

# REFERENCE QUOTE

## SNX nVentor 512A CNC Router

### Upgrades added beyond this quote

- Upgrade to 18-spindle drill unit (10vertical / 8 Horizontal)
- Sixteen - BVC vacuum pods.
- (4) four addition pop up pins – (8) eight pins total
- NO VACUUM PUMP CAME WITH THIS MACHINE – CENTRAL VAC SYSTEM

**REFERENCE QUOTE ONLY – NOT EXACT MACHINE**

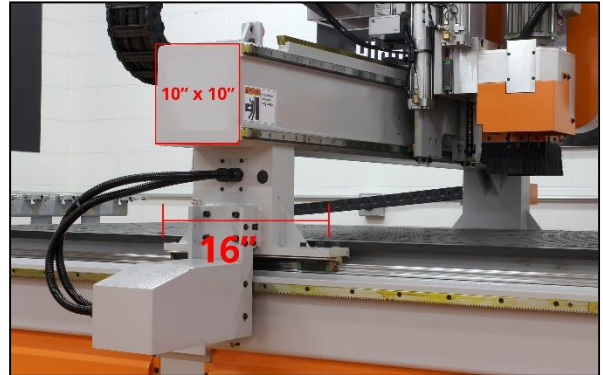


# SNX nVentor 512A Quotation Machine Specifications

## FRAME CONSTRUCTION

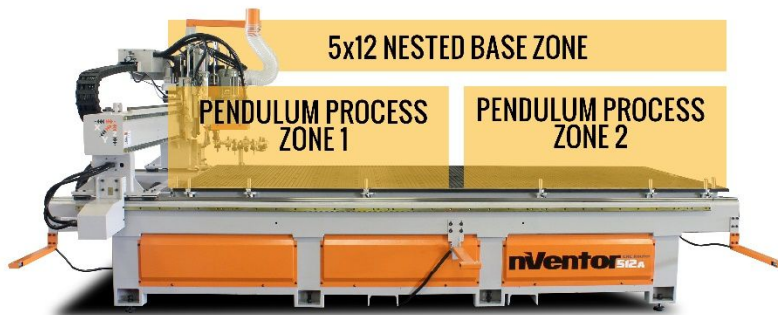
The machine frame is constructed of heavy wall, structural steel tubing. The frame has been designed to provide a rigid and stable machining platform.

The frame components are stress relieved prior to machining. Machining is performed using a high precision Vertical Machining Center, capable of five sided machining in one set-up to insure parallelism and perpendicularity of the final product.



## TABLE/WORK SURFACE

The work surface is a precision-machined phenolic high flow vacuum table mounted to a cast iron steel plate. The surface is machined in a grid pattern to present a modular work area for easy set-up. The modular design also facilitates quick changeover for a variety of material sizes. The machine is able to create parts on the table in two ways:



- As a two-zone, left/right pendulum processing system where one zone is in cut while the adjacent zone is isolated for loading and unloading of material.
- In nested-base or pod processing production utilizing the whole 5'x12' table

## TABLE/WORK SURFACE

Eight (8) 1-inch diameter steel pins allow left/right pendulum process table zone material location. These pins are included as standard features with the machine. The pins are in fixed positions at 4", 4", 20" and 70" (mirrored for the two zones). Each pin has a sensor to ensure the pins are retracted prior to operating the machine in the work zone.



**Table Dimensions:**

|        |       |      |
|--------|-------|------|
| Length | ..... | 145" |
| Width  | ..... | 61"  |

## AXIS CONFIGURATIONS

The machine is configured with a traveling gantry, stationary table design.

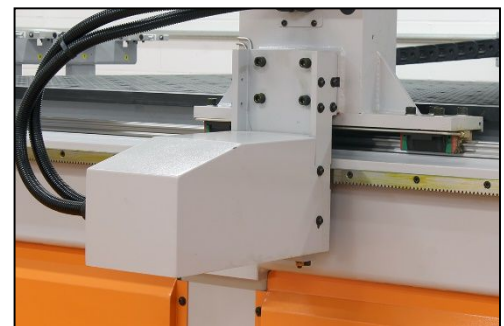
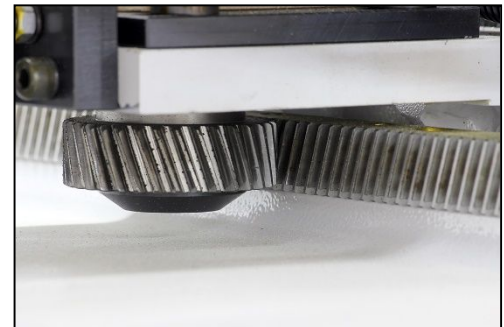
**X-axis** (gantry) motion is accomplished via precision helical rack and pinion located in the base of the frame. The pinion is driven by two synchronized digital servo motors.

