Weeke CNC Router

Vantage 200/512 'Nest & More' - MS# 39198

~~Basic Machine~~

- Solid machine frame in rigid moving gantry execution
- Gantry movable in X-direction
- Cross support movable in Y- and Z-direction
- Paint grey RDS 240 80 05
- Direct extraction at the processing unit and separate connection for the extraction device (on site)

Figure 1

Guiding ~~System and Drive Technique~~

- Dust protected linear guiding system
- Dual rack & pinion drive (synchronous drive) in the X-direction, rack & pinion drive in the Y-direction, and ball screw drive in the Z-direction
- Travel range of the axes:
  - X = 4695 mm Y = 2440 mm Z1 =
  - 325 mm (router spindle) Z2 =
  - 185 mm (drilling spindles)
  -
- Digital drive technique in X-, Y- and Z-directions
- Axis speeds:
  - X/Y = 130 m/min (vector speed)
  - Z = 20 m/min
- Maintenance free motors with high resolution optical encoders guarantee high accuracy
- Digital drive control units guarantee high reliability
- Automatic central lubrication of the two (2) racks in the X-direction

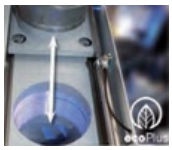
Figure 2

~~Program-Controlled Dust Extraction Connection~~

By means of program-controlled assignment, the main dust connection nozzle is assigned to the active processing unit. Thus, the main dust connection nozzle is always located straight above the active processing unit and guarantees optimum dust extraction performance.

Configuration – Working Units


Figure 3

(1) Vertical Router Spindle – 10/12 kW

VK #1022, 1 of
Automatic tool change spindle in combination with a lateral tool change magazine

- Working capacity: refer to separate layout
- Tool holder: HSK63
- Tool changing: automatic
- Direction of rotation: right hand / left hand
- Speed: stepless 1,250 - 24,000 rpm programmable
- Drive: frequency controlled AC motor
- Maximum capacity at the tool: up to 10/12 kW (13.4/16 HP) in continuous and intermittent operation (S1/S6 - 50%)
- Spindle lubrication: permanent grease lubrication
- Bearing: hybrid bearing (ceramic), with low friction and high rigidity for maximum operating life
- Cooling: air cooled
- Dust extraction: central

~~(1) Air Jet~~

An air jet is integrated in the extraction hood; activation via soft-key in the operator panel.


Figure 4

(1) ~~Fourteen (14) Place Automatic Tool Change Carousel~~ (Rear)

Automatic tool change (ATC) magazine with 14 places

- Arrangement: moving with the support in X-direction
- Tool holder type: HSK63
- Magazine places: 14 tool places
- Tool weight: maximum 6 kg including HSK tool holder
- Tool diameter: maximum 130 mm when equipping with 14 routing tools; maximum 260 mm with small tools or free spaces in adjacent places
- Tool change time: approximately 12 to 18 seconds

(1) ~~Tool Change Assistance Device~~

Device for automatic feeding of the tool changer


Figure 5

~~Tool Length Control~~
VK #6531, 1 of

- The Tool Length Control feature is suitable for length measuring of shaft (router) to o ls
- After tool change via the pick-up place, a control of the length is carried out and checked with the tool data file


Figure 6

(1) ~~12-Spindle Vertical Drilling~~ Block

VK #0575, 1 of
Extension of configuration for machines of the Vantage 200 series, including additional Z-support with separate Z-axis and drilling block, as well as the extension of safety equipment

Consisting of the following:

- Mechanical and electrical extension for supporting a drilling block with drilling spindles which can be separately activated
- Z-axis with 20 m/min feed
- Traveling range of 185 mm
- Extension of the safety housing

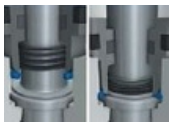
Figure 7

Includes one (1) vertical drilling block with twelve (12) spindles (separately activated with infinitely program-controlled high-speed range)

