

**SmithyCNC**

A Whole NEW Level of Machining Freedom



# SmithyCNC Bed Mills

Product Information

# The Complete & Affordable CNC Machining System for the Visionary Machinist

Here's the long-awaited new generation CNC machining center that is the right size and price for light industrial operations. For nearly 20 years Smithy has set the standard for quality design and manufacturing in benchtop machine tools. The tradition continues with SmithyCNC. Thousands of hours of product research have produced the broadest and highest quality line of benchtop CNC machine tools and control systems on the market today.

Need to make parts? Give us a call. Smithy has a CNC machine and control system to fit your needs. All backed by a company that has a strong history of customer service.

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Bring your inspirations to life more efficiently than ever before with *SmithyCNC*, you'll design it, prototype it, build it, and take it to market.

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## SmithyCNC with EZ-Trol System

This all inclusive machine package provides everything you need for CNC machining. Plus, you get the backing of the company that is best known for quality and reliability on benchtop machining.

As compared to other PC Ready options that combines a base control with a milling machine and allows you to add a computer software of your choice. The SmithyCNC EZ-Trol System is a one-stop machine and control system. You just have to have your projects lined-up and you are ready to machine.



**SmithyCNC Bed Mills**

# SmithyCNC - The First Benchtop Machine Tool with INTEGRATED CNC CONTROLLER & SOFTWARE



If you have creativity, a can-do attitude, and want to get things done instead of talking about them, the SmithyCNC is for you.

**Control Box Made in USA!**

**COMPARE FEATURES:** Choose the CNC system that's right for you.

SmithyCNC EZ-Trol System	Other PC Ready Control System
Smithy CNC Mill with: <ul style="list-style-type: none"> <li>• One Shot Lube System</li> <li>• Drive Motor with Cabling</li> <li>• Stepper on X, Y, Z</li> <li>• Limit Switches on X, Y, Z</li> <li>• CNC Control Box</li> <li>• CNC Drive Computer</li> <li>• Monitor &amp; Keyboard</li> </ul>	CNC Mill Machine
SmithyCNC Control Software	Your choice of software
Software & Programming Support	If available

## CNC Past:

Before now you had to either buy a large industrial CNC Mill or go through the hassle of converting a small mill to CNC. Your options were either expensive or inconvenient.

## 100% Integrated System

## CNC Future:

Smithy's breakthrough CNC Bed Mills are designed from the ground up as a totally integrated package combining low cost benchtop design with proven CNC control technology. Machine control and software fit together seamlessly. A complete, reliable CNC package from a complete, reliable company.

## SmithyCNC EZ-Trol Software Features:

- EIA Fanuc-style G codes
- Accepts G-codes generated from CAD/CAM programs
- File Utilities
- Tool Libraries
- Tool Offsets
- Real-Time X, Y, and Z Readout
- Real-Time Feed Rate Display
- Feedrate NC Codewriter
- Program Display
- Manual Feed Mode
- Linear, Circular, and Helical Interpolations
- Full 3-D Graphics
- Bolt Hole Cycles
- Boring Cycles
- Sequence Number N
- Absolute/Incremental Programming (G90 & G91)
- Inch/Metric Conversion
- Spindle Control
- Coolant Control
- Backlash Compensation
- Coordinate System Setting
- Canned Drilling Cycles
- 4-Axis Capability - order 4th Axis when you place your order
- E-Stop
- Home and Limit Switch Inputs



