Homag Gantry CNC Processing Center BMG 312/42/V/K

The BMG 312 gantry series of high-performance processing centers was created from an innovative concept that offers new technology with optimized interaction between components. This series of processing center offers an extensive range of equipment possibilities for industrial multiple-shift operation and is an ideal machining center for component parts with added flexibility for producing curved and radius components for the flat panel industry, such as:

- work surfaces
- medical fixtures
- retail store fixtures
- curved cabinets
- custom component manufacturers
- solid wood components

The BMG 312 gantry series of processing centers features rigid steel frame construction that includes a flexible K-type console table manually adjustable vacuum pods and an innovative computer numeric control (CNC).

This BMG 312 features one (1) 21-spindle (V17 + H4) flexible drilling unit and one (1) heavy-duty 4-axis frequency-controlled router spindle unit which can be used for both 3-Axis and 4-axis machining, giving this machine the highest level of flexibility for a wide range of complex manufacturing operations and dedicated gluing unit which features 360° edge application with coil and strip feeding.

Main Router Spindle – 9.5/12 kw

Homag Unit #7431 (1 of)

- with interface for HSK 63F – DIN 69893
- for precise clamping of tools and units for high processing forces & loads
- three-phase asynchronous motor with surveillance of revolutions by inductive encoder for a high torque at low RPM, e.g., when using sanding units
- liquid cooling system with temperature surveillance in order to avoid thermal damage and to increase service life
- spindle with hybrid bearings for highest precision and long service life when operating at high RPM
- 12 kW for S6 operation (intermittent power output)
- 9,5 kW for S1 operation (nominal output)
- frequency convertor for electronic regulation of the number of revolutions from 0 - 24000 rpm
- controlled RPM from 0 - 9500 rpm

Main Router Spindle – 9.5/12 kw (continued)

- total nominal power from 9500 rpm
- tool weight max. 6 kg incl. chuck
- tool diameter:
    - max. 180 mm for trimming tools
    - max. 200 mm for sanding tools
- incl. Z-axis module
- vibration sensor for surveillance of the spindle during processing
- monitors vibration which arises through tool imbalance or improper use
- when the threshold value is exceeded, e.g. sudden overload, the machine stops and an error message occurs
- automatic feed override when the spindle speed falls
- one (1) HSK-63F Toolholder & Collet (size to be determined)
- incl. suction hood
- visualization of the vibration data on the operating terminal, e.g. indication of the spindle use in the area of strong loads (improper use), possible as option (see sales no. 6376)

C-Axis with Unit Interface
Homag Unit #7443 (1 of)

- for connection of processing / aggregate units
- including pneumatic interface and swiveling drive C-axis with torque control
- 3-point support system for absolute force transmission during high hogging forces
- precision drive system for all units via swiveling/rotating axis
- unlimited swiveling range
- swiveling/rotating speed up to 50 rpm
- tubeless compressed air supply e.g. for traced units

Interface for Flex5+ Unit
Homag Unit #7573 (1 of)

- coupling element for C-axis
- pneumatic control unit
- for automatic interchange of the Flex5/ Flex5+ unit

Coolant Reservoir for Main Spindle
Homag Unit #7072 (1 of)

- required to supply the main router spindle's coolant cycle

14 Position HSK-63F Plate-Type Tool Changer D=130 Below

Homag Unit #7455 (1 of)

- for tools and processing units (aggregates) with HSK-63F interface
- plate-type tool changer for up to 14 tool/unit places
- maximum rotating tool weight of 6 kg (13.23 lbs.) including tool holder
- maximum processing unit weight of 10 kg (22 lbs.)
- maximum total weight of all equipment is 70 kg (154 lbs.) distributed evenly
- following tool combinations are possible:
    - 14 x maximum diameter of 130 mm (5-1/8") or
    - 7 x maximum diameter of 180 mm (7-3/32") and
    - 7 x maximum diameter of 70 mm (2-3/4")
- maximum tool diameter for sanding tools is 200 mm (7-7/8")
- supplied without tool holders or tools.

