

# HOMAG DRILL AND DOWEL INSERTER DRILLTEQ D-500/12 DUAL

The HOMAG DRILLTEQ D-500 is a CNC-Controlled Drill and Dowel Inserting Machine for manufacturing of furniture components made of wood or similar materials.

## **Basic Machine**

- Solid steel frame construction combined with sturdy, vibration-absorbing machine base made of a rigid, fiber-reinforced mineral mixture - SorbTech, for the highest quality requirements
- Positioning of the axes in the X-, Y-, and Z-directions
- Ball-screw drives in the Y- and Z-directions, and rack & pinion drive in the X-direction
- Automatic central oil lubrication of the pinion rod in the X-direction, as well as the linear guide-carriages of the X-, Y-, and Z-axes
- Digital AC servo motors
- Support table with a left and right-side stop, as well as a rear stop bar
- Side stops pneumatically lowerable with manual control by selection switch
- Center stop pneumatically lowerable with manual control by selection switch
- Four (4) pieces of clamping cylinders from above, manually adjustable, with adaptive clamping plate for clamping small parts (thickness  $\leq$  width)

## **Additional Clamping Cylinder, Type DRILLTEQ**

*VK #0137, 1 of*

- additional DRILLTEQ type clamping cylinder, manually adjustable
- this option is available only at time of initial order

## **Panel Dimensions**

- Maximum Length: 1250 mm
- Minimum Length: 20 mm
- Maximum Width: 800 mm\*
- Minimum Width: 20 mm\*
- Maximum Thickness: 80 mm
- Minimum Thickness: 10 mm
- Maximum Length for Active Center Stop: 600 mm

\* Note: in any case, the workpiece width should proportionately be larger than the workpiece thickness.

### **Equipment**

- One (1) vertical drilling aggregate with three (3) individually-selectable spindles
  - Spindle distance (pitch): 32 mm
  - Adjusting range in Y-direction (with drilling diameter of 20 mm maximum: 0 to 50 mm
  - Maximum drilling diameter: 35 mm
- One (1) horizontal drilling aggregate with three (3) individually-selectable spindles
  - Spindle distance (pitch): 32 mm
  - Adjusting range in Z-direction: -5 to 65 mm
- One (1) doweling aggregate (in 32 mm distance from the first drilling spindle)
- One (1) gluing aggregate with adjustable glue amount
- Glue flow control
- Cleaning device for glue injector
- Standard dowel dimensions: 8 x 30 mm / 8 x 35 mm
- Vibrating hopper for automatic dowel feeding

Note: machine will be delivered with dowel dimension of 8 x 30 mm set by the manufacturer.

### **Low Pressure Pump for Glue**

Includes a double membrane pump 1:1 (6 bar) including filter unit, noise reduced, compact with low energy consumption, suited to supply low viscosity (approx. 350 mPas) glue, (such as Jowacoll 114.60).

### **Ability to Use Pre-Glued Dowels**

This machine can optionally be used with pre-glued dowels; customer to supply a 10 to 15-liter water tank. Note: this optional configuration must ONLY be operated with distilled water.

### **Safety and Protection Devices**

Machine is supplied according to CE standards.

### **Central Dust Extraction**

For connection details, please refer to the technical data sheet.

### **Additional (Second) Dowel Chamber, Fix Mounted, Type DRILLTEQ**

- An additional dowel aggregate for standard dowel dimensions: 6 x 30 mm (further dowel dimensions are available optionally)
- Note: the glue application of the dowel holes is carried-out in a separate step before the dowel inserting

### **Additional (Second) Oscillating Conveyor for Dowels, Type DRILLTEQ**

- An additional oscillating conveyor for standard dowel dimensions: 6 x 30 mm / 6 x 35 mm

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

### **powerControl – Modern Control System**

#### **powerControl Hardware:**

- PLC control according to international standard IEC 61131
- Operating system Windows 7 (US) embedded
- IntelCore I5
- 17 Inch TFT-flat screen
- 1 SATA hard drive 160 GB minimum
- Central USB connection laterally mounted
- Ethernet connection 10/100 MBIT RJ45 (without switch)
- 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

#### **powerControl Software Package with Graphical Operating Programs:**

- **woodWOP 7:** for graphical, dialogue-oriented generation of CNC programs
- **ABDWork:** graphical operating surface
- **Tool Data Base:** 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 workpiece quantities and supervision of the maintenance work

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.