Solid 3D Graphics



Full Solid Graphics

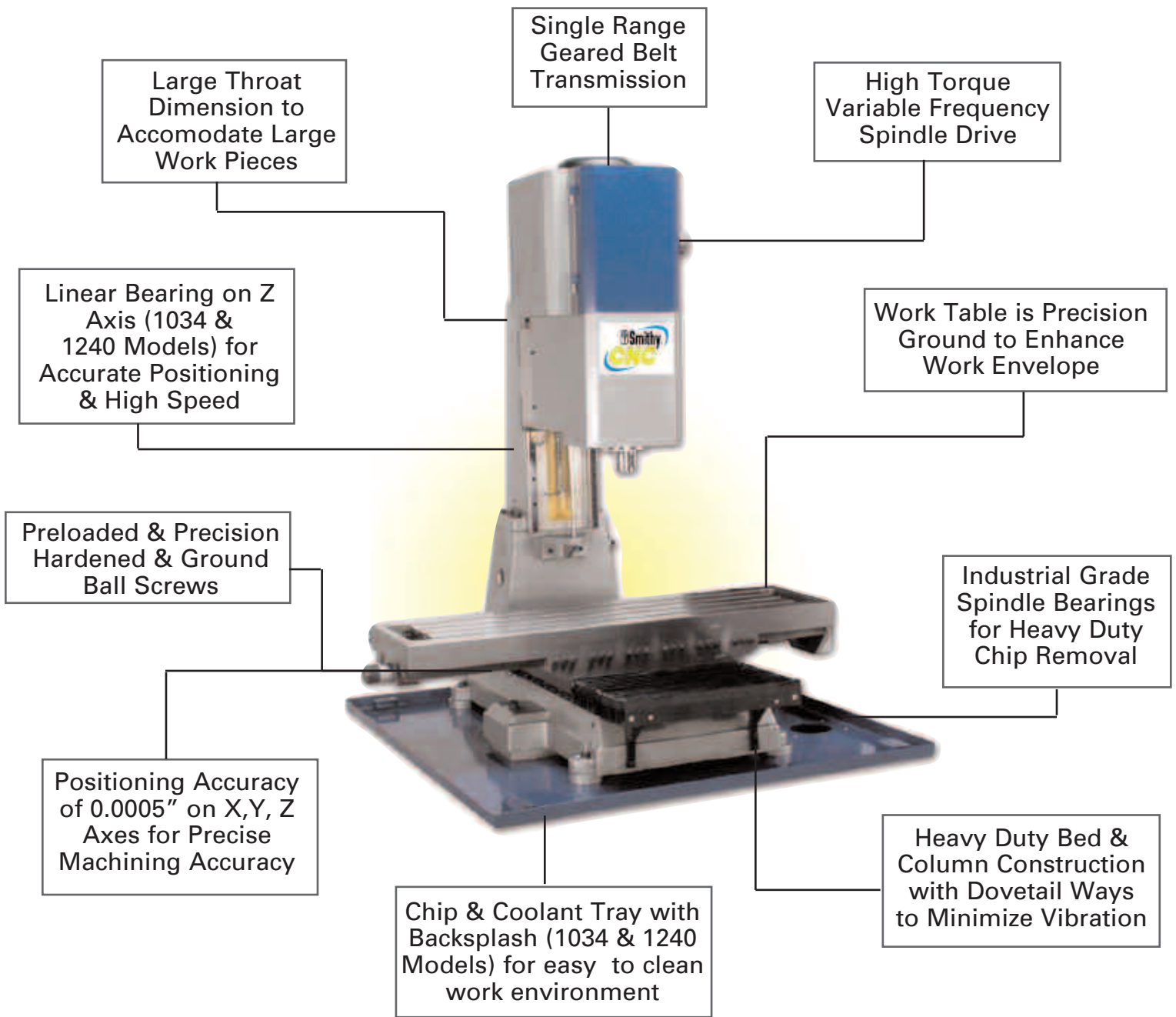


Coordinate System

## Smithy CNC Mill Features:

- Parallel port connection to common PC based CNC software
- 90 inch per minute Rapids Possible
- Manual Controls for Spindle Speed & Direction
- Coolant Control Switch
- Emergency Stop Switches on Machine Head & Control
- Motion Inhibit Available for Tool & Parts Change

**SmithyCNC Bed Mills**



Other top of the line machine features

One Shot Lube System with Shielded Hard Supply Lines



Totally Enclosed & Fan Cooled (TEFC) Spindle Motor



Industrial Style Wire Harness & Junction Box with Industrial Standard Controls



Synchronized Gear Belt for Whisper Quiet Operation



# SmithyCNC 516 Bed Mill

Portable Tabletop



At 110 pounds, this CNC mill is strong enough to do real work yet small enough to move around. Built from the ground up for CNC operation, with ball screws, high rigidity accuracy and enclosed electrical components, this is a real CNC machine.

