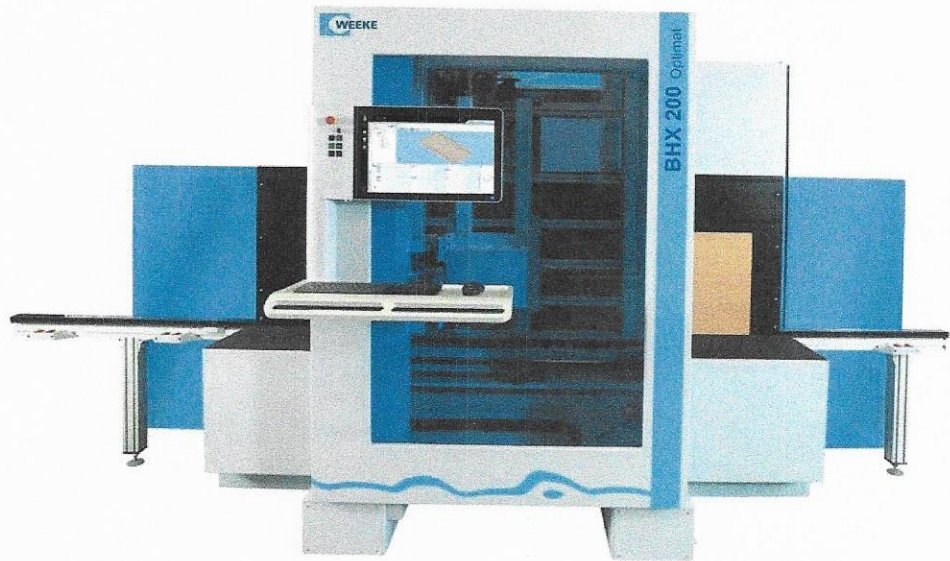


Weeke CNC Controlled Vertical Processing Center, Model Optimat BHX 200



Basic Machine

- Solid machine frame in rigid steel frame construction
- Paint grey RDS 240 80 05
- Direct extraction at the processing units and separate connection for the extraction device (on site)

Guiding System and Drive Technique

- dust protected linear guiding system
- rack & pinion gear drive in the X-direction, and ball screw drives in Y- and Z-directions
- digital drive technique in X-, Y-, and Z-directions
- Axis Speeds
 - X/Y = 50 m/min (Vector speed)
 - Z = 15 m/min
- maintenance free motors with high resolution optical encoders guarantee high accuracy
- digital drive control units guarantee high reliability

Workpiece Handling

For feeding the machine, the workpieces are manually positioned against a pneumatically adjustable stop cylinder in the workpiece feeding area. The workpieces are removed manually out of the workpiece discharge area or, by means of the reversing function, also out of the workpiece feeding area.

- one (1) stop cylinder for workpiece positioning
- two (2) workpiece clamping devices (jaws) traveling in X direction via rack & pinion gear drive

The position of the clamping devices in X direction is automatically adjusted by program control. This machine also includes program-controlled automatic workpiece thickness adjustment of the two (2) clamping devices with a clamping range of 8 mm to 80 mm.

- **workpiece length:** minimum 200 mm
- **workpiece length:** maximum 3050 mm
- **workpiece width:** minimum 50 mm
- **workpiece width:** maximum 1250 mm
- **workpiece thickness** minimum 8 mm
- **workpiece thickness** maximum 80 mm
- **workpiece weight:** as per Technical Data Sheet

For positioning, the workpieces must have a straight edge at the reference side. The workpiece length/width ratio should be ≥ 1 . The longer edge of the workpiece should be placed on the machine.

Warped workpieces (≥ 0.3 mm) lead to a higher range of processing tolerances and wear at the workpiece tables.

Due to the functional process flow of the machine (the workpiece is repositioned while processing), some highly sensitive surface structures are not suitable for the machine (e.g., high gloss painted surfaces without protective foil).

Workpiece Feeding Area

Mechanical support by means of roller conveyor for workpieces with a length of up to 1850 mm.

Note: an adequate safety zone must be kept in front of the feeding area (as per data sheet).

Workpiece Removal Area

Mechanical support by means of roller conveyor for workpieces with a length of up to 1850 mm.

Note: an adequate safety zone must be kept behind removal area (as per data sheet).

Panel Size Verification (X & Y) for Vertical Processing Centers

Weeke Unit #6526, 1 of

- Contact-free optical sensor system for panel size verification of the workpiece positioned at the workpiece fence
- A contact-free sensor in the X-direction checks the workpiece length, and another contact-free sensor in the Y-direction checks the workpiece width
- The tolerance range has been preset at the factory to 5 mm

Displacement of the Clamping Devices

The program-controlled workpiece clamping function is activated when the workpiece is longer than the working area of the machine.