- Special feature: spindle clamping to achieve the drilling depth safely
- Working capacity: refer to separate layout
- Stroke Z-direction: 60 mm
- Drilling depth: maximum 38 mm (up to 55 mm for special borers)
- Direction of rotation: right hand/left hand
- Speed: 1,500 to 7,500 rpm with frequency controlled motor
- Drive: 2.3 kW
- Shaft diameter: d = 10 mm
- Total length of drill: 70 mm
- Drilling diameter: maximum 35 mm (in some positions)
- Distance between spindles: 32 mm
- Type of Spindle: individually selectable
- Arrangement: as per attached layout
- Free spaces: the V12 high-speed drilling block is prepared for the retrofitting of the following optional adapters:
    - two (2) free spaces for horizontal drilling spindles in X-direction
    - one (1) free space for horizontal drilling spindles in Y-direction
    - one (1) free space for a grooving saw X-Y 90° swivelable


Figure 8

~~Matrix Vacuum Table Pro for Vantage 200/512 (3700 mm x 1550 mm)~~
VK #0545, 1 of

- Vacuum table system manufactured from Hornit (phenolic) material for clamping of workpieces on the complete work table
- The working field can be accessed with all processing units without restriction
- The work-table's "Matrix Pro" system features grid grooves for inlaying of rubber gasketing, enabling the clamping of templates (fixtures), workpieces, or various optional vacuum cup pods
- The vacuum table can be manually divided into various individual vacuum areas by the placement of vacuum plugs and gasketing
- Two (2) vacuum pumps with a total vacuum capacity of 720 m3/h at 60 Hz (2 x 360 m3/h) are directly connected with the vacuum table
- One vacuum pump serves as master, while the additional vacuum pump(s) can be switched on or off as needed by soft-keys on the operator panel to save energy
- Connection port for up to one (1) additional vacuum pump (connection dimensions according to the Technical Data Sheet)
- Four (4) pneumatically lowerable workpiece stops, including electronic surveillance of the lower cylinder position; arrangement at the rear side of the table as per enclosed layout
- 30 meters of rubber gasketing
- Note: vacuum pods are not included, but are available as options

Working table technical data:

- Length: 3700 mm (145.7")
- Width: 1550 mm (61")
- Workpiece thickness: 100 mm (3.9") maximum

~~Workpiece Stop Devices, Pneumatically Actuated – Right-Hand Front~~
VK #0217, 1 of

- (1) pneumatically lowerable stop, including electronic surveillance of the lower cylinder position; fixed mounted at working table's right-hand side
- (3) pneumatically lowerable stops, including electronic surveillance of the lower cylinder position; fixed mounted at the working table's right-hand side front edge
- For the exact position, please refer to the table layout drawing

~~Workpiece Stop Devices, Pneumatically Actuated – Left-Hand Front~~
VK #0215, 1 of

- (1) pneumatically lowerable stop, including electronic surveillance of the lower cylinder position; fixed mounted at working table's left-hand side
- (3) pneumatically lowerable stops, including electronic surveillance of the lower cylinder position; fixed mounted at the working table's left-hand side front edge
- For the exact position, please refer to the table layout drawing

~~Variable Vacuum Zones for 5' (1550 mm) Table Depth~~
VK #0748, 1 of

- Separation of the entire vacuum field into vacuum zones to accommodate the following panel dimensions:
  - Central separation – 2 x 1850 mm x 1550 mm
  - 8' x 4' (2450 mm x 1250 mm) 10' x 4' (3100
  - mm x 1250 mm) 12' x 4' (3700 mm x 1250
  - mm) 8' x 5' (2450 mm x 1550 mm) 10' x 5'
  - (3100 mm x 1550 mm)
  -
- The individual vacuum fields can be activated and deactivated via soft-key
- The basic function includes automatic activation of the vacuum fields within the dimensions of the raw board to be processed
- In the standard design, the stop edge (zero point) is at the right rear as seen from the operator
- With cell concepts, the stop edge (zero point) is at the front (optional) seen in through-feed direction
- Note: only available for Vantage 200/512 and BHP 210/37/15


Figure 9

powerControl with powerTouch

- operating panel with full HD Multitouch Display in widescreen format
- standardized Homag Group operating surface – powerTouch
- ergonomic touch operating with gestures such as zooming, scrolling, and swiping
- simple navigation for standardized and intuitive operation of the machine
- intelligent display of readiness of production by light function
- machine data capturing MMR Basic for maintenance depending on need and for the representation of important operating figures (e.g., number of pieces, production time, etc.)
- optionally expandable to MMR Professional for optimization of production by capturing and evaluation of the downtimes of the machine as well as the reasons for disturbances
- operating system: Windows® 7 Professional (English)