	Inch	Metric
Table Size	15.75"	400 x 145 mm
Table Travel X Axis	9.45"	240 mm
Table Travel Y Axis	4.30"	110 mm
Head Travel Z Axis	9.45"	240 mm
Maximum Weight on Table	11 lbs	5 kg
T-Slot Size	0.315"	8 mm
No. of Slots on Table	3	3
<b>Spindle</b>		
Motor Power	0.67 HP500 W	500 W
Maximum Main Motor Torque	15.93 in/lb (1,500 RPM)	1.8 N-m (1,500 RPM)
Minimum Speed	100 RPM	100 RPM
Maximum Speed	5,000 RPM	5,000 RPM
Positioning Accuracy	0.0004"	0.01 mm
Quill Diameter	1.97" (dia)50 mm (dia)	50 mm (dia)
Spindle Taper	MT-2	MT-2
<b>Axis</b>		
Stepper Motors (X, Y, Z)	191 in-oz, 191 in-oz, 311 in-oz	1.35 N-m, 1.35 N-m, 2.2 N-m
Ball Screw Size (X, Y, Z)	0.47" (dia) x 18.66" (L), 0.47" (dia) x 14.13" (L), 0.47" (dia) x 13.70" (L)	12 mm (dia) x 474 mm (L), 12 mm (dia) x 359 mm (L), 12 mm (dia) x 349 mm (L)
Ball Screw Pitch	0.157"	4 mm
Ball Screw Precision	Class 5	Class 5
Stepper Angle	1.8	1.8
Phase	2	2
Current	3.0 amps	3.0 amps
Voltage	Tested at 28 VDC	Tested at 28 VDC
Torque:	11.9 lb-in	1.35 N-M
<b>Electrical</b>		
Power Requirement	110 V AC 50 Hz	110 V AC 50 Hz
<b>General Specifications</b>		
Machine Dimensions	22.4" x 23.6" x 23.6"	570 mm x 600 mm x 600 mm
Shipping Dimensions	25.59" x 24.32" x 28.35"	650 mm x 630 mm x 720 mm
Machine Weight	110 lbs	50 kg
Shipping Weight	143 lbs	65 kg

Stand Specifications - No Stand Available for this model at this time.

Stand Footprint	
Stand Dimensions	
Stand Weight	
Stand Shipping Weight	
Floor Space Required	

\*Specifications subject to change without notice.

# SmithyCNC 622 Bed Mill

Versatile Benchtop



This bench top beauty is just the right size and price for the home shop dreamer-doer. On the other hand, this machine would be great for prototyping or light run manufacturing.

