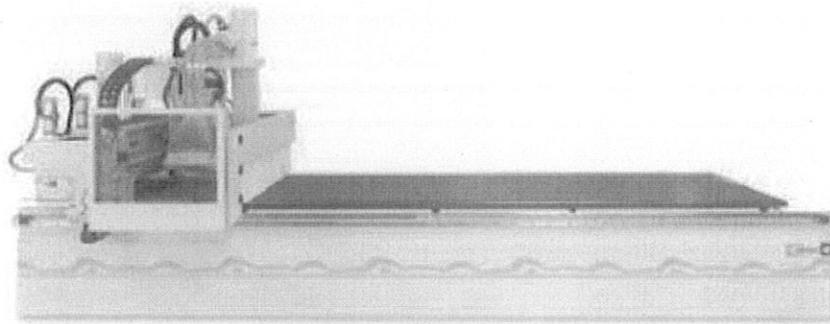


Weeke Vantech 510 V12 PRO+ CNC Machining Center with Concept 2 Throughfeed Automation

The Weeke Vantech 510 is an industrial machine designed primarily for nested based applications including routing and boring of panel stock. Materials can include woods, plastics, non-ferrous metals and composites.

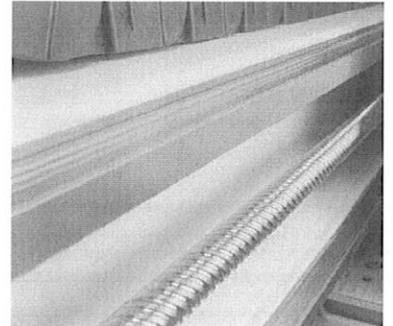


Weeke's reputation for quality remains unsurpassed, as noted by their ISO 9001 manufacturing certification and exceptional volume of machines in operation today. As such, Weeke utilizes world class suppliers for procurement of machine components. In addition to utilizing superior components, the **woodWOP** programming software built into the machine is extremely strong and has proven itself on more than 30,000 installations worldwide. Further enhancing itself in the marketplace, the new **woodWOP 7** software brings 3-D capability and enhanced file importation, programming and processing into the fold. Weeke's insistence on high quality industrial components paired with an established software interface deliver our customer's a machine that is stable, reliable and user friendly.

When a client's production requirements are greater than that of a standard manually loaded and off-loaded nesting machine, a few proven pieces of material handling automation can be utilized to increase the output of the basic machine by as much as 40%. This can be achieved without adding labor, running a second shift, or purchasing another machine. The Concept 2 throughfeed system detailed within this proposal is engineered to meet the higher output requirements of this portion of the nesting market while continuing to require only one operator.

The Vantech 510 is constructed on a tubular steel foundation engineered utilizing Finite Element Analysis and heavy steel gussets welded within to ensure stability. Unlike many in this machine class, the robust design and substantial mass provide a solid, vibration-free platform for the machining head.

The X, Y, and Z axes are all supported on THK style linear motion guides. THK style guides are engineered to produce straight line tracking at high travel speeds while providing outstanding stability in both the radial and lateral directions. The X axis is driven by two (2) zero-backlash, pre-loaded helically ground rack and pinion gear systems. The Y and Z axes are driven by high precision ball screw. Indramat solid state drives and digital AC servo motors are employed to power the axes



Basic Machine

- Solid machine foundation provides the rigidity required for high speed gantry movements and machining operations.
- Gantry movable in X direction
- Cross support movable in Y and Z direction
- Paint Grey RDS 240 80 05
- Direct chip extraction at the processing unit and separate connection for the extraction device (on site)
- Gantry enclosure
- Safety fence at the machine rear, right and left hand side
- Light barriers for safety at the machine front
- Machine is pre-wired to accept remote operating pendant
- Machine frame is pre-configured to accept a gantry mounted push off device and additional material handling elements

Guide System and Drive Technique

- High quality THK style linear guiding system
- Toothed rack assembly (synchronous drive) in the X-direction and ball bearing screw for movement in Y and Z direction
- Digital drive technique in X, Y and Z direction featuring:
 - **Maintenance free motors with high resolution optical encoders ensuring precision accuracy**
 - **Digital drive control units guarantee high reliability**

