041
	1/8	3/8	2	3	SQ	AL3-SR-0125-SQ	A	310100	A	310101
	1/8	3/8	2	3	0.015	AL3-SR-0125-R015	A	310110	A	310111
	1/8	3/8	2	3	0.063	AL3-SR-0125-R063 (BALL)	A	310140	A	310141
	1/8	1/2	2 1/2	3	SQ	AL3-R-0125-SQ	A	310200	A	310201
	1/8	1/2	2 1/2	3	0.015	AL3-R-0125-R015	A	310210	A	310211
1/8	1/2	2 1/2	3	0.063	AL3-R-0125-R063 (BALL)	A	310240	A	310241	
3/16"	3/16	5/16	2	3	SQ	AL3-S-0187-SQ	A	300000	A	300001
	3/16	5/16	2	3	0.015	AL3-S-0187-R015	A	300010	A	300011
	3/16	5/16	2	3	0.094	AL3-S-0187-R094 (BALL)	A	300040	A	300041
	3/16	7/16	2	3	SQ	AL3-SR-0187-SQ	A	300100	A	300101
	3/16	7/16	2	3	0.015	AL3-SR-0187-R015	A	300110	A	300111
	3/16	7/16	2	3	0.094	AL3-SR-0187-R094 (BALL)	A	300140	A	300141
	3/16	9/16	2 1/2	3	SQ	AL3-R-0187-SQ	A	300200	A	300201
	3/16	9/16	2 1/2	3	0.015	AL3-R-0187-R015	A	300210	A	300211
3/16	9/16	2 1/2	3	0.094	AL3-R-0187-R094 (BALL)	A	300240	A	300241	
1/4"	1/4	3/8	2	3	SQ	AL3-S-0250-SQ	A	301000	A	301001
	1/4	3/8	2	3	0.015	AL3-S-0250-R015	A	301010	A	301011
	1/4	3/8	2	3	0.030	AL3-S-0250-R030	A	301020	A	301021
	1/4	3/8	2	3	0.060	AL3-S-0250-R060	A	301030	A	301031
	1/4	3/8	2	3	BALL	AL3-S-0250-R125 (BALL)	A	301040	A	301041
	1/4	1/2	2 1/2	3	SQ	AL3-SR-0250-SQ	A	301100	A	301101
	1/4	1/2	2 1/2	3	0.015	AL3-SR-0250-R015	A	301110	A	301111
	1/4	1/2	2 1/2	3	0.030	AL3-SR-0250-R030	A	301120	A	301121
	1/4	1/2	2 1/2	3	0.060	AL3-SR-0250-R060	A	301130	A	301131
	1/4	1/2	2 1/2	3	BALL	AL3-SR-0250-R125 (BALL)	A	301140	A	301141
	1/4	3/4	2 1/2	3	SQ	AL3-R-0250-SQ	A	301200	A	301201
	1/4	3/4	2 1/2	3	0.015	AL3-R-0250-R015	A	301210	A	301211
	1/4	3/4	2 1/2	3	0.030	AL3-R-0250-R030	A	301220	A	301221
	1/4	3/4	2 1/2	3	0.060	AL3-R-0250-R060	A	301230	A	301231
	1/4	3/4	2 1/2	3	BALL	AL3-R-0250-R125 (BALL)	A	301240	A	301241
	1/4	1	3	3	SQ	AL3-SP-0250-SQ	C	391200	D	391201
	1/4	1	3	3	0.015	AL3-SP-0250-R015	C	391210	D	391211
	1/4	1	3	3	0.030	AL3-SP-0250-R030	C	391220	D	391221
	1/4	1	3	3	0.060	AL3-SP-0250-R060	C	391230	D	391231
	1/4	1	3	3	BALL	AL3-SP-0250-R125 (BALL)	C	391240	D	391241
1/4	1 1/4	3	3	SQ	AL3-M-0250-SQ	A	301300	A	301301	
1/4	1 1/4	3	3	0.015	AL3-M-0250-R015	A	301310	A	301311	
1/4	1 1/4	3	3	0.030	AL3-M-0250-R030	A	301320	A	301321	
1/4	1 1/4	3	3	0.060	AL3-M-0250-R060	A	301330	A	301331	
1/4	1 1/4	3	3	BALL	AL3-M-0250-R125 (BALL)	A	301340	A	301341	
5/16"	5/16	1/2	2	3	SQ	AL3-SR-0312-SQ	A	302100	A	302101
	5/16	1/2	2	3	0.015	AL3-SR-0312-R015	A	302110	A	302111
	5/16	1/2	2	3	0.030	AL3-SR-0312-R030	A	302120	A	302121
	5/16	1/2	2	3	BALL	AL3-SR-0312-R157 (BALL)	A	302140	A	302141
	5/16	3/4	2 1/2	3	SQ	AL3-R-0312-SQ	A	302200	A	302201
	5/16	3/4	2 1/2	3	0.015	AL3-R-0312-R015	A	302210	A	302211
	5/16	3/4	2 1/2	3	0.030	AL3-R-0312-R030	A	302220	A	302221
	5/16	3/4	2 1/2	3	BALL	AL3-R-0312-R157 (BALL)	A	302240	A	302241
	5/16	1 1/4	3	3	SQ	AL3-M-0312-SQ	A	302300	A	302301
	5/16	1 1/4	3	3	0.015	AL3-M-0312-R015	A	302310	A	302311
	5/16	1 1/4	3	3	0.030	AL3-M-0312-R030	A	302320	A	302321
5/16	1 1/4	3	3	BALL	AL3-M-0312-R157 (BALL)	A	302340	A	302341	

# SERIES: AL3

## 3 Flute, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
3/8"	3/8	1/2	2	3	SQ	AL3-S-0375-SQ	A	303000	A	303001
	3/8	1/2	2	3	0.015	AL3-S-0375-R015	A	303010	A	303011
	3/8	1/2	2	3	0.030	AL3-S-0375-R030	A	303020	A	303021
	3/8	1/2	2	3	0.060	AL3-S-0375-R060	A	303030	A	303031
	3/8	1/2	2	3	0.090	AL3-S-0375-R090	C	303035	C	303036
	3/8	1/2	2	3	BALL	AL3-S-0375-R188 (BALL)	A	303040	A	303041
	3/8	3/4	2 1/2	3	SQ	AL3-SR-0375-SQ	A	303100	A	303101
	3/8	3/4	2 1/2	3	0.015	AL3-SR-0375-R015	A	303110	A	303111
	3/8	3/4	2 1/2	3	0.030	AL3-SR-0375-R030	A	303120	A	303121
	3/8	3/4	2 1/2	3	0.060	AL3-SR-0375-R060	A	303130	A	303131
	3/8	3/4	2 1/2	3	0.090	AL3-SR-0375-R090	C	303135	C	303136
	3/8	3/4	2 1/2	3	BALL	AL3-SR-0375-R188 (BALL)	A	303140	A	303141
	3/8	7/8	3	3	SQ	AL3-SP-0375-SQ	A	393200	A	393201
	3/8	7/8	3	3	0.015	AL3-SP-0375-R015	A	393210	A	393211
	3/8	7/8	3	3	0.030	AL3-SP-0375-R030	A	393220	A	393221
	3/8	7/8	3	3	0.060	AL3-SP-0375-R060	A	393230	A	393231
	3/8	7/8	3	3	0.090	AL3-SP-0375-R090	C	393235	C	393236
	3/8	7/8	3	3	BALL	AL3-SP-0375-R188 (BALL)	A	393240	A	393241
	3/8	1	3	3	SQ	AL3-R-0375-SQ	A	303200	A	303201
	3/8	1	3	3	0.015	AL3-R-0375-R015	A	303210	A	303211
	3/8	1	3	3	0.030	AL3-R-0375-R030	A	303220	A	303221
	3/8	1	3	3	0.060	AL3-R-0375-R060	A	303230	A	303231
	3/8	1	3	3	0.090	AL3-R-0375-R090	C	303235	C	303236
	3/8	1	3	3	BALL	AL3-R-0375-R188 (BALL)	A	303240	A	303241
	3/8	1 1/4	3	3	SQ	AL3-M-0375-SQ	A	303300	A	303301
	3/8	1 1/4	3	3	0.015	AL3-M-0375-R015	A	303310	A	303311
	3/8	1 1/4	3	3	0.030	AL3-M-0375-R030	A	303320	A	303321
	3/8	1 1/4	3	3	0.060	AL3-M-0375-R060	A	303330	A	303331
	3/8	1 1/4	3	3	0.090	AL3-M-0375-R090	C	303335	C	303336
	3/8	1 1/4	3	3	BALL	AL3-M-0375-R188 (BALL)	A	303340	A	303341
3/8	1 1/2	4	3	SQ	AL3-L-0375-SQ	A	303400	A	303401	
3/8	1 1/2	4	3	0.015	AL3-L-0375-R015	A	303410	A	303411	
3/8	1 1/2	4	3	0.030	AL3-L-0375-R030	A	303420	A	303421	
3/8	1 1/2	4	3	0.060	AL3-L-0375-R060	A	303430	A	303431	
3/8	1 1/2	4	3	0.090	AL3-L-0375-R090	C	303435	C	303436	
3/8	1 1/2	4	3	BALL	AL3-L-0375-R188 (BALL)	A	303440	A	303441	
1/2"	1/2	5/8	2 1/2	3	SQ	AL3-S-0500-SQ	A	305000	A	305001
	1/2	5/8	2 1/2	3	0.015	AL3-S-0500-R015	A	305010	A	305011
	1/2	5/8	2 1/2	3	0.030	AL3-S-0500-R030	A	305020	A	305021
	1/2	5/8	2 1/2	3	0.060	AL3-S-0500-R060	A	305030	A	305031
	1/2	5/8	2 1/2	3	0.090	AL3-S-0500-R090	C	305035	D	305036
	1/2	5/8	2 1/2	3	0.125	AL3-S-0500-R125	A	305040	A	305041
	1/2	5/8	2 1/2	3	BALL	AL3-S-0500-R250 (BALL)	A	305050	A	305051
	1/2	1	3	3	SQ	AL3-SR-0500-SQ	A	305100	A	305101
	1/2	1	3	3	0.015	AL3-SR-0500-R015	A	305110	A	305111
	1/2	1	3	3	0.030	AL3-SR-0500-R030	A	305120	A	305121
	1/2	1	3	3	0.060	AL3-SR-0500-R060	A	305130	A	305131
	1/2	1	3	3	0.090	AL3-SR-0500-R090	C	305135	D	305136
	1/2	1	3	3	0.125	AL3-SR-0500-R125	A	305140	A	305141
	1/2	1	3	3	BALL	AL3-SR-0500-R250 (BALL)	A	305150	A	305151
	1/2	1 1/4	3	3	SQ	AL3-R-0500-SQ	A	305200	A	305201
	1/2	1 1/4	3	3	0.015	AL3-R-0500-R015	A	305210	A	305211
	1/2	1 1/4	3	3	0.030	AL3-R-0500-R030	A	305220	A	305221
	1/2	1 1/4	3	3	0.060	AL3-R-0500-R060	A	305230	A	305231
	1/2	1 1/4	3	3	0.090	AL3-R-0500-R090	C	305235	D	305236
	1/2	1 1/4	3	3	0.125	AL3-R-0500-R125	A	305240	A	305241
1/2	1 1/4	3	3	BALL	AL3-R-0500-R250 (BALL)	A	305250	A	305251	

## SERIES: AL3

### 3 Flute, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1/2"	1/2	1 1/2	4	3	SQ	AL3-M-0500-SQ	A	305300	A	305301
	1/2	1 1/2	4	3	0.015	AL3-M-0500-R015	A	305310	A	305311
	1/2	1 1/2	4	3	0.030	AL3-M-0500-R030	A	305320	A	305321
	1/2	1 1/2	4	3	0.060	AL3-M-0500-R060	A	305330	A	305331
	1/2	1 1/2	4	3	0.090	AL3-M-0500-R090	C	305335	D	305336
	1/2	1 1/2	4	3	0.125	AL3-M-0500-R125	A	305340	A	305341
	1/2	1 1/2	4	3	BALL	AL3-M-0500-R250 (BALL)	A	305350	A	305351
	1/2	1 5/8	4	3	SQ	AL3-SP-0500-SQ	A	395300	A	395301
	1/2	1 5/8	4	3	0.015	AL3-SP-0500-R015	A	395310	A	395311
	1/2	1 5/8	4	3	0.030	AL3-SP-0500-R030	A	395320	A	395321
	1/2	1 5/8	4	3	0.060	AL3-SP-0500-R060	A	395330	A	395331
	1/2	1 5/8	4	3	0.090	AL3-SP-0500-R090	C	395335	D	395336
	1/2	1 5/8	4	3	0.125	AL3-SP-0500-R125	A	395340	A	395341
	1/2	1 5/8	4	3	BALL	AL3-SP-0500-R250 (BALL)	A	395350	A	395351
	1/2	2	4	3	SQ	AL3-L-0500-SQ	A	305400	A	305401
	1/2	2	4	3	0.015	AL3-L-0500-R015	A	305410	A	305411
	1/2	2	4	3	0.030	AL3-L-0500-R030	A	305420	A	305421
	1/2	2	4	3	0.060	AL3-L-0500-R060	A	305430	A	305431
	1/2	2	4	3	0.090	AL3-L-0500-R090	C	305435	D	305436
	1/2	2	4	3	0.125	AL3-L-0500-R125	A	305440	A	305441
1/2	2	4	3	BALL	AL3-L-0500-R250 (BALL)	A	305450	A	305451	
5/8"	5/8	3/4	3	3	SQ	AL3-S-0625-SQ	A	306000	A	306001
	5/8	3/4	3	3	0.030	AL3-S-0625-R030	A	306010	A	306011
	5/8	3/4	3	3	0.060	AL3-S-0625-R060	A	306020	D	306021
	5/8	3/4	3	3	0.090	AL3-S-0625-R090	C	306025	D	306026
	5/8	3/4	3	3	0.125	AL3-S-0625-R125	A	306030	D	306031
	5/8	3/4	3	3	BALL	AL3-S-0625-R313 (BALL)	A	306040	A	306041
	5/8	1 1/4	3 1/2	3	SQ	AL3-SR-0625-SQ	A	306100	A	306101
	5/8	1 1/4	3 1/2	3	0.030	AL3-SR-0625-R030	A	306110	A	306111
	5/8	1 1/4	3 1/2	3	0.060	AL3-SR-0625-R060	A	306120	A	306121
	5/8	1 1/4	3 1/2	3	0.090	AL3-SR-0625-R090	C	306125	D	306126
	5/8	1 1/4	3 1/2	3	0.125	AL3-SR-0625-R125	A	306130	A	306131
	5/8	1 1/4	3 1/2	3	BALL	AL3-SR-0625-R313 (BALL)	A	306140	A	306141
	5/8	1 1/2	3 1/2	3	SQ	AL3-R-0625-SQ	A	306200	A	306201
	5/8	1 1/2	3 1/2	3	0.030	AL3-R-0625-R030	A	306210	A	306211
	5/8	1 1/2	3 1/2	3	0.060	AL3-R-0625-R060	A	306220	A	306221
	5/8	1 1/2	3 1/2	3	0.090	AL3-R-0625-R090	C	306225	D	306226
	5/8	1 1/2	3 1/2	3	0.125	AL3-R-0625-R125	A	306230	A	306231
	5/8	1 1/2	3 1/2	3	BALL	AL3-R-0625-R313 (BALL)	A	306240	A	306241
	5/8	1 5/8	3 1/2	3	SQ	AL3-SP-0625-SQ	A	396200	A	396201
	5/8	1 5/8	3 1/2	3	0.030	AL3-SP-0625-R030	A	396210	A	396211
	5/8	1 5/8	3 1/2	3	0.060	AL3-SP-0625-R060	A	396220	A	396221
	5/8	1 5/8	3 1/2	3	0.090	AL3-SP-0625-R090	C	396225	D	396226
	5/8	1 5/8	3 1/2	3	0.125	AL3-SP-0625-R125	A	396230	A	396231
	5/8	1 5/8	3 1/2	3	BALL	AL3-SP-0625-R313 (BALL)	A	396240	A	396241
	5/8	2	4	3	SQ	AL3-M-0625-SQ	A	306300	A	306301
	5/8	2	4	3	0.030	AL3-M-0625-R030	A	306310	A	306311
	5/8	2	4	3	0.060	AL3-M-0625-R060	A	306320	A	306321
	5/8	2	4	3	0.090	AL3-M-0625-R090	C	306325	D	306326
	5/8	2	4	3	0.125	AL3-M-0625-R125	A	306330	A	306331
	5/8	2	4	3	BALL	AL3-M-0625-R313 (BALL)	A	306340	A	306341
	5/8	2 1/2	5	3	SQ	AL3-L-0625-SQ	A	306400	A	306401
	5/8	2 1/2	5	3	0.030	AL3-L-0625-R030	A	306410	A	306411
5/8	2 1/2	5	3	0.060	AL3-L-0625-R060	A	306420	A	306421	
5/8	2 1/2	5	3	0.090	AL3-L-0625-R090	C	306425	D	306426	
5/8	2 1/2	5	3	0.125	AL3-L-0625-R125	B	306430	D	306431	
5/8	2 1/2	5	3	BALL	AL3-L-0625-R313 (BALL)	A	306440	A	306441	

# SERIES: AL3

## 3 Flute, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
3/4"	3/4	1	3	3	SQ	AL3-S-0750-SQ	A	307000	A	307001
	3/4	1	3	3	0.030	AL3-S-0750-R030	A	307010	A	307011
	3/4	1	3	3	0.060	AL3-S-0750-R060	A	307020	A	307021
	3/4	1	3	3	0.090	AL3-S-0750-R090	C	307025	D	307026
	3/4	1	3	3	0.125	AL3-S-0750-R125	A	307030	A	307031
	3/4	1	3	3	BALL	AL3-S-0750-R375 (BALL)	A	307040	A	307041
	3/4	1 1/2	4	3	SQ	AL3-SR-0750-SQ	A	307100	A	307101
	3/4	1 1/2	4	3	0.030	AL3-SR-0750-R030	A	307110	A	307111
	3/4	1 1/2	4	3	0.060	AL3-SR-0750-R060	A	307120	D	307121
	3/4	1 1/2	4	3	0.090	AL3-SR-0750-R090	C	307125	D	307126
	3/4	1 1/2	4	3	0.125	AL3-SR-0750-R125	A	307130	A	307131
	3/4	1 1/2	4	3	BALL	AL3-SR-0750-R375 (BALL)	A	307140	A	307141
	3/4	1 5/8	4	3	SQ	AL3-SP-0750-SQ	A	397100	A	397101
	3/4	1 5/8	4	3	0.030	AL3-SP-0750-R030	A	397110	A	397111
	3/4	1 5/8	4	3	0.060	AL3-SP-0750-R060	A	397120	A	397121
	3/4	1 5/8	4	3	0.090	AL3-SP-0750-R090	C	397125	D	397126
	3/4	1 5/8	4	3	0.125	AL3-SP-0750-R125	A	397130	A	397131
	3/4	1 5/8	4	3	BALL	AL3-SP-0750-R375 (BALL)	A	397140	A	397141
	3/4	2	5	3	SQ	AL3-R-0750-SQ	A	307200	A	307201
	3/4	2	5	3	0.030	AL3-R-0750-R030	A	307210	A	307211
	3/4	2	5	3	0.060	AL3-R-0750-R060	A	307220	A	307221
	3/4	2	5	3	0.090	AL3-R-0750-R090	C	307225	D	307226
	3/4	2	5	3	0.125	AL3-R-0750-R125	A	307230	A	307231
	3/4	2	5	3	BALL	AL3-R-0750-R375 (BALL)	A	307240	A	307241
	3/4	2 1/2	5	3	SQ	AL3-M-0750-SQ	A	307300	A	307301
	3/4	2 1/2	5	3	0.030	AL3-M-0750-R030	A	307310	A	307311
	3/4	2 1/2	5	3	0.060	AL3-M-0750-R060	A	307320	A	307321
	3/4	2 1/2	5	3	0.090	AL3-M-0750-R090	C	307325	D	307326
	3/4	2 1/2	5	3	0.125	AL3-M-0750-R125	A	307330	A	307331
	3/4	2 1/2	5	3	BALL	AL3-M-0750-R375 (BALL)	A	307340	A	307341
3/4	3	6	3	SQ	AL3-L-0750-SQ	A	307400	A	307401	
3/4	3	6	3	0.030	AL3-L-0750-R030	A	307410	A	307411	
3/4	3	6	3	0.060	AL3-L-0750-R060	A	307420	A	307421	
3/4	3	6	3	0.090	AL3-L-0750-R090	C	307425	D	307426	
3/4	3	6	3	0.125	AL3-L-0750-R125	A	307430	A	307431	
3/4	3	6	3	BALL	AL3-L-0750-R375 (BALL)	A	307440	A	307441	
1"	1	1 3/4	4	3	SQ	AL3-SR-1000-SQ	AL3	308100	A	308101
	1	1 3/4	4	3	0.030	AL3-SR-1000-R030	AL3	308110	A	308111
	1	1 3/4	4	3	0.060	AL3-SR-1000-R060	AL3	308120	A	308121
	1	1 3/4	4	3	0.090	AL3-SR-1000-R090	AL3	308125	D	308126
	1	1 3/4	4	3	0.125	AL3-SR-1000-R125	AL3	308130	A	308131
	1	1 3/4	4	3	BALL	AL3-SR-1000-R500 (BALL)	AL3	308140	A	308141
	1	2 1/2	5	3	SQ	AL3-R-1000-SQ	AL3	308200	A	308201
	1	2 1/2	5	3	0.030	AL3-R-1000-R030	AL3	308210	A	308211
	1	2 1/2	5	3	0.060	AL3-R-1000-R060	AL3	308220	A	308221
	1	2 1/2	5	3	0.090	AL3-R-1000-R090	AL3	308225	D	308226
	1	2 1/2	5	3	0.125	AL3-R-1000-R125	AL3	308230	A	308231
	1	2 1/2	5	3	BALL	AL3-R-1000-R500 (BALL)	AL3	308240	A	308241
	1	3	6	3	SQ	AL3-M-1000-SQ	A	308300	A	308301
	1	3	6	3	0.030	AL3-M-1000-R030	A	308310	A	308311
	1	3	6	3	0.060	AL3-M-1000-R060	A	308320	D	308321
	1	3	6	3	0.090	AL3-M-1000-R090	C	308325	D	308326
	1	3	6	3	0.125	AL3-M-1000-R125	A	308330	A	308331
	1	3	6	3	BALL	AL3-M-1000-R500 (BALL)	A	308340	A	308341

## SERIES: AL3

### 3 Flute, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1"	1	3 1/2	6	3	SQ	AL3-L-1000-SQ	A	308400	A	308401
	1	3 1/2	6	3	0.030	AL3-L-1000-R030	A	308410	A	308411
	1	3 1/2	6	3	0.060	AL3-L-1000-R060	A	308420	A	308421
	1	3 1/2	6	3	0.090	AL3-L-1000-R090	C	308425	D	308426
	1	3 1/2	6	3	0.125	AL3-L-1000-R125	A	308430	A	308431
	1	3 1/2	6	3	BALL	AL3-L-1000-R500 (BALL)	B	308440	D	308441

#### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)



## SERIES: AL3-RN

3 Flute, Reduced Neck, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1/8"	1/8	3/16	2	3	SQ	1/2	AL3-RN-R-0125-SQ	C	310700	D	310701
	1/8	3/16	2	3	0.015	1/2	AL3-RN-R-0125-R015	C	310710	D	310711
	1/8	3/16	2	3	BALL	1/2	AL3-RN-R-0125-R063 (BALL)	C	310740	D	310741
	1/8	3/16	2 1/2	3	SQ	3/4	AL3-RN-M-0125-SQ	C	310800	D	310801
	1/8	3/16	2 1/2	3	0.015	3/4	AL3-RN-M-0125-R015	C	310810	D	310811
	1/8	3/16	2 1/2	3	BALL	3/4	AL3-RN-M-0125-R063 (BALL)	C	310840	D	310841
3/16"	3/16	1/4	2 1/2	3	SQ	1/2	AL3-RN-R-0187-SQ	C	300700	D	300701
	3/16	1/4	2 1/2	3	0.015	1/2	AL3-RN-R-0187-R015	C	300710	D	300711
	3/16	1/4	2 1/2	3	BALL	1/2	AL3-RN-R-0187-R094 (BALL)	C	300740	D	300741
	3/16	1/4	3	3	SQ	3/4	AL3-RN-M-0187-SQ	C	300800	D	300801
	3/16	1/4	3	3	0.015	3/4	AL3-RN-M-0187-R015	C	300810	D	300811
	3/16	1/4	3	3	BALL	3/4	AL3-RN-M-0187-R094 (BALL)	C	300840	D	300841
	3/16	1/4	3	3	SQ	1	AL3-RN-L-0187-SQ	C	300900	D	300901
3/16	1/4	3	3	0.015	1	AL3-RN-L-0187-R015	C	300910	D	300911	
3/16	1/4	3	3	BALL	1	AL3-RN-L-0187-R094 (BALL)	C	300940	D	300941	
1/4"	1/4	3/8	2 1/2	3	SQ	3/4	AL3-RN-S-0250-SQ	C	301600	D	301601
	1/4	3/8	2 1/2	3	0.015	3/4	AL3-RN-S-0250-R015	C	301610	D	301611
	1/4	3/8	2 1/2	3	0.030	3/4	AL3-RN-S-0250-R030	C	301620	D	301621
	1/4	3/8	2 1/2	3	0.060	3/4	AL3-RN-S-0250-R060	C	301630	D	301631
	1/4	3/8	2 1/2	3	BALL	3/4	AL3-RN-S-0250-R125 (BALL)	C	301640	D	301641
	1/4	3/8	3	3	SQ	1	AL3-RN-SR-0250-SQ	C	301600N	D	301601N
	1/4	3/8	3	3	0.015	1	AL3-RN-SR-0250-R015	C	301610N	D	301611N
	1/4	3/8	3	3	0.030	1	AL3-RN-SR-0250-R030	C	301620N	D	301621N
	1/4	3/8	3	3	0.060	1	AL3-RN-SR-0250-R060	C	301630N	D	301631N
	1/4	3/8	3	3	BALL	1	AL3-RN-SR-0250-R125 (BALL)	C	301640N	D	301641N
	1/4	3/8	4	3	SQ	1 1/4	AL3-RN-R-0250-SQ	A	301700	A	301701
	1/4	3/8	4	3	0.015	1 1/4	AL3-RN-R-0250-R015	A	301710	A	301711
	1/4	3/8	4	3	0.030	1 1/4	AL3-RN-R-0250-R030	A	301720	A	301721
	1/4	3/8	4	3	0.060	1 1/4	AL3-RN-R-0250-R060	A	301730	A	301731
	1/4	3/8	4	3	BALL	1 1/4	AL3-RN-R-0250-R125 (BALL)	A	301740	A	301741
	1/4	3/8	4	3	SQ	1 1/2	AL3-RN-SP-0250-SQ	C	301800	D	301801
	1/4	3/8	4	3	0.015	1 1/2	AL3-RN-SP-0250-R015	C	301810	D	301811
1/4	3/8	4	3	0.030	1 1/2	AL3-RN-SP-0250-R030	C	301820	D	301821	
1/4	3/8	4	3	0.060	1 1/2	AL3-RN-SP-0250-R060	C	301830	D	301831	
1/4	3/8	4	3	BALL	1 1/2	AL3-RN-SP-0250-R125 (BALL)	C	301840	D	301841	
5/16"	5/16	1/2	3	3	SQ	1 1/4	AL3-RN-SR-0312-SQ	C	302600N	D	302601N
	5/16	1/2	3	3	0.015	1 1/4	AL3-RN-SR-0312-R015	C	302610N	D	302611N
	5/16	1/2	3	3	0.030	1 1/4	AL3-RN-SR-0312-R030	C	302620N	D	302621N
	5/16	1/2	3	3	BALL	1 1/4	AL3-RN-SR-0312-R063 (BALL)	C	302640N	D	302641N
	5/16	1/2	4	3	SQ	2	AL3-RN-M-0312-SQ	C	302800	D	302801
	5/16	1/2	4	3	0.015	2	AL3-RN-M-0312-R015	C	302810	D	302811
	5/16	1/2	4	3	0.030	2	AL3-RN-M-0312-R030	C	302820	D	302821
5/16	1/2	4	3	BALL	2	AL3-RN-M-0312-R063 (BALL)	C	302840	D	302841	
3/8"	3/8	5/8	3	3	SQ	1 5/8	AL3-RN-SR-0375-SQ	C	303600N	D	303601N
	3/8	5/8	3	3	0.015	1 5/8	AL3-RN-SR-0375-R015	C	303610N	D	303611N
	3/8	5/8	3	3	0.030	1 5/8	AL3-RN-SR-0375-R030	C	303620N	D	303621N
	3/8	5/8	3	3	0.060	1 5/8	AL3-RN-SR-0375-R060	C	303630N	D	303631N
	3/8	5/8	3	3	0.090	1 5/8	AL3-RN-SR-0375-R090	C	303635N	D	303636N
	3/8	5/8	3	3	BALL	1 5/8	AL3-RN-SR-0375-R188 (BALL)	C	303640N	D	303641N
	3/8	5/8	4	3	SQ	2	AL3-RN-R-0375-SQ	A	303700	A	303701
	3/8	5/8	4	3	0.015	2	AL3-RN-R-0375-R015	A	303710	A	303711
	3/8	5/8	4	3	0.030	2	AL3-RN-R-0375-R030	A	303720	A	303721
	3/8	5/8	4	3	0.060	2	AL3-RN-R-0375-R060	A	303730	A	303731
3/8	5/8	4	3	0.090	2	AL3-RN-R-0375-R090	C	303735	D	303736	
3/8	5/8	4	3	BALL	2	AL3-RN-R-0375-R188 (BALL)	A	303740	A	303741	

