Homag Processing Center, Model BAK 41/45/G

The Homag BAK is a contour edgebanding and edgefinishing center with CNC control, for the production of batch sizes according to specific customer and production requirements.

Machine Base

Machine base is of a sturdy, heavy-duty design built for multiple shift use. Compact linear multi-profile guidance system ensures accurate, trouble free movement of unit carrier beam. Unit carrier beam is driven by a pre-tensioned rack and pinion gear system that is free from backlash and is equipped with a digital AC-servo motor for positioning in X-direction.

Processing unit is driven in the Y-axis by a pre-tensioned rack and pinion gear system, which is free from backlash and is equipped with a digital AC-servo motor.

Processing unit is driven in the Z-axis by a ball screw spindle and digital AC-servo motor. Drive systems are equipped with a centralized lubrication system.

Clamping Table

- integrated in machine bed
- made from high density laminated board
- fourteen (14) vacuum cups, 120 x 120 mm (4-23/32" x 4-23/32"), 100 mm (3-15/16") high
- two (2) vacuum cups, 75 x 125 mm (2-61/64" x 4-59/64"), 100 mm (3-15/16") high
- eight (8) of the vacuum cups have integrated lifting devices
- two (2) submerging length stop fences
- three (3) submerging length stop pins
- two (2) submerging side stop fences for alternate operation
- irregularly shaped panels have to be clamped using fixtures or mechanical clamps
- the machine zero point is to the front and left-hand side of the table

Electrical Equipment

Separate switch cabinet, complete with all switch controls and electronic components, installed according to UL regulations.

Installation according to switch cabinet installation plan. Operating voltage 480 volt, 3 phase, 60 cycle, +\- 5%.

If the constant operating voltage +/- 5% cannot be maintained, a voltage stabilizer will have to be installed. Recommended environmental temperatures are not to exceed 5°C to 35°C (41°F to 95°F).

Input PC 83

Homag Unit #6320

Homatic input system with industrial-PC and operating system Windows NT. Consisting of:

Hardware

- industrial PC with 433 MHz processor on Slot-CPU
- 128 Mbytes RAM
- one (1) SCSI hard disk with 9 GByte in an exchangeable frame
- one (1) SCSI hard disk with 9 GByte in an exchangeable frame for data securing (back up)
- one (1) CD-ROM Drive 32x
- one (1) floppy drive 1.44 Mbytes
- color monitor 17"
- PC keyboard and mouse

Software

- operating system Windows NT 4.0
- virus protection
- 1:1 securing (back up)

CNC Continuous Line Control

- 3 D linear interpolation
- 2-1/2 D circular interpolation
- 4-axis control (X, Y, Z, C)
- C-axis acting as coupled carrier to X-, Y-axis
- feed alteration (override) possible at any time
- direct coupling with Homatic PLC
- alarm signals displayed on CRT

Basic Functions (Control)

- programming of parts offering the possibility of additional command application of programming language C, such as IF, ELSE, CASE, FOR, in order to extend programming possibilities
- up to eight (8) figure program names (alphanumeric)
- parameter programming up to ninety-nine (99) free parameters
- look-ahead function in case of continuous line operation, to achieve optimum speed at transition points
- programming and program modification during production time
- indication of actual values
- blank or omit program sets respective program blocks
- individual set operation
- displacement of reference point
- manual operation
- automatic run following reference point
- tool radius and length revision
- tool data file
- network connection possible via additional EtherNET
- color display of machine status for quick trouble location, which means an increased machine output
- PLC ladder diagram can be displayed on monitor for diagnostics
- field buss utilizing fiber optic transmission enables increased communication speed

Basic Equipment

For communication and diagnostic purposes, two telephone lines are to be installed at the machine by the customer. The modem is placed at your disposal, free of charge, until machine acceptance. The customer can return this equipment at the end of six (6) months or choose to purchase it under a separate diagnostic contract.

