Weeke's BHC-550 NB is a truly industrial machine designed primarily for boring and routing of flat components that have been nested into full sheets of material.

Weeke is uncompromising with high quality standards. They are an ISO 9001 certified machine tool builder. Weeke uses world class suppliers for critical items not made in house. In fact, most of the externally sourced components are sold and serviced on a worldwide basis and, of course, here in the U.S. Insistence on quality and highly industrialized components results in a very stable process--one that requires a minimum of inspection, preventive maintenance, or repair.

The BHC-550 NB is constructed on a steel frame, with heavy steel ribs (gusset plates) welded to the frame inside the base to insure stability. The design and substantial mass provide a solid, vibration-free platform for the machining head. The head rides on THK linear motion guides. In fact, the X-, Y-, and Z-axes are all supported on THK machine tool guides. THK guides were designed to produce straight line tracking at high travel rates, and they have outstanding stability--both in the radial and side directions. The X-axis is driven by a zero-backlash, pre-loaded helically ground rack and pinion gear system. The Y- and Z-axes are driven by high precision ball screw.
Indramat solid state drives and digital AC servo motors are utilized to move the axes. Fiber-optic cables are used for communication between the drive system and the machine control.

The BHC-550 NB features a Windows based control with intuitive programming software. In addition to the software in the machine control, a program is included (on floppy disk) for a PC. With a PC in the office, the machine can be programmed off-line using the same intuitive icon driven software the operator has in the machine's computer control.

**Vertical Routing With Automatic Tool Changer (ATC)**

A liquid cooled 12.0 kW vertical router motor with an automatic tool changer (ATC) is located on the right side of the spindle carriage. The spindle motor utilizes grease sealed ceramic bearings for higher performance and maximum bearing life. This spindle also uses the HSK63 standard for the taper in the spindle and the accompanying tool holders. The HSK63 design is the latest technology in tool holding systems and has been proven to be stiffer (less deflection) and much more accurate than conventional tapered shank designs, especially at high rpms. Additionally, the exceptional mass and rigidity of the machine's frame helps the router achieve a good surface finish with high feed rates and long tool life.

The router motor utilizes an automatic tool changer to perform tooling changes during program execution. This function can be a great advantage when different tool diameters and/or profiles are required to complete a given workpiece. A magazine of eight (8) tools rides along with the support and is protected against dust by a retracting door. A rotational axis (C-axis) will be added to the router motor. A vector angle aggregate, a corner notching aggregate, as well as a combination saw/horizontal routing will be included with the machine.

The magazine accepts HSK 63 tool holders with tapered shanks. HSK 63 is available in left or right hand rotation (CW or CCW), with a complete selection of collet sizes in inch or metric increments. Twelve (12) HSK 63 tool holders are included with the machine (with twelve collets and a set of wrenches). Additional tool holders and collets are available and are quoted under optional equipment.
**Frequency Inverter**

A solid state frequency inverter manufactured by KEB is utilized to power the router. The inverter output is programmable through the control with constant power from 9000 rpm to 18000 rpm. Spindle rotation, RH or LH, is also programmable. The inverter has a 17.0 KVA power rating.

**Vertical Boring with 19 Spindles**

The vertical-boring head is located on the right side of the spindle carriage and has nineteen (19) spindles. Nine (9) spindles are aligned in the X-axis, while eight (8) spindles are aligned in the Y-axis. These spindles are on 32-mm center distances. They utilize standard boring bits, 70 mm long, up to 20 mm in diameter, with 10-mm diameter smooth shanks. Two (2) special spindles, for large drills up to 35 mm in diameter, are offset from the in-line boring heads. A 1.5 kW motor drives the vertical-boring gearbox.

**Horizontal Boring with Six Individually Selectable Spindles**

The horizontal-boring block has two (2) spindles oriented to the right, and two (2) to the left (X-axis), on 32-mm centers. There are also two (2) drilling spindles in the Y-axis. One (1) spindle is oriented to the front, and one (1) spindle to the back of the machine. *Note: maximum horizontal boring depth is 45 mm.*

**Grooving Saw**

The X-axis grooving saw is powered by a 1.5 kW, 60 Hz motor. It is installed at the front of the machining head. 100-mm diameter saw blades are required for this unit.

**Vacuum Table**

The vacuum table is phenolic, with a grid pattern machined in the surface for optimal vacuum hold-down. Table size is 3250 mm x 1300 mm.
**Auxiliary Vacuum Pod System**

Auxiliary vacuum pods can be used when machining functions require a component part to be elevated above the nested based table. A vacuum pod board is attached to the nested based table and auxiliary vacuum pods are placed on this board. Vacuum is supplied to the pods with a vacuum line, which is attached to a manifold located at the front of the machine base. Sixteen (16) pods are supplied with this machine.

**Pod Positioning by Laser**

A laser light is mounted to the head of the machining center. The laser light is interactive and displays pod positions one-by-one to assist the operator in a quick and accurate set-up of the support benches and vacuum pods.

**Part Positioning Stops**

There are two sets of positioning stops on the machine. One set is located at the back of the machine and is used for positioning sheets of material and large parts. A second set of stops is located at the front of the vacuum table and is used for positioning individual non-nested parts. Either set of stops can be used for positioning left-hand or right-hand parts.

**Vacuum Pump**

Two powerful vacuum pumps, each with 250 M³/hr capacity, have enough vacuum capacity for typical nested base manufacturing part hold down. Vacuum reservoir tanks are integrated into the vacuum system to maximize part hold-down capability.