MATRIX Table 5' x 10'

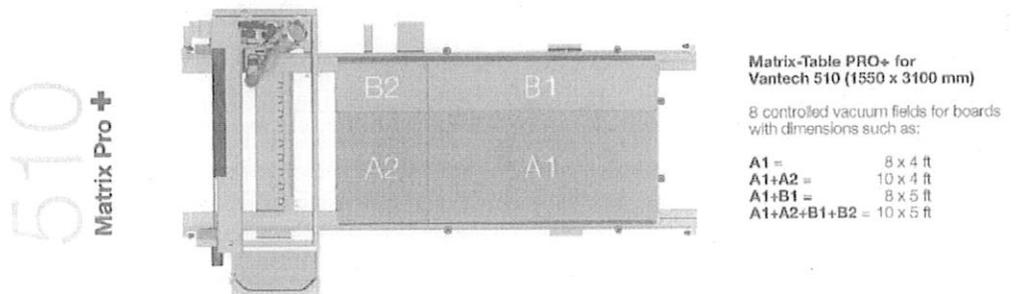
A grooved phenolic MATRIX vacuum system for holding down work pieces comes standard. The grooves provide for efficient distribution of vacuum, as well as isolating table areas by inlaying a rubber sealing and/or accepting vacuum pods for fixturing small parts.

The MATRIX system offers:

- Vacuum system for clamping of the work pieces on the surface of the vacuum table
- Can be equipped with optional Pod System for elevating parts
- Working table length: 3100 mm (10' / 122 Inches)
- Working table width: 1550 mm (5' / 61 Inches)
- Workpiece thickness: maximum 100 mm (3.94 Inches)
 - Includes rubber gasket material

PRO+ Matrix Table – 8 Vacuum Fields

By dividing the matrix table into 4 zones, reading the raw material size of the incoming program and automatically concentrating vacuum pressure to the correct area of the machine, the PRO+ solution is perfectly suited to handle the raw material variance of today's multi-faceted manufacturers. The machine is able to automatically create 4 optimized vacuum zones: **4'x8'**, **4'x10'**, **5'x8'** and **5'x10'**. The vacuum fields that create zones A1 and A2 can also be semi-automatically selected at the machine control.



Note: fixture board material (also referred to as "bleeder board" or "spoil board") is not supplied with the machine, but required at time of installation.

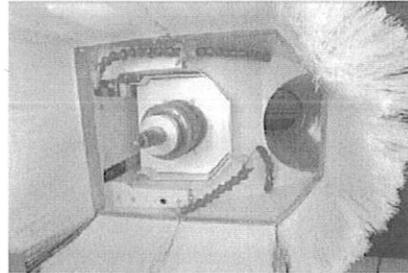


Vacuum System

- The machine design includes (4) four vacuum pumps with a total vacuum capacity of 356 m³/h, 60 Hz. They are directly connected with the vacuum table via a distribution device and one of the three vacuum generators serves as master.
- The vacuum system is one of the largest electrical consumers of any manufacturer's machine. For this reason, the Vantech system utilizes an **Eco-Friendly** design to conserve energy and on electrical costs. The pumps operate from a "staggered start" to reduce the maximum draw of the machine upon start up and single pumps can be switched off to save energy when not required.
- Vacuum pumps are activated via soft key at the control panel, outperforming common manual vacuum valve systems.

Vertical Router Spindle – Rated at 16.1 HP

- HSK63 spindle motor that includes an automatic tool change feature in combination with the tool change magazine.
- Direction of rotation: right hand / left hand
- Speed: 1,250 - 24,000 rpm stepless programmable
- Drive: frequency controlled to a maximum capacity at the tool: up to 7.5/9 kW (10/12 HP) in continuous and intermittent operation (S1/S6 - 50%)
- Spindle lubrication: permanent grease lubrication
- Bearing: hybrid bearing (ceramic), little friction, higher stiffness and maximum operating life
- Fan cooled
- Central dust extraction



Multi-Zone Processing

The table and control interface on the Vantech machine is configured to allow the operator to simultaneously load multiple programs at up to four (4) zero points of the machine (number of zero points determined during machine specification). The machine can then optimize drilling and routing routines and run the multiple programs as a single file.

