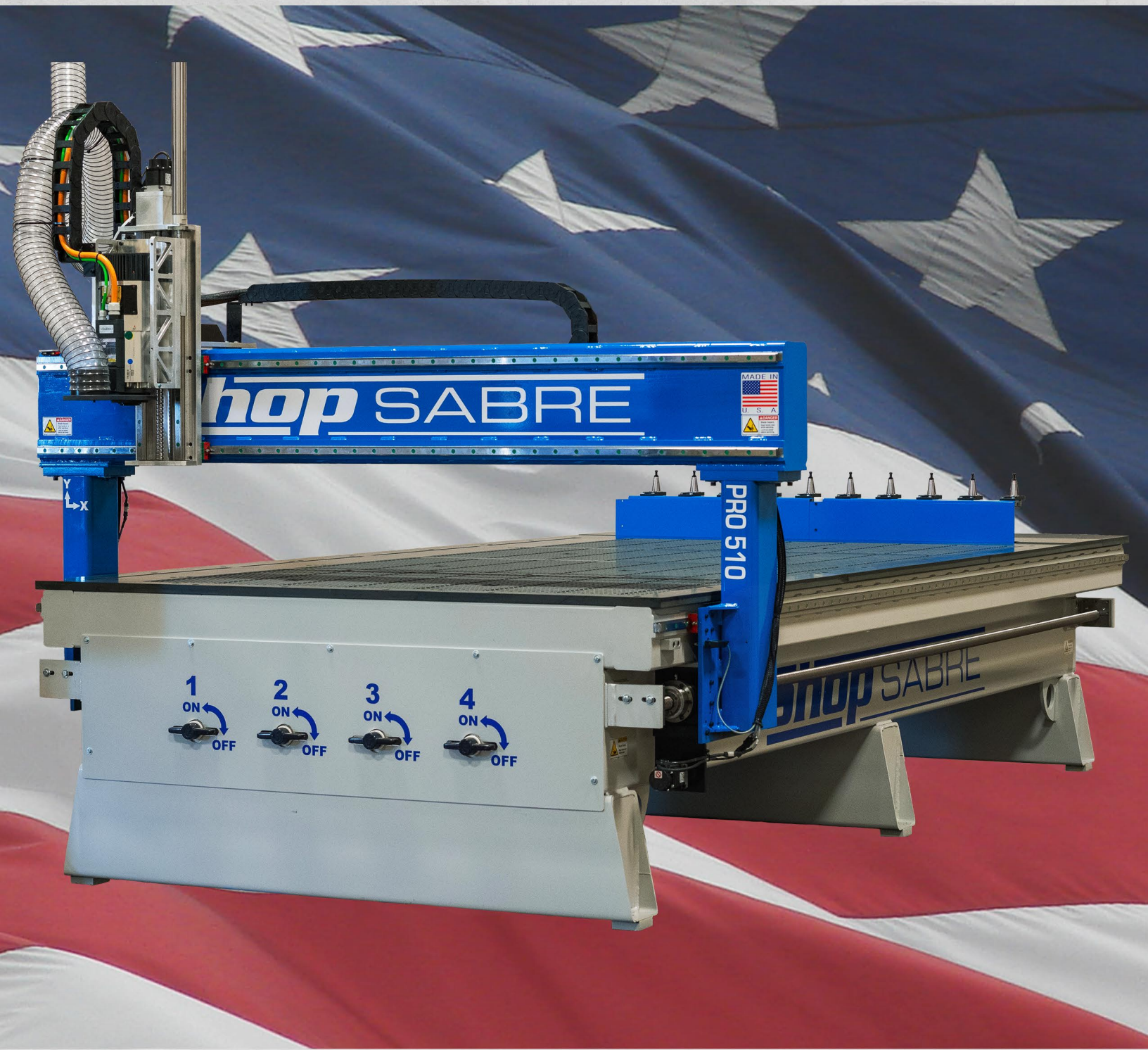


SHOPSABRE PRO SERIES PREP GUIDE



GET PREPARED FOR YOUR MACHINE

ShopSABRE

a N.A.C.S.L. Company

"The Way CNC Was Meant to Be"

WELCOME

Thank you for choosing ShopSabre CNC and American Made products. We are excited to be a part of your team and for you to receive your new ShopSabre CNC Router! During the build process, we hope you find this guide helpful in order to prepare for it's arrival. This guide is meant to serve as a resource to prepare for delivery. Please refer to the user manual that was sent in your welcome package for all other information. Please contact us with any questions you have.