Boring Head 21 Spindles: V17 / H4 / S0/90°

Homag Unit #7473 (1 of)

- one (1) frequency-controlled 2,2 kW motor
- programmable to a max. 7500 rpm for quick processing or for boring small diameter holes
- with 17 High-Speed Vertical Boring Spindles
    - drill spindles equipped with quick change system for reduced set-up times
    - individual spindle selection
    - spindle retraction stroke 60 mm
    - boring spindles are locked in the deployed state in order to reach the programmed drill depth reliably
    - arrangement of the spindles in T-Shaped Arrangement:
        - seven (7) spindles in the X-direction
        - eleven (11) spindles in the Y-direction
    - drill length is 70mm (2-3/4")
    - distance between spindles is 32mm (1-1/4") pitch
    - shank diameter is 10mm
    - with clamping surface and adjusting screw
    - rotation direction: right/left-hand rotation, alternately

Boring Head 21 Spindles: V17 / H4 / S0/90° (continued)

- with 4 Horizontal Boring Spindles with Grooving Saw - 0°/90° Indexing
    - for horizontal drilling in four (4) directions (X+, X-, Y+ and Y-)
    - direction of rotation: three (3) left-hand, one (1) right-hand
    - one (1) boring spindle prepared for grooving saw blade for grooving in the X-Axis and Y-axis directions;
        - driven by drilling head; pneumatically swiveling from 0° to 90°
        - maximum grooving saw diameter 125mm (4-29.32")
        - maximum grooving saw width 6mm (7/32")
        - maximum saw cutting depth 28mm (1-3/32")
        - maximum rotations 7500 rpm
    - the saw mounting arbor is 30mm diameter with four (4) M5 countersunk head screws on a 48 mm (LL) bolt circle
    - left hand direction of rotation
    - one (1) free space for add-on of optional auxiliary router spindle
    - includes separate Z-axis module and separate dust hood

Blowing Nozzle Workpiece Edge 60 mm
Homag Unit #7566 (1 of)

- for workpiece thickness up to a max. 60 mm
- possible use the blowing nozzle without tool change up to a tool length of 150 mm
- working field of the blowing nozzle according technical data sheet

Pre-Snipping Station with One (1) Coil Magazine
Homag Unit #7631 (1 of)

- rides along with the processing unit (X-axis)
- integrated into the safety enclosure
- enables access/edge supply from the front side of the machine
- for processing of coiled materials
- support plate with clipping unit
    - roll diameter maximum 780 mm
    - edge height maximum 65 mm
    - edge length minimum 350 mm
    - minimum core diameter of the edge band roll for melamine is 150mm

Granular Container EVA
Homag Unit #7657 (1 of)

- for storage of granular glue pellets
- feeding of the granular pellets into the application unit
- melting of the granular pellets is accomplished in the application unit

PowerEdge Gluing Application Unit
Homag Unit #7624 (1 of)

- for gluing edge material (rectangular cross section) on a straight panel edge
- gluing unit for 360° applications with joint
- application of the edge material by contact pressure roller
- manual strip feeding
- one (1) pressure roller (50mm dia) for initial application pressure
- one (1) pressure roller (35mm dia) for post application pressure
- short-wave heating system for heating thick edges
- unit controlled fully by CNC program
    - clamping height: 100mm
    - workpiece thickness including clamping means: 60mm
    - inside radius 90° corner (dependent on edge material): min 30mm
    - outside radius (dependent on flexibility of edge material)
    - inside circular diameter (based on 19mm think material) and thin edge material: min 400mm
    - inside contour (dependent on board and edge thickness)
    - max. edge band height (edge overhang per side 2-3mm): 65mm
    - edge thickness range for plastics: 0.4 – 3mm
    - edge thickness range for veneer: 0.4 – 2mm
    - max. processing surface area (plastics): 135mm²
    - max. processing surface area (veneer): 90mm²
    - min. straight edge length for butt joint: 250mm
    - min. radius length for butt joint: 300mm
    - Note: butt joint only possible on straight edge or radius, not corner.