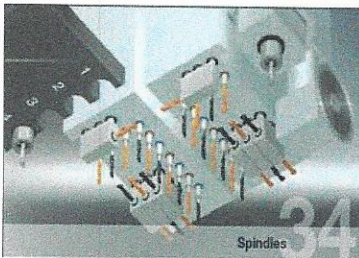
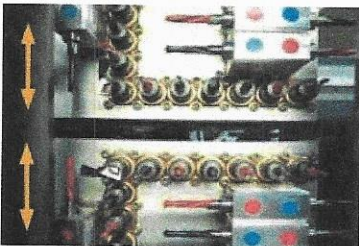
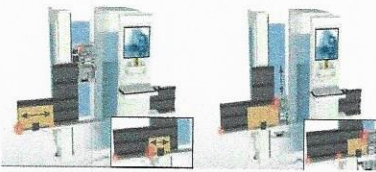
Includes one (1) workpiece counter-pressure block with **automatic** adjustment for workpiece thickness.

Two (2) Vertical Drill Blocks V10 + V10 on Separate Supports

Two (2) high-speed 10-spindle vertical drill blocks mounted on two (2) individually CNC controlled supports (Split Head), suitable for the holding of processing units; automatically traveling in Y- and Z-directions via ball screw.

Includes quick change system and spindle clamping mechanism. Two (2) ten (10) spindle vertical drilling aggregate (separately activated with variable high speed range). Features spindle clamping to achieve the drilling depth safely.

- Working capacity: Refer to separate layout
- Stroke Z-direction: 60 mm
- Drilling depth: maximum 38 mm
- Direction of rotation: right hand/left hand
- Speed: 1,500 to 7,500 rpm frequency controlled
- Drive: 2.3 kW
- Shaft diameter: d = 10 mm for quick change system
- Total length of drill: 70 mm
- Drilling diameter: maximum 35 mm (for some locations)
- Distance between spindles: 32 mm
- Type of spindle: individually selectable
- Arrangement: as per enclosed layout



Two (2) Horizontal Drill Blocks H7 + H7 on Separate Supports

Two (2) horizontal drilling blocks which can be activated separately via program, each with seven (7) drilling spindles, mounted on two (2) individually CNC controlled supports, suitable for the holding of processing units; automatically traveling in Y- and Z-directions via ball screw.

- Working capacity: refer to separate layout
- 6 spindles: pitch 32 mm; 3 in each X-direction (+X/-X)
- 1 spindle: in Y-direction
- Drilling depth: maximum 38 mm
- Drilling height Z-direction: 38 mm from upper workpiece edge
- Direction of rotation: right hand/left hand
- Speed: 1,500 to 7,500 rpm frequency controlled
- Drive: 2.3 kW
- Shaft diameter: d = 10 mm
- Total length of drill: 70 mm
- Drilling diameter: maximum 20 mm
- Type of spindle: individually selectable
- Arrangement: as per enclosed layout

(1) Grooving Saw (X/Y Swiveling – 90°)

Grooving saw for processing in both the X- and Y-direction; i.e., 90° swiveling

- Working capacity refer to separate layout
- Cutting depth: up to 30 mm maximum
- Cross section: 70 mm² maximum
- Rotation speed: 1,500 to 7,500 rpm frequency controlled
- Tool diameter: 125 mm
- Blade width: 5 mm maximum

Routing Motor HSK-63F 9 kW (12 HP) - Including Frequency Converter and 4-Place Tool Change Magazine

Automatic tool change routing spindle in combination with a tool change magazine

- working range: refer to separate layout
- tool holder: HSK63
- tool changing: automatic
- direction of rotation: right hand / left hand
- rotation speed: 1,250 to 24,000 rpm infinitely programmable
- drive: frequency-controlled AC motor
- 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
- cooling: air cooled
- dust extraction: central
- router bit: maximum 25 mm shank diameter
- tool body diameter: maximum 60 mm diameter
- tool length: maximum of 80 mm projected length
- tool changer: four (4) tool pockets for HSK63
- tool change time: 12 to 16 sec.

powerTouch – Homag Group Control System

- 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)



powerTouch – Homag Group Control System (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
- 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
- potentiometer and emergency stop switch
- **UPS (uninterruptible power supply) for PC (Weeke Unit #6591)**

powerControl 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 6.1: 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
 - 3D NC-Simulation and Time Calculation: software for graphical simulation of a CNC program in 3D, including time calculation with a precision of $\pm 10\%$; optical error display

Workpiece Length Dependent Processing in X-Direction

Weeke Unit #6525, 1 of

Drilling and/or routing processes are programmed in woodWOP to suit the workpiece length; the measured differences are calculated automatically using the programmed set-point.