~~powerControl with powerTouch (continued~~)

powerControl PC86 Hardware:

- PLC control according to international standard IEC 61131
- Intel Core 2 Duo Processor
- 21.5" full HD Multitouch Display with 16:9 wide screen
- One (1) SATA hard disc minimum 160 GB
- EtherNet connection 10/100 MBIT RJ45 (without switch)
- Central USB connection at the operating panel
- Provision TeleserviceNet Soft capability – feasibility of remote diagnostics via the internet through a customer-provided DSL connection within the guarantee period; after the guarantee period, a corresponding teleservice contract has to be signed for the use of the teleservice
- UPS (uninterruptable power supply) for the PC
- potentiometer and emergency stop switch

Figure 10

powerControl PC86 Software

- powerControl CNC-core with:
  - path control in all axis and parallel sequences by multi-channel technology
  - look-ahead-function for optimal speed at the transitions
  - dynamic pre-control for top precise accuracy of the contour
- powerControl software package with graphical operating programs:
  - woodWOP 7: for graphical, dialogue-oriented generation of CNC-programs
  - Tool Database: with graphical operator guide to manage tool data
  - Production List Software: for management and creation of product lists for individual manufacturing; hereby production sequences, target amounts, and processing information can be stored
  - Machine Data Recording: for recording of produced work piece quantities and supervision of the maintenance work
  - Software Function Moving: function to manufacture a right-hand program at the left-hand workpiece stop and a left-hand program at the right-hand workpiece stop
  - Software Function Optimization of Space Occupation: in this mode, processes are optimized in order to save tool changes (in case the processing sequence of the individual programs allow it); workpiece programs can be combined over the entire table or per each table half; note: optimization of space occupation is not possible in production list operation and/or in the case of programs with programmed 'NC stop function'

~~Transformer for Customer's Supply Voltage~~
VK #6570, 1 of

- Facilitates connection to machine from customer's electrical source for three-phase voltage of 208 V, 230/240 V, or 460/480 V

~~Electric Components According to UL Standards~~
VK #6559, 1 of
Software Package Premium for External PC (Single User License):
VK #6777, 1 of

- woodWOP 7 for External PC (VK #6676)
  - for graphical, dialogue-oriented generation of CNC programs
  - easy creation of macro programs by use of variables
  - graphic tool selection
  - automatic vacuum pod recommendation
- woodWOP Mosaic
  - software for woodWOP data administration with graphical preview 'thumbnails'
  - with this software woodWOP data files and complete directories can be managed from the 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
- woodWOP DXF Basic (VK #6062)
  - interface for CAD data import of 2D CAD programs to woodWOP
  - import of 2D DXF files
  - converting is carried out according to fixed profiles (rules)
  - display of the geometry, layer and drawing elements
  - creation of the woodWOP program
  - conditions for the DXF file: the drawing elements must be filed on the corresponding layers for differentiation of the processes; the layer should include numeric values for the definition of the Z-axis
    - alphanumeric layer definition

~~Software Package Premium for External PC (continued)~~

- woodAssembler & woodVisio (VK #6012)
  - woodAssembler is a program for visualizing woodWOP programs (MPR) in 3D
  - it enables the assembly of individual workpieces to finished objects
  - it includes import interface for objects from Blum Dynalog
  - woodVisio visualizes objects generated in woodAssembler or Blum Dynalog with surface materials
  - the objects are displayed in a free-standing position
  - an expandable library with surface materials is provided
  - note: woodWOP programs must be stored in or converted to MPR format, as the new MPRX file format is not supported
- woodNest Basic (VK #6692)
  - software for the nesting of woodWOP programs
  - manual positioning and turning of pieces with the mouse by drag and drop
  - optical (manual) visualization of spacing between the workpieces
  - note: woodWOP programs must be stored in or converted to MPR format, as the new MPRX file format is not supported
- 3D CNC-Simulation (VK #6001)
  - This license can be used either on the machine or on an office PC
  - for graphical simulation of a CNC program in 3D
  - time calculation with an accuracy of ±10%
  - display of error messages
  - display and checking of the vacuum pod positions
  - collision check of tools with the workpiece or clamping elements

Software package can only be operated with Windows® XP, Vista, Windows 7, or Windows 8.

