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

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

SmithyCNC Control Software
Your choice of software

Software & Programming Support
If available

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.

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<thead>
<tr>
<th>SmithyCNC EZ-Trol System</th>
<th>Other PC Ready Control System</th>
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<tr>
<td>Smithy CNC Mill with:</td>
<td>CNC Mill Machine</td>
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<tr>
<td>- One Shot Lube System</td>
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<tr>
<td>- Drive Motor with Cabling</td>
<td></td>
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<tr>
<td>- Stepper on X, Y, Z</td>
<td></td>
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<tr>
<td>- Limit Switches on X, Y, Z</td>
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<tr>
<td>- CNC Control Box</td>
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<tr>
<td>- CNC Drive Computer</td>
<td></td>
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<tr>
<td>- Monitor &amp; Keyboard</td>
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</table>

<table>
<thead>
<tr>
<th>SmithyCNC Control Software</th>
<th>Your choice of software</th>
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<table>
<thead>
<tr>
<th>Smithy CNC Mill Features:</th>
</tr>
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<tbody>
<tr>
<td>- Parallel port connection to common PC based CNC software</td>
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<tr>
<td>- 90 inch per minute Rapids Possible</td>
</tr>
<tr>
<td>- Manual Controls for Spindle Speed &amp; Direction</td>
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<tr>
<td>- Coolant Control Switch</td>
</tr>
<tr>
<td>- Emergency Stop Switches on Machine Head &amp; Control</td>
</tr>
<tr>
<td>- Motion Inhibit Available for Tool &amp; Parts Change</td>
</tr>
</tbody>
</table>

Solid 3D Graphics
Full Solid Graphics
Coordinate System
Machine Feature Highlights

- 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

- Large Throat Dimension to Accommodate Large Work Pieces
- Linear Bearing on Z Axis (1034 & 1240 Models) for Accurate Positioning & High Speed
- Preloaded & Precision Hardened & Ground Ball Screws
- Positioning Accuracy of 0.0005” on X,Y, Z Axes for Precise Machining Accuracy
- Chip & Coolant Tray with Backsplash (1034 & 1240 Models) for easy to clean work environment
- Chip & Geared Belt Transmission
- High Torque Variable Frequency Spindle Drive
- Work Table is Precision Ground to Enhance Work Envelope
- Industrial Grade Spindle Bearings for Heavy Duty Chip Removal
- Heavy Duty Bed & Column Construction with Dovetail Ways to Minimize Vibration
- Other top of the line machine features

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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 | 4.33” | 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

### Spindle
- Motor Power: 0.67 HP (500 W)
- Maximum Main Motor Torque: 15.93 in-lb (1,500 RPM)
- Maximum Speed: 5,000 RPM
- Positioning Accuracy: 0.0004” (0.01 mm)
- Quill Diameter: 1.97” (dia) 50 mm (dia)
- Spindle Taper: MT-2

### Axis
- Stepper Motors (X, Y, Z): 191 in-oz, 191 in-oz, 311 in-oz
- Ball Screw Size (X, Y, Z): 0.47” (dia) x 14.13” (L), 0.47” (dia) x 13.70” (L), 0.47” (dia) x 13.70” (L)
- Ball Screw Pitch: 0.157”
- Ball Screw Precision: Class 5
- Stepper Angle: 1.8
- Phase: 2
- Current: 2.0 amps
- Voltage: Tested at 28 VDC
- Torque: 11.9 lb-in

### Electrical
- Power Requirement: 110 V AC 50 Hz

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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

### Spindle
- Positioning Accuracy: 0.0004” (0.01 mm)
- Quill Diameter: 1.97” (dia)
- Spindle Taper: R-8
- Minimum Speed: 100 RPM
- Maximum Speed: 3,500 RPM
- Maximum Main Motor Torque: 18.68 in-lb (1,500 RPM)
- Motor Power: 1.33 HP (1,000 W)

### Axis
- Stepper Motors (X, Y, Z): 566 in-oz, 566 in-oz, 850 in-oz
- Ball Screw Size (X, Y, Z): 0.78” (dia) x 25.39” (L), 0.78” (dia) x 25.39” (L), 0.55” (dia) x 13.23” (L)
- Ball Screw Pitch: 0.157”
- Ball Screw Precision: Class 5
- Stepper Angle: 1.8
- Phase: 2
- Current: 6.0 amps
- Voltage: Tested at 110 VDC
- Torque: 29 ln-in

### Electrical
- Power Requirement: 110 V AC 50 Hz

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*Specifications subject to change without notice.*
SmithyCNC 1240 Bed Mill