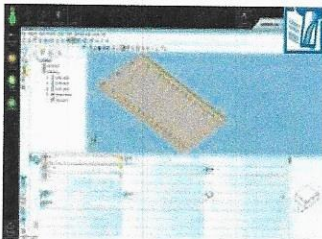


Barcode Software (woodScan)

Week Unit #6625, 1 of

- 'woodScan' for preparing the control for automatically taking over a 1D or 2D barcode from the barcode reader (optional)
- The connection of the barcode reader with the control is effected via a separate interface
- Simple allocation of the barcode information to the machine control
- Range of functions:
 - up to two (2) different barcodes per part can be read
 - transfer of up to ten variables, which positions must be defined clearly in the barcode
 - transfer of location or mode information, by choice as a second barcode or as the last character in the barcode
 - transfer of program names in a production list with transfer of a set-point which position must be defined clearly in a barcode
 - import of a production list
- Customer-specific requirements can optionally be realized after clarification and upon additional expense (Unit #6298)

Software Package for External PC (Single-User License)



- woodWOP 6.1: for graphical, dialogue-oriented generation of CNC programs
- woodAssembler: to visualize woodWOP programs (MPR) in 3D; this software enables the construction of individual workpieces to finished objects
- woodVisio: visualizes objects generated in woodAssembler or Blum Dynalog with surface materials
 - the objects are displayed in a free-standing position
 - includes a library of materials
- 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
- Note: Can only be operated with Windows® XP, Vista, or Windows 7

Copy protection of all software licenses via the HOMAG Group license server. The product must be activated by contacting Stiles Technical Support by phone at 616.698.6615 following the installation.



woodWOP DXF Import Basic (Single-User License)

Weeke Unit #6062, 1 of

- interface for CAD data import of 2D CAD programs to woodWOP
- import of 2D DXF files
- converting is carried out under fixed profiles (rules)
- display of the geometry, layer, and drawing elements
- creation of the woodWOP program
- Conditions for the DXF file:
 - the drawing elements have to 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
- requirements: PC with Windows XP, Vista, or Windows 7

Note: the license server is installed on only one (1) computer (virtual servers and terminal servers are not supported). The product must be activated by contacting Stiles Technical Support by phone at 616.698.6615 following the installation.

Documentation and Control Texts: English

Weeke Unit #8322, 1 of

Scope of delivery (to be delivered with the machine):

- Operation manuals – consisting of operating and maintenance instructions on DIN A4 paper and CD-ROM
- Display texts – for machine operators, for PowerControl
- Spare parts descriptions – consisting of CAD drawings and wiring diagrams on CD-ROM

Off-Line Programming Training

Two seats in the Stiles Education course MC066 for programming training in the WoodWOP software 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 to 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.



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
 - When machine is not processing, control voltage will be switched off after a pre-set time

CE-Security and Safety Units

Electric Components According to UL Standards

Weeke Unit #6559, 1 of

Machine Special Voltage

Weeke Unit #6570, 1 of

Allows for connection to various electrical sources at a customer location from 208V to 460V

Technical Data

The technical data sheets: equipment plan, drilling block equipment, and general outline are an integral part of this offer, or a resp. order confirmation.

Tool "Starter Kit" for BHX 200

Weeke Unit #9954, 1 of

- Dowel Hole Drills:
 - three (3) RH dowel-hole drills for quick-change system HW d = 5 mm
 - three (3) LH dowel-hole drills for quick-change system HW d = 5 mm
 - five (5) RH dowel-hole drills for quick-change system HW d = 8 mm
 - five (5) LH dowel-hole drills for quick-change system HW d = 8 mm
- Tool Chucks:
 - three (3) HSK-63F collet chucks, with one (1) 10 mm collet, one (1) 16 mm collet, and one (1) 25 mm collet
- Router Tool:
 - one (1) replaceable insert finishing router bit Diamaster PRO Z1+1, DP/D16/NL35/S25x60/GL105/RL/ID 091274
- Grooving Saw Blade:
 - 125 mm diameter
 - flat tooth grooving saw blade D = 125 mm / W = 3.2 mm