Note: the license server is installed on only one computer (virtual servers and terminal servers are not supported)

Note: the installation of the software on an Office PC and the integration of the machine into the customer's network will be the responsibility of the customer. This can be optionally supported by Stiles'/Weeke's software support at an additional expense to the customer.

The product must be activated by contacting Stiles Technical Support by phone at 616.698.6615 following the installation.

3D CNC-Simulation (Each Further Single Place License)
VK #6691, 1 of

- for graphical simulation of a CNC program in 3D
- time calculation with an accuracy of ±10%
- display of error messages
- display and checking of the vacuum pod positions
- collision check of tools with the workpiece or clamping elements

Operating Manuals: English
VK #8322, 1 of

Scopeofdelivery (to be delivered with the machine):

- Operating manuals in English – consisting of operating and maintenance instructions on DIN A4 paper and digital data media
- Spare parts descriptions and wiring diagrams in English on digital data media
- Help texts in English integrated in the machine control
- Operating system dialog in English

Off-Line Programming Training
Two seats in the Stiles Education courses MC096 for programming training in the WoodWOP software and CR096 for operating training are included with the machine. The courses are designed to provide Weeke CNC Machining Center owners with the introductory information necessary to utilize WoodWOP software and operate the machine. Participants must have basic computer skills including use of Windows "operating systems".

Stiles Education classes are conducted at Stiles Machinery locations. The 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 Education at (616) 698-7500.

CE-Security and Safety Units

- Ride-along partial encapsulation for the processing units offers optimum operating safety and process control
- Safety fences in the lateral and rear area with safety door
- The front safety mat is divided into three (3) areas for loading/unloading of workpieces in the area which is not active, i.e., for alternating processing
- Attention: it is not allowed to run the machine without all-around safety barriers
- EC conformity (EC) according to the currently valid Machinery Directive for individual machines in operation

~~Weeke Quality Package~~

- The energy supply cables (cable tow) in X-, Y-, and Z-directions are supplied in sealed execution
- The linear guides in X- and Y-directions are delivered with metal protection covers

~~Energy Saving Mode~~

- Includes the EcoPlus button for starting stand-by operation
- The EcoPlus button can be activated during processing
- This will have the following impacts after the end of the program:
    - Primary power of drives will be switched off
    - Standard Weeke vacuum pumps will be switched off
    - When machine is not processing, stand-by operation will be activated after a pre-set time
    - Activation of EcoPlus sets a potential-free output which can activate the slide (supplied by the customer) of an external extraction device

~~Technical Specifications~~

electrical		
operating voltage	3 phase 460/480 volt, ±5%	
frequency	60 hz	
total connected load	36 kw	
nominal amperage	57 amps @ 460/480 volts	
amperage service	75 amps @ 460/480 volts (pre-fuse protection)	
dust extraction		
connection size(s)	1 @ 200 mm dia. (height approx. 2000 mm)	
air velocity (minimum)	minimum 28 m/sec	92 ft/sec
static pressure	minimum 2200 pa	
air volume	minimum 3170 m3/h	1866 cfm min.
compressed air (quality according to iso 8573-1, quality class 4 in case of water content; quality class 3 in case of total oil content & solid impurities)		
connection size(s)	r 1/2"	
pressure required	7 bar	102 psi
compressed air (without & with blower)	ca 100 - 200 nl/min ca 600 - 700 nl/min	3.5 - 7.1 cfm 21.2 - 24.7 cfm
ambient temperature		
operating range	10° - 40° c (min/max)	50° - 100° f (min/max)
fo unda tio n		
surface pressure in the area of the points of support: 1.20 n/mm2		
thickness of concrete minimum 200 mm (7.9”)		
concrete quality c25/30 xc1 capable of bearing pressure and tension		
the foundation has to be at ground level		

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.