Flexible Edge Sequence Control Software
Homag Unit #6284 (1 of)

- for storage of edge band types (up to 80 alpha-numerical digits) in the controller memory
- per the CNC program, the appropriate data required for the correct edge material is loaded from the memory

Remnant Edge Length Control
Homag Unit #7673 (1 of)

- length of the edge material coil can be entered into the controller
- by use of an integrated counting device, the controller measures the edge material used, thus allowing a minimum remnant length to be maintained
- if the remnant length is not sufficient to process the next panel, an error message is displayed
- after exchange of the edge roll, processing can continue

Hot-Air Nozzle for Gluing Unit 360°
Homag Unit #7607 (1 of)

- for heating of thick edges to be applied to small radii
- regulated hot-air nozzle on the rear side
- application and performance of the unit controlled via CNC program

Sawing & Snipping Unit for Tool Changer
Homag Unit #7511 (1 of)

- for grooving and snipping/cutting from the top at any angle relative to the workpeice as well as rectangular notching.
- unit equipped with permanent grease lubrication
- snipping of extended edges up to a maximum workpeice thickness of 50 mm
- maximum 9000 RPM
- chuck flange diameter: 30 mm with four (4) countersunk M5 screws
- countersunk head screws on a 52 mm (LL) bolt circle
- saw blade included: 180 x 30 x 3.2 Z=54

Corner Rounding Trimmer Left-hand/Right-hand
Homag Unit #7925 (1 of)

- for rounding of the glued cross edges at the workpeice corners before flush trimming
- equipped with reversible carbide tipped end mill cutters T=2+2, cutter length 40 mm
- according to the Z-axis movement, the trimming unit is either operated in a left-hand or right-hand motion

Combi Flush Trimming & Scraping Unit Thickness 15 – 60 mm

Homag Unit #7703 (1 of)

- for flush trimming the edge overhang and post processing pre-trimmed edges
- for automatic pick up from the tool changer via the main spindle
- simultaneous processing from top and bottom
- side 1 for flush trimming of projecting edges, side 2 for scraping rough trimmed edges
- edge thickness: max. 4 mm
- panel thickness:
  - min. 15mm
    - or 10 mm + 2 x R
  - max. 60mm
- panel overhand: min. approx. 25mm
- rotation: max. 12000 rpm
- outside radius for 90° corner: min. approx. R=5 mm
- inner radius for 90° corner: min. approx. R=30 mm (dependent on edge)
- tracing from top, below and laterally, to ensure edge tolerance
- unlimited swiveling via C-axis, thus providing constant pressure to the panel
- Including:
  - *Homag #0639 (2 of)* Cutter Head with Reversible Carbide Tips
  - for radius: 2 mm
  - cutter head: Z=3
  - reversible carbide tips: 6 pieces
  - edge thickness max.: radius + 1mm
  - *Homag #0680 (2 of) Profile Knife for Scraper*
  - for radius: 2 mm

Blowing Nozzle Workpeice Edge 60 mm for Tool Changer

Homag Unit #7565 (1 of)

- for automatic interchange into the main spindle.
- Unlimited swiveling via the C-axis.
- for workpiece thickness up to a max. 60 mm
- only in conjunction with the unit interface and main spindle unit.

