

If you're looking for a CNC solution that delivers affordable, full-production performance in the digital fabrication of wood, plastic, aluminum, and other materials, then ShopBot's full sized gantry tools are the right option for your needs. Using advanced technology for CNC cutting, drilling, carving, and machining, ShopBot's full size gantry tools are easy to configure and re-configure, easy to learn and use.

Available in traditional shop-size and larger, all full size gantry tools are available with 8" or 14" Z travel. In addition to our standard size tools – 96 x 48, 96 x 60, 120 x 60, 144 x 60 – we can build your tool to any dimension up to 10' by 30' and with plunge depths up to 24 inches. Other customizable components are available, including dual Z options with two Z axes on the main gantry.

Give us a call to discuss your production needs. We'll help you choose the right tool to get the job done.



## All Full Size Gantry Tools Include:

- Tough precision linear bearings on the moving gantry and hardened steel rails for the X-axis.
- Reliable rack-and-pinion power transmission on each axis.
- Positional repeatability of +/- .002".
- Sealed industrial control box.
- Z-zero touch-off plate and XYZ proximity switches.
- Dust skirt ready to connect to your dust collector.
- Advanced ShopBot developed and ShopBot supported Control System software runs your CNC.
- Bundled with two powerful design programs to create CNC projects.
- Fully-assembled gantry module ships along with steel and aluminum table components. The engineering of our structurally integrated table allows on-site assembly and the advantage of placement of the tool in work areas with limited accessibility—while still having a factory squared, aligned, and tested machining system. We also offer on-site set-up services, as well as training and production process consulting, as options.
- Unparalleled support for our user community with forums, production support services, training classes, and FREE technical support.
- Two-year warranty.

## PRStandard Specifications

Our **PRStandard series** of full-sized gantry tools provides an affordable entry to CNC for those who are ready to get started with CNC productivity. These tools are ideal for many different users: Moderate production shops, educational settings, hobbyist garages, signmakers, woodworkers, artists, and DIYers, to name a few. PRStandard tools have the same rigid gantry, table frames, and durable mechanical components as our top-of-the-line PRAlpha series.

- Low-backlash gearhead stepper motors on all axes.
- Smooth RBK Series stepper drivers on all axes.
- Step resolution .0006".
- Positional repeatability of +/- .002".
- Emergency stop disconnect switch integrated in control box.

## PRAlpha Specifications

With enough production capability for a three-shift factory, **ShopBot PRAlpha tools** are our toughest, most sophisticated, gantry-based CNC routers. They reach rapid transit speeds of 1800 inches per minute and cutting speeds of up to 720 inches per minute. The PRAlpha series of full-sized gantry tools deliver high performance, high efficiency production, as well as fast position and cutting.

- Fast, closed-loop Vexta alphaStep motors fitted with low-backlash, tapered-hob gear heads on all three axes — alphaStep system monitors motor shaft positions with feedback maintaining tight synchronicity between signal and motion.
- Step resolution of .0004".
- Emergency stop disconnect switch in the control box with integrated and cabled remote emergency stop buttons.

## PRSalpha & PRSstandard Dimensions (Length x Width x Plunge)

	48-48	96-48	96-60	120-60	144-60
<b>Cut/ Movement Area**</b>	57" x 49" x 8" (1.45m x 1.24m x .2m)	105" x 49" x 8" (2.67m x 1.24m x .2m)	105" x 61" x 8" (2.67m x 1.55m x .2m)	129" x 61" x 8" (3.28m x 1.55m x .2m)	153" x 61" x 8" (3.89m x 1.55m x .2m)
<b>Footprint</b>	L72" x W79" x H67" (1.83m x 2.01m x 1.70m)	L120" x W79" x H67" (3.05m x 2.01m x 1.70m)	L120" x W91" x H67" (3.05m x 2.31m x 1.70m)	L144" x W91" x H67" (3.66m x 2.31m x 1.70m)	L168" x W91" x H67" (4.27m x 2.31m x 1.70m)

\*\*Actual cutting width is decreased by 10" when using a second Z axis.