- one (1) vacuum pump 140 m^3/hr for clamping system
- all paths are axis driven via AC-servo motor and adjusted according to feed
- incremental measuring system
- pneumatic connection 1/2", 7 bar
- recommended concrete foundation plan and dust collection requirements included on lay out drawing
- machine output depends on individual processing steps
- positioning speed max. 60 m/min (196.90 ft/min) in X- and Y-direction. Z-axis 30 m/min (98.40 ft/min)
- control of operator area by safety mats
- fence for left-hand side of machine with electrical interlocked door

Technical Specifications

work piece length	**min.**	**250 mm (9-27/32") + 45 mm (1-25/32") overhang for flush trim, each side**
	max.	**4500 mm (177-5/32")**
2 part processing length		**1650 mm (64")**
panel width	**min.**	**130 mm (5-1/8") + 45 mm (1-25/32") overhang for flush trim, each side**
	max.	**1220 mm (48")**
work piece thickness	**max.**	**60 mm (2-3/8") Butt Joint max. 45 mm (1-49/64")**
with chamfer trimming	**min.**	**12 mm (15/32")**
with radius trimming	**min.**	**2 x radius + 10 mm (13/32")**
edge height	**max.**	**65 mm (2-9/16")**
edge thickness – plastics		**0.4 mm to 3 mm (0.016" to 0.118")** ***PVC min. = 1 mm (0.039")***
edge thickness- veneer		**0.4 mm to 2 mm (0.016" to 0.078")**
in automatic mode edge length from magazine	**min.**	**350 mm (13-49/64")**
manual strip feed mode	**min.**	**230 mm (9-3/64")**
machine paint color		**grey RDS 240 80 05**

Note: The quality of the edge material is an important factor. To achieve best results, only edge material of high quality should be used. Depending on the panel's shape, a back lamination may be required.

Pressure Sensitive Mats

- stops machine motion when operator steps into active working zone of machine

Safety Fence – Left-Hand

- supports with mesh fence secured to floor
- height is 1800 mm (70-7/8")

Main Spindle 4.5 kW

- with tool and unit chuck for HSK 63F
- special suction for all tools and units
- three phase power constant motor, 4.5kW for S1, 600 cycle, liquid cooled
- tool interface HSK 63
- automatic liquid circulation pump with temperature control
- rpm programmable for each work unit
- for edge band finishing

Tool Changer 4-Fold

- for tools and unit equipped with HSK 63
- tool holder for four (4) tools/units, 180 mm (7-3/32") diameter max.
- closed loop servo driven for positive changing accuracy

Pneumatic Interface for Main Spindle

- for connection of work units
- includes swiveling drive C-axis at main spindle with torque lock and 3-point locking device
- drive for all units with swiveling axis
- swiveling range 0° to 360°

Gluing Unit 360°

Homag Unit #7625

- gluing unit for 360° gluing with lap joint
- for straight edges with direct glue application and pre-snipping station
- automatic control of constant contact pressure at right angles to the work piece contour
- manual hot melt glue granulate feeding
- one (1) pressure roller for pre-pressing
- one (1) pneumatic post-pressure roller, free programmable
- unlimited swiveling via C-axis
- inside radius min. 30 mm (1-3/16") to accommodate a 90° corner
- outside radius depends on the flexibility of the edging material
- variable infeed angle for edging material controlled via C-axis (approximately 30° to 90°) which guarantees optimum feeding
- edge height max. 65 mm (2-9/16")
- edge thickness max. 0.4 mm to 3 mm (.016" to 1/8"), PVC min. 1 mm
- veneer thickness max. 0.4 mm to 2 mm (.016" to 3/32")
- for butt joint application on straight sides, min. segment 250 mm (9-27/32")
- for butt joint application on radiused sides, min. segment 300 mm (11-13/16")

Pre-Snipping Station and 2 Coil Magazine

Homag Unit #7653

- for processing of material on rolls
- two roll plates with clipping unit
- automatic changeover between rolls of the same height

max. roll diameter	**800 mm**	**(31-1/2")**
max. edge height	**65 mm**	**(2-9/16")**

- min. core diameter of edge roll for melamine is 150 mm (5-29/32")

Combination Snipping and Corner Rounding Unit

- for automatic change-over in the main spindle
- for snipping and corner rounding of edge materials
- snips angles from 45 to 135 degrees
- corner rounding function only possible on 90 degree corners
- edge thickness max. 3 mm (1/8")
- edge height max. 65 mm (2-9/16")
- swiveling via C-axis
- max. 9000 rpm
- includes two (2) saw blades

Corner Rounding Radius Cutter Head with Reversible Carbide Tips

- for radii from 2 to 5 mm (3/32" to 3/16")
- z = 3
- includes 3 mm (1/8") radius inserts