**Documentation and Control Texts: English**

*VK #8322, 1 of*

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

- Display texts for machine operators in English; operating system dialog in English; and keyboard and dialog input in English
- Help texts in English
- 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
- English Keyboard (VK #6204)

**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 Regulations**

*VK #6561, 1 of*

**Barcode Software (woodScan)**

*VK #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)

**DRILLTEQ Software Package for External PC (Single User License):***VK #6783, 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 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 can be operated with Windows 7, 8, or 10

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

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**Technical Specifications**

supported work piece length	min. max.	20 mm 1250 mm	(0.79") (49.2")
work piece width	min. max.	20 mm 800 mm	(0.79") (31.5")
work piece thickness	min. max.	10 mm 80 mm	(0.39") (3.15")
X-axis positioning range		1428 mm	(56.2")
Y-axis positioning range		65 mm (-10 to +55 mm)	(2.56")
Z-axis positioning range		70 mm (-5 to +65 mm)	(2.76")
vertical spindles		3	
horizontal spindles		3	
rotational spindle speed	max.	6000 rpm	
drill shank diameter		10 mm	
total length of drill bit		70 mm	
dowel driver		2	
dowel diameter		6 / 8 mm	
dowel length		30 mm (or 35 mm)	
CNC control	PC-based with woodWOP programming		
length of machine		2531 mm	(99.6")
width of machine		1613 mm	(63.5")
height of machine		2450 mm	(96.5")
weight of machine (approx.)		1600 kg	3530 lb

**Utility Requirements**

<b>Electrical</b>		
<b>Operating Voltage</b>	<b>208/480 Volts / 3 Phase / 60 Hz</b>	
<b>Amperage (Nominal)</b>	<b>25/11 Amps @ 208/480 Volts</b>	
<b>Control Voltage</b>	<b>24 Volt</b>	
<b>Total Connected Load</b>	<b>7 kW</b>	
<b>Dust Extraction</b>		
<b>Connection Size(s)</b>	<b>80 mm dia.</b>	<b>3.15"</b>
<b>Air Velocity (minimum)</b>	<b>30 m/sec</b>	<b>98 ft/sec</b>
<b>Static Pressure</b>	<b>Minimum 3440 Pascal</b>	
<b>Air Volume</b>	<b>Minimum 550 m<sup>3</sup>/h</b>	<b>324 cfm</b>
<b>Compressed Air</b>		
<b>Connection Size(s)</b>	<b>R 1/2 in</b>	
<b>Pressure Required</b>	<b>102 psi</b>	<b>7 bar</b>
<b>Consumption / Volume</b>	<b>100 to 200 NL/min.</b>	<b>3.53 to 7.06 cfm</b>
<b>Ambient Temperature</b>		
<b>Operating Range</b>	<b>35° C (max)</b>	<b>95° F (max)</b>
<b>Foundation Requirement</b>		
<b>Concrete Thickness</b>	<b>200 mm (min.)</b>	<b>8 in (min.)</b>

Voltage supplied must not fluctuate in excess of  $\pm 5\%$  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.*

## **Surge Suppressors**

Studies have shown that only 20% of all voltage surges are generated by sources outside a given facility (lightning strikes, crossed electric wires, etc.), while 80% of all transient voltage spikes originate inside a given facility from the normal operation of equipment, often causing damage to equipment's electronic components. Surge suppressors will prevent voltage surges, spikes, and electrical noise from damaging the sensitive electronic components of your equipment. Note: Surge suppressors are not to be used as voltage regulators.

- Surge suppressor for 480 V, 3 Phase equipment (#70-650-00480)