## SERIES: AL3-RN

3 Flute, Reduced Neck, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
3/8"	3/8	5/8	4	3	SQ	2 1/2	AL3-RN-M-0375-SQ	C	303800	D	303801
	3/8	5/8	4	3	0.015	2 1/2	AL3-RN-M-0375-R015	C	303810	D	303811
	3/8	5/8	4	3	0.030	2 1/2	AL3-RN-M-0375-R030	C	303820	D	303821
	3/8	5/8	4	3	0.060	2 1/2	AL3-RN-M-0375-R060	C	303830	D	303831
	3/8	5/8	4	3	0.090	2 1/2	AL3-RN-M-0375-R090	C	303835	D	303836
	3/8	5/8	4	3	BALL	2 1/2	AL3-RN-M-0375-R188 (BALL)	C	303840	D	303841
	3/8	5/8	5	3	SQ	3	AL3-RN-L-0375-SQ	C	303900	D	303901
	3/8	5/8	5	3	0.015	3	AL3-RN-L-0375-R015	C	303910	D	303911
	3/8	5/8	5	3	0.030	3	AL3-RN-L-0375-R030	C	303920	D	303921
	3/8	5/8	5	3	0.060	3	AL3-RN-L-0375-R060	C	303930	D	303931
	3/8	5/8	5	3	0.090	3	AL3-RN-L-0375-R090	C	303935	D	303936
3/8	5/8	5	3	BALL	3	AL3-RN-L-0375-R188 (BALL)	C	303940	D	303941	
1/2"	1/2	3/4	3	3	SQ	1 1/4	AL3-RN-S-0500-SQ	A	305600	A	305601
	1/2	3/4	3	3	0.015	1 1/4	AL3-RN-S-0500-R015	B	305610	D	305611
	1/2	3/4	3	3	0.030	1 1/4	AL3-RN-S-0500-R030	A	305620	A	305621
	1/2	3/4	3	3	0.060	1 1/4	AL3-RN-S-0500-R060	B	305630	D	305631
	1/2	3/4	3	3	0.090	1 1/4	AL3-RN-S-0500-R090	C	305635	D	305636
	1/2	3/4	3	3	0.125	1 1/4	AL3-RN-S-0500-R125	A	305640	A	305641
	1/2	3/4	3	3	BALL	1 1/4	AL3-RN-S-0500-R250 (BALL)	A	305650	A	305651
	1/2	3/4	3	3	SQ	1 3/4	AL3-RN-SR-0500-SQ	C	305600N	D	305601N
	1/2	3/4	3	3	0.015	1 3/4	AL3-RN-SR-0500-R015	C	305610N	D	305611N
	1/2	3/4	3	3	0.030	1 3/4	AL3-RN-SR-0500-R030	C	305620N	D	305621N
	1/2	3/4	3	3	0.060	1 3/4	AL3-RN-SR-0500-R060	C	305630N	D	305631N
	1/2	3/4	3	3	0.090	1 3/4	AL3-RN-SR-0500-R090	C	305635N	D	305636N
	1/2	3/4	3	3	0.125	1 3/4	AL3-RN-SR-0500-R125	C	305640N	D	305641N
	1/2	3/4	3	3	BALL	1 3/4	AL3-RN-SR-0500-R250 (BALL)	C	305650N	D	305651N
	1/2	3/4	4	3	SQ	2	AL3-RN-R-0500-SQ	A	305700	A	305701
	1/2	3/4	4	3	0.015	2	AL3-RN-R-0500-R015	B	305710	D	305711
	1/2	3/4	4	3	0.030	2	AL3-RN-R-0500-R030	A	305720	A	305721
	1/2	3/4	4	3	0.060	2	AL3-RN-R-0500-R060	A	305730	A	305731
	1/2	3/4	4	3	0.090	2	AL3-RN-R-0500-R090	C	305735	D	305736
	1/2	3/4	4	3	0.125	2	AL3-RN-R-0500-R125	A	305740	A	305741
	1/2	3/4	4	3	BALL	2	AL3-RN-R-0500-R250 (BALL)	A	305750	A	305751
	1/2	3/4	4	3	SQ	2 1/4	AL3-RN-SP-0500-SQ	C	305700N	D	305701N
	1/2	3/4	4	3	0.015	2 1/4	AL3-RN-SP-0500-R015	C	305710N	D	305711N
	1/2	3/4	4	3	0.030	2 1/4	AL3-RN-SP-0500-R030	C	305720N	D	305721N
	1/2	3/4	4	3	0.060	2 1/4	AL3-RN-SP-0500-R060	C	305730N	D	305731N
	1/2	3/4	4	3	0.090	2 1/4	AL3-RN-SP-0500-R090	C	305735N	D	305736N
	1/2	3/4	4	3	0.125	2 1/4	AL3-RN-SP-0500-R125	C	305740N	D	305741N
	1/2	3/4	4	3	BALL	2 1/4	AL3-RN-SP-0500-R250 (BALL)	C	305750N	D	305751N
	1/2	3/4	5	3	SQ	2 1/2	AL3-RN-M-0500-SQ	A	305800	A	305801
	1/2	3/4	5	3	0.015	2 1/2	AL3-RN-M-0500-R015	A	305810	A	305811
	1/2	3/4	5	3	0.030	2 1/2	AL3-RN-M-0500-R030	A	305820	A	305821
	1/2	3/4	5	3	0.060	2 1/2	AL3-RN-M-0500-R060	A	305830	A	305831
	1/2	3/4	5	3	0.090	2 1/2	AL3-RN-M-0500-R090	C	305835	D	305836
	1/2	3/4	5	3	0.125	2 1/2	AL3-RN-M-0500-R125	A	305840	A	305841
1/2	3/4	5	3	BALL	2 1/2	AL3-RN-M-0500-R250 (BALL)	A	305850	A	305851	
1/2	3/4	6	3	SQ	3 1/2	AL3-RN-L-0500-SQ	A	305900	A	305901	
1/2	3/4	6	3	0.015	3 1/2	AL3-RN-L-0500-R015	A	305910	A	305911	
1/2	3/4	6	3	0.030	3 1/2	AL3-RN-L-0500-R030	A	305920	A	305921	
1/2	3/4	6	3	0.060	3 1/2	AL3-RN-L-0500-R060	A	305930	A	305931	
1/2	3/4	6	3	0.090	3 1/2	AL3-RN-L-0500-R090	C	305935	D	305936	
1/2	3/4	6	3	0.125	3 1/2	AL3-RN-L-0500-R125	A	305940	A	305941	
1/2	3/4	6	3	BALL	3 1/2	AL3-RN-L-0500-R250 (BALL)	A	305950	A	305951	

# SERIES: AL3-RN

## 3 Flute, Reduced Neck, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
5/8"	5/8	1	4	3	SQ	2	AL3-RN-R-0625-SQ	C	306700	D	306701
	5/8	1	4	3	0.030	2	AL3-RN-R-0625-R030	C	306710	D	306711
	5/8	1	4	3	0.060	2	AL3-RN-R-0625-R060	C	306720	D	306721
	5/8	1	4	3	0.090	2	AL3-RN-R-0625-R090	C	306725	D	306726
	5/8	1	4	3	0.125	2	AL3-RN-R-0625-R125	C	306730	D	306731
	5/8	1	4	3	BALL	2	AL3-RN-R-0625-R313 (BALL)	C	306740	D	306741
	5/8	1	5	3	SQ	2 1/2	AL3-RN-M-0625-SQ	A	306800	A	306801
	5/8	1	5	3	0.030	2 1/2	AL3-RN-M-0625-R030	A	306810	A	306811
	5/8	1	5	3	0.060	2 1/2	AL3-RN-M-0625-R060	A	306820	A	306821
	5/8	1	5	3	0.090	2 1/2	AL3-RN-M-0625-R090	C	306825	D	306826
	5/8	1	5	3	0.125	2 1/2	AL3-RN-M-0625-R125	B	306830	D	306831
	5/8	1	5	3	BALL	2 1/2	AL3-RN-M-0625-R313 (BALL)	B	306840	D	306841
	5/8	1	5	3	SQ	3 1/2	AL3-RN-L-0625-SQ	C	306900	D	306901
	5/8	1	5	3	0.030	3 1/2	AL3-RN-L-0625-R030	C	306910	D	306911
	5/8	1	5	3	0.060	3 1/2	AL3-RN-L-0625-R060	C	306920	D	306921
	5/8	1	5	3	0.090	3 1/2	AL3-RN-L-0625-R090	C	306925	D	306926
5/8	1	5	3	0.125	3 1/2	AL3-RN-L-0625-R125	C	306930	D	306931	
5/8	1	5	3	BALL	3 1/2	AL3-RN-L-0625-R313 (BALL)	C	306940	D	306941	
3/4"	3/4	1 1/8	4	3	SQ	1 3/4	AL3-RN-SR-0750-SQ	C	307600N	D	307601N
	3/4	1 1/8	4	3	0.030	1 3/4	AL3-RN-SR-0750-R030	C	307610N	D	307611N
	3/4	1 1/8	4	3	0.060	1 3/4	AL3-RN-SR-0750-R060	C	307620N	D	307621N
	3/4	1 1/8	4	3	0.090	1 3/4	AL3-RN-SR-0750-R090	C	307625N	D	307626N
	3/4	1 1/8	4	3	0.125	1 3/4	AL3-RN-SR-0750-R125	C	307630N	D	307631N
	3/4	1 1/8	4	3	BALL	1 3/4	AL3-RN-SR-0750-R375 (BALL)	C	307640N	D	307641N
	3/4	1 1/8	4	3	SQ	2	AL3-RN-R-0750-SQ	A	307700	A	307701
	3/4	1 1/8	4	3	0.030	2	AL3-RN-R-0750-R030	A	307710	A	307711
	3/4	1 1/8	4	3	0.060	2	AL3-RN-R-0750-R060	A	307720	A	307721
	3/4	1 1/8	4	3	0.090	2	AL3-RN-R-0750-R090	C	307725	D	307726
	3/4	1 1/8	4	3	0.125	2	AL3-RN-R-0750-R125	A	307730	D	307731
	3/4	1 1/8	4	3	BALL	2	AL3-RN-R-0750-R375 (BALL)	A	307740	D	307741
	3/4	1 1/8	5	3	SQ	2 1/2	AL3-RN-SP-0750-SQ	C	307700N	D	307701N
	3/4	1 1/8	5	3	0.030	2 1/2	AL3-RN-SP-0750-R030	C	307710N	D	307711N
	3/4	1 1/8	5	3	0.060	2 1/2	AL3-RN-SP-0750-R060	C	307720N	D	307721N
	3/4	1 1/8	5	3	0.090	2 1/2	AL3-RN-SP-0750-R090	C	307725N	D	307726N
	3/4	1 1/8	5	3	0.125	2 1/2	AL3-RN-SP-0750-R125	C	307730N	D	307731N
	3/4	1 1/8	5	3	BALL	2 1/2	AL3-RN-SP-0750-R375 (BALL)	C	307740N	D	307741N
	3/4	1 1/8	6	3	SQ	3	AL3-RN-M-0750-SQ	A	307800	A	307801
	3/4	1 1/8	6	3	0.030	3	AL3-RN-M-0750-R030	A	307810	A	307811
	3/4	1 1/8	6	3	0.060	3	AL3-RN-M-0750-R060	A	307820	A	307821
	3/4	1 1/8	6	3	0.090	3	AL3-RN-M-0750-R090	C	307825	D	307826
	3/4	1 1/8	6	3	0.125	3	AL3-RN-M-0750-R125	A	307830	A	307831
	3/4	1 1/8	6	3	BALL	3	AL3-RN-M-0750-R375 (BALL)	A	307840	A	307841
	3/4	1 1/8	6	3	SQ	4	AL3-RN-X-0750-SQ	C	307900N	D	307901N
	3/4	1 1/8	6	3	0.030	4	AL3-RN-X-0750-R030	C	307910N	D	307911N
	3/4	1 1/8	6	3	0.060	4	AL3-RN-X-0750-R060	C	307920N	D	307921N
	3/4	1 1/8	6	3	0.090	4	AL3-RN-X-0750-R090	C	307925N	D	307926N
3/4	1 1/8	6	3	0.125	4	AL3-RN-X-0750-R125	C	307930N	D	307931N	
3/4	1 1/8	6	3	BALL	4	AL3-RN-X-0750-R375 (BALL)	C	307940N	D	307941N	
1"	1	1 1/2	5	3	SQ	2 1/2	AL3-RN-R-1000-SQ	A	308700	A	308701
	1	1 1/2	5	3	0.030	2 1/2	AL3-RN-R-1000-R030	A	308710	A	308711
	1	1 1/2	5	3	0.060	2 1/2	AL3-RN-R-1000-R060	A	308720	A	308721
	1	1 1/2	5	3	0.090	2 1/2	AL3-RN-R-1000-R090	C	308725	D	308726
	1	1 1/2	5	3	0.125	2 1/2	AL3-RN-R-1000-R125	A	308730	A	308731
	1	1 1/2	5	3	BALL	2 1/2	AL3-RN-R-1000-R500 (BALL)	A	308740	A	308741

## SERIES: AL3-RN

3 Flute, Reduced Neck, Aluminum & Non-Ferrous, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1"	1	1 1/2	6	3	SQ	3 1/2	AL3-RN-M-1000-SQ	A	308800	A	308801
	1	1 1/2	6	3	0.030	3 1/2	AL3-RN-M-1000-R030	A	308810	A	308811
	1	1 1/2	6	3	0.060	3 1/2	AL3-RN-M-1000-R060	A	308820	A	308821
	1	1 1/2	6	3	0.090	3 1/2	AL3-RN-M-1000-R090	C	308825	D	308826
	1	1 1/2	6	3	0.125	3 1/2	AL3-RN-M-1000-R125	A	308830	A	308831
	1	1 1/2	6	3	BALL	3 1/2	AL3-RN-M-1000-R500 (BALL)	B	308840	A	308841
	1	1 1/2	7	3	SQ	4 1/2	AL3-RN-L-1000-SQ	C	308900	D	308901
	1	1 1/2	7	3	0.030	4 1/2	AL3-RN-L-1000-R030	C	308910	D	308911
	1	1 1/2	7	3	0.060	4 1/2	AL3-RN-L-1000-R060	C	308920	D	308921
	1	1 1/2	7	3	0.090	4 1/2	AL3-RN-L-1000-R090	C	308925	D	308926
	1	1 1/2	7	3	0.125	4 1/2	AL3-RN-L-1000-R125	C	308930	D	308931
	1	1 1/2	7	3	BALL	4 1/2	AL3-RN-L-1000-R500 (BALL)	C	308940	D	308941

### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

## SERIES: AL3-RN BLANKS

3 Flute, Un-Necked Blanks, LBS Necked to Size at Time of Order

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1/2"	1/2	3/4	7	3	SQ	Custom LBS	AL3-RN-7-0500-SQ	C	305700-BLK	D	305701-BLK
	1/2	3/4	7	3	0.015	Custom LBS	AL3-RN-7-0500-R015	C	305710-BLK	D	305711-BLK
	1/2	3/4	7	3	0.030	Custom LBS	AL3-RN-7-0500-R030	C	305720-BLK	D	305721-BLK
	1/2	3/4	7	3	0.060	Custom LBS	AL3-RN-7-0500-R060	C	305730-BLK	D	305731-BLK
	1/2	3/4	7	3	0.090	Custom LBS	AL3-RN-7-0500-R090	C	305735-BLK	D	305736-BLK
	1/2	3/4	7	3	0.125	Custom LBS	AL3-RN-7-0500-R125	C	305740-BLK	D	305741-BLK
	1/2	3/4	7	3	BALL	Custom LBS	AL3-RN-7-0500-R250 (BALL)	C	305750-BLK	D	305751-BLK
	1/2	3/4	8	3	SQ	Custom LBS	AL3-RN-8-0500-SQ	C	305800-BLK	D	305801-BLK
	1/2	3/4	8	3	0.015	Custom LBS	AL3-RN-8-0500-R015	C	305810-BLK	D	305811-BLK
	1/2	3/4	8	3	0.030	Custom LBS	AL3-RN-8-0500-R030	C	305820-BLK	D	305821-BLK
	1/2	3/4	8	3	0.060	Custom LBS	AL3-RN-8-0500-R060	C	305830-BLK	D	305831-BLK
	1/2	3/4	8	3	0.090	Custom LBS	AL3-RN-8-0500-R090	C	305835-BLK	D	305836-BLK
1/2	3/4	8	3	0.125	Custom LBS	AL3-RN-8-0500-R125	C	305840-BLK	D	305841-BLK	
1/2	3/4	8	3	BALL	Custom LBS	AL3-RN-8-0500-R250 (BALL)	C	305850-BLK	D	305851-BLK	
5/8"	5/8	1	7	3	SQ	Custom LBS	AL3-RN-7-0625-SQ	C	306700-BLK	D	306701-BLK
	5/8	1	7	3	0.030	Custom LBS	AL3-RN-7-0625-R030	C	306710-BLK	D	306711-BLK
	5/8	1	7	3	0.060	Custom LBS	AL3-RN-7-0625-R060	C	306720-BLK	D	306721-BLK
	5/8	1	7	3	0.090	Custom LBS	AL3-RN-7-0625-R090	C	306725-BLK	D	306726-BLK
	5/8	1	7	3	0.125	Custom LBS	AL3-RN-7-0625-R125	C	306730-BLK	D	306731-BLK
	5/8	1	7	3	BALL	Custom LBS	AL3-RN-7-0625-R313 (BALL)	C	306740-BLK	D	306741-BLK
	5/8	1	8	3	SQ	Custom LBS	AL3-RN-8-0625-SQ	C	306800-BLK	D	306801-BLK
	5/8	1	8	3	0.030	Custom LBS	AL3-RN-8-0625-R030	C	306810-BLK	D	306811-BLK
	5/8	1	8	3	0.060	Custom LBS	AL3-RN-8-0625-R060	C	306820-BLK	D	306821-BLK
	5/8	1	8	3	0.090	Custom LBS	AL3-RN-8-0625-R090	C	306825-BLK	D	306826-BLK
	5/8	1	8	3	0.125	Custom LBS	AL3-RN-8-0625-R125	C	306830-BLK	D	306831-BLK
	5/8	1	8	3	BALL	Custom LBS	AL3-RN-8-0625-R313 (BALL)	C	306840-BLK	D	306841-BLK
3/4"	3/4	1 1/8	7	3	SQ	Custom LBS	AL3-RN-7-0750-SQ	C	307700-BLK	D	307701-BLK
	3/4	1 1/8	7	3	0.030	Custom LBS	AL3-RN-7-0750-R030	C	307710-BLK	D	307711-BLK
	3/4	1 1/8	7	3	0.060	Custom LBS	AL3-RN-7-0750-R060	C	307720-BLK	D	307721-BLK
	3/4	1 1/8	7	3	0.090	Custom LBS	AL3-RN-7-0750-R090	C	307725-BLK	D	307726-BLK
	3/4	1 1/8	7	3	0.125	Custom LBS	AL3-RN-7-0750-R125	C	307730-BLK	D	307731-BLK
	3/4	1 1/8	7	3	BALL	Custom LBS	AL3-RN-7-0750-R375 (BALL)	C	307740-BLK	D	307741-BLK
	3/4	1 1/8	8	3	SQ	Custom LBS	AL3-RN-8-0750-SQ	C	307800-BLK	D	307801-BLK
	3/4	1 1/8	8	3	0.030	Custom LBS	AL3-RN-8-0750-R030	C	307810-BLK	D	307811-BLK
	3/4	1 1/8	8	3	0.060	Custom LBS	AL3-RN-8-0750-R060	C	307820-BLK	D	307821-BLK
	3/4	1 1/8	8	3	0.090	Custom LBS	AL3-RN-8-0750-R090	C	307825-BLK	D	307826-BLK
	3/4	1 1/8	8	3	0.125	Custom LBS	AL3-RN-8-0750-R125	C	307830-BLK	D	307831-BLK
	3/4	1 1/8	8	3	BALL	Custom LBS	AL3-RN-8-0750-R375 (BALL)	C	307840-BLK	D	307841-BLK
1"	1	1 1/2	7	3	SQ	Custom LBS	AL3-RN-7-1000-SQ	C	308700-BLK	D	308701-BLK
	1	1 1/2	7	3	0.030	Custom LBS	AL3-RN-7-1000-R030	C	308710-BLK	D	308711-BLK
	1	1 1/2	7	3	0.060	Custom LBS	AL3-RN-7-1000-R060	C	308720-BLK	D	308721-BLK
	1	1 1/2	7	3	0.090	Custom LBS	AL3-RN-7-1000-R090	C	308725-BLK	D	308726-BLK
	1	1 1/2	7	3	0.125	Custom LBS	AL3-RN-7-1000-R125	C	308730-BLK	D	308731-BLK
	1	1 1/2	7	3	BALL	Custom LBS	AL3-RN-7-1000-R500 (BALL)	C	308740-BLK	D	308741-BLK
	1	1 1/2	8	3	SQ	Custom LBS	AL3-RN-8-1000-SQ	C	308800-BLK	D	308801-BLK
	1	1 1/2	8	3	0.030	Custom LBS	AL3-RN-8-1000-R030	C	308810-BLK	D	308811-BLK
	1	1 1/2	8	3	0.060	Custom LBS	AL3-RN-8-1000-R060	C	308820-BLK	D	308821-BLK
	1	1 1/2	8	3	0.090	Custom LBS	AL3-RN-8-1000-R090	C	308825-BLK	D	308826-BLK
	1	1 1/2	8	3	0.125	Custom LBS	AL3-RN-8-1000-R125	C	308830-BLK	D	308831-BLK
	1	1 1/2	8	3	BALL	Custom LBS	AL3-RN-8-1000-R500 (BALL)	C	308840-BLK	D	308841-BLK



Standard Catalog Offering

# Non-Ferrous AL3-CB Series



## SERIES: AL3-CB

### 3 Flute, Staggered Chipbreakers, Aluminum & Non-Ferrous, Roughing

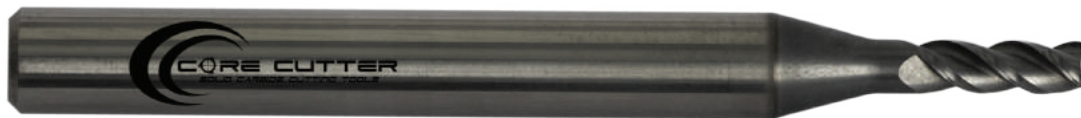
CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	STOCK CODE	UNCOATED EDP#	STOCK CODE	HARD CARBON EDP#
1/8"	1/8	1/4	1 1/2	3	0.015	AL3-S-0125-R015-CB	A	310010C	C	310011C
	1/8	3/8	2	3	0.015	AL3-SR-0125-R015-CB	A	310110C	A	310111C
	1/8	1/2	2 1/2	3	0.015	AL3-R-0125-R015-CB	A	310210C	A	310211C
3/16"	3/16	5/16	2	3	0.015	AL3-S-0187-R015-CB	A	300010C	C	300011C
	3/16	7/16	2	3	0.015	AL3-SR-0187-R015-CB	A	300110C	A	300111C
	3/16	9/16	2 1/2	3	0.015	AL3-R-0187-R015-CB	A	300210C	A	300211C
1/4"	1/4	3/8	2	3	0.030	AL3-S-0250-R030-CB	A	301020C	A	301021C
	1/4	1/2	2 1/2	3	0.030	AL3-SR-0250-R030-CB	A	301120C	D	301121C
	1/4	3/4	2 1/2	3	0.030	AL3-R-0250-R030-CB	A	301220C	A	301221C
	1/4	1	3	3	0.030	AL3-SP-0250-R030-CB	C	391220C	D	391221C
	1/4	1 1/4	3	3	0.030	AL3-M-0250-R030-CB	A	301320C	A	301321C
5/16"	5/16	1/2	2	3	0.030	AL3-SR-0312-R030-CB	A	302120C	A	302121C
	5/16	3/4	2 1/2	3	0.030	AL3-R-0312-R030-CB	A	302220C	A	302221C
	5/16	1 1/4	3	3	0.030	AL3-M-0312-R030-CB	A	302320C	A	302321C
3/8"	3/8	1/2	2	3	0.030	AL3-S-0375-R030-CB	A	303020C	A	303021C
	3/8	3/4	2 1/2	3	0.030	AL3-SR-0375-R030-CB	A	303120C	A	303121C
	3/8	7/8	3	3	0.030	AL3-SP-0375-R030-CB	A	393220C	A	393221C
	3/8	1	3	3	0.030	AL3-R-0375-R030-CB	A	303220C	A	303221C
	3/8	1 1/4	3	3	0.030	AL3-M-0375-R030-CB	A	303320C	C	303321C
	3/8	1 1/2	4	3	0.030	AL3-L-0375-R030-CB	A	303420C	A	303421C
1/2"	1/2	5/8	2 1/2	3	0.030	AL3-S-0500-R030-CB	A	305020C	A	305021C
	1/2	1	3	3	0.030	AL3-SR-0500-R030-CB	A	305120C	A	305121C
	1/2	1 1/4	3	3	0.030	AL3-R-0500-R030-CB	A	305220C	A	305221C
	1/2	1 1/2	4	3	0.030	AL3-M-0500-R030-CB	A	305320C	A	305321C
	1/2	1 5/8	4	3	0.030	AL3-SP-0500-R030-CB	A	395320C	A	395321C
	1/2	2	4	3	0.030	AL3-L-0500-R030-CB	A	305420C	A	305421C
5/8"	5/8	3/4	3	3	0.030	AL3-S-0625-R030-CB	A	306010C	A	306011C
	5/8	1 1/4	3 1/2	3	0.030	AL3-SR-0625-R030-CB	A	306110C	A	306111C
	5/8	1 1/2	3 1/2	3	0.030	AL3-R-0625-R030-CB	A	306210C	A	306211C
	5/8	1 5/8	3 1/2	3	0.030	AL3-SP-0625-R030-CB	B	396210C	C	396211C
	5/8	2	4	3	0.030	AL3-M-0625-R030-CB	A	306310C	A	306311C
	5/8	2 1/2	5	3	0.030	AL3-L-0625-R030-CB	A	306410C	A	306411C
3/4"	3/4	1	3	3	0.030	AL3-S-0750-R030-CB	A	307010C	A	307011C
	3/4	1 1/2	4	3	0.030	AL3-SR-0750-R030-CB	A	307110C	A	307111C
	3/4	1 5/8	4	3	0.030	AL3-SP-0750-R030-CB	B	397110C	C	397111C
	3/4	2	5	3	0.030	AL3-R-0750-R030-CB	A	307210C	A	307211C
	3/4	2 1/2	5	3	0.030	AL3-M-0750-R030-CB	A	307310C	A	307311C
	3/4	3	6	3	0.030	AL3-L-0750-R030-CB	A	307410C	A	307411C
1"	1	1 3/4	4	3	0.030	AL3-SR-1000-R030-CB	A	308110C	A	308111C
	1	2 1/2	5	3	0.030	AL3-R-1000-R030-CB	A	308210C	A	308211C
	1	3	6	3	0.030	AL3-M-1000-R030-CB	A	308310C	A	308311C
	1	3 1/2	6	3	0.030	AL3-L-1000-R030-CB	A	308410C	C	308411C

#### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

Standard Catalog Offering

# Dynamic 3 QTR3 Series





## SERIES: DYNAMIC 3 (QTR3)

3 Flute, 1/4" Shank, Variable Pitch/Helix, Ferrous & Non-Ferrous Materials, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1/16"	1/4	0.125	2 1/2	3	SQ		QTR3-0062-2XD-SQ	Alcrona Pro	A	Q0622S
	1/4	0.125	2 1/2	3	0.010		QTR3-0062-2XD-R010	Alcrona Pro	A	Q0622R
	1/4	0.125	2 1/2	3	BALL		QTR3-0062-2XD-R031 (BALL)	Alcrona Pro	A	Q0622B
	1/4	0.188	2 1/2	3	SQ		QTR3-0062-3XD-SQ	Alcrona Pro	A	Q0623S
	1/4	0.188	2 1/2	3	0.010		QTR3-0062-3XD-R010	Alcrona Pro	A	Q0623R
	1/4	0.188	2 1/2	3	BALL		QTR3-0062-3XD-R031 (BALL)	Alcrona Pro	A	Q0623B
	1/4	0.188	2 1/2	3	SQ	0.313	QTR3-RN-0062-5XD-SQ	Alcrona Pro	A	Q0623SN
	1/4	0.188	2 1/2	3	0.010	0.313	QTR3-RN-0062-5XD-R010	Alcrona Pro	A	Q0623RN
	1/4	0.188	2 1/2	3	BALL	0.313	QTR3-RN-0062-5XD-R031 (BALL)	Alcrona Pro	A	Q0623BN
	1/4	0.250	2 1/2	3	SQ		QTR3-0062-4XD-SQ	Alcrona Pro	A	Q0624S
1/4	0.250	2 1/2	3	0.010		QTR3-0062-4XD-R010	Alcrona Pro	A	Q0624R	
5/64"	1/4	0.156	2 1/2	3	SQ		QTR3-0078-2XD-SQ	Alcrona Pro	A	Q0782S
	1/4	0.156	2 1/2	3	0.010		QTR3-0078-2XD-R010	Alcrona Pro	A	Q0782R
	1/4	0.156	2 1/2	3	BALL		QTR3-0078-2XD-R039 (BALL)	Alcrona Pro	A	Q0782B
	1/4	0.234	2 1/2	3	SQ		QTR3-0078-3XD-SQ	Alcrona Pro	A	Q0783S
	1/4	0.234	2 1/2	3	0.010		QTR3-0078-3XD-R010	Alcrona Pro	A	Q0783R
	1/4	0.234	2 1/2	3	BALL		QTR3-0078-3XD-R039 (BALL)	Alcrona Pro	A	Q0783B
	1/4	0.234	2 1/2	3	SQ	0.390	QTR3-RN-0078-5XD-SQ	Alcrona Pro	A	Q0783SN
	1/4	0.234	2 1/2	3	0.010	0.390	QTR3-RN-0078-5XD-R010	Alcrona Pro	A	Q0783RN
	1/4	0.234	2 1/2	3	BALL	0.390	QTR3-RN-0078-5XD-R039 (BALL)	Alcrona Pro	A	Q0783BN
	1/4	0.313	2 1/2	3	SQ		QTR3-0078-4XD-SQ	Alcrona Pro	A	Q0784S
1/4	0.313	2 1/2	3	0.010		QTR3-0078-4XD-R010	Alcrona Pro	A	Q0784R	
3/32"	1/4	0.188	2 1/2	3	SQ		QTR3-0093-2XD-SQ	Alcrona Pro	A	Q0932S
	1/4	0.188	2 1/2	3	0.010		QTR3-0093-2XD-R010	Alcrona Pro	A	Q0932R
	1/4	0.188	2 1/2	3	BALL		QTR3-0093-2XD-R047 (BALL)	Alcrona Pro	A	Q0932B
	1/4	0.281	2 1/2	3	SQ		QTR3-0093-3XD-SQ	Alcrona Pro	A	Q0933S
	1/4	0.281	2 1/2	3	0.010		QTR3-0093-3XD-R010	Alcrona Pro	A	Q0933R
	1/4	0.281	2 1/2	3	BALL		QTR3-0093-3XD-R047 (BALL)	Alcrona Pro	A	Q0933B
	1/4	0.281	2 1/2	3	SQ	0.469	QTR3-RN-0093-5XD-SQ	Alcrona Pro	A	Q0933SN
	1/4	0.281	2 1/2	3	0.010	0.469	QTR3-RN-0093-5XD-R010	Alcrona Pro	A	Q0933RN
	1/4	0.281	2 1/2	3	BALL	0.469	QTR3-RN-0093-5XD-R047 (BALL)	Alcrona Pro	A	Q0933BN
	1/4	0.375	2 1/2	3	SQ		QTR3-0093-4XD-SQ	Alcrona Pro	A	Q0934S
1/4	0.375	2 1/2	3	0.010		QTR3-0093-4XD-R010	Alcrona Pro	A	Q0934R	
7/64"	1/4	0.219	2 1/2	3	SQ		QTR3-0109-2XD-SQ	Alcrona Pro	A	Q1092S
	1/4	0.219	2 1/2	3	0.010		QTR3-0109-2XD-R010	Alcrona Pro	A	Q1092R
	1/4	0.219	2 1/2	3	BALL		QTR3-0109-2XD-R055 (BALL)	Alcrona Pro	A	Q1092B
	1/4	0.328	2 1/2	3	SQ		QTR3-0109-3XD-SQ	Alcrona Pro	A	Q1093S
	1/4	0.328	2 1/2	3	0.010		QTR3-0109-3XD-R010	Alcrona Pro	A	Q1093R
	1/4	0.328	2 1/2	3	BALL		QTR3-0109-3XD-R055 (BALL)	Alcrona Pro	A	Q1093B
	1/4	0.328	2 1/2	3	SQ	0.547	QTR3-RN-0109-5XD-SQ	Alcrona Pro	A	Q1093SN
	1/4	0.328	2 1/2	3	0.010	0.547	QTR3-RN-0109-5XD-R010	Alcrona Pro	A	Q1093RN
	1/4	0.328	2 1/2	3	BALL	0.547	QTR3-RN-0109-5XD-R055 (BALL)	Alcrona Pro	A	Q1093BN
	1/4	0.438	2 1/2	3	SQ		QTR3-0109-4XD-SQ	Alcrona Pro	A	Q1094S
1/4	0.438	2 1/2	3	0.010		QTR3-0109-4XD-R010	Alcrona Pro	A	Q1094R	
1/8"	1/4	0.250	2 1/2	3	SQ		QTR3-0125-2XD-SQ	Alcrona Pro	A	Q1252S
	1/4	0.250	2 1/2	3	0.015		QTR3-0125-2XD-R015	Alcrona Pro	A	Q1252R
	1/4	0.250	2 1/2	3	BALL		QTR3-0125-2XD-R063 (BALL)	Alcrona Pro	A	Q1252B
	1/4	0.375	2 1/2	3	SQ		QTR3-0125-3XD-SQ	Alcrona Pro	A	Q1253S
	1/4	0.375	2 1/2	3	0.015		QTR3-0125-3XD-R015	Alcrona Pro	A	Q1253R
	1/4	0.375	2 1/2	3	BALL		QTR3-0125-3XD-R063 (BALL)	Alcrona Pro	A	Q1253B
	1/4	0.375	2 1/2	3	SQ	0.625	QTR3-RN-0125-5XD-SQ	Alcrona Pro	A	Q1253SN

## SERIES: DYNAMIC 3 (QTR3)

3 Flute, 1/4" Shank, Variable Pitch/Helix, Ferrous & Non-Ferrous Materials, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8"	1/4	0.375	2 1/2	3	0.015	0.625	QTR3-RN-0125-5XD-R015	Alcrona Pro	A	Q1253RN
	1/4	0.375	2 1/2	3	BALL	0.625	QTR3-RN-0125-5XD-R063 (BALL)	Alcrona Pro	A	Q1253BN
	1/4	0.500	2 1/2	3	SQ		QTR3-0125-4XD-SQ	Alcrona Pro	A	Q1254S
	1/4	0.500	2 1/2	3	0.015		QTR3-0125-4XD-R015	Alcrona Pro	A	Q1254R
5/32"	1/4	0.313	2 1/2	3	SQ		QTR3-0156-2XD-SQ	Alcrona Pro	A	Q1562S
	1/4	0.313	2 1/2	3	0.015		QTR3-0156-2XD-R015	Alcrona Pro	A	Q1562R
	1/4	0.313	2 1/2	3	BALL		QTR3-0156-2XD-R078 (BALL)	Alcrona Pro	A	Q1562B
	1/4	0.469	2 1/2	3	SQ		QTR3-0156-3XD-SQ	Alcrona Pro	A	Q1563S
	1/4	0.469	2 1/2	3	0.015		QTR3-0156-3XD-R015	Alcrona Pro	A	Q1563R
	1/4	0.469	2 1/2	3	BALL		QTR3-0156-3XD-R078 (BALL)	Alcrona Pro	A	Q1563B
	1/4	0.469	2 1/2	3	SQ	0.781	QTR3-RN-0156-5XD-SQ	Alcrona Pro	A	Q1563SN
	1/4	0.469	2 1/2	3	0.015	0.781	QTR3-RN-0156-5XD-R015	Alcrona Pro	A	Q1563RN
	1/4	0.469	2 1/2	3	BALL	0.781	QTR3-RN-0156-5XD-R078 (BALL)	Alcrona Pro	A	Q1563BN
	1/4	0.625	2 1/2	3	SQ		QTR3-0156-4XD-SQ	Alcrona Pro	A	Q1564S
1/4	0.625	2 1/2	3	0.015		QTR3-0156-4XD-R015	Alcrona Pro	A	Q1564R	
3/16"	1/4	0.375	2 1/2	3	SQ		QTR3-0187-2XD-SQ	Alcrona Pro	A	Q1872S
	1/4	0.375	2 1/2	3	0.015		QTR3-0187-2XD-R015	Alcrona Pro	A	Q1872R
	1/4	0.375	2 1/2	3	BALL		QTR3-0187-2XD-R094 (BALL)	Alcrona Pro	A	Q1872B
	1/4	0.563	2 1/2	3	SQ		QTR3-0187-3XD-SQ	Alcrona Pro	A	Q1873S
	1/4	0.563	2 1/2	3	0.015		QTR3-0187-3XD-R015	Alcrona Pro	A	Q1873R
	1/4	0.563	2 1/2	3	BALL		QTR3-0187-3XD-R094 (BALL)	Alcrona Pro	A	Q1873B
	1/4	0.625	2 1/2	3	0.094		QTR3-0187-3.3XD-R094 (BALL)	Alcrona Pro	A	Q18733B
	1/4	0.625	2 1/2	3	0.015		QTR3-0187-3.3XD-R015	Alcrona Pro	A	Q18733R
	1/4	0.625	2 1/2	3	SQ		QTR3-0187-3.3XD-SQ	Alcrona Pro	A	Q18733S
	1/4	0.563	2 1/2	3	SQ	0.937	QTR3-RN-0187-5XD-SQ	Alcrona Pro	A	Q1873SN
	1/4	0.563	2 1/2	3	0.015	0.937	QTR3-RN-0187-5XD-R015	Alcrona Pro	A	Q1873RN
	1/4	0.563	2 1/2	3	BALL	0.937	QTR3-RN-0187-5XD-R094 (BALL)	Alcrona Pro	A	Q1873BN
	1/4	0.750	2 1/2	3	SQ		QTR3-0187-4XD-SQ	Alcrona Pro	A	Q1874S
	1/4	0.750	2 1/2	3	0.015		QTR3-0187-4XD-R015	Alcrona Pro	A	Q1874R
7/32"	1/4	0.438	2 1/2	3	SQ		QTR3-0218-2XD-SQ	Alcrona Pro	A	Q2182S
	1/4	0.438	2 1/2	3	0.015		QTR3-0218-2XD-R015	Alcrona Pro	A	Q2182R
	1/4	0.438	2 1/2	3	BALL		QTR3-0218-2XD-R109 (BALL)	Alcrona Pro	A	Q2182B
	1/4	0.656	2 1/2	3	SQ		QTR3-0218-3XD-SQ	Alcrona Pro	A	Q2183S
	1/4	0.656	2 1/2	3	0.015		QTR3-0218-3XD-R015	Alcrona Pro	A	Q2183R
	1/4	0.656	2 1/2	3	BALL		QTR3-0218-3XD-R109 (BALL)	Alcrona Pro	A	Q2183B
	1/4	0.656	2 1/2	3	SQ	1.093	QTR3-RN-0218-5XD-SQ	Alcrona Pro	B	Q2183SN
	1/4	0.656	2 1/2	3	0.015	1.093	QTR3-RN-0218-5XD-R015	Alcrona Pro	B	Q2183RN
	1/4	0.656	2 1/2	3	BALL	1.093	QTR3-RN-0218-5XD-R109 (BALL)	Alcrona Pro	A	Q2183BN
	1/4	0.875	2 1/2	3	SQ		QTR3-0218-4XD-SQ	Alcrona Pro	A	Q2184S
1/4	0.875	2 1/2	3	0.015		QTR3-0218-4XD-R015	Alcrona Pro	A	Q2184R	
1/4"	1/4	0.500	2 1/2	3	SQ		QTR3-0250-2XD-SQ	Alcrona Pro	A	Q2502S
	1/4	0.500	2 1/2	3	0.015		QTR3-0250-2XD-R015	Alcrona Pro	A	Q2502R
	1/4	0.500	2 1/2	3	BALL		QTR3-0250-2XD-R125 (BALL)	Alcrona Pro	A	Q2502B
	1/4	0.750	2 1/2	3	SQ		QTR3-0250-3XD-SQ	Alcrona Pro	A	Q2503S
	1/4	0.750	2 1/2	3	0.015		QTR3-0250-3XD-R015	Alcrona Pro	A	Q2503R
	1/4	0.750	2 1/2	3	BALL		QTR3-0250-3XD-R125 (BALL)	Alcrona Pro	A	Q2503B
	1/4	0.750	2 1/2	3	SQ	1.250	QTR3-RN-0250-5XD-SQ	Alcrona Pro	B	Q2503SN
	1/4	0.750	2 1/2	3	0.015	1.250	QTR3-RN-0250-5XD-R015	Alcrona Pro	B	Q2503RN
	1/4	0.750	2 1/2	3	BALL	1.250	QTR3-RN-0250-5XD-R125 (BALL)	Alcrona Pro	B	Q2503BN
	1/4	1.000	2 1/2	3	SQ		QTR3-0250-4XD-SQ	Alcrona Pro	A	Q2504S
	1/4	1.000	2 1/2	3	0.015		QTR3-0250-4XD-R015	Alcrona Pro	A	Q2504R

Standard Catalog Offering

**Ferrous  
VST4 & VST4-RN  
Series**



## SERIES: VST4

4 Flute, Variable Pitch, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8"	1/8	1/4	1 1/2	4	SQ	VST4-S-0125-SQ	Latuma	A	410001
	1/8	1/4	1 1/2	4	0.015	VST4-S-0125-R015	Latuma	A	410011
	1/8	1/4	1 1/2	4	0.063	VST4-S-0125-R063 (BALL)	Latuma	A	410041
	1/8	3/8	2	4	SQ	VST4-SR-0125-SQ	Latuma	A	410101
	1/8	3/8	2	4	0.015	VST4-SR-0125-R015	Latuma	A	410111
	1/8	3/8	2	4	0.063	VST4-SR-0125-R063 (BALL)	Latuma	A	410141
	1/8	1/2	2 1/2	4	SQ	VST4-R-0125-SQ	Latuma	A	410201
	1/8	1/2	2 1/2	4	0.015	VST4-R-0125-R015	Latuma	A	410211
	1/8	1/2	2 1/2	4	0.063	VST4-R-0125-R063 (BALL)	Latuma	A	410241
3/16"	3/16	5/16	2	4	SQ	VST4-S-0187-SQ	Latuma	A	400001
	3/16	5/16	2	4	0.015	VST4-S-0187-R015	Latuma	A	400011
	3/16	5/16	2	4	0.094	VST4-S-0187-R094 (BALL)	Latuma	A	400041
	3/16	7/16	2	4	SQ	VST4-SR-0187-SQ	Latuma	A	400101
	3/16	7/16	2	4	0.015	VST4-SR-0187-R015	Latuma	A	400111
	3/16	7/16	2	4	0.094	VST4-SR-0187-R094 (BALL)	Latuma	A	400141
	3/16	9/16	2 1/2	4	SQ	VST4-R-0187-SQ	Latuma	A	400201
	3/16	9/16	2 1/2	4	0.015	VST4-R-0187-R015	Latuma	A	400211
	3/16	9/16	2 1/2	4	0.094	VST4-R-0187-R094 (BALL)	Latuma	A	400241
1/4"	1/4	3/8	2	4	SQ	VST4-S-0250-SQ	Latuma	A	401001
	1/4	3/8	2	4	0.015	VST4-S-0250-R015	Latuma	A	401011
	1/4	3/8	2	4	0.020	VST4-S-0250-R020	Latuma	A	401016
	1/4	3/8	2	4	0.030	VST4-S-0250-R030	Latuma	A	401021
	1/4	3/8	2	4	0.060	VST4-S-0250-R060	Latuma	A	401031
	1/4	3/8	2	4	BALL	VST4-S-0250-R125 (BALL)	Latuma	A	401041
	1/4	1/2	2 1/2	4	SQ	VST4-SR-0250-SQ	Latuma	A	401101
	1/4	1/2	2 1/2	4	0.015	VST4-SR-0250-R015	Latuma	A	401111
	1/4	1/2	2 1/2	4	0.020	VST4-SR-0250-R020	Latuma	A	401116
	1/4	1/2	2 1/2	4	0.030	VST4-SR-0250-R030	Latuma	A	401121
	1/4	1/2	2 1/2	4	0.060	VST4-SR-0250-R060	Latuma	A	401131
	1/4	1/2	2 1/2	4	BALL	VST4-SR-0250-R125 (BALL)	Latuma	A	401141
	1/4	3/4	2 1/2	4	SQ	VST4-R-0250-SQ	Latuma	A	401201
	1/4	3/4	2 1/2	4	0.015	VST4-R-0250-R015	Latuma	A	401211
	1/4	3/4	2 1/2	4	0.020	VST4-R-0250-R020	Latuma	A	401216
	1/4	3/4	2 1/2	4	0.030	VST4-R-0250-R030	Latuma	A	401221
	1/4	3/4	2 1/2	4	0.060	VST4-R-0250-R060	Latuma	A	401231
	1/4	3/4	2 1/2	4	BALL	VST4-R-0250-R125 (BALL)	Latuma	A	401241
	1/4	1	3	4	SQ	VST4-SP-0250-SQ	Latuma	C	491201
	1/4	1	3	4	0.015	VST4-SP-0250-R015	Latuma	C	491211
	1/4	1	3	4	0.020	VST4-SP-0250-R020	Latuma	C	491216
	1/4	1	3	4	0.030	VST4-SP-0250-R030	Latuma	C	491221
	1/4	1	3	4	0.060	VST4-SP-0250-R060	Latuma	C	491231
	1/4	1	3	4	BALL	VST4-SP-0250-R125 (BALL)	Latuma	C	491241
1/4	1 1/4	3	4	SQ	VST4-M-0250-SQ	Latuma	A	401301	
1/4	1 1/4	3	4	0.015	VST4-M-0250-R015	Latuma	A	401311	
1/4	1 1/4	3	4	0.020	VST4-M-0250-R020	Latuma	A	401316	
1/4	1 1/4	3	4	0.030	VST4-M-0250-R030	Latuma	A	401321	
1/4	1 1/4	3	4	0.060	VST4-M-0250-R060	Latuma	A	401331	
1/4	1 1/4	3	4	BALL	VST4-M-0250-R125 (BALL)	Latuma	A	401341	
5/16"	5/16	1/2	2	4	SQ	VST4-SR-0312-SQ	Latuma	A	402101
	5/16	1/2	2	4	0.015	VST4-SR-0312-R015	Latuma	A	402111
	5/16	1/2	2	4	0.030	VST4-SR-0312-R030	Latuma	A	402121
	5/16	1/2	2	4	BALL	VST4-SR-0312-R157 (BALL)	Latuma	A	402141
	5/16	3/4	2 1/2	4	SQ	VST4-R-0312-SQ	Latuma	A	402201
	5/16	3/4	2 1/2	4	0.015	VST4-R-0312-R015	Latuma	A	402211
	5/16	3/4	2 1/2	4	0.030	VST4-R-0312-R030	Latuma	A	402221
	5/16	3/4	2 1/2	4	BALL	VST4-R-0312-R157 (BALL)	Latuma	A	402241

## SERIES: VST4

4 Flute, Variable Pitch, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#	
5/16"	5/16	1 1/4	3	4	SQ	VST4-M-0312-SQ	Latuma	A	402301	
	5/16	1 1/4	3	4	0.015	VST4-M-0312-R015	Latuma	A	402311	
	5/16	1 1/4	3	4	0.030	VST4-M-0312-R030	Latuma	A	402321	
	5/16	1 1/4	3	4	BALL	VST4-M-0312-R157 (BALL)	Latuma	A	402341	
3/8"	3/8	1/2	2	4	SQ	VST4-S-0375-SQ	Latuma	A	403001	
	3/8	1/2	2	4	0.015	VST4-S-0375-R015	Latuma	A	403011	
	3/8	1/2	2	4	0.020	VST4-S-0375-R020	Latuma	A	403016	
	3/8	1/2	2	4	0.030	VST4-S-0375-R030	Latuma	A	403021	
	3/8	1/2	2	4	0.060	VST4-S-0375-R060	Latuma	A	403031	
	3/8	1/2	2	4	0.090	VST4-S-0375-R090	Latuma	C	403036	
	3/8	1/2	2	4	BALL	VST4-S-0375-R188 (BALL)	Latuma	A	403041	
	3/8	3/4	2 1/2	4	SQ	VST4-SR-0375-SQ	Latuma	A	403101	
	3/8	3/4	2 1/2	4	0.015	VST4-SR-0375-R015	Latuma	A	403111	
	3/8	3/4	2 1/2	4	0.020	VST4-SR-0375-R020	Latuma	A	403116	
	3/8	3/4	2 1/2	4	0.030	VST4-SR-0375-R030	Latuma	A	403121	
	3/8	3/4	2 1/2	4	0.060	VST4-SR-0375-R060	Latuma	A	403131	
	3/8	3/4	2 1/2	4	0.090	VST4-SR-0375-R090	Latuma	C	403136	
	3/8	3/4	2 1/2	4	BALL	VST4-SR-0375-R188 (BALL)	Latuma	A	403141	
	3/8	7/8	3	4	SQ	VST4-SP-0375-SQ	Latuma	A	493201	
	3/8	7/8	3	4	0.015	VST4-SP-0375-R015	Latuma	A	493211	
	3/8	7/8	3	4	0.020	VST4-SP-0375-R020	Latuma	A	493216	
	3/8	7/8	3	4	0.030	VST4-SP-0375-R030	Latuma	A	493221	
	3/8	7/8	3	4	0.060	VST4-SP-0375-R060	Latuma	A	493231	
	3/8	7/8	3	4	0.090	VST4-SP-0375-R090	Latuma	C	493236	
	3/8	7/8	3	4	BALL	VST4-SP-0375-R188 (BALL)	Latuma	A	493241	
	3/8	1	3	4	SQ	VST4-R-0375-SQ	Latuma	A	403201	
	3/8	1	3	4	0.015	VST4-R-0375-R015	Latuma	A	403211	
	3/8	1	3	4	0.020	VST4-R-0375-R020	Latuma	A	403216	
	3/8	1	3	4	0.030	VST4-R-0375-R030	Latuma	A	403221	
	3/8	1	3	4	0.060	VST4-R-0375-R060	Latuma	A	403231	
	3/8	1	3	4	0.090	VST4-R-0375-R090	Latuma	C	403236	
	3/8	1	3	4	BALL	VST4-R-0375-R188 (BALL)	Latuma	A	403241	
	3/8	1 1/4	3	4	SQ	VST4-M-0375-SQ	Latuma	A	403301	
	3/8	1 1/4	3	4	0.015	VST4-M-0375-R015	Latuma	A	403311	
	3/8	1 1/4	3	4	0.020	VST4-M-0375-R020	Latuma	A	403316	
	3/8	1 1/4	3	4	0.030	VST4-M-0375-R030	Latuma	A	403321	
	3/8	1 1/4	3	4	0.060	VST4-M-0375-R060	Latuma	A	403331	
	3/8	1 1/4	3	4	0.090	VST4-M-0375-R090	Latuma	C	403336	
	3/8	1 1/4	3	4	BALL	VST4-M-0375-R188 (BALL)	Latuma	A	403341	
	3/8	1 1/2	4	4	SQ	VST4-L-0375-SQ	Latuma	A	403401	
	3/8	1 1/2	4	4	0.015	VST4-L-0375-R015	Latuma	A	403411	
	3/8	1 1/2	4	4	0.020	VST4-L-0375-R020	Latuma	A	403416	
	3/8	1 1/2	4	4	0.030	VST4-L-0375-R030	Latuma	A	403421	
	3/8	1 1/2	4	4	0.060	VST4-L-0375-R060	Latuma	A	403431	
	3/8	1 1/2	4	4	0.090	VST4-L-0375-R090	Latuma	C	403436	
	3/8	1 1/2	4	4	BALL	VST4-L-0375-R188 (BALL)	Latuma	A	403441	
	1/2"	1/2	5/8	2 1/2	4	SQ	VST4-S-0500-SQ	Latuma	A	405001
		1/2	5/8	2 1/2	4	0.015	VST4-S-0500-R015	Latuma	A	405011
1/2		5/8	2 1/2	4	0.030	VST4-S-0500-R030	Latuma	A	405021	
1/2		5/8	2 1/2	4	0.060	VST4-S-0500-R060	Latuma	A	405031	
1/2		5/8	2 1/2	4	0.090	VST4-S-0500-R090	Latuma	C	405036	
1/2		5/8	2 1/2	4	0.125	VST4-S-0500-R125	Latuma	A	405041	
1/2		5/8	2 1/2	4	BALL	VST4-S-0500-R250 (BALL)	Latuma	A	405051	

## SERIES: VST4

4 Flute, Variable Pitch, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
1/2"	1/2	1	3	4	SQ	VST4-SR-0500-SQ	Latuma	A	405101
	1/2	1	3	4	0.015	VST4-SR-0500-R015	Latuma	A	405111
	1/2	1	3	4	0.030	VST4-SR-0500-R030	Latuma	A	405121
	1/2	1	3	4	0.060	VST4-SR-0500-R060	Latuma	A	405131
	1/2	1	3	4	0.090	VST4-SR-0500-R090	Latuma	C	405136
	1/2	1	3	4	0.125	VST4-SR-0500-R125	Latuma	A	405141
	1/2	1	3	4	BALL	VST4-SR-0500-R250 (BALL)	Latuma	A	405151
	1/2	1 1/4	3	4	SQ	VST4-R-0500-SQ	Latuma	A	405201
	1/2	1 1/4	3	4	0.015	VST4-R-0500-R015	Latuma	A	405211
	1/2	1 1/4	3	4	0.030	VST4-R-0500-R030	Latuma	A	405221
	1/2	1 1/4	3	4	0.060	VST4-R-0500-R060	Latuma	A	405231
	1/2	1 1/4	3	4	0.090	VST4-R-0500-R090	Latuma	C	405236
	1/2	1 1/4	3	4	0.125	VST4-R-0500-R125	Latuma	A	405241
	1/2	1 1/4	3	4	BALL	VST4-R-0500-R250 (BALL)	Latuma	A	405251
	1/2	1 1/2	4	4	SQ	VST4-M-0500-SQ	Latuma	A	405301
	1/2	1 1/2	4	4	0.015	VST4-M-0500-R015	Latuma	A	405311
	1/2	1 1/2	4	4	0.030	VST4-M-0500-R030	Latuma	A	405321
	1/2	1 1/2	4	4	0.060	VST4-M-0500-R060	Latuma	A	405331
	1/2	1 1/2	4	4	0.090	VST4-M-0500-R090	Latuma	C	405336
	1/2	1 1/2	4	4	0.125	VST4-M-0500-R125	Latuma	A	405341
	1/2	1 1/2	4	4	BALL	VST4-M-0500-R250 (BALL)	Latuma	A	405351
	1/2	1 5/8	4	4	SQ	VST4-SP-0500-SQ	Latuma	A	495301
	1/2	1 5/8	4	4	0.015	VST4-SP-0500-R015	Latuma	A	495311
	1/2	1 5/8	4	4	0.030	VST4-SP-0500-R030	Latuma	A	495321
	1/2	1 5/8	4	4	0.060	VST4-SP-0500-R060	Latuma	A	495331
	1/2	1 5/8	4	4	0.090	VST4-SP-0500-R090	Latuma	C	495336
	1/2	1 5/8	4	4	0.125	VST4-SP-0500-R125	Latuma	A	495341
	1/2	1 5/8	4	4	BALL	VST4-SP-0500-R250 (BALL)	Latuma	A	495351
	1/2	2	4	4	SQ	VST4-L-0500-SQ	Latuma	A	405401
	1/2	2	4	4	0.015	VST4-L-0500-R015	Latuma	A	405411
	1/2	2	4	4	0.030	VST4-L-0500-R030	Latuma	A	405421
	1/2	2	4	4	0.060	VST4-L-0500-R060	Latuma	A	405431
1/2	2	4	4	0.090	VST4-L-0500-R090	Latuma	C	405436	
1/2	2	4	4	0.125	VST4-L-0500-R125	Latuma	A	405441	
1/2	2	4	4	BALL	VST4-L-0500-R250 (BALL)	Latuma	A	405451	
5/8"	5/8	3/4	3	4	SQ	VST4-S-0625-SQ	Latuma	A	406001
	5/8	3/4	3	4	0.030	VST4-S-0625-R030	Latuma	A	406011
	5/8	3/4	3	4	0.060	VST4-S-0625-R060	Latuma	C	406021
	5/8	3/4	3	4	0.090	VST4-S-0625-R090	Latuma	C	406026
	5/8	3/4	3	4	0.125	VST4-S-0625-R125	Latuma	C	406031
	5/8	3/4	3	4	BALL	VST4-S-0625-R313 (BALL)	Latuma	A	406041
	5/8	1 1/4	3 1/2	4	SQ	VST4-SR-0625-SQ	Latuma	A	406101
	5/8	1 1/4	3 1/2	4	0.030	VST4-SR-0625-R030	Latuma	A	406111
	5/8	1 1/4	3 1/2	4	0.060	VST4-SR-0625-R060	Latuma	A	406121
	5/8	1 1/4	3 1/2	4	0.090	VST4-SR-0625-R090	Latuma	C	406126
	5/8	1 1/4	3 1/2	4	0.125	VST4-SR-0625-R125	Latuma	A	406131
	5/8	1 1/4	3 1/2	4	BALL	VST4-SR-0625-R313 (BALL)	Latuma	A	406141
	5/8	1 1/2	3 1/2	4	SQ	VST4-R-0625-SQ	Latuma	A	406201
	5/8	1 1/2	3 1/2	4	0.030	VST4-R-0625-R030	Latuma	A	406211
	5/8	1 1/2	3 1/2	4	0.060	VST4-R-0625-R060	Latuma	A	406221
	5/8	1 1/2	3 1/2	4	0.090	VST4-R-0625-R090	Latuma	C	406226
	5/8	1 1/2	3 1/2	4	0.125	VST4-R-0625-R125	Latuma	A	406231
	5/8	1 1/2	3 1/2	4	BALL	VST4-R-0625-R313 (BALL)	Latuma	A	406241