	Inch	Metric
Table Size	21.65" x 6.30"	550 x 160 mm
Table Travel X Axis	11"	279.40 mm
Table Travel Y Axis	5.25"	133.35 mm
Head Travel Z Axis	10"	254 mm
Maximum Weight on Table	33 lbs	15 kg
T-Slot Size	0.47" (7/16")	12 mm
No. of Slots on Table	3	3
<b>Spindle</b>		
Positioning Accuracy	0.0004"	0.01 mm
Quill Diameter	2.76" (dia)	70 mm (dia)
Spindle Taper	R-8	R-8
Minimum Speed	100 RPM	100 RPM
Maximum Speed	3,500 RPM	3,500 RPM
Maximum Main Motor Torque	18.68 in/lb (1,500 RPM)	5.5 N-m (1,500 RPM)
Motor Power	1.33 HP	1,000 W
<b>Axis</b>		
Stepper Motors (X, Y, Z)	566 in-oz, 566 in-oz, 850 in-oz	4 N-m, 4 N-m, 6 N-m
Ball Screw Size (X, Y, Z)	0.78" (dia) x 25.39" (L), 0.55" (dia) x 13.23" (L), 0.78" (dia) x 18.82" (L)	0.78" (dia) x 25.39" (L), 14 mm (dia) x 336 mm (L), 20 mm (dia) x 478 mm (L)
Ball Screw Pitch	0.157"	4 mm
Ball Screw Precision	Class 5	Class 5
Stepper Angle	1.8	1.8
Phase	2	2
Current	6.0 amps	6.0 amps
Voltage	Tested at 110 VDC	Tested at VDC
Torque:	29 In-in	3.3 N-M
<b>Electrical</b>		
Power Requirement	110 V AC 50 Hz	110 V AC 50 Hz
<b>General Specifications</b>		
Machine Dimensions	30.7" x 31.49" x 36.6"	780 mm x 800 mm x 930 mm
Shipping Dimensions	39.37" x 40.94" x 40.94"	1,000 mm x 1,040 mm x 1,040 mm
Machine Weight	375 lbs	170 kg
Shipping Weight	420 lbs	205 kg
Drilling Capacity	0.984"	25 mm
End Milling Capacity	0.630"	16 mm
Face Milling Capacity	1.969"	50 mm
Throat	9.06"	230 mm

Stand Specifications

Stand Footprint	25.2" x 36.5"	640 mm x 927 mm
Stand Dimensions	20" x 32" x 33"	508 mm x 812.8 mm x 838 mm
Stand Weight	75 lbs	34.02 kg
Stand Shipping Weight	80 lbs	36.29 kg
Floor Space Required	26" x 14" x 65"	660 mm x 355.6 mm x 1,651 mm

\*Specifications subject to change without notice.

# SmithyCNC 1240 Bed Mill

## Bridgeport Capacities

This model's capacities match the size and capabilities of the Bridgeport Standard. Now you will do work on your benchtop that used to require a lot more shop space and expense.



\*Backsplash included but not shown.

	Inch	Metric		Inch	Metric
Table	40" x 12"	1016 x 304.80 mm	Current	6.0 amps	6.0 amps
Work Cube	22" x 11" x 10.5"	558.80 x 279.40 x	Voltage	30-300 V	30-300 V
266.70 mm			Torque	106 lb-in	12 N-M
Maximum Weight on Table	594 lbs	269.43 kg	<b>Electrical</b>		
T-Slot Size	5/8"	15.88 mm	Power Requirement	220 VAC @15 A	220 VAC @15 A
Slots on Table, Qty.	4	4	<b>General</b>		
Table Travel X Axis	22"	558.80 mm	Machine Dimensions	39.33" x 39.75" x 52.33"	998.98 x 1009.65 x
Saddle Travel Y Axis	11"	279.90 mm	1329.18 mm		
Head Travel Z Axis	11.5"	292.10 mm	Machine Weight	1,175 lbs	532.97 kg
Castings	Cast Iron	Cast Iron	Machine Footprint	36" L x 24" W	914.40 x 609.60 mm
Table Surface	Precision Ground	Precision Ground	Shipping Dimensions	41" x 37" x 48"	1041.40 x 939.80 x
Ways (X, Y -Axis)	Dovetail	Dovetail	1219.20 mm		
Ways (Z-Axis)	Linear Bearings	Linear Bearings	Shipping Weight	1,380 lbs	625.96 kg
Head Swivel	+ or - 90 degrees	+ or - 90 degrees	Maximum Work Capacities	Drilling mild steel: dia 0.781"; Drilling mild steel: dia 19.84 mm;	
<b>Spindle</b>				Tapping: 0.75"	Tapping: 19.05 mm
Motor HP Rating	2 HP	2 HP	<b>Stand Specifications</b>		
Maximum Torque	94 in-lb	94 in-lb	Stand Footprint	25.2" x 36.5"	640.08 x 927.10 mm
Drive System	Geared Belt	Geared Belt			
Minimum Speed	150 RPM	150 RPM	Stand Dimensions	25.2" x 36.5" x 37"	640.08 x 927.10 x
Maximum Speed	4,000 RPM	4,000 RPM	939.80 mm		
Positioning Accuracy	+/- 0.0005"	+ or - 0.0127 mm	Stand Weight	335 lbs	151.95 kg
Repeatability	0.00025"	0.00635 mm	Stand Shipping Weight	462 lbs	209.56 kg
Quill Diameter	3.15"	80.01 mm	Floor Space Required	36" x 60" x 84"	914.40 x 1524 x
Spindle Bearings	Angular Contact Bearings	Angular Contact	2133.60 mm		
Bearings					
Spindle to Column	11.50"	292.10 mm			
Spindle Taper	R-8	R-8			
<b>Axis</b>					
Stepper Motors (X, Y, Z)	1,700 in-oz	1,700 in-oz			
Ball Screws	Pre-loaded Hardened & Ground	Pre-loaded			
Hardened & Ground					
Ball Screw Size	0.984" X & Y-Axis; 0.787" Z-Axis	25 mm X & Y-Axis; 20 mm Z-Axis			
Ball Screw Pitch	0.196"	5 mm			
Ball Screw Precision	P5	P5			
Ball Screw End Diameter	3/8" (X,Y, & Z Axis)				
Motor Mount	NEMA 42 (X, Y, & Z Axis)				
Stepper Angle	0.9	0.9			
Phase	2	2			