Combi-Flush Trimming Scraping Unit

- for automatic change in the main spindle
- simultaneous top and bottom processing
- side one (1) for flush trimming of projecting edges
- side two (2) for scraping of rough trimmed edges
- tracing from top, bottom, and side for compensation of panel and edge tolerances
- outside radius min. 5 mm (3/16") to accommodate a 90° corner
- inside radius min. approx. 50 mm (1-31/32") to accommodate a 90° corner
- max. 12,000 rpm
- unlimited swiveling by C-axis from 0° to 360°
- constant contact pressure is maintained at right angles to the panel contour
- min. panel overhang approx. 35 mm (1-3/8")
- max. panel thickness 60 mm (2-3/8")
- may be used only in connection with unit interface and main spindle unit includes 3 mm (1/8") tools

Flush Trimming Unit

Homag Unit #7701

- for automatic change in the main spindle
- processing from top and bottom at the same time
- for flush trimming of projecting edges
- without tools
- tracing from top, bottom, and side for compensation of panel and edge tolerances
- outside radius min. approx. 5 mm (3/16") in case of 90° corner
- inside radius min. approx. 50 mm (1-31/32") in case of 90° corner
- max. 12,000 rpm
- unlimited swiveling by C-axis from 0° to 360°
- constant contact pressure is maintained at right angles to the panel contour
- min panel overhang approx. 35 mm (1-3/8")
- max. panel thickness 50 mm (1-31/32")
- only in connection with unit interface and main spindle unit

Cutter Head with Reversible Carbide Tips

Homag Unit #7711

- 15° inclined for thin edge
- t = 3
- nine (9) reversible carbide tips included
- projecting edge material will be cut

Laser Positioning Aid for Vacuum Pods

Homag Unit #7881

- vacuum pod positions are indicated to the operator by means of a separate sub-program (programmed in WoodWOP) and a laser indicator
- laser installed at the main spindle mount

WoodWOP CNC Programming System

Homag Unit #6380

- enables interactive graphic creation of CNC programs in DIN 66025 for CNC control NC 83
- comfortable, completely menu-related control surface
- contour creation via integrated contour drawing programming
- dimension input by absolute values or by variables for simple variant creation (variant programming)
- menu-related call of individual processing
- graphic representation of programmed work piece directly at input on screen
- mirroring parts
- creation of optimized CNC programs in DIN 66025 trimming operation via integrated post processor

Post Processor

Homag Unit #6382

- creates CNC programs in connection with WoodWOP CNC programming system
- with edgebanding and finishing

Documentation

Homag Unit #0887 (P)

- spare parts lists, operating instructions and electrical prints

Price: $75,000

Optional Equipment and Services

Air Conditioning Unit

Homag Unit #6172

- for switch cabinet
- necessary if temperature exceeds 35° C (95° F)

ADD $ 3,856.00

EtherNET Network Connection with TCP/IP

Homag Unit #6530

- enables the connection of a computer local EtherNET network

Hardware

- EtherNET card with AUI connection (without cable)

Software

- EtherNET interface according to IEEE 802.3
- TCP/IP network software with TELNET and FTP
- customer provides PC network connection

ADD $ 760.00

CNC Programming System WoodWOP for PC

Homag Unit #6699

This software kit enables the programmer to create WoodWOP programs on the office PC using Windows 95/98/NT. It is an exact model of the machine control with same graphics, keystrokes and macros.

- comfortable, complete menu/macro surface
- contour creation via integrated program/dimension input by absolute or by variables for parametric creation (variant programming)
- macro menu for individual process functions
- automatic mirroring of parts except edge banding and edge finishing
- includes G code post processor in accordance with DIN 66025
- includes dxf conversion from CAD. Layer guidelines must be followed.

ADD $ 7,736.00

Optional Equipment and Services (continued)

Safety Fence – Right-Hand

Homag Unit #7009

- supports with mesh fence secured to floor
- height is 1800 mm (70-7/8")

ADD $ 1,072.00

Safety Fence – Back Wall B../30+40/..

Homag Unit #7013

- supports with mesh fence secured to floor
- height is 1800 mm (70-7/8")

ADD $ 2,088.00

Dimensions

All equipment offered is made to metric standards. Dimensions shown in English measure are approximate and for comparison purposes only.

Delivery

Available for shipment from Place of Inventory after receipt of official order with down payment and clarification of all technical details; subject to prior sale.

Terms of Payment (Subject to Credit Approval)

30% down payment with order
30% due upon shipment from inventory
30% due upon arrival of machine to customer's plant
10% due upon installation or thirty (30) days after delivery of machine to customer's plant, whichever occurs first