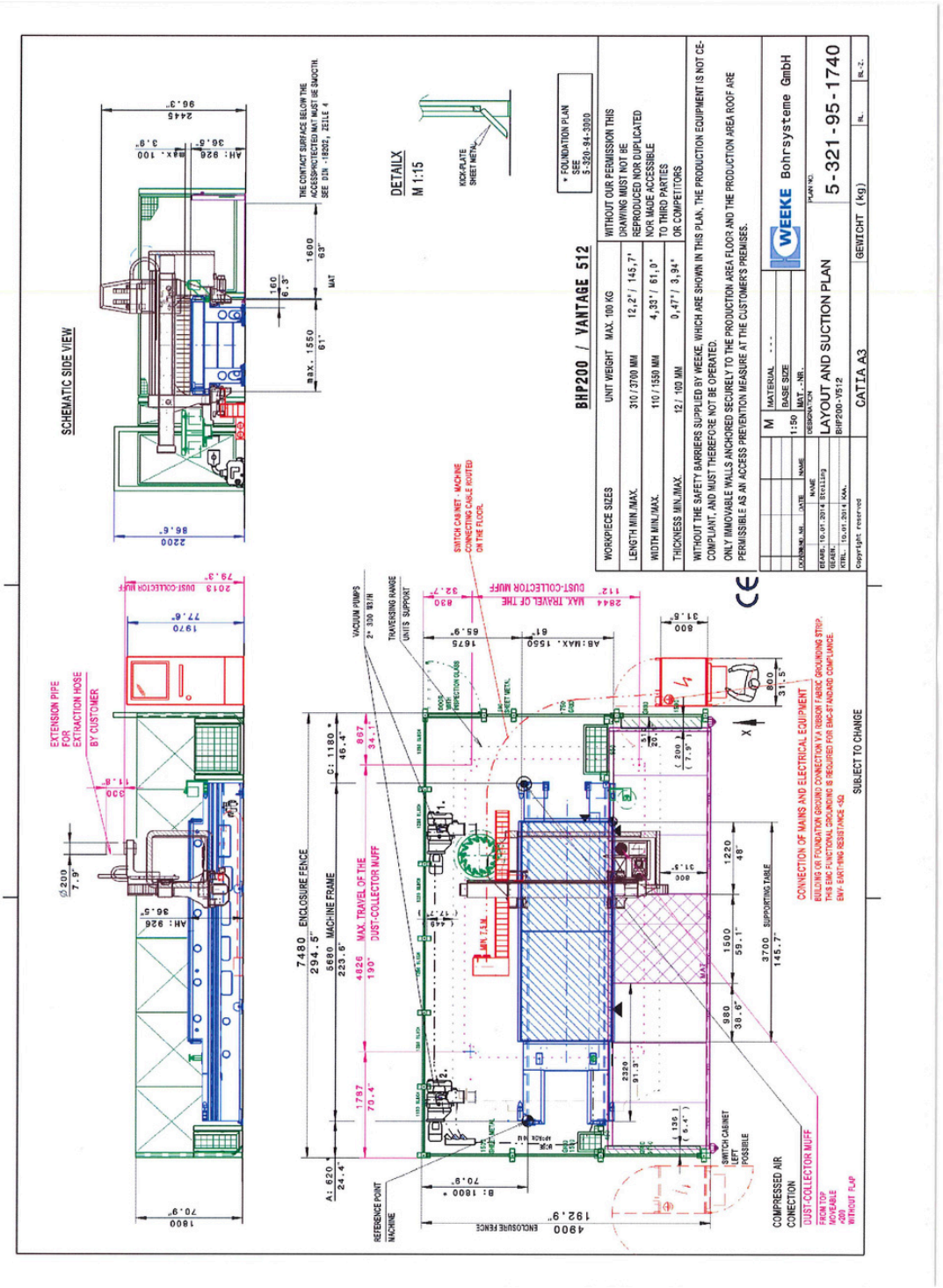
BHP200 / VANTAGE 512
WEEKE Bohrsysteme GmbH
5-321-95-1740
LAYOUT AND SUCTION PLAN
SCHEMATIC SIDE VIEW
DETAILX
M 1:15
SUBJECT TO CHANGE
CONNECTION OF MAINS AND ELECTRICAL EQUIPMENT
EXTENSION PIPE FOR EXTRACTION HOSE BY CUSTOMER
7480 ENCLOSURE FENCE
5680 MACHINE FRAME
MAX. TRAVEL OF THE DUST-COLLECTOR MUFF
4800 ENCLOSURE FENCE
SWITCH CABINET POSSIBLE
COMPRESSED AIR CONECTION
DUST-COLLECTION MUFF
CATIA A3
GEWICHT (kg)

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Figure 11