K-Type Vacuum/Fixturing Console Table

- vacuum/fixturing table integrated in the machine base as a torsion-free construction with linear guide-ways in the longitudinal direction for manual positioning of the vacuum/fixturing consoles, with;
    - eight (8) vacuum consoles with tubeless double-circuit vacuum supply to the vacuum pods
    - sixteen (16) double-action vacuum pods, 160 mm x 115 mm, 100 mm high
    - eight (8) double-action vacuum pods, 125 mm x 75 mm, 100 mm high
    - six (6) lifting rails of low friction material (HPL execution), laterally installed at each console for aid of loading and unloading large panels; lifting power of each rail is 35 kg (77 lbs.)
    - eight (8) recessed longitudinal locating (pop-up) stops in the front, stroke 140 mm
    - four (4) recessed adjustable lateral locating (pop-up) stops – two (2) on left, and two (2) on right for mirror position
    - five (5) auxiliary locating (pop-up) stops at the rear of the table (fixed) for panels with extreme dimensions, with overhang at the table front edge
    - 2 x 2 plug-type connections with single-circuit compressed air system for connecting pneumatic clamping devices
    - 2 x 2 plug-type connections with vacuum system for connecting customer-provided vacuum fixtures or clamping devices.
- table designed for two (2) operation places, and includes alternate (pendulum) operation
- the dynamic space occupation enables the optimal exploitation of the available processing field of the machine in the alternate operation; the machine automatically controls the maximum possible part dimension by means of the
- program occupation; the consoles are firmly assigned to the individual processing fields; the necessary safety range is 1260 mm; through the dynamic space occupation, it is possible to create variable asymmetrical pendulum fields
- working field and position of the stop pins are in according to the technical data sheet
- patented double sealing of the vacuum pods for continuous vacuum transmission from the console to vacuum pod, independent from position or alignment of the vacuum pods
- stop pins can be selected in groups
- control of the final position of the stops in order to omit collisions during processing

K-Type Vacuum/Fixturing Console Table (continued)

- three (3) slip-on tubes to be manually installed for panels with surface (laminate) overhang
- workpieces with extreme dimensions must be clamped using fixtures or mechanical clamping devices
- the machine's zero point is placed at the front, left side
- workpieces are fed into the machine manually from the front side

LED Positioning Indication System for 1300-1850mm Consoles
Homag Unit #7877 (8 of)

- optical LED indication system for manual positioning of vacuum clamps and consoles
- the consoles which have been programmed in WoodWOP and the vacuum pod positions are optically indicated in an LED grid of 5 mm in the X and Y directions of the table
- with the aid of intermediate distances, a position accuracy of ± 2.5 mm can be achieved

Vacuum System
Homag Unit #7075 (2 of)

- oil-lubricated rotary slide-valve vacuum pump, 63 M3/hr (37 cfm)
- in case of large open surfaces on porous workpieces, an optional, more powerful vacuum system may be necessary

Chip Conveyor Belt (Right) BMG/../12
Homag Unit #7226 (1 of)

- removal of chips and residual pieces by means of integrated chip conveyor belt
- conveyor height for BMG – 225 mm (8-27/32")
- for chips and small waste products; removal of larger remaining pieces must be done manually by the operator
- conveying direction to the right outer edge of the machine bed
- additional chip guiding sheets along the transport belt lead the chips and residual pieces safely onto the belt; thus, an accumulation of chips and residual pieces below the transport belt is prevented, and damage of the belt material and drive motor is avoided