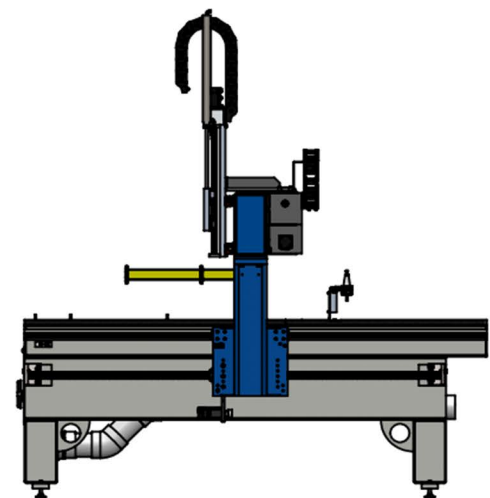
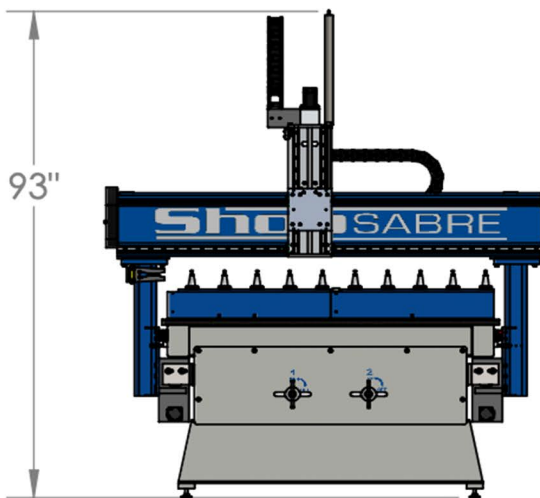
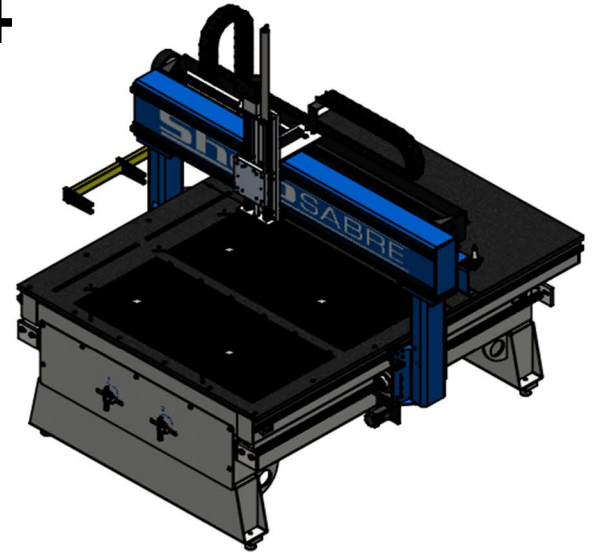
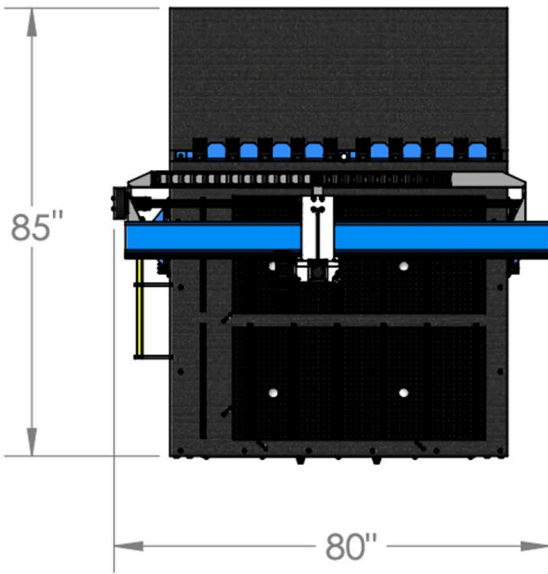
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