This is an important feature for those who may use the Vantech machine as a "point to point" machining center or provide back-up to that style machine already in operation on their shop floor. Customers who run 5' x 5' raw materials (Birch Plywood for example) also like the feature because they can run two sheets of raw material side by side in a single machine cycle.

Air Jet Agitation

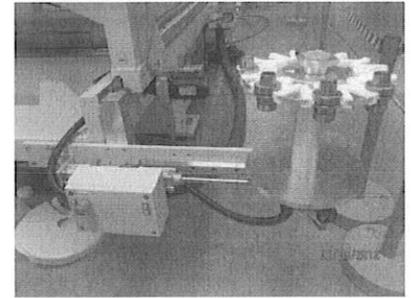
Four flexible air jets are integrated into the extraction hood providing a cool, clean and efficient machining area. Air jets are activated via soft key at the control panel.

Automatic Tool Change

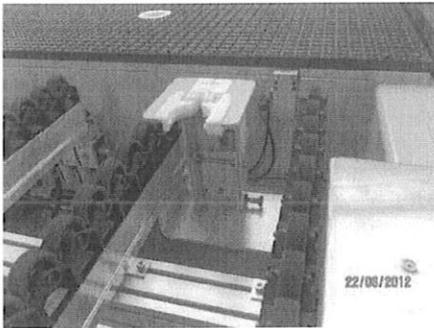
To increase flexibility and decrease cycle time, an automatic, rotary tool changer is arranged near the rear right of the machine framework.

Features:

- Tool holder: HSK63
- Magazine places: 13 tool places
- Tool weight: maximum 6 kg (13.22 lbs) including HSK cone
- Tool diameter: 130 mm max when equipped with tools
- Tool change time: approximately 10 - 18 seconds



Rotary Tool Changer



Tool Loading Position

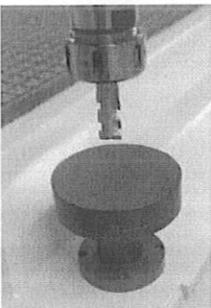
Automatic Tool Loading Position

The Vantech provides a single point of interaction for loading and unloading the tool changer. Operator efficiency is increased by allowing the machine to take some of the responsibility for managing tooling. Tools are manually inserted into the loading device, positioned close to the left front of the machine for easy access. The machine retrieves the tool and selects the first available position in the tool magazine, deposits the tool, and updates the tool database.

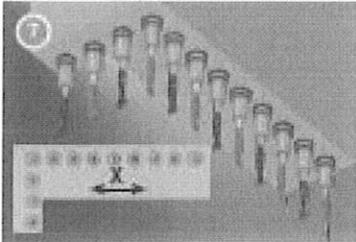
The system has proven an effective method for minimizing tool and machine damage caused by errant manual loading of tools into the machine and/or incorrect entering of data into the machine control. The process is reversed for removing tools from the machine; the machine deposits tools in the loading position and automatically removes the tool from the active tool database. The loading position also utilizes a sensor to prevent the machine from depositing a tool in the position while another tool is present.

Tool Length Control

A heavy duty tool length control system is a standard feature of the machine. To maintain accuracy, tooling is touched off after a change via the tool pick-up station and its length is verified against the tool data stored within the machine control.



Tool Touch Off



12-Spindle Vertical Drill Block

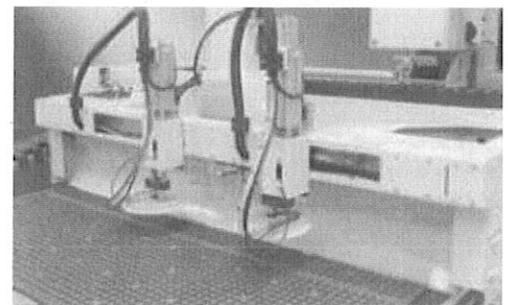
- A vertical drilling block with twelve (12) spindles is included.
- Special feature: Spindle clamping to achieve the drilling depth safely.
- Stroke Z-direction: 60 mm
- Drilling depth: maximum 35 mm
- Direction of rotation: right hand/left hand
- Speed: 3,450 rpm
- Power: 1.5 kW
- Shaft diameter: $d = 10$ mm
- Total length of drill: 70 mm
- Drilling diameter: maximum 35 mm
- Distance between spindles: 32 mm
- Type of spindle: individually selectable
- Spindle Arrangement: X-9 spindles, Y-3 spindles