Machine Technical Specifications

WORKPIECE LENGTH IN X-AXIS			
In single operation (all tools):	**MAX**	**4,200 mm**	**(165.35")**
In alternating mode (dynamic mode):		**500-2400 mm**	**(19.6”-96.06”)**
In two-zone operation with edge banding:	**MAX**	**1470 mm**	**(57.87”)**
In single operation (tool diameter 25 mm):	**MAX**	**4375 mm**	**(172.24”)**
In alternating mode (dynamic mode – 25 mm):		**500-2615 mm**	**(19.6”-102.9”)**
WORKPIECE WIDTH IN Y-AXIS			
Front stop pins (all units)	**MAX**	**950 mm**	**(37.40”)**
Front stop pins (tool diameter 25 mm)	**MAX**	**1050 mm**	**(41.33”)**
Front stop pins (PowerEdge)	**MAX**	**1050 mm**	**(41.33”)**
Rear stop pins (all units)	**MAX**	**1400 mm**	**(55.11”)**
Rear stop pins (tool diameter 25 mm)*	**MAX**	**1550 mm**	**(61.02”)**
Rear stop pins (PowerEdge)**	**MAX**	**1500 mm**	**(59.05”)**
WORKPIECE THICKNESS IN Z-AXIS			
With edge:	**MAX**	**60 mm**	**(2-3/8")**
Edge height for butt joint:	**MAX**	**45 mm**	**(1-13/16")**
Edge height is panel thickness plus 4 to 5 mm (5/32" to 3/16") for best quality edgeband finishing.			
Without edge with standard vacuum cups:	**MAX**	**60 mm**	**(2-23/64")**
Without edge with templates:	**MAX**	**270 mm**	**(10.62”)**
EDGE MATERIALS			
PVC:		**1 to 3 mm**	**(3/64 to 1/8")**
Melamine, Plastics:		**.4 to 3 mm**	**(1/64 to 1/8")**
Veneer (both coil and strip):		**.4 to 2 mm**	**(1/64 to 3/32")**
HPL strips:		**.4 to .8 mm**	**(1/64 to 1/32")**
Manual feed strip length:	**MIN**	**300 mm**	**(11-13/16")**

Note:
**Limitations in drilling processes exist. Vacuum templates to be provided by customer.*
***For veneer edges, maximum width is 1350mm (53.14”)*

The quality of the edge material is an important factor. To achieve best results, only edge material of high quality should be used.

Facility Requirements of Processing Center

floor	**10" minimum concrete with rebar reinforcements** *(Note: A **single, level pad** is required for maintaining machine levelness over time.)*
compressed air	**102 psi and 18 cfm (3/4")**
dust extraction for working spindle	**volume - approx. 2914 cfm** **air velocity - 92 ft/sec** **negative air pressure in - 7.87 in/WS** **outlet diameter - 250 mm (9.85")** *(Note: Please contact your dust extraction supplier to determine exact requirements for your facility.)*
machine power*	**voltage: 480 volt; 3-phase, 4-wire grounded, 60 cycle** **amps required: 36 nominal (50 amp fuse) 20 kw**

** Note: Customer voltage supplied must not fluctuate in excess of ± 5% of its stated value, otherwise a voltage stabilizer will need to be installed at the customer's expense.*

PowerControl PC86 PowerTouch - Hardware

- operating panel with 21.5" full HD multi-touch display in widescreen format
- PLC control according to International Standard IEC 61131
- modern industrial PC with Windows® 7 operating system
- back-up manager and storage medium for comfortable data back-up
- USB connection
- PC keyboard: English (#6201)
- hand operation for run-in mode
- digital drive technology
- decentral, digital field bus system
- network connection Ethernet via additional network card & software. Within the machine or machine line, Homag uses the data networks with the identification 192.2.x.x or 192.168.1.x. If the address range is also used in the customer network, a special project planning has to be effected and, if necessary, additional hardware has to be provided by the customer
- uninterruptible power supply (UPS) protects the computer from damage in case of mains interruption, overloads, and short circuit

PowerControl PC86 PowerTouch - Software

- standardized Homag Group operating surface – PowerTouch
- ergonomic touch operation 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
- Windows® 7 and virus protection
- control for continuous line operation in all axes and parallel operations through multi-channel technology
- look-ahead function, to achieve optimum feed speed at transition points
- dynamic look-ahead control for accurate contours
- WoodWOP 7 for graphic and interactive creation of CNC programs; great program library with example programs for contours, carcass furniture, worktops, doors, etc. – available for free download from www.homag.com
- inclusive CAD Plug-In for creating CAD contours and for the import of existing CAD drawings in DXF format
- a graphic tool database: a software kit for assistance of any Homag units delivered with the machine; consisting of WoodWOP processing macros, NC sub programs, and administration of unit data
- production list administration
- CNC operation and graphic representation of clamping locations

MMR Basic

Homag Unit #0780 (1 of)