\*\*\* Spindle VFD fits to the right side of the gantry

## ShopBot PRSalpha Specifications

Drive Motor: Closed loop steppers with 7.2:1 gearboxes. With constant positional feedback to the drivers, if an obstruction is hit or cutting too fast the drivers will attempt to correct the position of the motors before activating an alarm, stopping the machine and displaying an alarm on the monitor. Once reset and homed, cutting should be able to be resumed.	
XY Move Speed (with full cutting force)	Variable, max. 600"/min. (15.2m/min.)
Z Move Speed (with full cutting force)	Variable, max. 360"/min. (9.1m/min.)
XY Positioning Speed	Variable, max. 1800"/min. (45.7m/min.)
Z Positioning Speed	Variable, max. 900"/min. (22.8m/min.)
Step Resolution	.0004" (0.010mm)
Positional Repeatability	+/- 0.002" (0.051mm)
Linear Cutting Force	≈150# at 60"/min.
X, Y, and Z Axis Drive System	Rack and Pinion
Input Voltage	220v single-phase and 230v 3-phase power options are available, depending on tool and configuration. Connecting the PRSalpha requires the services of a licensed electrician. Please check the website <a href="http://www.shopbottools.com">www.shopbottools.com</a> or contact ShopBot for the wiring information for the set-up you are considering.
Eight Input Channels (switch closure or 5-volt logic input), Eight Output Channels (5-volt logic level current)	

## ShopBot PRSstandard Specifications

Drive Motor: Open loop steppers with 3.6:1 gearboxes. Without positional feedback, if attempting to cut too fast or an obstruction hit, steps could be lost and not noticed until the part file has completed or the operator stops.	
XY Move Speed (with full cutting force)	Variable, max. 360"/min. (9.1m/min.)
Z Move Speed (with full cutting force)	Variable, max. 120"/min. (3m/min.)
XY Positioning Speed	Variable, max. 480"/min. (12.1m/min.)
Z Positioning Speed	Variable, max. 480"/min. (12.19m/min.)
Step Resolution	0.0006" (0.015mm)
Positional Repeatability	+/- 0.002" (0.051mm)
Linear Cutting Force	≈50# at 60"/min.
X, Y, and Z Axis Drive System	Rack and Pinion
Input Voltage	110v or 220v single-phase and 230v 3-phase power options are available, depending on tool and configuration. Connecting the PRSstandard requires the services of a licensed electrician. Please check the website <a href="http://www.shopbottools.com">www.shopbottools.com</a> or contact ShopBot for the wiring information for the set-up you are considering.
Eight Input Channels (switch closure or 5-volt logic input), Eight Output Channels (5-volt logic level current)	

Mechanical parts such as table, gantry, Z axis... are the same for both types of machines.

# Want to learn more about CNC? Choose from ShopBot's variety of training options

At ShopBot, we believe that training is valuable for getting the most from your CNC. Whether you're brand new to CNC or an experienced user, we have a wide range of training opportunities to keep you designing and making for years to come. Our training classes are available for ShopBot tool owners/operators, anyone interested in CNC, as well as owners and operators of virtually any brand of CNC.



## Training at ShopBot

Our 2-day Basic Training is held at our Durham, NC headquarters. This group training takes students from an introduction about how ShopBots work to hands-on design and machining. Check out the events calendar on our website for a schedule of upcoming sessions.

In addition to our Basic Training, we offer specialized training sessions. See the Training page of our website for more details.

## Online Training

Online Training is interactive through visual and audio demonstrations and they are subject-specific. Topics are often derived from customer suggestions. These FREE trainings run approximately 2 hours in length. Sessions are listed on our events calendar and topics are usually announced via our social media accounts and on the ShopBot forum.

## Tutorials and Videos

Our Tutorial and Video library allows you to learn at your own pace, on your own timeline. You'll find topics ranging from tool set-up and maintenance, to information on design software, to tips on material cutting. These are accessible via the Training Tutorials and Videos area of our website and our YouTube channel.

## On-site Training

Have one of our trainers come to your school or shop for training tailored to your specific needs. Available as an add-on to a tool purchase including an install/assembly visit, or it can be purchased separately for an individual or small group. Call us at 888-680-4466 for more information about setting up on-site training at your facility.