**Dust Extraction Efficiency**

Dust extraction efficiency is maximized by a central dust collection manifold, 200 mm in diameter, with individually controlled connections to the router, vertical boring block, and grooving saw. As each router, grooving saw, etc. is activated, dust ports to other devices are automatically closed.
Perimeter Fence

A perimeter fence helps prevent accidental intrusion from the ends or back of the machine.

Safety Mats

Safety mats will assist in stopping the machine if the operator enters the working area while the machining head is in operation. The mats are divided into two (2) working zones so you may load or unload parts at one end of the machine while the machine continues to work on the opposite end.

Weeke 2000-IPC

The machine is equipped with the Weeke 2000-IPC continuous path control with intuitive programming software. The Weeke control features a graphic operator interface with icons to simplify operation. Programming with Windows based WoodWOP software is with simple coordinates or by the entry of formulas to define the relationship between panel size and hole locations (parametric programming). Some of the features of the Weeke 2000-IPC CNC control include the following:

- Industrial Personal Computer (IPC) for operator interface
- the IPC is a Windows based Pentium compatible machine
- 4.0 GB hard drive
- 64 MB of RAM
- floppy disk drive 3.5"
- WoodWOP programming software, with nesting package included
- the IPC is connected to a NUM programmable logic control for accurate and reliable control of all machine functions
- high resolution color graphics (VGA) with 17” color monitor
- full function industrial keyboard
- bar code reader interface and software included (scanning device is optional)
- simultaneous three-axis linear control
- EtherNET interface for local area network (connection to office PCs)
- fully compatible and integrated with Holzma Cut-Rite Plus software
- report generation software included
- post processor for DXF file conversion is included
- RS-232 serial interface for simple PC connection
Remote Diagnostics and Technical Support

The IPC control is equipped with hardware and software, which allows for remote diagnostics and technical support. This system includes an on-board PC modem and remote service manager software. With this configuration, Stiles technical support can connect to the IPC control from a remote location to assist with troubleshooting and machine problem or error diagnosis. This service is provided with the machine free of charge during the warranty period. *Note: A dedicated phone line must be provided to the machine in order to use this feature. This is the customer’s responsibility.*

Off-Line Programming

In addition to the WoodWOP programming software in the machine control, this same software is included (on CD ROM) for a PC. Using a PC in the office, the machine can be programmed off-line with the same intuitive icon driven WoodWOP software that the operator has within the machine control. The PC software has no copy protection. If you have a network, you may install the software on as many PCs as you like without buying additional copies of the software.

Simulation and Cycle Time Software

The simulation software allows for graphic review of the machining process once a part has been programmed in WoodWOP. Additionally, the software calculates machine cycle times required to product the part, based on the machine parameters. One copy of the software is pre-loaded on the machine. Additional copies of the software are available as optional equipment.
### Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of vertical drilling spindles</td>
<td>19</td>
</tr>
<tr>
<td>Vertical drilling spindle power</td>
<td>1.5 kW</td>
</tr>
<tr>
<td>Number of horizontal drilling spindles</td>
<td>6</td>
</tr>
<tr>
<td>Horizontal drilling spindle power</td>
<td>1.5 kW</td>
</tr>
<tr>
<td>X-axis grooving saw power</td>
<td>1.5 kW</td>
</tr>
<tr>
<td>Saw blade diameter required</td>
<td>100 mm</td>
</tr>
<tr>
<td>ATC router spindle power (power constant from 9000 rpm to 18000 rpm)</td>
<td>12.0 kW</td>
</tr>
<tr>
<td>Vacuum Pods</td>
<td>16</td>
</tr>
<tr>
<td>Aggregates Included</td>
<td>One Vector Angle Aggregate/One Corner Notching Aggregate/One Combo Saw/ Horizontal Routing Aggregate</td>
</tr>
<tr>
<td>Tool magazine capacity</td>
<td>8 tools</td>
</tr>
<tr>
<td>HSK63 tool holders supplied</td>
<td>12</td>
</tr>
<tr>
<td>Collets for HSK63 tool holders</td>
<td>12</td>
</tr>
<tr>
<td>Vacuum pump capacity</td>
<td>2x250 M³/hr</td>
</tr>
<tr>
<td>Length of machine</td>
<td>6700 mm</td>
</tr>
<tr>
<td>Width of machine</td>
<td>3900 mm</td>
</tr>
<tr>
<td>Height of machine</td>
<td>2400 mm</td>
</tr>
<tr>
<td>Working length</td>
<td>3250 mm</td>
</tr>
<tr>
<td>Working width</td>
<td>1300 mm</td>
</tr>
<tr>
<td>Max. panel thickness</td>
<td>100 mm</td>
</tr>
<tr>
<td>Machine weight</td>
<td>5200 kg</td>
</tr>
<tr>
<td>Max. drilling depth for through holes</td>
<td>38 mm</td>
</tr>
<tr>
<td>Axis stroke/positioning speed</td>
<td></td>
</tr>
<tr>
<td>X-axis</td>
<td>3455 mm/80 M/min</td>
</tr>
<tr>
<td>Y-axis</td>
<td>1685 mm/60 M/min</td>
</tr>
<tr>
<td>Z-axis</td>
<td>260 mm/20 M/min</td>
</tr>
</tbody>
</table>

Electrical connection: 240 v or 480 v, 3-phase, 60 Hz.  
240 volt requires 125-amp service/480 volt requires 68-amp service.  
Voltage supplied must not fluctuate in excess of +/- 5% of its stated value.  
Dust extraction: 250-mm connection, 3000 cfm.  
Compressed air: connection 1/2", pressure required 6 bar, consumption 10-15 cfm.  
Ambient temperature operating range: 50°F – 100°F.