Pneumatic Side Reference Fences and Locating Pins

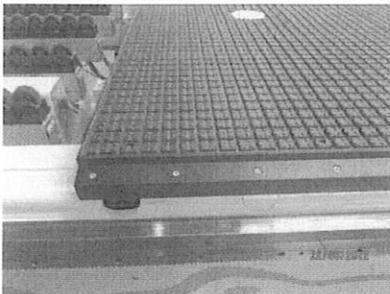
Supplementing the pneumatic reference pins delivered within our standard machine configuration, full length solid fences serve as the means for locating materials to the working zones of the machine. Paired with a pneumatic reference pin located at the front right and front left of the machine, the system offers two “zero” points for accurately locating raw materials. Fences retract during machining. When the finished nest is ejected, the fences are raised again to help guide parts from the machine table to the transfer conveyor at the end of the machine. Both the fences and the pins are under down stroke surveillance to prevent the machine from routing a fence or pin in the event of an incomplete cycle

Automatic Loading Device for Raw Boards

The machine is equipped with a gantry mounted vacuum loading apparatus for automatically loading non-permeable materials to the machine from a stack of material positioned on a scissor lift at the left of the machine. Working in conjunction with an intermediary section of roller conveyor, the side fences noted above, and a sensor in the guide area, the machine is able to automatically load itself, and accurately position the raw sheet for the start of the machining cycle.



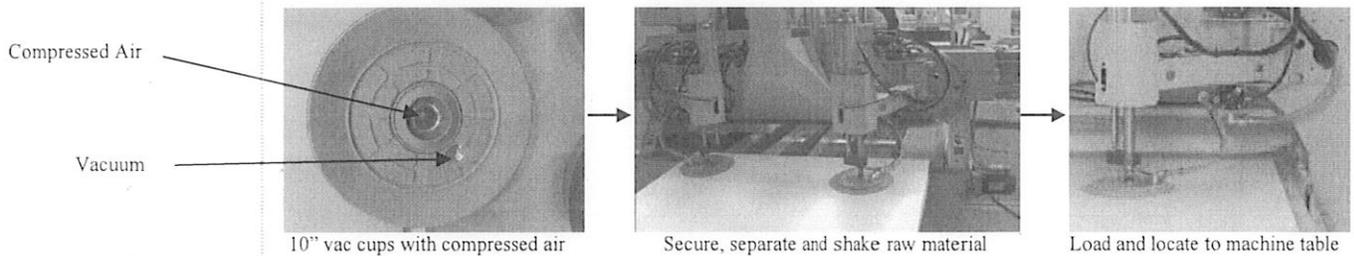
Automatic Loading Device



Pneumatic Side Reference Fences

Porous Materials Loading Features

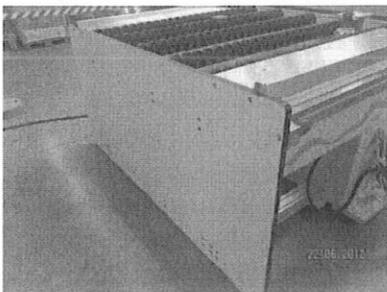
Consistent with Weeke's reputation in the marketplace, the attention to detail in the CONCEPT 2 loading system design from Weeke is second to none. In addition to the industrial load/locate features of the Weeke system, we have also paid a great deal attention to the machines ability to load and locate porous materials. This is a challenge not considered by many customers until machines have been delivered. The Weeke system utilizes two 10" diameter Schmaltz vacuum cups integrated with both vacuum and compressed air. Blowing the proper amount compressed air through porous raw materials during the loading cycle allows the machine to retrieve the raw material without picking up more than one sheet. The vacuum grippers can also be setup to peel the raw sheet from the bunk and also shake the sheet prior to loading to ensure not more than one sheet is being loaded to the machine table (from vacuum bleed through or static between sheets).