Utility Requirements

Electrical		
Protective Class	IP53	
Operating Voltage	3 Phase 208/480 volt, ±5%	
Control Voltage	24 Volt	
Frequency	60 HZ	
Nominal Current	73/33 Amps	
Recommended Amperage Service	90/50 Amps @ 208/480 Volts	
Total Connected Load	21 kW	
Dust Extraction		
Connection Size(s)	2 @ 160 mm dia.	
Air Velocity (min.)	30 m/sec	99 ft/sec
Static Pressure (min.)	2200 PA	
Air Volume (min.)	4350 m³/h	2560 cfm
Compressed Air		
Connection Size(s)	R ½"	
Pressure Required	87 psi	6 bar
Compressed Air Consumption	CA 40 - 60 NL/min (1.4 to 2.1 cfm)	
Ambient Temperature		
Operating Range (min. – max.)	10° - 40° C	50° - 100° F
Foundation		
Total Machine Weight:	approx. 3200 kg	7055 lbs.
Surface pressure in the area of the points of support:	1.20 N/mm²	
Thickness of concrete: (min.)	200 mm	7.9"
Concrete quality C25/30 XC1 capable of bearing pressure and tension		
The foundation must be at ground level, and evenness of floor to be within ± 10 mm (± 0.394")		

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,
F.O.B. Port of Entry (or Place of Inventory)

Price quoted includes importation, overland freight and installation.

Price quoted excludes all state and local taxes.

Optional Equipment & Services

Technical Support – PLUS Plan

In addition to remote diagnostics and technical support included in machine purchase, this plan provides one (1) preventative maintenance inspection, which includes:

- complete machine inspection
- machine calibration
- PC check
- minor repairs
- labor and travel expenses

ADD \$ 1,200.00

Air Conditioning Unit (ECO Type)

Weeke Unit #6581, 1 of

An air conditioning unit may be provided for cooling of the switch cabinet

ADD \$ 4,110.00

Cordless Bar Code Reader

Cordless hand held scanner that reads all popular 1D bar codes.

ADD \$ 768.00

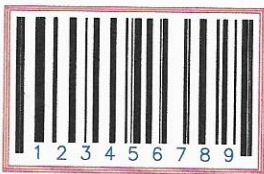
Note: a separate electrical line (110-volt) will need to be supplied for this device.

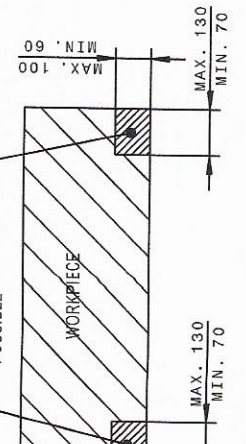
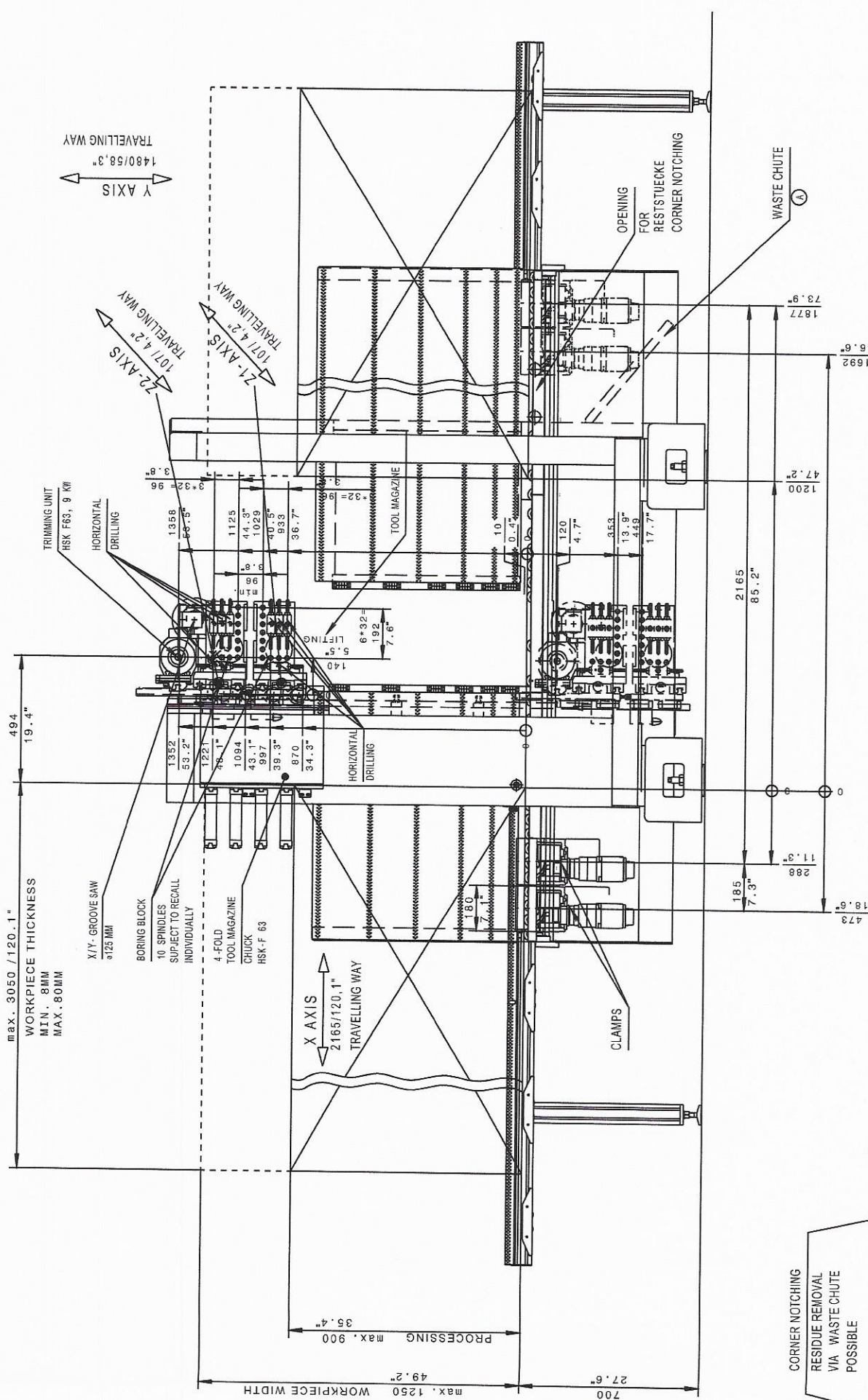
Micro Video Camera