- integrated counters and predefined maintenance intervals always inform the machine operator about necessary maintenance works in due time
- through the need-based maintenance, the availability of the machine increases and the downtimes of the machine is significantly reduced
- besides the maintenance data, the amount of produced workpieces and the total run time of the machine is gathered
- therefore, information about the productivity is constantly available

IPC PowerPack

Homag Unit #6349 (1 of)

- upgrade of the machine's PC from a single CPU to a dual CPU
- for the processing of very large programs, e.g., in the case of comprehensive nesting programming or window machines with dynamic place optimization, waiting times up to several minutes can occur; with IPC PowerPack, the waiting times can be reduced up to 50%
- application examples"
  - very large WoodWOP programs (window and nesting programs, etc.)
  - additional applications, e.g., Collision Control, Window Interface, etc.
  - external software on the machine's computer
  - compulsorily prescribed in case of the use of an external software kit (e.g., NC-Hops, etc.)

Documentation and Control Texts: English

Homag Unit #8322 (1 of)

- production instructions consisting of operator's manual and maintenance guidelines on DIN A4 paper and CD-ROM
- on-screen operator control texts for machine operators for the PC85
- spare parts designations on CD-ROM
- available for delivery at the same time as machine's delivery

WoodScout Diagnosis System for BMG300/KAL300

Homag Unit #6382 (1 of)

- a software kit for the graphical diagnosis of the machine's condition
- enables systematic trouble-shooting, which could lead to a considerable increase in the factory's productivity
- graphical PLC diagnosis in different levels
- a "learning" system, due to the possibility of entering the reasons of a fault, and then the corrective action(s) to remove them
- optimum support for the elimination of machine down-time

TeleServiceNet-Soft

- remote diagnosis via the internet
- invoicing according to separate TeleService contracts
- access to the internet is to be provided by the customer
- access to only one (1) machine PC is possible

Technical Phone Support and Remote Diagnostics

- provided with the purchase of this machine for the period of two (2) years:
  - 24-hour technical phone support
  - Machine embedded software (e.g., WoodWOP) phone support - 8:00 am to 5:30 pm
  - Remote/WebEx/phone diagnostics - 8:00 am to 5:30 pm
- additional Technical Support packages or contracts are optionally available

WoodWOP Software Package for BOF/BMG (Single-Seat License)

Homag Unit #6631 (1 of)

- CNC programs for the PC86 control on an Office PC can be created and graphically simulated with this software kit; contains the following functions:

WoodWOP 7:

- user-friendly, completely menu-guided operating interface
- 3D view of the panel, processes, consoles, and clamping devices
- graphic indication of arbitrary working levels
- contour creation by integrated contour programming
- dimensions are input as absolute values or as variables
- interactive setting of drillings and contour lines with the mouse
- includes automatic suction suggestion with 3D view
- includes WoodType for engraving texts
- includes "Mosaic", a file explorer for quick and simple administration of the WoodWOP programs
- includes software for reducing remaining surfaces to small pieces, for automatic recognition of the remaining surfaces between a panel and the raw panel and generation of the routing paths

Post Processor and Tool Data Base Editor:

- includes one (1) post processor for creating of programs in DIN 66025 for one (1) machine at one (1) production location
- administration of tools and tool data
- simple creation of own profile tools, including a 3D tool generator

DXF Interface:

- includes WoodWOP DXF Import Basic Interface for the transfer of drawings from CAD systems in DXF format for further processing
- special drawing guidelines (e.g., layer occupation) must be adhered to

System Requirements (Office PC Provided by the Customer):

- operating system: Windows® 7, 8, or 10
- processor: Intel, AMD, or similar Dual-Core processor (Quad-Core recommended) in the range of 2.5 to 3 GHz minimum
- main memory: at least 2 GB RAM available for WoodWOP; additional required for system functions
- graphics card: minimum of OpenGL 2.1 support with at least 1 GB of memory (e.g., NVidia)
- when using Intel Onboard graphics cards, at least GMA X4500 or better Intel HD graphics