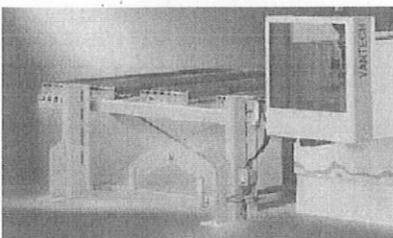
Scissor Lift for Positioning Material for Automatic Loading

Weeke's Concept #2 handling package utilizes a scissor lift to accurately position materials for automatic loading with the gantry mounted vacuum device. The lift features a 5,000 lb load capacity noting the ability to accept roughly 32 sheets of 5' x 12' 3/4" particle board melamine material, based on an estimated density of 46 lbs/ft³, the capacity of the lift and the elevation of the machine table.

The lift platform is designed with 2 1/2" diameter rollers set high on 4" centers, 11 gauge, 58 1/4" overall width. (2) 30" long section mounted at each end of the platform to allow (2) 14" spaces for fork lift access. (2) floor mounted alignment columns - 1/2" base plate, 4" square tube upright and 3/8" face plate, 12" wide are included to provide means to align the bunk in the long (X) direction. A full height, heavy phenolic plate is affixed to the machine base to allow for accurate positioning in the short (Y) axis or width direction. Once the material is loaded on the lift and aligned in (X) or length axis by the fork lift, the operator guides the material by use of the roller conveyor on the platform to the location of the phenolic plate to accurately position the bunk in the (X) axis direction. Once the bunk is in position, the operator accutates a pneumatic friction brake to lock the bunk in place.



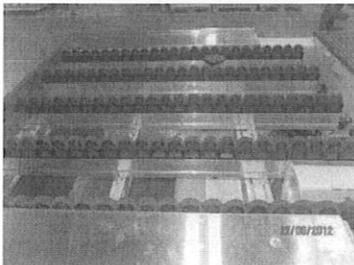
Phenolic Locating Plate



Scissor Lifting Platform



Automatic Leveling Package



Intermediary Roller Conveyor

Scissor Lift (continued)

Lift Platform Automatic Leveling Package: This feature automatically brings the bunk of material to the proper elevation for loading. The lift is wired to communicate with an adjustable photoelectric sensor and control panel mounted to a stanchion. Panel includes Index On/Off selector switch, lift Up/Down selector switch, and an E-Stop button. An adjustable timer is included to delay (up to 10 seconds) the automatic movement of the platform. A separate stanchion with reflector is also included for upper limit switch for indexing up

The lift notes a lowered height of 12 3/8" to top of roller and a raised height of 60 3/8", noting a vertical travel range of 48". The power unit is 1.0 HP TENV electric motor and .85 GPM hydraulic pump, no-coast valving for fast movement and decreased upward coast producing more precise positioning. All pivot points are equipped with Teflon lined bushings, leg rollers feature wear indicators.

Intermediary Roller Conveyor

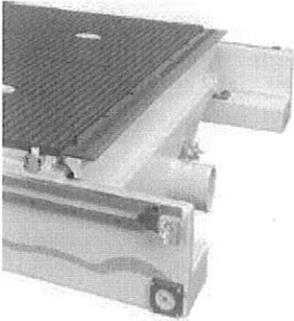
Once material is retrieved from the scissor lift by the machine, it is carried across a section of roller conveyor complete with protection to prevent scratching of the raw materials.

Automated Push-Off of Finished Nests

To complete the "throughfeed" concept of the machine, the system utilizes a gantry mounted push-off device to automatically eject finished parts from the machine table without manual operator intervention. Once the nest is complete, the machine returns to the loading side of the machine, drops its push-off device and cycles from left to right, collecting finished parts and waste along the way. The unit also contains a table cleaning sweep integrated into the push-off to clean dust and debris from the spoilboard in preparation for the next raw board.

Simultaneous Onload and Offload

To further increase the efficiency of the system, the machine is able to utilize a simultaneous onload and offload feature, effectively unloading the finished nest, cleaning the spoilboard, and loading the next raw sheet in a single cycle.