Weeke Unit #2699, 1 of

- Micro video camera for fitting to a Weeke processing center
- Production processes can be watched on the machine's operator screen
- Note: Weeke does not grant any guarantee in case of damage by dirt or residual pieces
- **This option is only available at time of initial order**

ADD \$ 3,152.00

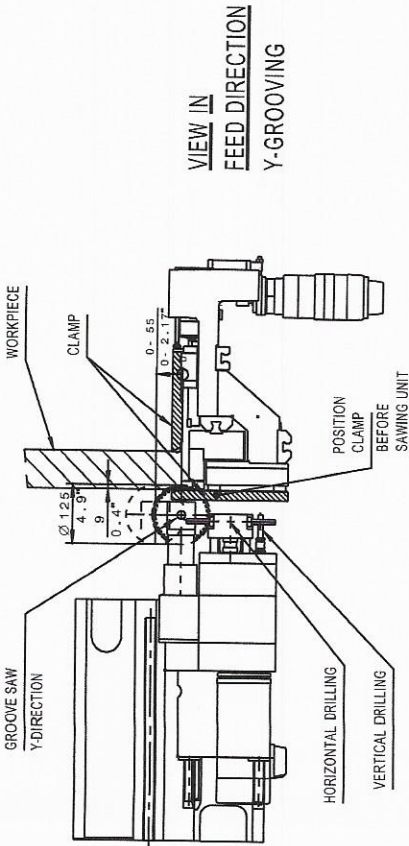




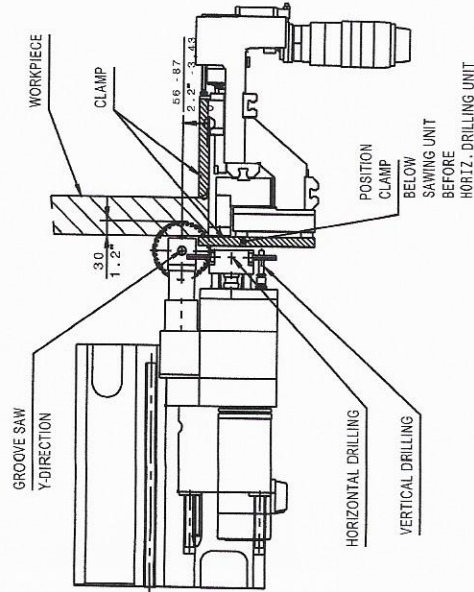
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BASE SIZE	1:15		
MAT.-NR.	-		
DESIGNATION	MACHINE EQUIPMENT PLAN		
PLAN NO.	9-817-14-2751		
OPTIMAT BHX 200	OPTIMAT BHX 200		
ORTKRS	-		
Copyright reserved			

WECKE Bohrsysteme GmbH
 CATIA A3
 GEWICHT (kg)
 BL-Z.
 BL-Z.