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.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Inch</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table</td>
<td>40” x 12”</td>
<td>1016 x 304.80 mm</td>
</tr>
<tr>
<td>Work Cube</td>
<td>22” x 11” x 10.5”</td>
<td>558.80 x 279.40 x</td>
</tr>
<tr>
<td>Maximum Weight on Table</td>
<td>594 lbs</td>
<td>269.43 kg</td>
</tr>
<tr>
<td>T-Slot Size</td>
<td>5/8”</td>
<td>15.88 mm</td>
</tr>
<tr>
<td>Slots on Table, Qty.</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Table Travel X Axis</td>
<td>22”</td>
<td>558.80 mm</td>
</tr>
<tr>
<td>Saddle Travel Y Axis</td>
<td>11”</td>
<td>279.90 mm</td>
</tr>
<tr>
<td>Head Travel Z Axis</td>
<td>11.5”</td>
<td>292.10 mm</td>
</tr>
<tr>
<td>Castings</td>
<td>Cast Iron</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>Table Surface</td>
<td>Precision Ground</td>
<td>Precision Ground</td>
</tr>
<tr>
<td>Ways (X, Y-Axis)</td>
<td>Dovetail</td>
<td>Dovetail</td>
</tr>
<tr>
<td>Ways (Z-Axis)</td>
<td>Linear Bearings</td>
<td>Linear Bearings</td>
</tr>
<tr>
<td>Head Swivel</td>
<td>+ or - 90 degrees</td>
<td>+ or - 90 degrees</td>
</tr>
<tr>
<td>Spindle Motor HP Rating</td>
<td>2 HP</td>
<td>2 HP</td>
</tr>
<tr>
<td>Maximum Torque</td>
<td>94 in-lb</td>
<td>94 in-lb</td>
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<tr>
<td>Drive System</td>
<td>Geared Belt</td>
<td>Geared Belt</td>
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<tr>
<td>Minimum Speed</td>
<td>150 RPM</td>
<td>150 RPM</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>4,000 RPM</td>
<td>4,000 RPM</td>
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<tr>
<td>Positioning Accuracy</td>
<td>+/- 0.0005”</td>
<td>+/- 0.00127 mm</td>
</tr>
<tr>
<td>Repeatability</td>
<td>0.00025”</td>
<td>0.00635 mm</td>
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<tr>
<td>Quill Diameter</td>
<td>3.15”</td>
<td>80.01 mm</td>
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<tr>
<td>Spindle Bearings</td>
<td>Angular Contact Bearings</td>
<td>Angular Contact</td>
</tr>
<tr>
<td>Spindle to Column</td>
<td>11.50”</td>
<td>292.10 mm</td>
</tr>
<tr>
<td>Spindle Taper</td>
<td>R-8</td>
<td>R-8</td>
</tr>
<tr>
<td>Stepper Motors (X, Y, Z)</td>
<td>1,700 in-oz</td>
<td>1,700 in-oz</td>
</tr>
<tr>
<td>Ball Screws</td>
<td>Pre-loaded</td>
<td>Pre-loaded</td>
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<tr>
<td>Hardened &amp; Ground</td>
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<td></td>
</tr>
<tr>
<td>Ball Screw Size</td>
<td>0.984” X &amp; Y-Axis;</td>
<td>25 mm X &amp; Y-Axis;</td>
</tr>
<tr>
<td></td>
<td>0.787” Z-Axis</td>
<td>20 mm Z-Axis</td>
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<tr>
<td>Ball Screw Pitch</td>
<td>0.196”</td>
<td>5 mm</td>
</tr>
<tr>
<td>Ball Screw Precision</td>
<td>P5</td>
<td>P5</td>
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<tr>
<td>Ball Screw End Diameter</td>
<td>3/8” (X,Y, &amp; Z Axis)</td>
<td>5/8” (X,Y, &amp; Z Axis)</td>
</tr>
<tr>
<td>Motor Mount</td>
<td>NEMA 42 (X, Y, &amp; Z Axis)</td>
<td>NEMA 42 (X, Y, &amp; Z Axis)</td>
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<tr>
<td>Stepper Angle</td>
<td>0.9</td>
<td>0.9</td>
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<tr>
<td>Phase</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Electrical

- Current: 6.0 amps
- Voltage: 30-300 V
- Torque: 106 lb-in
- Power Requirement: 220 VAC @15 A

General

- Machine Dimensions: 39.33” x 39.75” x 52.33”
- Machine Weight: 1,175 lbs
- Machine Footprint: 36” L x 24” W
- Shipping Dimensions: 1219.20 mm
- Shipping Weight: 1,380 lbs
- Maximum Work Capacities: Drilling mild steel: dia 0.781”; Drilling mild steel: dia 19.84 mm;
- Tapping: 0.75”; Tapping: 19.05 mm

Stand Specifications

- Stand Footprint: 25.2” x 36.5”
- Stand Dimensions: 939.80 mm
- Stand Weight: 335 lbs
- Stand Shipping Weight: 462 lbs
- Floor Space Required: 2133.80 mm
- Tapping: 19.05 mm

*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!