## SERIES: VST4

4 Flute, Variable Pitch, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
5/8"	5/8	1 5/8	3 1/2	4	SQ	VST4-SP-0625-SQ	Latuma	A	496201
	5/8	1 5/8	3 1/2	4	0.030	VST4-SP-0625-R030	Latuma	A	496211
	5/8	1 5/8	3 1/2	4	0.060	VST4-SP-0625-R060	Latuma	A	496221
	5/8	1 5/8	3 1/2	4	0.090	VST4-SP-0625-R090	Latuma	C	496226
	5/8	1 5/8	3 1/2	4	0.125	VST4-SP-0625-R125	Latuma	A	496231
	5/8	1 5/8	3 1/2	4	BALL	VST4-SP-0625-R313 (BALL)	Latuma	A	496241
	5/8	2	4	4	SQ	VST4-M-0625-SQ	Latuma	A	406301
	5/8	2	4	4	0.030	VST4-M-0625-R030	Latuma	A	406311
	5/8	2	4	4	0.060	VST4-M-0625-R060	Latuma	A	406321
	5/8	2	4	4	0.090	VST4-M-0625-R090	Latuma	C	406326
	5/8	2	4	4	0.125	VST4-M-0625-R125	Latuma	A	406331
	5/8	2	4	4	BALL	VST4-M-0625-R313 (BALL)	Latuma	A	406341
	5/8	2 1/2	5	4	SQ	VST4-L-0625-SQ	Latuma	A	406401
	5/8	2 1/2	5	4	0.030	VST4-L-0625-R030	Latuma	A	406411
	5/8	2 1/2	5	4	0.060	VST4-L-0625-R060	Latuma	A	406421
	5/8	2 1/2	5	4	0.090	VST4-L-0625-R090	Latuma	C	406426
5/8	2 1/2	5	4	0.125	VST4-L-0625-R125	Latuma	A	406431	
5/8	2 1/2	5	4	BALL	VST4-L-0625-R313 (BALL)	Latuma	A	406441	
3/4"	3/4	1	3	4	SQ	VST4-S-0750-SQ	Latuma	A	407001
	3/4	1	3	4	0.030	VST4-S-0750-R030	Latuma	A	407011
	3/4	1	3	4	0.060	VST4-S-0750-R060	Latuma	A	407021
	3/4	1	3	4	0.090	VST4-S-0750-R090	Latuma	C	407026
	3/4	1	3	4	0.125	VST4-S-0750-R125	Latuma	A	407031
	3/4	1	3	4	BALL	VST4-S-0750-R375 (BALL)	Latuma	A	407041
	3/4	1 1/2	4	4	SQ	VST4-SR-0750-SQ	Latuma	A	407101
	3/4	1 1/2	4	4	0.030	VST4-SR-0750-R030	Latuma	A	407111
	3/4	1 1/2	4	4	0.060	VST4-SR-0750-R060	Latuma	A	407121
	3/4	1 1/2	4	4	0.090	VST4-SR-0750-R090	Latuma	C	407126
	3/4	1 1/2	4	4	0.125	VST4-SR-0750-R125	Latuma	A	407131
	3/4	1 1/2	4	4	BALL	VST4-SR-0750-R375 (BALL)	Latuma	A	407141
	3/4	1 5/8	4	4	SQ	VST4-SP-0750-SQ	Latuma	A	497101
	3/4	1 5/8	4	4	0.030	VST4-SP-0750-R030	Latuma	A	497111
	3/4	1 5/8	4	4	0.060	VST4-SP-0750-R060	Latuma	A	497121
	3/4	1 5/8	4	4	0.090	VST4-SP-0750-R090	Latuma	C	497126
	3/4	1 5/8	4	4	0.125	VST4-SP-0750-R125	Latuma	C	497131
	3/4	1 5/8	4	4	BALL	VST4-SP-0750-R375 (BALL)	Latuma	A	497141
	3/4	2	5	4	SQ	VST4-R-0750-SQ	Latuma	A	407201
	3/4	2	5	4	0.030	VST4-R-0750-R030	Latuma	A	407211
	3/4	2	5	4	0.060	VST4-R-0750-R060	Latuma	A	407221
	3/4	2	5	4	0.090	VST4-R-0750-R090	Latuma	C	407226
	3/4	2	5	4	0.125	VST4-R-0750-R125	Latuma	A	407231
	3/4	2	5	4	BALL	VST4-R-0750-R375 (BALL)	Latuma	A	407241
	3/4	2 1/2	5	4	SQ	VST4-M-0750-SQ	Latuma	A	407301
	3/4	2 1/2	5	4	0.030	VST4-M-0750-R030	Latuma	A	407311
	3/4	2 1/2	5	4	0.060	VST4-M-0750-R060	Latuma	A	407321
	3/4	2 1/2	5	4	0.090	VST4-M-0750-R090	Latuma	C	407326
	3/4	2 1/2	5	4	0.125	VST4-M-0750-R125	Latuma	A	407331
	3/4	2 1/2	5	4	BALL	VST4-M-0750-R375 (BALL)	Latuma	A	407341
	3/4	3	6	4	SQ	VST4-L-0750-SQ	Latuma	A	407401
	3/4	3	6	4	0.030	VST4-L-0750-R030	Latuma	A	407411
3/4	3	6	4	0.060	VST4-L-0750-R060	Latuma	A	407421	
3/4	3	6	4	0.090	VST4-L-0750-R090	Latuma	C	407426	
3/4	3	6	4	0.125	VST4-L-0750-R125	Latuma	A	407431	
3/4	3	6	4	BALL	VST4-L-0750-R375 (BALL)	Latuma	A	407441	

## SERIES: VST4

4 Flute, Variable Pitch, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
1"	1	1 3/4	4	4	SQ	VST4-SR-1000-SQ	Latuma	A	408101
	1	1 3/4	4	4	0.030	VST4-SR-1000-R030	Latuma	A	408111
	1	1 3/4	4	4	0.060	VST4-SR-1000-R060	Latuma	A	408121
	1	1 3/4	4	4	0.090	VST4-SR-1000-R090	Latuma	C	408126
	1	1 3/4	4	4	0.125	VST4-SR-1000-R125	Latuma	A	408131
	1	1 3/4	4	4	BALL	VST4-SR-1000-R500 (BALL)	Latuma	A	408141
	1	2 1/2	5	4	SQ	VST4-R-1000-SQ	Latuma	A	408201
	1	2 1/2	5	4	0.030	VST4-R-1000-R030	Latuma	A	408211
	1	2 1/2	5	4	0.060	VST4-R-1000-R060	Latuma	A	408221
	1	2 1/2	5	4	0.090	VST4-R-1000-R090	Latuma	C	408226
	1	2 1/2	5	4	0.125	VST4-R-1000-R125	Latuma	A	408231
	1	2 1/2	5	4	BALL	VST4-R-1000-R500 (BALL)	Latuma	A	408241
	1	3	6	4	SQ	VST4-M-1000-SQ	Latuma	A	408301
	1	3	6	4	0.030	VST4-M-1000-R030	Latuma	A	408311
	1	3	6	4	0.060	VST4-M-1000-R060	Latuma	A	408321
	1	3	6	4	0.090	VST4-M-1000-R090	Latuma	C	408326
	1	3	6	4	0.125	VST4-M-1000-R125	Latuma	A	408331
	1	3	6	4	BALL	VST4-M-1000-R500 (BALL)	Latuma	A	408341
	1	3 1/2	6	4	SQ	VST4-L-1000-SQ	Latuma	A	408401
	1	3 1/2	6	4	0.030	VST4-L-1000-R030	Latuma	A	408411
	1	3 1/2	6	4	0.060	VST4-L-1000-R060	Latuma	A	408421
	1	3 1/2	6	4	0.090	VST4-L-1000-R090	Latuma	C	408426
	1	3 1/2	6	4	0.125	VST4-L-1000-R125	Latuma	A	408431
	1	3 1/2	6	4	BALL	VST4-L-1000-R500 (BALL)	Latuma	A	408441

### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)



## SERIES: VST4-RN

4 Flute, Reduced Neck, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8"	1/8	3/16	2	4	SQ	1/2	VST4-RN-R-0125-SQ	Latuma	C	410701
	1/8	3/16	2	4	0.015	1/2	VST4-RN-R-0125-R015	Latuma	C	410711
	1/8	3/16	2	4	BALL	1/2	VST4-RN-R-0125-R063 (BALL)	Latuma	C	410741
	1/8	3/16	2 1/2	4	SQ	3/4	VST4-RN-M-0125-SQ	Latuma	C	410801
	1/8	3/16	2 1/2	4	0.015	3/4	VST4-RN-M-0125-R015	Latuma	C	410811
	1/8	3/16	2 1/2	4	BALL	3/4	VST4-RN-M-0125-R063 (BALL)	Latuma	C	410841
3/16"	3/16	1/4	2 1/2	4	SQ	1/2	VST4-RN-R-0187-SQ	Latuma	C	400701
	3/16	1/4	2 1/2	4	0.015	1/2	VST4-RN-R-0187-R015	Latuma	C	400711
	3/16	1/4	2 1/2	4	BALL	1/2	VST4-RN-R-0187-R094 (BALL)	Latuma	C	400741
	3/16	1/4	3	4	SQ	3/4	VST4-RN-M-0187-SQ	Latuma	C	400801
	3/16	1/4	3	4	0.015	3/4	VST4-RN-M-0187-R015	Latuma	C	400811
	3/16	1/4	3	4	BALL	3/4	VST4-RN-M-0187-R094 (BALL)	Latuma	C	400841
	3/16	1/4	3	4	SQ	1	VST4-RN-L-0187-SQ	Latuma	C	400901
3/16	1/4	3	4	0.015	1	VST4-RN-L-0187-R015	Latuma	C	400911	
3/16	1/4	3	4	BALL	1	VST4-RN-L-0187-R094 (BALL)	Latuma	C	400941	
1/4"	1/4	3/8	2 1/2	4	SQ	3/4	VST4-RN-S-0250-SQ	Latuma	C	401601
	1/4	3/8	2 1/2	4	0.015	3/4	VST4-RN-S-0250-R015	Latuma	C	401611
	1/4	3/8	2 1/2	4	0.020	3/4	VST4-RN-S-0250-R020	Latuma	C	401616
	1/4	3/8	2 1/2	4	0.030	3/4	VST4-RN-S-0250-R030	Latuma	C	401621
	1/4	3/8	2 1/2	4	0.060	3/4	VST4-RN-S-0250-R060	Latuma	C	401631
	1/4	3/8	2 1/2	4	BALL	3/4	VST4-RN-S-0250-R125 (BALL)	Latuma	C	401641
	1/4	3/8	3	4	SQ	1	VST4-RN-SR-0250-SQ	Latuma	C	401601N
	1/4	3/8	3	4	0.015	1	VST4-RN-SR-0250-R015	Latuma	C	401611N
	1/4	3/8	3	4	0.020	1	VST4-RN-SR-0250-R020	Latuma	C	401616N
	1/4	3/8	3	4	0.030	1	VST4-RN-SR-0250-R030	Latuma	C	401621N
	1/4	3/8	3	4	0.060	1	VST4-RN-SR-0250-R060	Latuma	C	401631N
	1/4	3/8	3	4	BALL	1	VST4-RN-SR-0250-R125 (BALL)	Latuma	C	401641N
	1/4	3/8	4	4	SQ	1 1/4	VST4-RN-R-0250-SQ	Latuma	A	401701
	1/4	3/8	4	4	0.015	1 1/4	VST4-RN-R-0250-R015	Latuma	A	401711
	1/4	3/8	4	4	0.020	1 1/4	VST4-RN-R-0250-R020	Latuma	C	401716
	1/4	3/8	4	4	0.030	1 1/4	VST4-RN-R-0250-R030	Latuma	A	401721
	1/4	3/8	4	4	0.060	1 1/4	VST4-RN-R-0250-R060	Latuma	A	401731
	1/4	3/8	4	4	BALL	1 1/4	VST4-RN-R-0250-R125 (BALL)	Latuma	A	401741
	1/4	3/8	4	4	SQ	1 1/2	VST4-RN-SR-0250-SQ	Latuma	C	401801
	1/4	3/8	4	4	0.015	1 1/2	VST4-RN-SP-0250-R015	Latuma	C	401811
1/4	3/8	4	4	0.020	1 1/2	VST4-RN-SP-0250-R020	Latuma	C	401816	
1/4	3/8	4	4	0.030	1 1/2	VST4-RN-SP-0250-R030	Latuma	C	401821	
1/4	3/8	4	4	0.060	1 1/2	VST4-RN-SP-0250-R060	Latuma	C	401831	
1/4	3/8	4	4	BALL	1 1/2	VST4-RN-SP-0250-R125 (BALL)	Latuma	C	401841	
5/16"	5/16	1/2	3	4	SQ	1 1/4	VST4-RN-SR-0312-SQ	Latuma	C	402601N
	5/16	1/2	3	4	0.015	1 1/4	VST4-RN-SR-0312-R015	Latuma	C	402611N
	5/16	1/2	3	4	0.030	1 1/4	VST4-RN-SR-0312-R030	Latuma	C	402621N
	5/16	1/2	3	4	BALL	1 1/4	VST4-RN-SR-0312-R063 (BALL)	Latuma	C	402641N
	5/16	1/2	4	4	SQ	2	VST4-RN-M-0312-SQ	Latuma	C	402801
	5/16	1/2	4	4	0.015	2	VST4-RN-M-0312-R015	Latuma	C	402811
	5/16	1/2	4	4	0.030	2	VST4-RN-M-0312-R030	Latuma	C	402821
5/16	1/2	4	4	BALL	2	VST4-RN-M-0312-R063 (BALL)	Latuma	C	402841	
3/8"	3/8	5/8	3	4	SQ	1 5/8	VST4-RN-SR-0375-SQ	Latuma	C	403601N
	3/8	5/8	3	4	0.015	1 5/8	VST4-RN-SR-0375-R015	Latuma	C	403611N
	3/8	5/8	3	4	0.020	1 5/8	VST4-RN-SR-0375-R020	Latuma	C	403616N
	3/8	5/8	3	4	0.030	1 5/8	VST4-RN-SR-0375-R030	Latuma	C	403621N
	3/8	5/8	3	4	0.060	1 5/8	VST4-RN-SR-0375-R060	Latuma	C	403631N
	3/8	5/8	3	4	0.090	1 5/8	VST4-RN-SR-0375-R090	Latuma	C	403636N
	3/8	5/8	3	4	BALL	1 5/8	VST4-RN-SR-0375-R188 (BALL)	Latuma	C	403641N

## SERIES: VST4-RN

4 Flute, Reduced Neck, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
3/8"	3/8	5/8	4	4	SQ	2	VST4-RN-R-0375-SQ	Latuma	A	403701
	3/8	5/8	4	4	0.015	2	VST4-RN-R-0375-R015	Latuma	A	403711
	3/8	5/8	4	4	0.020	2	VST4-RN-R-0375-R020	Latuma	C	403716
	3/8	5/8	4	4	0.030	2	VST4-RN-R-0375-R030	Latuma	A	403721
	3/8	5/8	4	4	0.060	2	VST4-RN-R-0375-R060	Latuma	A	403731
	3/8	5/8	4	4	0.090	2	VST4-RN-R-0375-R090	Latuma	C	403736
	3/8	5/8	4	4	BALL	2	VST4-RN-R-0375-R188 (BALL)	Latuma	A	403741
	3/8	5/8	4	4	SQ	2 1/2	VST4-RN-M-0375-SQ	Latuma	C	403801
	3/8	5/8	4	4	0.015	2 1/2	VST4-RN-M-0375-R015	Latuma	C	403811
	3/8	5/8	4	4	0.020	2 1/2	VST4-RN-M-0375-R020	Latuma	C	403816
	3/8	5/8	4	4	0.030	2 1/2	VST4-RN-M-0375-R030	Latuma	C	403821
	3/8	5/8	4	4	0.060	2 1/2	VST4-RN-M-0375-R060	Latuma	C	403831
	3/8	5/8	4	4	0.090	2 1/2	VST4-RN-M-0375-R090	Latuma	C	403836
	3/8	5/8	4	4	BALL	2 1/2	VST4-RN-M-0375-R188 (BALL)	Latuma	C	403841
	3/8	5/8	5	4	SQ	3	VST4-RN-L-0375-SQ	Latuma	C	403901
	3/8	5/8	5	4	0.015	3	VST4-RN-L-0375-R015	Latuma	C	403911
	3/8	5/8	5	4	0.020	3	VST4-RN-L-0375-R020	Latuma	C	403916
	3/8	5/8	5	4	0.030	3	VST4-RN-L-0375-R030	Latuma	C	403921
	3/8	5/8	5	4	0.060	3	VST4-RN-L-0375-R060	Latuma	C	403931
	3/8	5/8	5	4	0.090	3	VST4-RN-L-0375-R090	Latuma	C	403936
3/8	5/8	5	4	BALL	3	VST4-RN-L-0375-R188 (BALL)	Latuma	C	403941	
1/2"	1/2	3/4	3	4	SQ	1 1/4	VST4-RN-S-0500-SQ	Latuma	A	405601
	1/2	3/4	3	4	0.015	1 1/4	VST4-RN-S-0500-R015	Latuma	A	405611
	1/2	3/4	3	4	0.030	1 1/4	VST4-RN-S-0500-R030	Latuma	A	405621
	1/2	3/4	3	4	0.060	1 1/4	VST4-RN-S-0500-R060	Latuma	A	405631
	1/2	3/4	3	4	0.090	1 1/4	VST4-RN-S-0500-R090	Latuma	C	405636
	1/2	3/4	3	4	0.125	1 1/4	VST4-RN-S-0500-R125	Latuma	A	405641
	1/2	3/4	3	4	BALL	1 1/4	VST4-RN-S-0500-R250 (BALL)	Latuma	A	405651
	1/2	3/4	3	4	SQ	1 3/4	VST4-RN-SR-0500-SQ	Latuma	C	405601N
	1/2	3/4	3	4	0.015	1 3/4	VST4-RN-SR-0500-R015	Latuma	C	405611N
	1/2	3/4	3	4	0.030	1 3/4	VST4-RN-SR-0500-R030	Latuma	C	405621N
	1/2	3/4	3	4	0.060	1 3/4	VST4-RN-SR-0500-R060	Latuma	C	405631N
	1/2	3/4	3	4	0.090	1 3/4	VST4-RN-SR-0500-R090	Latuma	C	405636N
	1/2	3/4	3	4	0.125	1 3/4	VST4-RN-SR-0500-R125	Latuma	C	405641N
	1/2	3/4	3	4	BALL	1 3/4	VST4-RN-SR-0500-R250 (BALL)	Latuma	C	405651N
	1/2	3/4	4	4	SQ	2	VST4-RN-R-0500-SQ	Latuma	A	405701
	1/2	3/4	4	4	0.015	2	VST4-RN-R-0500-R015	Latuma	A	405711
	1/2	3/4	4	4	0.030	2	VST4-RN-R-0500-R030	Latuma	A	405721
	1/2	3/4	4	4	0.060	2	VST4-RN-R-0500-R060	Latuma	A	405731
	1/2	3/4	4	4	0.090	2	VST4-RN-R-0500-R090	Latuma	C	405736
	1/2	3/4	4	4	0.125	2	VST4-RN-R-0500-R125	Latuma	A	405741
	1/2	3/4	4	4	BALL	2	VST4-RN-R-0500-R250 (BALL)	Latuma	A	405751
	1/2	3/4	4	4	SQ	2 1/4	VST4-RN-SP-0500-SQ	Latuma	C	405701N
	1/2	3/4	4	4	0.015	2 1/4	VST4-RN-SP-0500-R015	Latuma	C	405711N
	1/2	3/4	4	4	0.030	2 1/4	VST4-RN-SP-0500-R030	Latuma	C	405721N
	1/2	3/4	4	4	0.060	2 1/4	VST4-RN-SP-0500-R060	Latuma	C	405731N
	1/2	3/4	4	4	0.090	2 1/4	VST4-RN-SP-0500-R090	Latuma	C	405736N
	1/2	3/4	4	4	0.125	2 1/4	VST4-RN-SP-0500-R125	Latuma	C	405741N
	1/2	3/4	4	4	BALL	2 1/4	VST4-RN-SP-0500-R250 (BALL)	Latuma	C	405751N
	1/2	3/4	5	4	SQ	2 1/2	VST4-RN-M-0500-SQ	Latuma	A	405801
	1/2	3/4	5	4	0.015	2 1/2	VST4-RN-M-0500-R015	Latuma	A	405811
	1/2	3/4	5	4	0.030	2 1/2	VST4-RN-M-0500-R030	Latuma	A	405821
	1/2	3/4	5	4	0.060	2 1/2	VST4-RN-M-0500-R060	Latuma	A	405831
	1/2	3/4	5	4	0.090	2 1/2	VST4-RN-M-0500-R090	Latuma	C	405836
	1/2	3/4	5	4	0.125	2 1/2	VST4-RN-M-0500-R125	Latuma	A	405841
1/2	3/4	5	4	BALL	2 1/2	VST4-RN-M-0500-R250 (BALL)	Latuma	A	405851	

## SERIES: VST4-RN

4 Flute, Reduced Neck, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1/2"	1/2	3/4	6	4	SQ	3 1/2	VST4-RN-L-0500-SQ	Latuma	A	405901
	1/2	3/4	6	4	0.015	3 1/2	VST4-RN-L-0500-R015	Latuma	A	405911
	1/2	3/4	6	4	0.030	3 1/2	VST4-RN-L-0500-R030	Latuma	A	405921
	1/2	3/4	6	4	0.060	3 1/2	VST4-RN-L-0500-R060	Latuma	A	405931
	1/2	3/4	6	4	0.090	3 1/2	VST4-RN-L-0500-R090	Latuma	C	405936
	1/2	3/4	6	4	0.125	3 1/2	VST4-RN-L-0500-R125	Latuma	A	405941
	1/2	3/4	6	4	BALL	3 1/2	VST4-RN-L-0500-R250 (BALL)	Latuma	A	405951
5/8"	5/8	1	4	4	SQ	2	VST4-RN-R-0625-SQ	Latuma	C	406701
	5/8	1	4	4	0.030	2	VST4-RN-R-0625-R030	Latuma	C	406711
	5/8	1	4	4	0.060	2	VST4-RN-R-0625-R060	Latuma	C	406721
	5/8	1	4	4	0.090	2	VST4-RN-R-0625-R090	Latuma	C	406726
	5/8	1	4	4	0.125	2	VST4-RN-R-0625-R125	Latuma	C	406731
	5/8	1	4	4	BALL	2	VST4-RN-R-0625-R313 (BALL)	Latuma	C	406741
	5/8	1	5	4	SQ	2 1/2	VST4-RN-M-0625-SQ	Latuma	A	406801
	5/8	1	5	4	0.030	2 1/2	VST4-RN-M-0625-R030	Latuma	A	406811
	5/8	1	5	4	0.060	2 1/2	VST4-RN-M-0625-R060	Latuma	A	406821
	5/8	1	5	4	0.090	2 1/2	VST4-RN-M-0625-R090	Latuma	C	406826
	5/8	1	5	4	0.125	2 1/2	VST4-RN-M-0625-R125	Latuma	A	406831
	5/8	1	5	4	BALL	2 1/2	VST4-RN-M-0625-R313 (BALL)	Latuma	A	406841
	5/8	1	5	4	SQ	3 1/2	VST4-RN-L-0625-SQ	Latuma	C	406901
	5/8	1	5	4	0.030	3 1/2	VST4-RN-L-0625-R030	Latuma	C	406911
	5/8	1	5	4	0.060	3 1/2	VST4-RN-L-0625-R060	Latuma	C	406921
	5/8	1	5	4	0.090	3 1/2	VST4-RN-L-0625-R090	Latuma	C	406926
5/8	1	5	4	0.125	3 1/2	VST4-RN-L-0625-R125	Latuma	C	406931	
5/8	1	5	4	BALL	3 1/2	VST4-RN-L-0625-R313 (BALL)	Latuma	C	406941	
3/4"	3/4	1 1/8	4	4	SQ	1 3/4	VST4-RN-SR-0750-SQ	Latuma	C	407601N
	3/4	1 1/8	4	4	0.030	1 3/4	VST4-RN-SR-0750-R030	Latuma	C	407611N
	3/4	1 1/8	4	4	0.060	1 3/4	VST4-RN-SR-0750-R060	Latuma	C	407621N
	3/4	1 1/8	4	4	0.090	1 3/4	VST4-RN-SR-0750-R090	Latuma	C	407626N
	3/4	1 1/8	4	4	0.125	1 3/4	VST4-RN-SR-0750-R125	Latuma	C	407631N
	3/4	1 1/8	4	4	BALL	1 3/4	VST4-RN-SR-0750-R375 (BALL)	Latuma	C	407641N
	3/4	1 1/8	4	4	SQ	2	VST4-RN-R-0750-SQ	Latuma	A	407701
	3/4	1 1/8	4	4	0.030	2	VST4-RN-R-0750-R030	Latuma	A	407711
	3/4	1 1/8	4	4	0.060	2	VST4-RN-R-0750-R060	Latuma	A	407721
	3/4	1 1/8	4	4	0.090	2	VST4-RN-R-0750-R090	Latuma	C	407726
	3/4	1 1/8	4	4	0.125	2	VST4-RN-R-0750-R125	Latuma	A	407731
	3/4	1 1/8	4	4	BALL	2	VST4-RN-R-0750-R375 (BALL)	Latuma	A	407741
	3/4	1 1/8	5	4	SQ	2 1/2	VST4-RN-SP-0750-SQ	Latuma	C	407701N
	3/4	1 1/8	5	4	0.030	2 1/2	VST4-RN-SP-0750-R030	Latuma	C	407711N
	3/4	1 1/8	5	4	0.060	2 1/2	VST4-RN-SP-0750-R060	Latuma	C	407721N
	3/4	1 1/8	5	4	0.090	2 1/2	VST4-RN-SP-0750-R090	Latuma	C	407726N
	3/4	1 1/8	5	4	0.125	2 1/2	VST4-RN-SP-0750-R125	Latuma	C	407731N
	3/4	1 1/8	5	4	BALL	2 1/2	VST4-RN-SP-0750-R375 (BALL)	Latuma	C	407741N
	3/4	1 1/8	6	4	SQ	3	VST4-RN-M-0750-SQ	Latuma	A	407801
	3/4	1 1/8	6	4	0.030	3	VST4-RN-M-0750-R030	Latuma	A	407811
	3/4	1 1/8	6	4	0.060	3	VST4-RN-M-0750-R060	Latuma	A	407821
	3/4	1 1/8	6	4	0.090	3	VST4-RN-M-0750-R090	Latuma	C	407826
	3/4	1 1/8	6	4	0.125	3	VST4-RN-M-0750-R125	Latuma	A	407831
	3/4	1 1/8	6	4	BALL	3	VST4-RN-M-0750-R375 (BALL)	Latuma	A	407841
	3/4	1 1/8	6	4	SQ	4	VST4-RN-X-0750-SQ	Latuma	C	407901N
	3/4	1 1/8	6	4	0.030	4	VST4-RN-X-0750-R030	Latuma	C	407911N
	3/4	1 1/8	6	4	0.060	4	VST4-RN-X-0750-R060	Latuma	C	407921N
	3/4	1 1/8	6	4	0.090	4	VST4-RN-X-0750-R090	Latuma	C	407926N
3/4	1 1/8	6	4	0.125	4	VST4-RN-X-0750-R125	Latuma	C	407931N	
3/4	1 1/8	6	4	BALL	4	VST4-RN-X-0750-R375 (BALL)	Latuma	C	407941N	

## SERIES: VST4-RN

4 Flute, Reduced Neck, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1"	1	1 1/2	6	4	SQ	2 1/2	VST4-RN-R-1000-SQ	Latuma	A	408701
	1	1 1/2	6	4	0.030	2 1/2	VST4-RN-R-1000-R030	Latuma	A	408711
	1	1 1/2	6	4	0.060	2 1/2	VST4-RN-R-1000-R060	Latuma	A	408721
	1	1 1/2	6	4	0.090	2 1/2	VST4-RN-R-1000-R090	Latuma	C	408726
	1	1 1/2	6	4	0.125	2 1/2	VST4-RN-R-1000-R125	Latuma	A	408731
	1	1 1/2	6	4	BALL	2 1/2	VST4-RN-R-1000-R500 (BALL)	Latuma	A	408741
	1	1 1/2	6	4	SQ	3 1/2	VST4-RN-M-1000-SQ	Latuma	A	408801
	1	1 1/2	6	4	0.030	3 1/2	VST4-RN-M-1000-R030	Latuma	A	408811
	1	1 1/2	6	4	0.060	3 1/2	VST4-RN-M-1000-R060	Latuma	A	408821
	1	1 1/2	6	4	0.090	3 1/2	VST4-RN-M-1000-R090	Latuma	C	408826
	1	1 1/2	6	4	0.125	3 1/2	VST4-RN-M-1000-R125	Latuma	A	408831
	1	1 1/2	6	4	BALL	3 1/2	VST4-RN-M-1000-R500 (BALL)	Latuma	A	408841
	1	1 1/2	7	4	SQ	4 1/2	VST4-RN-L-1000-SQ	Latuma	C	408901
	1	1 1/2	7	4	0.030	4 1/2	VST4-RN-L-1000-R030	Latuma	C	408911
	1	1 1/2	7	4	0.060	4 1/2	VST4-RN-L-1000-R060	Latuma	C	408921
	1	1 1/2	7	4	0.090	4 1/2	VST4-RN-L-1000-R090	Latuma	C	408926
	1	1 1/2	7	4	0.125	4 1/2	VST4-RN-L-1000-R125	Latuma	C	408931
	1	1 1/2	7	4	BALL	4 1/2	VST4-RN-L-1000-R500 (BALL)	Latuma	C	408941

Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

# SERIES: VST4-RN BLANKS

4 Flute, Un-Necked Blanks, LBS Necked to Size at Time of Order

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1/2"	1/2	3/4	7	4	SQ	Custom LBS	VST4-RN-7-0500-SQ	Latuma	C	405701-BLK
	1/2	3/4	7	4	0.015	Custom LBS	VST4-RN-7-0500-R015	Latuma	C	405711-BLK
	1/2	3/4	7	4	0.030	Custom LBS	VST4-RN-7-0500-R030	Latuma	C	405721-BLK
	1/2	3/4	7	4	0.060	Custom LBS	VST4-RN-7-0500-R060	Latuma	C	405731-BLK
	1/2	3/4	7	4	0.090	Custom LBS	VST4-RN-7-0500-R090	Latuma	C	405736-BLK
	1/2	3/4	7	4	0.125	Custom LBS	VST4-RN-7-0500-R125	Latuma	C	405741-BLK
	1/2	3/4	7	4	BALL	Custom LBS	VST4-RN-7-0500-R250 (BALL)	Latuma	C	405751-BLK
	1/2	3/4	8	4	SQ	Custom LBS	VST4-RN-8-0500-SQ	Latuma	C	405801-BLK
	1/2	3/4	8	4	0.015	Custom LBS	VST4-RN-8-0500-R015	Latuma	C	405811-BLK
	1/2	3/4	8	4	0.030	Custom LBS	VST4-RN-8-0500-R030	Latuma	C	405821-BLK
	1/2	3/4	8	4	0.060	Custom LBS	VST4-RN-8-0500-R060	Latuma	C	405831-BLK
	1/2	3/4	8	4	0.090	Custom LBS	VST4-RN-8-0500-R090	Latuma	C	405836-BLK
1/2	3/4	8	4	0.125	Custom LBS	VST4-RN-8-0500-R125	Latuma	C	405841-BLK	
1/2	3/4	8	4	BALL	Custom LBS	VST4-RN-8-0500-R250 (BALL)	Latuma	C	405851-BLK	
5/8"	5/8	1	7	4	SQ	Custom LBS	VST4-RN-7-0625-SQ	Latuma	C	406701-BLK
	5/8	1	7	4	0.030	Custom LBS	VST4-RN-7-0625-R030	Latuma	C	406711-BLK
	5/8	1	7	4	0.060	Custom LBS	VST4-RN-7-0625-R060	Latuma	C	406721-BLK
	5/8	1	7	4	0.090	Custom LBS	VST4-RN-7-0625-R090	Latuma	C	406726-BLK
	5/8	1	7	4	0.125	Custom LBS	VST4-RN-7-0625-R125	Latuma	C	406731-BLK
	5/8	1	7	4	BALL	Custom LBS	VST4-RN-7-0625-R313 (BALL)	Latuma	C	406741-BLK
	5/8	1	8	4	SQ	Custom LBS	VST4-RN-8-0625-SQ	Latuma	C	406801-BLK
	5/8	1	8	4	0.030	Custom LBS	VST4-RN-8-0625-R030	Latuma	C	406811-BLK
	5/8	1	8	4	0.060	Custom LBS	VST4-RN-8-0625-R060	Latuma	C	406821-BLK
	5/8	1	8	4	0.090	Custom LBS	VST4-RN-8-0625-R090	Latuma	C	406826-BLK
5/8	1	8	4	0.125	Custom LBS	VST4-RN-8-0625-R125	Latuma	C	406831-BLK	
5/8	1	8	4	BALL	Custom LBS	VST4-RN-8-0625-R313 (BALL)	Latuma	C	406841-BLK	
3/4"	3/4	1 1/8	7	4	SQ	Custom LBS	VST4-RN-7-0750-SQ	Latuma	C	407701-BLK
	3/4	1 1/8	7	4	0.030	Custom LBS	VST4-RN-7-0750-R030	Latuma	C	407711-BLK
	3/4	1 1/8	7	4	0.060	Custom LBS	VST4-RN-7-0750-R060	Latuma	C	407721-BLK
	3/4	1 1/8	7	4	0.090	Custom LBS	VST4-RN-7-0750-R090	Latuma	C	407726-BLK
	3/4	1 1/8	7	4	0.125	Custom LBS	VST4-RN-7-0750-R125	Latuma	C	407731-BLK
	3/4	1 1/8	7	4	BALL	Custom LBS	VST4-RN-7-0750-R375 (BALL)	Latuma	C	407741-BLK
	3/4	1 1/8	8	4	SQ	Custom LBS	VST4-RN-8-0750-SQ	Latuma	C	407801-BLK
	3/4	1 1/8	8	4	0.030	Custom LBS	VST4-RN-8-0750-R030	Latuma	C	407811-BLK
	3/4	1 1/8	8	4	0.060	Custom LBS	VST4-RN-8-0750-R060	Latuma	C	407821-BLK
	3/4	1 1/8	8	4	0.090	Custom LBS	VST4-RN-8-0750-R090	Latuma	C	407826-BLK
3/4	1 1/8	8	4	0.125	Custom LBS	VST4-RN-8-0750-R125	Latuma	C	407831-BLK	
3/4	1 1/8	8	4	BALL	Custom LBS	VST4-RN-8-0750-R375 (BALL)	Latuma	C	407841-BLK	
1"	1	1 1/2	7	4	SQ	Custom LBS	VST4-RN-7-1000-SQ	Latuma	C	408701-BLK
	1	1 1/2	7	4	0.030	Custom LBS	VST4-RN-7-1000-R030	Latuma	C	408711-BLK
	1	1 1/2	7	4	0.060	Custom LBS	VST4-RN-7-1000-R060	Latuma	C	408721-BLK
	1	1 1/2	7	4	0.090	Custom LBS	VST4-RN-7-1000-R090	Latuma	C	408726-BLK
	1	1 1/2	7	4	0.125	Custom LBS	VST4-RN-7-1000-R125	Latuma	C	408731-BLK
	1	1 1/2	7	4	BALL	Custom LBS	VST4-RN-7-1000-R500 (BALL)	Latuma	C	408741-BLK
	1	1 1/2	8	4	SQ	Custom LBS	VST4-RN-8-1000-SQ	Latuma	C	408801-BLK
	1	1 1/2	8	4	0.030	Custom LBS	VST4-RN-8-1000-R030	Latuma	C	408811-BLK
	1	1 1/2	8	4	0.060	Custom LBS	VST4-RN-8-1000-R060	Latuma	C	408821-BLK
	1	1 1/2	8	4	0.090	Custom LBS	VST4-RN-8-1000-R090	Latuma	C	408826-BLK
1	1 1/2	8	4	0.125	Custom LBS	VST4-RN-8-1000-R125	Latuma	C	408831-BLK	
1	1 1/2	8	4	BALL	Custom LBS	VST4-RN-8-1000-R500 (BALL)	Latuma	C	408841-BLK	



Standard Catalog Offering

# Ferrous VST4-CB Series



## SERIES: VST4-CB

4 Flute, Variable Pitch, Staggered Chipbreakers, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Roughing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8"	1/8	1/4	1 1/2	4	0.015	VST4-S-0125-R015-CB	Latuma	A	410011C
	1/8	3/8	2	4	0.015	VST4-SR-0125-R015-CB	Latuma	A	410111C
	1/8	1/2	2 1/2	4	0.015	VST4-R-0125-R015-CB	Latuma	A	410211C
3/16"	3/16	5/16	2	4	0.015	VST4-S-0187-R015-CB	Latuma	A	400011C
	3/16	7/16	2	4	0.015	VST4-SR-0187-R015-CB	Latuma	A	400111C
	3/16	9/16	2 1/2	4	0.015	VST4-R-0187-R015-CB	Latuma	A	400211C
1/4"	1/4	3/8	2	4	0.030	VST4-S-0250-R030-CB	Latuma	A	401021C
	1/4	1/2	2 1/2	4	0.030	VST4-SR-0250-R030-CB	Latuma	A	401121C
	1/4	3/4	2 1/2	4	0.030	VST4-R-0250-R030-CB	Latuma	A	401221C
	1/4	1	3	4	0.030	VST4-SP-0250-R030-CB	Latuma	C	491221C
	1/4	1 1/4	3	4	0.030	VST4-M-0250-R030-CB	Latuma	A	401321C
5/16"	5/16	1/2	2	4	0.030	VST4-SR-0312-R030-CB	Latuma	A	402121C
	5/16	3/4	2 1/2	4	0.030	VST4-R-0312-R030-CB	Latuma	A	402221C
	5/16	1 1/4	3	4	0.030	VST4-M-0312-R030-CB	Latuma	A	402321C
3/8"	3/8	1/2	2	4	0.030	VST4-S-0375-R030-CB	Latuma	A	403021C
	3/8	3/4	2 1/2	4	0.030	VST4-SR-0375-R030-CB	Latuma	A	403121C
	3/8	7/8	3	4	0.030	VST4-SP-0375-R030-CB	Latuma	A	493221C
	3/8	1	3	4	0.030	VST4-R-0375-R030-CB	Latuma	A	403221C
	3/8	1 1/4	3	4	0.030	VST4-M-0375-R030-CB	Latuma	A	403321C
	3/8	1 1/2	4	4	0.030	VST4-L-0375-R030-CB	Latuma	A	403421C
1/2"	1/2	5/8	2 1/2	4	0.030	VST4-S-0500-R030-CB	Latuma	A	405021C
	1/2	1	3	4	0.030	VST4-SR-0500-R030-CB	Latuma	A	405121C
	1/2	1 1/4	3	4	0.030	VST4-R-0500-R030-CB	Latuma	A	405221C
	1/2	1 1/2	4	4	0.030	VST4-M-0500-R030-CB	Latuma	A	405321C
	1/2	1 5/8	4	4	0.030	VST4-SP-0500-R030-CB	Latuma	A	495321C
	1/2	2	4	4	0.030	VST4-L-0500-R030-CB	Latuma	A	405421C
5/8"	5/8	3/4	3	4	0.030	VST4-S-0625-R030-CB	Latuma	A	406011C
	5/8	1 1/4	3 1/2	4	0.030	VST4-SR-0625-R030-CB	Latuma	A	406111C
	5/8	1 1/2	3 1/2	4	0.030	VST4-R-0625-R030-CB	Latuma	A	406211C
	5/8	1 5/8	3 1/2	4	0.030	VST4-SP-0625-R030-CB	Latuma	A	496211C
	5/8	2	4	4	0.030	VST4-M-0625-R030-CB	Latuma	A	406311C
	5/8	2 1/2	5	4	0.030	VST4-L-0625-R030-CB	Latuma	C	406411C
3/4"	3/4	1	3	4	0.030	VST4-S-0750-R030-CB	Latuma	A	407011C
	3/4	1 1/2	4	4	0.030	VST4-SR-0750-R030-CB	Latuma	A	407111C
	3/4	1 5/8	4	4	0.030	VST4-SP-0750-R030-CB	Latuma	A	497111C
	3/4	2	5	4	0.030	VST4-R-0750-R030-CB	Latuma	A	407211C
	3/4	2 1/2	5	4	0.030	VST4-M-0750-R030-CB	Latuma	A	407311C
	3/4	3	6	4	0.030	VST4-L-0750-R030-CB	Latuma	A	407411C
1"	1	1 3/4	4	4	0.030	VST4-SR-1000-R030-CB	Latuma	A	408111C
	1	2 1/2	5	4	0.030	VST4-R-1000-R030-CB	Latuma	A	408211C
	1	3	6	4	0.030	VST4-M-1000-R030-CB	Latuma	A	408311C
	1	3 1/2	6	4	0.030	VST4-L-1000-R030-CB	Latuma	A	408411C

### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

Standard Catalog Offering

# Finisher FEM5 Series





## SERIES: FEM5

5 Flute, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron, Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8"	1/8	1/4	1 1/2	5	SQ		FEM5-S-0125-SQ	Latuma	A	540001
	1/8	1/2	2 1/2	5	SQ		FEM5-R-0125-SQ	Latuma	A	540201
3/16"	3/16	5/16	2	5	SQ		FEM5-S-0187-SQ	Latuma	A	550001
	3/16	9/16	2 1/2	5	SQ		FEM5-R-0187-SQ	Latuma	A	550201
1/4"	1/4	3/8	2	5	SQ		FEM5-S-0250-SQ	Latuma	A	551001
	1/4	1/2	2 1/2	5	SQ		FEM5-SR-0250-SQ	Latuma	A	551101
	1/4	3/4	2 1/2	5	SQ		FEM5-R-0250-SQ	Latuma	A	551201
5/16"	5/16	1/2	2	5	SQ		FEM5-SR-0312-SQ	Latuma	A	552101
	5/16	3/4	2 1/2	5	SQ		FEM5-R-0312-SQ	Latuma	A	552201
3/8"	3/8	1/2	2	5	SQ		FEM5-S-0375-SQ	Latuma	A	553001
	3/8	1	2 1/2	5	SQ		FEM5-R-0375-SQ	Latuma	A	553201
	3/8	1 1/4	3	5	SQ		FEM5-M-0375-SQ	Latuma	A	553301
1/2"	1/2	5/8	2 1/2	5	SQ		FEM5-S-0500-SQ	Latuma	A	555001
	1/2	1	3	5	SQ		FEM5-SR-0500-SQ	Latuma	A	555101
	1/2	1 1/4	3	5	SQ		FEM5-R-0500-SQ	Latuma	A	555201
	1/2	1 5/8	4	5	SQ		FEM5-SP-0500-SQ	Latuma	A	545301
	1/2	2	4	5	SQ		FEM5-L-0500-SQ	Latuma	A	555401
5/8"	5/8	3/4	3	5	SQ		FEM5-S-0625-SQ	Latuma	A	556001
	5/8	1 1/4	3 1/2	5	SQ		FEM5-R-0625-SQ	Latuma	A	556101
	5/8	1 5/8	3 1/2	5	SQ		FEM5-SP-0625-SQ	Latuma	A	546201
	5/8	2	4	5	SQ		FEM5-M-0625-SQ	Latuma	A	556301
	5/8	2 1/2	5	5	SQ		FEM5-L-0625-SQ	Latuma	A	556401
3/4"	3/4	1	3	5	SQ		FEM5-S-0750-SQ	Latuma	A	557001
	3/4	1 5/8	4	5	SQ		FEM5-SP-0750-SQ	Latuma	A	547101
	3/4	2	5	5	SQ		FEM5-R-0750-SQ	Latuma	A	557201
	3/4	2 1/2	5	5	SQ		FEM5-M-0750-SQ	Latuma	A	557301

### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

Standard Catalog Offering

# Ferrous VST5 & VST5-RN Series



## SERIES: VST5

5 Flute, Variable Pitch, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Light Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8"	1/8	1/4	1 1/2	5	SQ	VST5-S-0125-SQ	Alcrona Pro	A	510001
	1/8	1/4	1 1/2	5	0.015	VST5-S-0125-R015	Alcrona Pro	A	510011
	1/8	1/4	1 1/2	5	0.063	VST5-S-0125-R063 (BALL)	Alcrona Pro	A	510041
	1/8	3/8	2	5	SQ	VST5-SR-0125-SQ	Alcrona Pro	A	510101
	1/8	3/8	2	5	0.015	VST5-SR-0125-R015	Alcrona Pro	A	510111
	1/8	3/8	2	5	0.063	VST5-SR-0125-R063 (BALL)	Alcrona Pro	A	510141
	1/8	1/2	2 1/2	5	SQ	VST5-R-0125-SQ	Alcrona Pro	A	510201
	1/8	1/2	2 1/2	5	0.015	VST5-R-0125-R015	Alcrona Pro	A	510211
	1/8	1/2	2 1/2	5	0.063	VST5-R-0125-R063 (BALL)	Alcrona Pro	A	510241
3/16"	3/16	5/16	2	5	SQ	VST5-S-0187-SQ	Alcrona Pro	A	500001
	3/16	5/16	2	5	0.015	VST5-S-0187-R015	Alcrona Pro	A	500011
	3/16	5/16	2	5	0.094	VST5-S-0187-R094 (BALL)	Alcrona Pro	A	500041
	3/16	7/16	2	5	SQ	VST5-SR-0187-SQ	Alcrona Pro	A	500101
	3/16	7/16	2	5	0.015	VST5-SR-0187-R015	Alcrona Pro	A	500111
	3/16	7/16	2	5	0.094	VST5-SR-0187-R094 (BALL)	Alcrona Pro	A	500141
	3/16	9/16	2 1/2	5	SQ	VST5-R-0187-SQ	Alcrona Pro	A	500201
	3/16	9/16	2 1/2	5	0.015	VST5-R-0187-R015	Alcrona Pro	A	500211
	3/16	9/16	2 1/2	5	0.094	VST5-R-0187-R094 (BALL)	Alcrona Pro	A	500241
1/4"	1/4	3/8	2	5	SQ	VST5-S-0250-SQ	Alcrona Pro	A	501001
	1/4	3/8	2	5	0.015	VST5-S-0250-R015	Alcrona Pro	A	501011
	1/4	3/8	2	5	0.020	VST5-S-0250-R020	Alcrona Pro	A	501016
	1/4	3/8	2	5	0.030	VST5-S-0250-R030	Alcrona Pro	A	501021
	1/4	3/8	2	5	0.060	VST5-S-0250-R060	Alcrona Pro	A	501031
	1/4	3/8	2	5	BALL	VST5-S-0250-R125 (BALL)	Alcrona Pro	A	501041
	1/4	1/2	2 1/2	5	SQ	VST5-SR-0250-SQ	Alcrona Pro	A	501101
	1/4	1/2	2 1/2	5	0.015	VST5-SR-0250-R015	Alcrona Pro	A	501111
	1/4	1/2	2 1/2	5	0.020	VST5-SR-0250-R020	Alcrona Pro	A	501116
	1/4	1/2	2 1/2	5	0.030	VST5-SR-0250-R030	Alcrona Pro	A	501121
	1/4	1/2	2 1/2	5	0.060	VST5-SR-0250-R060	Alcrona Pro	A	501131
	1/4	1/2	2 1/2	5	BALL	VST5-SR-0250-R125 (BALL)	Alcrona Pro	A	501141
	1/4	3/4	2 1/2	5	SQ	VST5-R-0250-SQ	Alcrona Pro	A	501201
	1/4	3/4	2 1/2	5	0.015	VST5-R-0250-R015	Alcrona Pro	A	501211
	1/4	3/4	2 1/2	5	0.020	VST5-R-0250-R020	Alcrona Pro	A	501216
	1/4	3/4	2 1/2	5	0.030	VST5-R-0250-R030	Alcrona Pro	A	501221
	1/4	3/4	2 1/2	5	0.060	VST5-R-0250-R060	Alcrona Pro	A	501231
	1/4	3/4	2 1/2	5	BALL	VST5-R-0250-R125 (BALL)	Alcrona Pro	A	501241
	1/4	1	3	5	SQ	VST5-SP-0250-SQ	Alcrona Pro	C	591201
	1/4	1	3	5	0.015	VST5-SP-0250-R015	Alcrona Pro	C	591211
	1/4	1	3	5	0.020	VST5-SP-0250-R020	Alcrona Pro	C	591216
	1/4	1	3	5	0.030	VST5-SP-0250-R030	Alcrona Pro	C	591221
	1/4	1	3	5	0.060	VST5-SP-0250-R060	Alcrona Pro	C	591231
	1/4	1	3	5	BALL	VST5-SP-0250-R125 (BALL)	Alcrona Pro	C	591241
	1/4	1 1/4	3	5	SQ	VST5-M-0250-SQ	Alcrona Pro	A	501301
	1/4	1 1/4	3	5	0.015	VST5-M-0250-R015	Alcrona Pro	A	501311
	1/4	1 1/4	3	5	0.020	VST5-M-0250-R020	Alcrona Pro	C	501316
	1/4	1 1/4	3	5	0.030	VST5-M-0250-R030	Alcrona Pro	A	501321
1/4	1 1/4	3	5	0.060	VST5-M-0250-R060	Alcrona Pro	C	501331	
1/4	1 1/4	3	5	BALL	VST5-M-0250-R125 (BALL)	Alcrona Pro	A	501341	
5/16"	5/16	1/2	2	5	SQ	VST5-SR-0312-SQ	Alcrona Pro	A	502101
	5/16	1/2	2	5	0.015	VST5-SR-0312-R015	Alcrona Pro	A	502111
	5/16	1/2	2	5	0.030	VST5-SR-0312-R030	Alcrona Pro	A	502121
	5/16	1/2	2	5	BALL	VST5-SR-0312-R157 (BALL)	Alcrona Pro	A	502141
	5/16	3/4	2 1/2	5	SQ	VST5-R-0312-SQ	Alcrona Pro	A	502201
	5/16	3/4	2 1/2	5	0.015	VST5-R-0312-R015	Alcrona Pro	A	502211
	5/16	3/4	2 1/2	5	0.030	VST5-R-0312-R030	Alcrona Pro	A	502221
	5/16	3/4	2 1/2	5	BALL	VST5-R-0312-R157 (BALL)	Alcrona Pro	A	502241

## SERIES: VST5

5 Flute, Variable Pitch, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Light Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
5/16"	5/16	1 1/4	3	5	SQ	VST5-M-0312-SQ	Alcrona Pro	A	502301
	5/16	1 1/4	3	5	0.015	VST5-M-0312-R015	Alcrona Pro	A	502311
	5/16	1 1/4	3	5	0.030	VST5-M-0312-R030	Alcrona Pro	A	502321
	5/16	1 1/4	3	5	BALL	VST5-M-0312-R157 (BALL)	Alcrona Pro	A	502341
3/8"	3/8	1/2	2	5	SQ	VST5-S-0375-SQ	Alcrona Pro	A	503001
	3/8	1/2	2	5	0.015	VST5-S-0375-R015	Alcrona Pro	A	503011
	3/8	1/2	2	5	0.020	VST5-S-0375-R020	Alcrona Pro	A	503016
	3/8	1/2	2	5	0.030	VST5-S-0375-R030	Alcrona Pro	A	503021
	3/8	1/2	2	5	0.060	VST5-S-0375-R060	Alcrona Pro	A	503031
	3/8	1/2	2	5	0.090	VST5-S-0375-R090	Alcrona Pro	C	503036
	3/8	1/2	2	5	BALL	VST5-S-0375-R188 (BALL)	Alcrona Pro	A	503041
	3/8	3/4	2 1/2	5	SQ	VST5-SR-0375-SQ	Alcrona Pro	A	503101
	3/8	3/4	2 1/2	5	0.015	VST5-SR-0375-R015	Alcrona Pro	A	503111
	3/8	3/4	2 1/2	5	0.020	VST5-SR-0375-R020	Alcrona Pro	A	503116
	3/8	3/4	2 1/2	5	0.030	VST5-SR-0375-R030	Alcrona Pro	A	503121
	3/8	3/4	2 1/2	5	0.060	VST5-SR-0375-R060	Alcrona Pro	A	503131
	3/8	3/4	2 1/2	5	0.090	VST5-SR-0375-R090	Alcrona Pro	C	503136
	3/8	3/4	2 1/2	5	BALL	VST5-SR-0375-R188 (BALL)	Alcrona Pro	A	503141
	3/8	7/8	3	5	SQ	VST5-SP-0375-SQ	Alcrona Pro	A	593201
	3/8	7/8	3	5	0.015	VST5-SP-0375-R015	Alcrona Pro	A	593211
	3/8	7/8	3	5	0.020	VST5-SP-0375-R020	Alcrona Pro	A	593216
	3/8	7/8	3	5	0.030	VST5-SP-0375-R030	Alcrona Pro	A	593221
	3/8	7/8	3	5	0.060	VST5-SP-0375-R060	Alcrona Pro	C	593231
	3/8	7/8	3	5	0.090	VST5-SP-0375-R090	Alcrona Pro	C	593236
	3/8	7/8	3	5	BALL	VST5-SP-0375-R188 (BALL)	Alcrona Pro	A	593241
	3/8	1	3	5	SQ	VST5-R-0375-SQ	Alcrona Pro	A	503201
	3/8	1	3	5	0.015	VST5-R-0375-R015	Alcrona Pro	A	503211
	3/8	1	3	5	0.020	VST5-R-0375-R020	Alcrona Pro	A	503216
	3/8	1	3	5	0.030	VST5-R-0375-R030	Alcrona Pro	A	503221
	3/8	1	3	5	0.060	VST5-R-0375-R060	Alcrona Pro	A	503231
	3/8	1	3	5	0.090	VST5-R-0375-R090	Alcrona Pro	C	503236
	3/8	1	3	5	BALL	VST5-R-0375-R188 (BALL)	Alcrona Pro	A	503241
	3/8	1 1/4	3	5	SQ	VST5-M-0375-SQ	Alcrona Pro	A	503301
	3/8	1 1/4	3	5	0.015	VST5-M-0375-R015	Alcrona Pro	A	503311
	3/8	1 1/4	3	5	0.020	VST5-M-0375-R020	Alcrona Pro	C	503316
	3/8	1 1/4	3	5	0.030	VST5-M-0375-R030	Alcrona Pro	A	503321
	3/8	1 1/4	3	5	0.060	VST5-M-0375-R060	Alcrona Pro	A	503331
	3/8	1 1/4	3	5	0.090	VST5-M-0375-R090	Alcrona Pro	C	503336
	3/8	1 1/4	3	5	BALL	VST5-M-0375-R188 (BALL)	Alcrona Pro	A	503341
	3/8	1 1/2	4	5	SQ	VST5-L-0375-SQ	Alcrona Pro	A	503401
	3/8	1 1/2	4	5	0.015	VST5-L-0375-R015	Alcrona Pro	A	503411
	3/8	1 1/2	4	5	0.020	VST5-L-0375-R020	Alcrona Pro	C	503416
	3/8	1 1/2	4	5	0.030	VST5-L-0375-R030	Alcrona Pro	A	503421
	3/8	1 1/2	4	5	0.060	VST5-L-0375-R060	Alcrona Pro	A	503431
3/8	1 1/2	4	5	0.090	VST5-L-0375-R090	Alcrona Pro	C	503436	
3/8	1 1/2	4	5	BALL	VST5-L-0375-R188 (BALL)	Alcrona Pro	A	503441	
1/2"	1/2	5/8	2 1/2	5	SQ	VST5-S-0500-SQ	Alcrona Pro	A	505001
	1/2	5/8	2 1/2	5	0.015	VST5-S-0500-R015	Alcrona Pro	A	505011
	1/2	5/8	2 1/2	5	0.030	VST5-S-0500-R030	Alcrona Pro	A	505021
	1/2	5/8	2 1/2	5	0.060	VST5-S-0500-R060	Alcrona Pro	A	505031
	1/2	5/8	2 1/2	5	0.090	VST5-S-0500-R090	Alcrona Pro	C	505036
	1/2	5/8	2 1/2	5	0.125	VST5-S-0500-R125	Alcrona Pro	A	505041
	1/2	5/8	2 1/2	5	BALL	VST5-S-0500-R250 (BALL)	Alcrona Pro	A	505051

