

VELOX CNC



MODELS ~ VR-8 (50"x98"x8") and VR-10 (62"x122"x8")

The VR-8 and the VR-10 Machine are composed of industrial grade components at a great value. The machine is proudly designed in house at our southern California location. We weld the steel frames, assemble the machine, and ship from Orange, California. The frame is composed of welded tube steel, industrial levers, a computer station, and square rails on all axes. The Y and X axes uses 25mm square rails and rack and pinion. The Z axis uses 16mm ball screws. The table crossmember are welded steel. All axes include cable carriers to keep the cables neatly in place.

General Machine Specs:

- All welded steel frame
- All metal gantry
- 25mm square rigid linear rails and bearing blocks
- Flashcut CNC stand alone signal generator.
- Windows 10 computer with 20" LED monitor
- Brushless Nema 34 stepper motors with encoders.
- 8 hours of training via remote access or at VELOX CNC.
- 1 Year limited warranty

Uses for a 4x8 CNC:

- Cut plywood, solid woods, MDF, carbon fiber, acrylic, sheet aluminum, thick aluminum with multiple passes, urethane, fiber glass, and more.

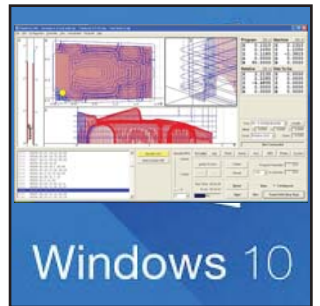
Machine Frame

The VR-8 and the VR-10 frames are composed of welded tube steel, industrial levers, a computer station and square rails on all axis. The Y and X motion axis use rack and pinion while the Z axis uses 16mm ball screws. The table crossmembers are welded steel. All axes include cable carries to keep the cables neatly in place.



Control Box

The VR-8 and the VR-10 control box uses high torque brushless motors. These motor are excellent in reliability. The encoders on the motors provide power, accuracy, and dependability. The VR-8 machine uses the Flashcut CNC control software and robust signal generator. We use the proven high amp Leadshine drivers that couples to the encoder brushless Nema 34 motors.



Computer

While some other machines use only a hand held pendant, the VR-8 and the VR-10 use a Windows 10 based computer and a Flashcut signal generator to provide smooth motion. The computer also includes an easy to read 20" LED screen that allows for the operator to view the tool path prior to cutting. The RPM is controlled using the control software.



Motors with encoders

While smaller machines use steppers that do not have encoders. Our VR-8 and VR-10 use Nema 34 motors with encoders. These provide stronger, accurate, and more reliable motion. The drivers are set to 20,000 counts with micro-stepping in the default configuration.



Precision Collet Sets

The Italian spindle uses ER25 and ER32 collects to hold up to 5/8 diameter cutting bits.



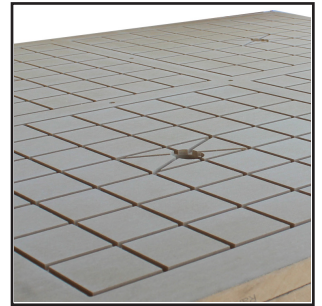
Cutting Head

At VELOX CNC we like to provide reliable options. The Italian spindles have been a great choice for over the last 15 years. We feel that external fans provide quiet cooling with great duty cycles and also provides a safe environment compared to some lower quality water cooled models.



Table Tops

We offer MDF non vacuum tables as well as MDF vacuum tables with 4 inlet ports. We also offer phenolic vacuum tables. If you have a special request we would be happy to hear and may be able to provide a custom machine table configuration.



Power/Air

The machines will require 110V-115V to power the control box and computer. If you select the industrial spindle you will need 220V power. We may be able to offer a single phase VFD if needed for spindles under 4 HP. For spindles over 4HP you will need 3 phase power. 100 PSI of air is required for the automatic tool change spindles.



Vacuum Hold Down Pumps

Select from 2 HP to 15 HP vacuum blowers. Each vacuum includes a filter and a relief valve. We mount all of the items together and connect it to a motor starter with an on/off switch that is located on the front of the CNC machine.



Computer Station

A pivoting computer station is located on the right front side of the machine frame. This is conveniently located like those of \$100K milling machines. Cables flow neatly from machine to the control box and computer through the arm extensions. Steel fabricated and powder coated in Southern California.



Rigid Rails

Square rigid rails are used on all axes for smooth accurate motion. This type of linear guideways provide a type of linear motion that utilizes re-circulating rolling elements between a profiled rail and a bearing block.



Grease

The machines are fitted with manifolds that are plumbed to the bearing inlet. This makes it easy to grease and maintain. Some other automatic oiling devices do not provide the same amount throughout.



Delta VFD

The industrial spindles require 220V. When you select the 3 and 4.5 HP you can choose to have a VFD that is single phase. If the HP is greater than 4.5HP you will need 3 phase 220V to power the spindle.



Reliable Air Logistics

We use air components that are reliable and not proprietary.



Igus Cable Carriers

Proven Igus cable carriers keep the machine wires safe and neatly secure. This provides longevity and reliability.



Modular Parts and Control Box.

We designed the machine to have parts that are easy to ship. Most of the parts that may break are modular. Our control box is the size of a computer tower.



Leveling Feet

1" diameter bolts and steel leveling feet.



Rack and Pinion

Helical Rack and Pinion



Ball screw on the Z axis

We use provide sized 16mm diameter ball screws.



Shipping

Flat bed Truck
Covered with 2 tarps
The machine will be side loaded



Powder Coated

Power coating offers a strong and long lasting protective coating. We powder coat our steel parts on our machine frame using local vendors.



Software

The Flashcut CNC software will work with most G-code from Cabinet Software and other industrial softwares.

Cabinet vision, Cabinet pro, Master CAM, Fusion 360, Visualmill, GibbsCAM, bobcad, Vectric, ArtcCAM, and more are compatible. Please contact us for details.



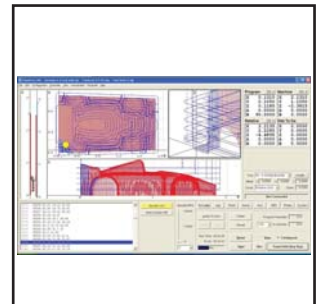
Training

We offer basic training free of charge via phone, join.me, facetime when available, or on location for our local customers. We would be happy to quote an in person training if you are located outside of California.



Support

Flashcut CNC software has the capacity to use an internet connection to help diagnose issues. A report can be sent to the tech team to help resolve the problem fast.



Warranty

All machines are covered by VELOX CNC with a one year limited warranty against defects and workmanship. All work is to be performed at VELOX CNC in Orange, California.