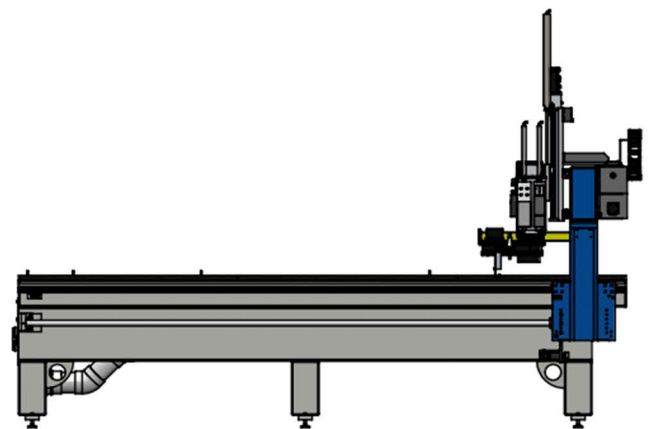
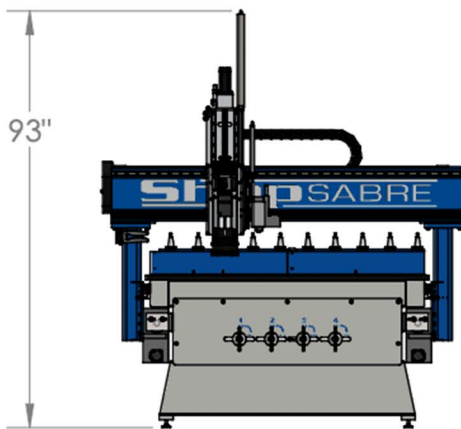
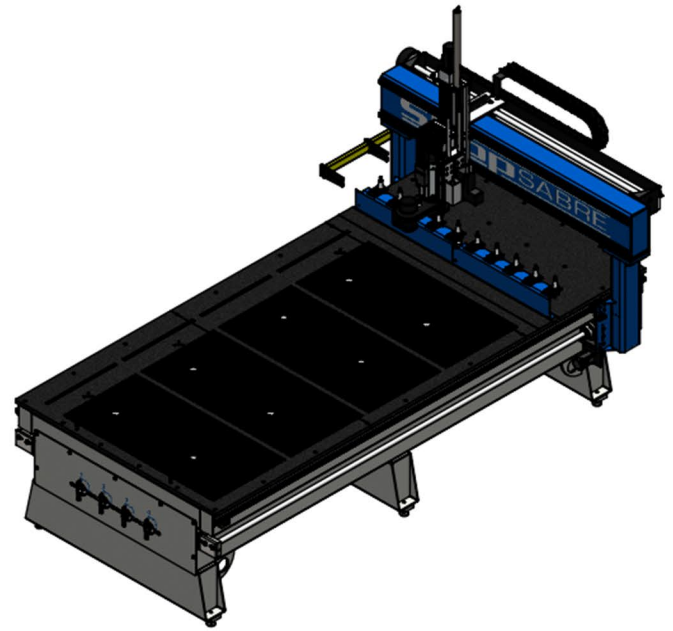
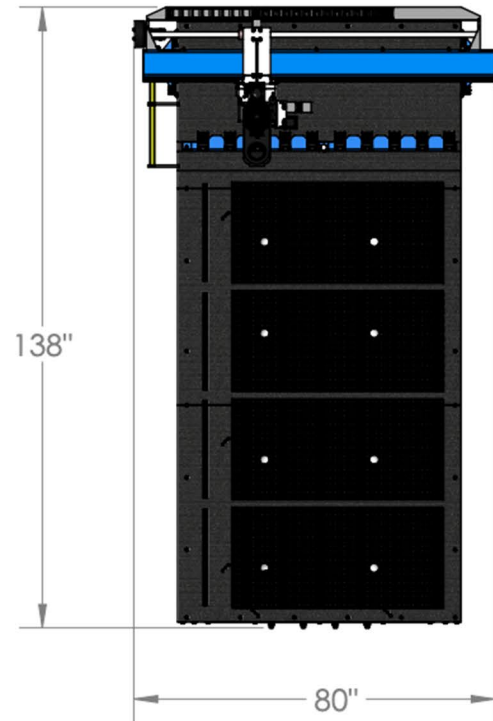
MACHINE OVERVIEW