We make  
the tools  
for making the  
future.

**ShopBot**<sup>®</sup>

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## SOFTWARE

No degree in computer science is needed to run a ShopBot! **Each new ShopBot includes** design software packages selected and bundled for designing your projects and creating the tool path files that guide the tool. If you are primarily working in sheet goods, want to do v-carvings, and/or new to CNC? You may want to start with **VCarvePro ShopBot Edition**. If you are primarily working in solids or blocks, already experienced with CAD, and/or have an engineering background? You may want to start with **Fusion 360**. These two powerful software packages include CAD/CAM to take your ideas from design to production on your ShopBot. The ShopBot Control System software that runs your CNC is also included.

We also offer software packages for use in signmaking, cabinet making and more. **Aspire by Vectric** is one of our most popular—great for designing and machining carved decorative panels and doors, custom millwork, moldings, signage, dimensional logos, jewelry, custom gifts and much more.

**ShopBot Software is compatible with many software programs, including:** • AutoCAD • Rhino 3D • SketchUp • ArtCAM • Vector Art 3D • Cabinet Vision • EnRoute • KCDw • MasterCAM • MillWizard • OneCNC • Shape 3D • Vector CAD CAM • Visualmill • CabinetParts Pro • DeskProto • eCabinet System

## YOUR BUSINESS NETWORK

Digital fabrication and online communication — together they are playing an important role in reshaping manufacturing in the U.S. and around the world. The *distributed manufacturing* model, which brings on-demand production and the end user closer together, is also growing fast. ShopBot Tools is a leader in supporting these developments. Our free online community, 100kGarages.com, can connect you with business opportunities around the country and the globe.

**100kGarages.com**

connect. collaborate. create.

## FREE TECHNICAL SUPPORT

Whether you're new to digital fabrication or a veteran user of CNC technology, ShopBot is here to support your efforts. We provide **free technical support 7 days a week** from our headquarters in Durham, North Carolina. We also have a vibrant online community at talkshopbot.com, sharing tips and advice with other users of digital fabrication technology.

To contact tech support:  
[support@shopbottools.com](mailto:support@shopbottools.com)

## ADDITIONAL ACCESSORIES

- **ShopBot's Automatic Tool Changer (ATC)** is available on our full size PRSalpha Gantry CNC tools. It reduces production time by automatically changing cutters between tool paths, thus eliminating the need for the CNC operator to change and zero tools individually. The ATC allows the PRSalpha to do the full job, even when different tooling is required to make different types of cuts or where different bits are needed for roughing and finishing passes
- **Vacuum Hold Down** is one of the most effective methods to hold down parts for CNC cutting or machining. The vacuum systems that we sell are for universal vacuum which draw air through a broad area of a permeable bleeder board to create a more uniform vacuum seal. Ask us about the Vacuum Hold Down options we have available for your ShopBot tool.
- The **Pneumatic Drill Head** is for point-to-point drilling. This unit was designed to take the abuse of straight plunging that causes damage to the linear bearings in spindles and routers and will allow for precision depth drilling for cabinet manufacturing and similar 32mm construction methods.
- The **ShopBot Rotary Indexer** allows you to cut full 3-dimensional objects on your ShopBot. Like a lathe, it provides a 4th rotary axis for turning a part, but in addition, provides precise "indexed" control over rotation. It comes in two Buddy-compatible sizes and can be purchased with new tools or retro-fitted to older tools.
- The **Drag Knife Bit** enables you to cut adhesive-backed sign vinyl, paper, cardboard and thin plastics (up to 1/32"). Create vehicle graphics, professional-quality signs, banners, magnets or parts from thin plastics.
- The **Diamond Drag Engraving Bit** allows you to engrave plastic, metal, glass and stone. Engrave signatures, logos or artwork. Create custom brass name tags for trophies/plaques or permanently engrave serial numbers and ID.
- You can also add **ShopBot's 3D Digitizing Probe** to make a copy of an object in 3D. Duplicate an existing 3D shape or a piece of decorative trim or molding. Very useful for luthiers, furniture makers and restoration work.