Dust Extraction from Below

Dust Extraction from Below

A bottom dust collection channel with blast gate is integrated into the machine frame to collect dust from the nest as the parts are ejected from the machine. As the vacuum from the table competes with the dust collection for the waste, some dust will remain in the cut. The dust collection channel from below collects this dust as the parts are pushed from the machine and onto the transfer conveyor. This feature ultimately leaves less mess to manually clean at the end of a shift.

Transfer Conveyor

A conveyor belt receives the finished parts and automatically advances them to the operator for sorting at the end of the table via communication with photo-electric sensors. This allows the machine to process parts while the operator is unloading the previous nest and prevents parts from being pushed off onto the floor if the operator is not present to receive them. Minimum recommended part thickness for consistent part conveyance is 12mm (1/2").

Dust Collection from Above

The transfer table is also integrated with a dust collection hood from above to clean residual dust from the top of the work pieces and the conveyor belt. This small feature proves very valuable for those applying barcode labels or other methods of identifying parts coming from the router, as the parts are free from much of the dust and debris of the machining process.

Vantech Maintenance Kit

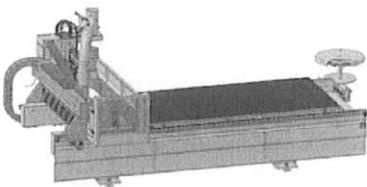
A tool kit is included with the machine consisting of: 46mm single open end wrench, 58x62mm hook spanner wrench; grease gun with hose, grease and ball end allen wrench set.



woodWop 7



Machine Control Cabinet



Power Control PC85T

The Vantech 510 CON2 features a Microsoft Windows 7 based control complete with intuitive software. The included **woodWOP 7** programming system is the heart of the machine and is unmatched by any programming software available with a machine today. The powerful drawing functions offered by **woodWOP 7** simplify programming for operators without CNC experience and provide the premium features required to satisfy advanced users. In addition to the software within the machine control, a copy of the program is included for installation on an office PC for off-line programming.

Hardware:

- 17" flat screen monitor, keyboard and an industrial PC
- Operating system Windows 7 (US)
- PLC control according to international standard IEC 61131
- USB connection at the operating panel
- EtherNet connection 10/100 MBIT RJ45 (without switch)

Machine Software Bundle: (software pre-loaded on the machine PC)

PC85T software package with graphical operating programs:

- **woodWOP 7** for powerful, yet simple generation of CNC-programs
 - Graphical tool selection from your database
 - Production list administration
 - Graphical presentation of work zones
 - Clear text error messaging
- **woodWop CAM-Plugin Basic**
 - Processing of 3D surfaces
 - Import of 3D geometries from .stp, .igs
- Schuler MDE Basic for machine data recording
- 3D NC-Simulation and Time Calculation: One (1) license

PC85T CNC-Core Includes:

- Path control in all axis and parallel sequences by multi-channel technology
- Look-ahead-function for optimal speed at the transitions



Hand Control Pendant

Remote terminal with potentiometer, manual control of machine axes and emergency stop switch.

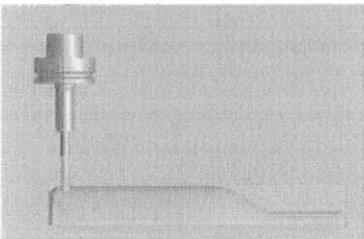
Software for External PC - Single Seat Licenses for the Following Programs:

Requires computer operating Windows 7 or 8

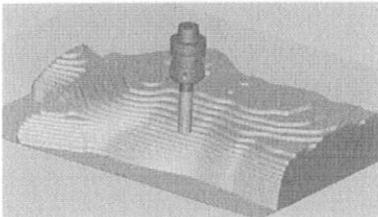
- **woodWOP 7** for powerful, yet simple generation of CNC-programs
- DXF-postprocessor Basic for the data exchange from 2D-CAD-programs to woodWOP
 - Import of 2D-DXF-files via pre-determined layering rules
 - Display of geometry, layer and drawing elements
 - Generation of woodWOP program files
- **woodWop CAM-Plugin Basic**
 - Processing of 3D surfaces
 - Import of 3D geometries from .stp, .igs
 - Calculation of 3D toolpaths
- Schuler MDE Basic for machine data recording
- WoodNest Basic
 - Software for the Nesting of woodWOP program files
 - Manual positioning and turning of work pieces by drag and drop
 - Visualization of spacing between work pieces
- woodWOP MOSAIC
 - Software to view thumbnails of woodWOP files
 - Allows woodWOP data files and complete directories to be managed from a graphical point of view
 - Programs can be administered by drag and drop
- WoodType
 - Software to generate routing contours for characters and texts in all available Windows True Type fonts

Manuals and Control Texts

- Standard Manuals, CD, as well as .PDF versions stored on the machine containing operating and maintenance instructions
- Display texts for machine operators of the POWER CONTROL
- Spare parts descriptions consisting of CAD-drawings and wiring diagrams



woodWop 3-axis 3D Processing



woodWop 3D Roughing

Training

On site machine operation and troubleshooting instruction is administered by a Stiles Field Service Representative at the time the machine is installed. In addition, one seat in Stiles University courses MC096 for training with **woodWOP** and CR096 for operating and programming is included with the machine. Completion of the courses is encouraged prior to machine installation. The courses are designed to provide Weeke CNC Machining Center owners with the introductory information necessary to utilize the **woodWOP** software and operate the machine. Participants must have basic computer skills including the use of Microsoft Windows.

Stiles University classes are conducted at Stiles Machinery locations. Customer is responsible for all travel and living expenses incurred during training. Training scholarships will expire one (1) year from machine delivery. To enroll your employees, please contact Stiles University at (616) 698-7500.

Technical Specifications

HSK 63 Router Spindle Power (constant from 9000 rpm to 18000 rpm)	9.0 kW/12.0 HP
Router Spindle Speed	1,250 – 24,000 rpm
Tool Magazine Capacity	13
Pneumatic Reference	2 fences and 2 pins
Vacuum Pump Capacity	4 Pumps w/ total capacity 356 m ³ /h
Working Length	3700 mm/145"
Working Width	1550 mm/61"
Maximum Workpiece Thickness	100 mm
Axis Stroke/Positioning Speeds	
X-Axis	4290 mm/168.9"
Y-Axis	1952 mm/76.8"
Z-Axis	245 mm/9.6"
X/Y/Z Vector Speed	96/96/25 m/min
Approx. Machine Weight	7,716 lbs.

Utility Requirements

Electrical	
Operating Voltage	480 Volts / 3 Phase / 60 Hz
Amperage Service	50 Amps @ 480 Volts
Control Voltage	24 Volt
Total Connected Load	27.5 kW
Dust Extraction	
Connection Sizes	(2) 200 mm, (1) 160 mm, (2) 140 mm
Air Velocity (minimum)	28 m/sec - 92 ft/sec
Static Pressure	Minimum 2200 Pascal
Air Volume	8300 m ³ /h – 4885 cfm
Compressed Air	
Connection Size(s)	R ½ inch
Pressure Required	100 psi – 7 bar
Consumption Volume	1500 NL/min
Ambient Temperature	
Operating Range	35° C (max) - 95° F (max)
Foundation Requirement	
Concrete Thickness	200 mm (min.) – 8 inch (min.)

Voltage supplied must not fluctuate in excess of +/- 5% of its stated value. Voltage must be balanced phase-to-phase and phase-to-ground.

Note: The stated values are only applicable to the machine as specified. Adding or deleting optional equipment may change service connection requirements.