PRO404



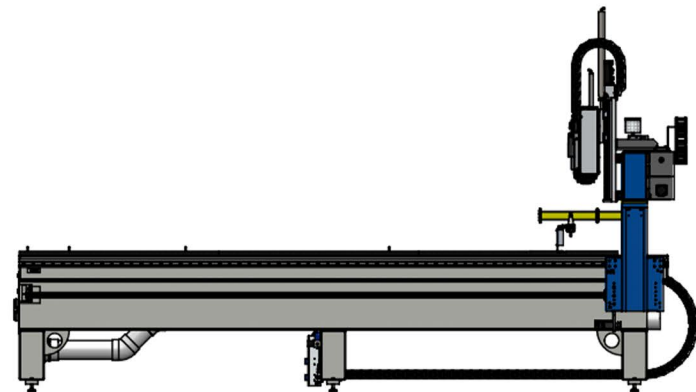
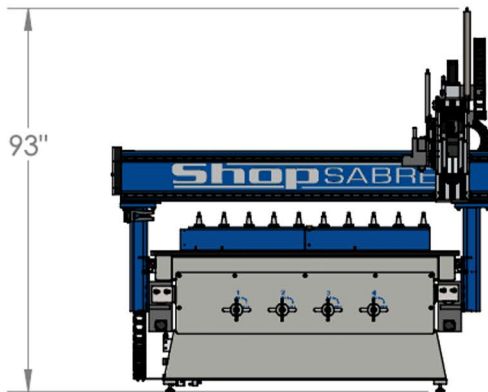
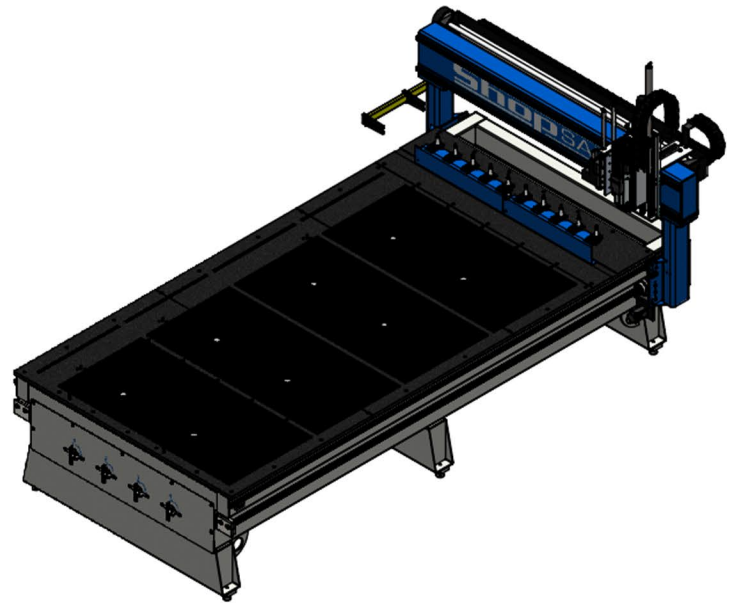
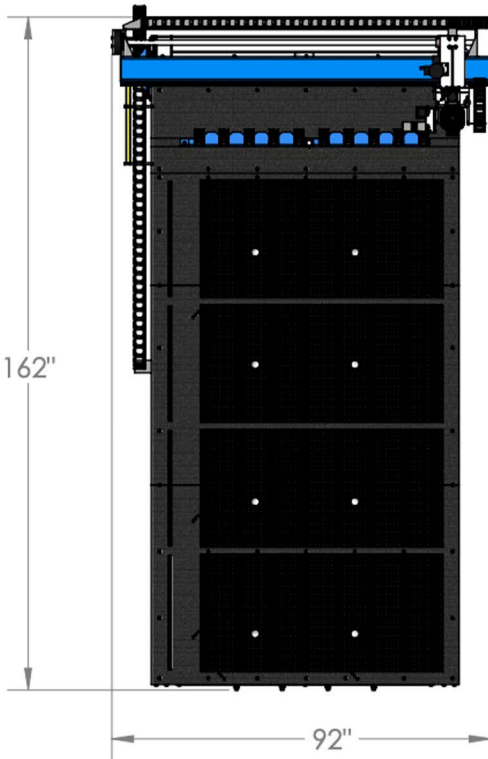
MACHINE OVERVIEW

PRO408



MACHINE OVERVIEW

PRO510



SHIPPING INFORMATION

Your ShopSabre Customer Liaison will provide status updates throughout the various stages of your machine fabrication and build. You will receive an email with questions to verify your shipping address and information. Prior to coordinating shipment, your machine will be fully tested and inspected.