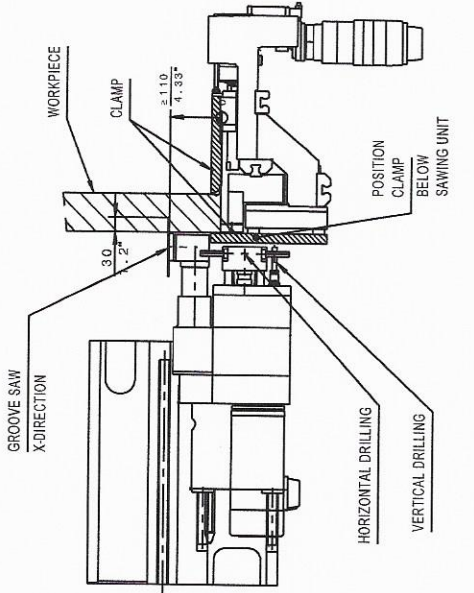
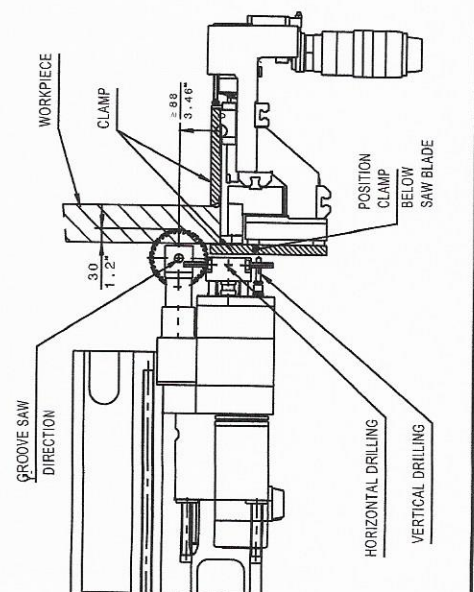
SUBJECT TO CHANGE



VIEW IN
FEED DIRECTION
Y-GROOVING



VIEW IN
FEED DIRECTION
X-GROOVING



BHX 200-200 / D

LIMITATIONS FOR GOOVING IN Y-DIRECTION		LIMITATIONS FOR GOOVING IN X-DIRECTION	
DISTANCE CENTER POINT TO ZERO-LINE	DEPTH	DISTANCE TO ZERO-LINE	DEPTH
0-55 MM	9 MM	0-25 MM	SAWING NOT POSSIBLE
56-87 MM	30 MM	26-110 MM	9 MM
≥ 88 MM	30 MM	≥ 110 MM	30 MM
			NOTE
			CLAMP STOPPED BEFORE SAWING UNIT
			CLAMP STOPPED BEFORE SAWING UNIT
			NONE

LIMITATIONS FOR GOOVING IN Y-DIRECTION		LIMITATIONS FOR GOOVING IN X-DIRECTION	
DISTANCE CENTER POINT TO ZERO-LINE	DEPTH	DISTANCE TO ZERO-LINE	DEPTH
0-55 MM	9 MM	0-25 MM	SAWING NOT POSSIBLE
56-87 MM	30 MM	26-110 MM	9 MM
≥ 88 MM	30 MM	≥ 110 MM	30 MM
			NOTE
			CLAMP STOPPED BEFORE SAWING UNIT
			CLAMP STOPPED BEFORE SAWING UNIT
			NONE

SUBJECT TO CHANGE

WECKE Bohrsysteme GmbH

MATERIAL: -
BASE SIZE: 1:10
SCALE: MAT-NR.
DESCRIPTION: MACHINERY PLAN
DATE: 22.02.2013
DRAWN BY: OPTIMAT BHX 200-200D
CHECKED BY: CATIA A2
APPROVED BY: CATIA A2

WECKE Bohrsysteme GmbH
MACHINERY PLAN
DATE: 22.02.2013
DRAWN BY: OPTIMAT BHX 200-200D
CHECKED BY: CATIA A2
APPROVED BY: CATIA A2

GEWICHT (kg): 9-817-14-3470
IN.:

OPTIMAT BHX 200

<p>VERTICAL BORING BLOCK</p> <p>3X 2 SPINDLES / 1X1 SPINDEL DRILL HOLDER Ø10 DRILL LENGTH 70MM DEPLOYMENT 60MM</p> <p>DRILL PROCESSING HORIZONTAL WORKPIECE THICKNESS FROM 8 TO 80 MM</p>	<p>GROOVE SAW</p> <p>SWIVELLING SAW BLADE Ø125 TOOL HOLDER Ø30 DEPLOYMENT 60MM</p> <p>PROCESSING ONLY IN THE AREA</p>	<p>TRIMMING UNIT</p> <p>CHUCK HSK-F 63 TOOL DIAMETER : D = 60 MM TOOL LENGTH (AUSSPANNLANGE) 100MM DEPLOYMENT 105MM</p>	
<p>HORIZONTAL BORING BLOCK</p> <p>10 SPINDLES DRILL HOLDER 10 DRILL LENGTH 70MM DEPLOYMENT 60MM</p> <p>PROCESSING IN THE AREA WORKPIECE THICKNESS FROM 8 TO 80 MM</p>	<p>GROOVE SAW</p> <p>SWIVELLING SAW BLADE Ø125 TOOL HOLDER Ø30 DEPLOYMENT 60MM</p> <p>PROCESSING ONLY IN THE AREA</p>	<p>TRIMMING UNIT</p> <p>CHUCK HSK-F 63 TOOL DIAMETER : D = 60 MM TOOL LENGTH (AUSSPANNLANGE) 100MM DEPLOYMENT 105MM</p>	
<p>VERTICAL BORING BLOCK</p> <p>3X 2 SPINDLES / 1X1 SPINDEL DRILL HOLDER Ø10 DRILL LENGTH 70MM DEPLOYMENT 60MM</p> <p>DRILL PROCESSING HORIZONTAL WORKPIECE THICKNESS FROM 8 TO 80 MM</p>	<p>GROOVE SAW</p> <p>SWIVELLING SAW BLADE Ø125 TOOL HOLDER Ø30 DEPLOYMENT 60MM</p> <p>PROCESSING ONLY IN THE AREA</p>	<p>TRIMMING UNIT</p> <p>CHUCK HSK-F 63 TOOL DIAMETER : D = 60 MM TOOL LENGTH (AUSSPANNLANGE) 100MM DEPLOYMENT 105MM</p>	

SUBJECT TO CHANGE

	MATERIAL	ROHMASS	WEIKE BOHRSYSTEME GMBH
	1:7	MAT. - INR.	PLAN NO.
DESIGNATION			9-817-14-2840
GENERAL OUTLINE			
UNITS			
CATIA A3			GEWICHT (KG)
			BL. Z.

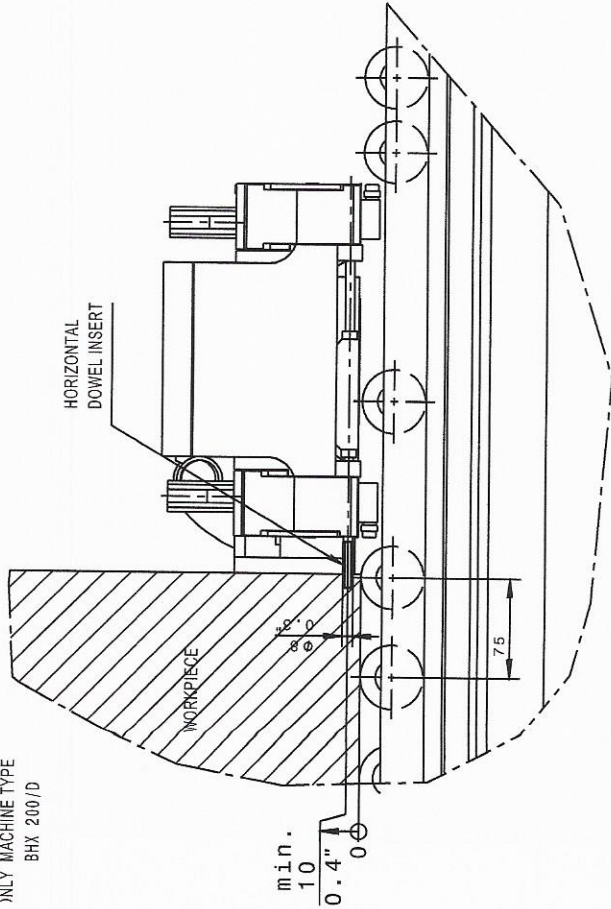
BHX 200 - BHX 200/D:

MINIMUM DISTANCE TO ZERO LINE

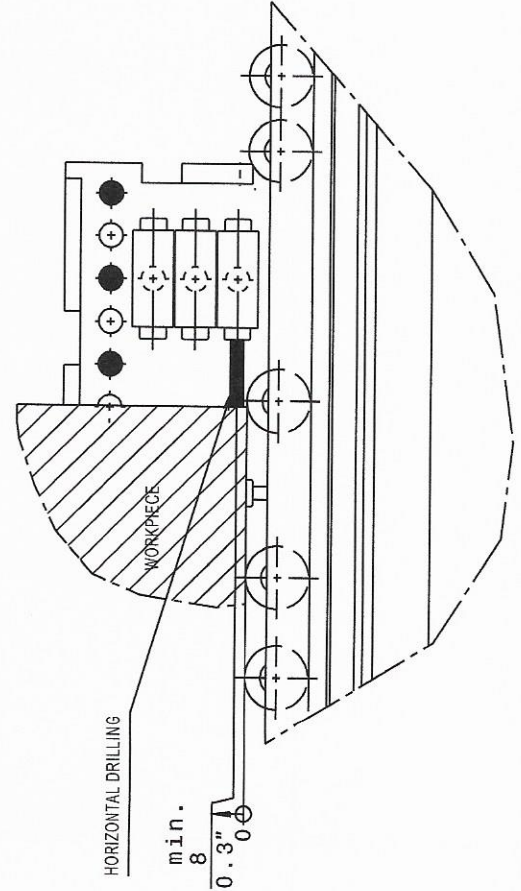
Y-PROCESSING

SUBJECT TO CHANGE

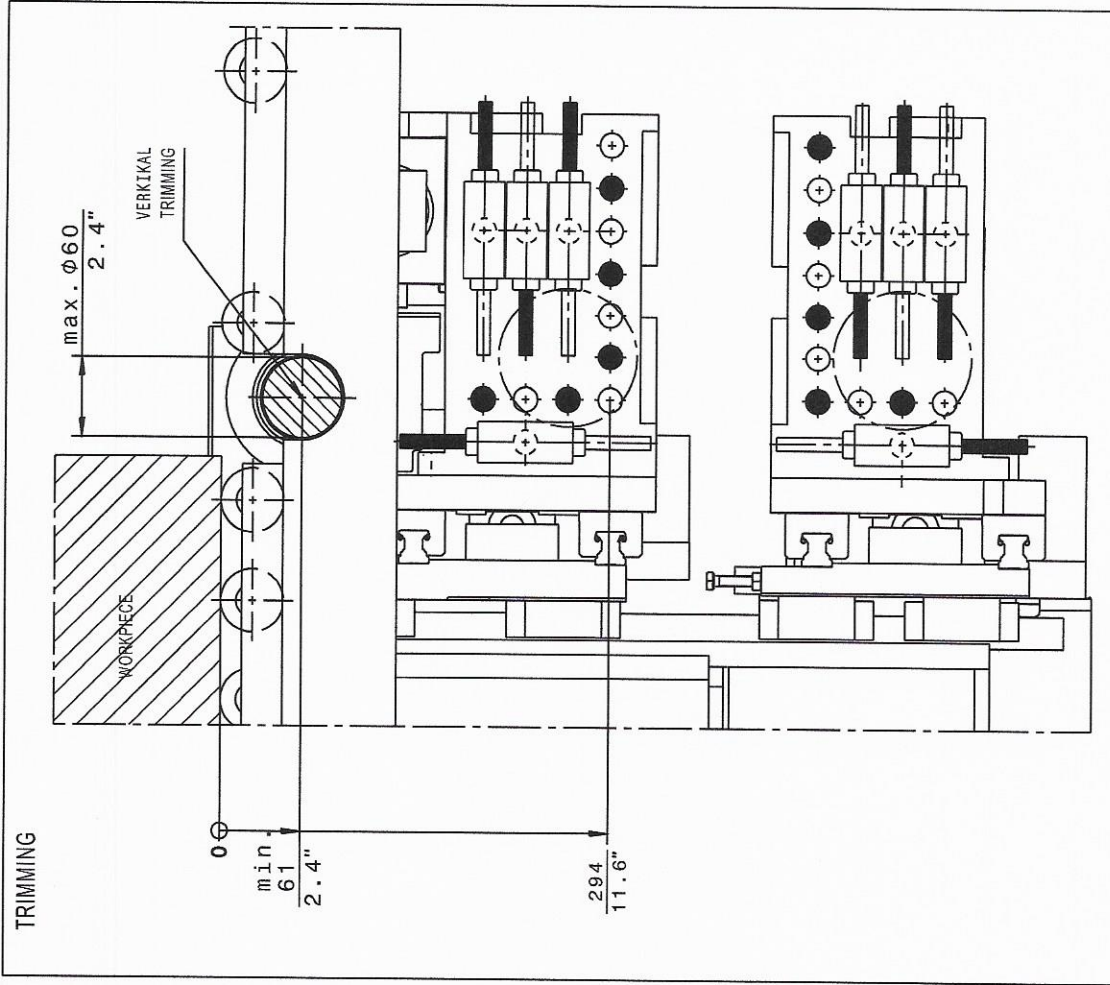
DOWEL DRIVING
ONLY MACHINE TYPE
BHX 200/D



HORIZONTAL DRILLING



TRIMMING



MATERIAL		-	
BASE SIZE		1:4	
MAT. - NR.		DESIGNATION	
GENERAL OUTLINE		Y-BEARBEITUNG BHX 200	
CATTIA A3		GEWICHT (kg)	
Copyright reserved		BL.-Z.	



WEEKE Bohrsysteme GmbH

PLANNING
9-817-14-6041

BL.-Z.