**Y-axis** (carriage) motion is accomplished via precision helical rack and pinion located in the base of the frame. The pinion is driven by a digital servo motor.

**Z-axis** motion are accomplished via pre-loaded precision ball screws and powered by a digital servo motor.

The **Z-axis** plate is supported by three contour linear guideways. The pneumatic counterbalance system is "closed loop" to minimize air use during operation.

Each axis is mounted on precision ground contour linear guideways with pre-loaded precision bearing trucks. Travel positioning is maintained via the controller reading absolute encoders mounted on each over-sized servo motor.



## AUTOMATIC LUBRICATION



All positioning bearings, ball screws and racks are serviced by an automatic lubrication system, activated directly by the machine control. This ensures the rack and pinion, ball screw and linear guideways are being lubricated to the manufacturer's specifications.

## HIGH PERFORMANCE HSD SPINDLE



### Spindle Specifications:

- 12HP HSD HSK 63F main spindle, Cartridge type
- Programmable RPM's from 1,000-24,000
- Air blast nozzles for better dust collection
- Automatic tool touch-off probe

### "Z" axis performance:

- 8.27" programmable "Z" stroke
- 11.42" spindle nose to table
- 8.27" gantry clearance

## ROTARY AUTOMATIC TOOL CHANGER

Each machine is supplied with an 8 station rotary tool changer mounted to the side of the machine.

### Standard Specifications:

- 8-Capacity HSK 63F style tool holders
- Aluminum grippers
  - (4) four tool holders are included
  - (4) four collets are included
- Servo motor positioning system



## BORING BLOCK

Multi-Spindle boring block is equipped with (6) six independent spindles.

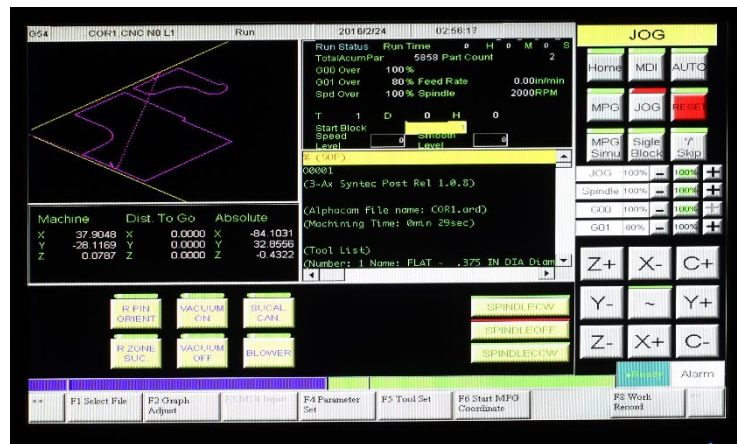
- - (8) six vertical spindles in the “X” axis
- - (4) four vertical spindles in the “Y” axis
- - 32mm spindle-to-spindle centers
- - 3,600RPM maximum spindle rotation
- - 2 Hp spindle



## SYNTEC-10A 4E PC-BASED MACHINE CONTROL

The machine features an industry leading Syntec control. The control carries all the productivity features to the rugged reliability of a CNC control to a PC front-end.

- Handheld MPG allows unique operator ability to move the machine through a program line-by-line (forward and reverse)
- Control accepts large files
- Standard computer monitor, keyboard and mouse



## SNX NVENTOR 512A STANDARD MACHINE SPECIFICATIONS

### Overall Machine Space-and Weight (with Guarding)

|  |          |
|--|----------|
| Length (Approximate).....              | 202"     |
| Width (Approximate) .....              | 120"     |
| Height.....                            | 96"      |
| Clearance between columns.....         | 64"      |
| Clearance under the bridge .....       | 11.42"   |
| Table height (floor to tabletop) ..... | 34"      |
| Weight (Approximate).....              | 9200 lbs |

### Table

|                              |   |
|------------------------------|---|
| Length .....                 | 145"  |
| Width .....                  | 61"   |
| Two Zone Part Location ..... | Four (4) 1" Dia. Pins ea.<br>Zone with extension sensors<br>One in Y direction at 4 Inches<br>Three in X direction at 4 Inches, 20 inches and 70 inches |

### Travels

|              |                               |
|--------------|-------------------------------|
| X Axis ..... | 157"                          |
| Y Axis ..... | 72"                           |
| Z Axis.....  | 8.27"                         |
|              | Spindle nose to table: 11.42" |
|              | Gantry clearance: 8.27        |