Once our Shipping Coordinator has an ETA from a carrier, they will be in contact to ensure the delivery timeline provided works on your end. You will then receive a call 24 hours in advance from the delivery driver to set up an appointment.

Please note- while we list this 24-hour in advance call in our carrier contract for the courtesy of our customers, there have been events where drivers have not called, or not called 24 hours in advance. We understand that this can cause inconvenience on our customers end and this is beyond ShopSabre's control. However, in the event that this happens to you, please contact ShopSabre and we will be happy to get in touch with the carrier on our end and do what we can to help.

IMPORTANT: It is the purchaser's responsibility to examine all shipments from ShopSabre at time of receipt, note any damage on the Bill of Lading, and notify the carrier. Any damages not noted at time of receipt will not be eligible for warranty or repair.



SHIPMENT WEIGHT/DIMENSIONS

Your router will ship to you white-wrapped, and may be on a pallet. Please see the chart below for model specifications. **We HIGHLY recommend a 7,500 lb. forklift with 8ft fork extensions for safe unloading of all of our router machines.**

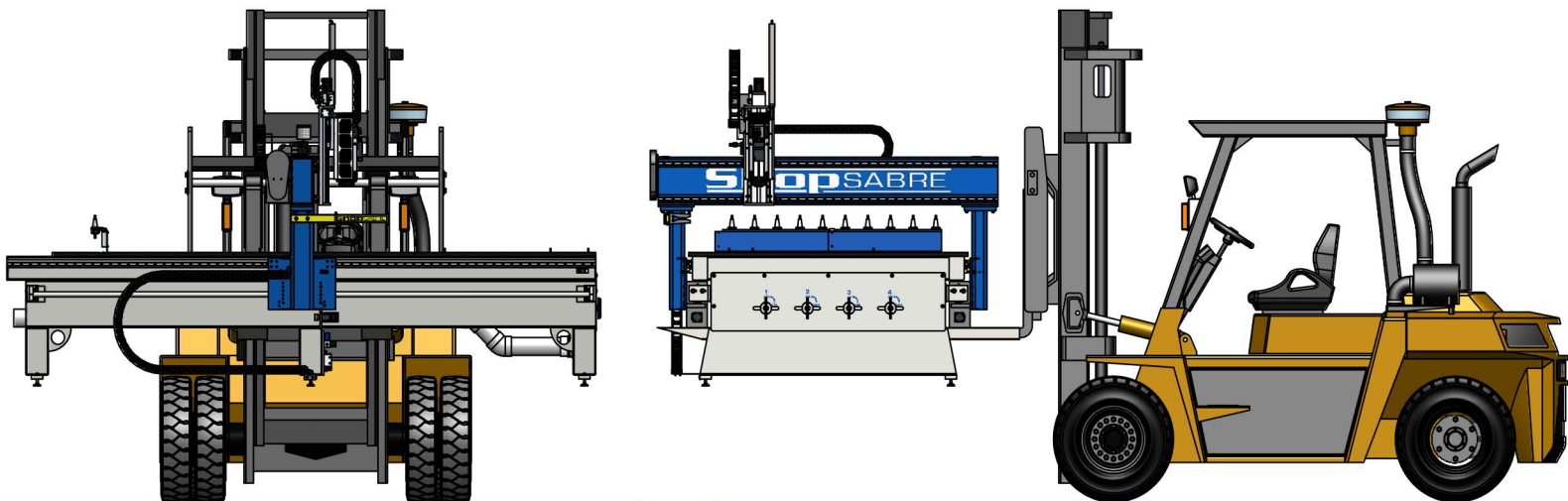
Model	Pallet	Shipment Method	Weight	Length	Width	Height
PRO404	Yes	Enclosed trailer	2,500-3,400 lbs.	96"	89"	90"
PRO408	Yes	Enclosed trailer	3,400-4,100 lbs.	144"	89"	90"
PRO510	No	Flatbed	4,200-4,700 lbs.	160"	96"	90"

*Numbers provided above are approximate & may vary. Shipment methods listed are standard and subject to change.