**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”

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 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.
## Control System

<table>
<thead>
<tr>
<th>SmithyCNC 516 Bed Mill</th>
<th>SmithyCNC 622 Bed Mill</th>
<th>SmithyCNC 1240 Bed Mill</th>
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</thead>
<tbody>
<tr>
<td><strong>SmithyCNC with EZ-Trol System</strong></td>
<td>Not Available</td>
<td>$6,940</td>
</tr>
<tr>
<td><strong>PC Ready Option</strong></td>
<td>$4,495</td>
<td>$5,995</td>
</tr>
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Choose your DELIVERY PLAN:

- **BASIC DELIVERY** brings your machine to the Con-Way trucking terminal nearest you. Call us for its location or find it online at [www.con-way.com](http://www.con-way.com). You'll be notified when your machine has arrived and you can arrange pickup.
- **BUSINESS DELIVERY** brings your machine to a business location of your choice (local lumberyard, etc.) for no additional charge. The business must have a forklift, etc. to unload the machine from the back of a semi-trailer.
- **DELUXE DELIVERY** is the ultimate convenience! Your machine will be delivered to your driveway and lowered to ground level by a liftgate truck. Your area must be accessible to a semi-trailer and someone must be home to accept delivery. Service does not include inside delivery.

### SHIP TO (if different than address on label)

- **Name** ___________________________
- **Company** _________________________
- **Address** _________________________
- **City/State/ZIP** ___________________
- **Daytime Phone** (__________) ________

### BILL TO (if different than ship to address)

- **Name** ___________________________
- **Company** _________________________
- **Address** _________________________
- **City/State/ZIP** ___________________
- **Daytime Phone** (__________) ________

**PAYMENT METHOD**

- [ ] I have enclosed a check to cover the cost of my order.*
- [ ] I want to FINANCE my order. (Please call us for details.)
- [ ] Please charge my order to my credit card.
  - [ ] Mastercard  [ ] Visa  [ ] Discover  [ ] American Express
- [ ] Expiration date: __________ Signature __________________

**BILLING TOTAL**

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Description</th>
<th>Unit Price</th>
<th>Total</th>
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</tbody>
</table>

**SHIPPING RATES**

- **SmithyCNC Machines** shipped within the contiguous 48 states. Call for rates to other locations.

<table>
<thead>
<tr>
<th>Machine</th>
<th>Basic Delivery</th>
<th>Business Delivery</th>
<th>Deluxe Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNC 516</td>
<td>$229.00</td>
<td>$229.00</td>
<td>$299.00</td>
</tr>
<tr>
<td>CNC 622</td>
<td>$229.00</td>
<td>$229.00</td>
<td>$299.00</td>
</tr>
<tr>
<td>CNC 1240</td>
<td>$450.00</td>
<td>$450.00</td>
<td>$520.00</td>
</tr>
</tbody>
</table>

- **SmithyCNC Accessories** shipped within the contiguous 48 states. Call for rates to other locations. SmithyCNC Accessories are sent by UPS or US Mail. Please allow 7-10 business days for delivery. Next Day, Second Day and Third Day Shipping available as well as FedEx and FedEx Ground. Call for quote.

Due to the weight limitations, some accessory items are sent via Con-Way. If the item is purchased with a machine, shipping cost is $60.00. If purchased alone, shipping cost is $75.00. Call us for details.

*We welcome your check. Please note: Checks returned unpaid by your financial institution are subject to a service charge of $25 or the maximum allowed by law. Checks returned for insufficient or uncollectible funds, together with service charges, may be debited electronically from your account or collected using a bank draft drawn from your account.

While we make every effort to catch and correct printer errors, we cannot take responsibility for them.

**IT'S EASY TO ORDER!**

- **Phone:** TOLL FREE 1-800-476-4849
  8am - 5pm, M-F, ET
  International 734-913-6700
- **Fax:** TOLL FREE 1-800-431-8892
  International 734-913-6663
- **E-Mail:** sales@smithy.com
- **Web:** [www.smithy.com](http://www.smithy.com)
- **Mail:** Smithy Co., P.O. Box 1517, Ann Arbor, MI 48106-1517
- **Showroom:** Smithy Co., 170 Aprill Dr., Ann Arbor, MI 48103
  8am - 5pm, M-F, ET
- **Questions? Call TOLL FREE 1-800-476-4849**

Visit Our Showroom and Avoid Delivery Fees

P.O. Box 1517 Ann Arbor, Michigan 48106-1517

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