## SERIES: VST5

5 Flute, Variable Pitch, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Light Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
1/2"	1/2	1	3	5	SQ	VST5-SR-0500-SQ	Alcrona Pro	A	505101
	1/2	1	3	5	0.015	VST5-SR-0500-R015	Alcrona Pro	A	505111
	1/2	1	3	5	0.030	VST5-SR-0500-R030	Alcrona Pro	A	505121
	1/2	1	3	5	0.060	VST5-SR-0500-R060	Alcrona Pro	A	505131
	1/2	1	3	5	0.090	VST5-SR-0500-R090	Alcrona Pro	C	505136
	1/2	1	3	5	0.125	VST5-SR-0500-R125	Alcrona Pro	A	505141
	1/2	1	3	5	BALL	VST5-SR-0500-R250 (BALL)	Alcrona Pro	A	505151
	1/2	1 1/4	3	5	SQ	VST5-R-0500-SQ	Alcrona Pro	A	505201
	1/2	1 1/4	3	5	0.015	VST5-R-0500-R015	Alcrona Pro	A	505211
	1/2	1 1/4	3	5	0.030	VST5-R-0500-R030	Alcrona Pro	A	505221
	1/2	1 1/4	3	5	0.060	VST5-R-0500-R060	Alcrona Pro	A	505231
	1/2	1 1/4	3	5	0.090	VST5-R-0500-R090	Alcrona Pro	C	505236
	1/2	1 1/4	3	5	0.125	VST5-R-0500-R125	Alcrona Pro	A	505241
	1/2	1 1/4	3	5	BALL	VST5-R-0500-R250 (BALL)	Alcrona Pro	A	505251
	1/2	1 1/2	4	5	SQ	VST5-M-0500-SQ	Alcrona Pro	A	505301
	1/2	1 1/2	4	5	0.015	VST5-M-0500-R015	Alcrona Pro	A	505311
	1/2	1 1/2	4	5	0.030	VST5-M-0500-R030	Alcrona Pro	A	505321
	1/2	1 1/2	4	5	0.060	VST5-M-0500-R060	Alcrona Pro	A	505331
	1/2	1 1/2	4	5	0.090	VST5-M-0500-R090	Alcrona Pro	C	505336
	1/2	1 1/2	4	5	0.125	VST5-M-0500-R125	Alcrona Pro	A	505341
	1/2	1 1/2	4	5	BALL	VST5-M-0500-R250 (BALL)	Alcrona Pro	A	505351
	1/2	1 5/8	4	5	SQ	VST5-SP-0500-SQ	Alcrona Pro	A	595301
	1/2	1 5/8	4	5	0.015	VST5-SP-0500-R015	Alcrona Pro	A	595311
	1/2	1 5/8	4	5	0.030	VST5-SP-0500-R030	Alcrona Pro	A	595321
	1/2	1 5/8	4	5	0.060	VST5-SP-0500-R060	Alcrona Pro	A	595331
	1/2	1 5/8	4	5	0.090	VST5-SP-0500-R090	Alcrona Pro	C	595336
	1/2	1 5/8	4	5	0.125	VST5-SP-0500-R125	Alcrona Pro	A	595341
	1/2	1 5/8	4	5	BALL	VST5-SP-0500-R250 (BALL)	Alcrona Pro	A	595351
	1/2	2	4	5	SQ	VST5-L-0500-SQ	Alcrona Pro	A	505401
	1/2	2	4	5	0.015	VST5-L-0500-R015	Alcrona Pro	A	505411
1/2	2	4	5	0.030	VST5-L-0500-R030	Alcrona Pro	A	505421	
1/2	2	4	5	0.060	VST5-L-0500-R060	Alcrona Pro	A	505431	
1/2	2	4	5	0.090	VST5-L-0500-R090	Alcrona Pro	C	505436	
1/2	2	4	5	0.125	VST5-L-0500-R125	Alcrona Pro	A	505441	
1/2	2	4	5	BALL	VST5-L-0500-R250 (BALL)	Alcrona Pro	A	505451	
5/8"	5/8	3/4	3	5	SQ	VST5-S-0625-SQ	Alcrona Pro	A	506001
	5/8	3/4	3	5	0.030	VST5-S-0625-R030	Alcrona Pro	A	506011
	5/8	3/4	3	5	0.060	VST5-S-0625-R060	Alcrona Pro	A	506021
	5/8	3/4	3	5	0.090	VST5-S-0625-R090	Alcrona Pro	C	506026
	5/8	3/4	3	5	0.125	VST5-S-0625-R125	Alcrona Pro	A	506031
	5/8	3/4	3	5	BALL	VST5-S-0625-R313 (BALL)	Alcrona Pro	A	506041
	5/8	1 1/4	3 1/2	5	SQ	VST5-SR-0625-SQ	Alcrona Pro	A	506101
	5/8	1 1/4	3 1/2	5	0.030	VST5-SR-0625-R030	Alcrona Pro	A	506111
	5/8	1 1/4	3 1/2	5	0.060	VST5-SR-0625-R060	Alcrona Pro	A	506121
	5/8	1 1/4	3 1/2	5	0.090	VST5-SR-0625-R090	Alcrona Pro	C	506126
	5/8	1 1/4	3 1/2	5	0.125	VST5-SR-0625-R125	Alcrona Pro	A	506131
	5/8	1 1/4	3 1/2	5	BALL	VST5-SR-0625-R313 (BALL)	Alcrona Pro	A	506141
	5/8	1 1/2	3 1/2	5	SQ	VST5-R-0625-SQ	Alcrona Pro	A	506201
	5/8	1 1/2	3 1/2	5	0.030	VST5-R-0625-R030	Alcrona Pro	A	506211
	5/8	1 1/2	3 1/2	5	0.060	VST5-R-0625-R060	Alcrona Pro	A	506221
	5/8	1 1/2	3 1/2	5	0.090	VST5-R-0625-R090	Alcrona Pro	C	506226
	5/8	1 1/2	3 1/2	5	0.125	VST5-R-0625-R125	Alcrona Pro	A	506231
	5/8	1 1/2	3 1/2	5	BALL	VST5-R-0625-R313 (BALL)	Alcrona Pro	A	506241

## SERIES: VST5

5 Flute, Variable Pitch, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Light Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
5/8"	5/8	1 5/8	3 1/2	5	SQ	VST5-SP-0625-SQ	Alcrona Pro	A	596201
	5/8	1 5/8	3 1/2	5	0.030	VST5-SP-0625-R030	Alcrona Pro	A	596211
	5/8	1 5/8	3 1/2	5	0.060	VST5-SP-0625-R060	Alcrona Pro	C	596221
	5/8	1 5/8	3 1/2	5	0.090	VST5-SP-0625-R090	Alcrona Pro	C	596226
	5/8	1 5/8	3 1/2	5	0.125	VST5-SP-0625-R125	Alcrona Pro	C	596231
	5/8	1 5/8	3 1/2	5	BALL	VST5-SP-0625-R313 (BALL)	Alcrona Pro	A	596241
	5/8	2	4	5	SQ	VST5-M-0625-SQ	Alcrona Pro	A	506301
	5/8	2	4	5	0.030	VST5-M-0625-R030	Alcrona Pro	A	506311
	5/8	2	4	5	0.060	VST5-M-0625-R060	Alcrona Pro	A	506321
	5/8	2	4	5	0.090	VST5-M-0625-R090	Alcrona Pro	C	506326
	5/8	2	4	5	0.125	VST5-M-0625-R125	Alcrona Pro	A	506331
	5/8	2	4	5	BALL	VST5-M-0625-R313 (BALL)	Alcrona Pro	A	506341
	5/8	2 1/2	5	5	SQ	VST5-L-0625-SQ	Alcrona Pro	A	506401
	5/8	2 1/2	5	5	0.030	VST5-L-0625-R030	Alcrona Pro	A	506411
	5/8	2 1/2	5	5	0.060	VST5-L-0625-R060	Alcrona Pro	C	506421
	5/8	2 1/2	5	5	0.090	VST5-L-0625-R090	Alcrona Pro	C	506426
5/8	2 1/2	5	5	0.125	VST5-L-0625-R125	Alcrona Pro	A	506431	
5/8	2 1/2	5	5	BALL	VST5-L-0625-R313 (BALL)	Alcrona Pro	C	506441	
3/4"	3/4	1	3	5	SQ	VST5-S-0750-SQ	Alcrona Pro	A	507001
	3/4	1	3	5	0.030	VST5-S-0750-R030	Alcrona Pro	A	507011
	3/4	1	3	5	0.060	VST5-S-0750-R060	Alcrona Pro	A	507021
	3/4	1	3	5	0.090	VST5-S-0750-R090	Alcrona Pro	C	507026
	3/4	1	3	5	0.125	VST5-S-0750-R125	Alcrona Pro	A	507031
	3/4	1	3	5	BALL	VST5-S-0750-R375 (BALL)	Alcrona Pro	A	507041
	3/4	1 1/2	4	5	SQ	VST5-SR-0750-SQ	Alcrona Pro	A	507101
	3/4	1 1/2	4	5	0.030	VST5-SR-0750-R030	Alcrona Pro	A	507111
	3/4	1 1/2	4	5	0.060	VST5-SR-0750-R060	Alcrona Pro	A	507121
	3/4	1 1/2	4	5	0.090	VST5-SR-0750-R090	Alcrona Pro	C	507126
	3/4	1 1/2	4	5	0.125	VST5-SR-0750-R125	Alcrona Pro	A	507131
	3/4	1 1/2	4	5	BALL	VST5-SR-0750-R375 (BALL)	Alcrona Pro	A	507141
	3/4	1 5/8	4	5	SQ	VST5-SP-0750-SQ	Alcrona Pro	A	597101
	3/4	1 5/8	4	5	0.030	VST5-SP-0750-R030	Alcrona Pro	A	597111
	3/4	1 5/8	4	5	0.060	VST5-SP-0750-R060	Alcrona Pro	A	597121
	3/4	1 5/8	4	5	0.090	VST5-SP-0750-R090	Alcrona Pro	C	597126
	3/4	1 5/8	4	5	0.125	VST5-SP-0750-R125	Alcrona Pro	A	597131
	3/4	1 5/8	4	5	BALL	VST5-SP-0750-R375 (BALL)	Alcrona Pro	A	597141
	3/4	2	5	5	SQ	VST5-R-0750-SQ	Alcrona Pro	A	507201
	3/4	2	5	5	0.030	VST5-R-0750-R030	Alcrona Pro	A	507211
	3/4	2	5	5	0.060	VST5-R-0750-R060	Alcrona Pro	A	507221
	3/4	2	5	5	0.090	VST5-R-0750-R090	Alcrona Pro	C	507226
	3/4	2	5	5	0.125	VST5-R-0750-R125	Alcrona Pro	A	507231
	3/4	2	5	5	BALL	VST5-R-0750-R375 (BALL)	Alcrona Pro	A	507241
	3/4	2 1/2	5	5	SQ	VST5-M-0750-SQ	Alcrona Pro	A	507301
	3/4	2 1/2	5	5	0.030	VST5-M-0750-R030	Alcrona Pro	A	507311
	3/4	2 1/2	5	5	0.060	VST5-M-0750-R060	Alcrona Pro	A	507321
	3/4	2 1/2	5	5	0.090	VST5-M-0750-R090	Alcrona Pro	C	507326
	3/4	2 1/2	5	5	0.125	VST5-M-0750-R125	Alcrona Pro	A	507331
	3/4	2 1/2	5	5	BALL	VST5-M-0750-R375 (BALL)	Alcrona Pro	C	507341
	3/4	3	6	5	SQ	VST5-L-0750-SQ	Alcrona Pro	A	507401
	3/4	3	6	5	0.030	VST5-L-0750-R030	Alcrona Pro	A	507411
3/4	3	6	5	0.060	VST5-L-0750-R060	Alcrona Pro	A	507421	
3/4	3	6	5	0.090	VST5-L-0750-R090	Alcrona Pro	C	507426	
3/4	3	6	5	0.125	VST5-L-0750-R125	Alcrona Pro	A	507431	
3/4	3	6	5	BALL	VST5-L-0750-R375 (BALL)	Alcrona Pro	A	507441	

## SERIES: VST5

5 Flute, Variable Pitch, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Light Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
1"	1	1 3/4	4	5	SQ	VST5-SR-1000-SQ	Alcrona Pro	A	508101
	1	1 3/4	4	5	0.030	VST5-SR-1000-R030	Alcrona Pro	A	508111
	1	1 3/4	4	5	0.060	VST5-SR-1000-R060	Alcrona Pro	C	508121
	1	1 3/4	4	5	0.090	VST5-SR-1000-R090	Alcrona Pro	C	508126
	1	1 3/4	4	5	0.125	VST5-SR-1000-R125	Alcrona Pro	A	508131
	1	1 3/4	4	5	BALL	VST5-SR-1000-R500 (BALL)	Alcrona Pro	A	508141
	1	2 1/2	5	5	SQ	VST5-R-1000-SQ	Alcrona Pro	A	508201
	1	2 1/2	5	5	0.030	VST5-R-1000-R030	Alcrona Pro	A	508211
	1	2 1/2	5	5	0.060	VST5-R-1000-R060	Alcrona Pro	A	508221
	1	2 1/2	5	5	0.090	VST5-R-1000-R090	Alcrona Pro	C	508226
	1	2 1/2	5	5	0.125	VST5-R-1000-R125	Alcrona Pro	A	508231
	1	2 1/2	5	5	BALL	VST5-R-1000-R500 (BALL)	Alcrona Pro	A	508241
	1	3	6	5	SQ	VST5-M-1000-SQ	Alcrona Pro	A	508301
	1	3	6	5	0.030	VST5-M-1000-R030	Alcrona Pro	A	508311
	1	3	6	5	0.060	VST5-M-1000-R060	Alcrona Pro	C	508321
	1	3	6	5	0.090	VST5-M-1000-R090	Alcrona Pro	C	508326
	1	3	6	5	0.125	VST5-M-1000-R125	Alcrona Pro	C	508331
	1	3	6	5	BALL	VST5-M-1000-R500 (BALL)	Alcrona Pro	A	508341
	1	3 1/2	6	5	SQ	VST5-L-1000-SQ	Alcrona Pro	A	508401
	1	3 1/2	6	5	0.030	VST5-L-1000-R030	Alcrona Pro	A	508411
	1	3 1/2	6	5	0.060	VST5-L-1000-R060	Alcrona Pro	C	508421
1	3 1/2	6	5	0.090	VST5-L-1000-R090	Alcrona Pro	C	508426	
1	3 1/2	6	5	0.125	VST5-L-1000-R125	Alcrona Pro	C	508431	
1	3 1/2	6	5	BALL	VST5-L-1000-R500 (BALL)	Alcrona Pro	C	508441	

### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

## SERIES: VST5-RN

5 Flute, Reduced Neck, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Lt Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8"	1/8	3/16	2	5	SQ	1/2	VST5-RN-R-0125-SQ	Alcrona Pro	C	510701
	1/8	3/16	2	5	0.015	1/2	VST5-RN-R-0125-R015	Alcrona Pro	C	510711
	1/8	3/16	2	5	BALL	1/2	VST5-RN-R-0125-R063 (BALL)	Alcrona Pro	C	510741
	1/8	3/16	2 1/2	5	SQ	3/4	VST5-RN-M-0125-SQ	Alcrona Pro	C	510801
	1/8	3/16	2 1/2	5	0.015	3/4	VST5-RN-M-0125-R015	Alcrona Pro	C	510811
	1/8	3/16	2 1/2	5	BALL	3/4	VST5-RN-M-0125-R063 (BALL)	Alcrona Pro	C	510841
3/16"	3/16	1/4	2 1/2	5	SQ	1/2	VST5-RN-R-0187-SQ	Alcrona Pro	C	500701
	3/16	1/4	2 1/2	5	0.015	1/2	VST5-RN-R-0187-R015	Alcrona Pro	C	500711
	3/16	1/4	2 1/2	5	BALL	1/2	VST5-RN-R-0187-R094 (BALL)	Alcrona Pro	C	500741
	3/16	1/4	3	5	SQ	3/4	VST5-RN-M-0187-SQ	Alcrona Pro	C	500801
	3/16	1/4	3	5	0.015	3/4	VST5-RN-M-0187-R015	Alcrona Pro	C	500811
	3/16	1/4	3	5	BALL	3/4	VST5-RN-M-0187-R094 (BALL)	Alcrona Pro	C	500841
	3/16	1/4	3	5	SQ	1	VST5-RN-L-0187-SQ	Alcrona Pro	C	500901
	3/16	1/4	3	5	0.015	1	VST5-RN-L-0187-R015	Alcrona Pro	C	500911
1/4"	1/4	3/8	2 1/2	5	SQ	3/4	VST5-RN-S-0250-SQ	Alcrona Pro	C	501601
	1/4	3/8	2 1/2	5	0.015	3/4	VST5-RN-S-0250-R015	Alcrona Pro	C	501611
	1/4	3/8	2 1/2	5	0.020	3/4	VST5-RN-S-0250-R020	Alcrona Pro	C	501616
	1/4	3/8	2 1/2	5	0.030	3/4	VST5-RN-S-0250-R030	Alcrona Pro	C	501621
	1/4	3/8	2 1/2	5	0.060	3/4	VST5-RN-S-0250-R060	Alcrona Pro	C	501631
	1/4	3/8	2 1/2	5	BALL	3/4	VST5-RN-S-0250-R125 (BALL)	Alcrona Pro	C	501641
	1/4	3/8	3	5	SQ	1	VST5-RN-SR-0250-SQ	Alcrona Pro	C	501601N
	1/4	3/8	3	5	0.015	1	VST5-RN-SR-0250-R015	Alcrona Pro	C	501611N
	1/4	3/8	3	5	0.020	1	VST5-RN-SR-0250-R020	Alcrona Pro	C	501616N
	1/4	3/8	3	5	0.030	1	VST5-RN-SR-0250-R030	Alcrona Pro	C	501621N
	1/4	3/8	3	5	0.060	1	VST5-RN-SR-0250-R060	Alcrona Pro	C	501631N
	1/4	3/8	3	5	BALL	1	VST5-RN-SR-0250-R125 (BALL)	Alcrona Pro	C	501641N
	1/4	3/8	4	5	SQ	1 1/4	VST5-RN-R-0250-SQ	Alcrona Pro	A	501701
	1/4	3/8	4	5	0.015	1 1/4	VST5-RN-R-0250-R015	Alcrona Pro	A	501711
	1/4	3/8	4	5	0.020	1 1/4	VST5-RN-R-0250-R020	Alcrona Pro	C	501716
	1/4	3/8	4	5	0.030	1 1/4	VST5-RN-R-0250-R030	Alcrona Pro	A	501721
	1/4	3/8	4	5	0.060	1 1/4	VST5-RN-R-0250-R060	Alcrona Pro	A	501731
	1/4	3/8	4	5	BALL	1 1/4	VST5-RN-R-0250-R125 (BALL)	Alcrona Pro	A	501741
	1/4	3/8	4	5	SQ	1 1/2	VST5-RN-SP-0250-SQ	Alcrona Pro	C	501801
	1/4	3/8	4	5	0.015	1 1/2	VST5-RN-SP-0250-R015	Alcrona Pro	C	501811
1/4	3/8	4	5	0.020	1 1/2	VST5-RN-SP-0250-R020	Alcrona Pro	C	501816	
1/4	3/8	4	5	0.030	1 1/2	VST5-RN-SP-0250-R030	Alcrona Pro	C	501821	
1/4	3/8	4	5	0.060	1 1/2	VST5-RN-SP-0250-R060	Alcrona Pro	C	501831	
1/4	3/8	4	5	BALL	1 1/2	VST5-RN-SP-0250-R125 (BALL)	Alcrona Pro	C	501841	
5/16"	5/16	1/2	3	5	SQ	1 1/4	VST5-RN-SR-0312-SQ	Alcrona Pro	C	502601N
	5/16	1/2	3	5	0.015	1 1/4	VST5-RN-SR-0312-R015	Alcrona Pro	C	502611N
	5/16	1/2	3	5	0.030	1 1/4	VST5-RN-SR-0312-R030	Alcrona Pro	C	502621N
	5/16	1/2	3	5	BALL	1 1/4	VST5-RN-SR-0312-R063 (BALL)	Alcrona Pro	C	502641N
	5/16	1/2	4	5	SQ	2	VST5-RN-M-0312-SQ	Alcrona Pro	C	502801
	5/16	1/2	4	5	0.015	2	VST5-RN-M-0312-R015	Alcrona Pro	C	502811
	5/16	1/2	4	5	0.030	2	VST5-RN-M-0312-R030	Alcrona Pro	C	502821
5/16	1/2	4	5	BALL	2	VST5-RN-M-0312-R063 (BALL)	Alcrona Pro	C	502841	
3/8"	3/8	5/8	3	5	SQ	1 5/8	VST5-RN-SR-0375-SQ	Alcrona Pro	C	503601N
	3/8	5/8	3	5	0.015	1 5/8	VST5-RN-SR-0375-R015	Alcrona Pro	C	503611N
	3/8	5/8	3	5	0.020	1 5/8	VST5-RN-SR-0375-R020	Alcrona Pro	C	503616N
	3/8	5/8	3	5	0.030	1 5/8	VST5-RN-SR-0375-R030	Alcrona Pro	C	503621N
	3/8	5/8	3	5	0.060	1 5/8	VST5-RN-SR-0375-R060	Alcrona Pro	C	503631N
	3/8	5/8	3	5	0.090	1 5/8	VST5-RN-SR-0375-R090	Alcrona Pro	C	503636N
	3/8	5/8	3	5	BALL	1 5/8	VST5-RN-SR-0375-R188 (BALL)	Alcrona Pro	C	503641N



## SERIES: VST5-RN

5 Flute, Reduced Neck, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Lt Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
3/8"	3/8	5/8	4	5	SQ	2	VST5-RN-R-0375-SQ	Alcrona Pro	A	503701
	3/8	5/8	4	5	0.015	2	VST5-RN-R-0375-R015	Alcrona Pro	A	503711
	3/8	5/8	4	5	0.020	2	VST5-RN-R-0375-R020	Alcrona Pro	C	503716
	3/8	5/8	4	5	0.030	2	VST5-RN-R-0375-R030	Alcrona Pro	A	503721
	3/8	5/8	4	5	0.060	2	VST5-RN-R-0375-R060	Alcrona Pro	A	503731
	3/8	5/8	4	5	0.090	2	VST5-RN-R-0375-R090	Alcrona Pro	C	503736
	3/8	5/8	4	5	BALL	2	VST5-RN-R-0375-R188 (BALL)	Alcrona Pro	A	503741
	3/8	5/8	4	5	SQ	2 1/2	VST5-RN-M-0375-SQ	Alcrona Pro	C	503801
	3/8	5/8	4	5	0.015	2 1/2	VST5-RN-M-0375-R015	Alcrona Pro	C	503811
	3/8	5/8	4	5	0.020	2 1/2	VST5-RN-M-0375-R020	Alcrona Pro	C	503816
	3/8	5/8	4	5	0.030	2 1/2	VST5-RN-M-0375-R030	Alcrona Pro	C	503821
	3/8	5/8	4	5	0.060	2 1/2	VST5-RN-M-0375-R060	Alcrona Pro	C	503831
	3/8	5/8	4	5	0.090	2 1/2	VST5-RN-M-0375-R090	Alcrona Pro	C	503836
	3/8	5/8	4	5	BALL	2 1/2	VST5-RN-M-0375-R188 (BALL)	Alcrona Pro	C	503841
	3/8	5/8	5	5	SQ	3	VST5-RN-L-0375-SQ	Alcrona Pro	C	503901
	3/8	5/8	5	5	0.015	3	VST5-RN-L-0375-R015	Alcrona Pro	C	503911
	3/8	5/8	5	5	0.020	3	VST5-RN-L-0375-R020	Alcrona Pro	C	503916
	3/8	5/8	5	5	0.030	3	VST5-RN-L-0375-R030	Alcrona Pro	C	503921
	3/8	5/8	5	5	0.060	3	VST5-RN-L-0375-R060	Alcrona Pro	C	503931
	3/8	5/8	5	5	0.090	3	VST5-RN-L-0375-R090	Alcrona Pro	C	503936
3/8	5/8	5	5	BALL	3	VST5-RN-L-0375-R188 (BALL)	Alcrona Pro	C	503941	
1/2"	1/2	3/4	3	5	SQ	1 1/4	VST5-RN-S-0500-SQ	Alcrona Pro	A	505601
	1/2	3/4	3	5	0.015	1 1/4	VST5-RN-S-0500-R015	Alcrona Pro	A	505611
	1/2	3/4	3	5	0.030	1 1/4	VST5-RN-S-0500-R030	Alcrona Pro	A	505621
	1/2	3/4	3	5	0.060	1 1/4	VST5-RN-S-0500-R060	Alcrona Pro	A	505631
	1/2	3/4	3	5	0.090	1 1/4	VST5-RN-S-0500-R090	Alcrona Pro	C	505636
	1/2	3/4	3	5	0.125	1 1/4	VST5-RN-S-0500-R125	Alcrona Pro	A	505641
	1/2	3/4	3	5	BALL	1 1/4	VST5-RN-S-0500-R250 (BALL)	Alcrona Pro	A	505651
	1/2	3/4	3	5	SQ	1 3/4	VST5-RN-SR-0500-SQ	Alcrona Pro	C	505601N
	1/2	3/4	3	5	0.015	1 3/4	VST5-RN-SR-0500-R015	Alcrona Pro	C	505611N
	1/2	3/4	3	5	0.030	1 3/4	VST5-RN-SR-0500-R030	Alcrona Pro	C	505621N
	1/2	3/4	3	5	0.060	1 3/4	VST5-RN-SR-0500-R060	Alcrona Pro	C	505631N
	1/2	3/4	3	5	0.090	1 3/4	VST5-RN-SR-0500-R090	Alcrona Pro	C	505636N
	1/2	3/4	3	5	0.125	1 3/4	VST5-RN-SR-0500-R125	Alcrona Pro	C	505641N
	1/2	3/4	3	5	BALL	1 3/4	VST5-RN-SR-0500-R250 (BALL)	Alcrona Pro	C	505651N
	1/2	3/4	4	5	SQ	2	VST5-RN-R-0500-SQ	Alcrona Pro	A	505701
	1/2	3/4	4	5	0.015	2	VST5-RN-R-0500-R015	Alcrona Pro	C	505711
	1/2	3/4	4	5	0.030	2	VST5-RN-R-0500-R030	Alcrona Pro	A	505721
	1/2	3/4	4	5	0.060	2	VST5-RN-R-0500-R060	Alcrona Pro	A	505731
	1/2	3/4	4	5	0.090	2	VST5-RN-R-0500-R090	Alcrona Pro	C	505736
	1/2	3/4	4	5	0.125	2	VST5-RN-R-0500-R125	Alcrona Pro	A	505741
	1/2	3/4	4	5	BALL	2	VST5-RN-R-0500-R250 (BALL)	Alcrona Pro	A	505751
	1/2	3/4	4	5	SQ	2 1/4	VST5-RN-SP-0500-SQ	Alcrona Pro	C	505701N
	1/2	3/4	4	5	0.015	2 1/4	VST5-RN-SP-0500-R015	Alcrona Pro	C	505711N
	1/2	3/4	4	5	0.030	2 1/4	VST5-RN-SP-0500-R030	Alcrona Pro	C	505721N
	1/2	3/4	4	5	0.060	2 1/4	VST5-RN-SP-0500-R060	Alcrona Pro	C	505731N
	1/2	3/4	4	5	0.090	2 1/4	VST5-RN-SP-0500-R090	Alcrona Pro	C	505736N
	1/2	3/4	4	5	0.125	2 1/4	VST5-RN-SP-0500-R125	Alcrona Pro	C	505741N
	1/2	3/4	4	5	BALL	2 1/4	VST5-RN-SP-0500-R250 (BALL)	Alcrona Pro	C	505751N
	1/2	3/4	5	5	SQ	2 1/2	VST5-RN-M-0500-SQ	Alcrona Pro	A	505801
	1/2	3/4	5	5	0.015	2 1/2	VST5-RN-M-0500-R015	Alcrona Pro	A	505811
	1/2	3/4	5	5	0.030	2 1/2	VST5-RN-M-0500-R030	Alcrona Pro	A	505821
	1/2	3/4	5	5	0.060	2 1/2	VST5-RN-M-0500-R060	Alcrona Pro	A	505831
	1/2	3/4	5	5	0.090	2 1/2	VST5-RN-M-0500-R090	Alcrona Pro	C	505836
	1/2	3/4	5	5	0.125	2 1/2	VST5-RN-M-0500-R125	Alcrona Pro	A	505841
1/2	3/4	5	5	BALL	2 1/2	VST5-RN-M-0500-R250 (BALL)	Alcrona Pro	A	505851	