HANDLING CNC EQUIPMENT

Forklift should only be operated by trained personnel with good understanding of safety policies and procedures. Forklift operator should be familiar with the CNC equipment, its operations, and functions before unloading or moving CNC equipment.



CNC equipment may not be balanced. Use caution when unloading and moving equipment so that damage does not occur to CNC equipment, forklift, or forklift operator.

RECEIVING YOUR MACHINE

When you receive your machine, please review the packing slip provided to make sure that you have received all of the components. The boxes of components will be packaged on top of your machine (Figure 1A). If your machine is shipped on a pallet, you must remove the 4 bolts securing it to the pallet (Figure 1B). Then, you will be able to lift the table off the pallet (Figure 1C & Figure 1D) and set it in place.

Figure 1A



Figure 1B



Figure 1C



Figure 1D



MACHINE PLACEMENT

After you have lifted the machine off the pallet, it is time to place it in the designated area. Please reference page 12 for space recommendations. Once your machine is placed, proceed to unbox all components. To prevent movement during transit, there are bolts located on top of the Z-axis (**Figure 2A**), under the gantry (**Figure 2B**), and on the sides of the table (**Figure 2C**). These must be removed before the machine is turned on. Once in the designated area, the machine will need to be leveled. The leveling feet will be located in one of your boxes. PRO series machines use pads for feet (**Figure 2D**).