Price

Total price of above machine ~~_____~~ \$ 167,990.00

SPECIAL IWF SHOW PRICING: \$ 161,990.00
Pricing Valid Through 09-30-16

All prices quoted are F.O.B. Place of Inventory/Port of Entry

Price quoted includes **delivery**, installation and training

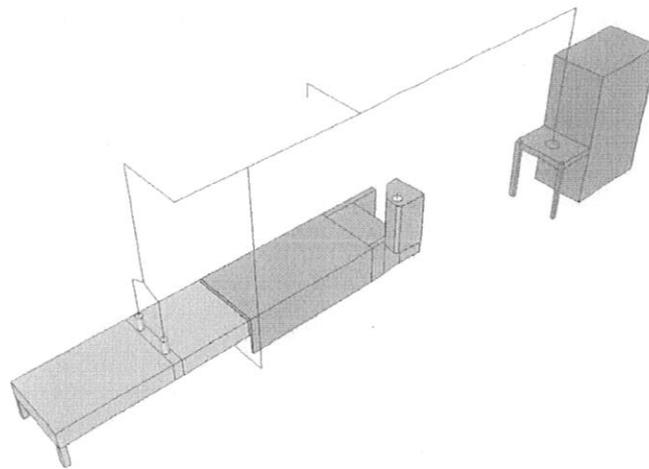
Price quoted excludes all state and local taxes

Optional Equipment and Services

Stilesdust – "Clamp-Together" Ducting & Belfab NBM-OP 15HP Dust Collector Package **\$ 18,490.00**

Stilesdust Ducting Package includes all required piping, hosing, and other ductwork components required within this work cell (see drawing). Line drawing is for representation only. Actual collector placement (within 20' of the machine) will need to be confirmed by the customer.

Hummer blower motor	15 HP
magnetic starter (3 ph)	208 / 230 / 460
CFM capacity	5,000
sound pressure	83 dB
inlet diameter	14"
filter surface (sq. ft.)	495
dimensions (w x d x h)	96" x 48" x 130"
module weight	1,400 lbs



~~Optional (6) 55 Gal Disposal Drums~~ ~~\$ 1,140.00~~

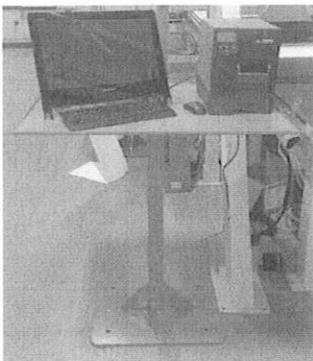
Optional (3) Disposal Tilt Trucks \$ 3,945.00

Optional Equipment and Services (continued)

Transformer (if required) \$ 1,580.00

This custom engineered 40KVA three phase drive isolation transformer is designed to protect your existing equipment as well as your new machine from power quality issues. The windings can withstand 150% overload for 60 seconds or 200% overload for 30 seconds once every hour.

The input is 230 Delta nominal voltage with 5% taps (1+/-) to allow inputs of 242V, 207V, and 219V respectively at full capacity for versatile connectivity. The output of 510Y/277 allows a neutral connection to assure higher quality power. The sound level meets NEMA ST-20 standard. Enclosure is a floor/wall mount NEMA 3R ventilated, for outdoor or indoor installations



~~**Label Printing Package \$ 5,500.00**~~

~~This package provides the hardware necessary to print labels on the shop floor as commanded by a third party design system. The system is offered as a hardware only package designed for integration with a third party design/ label systems provided by companies such as Planit Solutions, Microvellum, CadCode, etc... Integration to be provided by your third party software vendor.~~

~~Hardware kit includes:~~

- ~~• Flat Panel Touch Screen PC~~
- ~~• Zebra ZM 400 Industrial Label Printer~~
- ~~• Moveable printer terminal~~
- ~~• USB printer cable, Starter supply of labels, Power strip~~

~~Advanced Optimization and Label Printing Solutions are also available upon request through Stiles Cut Rite modules. These systems serve those looking to optimize, identify and track parts with barcode labels, but have not invested in third-party design products similar to those noted above. These modules also prove valuable for those currently operating the Cut Rite platform and looking to integrate a flat table router in the production mix.~~

Basic Tooling Package \$ 994.00

At minimum, this type of tooling is needed for machine installation and instruction

- (2) HSK63 tool holders
- (3) HSK63 collets, 1 1/2", 1 3/8", and 1 3/4"
- (4) Brad point bit, 10 mm shank, 5 x 70, RH
- (4) Brad point bit, 10 mm shank, 5 x 70, LH
- (1) Router bit, 3/8" up shear/down shear
- (1) Surface cutter router, 3/4" shank, 4" diameter