## SERIES: VST5-RN

5 Flute, Reduced Neck, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Lt Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1/2"	1/2	3/4	6	5	SQ	3 1/2	VST5-RN-L-0500-SQ	Alcrona Pro	A	505901
	1/2	3/4	6	5	0.015	3 1/2	VST5-RN-L-0500-R015	Alcrona Pro	A	505911
	1/2	3/4	6	5	0.030	3 1/2	VST5-RN-L-0500-R030	Alcrona Pro	A	505921
	1/2	3/4	6	5	0.060	3 1/2	VST5-RN-L-0500-R060	Alcrona Pro	A	505931
	1/2	3/4	6	5	0.090	3 1/2	VST5-RN-L-0500-R090	Alcrona Pro	C	505936
	1/2	3/4	6	5	0.125	3 1/2	VST5-RN-L-0500-R125	Alcrona Pro	A	505941
	1/2	3/4	6	5	BALL	3 1/2	VST5-RN-L-0500-R250 (BALL)	Alcrona Pro	A	505951
5/8"	5/8	1	4	5	SQ	2	VST5-RN-R-0625-SQ	Alcrona Pro	C	506701
	5/8	1	4	5	0.030	2	VST5-RN-R-0625-R030	Alcrona Pro	C	506711
	5/8	1	4	5	0.060	2	VST5-RN-R-0625-R060	Alcrona Pro	C	506721
	5/8	1	4	5	0.090	2	VST5-RN-R-0625-R090	Alcrona Pro	C	506726
	5/8	1	4	5	0.125	2	VST5-RN-R-0625-R125	Alcrona Pro	C	506731
	5/8	1	4	5	BALL	2	VST5-RN-R-0625-R313 (BALL)	Alcrona Pro	C	506741
	5/8	1	5	5	SQ	2 1/2	VST5-RN-M-0625-SQ	Alcrona Pro	A	506801
	5/8	1	5	5	0.030	2 1/2	VST5-RN-M-0625-R030	Alcrona Pro	A	506811
	5/8	1	5	5	0.060	2 1/2	VST5-RN-M-0625-R060	Alcrona Pro	A	506821
	5/8	1	5	5	0.090	2 1/2	VST5-RN-M-0625-R090	Alcrona Pro	C	506826
	5/8	1	5	5	0.125	2 1/2	VST5-RN-M-0625-R125	Alcrona Pro	A	506831
	5/8	1	5	5	BALL	2 1/2	VST5-RN-M-0625-R313 (BALL)	Alcrona Pro	A	506841
	5/8	1	5	5	SQ	3 1/2	VST5-RN-L-0625-SQ	Alcrona Pro	C	506901
	5/8	1	5	5	0.030	3 1/2	VST5-RN-L-0625-R030	Alcrona Pro	C	506911
	5/8	1	5	5	0.060	3 1/2	VST5-RN-L-0625-R060	Alcrona Pro	C	506921
	5/8	1	5	5	0.090	3 1/2	VST5-RN-L-0625-R090	Alcrona Pro	C	506926
	5/8	1	5	5	0.125	3 1/2	VST5-RN-L-0625-R125	Alcrona Pro	C	506931
5/8	1	5	5	BALL	3 1/2	VST5-RN-L-0625-R313 (BALL)	Alcrona Pro	C	506941	
3/4"	3/4	1 1/8	4	5	SQ	1 3/4	VST5-RN-SR-0750-SQ	Alcrona Pro	C	507601N
	3/4	1 1/8	4	5	0.030	1 3/4	VST5-RN-SR-0750-R030	Alcrona Pro	C	507611N
	3/4	1 1/8	4	5	0.060	1 3/4	VST5-RN-SR-0750-R060	Alcrona Pro	C	507621N
	3/4	1 1/8	4	5	0.090	1 3/4	VST5-RN-SR-0750-R090	Alcrona Pro	C	507626N
	3/4	1 1/8	4	5	0.125	1 3/4	VST5-RN-SR-0750-R125	Alcrona Pro	C	507631N
	3/4	1 1/8	4	5	BALL	1 3/4	VST5-RN-SR-0750-R375 (BALL)	Alcrona Pro	C	507641N
	3/4	1 1/8	4	5	SQ	2	VST5-RN-R-0750-SQ	Alcrona Pro	A	507701
	3/4	1 1/8	4	5	0.030	2	VST5-RN-R-0750-R030	Alcrona Pro	A	507711
	3/4	1 1/8	4	5	0.060	2	VST5-RN-R-0750-R060	Alcrona Pro	C	507721
	3/4	1 1/8	4	5	0.090	2	VST5-RN-R-0750-R090	Alcrona Pro	C	507726
	3/4	1 1/8	4	5	0.125	2	VST5-RN-R-0750-R125	Alcrona Pro	A	507731
	3/4	1 1/8	4	5	BALL	2	VST5-RN-R-0750-R375 (BALL)	Alcrona Pro	A	507741
	3/4	1 1/8	5	5	SQ	2 1/2	VST5-RN-SP-0750-SQ	Alcrona Pro	C	507701N
	3/4	1 1/8	5	5	0.030	2 1/2	VST5-RN-SP-0750-R030	Alcrona Pro	C	507711N
	3/4	1 1/8	5	5	0.060	2 1/2	VST5-RN-SP-0750-R060	Alcrona Pro	C	507721N
	3/4	1 1/8	5	5	0.090	2 1/2	VST5-RN-SP-0750-R090	Alcrona Pro	C	507726N
	3/4	1 1/8	5	5	0.125	2 1/2	VST5-RN-SP-0750-R125	Alcrona Pro	C	507731N
	3/4	1 1/8	5	5	BALL	2 1/2	VST5-RN-SP-0750-R375 (BALL)	Alcrona Pro	C	507741N
	3/4	1 1/8	6	5	SQ	3	VST5-RN-M-0750-SQ	Alcrona Pro	A	507801
	3/4	1 1/8	6	5	0.030	3	VST5-RN-M-0750-R030	Alcrona Pro	A	507811
	3/4	1 1/8	6	5	0.060	3	VST5-RN-M-0750-R060	Alcrona Pro	A	507821
	3/4	1 1/8	6	5	0.090	3	VST5-RN-M-0750-R090	Alcrona Pro	C	507826
	3/4	1 1/8	6	5	0.125	3	VST5-RN-M-0750-R125	Alcrona Pro	A	507831
	3/4	1 1/8	6	5	BALL	3	VST5-RN-M-0750-R375 (BALL)	Alcrona Pro	A	507841
	3/4	1 1/8	6	5	SQ	4	VST5-RN-X-0750-SQ	Alcrona Pro	C	507901N
	3/4	1 1/8	6	5	0.030	4	VST5-RN-X-0750-R030	Alcrona Pro	C	507911N
	3/4	1 1/8	6	5	0.060	4	VST5-RN-X-0750-R060	Alcrona Pro	C	507921N
3/4	1 1/8	6	5	0.090	4	VST5-RN-X-0750-R090	Alcrona Pro	C	507926N	
3/4	1 1/8	6	5	0.125	4	VST5-RN-X-0750-R125	Alcrona Pro	C	507931N	
3/4	1 1/8	6	5	BALL	4	VST5-RN-X-0750-R375 (BALL)	Alcrona Pro	C	507941N	

## SERIES: VST5-RN

5 Flute, Reduced Neck, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Lt Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1"	1	1 1/2	6	5	SQ	2 1/2	VST5-RN-R-1000-SQ	Alcrona Pro	A	508701
	1	1 1/2	6	5	0.030	2 1/2	VST5-RN-R-1000-R030	Alcrona Pro	A	508711
	1	1 1/2	6	5	0.060	2 1/2	VST5-RN-R-1000-R060	Alcrona Pro	C	508721
	1	1 1/2	6	5	0.090	2 1/2	VST5-RN-R-1000-R090	Alcrona Pro	C	508726
	1	1 1/2	6	5	0.125	2 1/2	VST5-RN-R-1000-R125	Alcrona Pro	C	508731
	1	1 1/2	6	5	BALL	2 1/2	VST5-RN-R-1000-R500 (BALL)	Alcrona Pro	A	508741
	1	1 1/2	6	5	SQ	3 1/2	VST5-RN-M-1000-SQ	Alcrona Pro	A	508801
	1	1 1/2	6	5	0.030	3 1/2	VST5-RN-M-1000-R030	Alcrona Pro	A	508811
	1	1 1/2	6	5	0.060	3 1/2	VST5-RN-M-1000-R060	Alcrona Pro	C	508821
	1	1 1/2	6	5	0.090	3 1/2	VST5-RN-M-1000-R090	Alcrona Pro	C	508826
	1	1 1/2	6	5	0.125	3 1/2	VST5-RN-M-1000-R125	Alcrona Pro	C	508831
	1	1 1/2	6	5	BALL	3 1/2	VST5-RN-M-1000-R500 (BALL)	Alcrona Pro	A	508841
	1	1 1/2	7	5	SQ	4 1/2	VST5-RN-L-1000-SQ	Alcrona Pro	C	508901
	1	1 1/2	7	5	0.030	4 1/2	VST5-RN-L-1000-R030	Alcrona Pro	C	508911
	1	1 1/2	7	5	0.060	4 1/2	VST5-RN-L-1000-R060	Alcrona Pro	C	508921
	1	1 1/2	7	5	0.090	4 1/2	VST5-RN-L-1000-R090	Alcrona Pro	C	508926
	1	1 1/2	7	5	0.125	4 1/2	VST5-RN-L-1000-R125	Alcrona Pro	C	508931
	1	1 1/2	7	5	BALL	4 1/2	VST5-RN-L-1000-R500 (BALL)	Alcrona Pro	C	508941

### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

## SERIES: VST5-RN BLANKS

5 Flute, Un-Necked Blanks, LBS Necked to Size at Time of Order

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	LENGTH BELOW SHANK (LBS)	DESCRIPTION	COATING	STOCK CODE	EDP#
1/2"	1/2	3/4	7	5	SQ	Custom LBS	VST5-RN-7-0500-SQ	Alcrona Pro	C	505701-BLK
	1/2	3/4	7	5	0.015	Custom LBS	VST5-RN-7-0500-R015	Alcrona Pro	C	505711-BLK
	1/2	3/4	7	5	0.030	Custom LBS	VST5-RN-7-0500-R030	Alcrona Pro	C	505721-BLK
	1/2	3/4	7	5	0.060	Custom LBS	VST5-RN-7-0500-R060	Alcrona Pro	C	505731-BLK
	1/2	3/4	7	5	0.090	Custom LBS	VST5-RN-7-0500-R090	Alcrona Pro	C	505736-BLK
	1/2	3/4	7	5	0.125	Custom LBS	VST5-RN-7-0500-R125	Alcrona Pro	C	505741-BLK
	1/2	3/4	7	5	BALL	Custom LBS	VST5-RN-7-0500-R250 (BALL)	Alcrona Pro	C	505751-BLK
	1/2	3/4	8	5	SQ	Custom LBS	VST5-RN-8-0500-SQ	Alcrona Pro	C	505801-BLK
	1/2	3/4	8	5	0.015	Custom LBS	VST5-RN-8-0500-R015	Alcrona Pro	C	505811-BLK
	1/2	3/4	8	5	0.030	Custom LBS	VST5-RN-8-0500-R030	Alcrona Pro	C	505821-BLK
	1/2	3/4	8	5	0.060	Custom LBS	VST5-RN-8-0500-R060	Alcrona Pro	C	505831-BLK
	1/2	3/4	8	5	0.090	Custom LBS	VST5-RN-8-0500-R090	Alcrona Pro	C	505836-BLK
1/2	3/4	8	5	0.125	Custom LBS	VST5-RN-8-0500-R125	Alcrona Pro	C	505841-BLK	
1/2	3/4	8	5	BALL	Custom LBS	VST5-RN-8-0500-R250 (BALL)	Alcrona Pro	C	505851-BLK	
5/8"	5/8	1	7	5	SQ	Custom LBS	VST5-RN-7-0625-SQ	Alcrona Pro	C	506701-BLK
	5/8	1	7	5	0.030	Custom LBS	VST5-RN-7-0625-R030	Alcrona Pro	C	506711-BLK
	5/8	1	7	5	0.060	Custom LBS	VST5-RN-7-0625-R060	Alcrona Pro	C	506721-BLK
	5/8	1	7	5	0.090	Custom LBS	VST5-RN-7-0625-R090	Alcrona Pro	C	506726-BLK
	5/8	1	7	5	0.125	Custom LBS	VST5-RN-7-0625-R125	Alcrona Pro	C	506731-BLK
	5/8	1	7	5	BALL	Custom LBS	VST5-RN-7-0625-R313 (BALL)	Alcrona Pro	C	506741-BLK
	5/8	1	8	5	SQ	Custom LBS	VST5-RN-8-0625-SQ	Alcrona Pro	C	506801-BLK
	5/8	1	8	5	0.030	Custom LBS	VST5-RN-8-0625-R030	Alcrona Pro	C	506811-BLK
	5/8	1	8	5	0.060	Custom LBS	VST5-RN-8-0625-R060	Alcrona Pro	C	506821-BLK
	5/8	1	8	5	0.090	Custom LBS	VST5-RN-8-0625-R090	Alcrona Pro	C	506826-BLK
	5/8	1	8	5	0.125	Custom LBS	VST5-RN-8-0625-R125	Alcrona Pro	C	506831-BLK
	5/8	1	8	5	BALL	Custom LBS	VST5-RN-8-0625-R313 (BALL)	Alcrona Pro	C	506841-BLK
3/4"	3/4	1 1/8	7	5	SQ	Custom LBS	VST5-RN-7-0750-SQ	Alcrona Pro	C	507701-BLK
	3/4	1 1/8	7	5	0.030	Custom LBS	VST5-RN-7-0750-R030	Alcrona Pro	C	507711-BLK
	3/4	1 1/8	7	5	0.060	Custom LBS	VST5-RN-7-0750-R060	Alcrona Pro	C	507721-BLK
	3/4	1 1/8	7	5	0.090	Custom LBS	VST5-RN-7-0750-R090	Alcrona Pro	C	507726-BLK
	3/4	1 1/8	7	5	0.125	Custom LBS	VST5-RN-7-0750-R125	Alcrona Pro	C	507731-BLK
	3/4	1 1/8	7	5	BALL	Custom LBS	VST5-RN-7-0750-R375 (BALL)	Alcrona Pro	C	507741-BLK
	3/4	1 1/8	8	5	SQ	Custom LBS	VST5-RN-8-0750-SQ	Alcrona Pro	C	507801-BLK
	3/4	1 1/8	8	5	0.030	Custom LBS	VST5-RN-8-0750-R030	Alcrona Pro	C	507811-BLK
	3/4	1 1/8	8	5	0.060	Custom LBS	VST5-RN-8-0750-R060	Alcrona Pro	C	507821-BLK
	3/4	1 1/8	8	5	0.090	Custom LBS	VST5-RN-8-0750-R090	Alcrona Pro	C	507826-BLK
	3/4	1 1/8	8	5	0.125	Custom LBS	VST5-RN-8-0750-R125	Alcrona Pro	C	507831-BLK
	3/4	1 1/8	8	5	BALL	Custom LBS	VST5-RN-8-0750-R375 (BALL)	Alcrona Pro	C	507841-BLK
1"	1	1 1/2	7	5	SQ	Custom LBS	VST5-RN-7-1000-SQ	Alcrona Pro	C	508701-BLK
	1	1 1/2	7	5	0.030	Custom LBS	VST5-RN-7-1000-R030	Alcrona Pro	C	508711-BLK
	1	1 1/2	7	5	0.060	Custom LBS	VST5-RN-7-1000-R060	Alcrona Pro	C	508721-BLK
	1	1 1/2	7	5	0.090	Custom LBS	VST5-RN-7-1000-R090	Alcrona Pro	C	508726-BLK
	1	1 1/2	7	5	0.125	Custom LBS	VST5-RN-7-1000-R125	Alcrona Pro	C	508731-BLK
	1	1 1/2	7	5	BALL	Custom LBS	VST5-RN-7-1000-R500 (BALL)	Alcrona Pro	C	508741-BLK
	1	1 1/2	8	5	SQ	Custom LBS	VST5-RN-8-1000-SQ	Alcrona Pro	C	508801-BLK
	1	1 1/2	8	5	0.030	Custom LBS	VST5-RN-8-1000-R030	Alcrona Pro	C	508811-BLK
	1	1 1/2	8	5	0.060	Custom LBS	VST5-RN-8-1000-R060	Alcrona Pro	C	508821-BLK
	1	1 1/2	8	5	0.090	Custom LBS	VST5-RN-8-1000-R090	Alcrona Pro	C	508826-BLK
	1	1 1/2	8	5	0.125	Custom LBS	VST5-RN-8-1000-R125	Alcrona Pro	C	508831-BLK
	1	1 1/2	8	5	BALL	Custom LBS	VST5-RN-8-1000-R500 (BALL)	Alcrona Pro	C	508841-BLK



Standard Catalog Offering

# Ferrous VST5-CB Series



## SERIES: VST5-CB

5 Flute, Variable Pitch, Staggered Chipbreakers, Steel/Stainless/Hi-Temp Alloys/Cast Iron/Hardened Steel, Lt Roughing

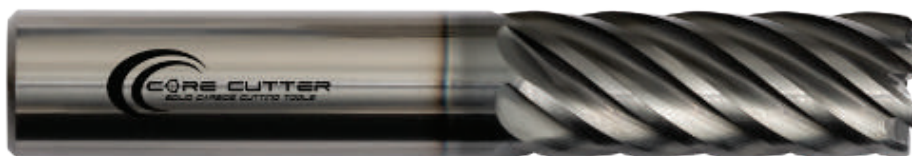
CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8"	1/8	1/4	1 1/2	5	0.015	VST5-S-0125-R015-CB	Alcrona Pro	A	510011C
	1/8	3/8	2	5	0.015	VST5-SR-0125-R015-CB	Alcrona Pro	A	510111C
	1/8	1/2	2 1/2	5	0.015	VST5-R-0125-R015-CB	Alcrona Pro	A	510211C
3/16"	3/16	5/16	2	5	0.015	VST5-S-0187-R015-CB	Alcrona Pro	A	500011C
	3/16	7/16	2	5	0.015	VST5-SR-0187-R015-CB	Alcrona Pro	A	500111C
	3/16	9/16	2 1/2	5	0.015	VST5-R-0187-R015-CB	Alcrona Pro	A	500211C
1/4"	1/4	3/8	2	5	0.030	VST5-S-0250-R030-CB	Alcrona Pro	A	501021C
	1/4	1/2	2 1/2	5	0.030	VST5-SR-0250-R030-CB	Alcrona Pro	A	501121C
	1/4	3/4	2 1/2	5	0.030	VST5-R-0250-R030-CB	Alcrona Pro	A	501221C
	1/4	1	3	5	0.030	VST5-SP-0250-R030-CB	Alcrona Pro	C	591221C
	1/4	1 1/4	3	5	0.030	VST5-M-0250-R030-CB	Alcrona Pro	A	501321C
5/16"	5/16	1/2	2	5	0.030	VST5-SR-0312-R030-CB	Alcrona Pro	A	502121C
	5/16	3/4	2 1/2	5	0.030	VST5-R-0312-R030-CB	Alcrona Pro	A	502221C
	5/16	1 1/4	3	5	0.030	VST5-M-0312-R030-CB	Alcrona Pro	A	502321C
3/8"	3/8	1/2	2	5	0.030	VST5-S-0375-R030-CB	Alcrona Pro	A	503021C
	3/8	3/4	2 1/2	5	0.030	VST5-SR-0375-R030-CB	Alcrona Pro	A	503121C
	3/8	7/8	3	5	0.030	VST5-SP-0375-R030-CB	Alcrona Pro	A	593221C
	3/8	1	3	5	0.030	VST5-R-0375-R030-CB	Alcrona Pro	A	503221C
	3/8	1 1/4	3	5	0.030	VST5-M-0375-R030-CB	Alcrona Pro	A	503321C
	3/8	1 1/2	4	5	0.030	VST5-L-0375-R030-CB	Alcrona Pro	A	503421C
1/2"	1/2	5/8	2 1/2	5	0.030	VST5-S-0500-R030-CB	Alcrona Pro	A	505021C
	1/2	1	3	5	0.030	VST5-SR-0500-R030-CB	Alcrona Pro	A	505121C
	1/2	1 1/4	3	5	0.030	VST5-R-0500-R030-CB	Alcrona Pro	A	505221C
	1/2	1 1/2	4	5	0.030	VST5-M-0500-R030-CB	Alcrona Pro	A	505321C
	1/2	1 5/8	4	5	0.030	VST5-SP-0500-R030-CB	Alcrona Pro	A	595321C
	1/2	2	4	5	0.030	VST5-L-0500-R030-CB	Alcrona Pro	A	505421C
5/8"	5/8	3/4	3	5	0.030	VST5-S-0625-R030-CB	Alcrona Pro	A	506011C
	5/8	1 1/4	3 1/2	5	0.030	VST5-SR-0625-R030-CB	Alcrona Pro	A	506111C
	5/8	1 1/2	3 1/2	5	0.030	VST5-R-0625-R030-CB	Alcrona Pro	A	506211C
	5/8	1 5/8	3 1/2	5	0.030	VST5-SP-0625-R030-CB	Alcrona Pro	A	596211C
	5/8	2	4	5	0.030	VST5-M-0625-R030-CB	Alcrona Pro	A	506311C
	5/8	2 1/2	5	5	0.030	VST5-L-0625-R030-CB	Alcrona Pro	A	506411C
3/4"	3/4	1	3	5	0.030	VST5-S-0750-R030-CB	Alcrona Pro	A	507011C
	3/4	1 1/2	4	5	0.030	VST5-SR-0750-R030-CB	Alcrona Pro	A	507111C
	3/4	1 5/8	4	5	0.030	VST5-SP-0750-R030-CB	Alcrona Pro	A	597111C
	3/4	2	5	5	0.030	VST5-R-0750-R030-CB	Alcrona Pro	A	507211C
	3/4	2 1/2	5	5	0.030	VST5-M-0750-R030-CB	Alcrona Pro	A	507311C
	3/4	3	6	5	0.030	VST5-L-0750-R030-CB	Alcrona Pro	A	507411C
1"	1	1 3/4	4	5	0.030	VST5-SR-1000-R030-CB	Alcrona Pro	A	508111C
	1	2 1/2	5	5	0.030	VST5-R-1000-R030-CB	Alcrona Pro	A	508211C
	1	3	6	5	0.030	VST5-M-1000-R030-CB	Alcrona Pro	A	508311C
	1	3 1/2	6	5	0.030	VST5-L-1000-R030-CB	Alcrona Pro	C	508411C

### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

Standard Catalog Offering

# Multi-Flute VMF Series



## SERIES: VMF

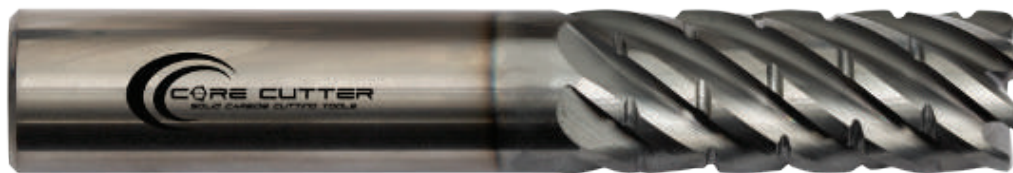
Multi-Flute, Variable Pitch, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron/Hardened Steel  
High Speed Roughing & Finishing

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
3/8"	3/8	3/4	2 1/2	7	SQ	VMF7-SR-0375-SQ	C-Max	A	703101
	3/8	3/4	2 1/2	7	0.015	VMF7-SR-0375-R015	C-Max	A	703111
	3/8	1	3	7	SQ	VMF7-R-0375-SQ	C-Max	A	703201
	3/8	1	3	7	0.015	VMF7-R-0375-R015	C-Max	A	703211
1/2"	1/2	1	3	7	SQ	VMF7-SR-0500-SQ	C-Max	A	705101
	1/2	1	3	7	0.030	VMF7-SR-0500-R030	C-Max	A	705121
	1/2	1 1/4	3	7	SQ	VMF7-R-0500-SQ	C-Max	A	705201
	1/2	1 1/4	3	7	0.030	VMF7-R-0500-R030	C-Max	A	705221
	1/2	1 1/2	4	7	SQ	VMF7-M-0500-SQ	C-Max	A	705301
	1/2	1 1/2	4	7	0.030	VMF7-M-0500-R030	C-Max	A	705321
5/8"	5/8	1 1/4	3 1/2	7	SQ	VMF7-SR-0625-SQ	C-Max	A	706101
	5/8	1 1/4	3 1/2	7	0.030	VMF7-SR-0625-R030	C-Max	A	706111
	5/8	2	4	7	SQ	VMF7-M-0625-SQ	C-Max	A	706301
	5/8	2	4	7	0.030	VMF7-M-0625-R030	C-Max	A	706311
3/4"	3/4	1 1/2	4	7	SQ	VMF7-SR-0750-SQ	C-Max	A	707101
	3/4	1 1/2	4	7	0.030	VMF7-SR-0750-R030	C-Max	A	707111
	3/4	1 1/2	4	9	SQ	VMF9-SR-0750-SQ	C-Max	C	907101
	3/4	1 1/2	4	9	0.030	VMF9-SR-0750-R030	C-Max	A	907111
	3/4	1 5/8	4	7	SQ	VMF7-SP-0750-SQ	C-Max	A	797101
	3/4	1 5/8	4	7	0.030	VMF7-SP-0750-R030	C-Max	A	797111
	3/4	2 1/2	5	7	SQ	VMF7-M-0750-SQ	C-Max	A	707301
	3/4	2 1/2	5	7	0.030	VMF7-M-0750-R030	C-Max	A	707311
	3/4	2 1/2	5	9	SQ	VMF9-M-0750-SQ	C-Max	C	907301
	3/4	2 1/2	5	9	0.030	VMF9-M-0750-R030	C-Max	A	907311
	3/4	3	6	7	SQ	VMF7-L-0750-SQ	C-Max	C	707401
	3/4	3	6	7	0.030	VMF7-L-0750-R030	C-Max	A	707411
	3/4	3	6	9	SQ	VMF9-L-0750-SQ	C-Max	C	907401
	3/4	3	6	9	0.030	VMF9-L-0750-R030	C-Max	A	907411
1"	1	1 3/4	4	7	SQ	VMF7-SR-1000-SQ	C-Max	A	708101
	1	1 3/4	4	7	0.030	VMF7-SR-1000-R030	C-Max	A	708111
	1	1 3/4	4	9	SQ	VMF9-SR-1000-SQ	C-Max	C	908101
	1	1 3/4	4	9	0.030	VMF9-SR-1000-R030	C-Max	C	908111
	1	1 3/4	4	11	SQ	VMF11-SR-1000-SQ	C-Max	C	118101
	1	1 3/4	4	11	0.030	VMF11-SR-1000-R030	C-Max	C	118111
	1	2 1/2	5	7	SQ	VMF7-R-1000-SQ	C-Max	A	708201
	1	2 1/2	5	7	0.030	VMF7-R-1000-R030	C-Max	A	708211
	1	2 1/2	5	9	SQ	VMF9-R-1000-SQ	C-Max	C	908201
	1	2 1/2	5	9	0.030	VMF9-R-1000-R030	C-Max	A	908211
	1	2 1/2	5	11	SQ	VMF11-R-1000-SQ	C-Max	C	118201
	1	2 1/2	5	11	0.030	VMF11-R-1000-R030	C-Max	A	118211
	1	3	6	7	SQ	VMF7-M-1000-SQ	C-Max	A	708301
	1	3	6	7	0.030	VMF7-M-1000-R030	C-Max	A	708311
	1	3	6	9	SQ	VMF9-M-1000-SQ	C-Max	C	908301
	1	3	6	9	0.030	VMF9-M-1000-R030	C-Max	C	908311
	1	3	6	11	SQ	VMF11-M-1000-SQ	C-Max	C	118301
	1	3	6	11	0.030	VMF11-M-1000-R030	C-Max	C	118311



Standard Catalog Offering

# Multi-Flute VMF-CB Series



## SERIES: VMF-CB

Multi-Flute, Variable Pitch, Steel/Stainless Steel/Hi-Temp Alloys/Cast Iron/Hardened Steel  
High Speed Roughing (Staggered Chipbreakers)

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	CORNER CONDITION	DESCRIPTION	COATING	STOCK CODE	EDP#
3/8"	3/8	3/4	2 1/2	7	0.015	VMF7-SR-0375-R015-CB	C-Max	A	703112
	3/8	1	3	7	0.015	VMF7-R-0375-R015-CB	C-Max	A	703212
1/2"	1/2	1	3	7	0.030	VMF7-SR-0500-R030-CB	C-Max	A	705122
	1/2	1 1/4	3	7	0.030	VMF7-R-0500-R030-CB	C-Max	A	705222
	1/2	1 1/2	4	7	0.030	VMF7-M-0500-R030-CB	C-Max	A	705322
5/8"	5/8	1 1/4	3 1/2	7	0.030	VMF7-SR-0625-R030-CB	C-Max	A	706112
	5/8	2	4	7	0.030	VMF7-M-0625-R030-CB	C-Max	A	706312
3/4"	3/4	1 1/2	4	7	0.030	VMF7-SR-0750-R030-CB	C-Max	A	707112
	3/4	1 1/2	4	9	0.030	VMF9-SR-0750-R030-CB	C-Max	A	907112
	3/4	1 5/8	4	7	0.030	VMF7-SP-0750-R030-CB	C-Max	A	797112
	3/4	2 1/2	5	7	0.030	VMF7-M-0750-R030-CB	C-Max	A	707312
	3/4	2 1/2	5	9	0.030	VMF9-M-0750-R030-CB	C-Max	A	907312
	3/4	3	6	7	0.030	VMF7-L-0750-R030-CB	C-Max	A	707412
	3/4	3	6	9	0.030	VMF9-L-0750-R030-CB	C-Max	A	907412
1"	1	1 3/4	4	7	0.030	VMF7-SR-1000-R030-CB	C-Max	A	708112
	1	1 3/4	4	9	0.030	VMF9-SR-1000-R030-CB	C-Max	C	908112
	1	1 3/4	4	11	0.030	VMF11-SR-1000-R030-CB	C-Max	C	118112
	1	2 1/2	5	7	0.030	VMF7-R-1000-R030-CB	C-Max	A	708212
	1	2 1/2	5	9	0.030	VMF9-R-1000-R030-CB	C-Max	A	908212
	1	2 1/2	5	11	0.030	VMF11-R-1000-R030-CB	C-Max	A	118212
	1	3	6	7	0.030	VMF7-M-1000-R030-CB	C-Max	A	708312
	1	3	6	9	0.030	VMF9-M-1000-R030-CB	C-Max	C	908312
	1	3	6	11	0.030	VMF11-M-1000-R030-CB	C-Max	C	118312

### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)

Standard Catalog Offering

# Chamfer Mills CMS Series



**SERIES: CMS60**  
60° Chamfer Mill, Straight Flute

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	WEB THICKNESS	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8	1/8	.108	1 1/2	2	.015	CMS60-2-0125	Alcrona Pro	A	S06021
3/16	3/16	.162	2	2	.018	CMS60-2-0187	Alcrona Pro	A	S06022
1/4	1/4	.216	2 1/2	2	.020	CMS60-2-0250	Alcrona Pro	A	S06023
1/4	1/4	.216	2 1/2	4	.020	CMS60-4-0250	Alcrona Pro	A	S06043
3/8	3/8	.324	2 1/2	2	.035	CMS60-2-0375	Alcrona Pro	A	S06024
3/8	3/8	.324	2 1/2	4	.035	CMS60-4-0375	Alcrona Pro	A	S06044
1/2	1/2	.433	3	2	.040	CMS60-2-0500	Alcrona Pro	A	S06025
1/2	1/2	.433	3	4	.040	CMS60-4-0500	Alcrona Pro	A	S06045
5/8	5/8	.541	3	2	.040	CMS60-2-0625	Alcrona Pro	A	S06026
5/8	5/8	.541	3	4	.040	CMS60-4-0625	Alcrona Pro	A	S06046