Figure 2A



Figure 2B



Figure 2C

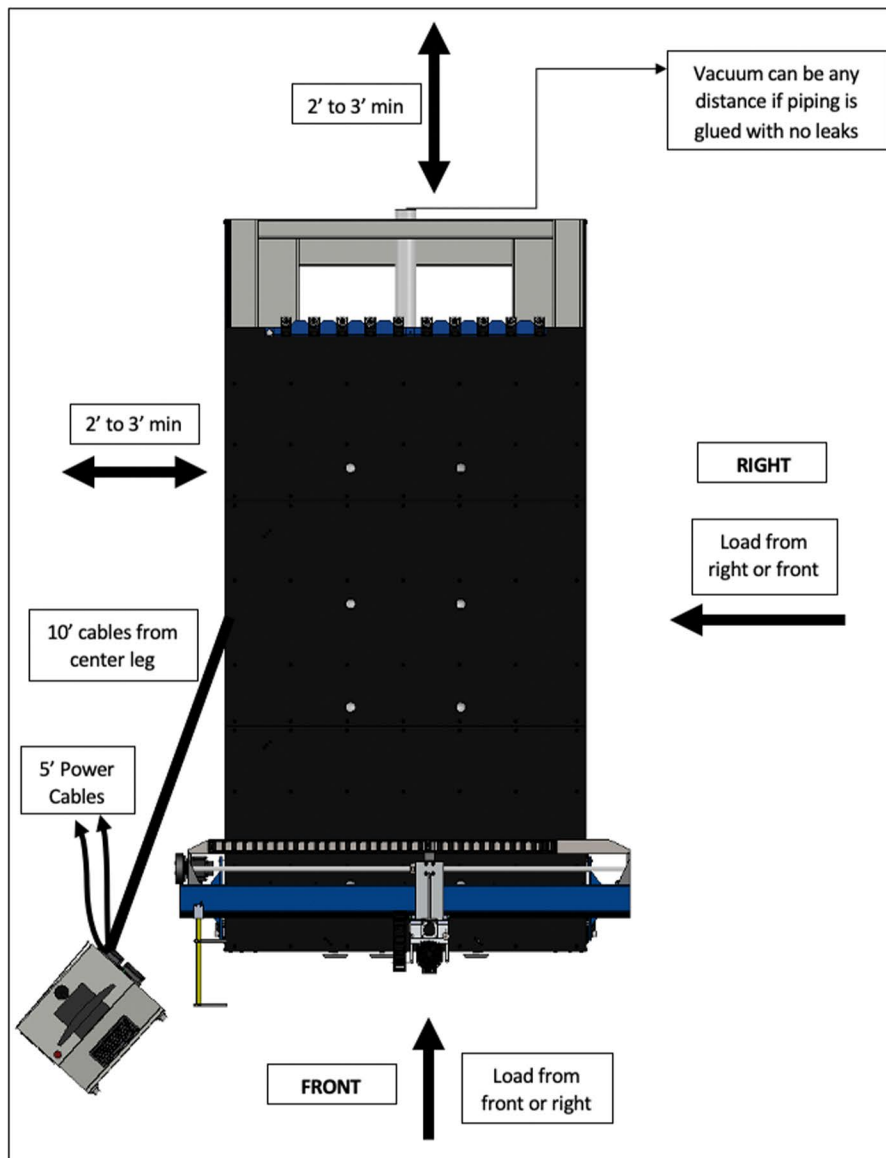


Figure 2D



MACHINE SPACE & LOCATION

You will want to allow for adequate spacing around your CNC machine for access, loading, and unloading materials. We recommend a minimum of 24"-36" clearance around the perimeter of your machine, with an ideal clearance of 36". Please consider any doorway or entryway dimensions when deciding where to locate your machine.



POWER REQUIREMENTS

The following is a list of general plug types and power requirements your machine may need. If you have questions about the options you purchased or which plugs you may need, please contact your sales person. **ALL ELECTRICAL WORK MUST BE PERFORMED BY A CERTIFIED ELECTRICIAN.**

Model	Option	Plug
Pro Series		
208-240v Single Phase:		
	Control Box:	(Qty 1) NEMA 6-20 plug, 20 amps
110v Single Phase:	PC + Monitor	(Qty 2) NEMA 5-15 plug, 15 amps
For VFD, Vacuum, Dust Collector see below		

VFD for non-IS series machines:		
Must be hard-wired 208-240v only either Single or Three Phase	2, 4, or 5 HP, Single or Three Phase:	30-amp circuit
	9 or 10 HP, Three Phase:	30-amp circuit
	9 or 10 HP, Single Phase:	50-amp circuit

POWER REQUIREMENTS

Dust Collector:		
3HP Cyclone	Single Phase 208-240v:	30-amp circuit; Plug not included. Recommend (Qty 1) NEMA L6-30 plug
2HP Shop Fox	Single Phase 208-240v:	20-amp circuit; Plug not included. Recommended (Qty 1) NEMA 6-20 plug
3HP Shop Fox	Single Phase 208-240v:	30-amp circuit; Plug not included. Recommended (Qty 1) NEMA 6-30 plug
5HP Grizzly	Single Phase 208-240v:	Manufacturer recommended 40-amp circuit; Plug not included.

C-Aire Compressors		
(A050V060-1230) 60 Gallon	Single Phase 208-240v:	30 Amp, Hard-wired
(A050V080-1230) 80 Gallon	Single Phase 208-240v:	40 Amp, Hard-wired

Vacuum Pumps:		
SHOPSABRE PUMPS		
ShopSabre F1	Single Phase 208-240v:	(Qty 1), NEMA 6-15 plug, 15 amps
ShopSabre F4	Single Phase 208-240v:	(Qty 1) NEMA 6-30 plug, 30 amps
FPZ PUMPS		
Motor starter or VFD required		
20 HP FPZ	Three Phase only: 208-240v	55 Amps Hard-wired; See Motor Data Sheet
25 HP FPZ	Three Phase only: 208-240v	65 Amps Hard-wired; See Motor Data Sheet
BECKER PUMPS		
Motor starter or VFD required		
10HP Becker	Single Phase w/ VFD: 208-240v	Hard-wired, 50 amps running.
15HP Becker	Single Phase w/ VFD: 208-240v	Hard-wired, 85 amps running
10HP Becker	Three Phase: 208-240v	Hard-wired, 25 amps running
15HP Becker	Three Phase: 208-240v	Hard-wired, 55 amps running

DUST COLLECTION

A dust boot requires a 4" connection. You will need to purchase flex-hose with metal reinforcement in order to handle the grounding of static generated by the dust collector, and dust passing through the hose. Do not use PVC plastic connections without passing a ground wire through them. Please contact tech support with any questions. Since every shop layout is different, we cannot recommend a specific length of hose. There are many ways to route your vacuum hose with your shop setup in mind.