### Feed and Traverse Rates

|              |                 |
|--------------|-----------------|
| X Axis ..... | 2400ipm (60MPM) |
| Y Axis ..... | 2400ipm (60MPM) |
| Z Axis ..... | 1200ipm (30MPM) |

### Spindle and Tool Changer

|                         |               |
|-------------------------|---------------|
| Speed (Air Cooled)..... | 24,000 RPM    |
| Power .....             | 9kw (12 HP)   |
| Tooling .....           | HSK 63F taper |
| Tool changer .....      | 8 Stations    |

### Drive System

|                   |                        |
|-------------------|------------------------|
| X, Y, Z axis..... | Digital servos         |
| X axis.....       | Precision helical rack |
| Y axis.....       | Precision helical rack |
| Z axis.....       | Precision ball screw   |
| Lubrication.....  | Automatic              |

### Linear Guide Ways

|                       |                       |
|-----------------------|-----------------------|
| X Axis (2-rails)..... | 35 mm                 |
| Y Axis (2-rails)..... | 25 mm                 |
| Z Axis (3-rails)..... | 20 mm                 |
| Lubrication.....      | Automatic lubrication |

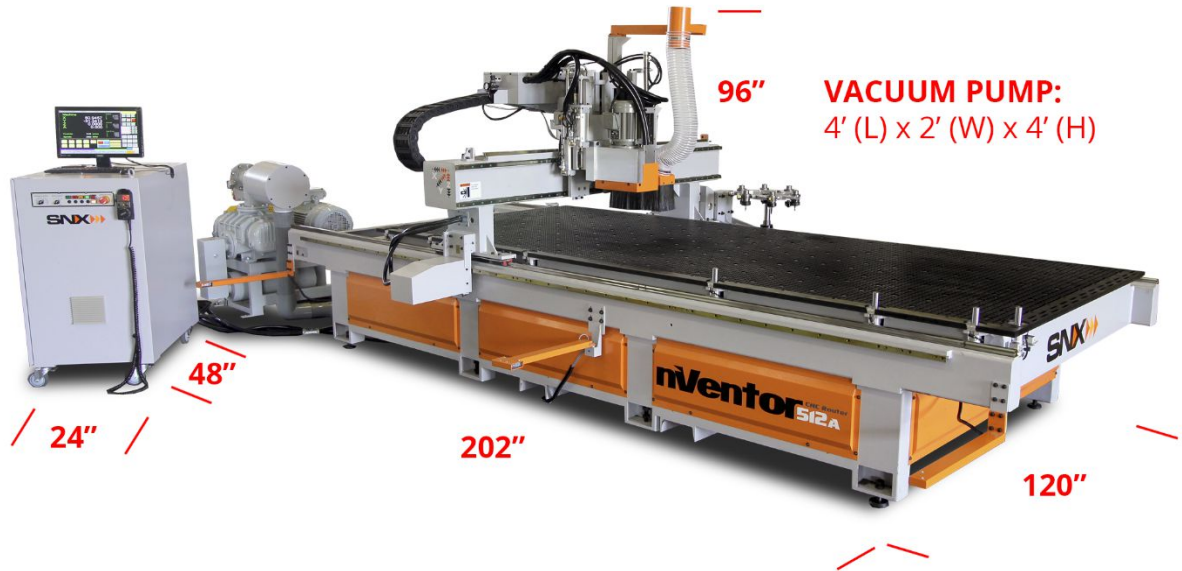
### Vacuum Pump

|                                |        |
|--------------------------------|--------|
| CFM (Cubic Feet / Minute)..... | 230CFM |
|--------------------------------|--------|

### Dust Collection

|                          |          |
|--------------------------|----------|
| Interface Diameter ..... | 6 Inches |
| Suggested CFM .....      | 1500 CFM |

## MACHINE SPACE REQUIREMENTS



## DUST/CHIP COLLECTION



Dust/Chip collection is accomplished with a dust shroud surrounding the main spindle. The dust shroud is connected to the customer supplied dust/chip extraction system through a 6" (152mm) diameter steel adapter.

The main spindle comes complete with a programmable air blast system for optimum dust collection performance.

Recommended 1500cfm be brought to the machine

## POWER AND AIR REQUIREMENTS

### Plant Wiring Required

230 volt 3 phase 60amp brought to main machine disconnect. NEMA 12 electrical enclosure.

### Air Requirement:

Machine:..... 20 SCFM maximum usage 90-95 psi filtered dry air.

### Environment:

Ambient Working Temperature ..... 41° - 95° Fahrenheit