**SERIES: CMS90**  
90° Chamfer Mill, Straight Flute

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	WEB THICKNESS	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8	1/8	.062	1 1/2	2	.015	CMS90-2-0125	Alcrona Pro	A	S09021
3/16	3/16	.093	2	2	.018	CMS90-2-0187	Alcrona Pro	A	S09022
1/4	1/4	.125	2 1/2	2	.020	CMS90-2-0250	Alcrona Pro	A	S09023
1/4	1/4	.125	2 1/2	4	.020	CMS90-4-0250	Alcrona Pro	A	S09043
3/8	3/8	.187	2 1/2	2	.035	CMS90-2-0375	Alcrona Pro	A	S09024
3/8	3/8	.187	2 1/2	4	.035	CMS90-4-0375	Alcrona Pro	A	S09044
1/2	1/2	.250	3	2	.040	CMS90-2-0500	Alcrona Pro	A	S09025
1/2	1/2	.250	3	4	.040	CMS90-4-0500	Alcrona Pro	A	S09045
5/8	5/8	.313	3	2	.040	CMS90-2-0625	Alcrona Pro	A	S09026
5/8	5/8	.313	3	4	.040	CMS90-4-0625	Alcrona Pro	A	S09046

**SERIES: CMS120**  
120° Chamfer Mill, Straight Flute

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	WEB THICKNESS	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8	1/8	.037	1 1/2	2	.015	CMS120-2-0125	Alcrona Pro	A	S12021
3/16	3/16	.056	2	2	.018	CMS120-2-0187	Alcrona Pro	A	S12022
1/4	1/4	.075	2 1/2	2	.020	CMS120-2-0250	Alcrona Pro	A	S12023
1/4	1/4	.075	2 1/2	4	.020	CMS120-4-0250	Alcrona Pro	A	S12043
3/8	3/8	.112	2 1/2	2	.035	CMS120-2-0375	Alcrona Pro	A	S12024
3/8	3/8	.112	2 1/2	4	.035	CMS120-4-0375	Alcrona Pro	A	S12044
1/2	1/2	.150	3	2	.040	CMS120-2-0500	Alcrona Pro	A	S12025
1/2	1/2	.150	3	4	.040	CMS120-4-0500	Alcrona Pro	A	S12045
5/8	5/8	.180	3	2	.040	CMS120-2-0625	Alcrona Pro	A	S12026
5/8	5/8	.180	3	4	.040	CMS120-4-0625	Alcrona Pro	A	S12046

Standard Catalog Offering

# Chamfer Mills CMH Series



**SERIES: CMH60**  
60° Chamfer Mill, Helical Flute

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	TIP DIA	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8	1/8	.087	1 1/2	2	.025	CMH60-2-0125	Alcrona Pro	A	H06021
3/16	3/16	.128	2	2	.040	CMH60-2-0187	Alcrona Pro	A	H06022
1/4	1/4	.165	2 1/2	3	.060	CMH60-3-0250	Alcrona Pro	A	H06033
1/4	1/4	.165	2 1/2	5	.060	CMH60-5-0250	Alcrona Pro	A	H06053
3/8	3/8	.264	2 1/2	3	.070	CMH60-3-0375	Alcrona Pro	A	H06034
3/8	3/8	.264	2 1/2	5	.070	CMH60-5-0375	Alcrona Pro	A	H06054
1/2	1/2	.364	3	3	.080	CMH60-3-0500	Alcrona Pro	A	H06035
1/2	1/2	.364	3	5	.080	CMH60-5-0500	Alcrona Pro	A	H06055
5/8	5/8	.463	3	3	.090	CMH60-3-0625	Alcrona Pro	A	H06036
5/8	5/8	.463	3	5	.090	CMH60-5-0625	Alcrona Pro	A	H06056
3/4	3/4	.562	3	3	.100	CMH60-3-0750	Alcrona Pro	A	H06037
3/4	3/4	.562	3	5	.100	CMH60-5-0750	Alcrona Pro	A	H06057

**SERIES: CMH82**  
82° Chamfer Mill, Helical Flute

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	TIP DIA	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8	1/8	.058	1 1/2	2	.025	CMH82-2-0125	Alcrona Pro	A	H08221
3/16	3/16	.089	2	2	.040	CMH82-2-0187	Alcrona Pro	A	H08222
1/4	1/4	.109	2 1/2	3	.060	CMH82-3-0250	Alcrona Pro	A	H08233
1/4	1/4	.109	2 1/2	5	.060	CMH82-5-0250	Alcrona Pro	A	H08253
3/8	3/8	.175	2 1/2	3	.070	CMH82-3-0375	Alcrona Pro	A	H08234
3/8	3/8	.175	2 1/2	5	.070	CMH82-5-0375	Alcrona Pro	A	H08254
1/2	1/2	.242	3	3	.080	CMH82-3-0500	Alcrona Pro	A	H08235
1/2	1/2	.242	3	5	.080	CMH82-5-0500	Alcrona Pro	A	H08255
5/8	5/8	.308	3	3	.090	CMH82-3-0625	Alcrona Pro	A	H08236
5/8	5/8	.308	3	5	.090	CMH82-5-0625	Alcrona Pro	A	H08256

**SERIES: CMH90**  
90° Chamfer Mill, Helical Flute

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	TIP DIA	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8	1/8	.050	1 1/2	2	.025	CMH90-2-0125	Alcrona Pro	A	H09021
3/16	3/16	.074	2	2	.040	CMH90-2-0187	Alcrona Pro	A	H09022
1/4	1/4	.095	2 1/2	3	.060	CMH90-3-0250	Alcrona Pro	A	H09033
1/4	1/4	.095	2 1/2	5	.060	CMH90-5-0250	Alcrona Pro	A	H09053
3/8	3/8	.153	2 1/2	3	.070	CMH90-3-0375	Alcrona Pro	A	H09034
3/8	3/8	.153	2 1/2	5	.070	CMH90-5-0375	Alcrona Pro	A	H09054
1/2	1/2	.210	3	3	.080	CMH90-3-0500	Alcrona Pro	A	H09035
1/2	1/2	.210	3	5	.080	CMH90-5-0500	Alcrona Pro	A	H09055
5/8	5/8	.268	3	3	.090	CMH90-3-0625	Alcrona Pro	A	H09036
5/8	5/8	.268	3	5	.090	CMH90-5-0625	Alcrona Pro	A	H09056
3/4	3/4	.325	3	3	.100	CMH90-3-0750	Alcrona Pro	A	H09037
3/4	3/4	.325	3	5	.100	CMH90-5-0750	Alcrona Pro	A	H09057

## SERIES: CMH100

### 100° Chamfer Mill, Helical Flute

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	TIP DIA	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8	1/8	.042	1 1/2	2	.025	CMH100-2-0125	Alcrona Pro	A	H10021
3/16	3/16	.062	2	2	.040	CMH100-2-0187	Alcrona Pro	A	H10022
1/4	1/4	.080	2 1/2	3	.060	CMH100-3-0250	Alcrona Pro	A	H10033
1/4	1/4	.080	2 1/2	5	.060	CMH100-5-0250	Alcrona Pro	A	H10053
3/8	3/8	.128	2 1/2	3	.070	CMH100-3-0375	Alcrona Pro	A	H10034
3/8	3/8	.128	2 1/2	5	.070	CMH100-5-0375	Alcrona Pro	A	H10054
1/2	1/2	.176	3	3	.080	CMH100-3-0500	Alcrona Pro	A	H10035
1/2	1/2	.176	3	5	.080	CMH100-5-0500	Alcrona Pro	A	H10055
5/8	5/8	.224	3	3	.090	CMH100-3-0625	Alcrona Pro	A	H10036
5/8	5/8	.224	3	5	.090	CMH100-5-0625	Alcrona Pro	A	H10056

## SERIES: CMH120

### 120° Chamfer Mill, Helical Flute

CUT DIA	SHANK DIA	LENGTH OF CUT (LOC)	OVERALL LENGTH (OAL)	# OF FLUTES	TIP DIA	DESCRIPTION	COATING	STOCK CODE	EDP#
1/8	1/8	.029	1 1/2	2	.025	CMH120-2-0125	Alcrona Pro	A	H12021
3/16	3/16	.043	2	2	.040	CMH120-2-0187	Alcrona Pro	A	H12022
1/4	1/4	.055	2 1/2	3	.060	CMH120-3-0250	Alcrona Pro	A	H12033
1/4	1/4	.055	2 1/2	5	.060	CMH120-5-0250	Alcrona Pro	A	H12053
3/8	3/8	.088	2 1/2	3	.070	CMH120-3-0375	Alcrona Pro	A	H12034
3/8	3/8	.088	2 1/2	5	.070	CMH120-5-0375	Alcrona Pro	A	H12054
1/2	1/2	.121	3	3	.080	CMH120-3-0500	Alcrona Pro	A	H12035
1/2	1/2	.121	3	5	.080	CMH120-5-0500	Alcrona Pro	A	H12055
5/8	5/8	.154	3	3	.090	CMH120-3-0625	Alcrona Pro	A	H12036
5/8	5/8	.154	3	5	.090	CMH120-5-0625	Alcrona Pro	A	H12056
3/4	3/4	.195	3	3	.100	CMH120-3-0750	Alcrona Pro	A	H12037
3/4	3/4	.195	3	5	.100	CMH120-5-0750	Alcrona Pro	A	H12057

#### Stock Code Key:

- (A) Factory Stock Item
- (B) Limited Stock (Ships in 3 - 5 Working Days)
- (C) Limited Stock (Ships in 2 Weeks)
- (D) Non Stock (Ships in 3 Weeks)



# SFPM / Chipload Chart

PERFORMANCE YOU CAN TRUST, QUALITY YOU CAN MEASURE

Materials	Aluminum	Carbon Steels	Alloy Steel	Stainless			Cast Iron		High Temp Alloys			Tool Steels		Mold Steel
				303	304, 304L, 316, 316L	410, 416, 420, 430F, 440C	13-8PH, 15-4PH, 16-6PH, 17-4PH	Gray	Ductile	Inconel 600 / 718, A286, Haynes	Pure Titanium	Wrought/ Cast 6AL4, ASTM 1, 2 & 3 Alpha - Beta	A2, S7, H1, H13	
SFPM <32RC	800-2000	200 - 450	150 - 300	150 - 350	200 - 450	80 - 250	250 - 450	120 - 350	70 - 120	140 - 220	140 - 200	90 - 140	250 - 450	150 - 250
	SFM >32RC	80 - 200	80 - 200	80 - 200	100 - 250	90 - 125	130 - 300	80 - 140	40 - 90	90 - 160	90 - 160	80 - 120	100 - 160	80 - 160
1/4"	S	.0014	.0012	.0013	.0012	.0012	.0012	.0012	.0008	.0012	.0012	.0008	.0008	.0010
	HP	.0017	.0012	.0013	.0012	.0010	.0013	.0014	.0009	.0014	.0012	.0010	.0010	.0012
	LP	.0019	.0016	.0013	.0012	.0013	.0013	.0015	.0012	.0014	.0014	.0012	.0015	.0013
3/8"	S	.0018	.0016	.0016	.0015	.0015	.0015	.0018	.0014	.0016	.0015	.0015	.0012	.0015
	HP	.0018	.0016	.0018	.0015	.0015	.0016	.0018	.0014	.0016	.0016	.0016	.0012	.0016
	LP	.0025	.0022	.0022	.0016	.0016	.0016	.0018	.0015	.0022	.0018	.0018	.0015	.0018
1/2"	S	.0030	.0025	.0032	.0030	.0028	.0028	.0030	.0022	.0025	.0025	.0026	.0020	.0025
	HP	.0030	.0030	.0032	.0030	.0030	.0028	.0030	.0022	.0025	.0025	.0026	.0020	.0025
	LP	.0035	.0032	.0035	.0035	.0038	.0035	.0040	.0025	.0030	.0030	.0030	.0025	.0030
5/8"	S	.0035	.0030	.0030	.0030	.0030	.0030	.0035	.0025	.0035	.0030	.0030	.0025	.0030
	HP	.0038	.0035	.0030	.0030	.0030	.0035	.0035	.0028	.0035	.0030	.0030	.0025	.0030
	LP	.0040	.0040	.0040	.0040	.0040	.0040	.0044	.0030	.0040	.0038	.0038	.0030	.0035
3/4"	S	.0040	.0040	.0040	.0035	.0035	.0035	.0040	.0028	.0040	.0038	.0038	.0032	.0035
	HP	.0050	.0040	.0043	.0040	.0040	.0040	.0045	.0035	.0040	.0040	.0040	.0035	.0040
	LP	.0060	.0050	.0050	.0045	.0040	.0040	.0045	.0040	.0050	.0045	.0050	.0045	.0050
1"	S	.0100	.0040	.0040	.0040	.0040	.0040	.0050	.0038	.0050	.0042	.0042	.0040	.0045
	HP	.0150	.0060	.0050	.0050	.0045	.0045	.0050	.0040	.0050	.0045	.0045	.0040	.0045
	LP	.0200	.0070	.0065	.0060	.0060	.0060	.0070	.0055	.0070	.0060	.0060	.0050	.0055
Stub and Regular Length		S = Slotting Axial Depth up to .5 X Diameter			HP = Heavy Peripheral Axial DOC = LOC Radial DOC = .5 X Diameter			LP = Light Profile Axial DOC = LOC Radial WOC = .15 X Diameter						
Medium Length		S = Slotting Not Recommended			HP = Heavy Peripheral Axial DOC = up to 1 X Diameter Radial DOC = .2 X Diameter			LP = Light Profile Axial DOC = up to 1.5 X Diameter Radial WOC = .1 X Diameter						



# Terms and Conditions

## Authorized Distribution

The Core Cutter product lines are sold through a national network of independent industrial distributors. These distributors are selected based on their commitment to customer service, technical expertise and commitment to quality. Please contact Customer Service to find your Authorized Core Cutter Distributor.

## Commitment to Quality

Core Cutter, LLC is committed to high quality, high performance carbide tooling. In order to better serve our customers, we reserve the right to make changes to our products as is needed to comply with our rigorous Commitment to Quality. As such, this catalog may not represent current tooling specifications, or designs modified after its issue date and therefore does not justify any claims.

## Product Safety

Any cutting tool may be subject to breaking and/or shattering under improper use. Government regulations require the use of safety glasses and other protective equipment in the vicinity of use. Additionally, the use of cutting tools can produce potentially hazardous dusts and/or mists, the particles of which can cause health related issues. To avoid adverse health effects, always use proper ventilation and consult the Safety Data Sheet for other recommendations.

## Product Warranty

Core Cutter will repair or replace any of our products that are evaluated and determined to be defective in either materials and/or workmanship for up to one (1) year from the purchase date of said product. This warranty shall not apply to any Core Cutter product that has been altered, reconditioned/repared, misused or exposed to improper or unrecommended operating parameters and/or procedures.

## Returned Product

Core Cutter honors new, unmodified, quality condition returned standard catalog tooling purchased within six (6) months for full refund. New, unmodified, quality condition standard catalog tooling purchased within one (1) year can be returned for merchandise credit and is subject to a 5% Restocking Fee. All returned product must be accompanied by a Core Cutter supplied Return Merchandise Authorization (RMA). Custom-made, modified, used, and/or damaged tooling will not be accepted for return unless subject to Product Warranty. Please contact our Customer Service to obtain an RMA.

## Damaged Product

All product is shipped FOB factory via thirdparty parcel and freight carriers. It is the responsibility of the receiver to notify Core Cutter immediately if a package is missing or damaged. Our Customer Service will assist you in filing claims proceedings directly with the carrier. To ensure fast resolution, please keep the original damaged packaging and/or photographs, when applicable.

## Over or Under Shipments

All custom-made and modified tooling is subject to a +/-10% (or 1 piece) over/under shipment policy.

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206431	11	207330	12	208121	12	210040	9	205701-BLK	16	208730-BLK	16
206440	11	207331	12	208130	12	210041	9	205710-BLK	16	208731-BLK	16
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206731	14	207430	12	208221	12	210210	9	205751-BLK	16	208830-BLK	16
206740	14	207431	12	208230	12	210211	9	205800-BLK	16	208831-BLK	16
206741	14	207440	12	208231	12	210240	9	205801-BLK	16	208840-BLK	16
206800	14	207441	12	208240	12	210241	9	205810-BLK	16	208841-BLK	16
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206821	14	207620N	15	208311	12	210740	13	205831-BLK	16	300011	18
206830	14	207621N	15	208320	12	210741	13	205840-BLK	16	300040	18
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206840	14	207631N	15	208330	12	210801	13	205850-BLK	16	300100	18
206841	14	207640N	15	208331	12	210810	13	205851-BLK	16	300101	18
206900	15	207641N	15	208340	12	210811	13	206700-BLK	16	300110	18
206901	15	207700	15	208341	12	210840	13	206701-BLK	16	300111	18
206910	15	207700N	15	208400	12	210841	13	206710-BLK	16	300140	18
206911	15	207701	15	208401	12	293200	10	206711-BLK	16	300141	18
206920	15	207701N	15	208410	12	293201	10	206720-BLK	16	300200	18
206921	15	207710	15	208411	12	293210	10	206721-BLK	16	300201	18
206930	15	207710N	15	208420	12	293211	10	206730-BLK	16	300210	18
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207011	11	207730	15	208701	15	295300	10	206811-BLK	16	300711	23
207020	11	207730N	15	208710	15	295301	10	206820-BLK	16	300740	23
207021	11	207731	15	208711	15	295310	10	206821-BLK	16	300741	23
207030	11	207731N	15	208720	15	295311	10	206830-BLK	16	300800	23
207031	11	207740	15	208721	15	295320	10	206831-BLK	16	300801	23
207040	11	207740N	15	208730	15	295321	10	206840-BLK	16	300810	23
207041	11	207741	15	208731	15	295330	10	206841-BLK	16	300811	23
207100	11	207741N	15	208740	15	295331	10	207700-BLK	16	300840	23
207101	11	207800	15	208741	15	295340	10	207701-BLK	16	300841	23
207110	11	207801	15	208800	15	295341	10	207710-BLK	16	300900	23

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<b>AL3 Series (Cont.)</b>		301711	23	303100	19	303736	23	305300	20	305730N	24
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300910	23	301721	23	303110	19	303741	23	305310	20	305731N	24
300911	23	301730	23	303111	19	303800	24	305311	20	305735	24
300940	23	301731	23	303120	19	303801	24	305320	20	305735N	24
300941	23	301740	23	303121	19	303810	24	305321	20	305736	24
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301001	18	301800	23	303131	19	303820	24	305331	20	305740	24
301010	18	301801	23	303135	19	303821	24	305335	20	305740N	24
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301110	18	302101	18	303230	19	303911	24	305420	20	305811	24
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306226	20	307020	21	307700N	25	308240	21	310101	18	396240	20
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306231	20	307025	21	307701N	25	308300	21	310111	18	397100	21
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306241	20	307030	21	307710N	25	308310	21	310141	18	397110	21
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306301	20	307040	21	307711N	25	308320	21	310201	18	397120	21
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306930	25	307621N	25	308210	21	308941	26	396210	20	306826-BLK	27
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307726-BLK	27	303321C	29	400741	39	402621N	39	405001	35	405851	40
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307826-BLK	27	307111C	29	401311	34	403241	35	405341	36	406301	37
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307841-BLK	27	307211C	29	401321	34	403311	35	405401	36	406321	37
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300110C	29	310111C	29	401711	39	403621N	39	405636N	40	406801	41
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300210C	29	310211C	29	401721	39	403636N	39	405641N	40	406821	41
300211C	29	391220C	29	401731	39	403641N	39	405651	40	406826	41
301020C	29	391221C	29	401741	39	403701	40	405651N	40	406831	41
301021C	29	393220C	29	401801	39	403711	40	405701	40	406841	41
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301221C	29	396210C	29	401831	39	403736	40	405721	40	406926	41
301320C	29	396211C	29	401841	39	403741	40	405721N	40	406931	41
301321C	29	397110C	29	402101	34	403801	40	405731	40	406941	41
302120C	29	397111C	29	402111	34	403811	40	405731N	40	407001	37
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407021	37	408241	38	496226	37	402321C	45	500241	49	502341	50
407026	37	408301	38	496231	37	403021C	45	500701	54	502601N	54
407031	37	408311	38	496241	37	403121C	45	500711	54	502611N	54
407041	37	408321	38	497101	37	403221C	45	500741	54	502621N	54
407101	37	408326	38	497111	37	403321C	45	500801	54	502641N	54
407111	37	408331	38	497121	37	403421C	45	500811	54	502801	54
407121	37	408341	38	497126	37	405021C	45	500841	54	502811	54
407126	37	408401	38	497131	37	405121C	45	500901	54	502821	54
407131	37	408411	38	497141	37	405221C	45	500911	54	502841	54
407141	37	408421	38	405701-BLK	43	405321C	45	500941	54	503001	50
407201	37	408426	38	405711-BLK	43	405421C	45	501001	49	503011	50
407211	37	408431	38	405721-BLK	43	406011C	45	501011	49	503016	50
407221	37	408441	38	405731-BLK	43	406111C	45	501016	49	503021	50
407226	37	408701	42	405736-BLK	43	406211C	45	501021	49	503031	50
407231	37	408711	42	405741-BLK	43	406311C	45	501031	49	503036	50
407241	37	408721	42	405751-BLK	43	406411C	45	501041	49	503041	50
407301	37	408726	42	405801-BLK	43	407011C	45	501101	49	503101	50
407311	37	408731	42	405811-BLK	43	407111C	45	501111	49	503111	50
407321	37	408741	42	405821-BLK	43	407211C	45	501116	49	503116	50
407326	37	408801	42	405831-BLK	43	407311C	45	501121	49	503121	50
407331	37	408811	42	405836-BLK	43	407411C	45	501131	49	503131	50
407341	37	408821	42	405841-BLK	43	408111C	45	501141	49	503136	50
407401	37	408826	42	405851-BLK	43	408211C	45	501201	49	503141	50
407411	37	408831	42	406701-BLK	43	408311C	45	501211	49	503201	50
407421	37	408841	42	406711-BLK	43	408411C	45	501216	49	503211	50
407426	37	408901	42	406721-BLK	43	410011C	45	501221	49	503216	50
407431	37	408911	42	406726-BLK	43	410111C	45	501231	49	503221	50
407441	37	408921	42	406731-BLK	43	410211C	45	501241	49	503231	50
407601N	41	408926	42	406741-BLK	43	491221C	45	501301	49	503236	50
407611N	41	408931	42	406801-BLK	43	493221C	45	501311	49	503241	50
407621N	41	408941	42	406811-BLK	43	495321C	45	501316	49	503301	50
407626N	41	410001	34	406821-BLK	43	496211C	45	501321	49	503311	50
407631N	41	410011	34	406826-BLK	43	497111C	45	501331	49	503316	50
407641N	41	410041	34	406831-BLK	43	<b>FEM5 Series</b>		501341	49	503321	50
407701	41	410101	34	406841-BLK	43	540001	47	501601	54	503331	50
407701N	41	410111	34	407701-BLK	43	540201	47	501601N	54	503336	50
407711	41	410141	34	407711-BLK	43	545301	47	501611	54	503341	50
407711N	41	410201	34	407721-BLK	43	546201	47	501611N	54	503401	50
407721	41	410211	34	407726-BLK	43	547101	47	501616	54	503411	50
407721N	41	410241	34	407731-BLK	43	550001	47	501616N	54	503416	50
407726	41	410701	39	407741-BLK	43	550201	47	501621	54	503421	50
407726N	41	410711	39	407801-BLK	43	551001	47	501621N	54	503431	50
407731	41	410741	39	407811-BLK	43	551101	47	501631	54	503436	50
407731N	41	410801	39	407821-BLK	43	551201	47	501631N	54	503441	50
407741	41	410811	39	407826-BLK	43	552101	47	501641	54	503601N	54
407741N	41	410841	39	407831-BLK	43	552201	47	501641N	54	503611N	54
407801	41	491201	34	407841-BLK	43	553001	47	501701	54	503616N	54
407811	41	491211	34	408701-BLK	43	553201	47	501711	54	503621N	54
407821	41	491216	34	408711-BLK	43	553301	47	501716	54	503631N	54
407826	41	491221	34	408721-BLK	43	555001	47	501721	54	503636N	54
407831	41	491231	34	408726-BLK	43	555101	47	501731	54	503641N	54
407841	41	491241	34	408731-BLK	43	555201	47	501741	54	503701	55
407901N	41	493201	35	408741-BLK	43	555401	47	501801	54	503711	55
407911N	41	493211	35	408801-BLK	43	556001	47	501811	54	503716	55
407921N	41	493216	35	408811-BLK	43	556101	47	501816	54	503721	55
407926N	41	493221	35	408821-BLK	43	556301	47	501821	54	503731	55
407931N	41	493231	35	408826-BLK	43	556401	47	501831	54	503736	55
407941N	41	493236	35	408831-BLK	43	557001	47	501841	54	503741	55
408101	38	493241	35	408841-BLK	43	557201	47	502101	49	503801	55
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408126	38	495321	36	400111C	45	500001	49	502141	49	503821	55
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408221	38	496201	37	401321C	45	500141	49	502301	50	503911	55
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503936	55	505836	55	507141	52	508421	53	505701-BLK	58	505321C	60
503941	55	505841	55	507201	52	508426	53	505711-BLK	58	505421C	60
505001	50	505851	55	507211	52	508431	53	505721-BLK	58	506011C	60
505011	50	505901	56	507221	52	508441	53	505731-BLK	58	506111C	60
505021	50	505911	56	507226	52	508701	57	505736-BLK	58	506211C	60
505031	50	505921	56	507231	52	508711	57	505741-BLK	58	506311C	60
505036	50	505931	56	507241	52	508721	57	505751-BLK	58	506411C	60
505041	50	505936	56	507301	52	508726	57	505801-BLK	58	507011C	60
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505131	51	506021	51	507341	52	508821	57	505841-BLK	58	508111C	60
505136	51	506026	51	507401	52	508826	57	505851-BLK	58	508211C	60
505141	51	506031	51	507411	52	508831	57	506701-BLK	58	508311C	60
505151	51	506041	51	507421	52	508841	57	506711-BLK	58	508411C	60
505201	51	506101	51	507426	52	508901	57	506721-BLK	58	510011C	60
505211	51	506111	51	507431	52	508911	57	506726-BLK	58	510111C	60
505221	51	506121	51	507441	52	508921	57	506731-BLK	58	510211C	60
505231	51	506126	51	507601N	56	508926	57	506741-BLK	58	591221C	60
505236	51	506131	51	507611N	56	508931	57	506801-BLK	58	593221C	60
505241	51	506141	51	507621N	56	508941	57	506811-BLK	58	595321C	60
505251	51	506201	51	507626N	56	510001	49	506821-BLK	58	596211C	60
505301	51	506211	51	507631N	56	510011	49	506826-BLK	58	597111C	60
505311	51	506221	51	507641N	56	510041	49	506831-BLK	58	<b>VMF7 Series</b>	
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505331	51	506231	51	507701N	56	510111	49	507701-BLK	58	703111	62
505336	51	506241	51	507711	56	510141	49	507711-BLK	58	703112	64
505341	51	506301	52	507711N	56	510201	49	507721-BLK	58	703201	62
505351	51	506311	52	507721	56	510211	49	507726-BLK	58	703211	62
505401	51	506321	52	507721N	56	510241	49	507731-BLK	58	703212	64
505411	51	506326	52	507726	56	510701	54	507741-BLK	58	705101	62
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505431	51	506341	52	507731	56	510741	54	507811-BLK	58	705122	64
505436	51	506401	52	507731N	56	510801	54	507821-BLK	58	705201	62
505441	51	506411	52	507741	56	510811	54	507826-BLK	58	705221	62
505451	51	506421	52	507741N	56	510841	54	507831-BLK	58	705222	64
505601	55	506426	52	507801	56	591201	49	507841-BLK	58	705301	62
505601N	55	506431	52	507811	56	591211	49	508701-BLK	58	705321	62
505611	55	506441	52	507821	56	591216	49	508711-BLK	58	705322	64
505611N	55	506701	56	507826	56	591221	49	508721-BLK	58	706101	62
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505631	55	506726	56	507901N	56	593201	50	508741-BLK	58	706301	62
505631N	55	506731	56	507911N	56	593211	50	508801-BLK	58	706311	62
505636	55	506741	56	507921N	56	593216	50	508811-BLK	58	706312	64
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505641	55	506811	56	507931N	56	593231	50	508826-BLK	58	707111	62
505641N	55	506821	56	507941N	56	593236	50	508831-BLK	58	707112	64
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505651N	55	506831	56	508111	53	595301	51	<b>VST5-CB Series</b>		707311	62
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505711	55	506911	56	508131	53	595331	51	500211C	60	707411	62
505711N	55	506921	56	508141	53	595336	51	501021C	60	707412	64
505721	55	506926	56	508201	53	595341	51	501121C	60	708101	62
505721N	55	506931	56	508211	53	595351	51	501221C	60	708111	62
505731	55	506941	56	508221	53	596201	52	501321C	60	708112	64
505731N	55	507001	52	508226	53	596211	52	502121C	60	708201	62
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505736N	55	507021	52	508241	53	596226	52	502321C	60	708212	64
505741	55	507026	52	508301	53	596231	52	503021C	60	708301	62
505741N	55	507031	52	508311	53	596241	52	503121C	60	708311	62
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908112	64	Q0623BN	31	Q1873BN	32		
908201	62	Q0623R	31	Q1873R	32		
908211	62	Q0623RN	31	Q1873RN	32		
908212	64	Q0623S	31	Q1873S	32		
908301	62	Q0623SN	31	Q1873SN	32		
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