Figure 3A



Figure 3B



Low Ceiling applications (Figure 3A) - Route with Z axis and X axis cable track, usually routed to dust collector on left side of machine.

High Ceiling applications (Figure 3B) - Route with Z axis cable track, cut to length based on maximum machine movement.

FEEDS AND SPEEDS

Please note that it is best to talk to a bit manufacturer as applications can vary. The most important thing is to make sure that your chip load is correct. Chip load is the amount of material that is removed per cutting tooth on the bit. Higher chip loads are typically better for the cutter because it puts less heat into the bit while machining. Normally, the main limitation is the cutter diameter. Please reference the chip load formula and chart below to calculate.

$$\text{Chip load} = \text{IPM} / (\text{RPM} \times \# \text{ flutes})$$

Material type	Bit Size	# of Flutes	RPM (Rotations Per Min)	IPM (Inch Per Min)
Wood	1/4"	2	16,000-18,000	225-300
	3/8"	2	16,000-18,000	450-550
	1/2"	3	16,000-18,000	750-850
Aluminum	3/16"	1	12,000-14,000	50-80
	1/4"	1	12,000-14,000	60-90
	3/8"	1	12,000-14,000	80-125
Plastics	1/8"	2	14,000-16,000	50-100
	1/4"	1	12,000-16,000	90-200
	3/8"	1	13,000-16,000	125-225

SOFTWARE INFORMATION



Vectric VCarve Pro Software is used for complex 2D patterns with profile, pocket, drill and inlay toolpaths, as well as creating designs with v-carving textures, importing, and machining unlimited Vectric 3D clipart or single model files. **Vectric Aspire Software** is the added 3D design tools which enable you to create your own 3D relief models and machine them with 3D machining strategies. If you purchased Vectric Software with your machine, your software and video instruction link will come from your ShopSabre Customer Liaison in email format.



Mozaik is a nested base cabinet software that will work for any size company. If you purchased Mozaik software with your machine, ShopSabre will send your information to Mozaik. Mozaik will then contact you in order to get your post processor and software set up. After the 6 month period, you can continue your monthly subscription through Mozaik directly.



Fusion 360 is a cloud based software for the precise modeling of 2D and 3D objects, such as animating your designs, rendering objects, simulating loads, and preparing models for CNC machining. ShopSabre offers class coupon codes through Fusion 360 for our customers. Please ask our Customer Liaison for more information. The full version of the software is purchased directly through Fusion 360.

RESOURCES

ShopSabre Website

<https://www.shopsabre.com/>

ShopSabre Technical Support

<https://www.shopsabre.com/support/>

SabreNation University

<https://www.screencast.com/enterpassword>

ShopSabre PRO Series Videos

<https://www.shopsabre.com/education/educational-videos/?video-machine=pro-series>

Vectric Software

<https://www.vectric.com/>

Vectric Software Support

<https://www.vectric.com/support>

Vectric VCarve Pro Training Videos

<https://www.vectric.com/support/tutorials/vcarve-pro?playlist=TutorialCategories&category=all>

Vectric Aspire Training Videos

<https://www.vectric.com/support/tutorials/aspire?playlist=TutorialCategories>

Mozaik Software

<http://www.mozaiksoftware.com/>

Mozaik Software Support

<http://www.mozaiksoftware.com/Service/mozaik->

Mozaik Training Video

<http://www.mozaiksoftware.com/mozaik-tv/training-video>

EnRoute Software

<https://www.thinksai.com/products/enroute>

EnRoute Software Support

<https://www.thinksai.com/enroute-support>

Fusion360 Software

**Ask your Customer Liaison for any current class coupon codes*

<https://www.autodesk.com/products/fusion-360/>

Vortex Tool

<https://www.vortextool.com/>

Vortex Tool- Feeds and Speeds

<https://www.vortextool.com/pub/media/assets/chipLoadChart.pdf>

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TECH SUPPORT

Please call our main line at 1-800-493- 6021 or 952-461-4570 and ask for tech support for urgent needs

OR for less urgent needs, you can email our technicians directly below or submit the provided form on our website and they will respond as quickly as possible

<https://www.shopsabre.com/support/>

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