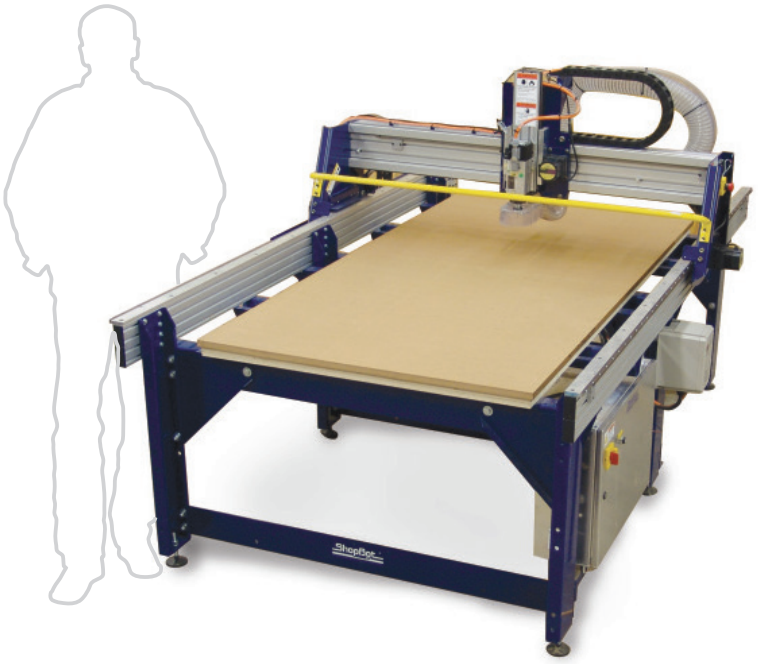
Full Size Gantry Tools

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.

PRSstandard Specifications

Our **PRSstandard series** of full-sized gantry tools provides an affordable entry to CNC for those who are ready to get started with CNC productivity. The tools are ideal for moderate production shops, educational settings, hobbyist garages, signmakers, woodworkers, artists, and DIYers (to name but a few). PRSstandard tools have the same rigid gantry, table frames, and durable mechanical components as our top-of-the-line PRSalpha 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.

PRSalpha Specifications

With enough production capability for a three-shift factory, **ShopBot PRSalpha 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 PRSalpha 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 (two on the X-axis) — 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.

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We make the tools for making the future.

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

	48-48	96-48	96-60	120-60	144-60
Nominal Cutting Area	48" x 48" x 6" (1.22m x 1.22m x 0.15)	96" x 48" x 6" (2.44m x 1.22m x 0.15m	96" x 60" x 6" (2.44m x 1.52m x .15m)	120" x 60" x 6" (3.05m x 1.52m x .15m)	144" x 60" x 6" (3.66m x 1.52m x .15m)
Total Movement Area	50" x 50" x 8" (1.27m x 1.27m x .2m)	102" x 50" x 8" (2.49m x 1.27m x .2m)	102" x 62" x 8" (2.49m x 1.57m x .2m)	122" x 62" x 8" (3.10m x 1.57m x .2m)	146" x 62" x 8" (3.71m x 1.57m x .2m)
Footprint	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)

** Plunge distance is approximate distance from collet to table (assuming 2" of table material). Note that a long cutting bit will reduce the height of material that can be cleared by the cutter.
***Width is decreased by 10" when using a second Z-axis.

ShopBot Standard vs. Alpha Tool Specification

	Standard	Alpha
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.	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.
Cutting Speed: **Porter Cable Router (7518)** **4HP Spindle**	 Up to 600" per minute Up to 600" per minute	 Up to 600" per minute Up to 720" per minute
Jog Speed (Bit out of material)	12" (300mm) per second	30" (760mm) per second
XY Move Speed	Variable, max. 300" (7.62m) per minute	Variable, max. 720" (15.24m) per minute
Z Move Speed	Variable, max. 180" (4.57m) per minute	Variable, max 360" (9.14m) per minute
XY Positioning Speed	Variable, max. 500" (12.7m) per minute	Variable, max 1800" (45.7m) per minute
Z Positioning Speed	Variable, max. 240" (6.1m)	Variable, max. 900" (22.86m) per minute
Step Resolution (Distance per step)	.0006" (0.015mm)	.0004" (0.01mm)
Postional Repeatability	±0.002" (0.05mm)	±0.002" (0.05mm)
Linear Cutting Force	≈50# at 1" (25mm) per second	≈150# at 1" (25mm) per second
X- and Y-Axis Drive System	Rack and Pinion	Rack and Pinion
Z-Axis Drive System	Rack and Pinion	Rack and Pinion
Electrical Power Requirements	110V 15A for Controls 110V 20A for Router (Spindle amperage requirements vary on horsepower and voltage)	220V 20A for Controls & Router (Spindle amperage requirements vary on horsepower and voltage)
Certification	None at this time	UL

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