WoodWOP Software Package for BOF/BMG (Single-Seat License)
(continued)

Additional Notes:

- license is valid for a single installation on one (1) Office PC
- virtual servers and terminal servers are not supported
- on an Office PC, all software products are protected by a single-seat license or a floating license; an installation with different types of licenses is technically not possible
- the installation of the software and the integration of the machine into the customer network is effected by the customer; assistance is available optionally from Stiles Technical Support or Homag Software Support for an additional cost
- the product must be activated by contacting Stiles Technical Support by phone at 616-698-6615 following the installation

WoodWOP Office Wizard (Single-Seat License)
Homag Unit #6619 (1 of)

- This package extends WoodWOP professional to include the programming of edge gluing on a CNC machine.

CollisionControl

Homag Unit #6384 (1 of)

- CollisionControl supervises possible collisions of machine components and clamping devices during the operation
- it takes into account the whole machine as well as all allowed tools, all processing heads, vacuum clamping devices, and the table level
- clamps which change position during program flow (e.g., Move-Part) undergo a monitoring process in which the position upon program start is supervised
- for machines with an LED indication system, or in the case of AP tables, the individual consoles can additionally be supervised
- with automatic machine stop in case of an imminent crash situation
- indication of the crash situation as current summation with colored collision bodies
- supervision of manually programmed movements from one point to another in manual operation
- presentation of the machine as moving 3D-model in live operation (no simulation, no material abrasion)
- not supervised are the following:
  - collisions with the workpiece
  - collisions with the suction hood
  - synchronous processing in the case of multiple channel machines
- Caveat emptor:
  - CollisionControl supervises collisions based on the CNC kernel and graphical objects
  - deviations from reality are possible
  - no guarantee against collisions of the machine
  - no liability in case of damages

WoodMotion for Office PC (Single-Seat License)

Homag Unit #6677 (1 of)

- WoodMotion graphically simulates the processing steps on the Office PC by means of a CNC program of a BOF/BMG with PC86 control
- graphic processing simulation with material removal on the panel in individual operation
- 3D view, free displacement, turning, and zooming
- indication of panel, consoles, clamping elements, and tools in 3D
- creation of own profile tools is possible through contour programming in WoodWOP by the user
- collision surveillance between the tool and the programmed clamping elements
- collision surveillance between the tool holder (HSK), the units, and the processed panel
- saving and loading simulation processes
- highly realistic through a CNC simulation on the basis of a virtual machine control (Vilma)
- comprehensive error detection in the forefront (e.g., exceeding the software limit switches)
- caveat emptor:
  - WoodMotion is a simulation
  - deviations from reality are possible
  - no guarantee against collisions on the actual machine
  - the delivered graphic data does not claim to be complete and correct
- customer-provided high-performance office PC hardware requirements:
  - dual-core processor, Intel or AMD, 2 GHz or higher
  - 1 GB RAM (minimum); 2 GB RAM is recommended
  - graphics card which is OpenGL compatible, 128 MB memory, resolution of 1024 x 768, 16-Bit color depth (minimum); recommended graphics card would have OpenGL-hardware acceleration, OpenGL 2.x, 512 MB memory, resolution of 1280 x 1024, 32-Bit color depth
- customer-provided office PC software requirements:
  - Microsoft Windows® 7 or 8
  - WoodWOP Software Package for Office PC, version 5.0.851.0 or later
  - CMDS versions of the machine and office PC must be identical
- only available for new machines as of CMDS 3.87 or later
- virtual servers and terminal servers are not supported
- all software products are protected by single-seat or floating licenses; installations with different types of licenses are not technically possible
- the product must be activated by contacting Stiles Technical Support by phone at 616-698-6615 following the installation
- only for machines in platform technology (unit support with two Z-axes)
- note: no additional AutoClamp function MovePart (#6391, #6392)