\*Specifications subject to change without notice.



## Smithy Kool-Catch System

Item # CNC-80-042 (for 1240)

Reg. \$1,495 **ONLY \$955!**

\*Kool-Catch System shown mounted on the CNC 1240 model.

### Kool-Catch System Includes:

- Machine stand with tool storage & adjustable pads
- Heavy duty backsplash
- Kool-Catch coolant containment shroud system
- Easy open front door & chip guard
- Complete coolant system including pump & reservoir
- For Smithy CNC 1240 model only



## CNC Machine Stand

Item # 80-040

**ONLY \$529!**

\*Stand shown for CNC 1240 model. There are available stands for CNC 622 model.

There is no doubt that this solid stand will give your 1240 Mill the support it needs. Cabinet stand has extra storage shelf. Dimensions: 25.2"-L x 36.5"-W x 37"-H. Additional shipping applies, \$60.00 when bought with a machine and \$75.00 when bought separately.



## Rotary Table

Item # CNC-33-110  
For 1240 Model \$1,299

Item # CNC-33-114  
For 516 & 622 Models \$1,299

Can be used with 4th axis control. 8" model built with stepper motor control (8" model for the 1034 & 1240; 4" model for the 516 & 622). Gears are adjustable to remove backlash. A controller and cable is not included with this table. 70 lbs.



## CNC Control Station with Tool Storage

Item # CNC-83-055

**ONLY \$249!**

This mobile work station provides a convenient and safe work environment to move your machining operations around. Organize everything in one place and save existing work space. Control box, monitor and keyboard are set at a comfortable and convenient work height. Easy to move.

### CNC Control Station Includes:

- 2 5-1/2 Deep Drawers
- 5 2-1/2 Deep Drawers
- Full Extension drawer slides
- Drawer liners, labels and locks included
- Heavy Duty 5-1/2" x 2" Wheels
- Weight: 125 lbs
- Dimensions: 27" X 18" x 39"



## CNC Super-Lock Vise

Item # 32-020

**ONLY \$270!**

Use several to speed setup and machining of duplicate or individual parts. All sides flatness to 0.001" Accuracy: both sides square to bottom to 0.0004" and parallel to each other 0.0008". It can be mounted on side or base. Lock down design reduces deflection up to 80%. 70 lbs.