Electric Equipment

- machine electrical components according to U.L. specification
- separate switch cabinet on rollers for positioning on the right or left side in front of the processing table (right side is standard)
- operation terminal is integrated in the switch cabinet
- installed according to European Standard EN 60204
- permissible environmental temperature is 50°F to 104°F; if temperature will exceed the 104°F maximum, an optional air conditioner for the switch cabinet must be purchased by the customer (Homag #6171)
- permissible environmental humidity is 30% to 90%; if humidity will exceed the 90% maximum, an optional switch cabinet heater must be purchased by the customer (Homag #6173)
- FI-safety switching only permitted in connection with an all-mains sensitive/-selective FI-safety switch; if the performance of this device is not sufficient, a differential current monitor is recommended to be provided by the customer

Air Conditioning Unit for Switch Cabinet for BMG 300/FKF 200

Homag Unit #6171 (1 of)

- this unit will be necessary if the environmental temperature at the machine exceeds 40° C (104° F)

Basic Equipment

- rigid processing center in heavy, stress-relieved steel construction with a high-precision linear guide systems with dust protection
- precision, backlash-free rack and pinion for X- and Y-axis
- re-circulating ball screw and digital AC servo motors for positioning of the Z-axes
- drive technology with digital control methods for high dynamics and precise contours
- single-sided working unit beam with linear THK guide system, mounted on the right side of the gantry crossbar
- unit beam prepared for three (3) separate Z-axes (Z1, Z2, Z3); enables rapid and alternate use of the main router spindle, drilling unit or PowerEdge.
- the traveling way of the Z1-axis = 540 mm; enables the usage of long tools, or in case of tall panels or parts
- separate dust collection hoods for router spindle and drilling unit with central connection port for connection to customer's dust collection system
- **automatic centralized lubrication** for all drives and linear guides
- paint: grey lacquer RDS 240 80 05
- connecting load for dust collection, pneumatic, compressed air, and electricity are to be taken from the separate installation plan drawing
- compressed air requirement: 7 bar minimum
- customer's floor conditions must correspond to the foundation plan

Safety Features

- safety surveillance with pressure-sensitive safety cushions (according to EN1760-3) for an effective protection of the operating staff
- accessibility of the working zones:
  - the machine has two working fields; selectable empty-running modes permit that the individual fields can be run empty
  - for loading and unloading panels with maximum possible processing length in individual operation, the panel must be fed under the safety housing
- low height left-front access door with climb-over protection (#7105)
- additional barriers will be required to be purchased optionally if the customer does not have the facilities to protect the other two (2) open sides of machine
- if the customer explicitly desires that the machine is delivered and installed without safety barriers, the customer is obliged to guarantee the safety at the corresponding machine sides by proper safety measures; this also applies for later modifications, especially in the case of later modifications at the site of installation, in the case of installation of the machine at another site, or in the case of the resale of the machine
- the customer waives guarantee and damage compensation rights concerning the fact if the machine was delivered and installed without full safety barriers; the customer is obliged to indemnify the deliverer against any claims of third parties which might be raised due to this circumstance
- EC conformity (CE) according to the currently valid Machinery Directive for individual machines in operation
- wood dust protection TRK-value maximum 2 mg/m^3 subject to the required extraction capacity to be provided by the customer as indicated
- condition of our warranty/product liability is the unrestricted observance of the original production instructions delivered along with the machine, including the safety instructions

Protective Grid - Lateral Wall Right-Hand

Homag Unit #7141 (1 of)

- includes gridded panels on supports for securing to the floor
- height is 1800 mm (70-7/8")

Protective Grid - Lateral Wall Left-Hand

Homag Unit #7107 (1 of)

- includes gridded panels on supports for securing to the floor
- height is 1800 mm (70-7/8")

Protective Grid - Back Wall B../30-42

Homag Unit #7108 (1 of)

- includes gridded panels on supports for securing to the floor
- height is 1800 mm (70-7/8")

Note: It is not allowed to run this machine without full safety barriers.

Homag Quality Pack

- includes energy guiding chains (cable trail) in X and Y direction in closed execution in order to prevent cable damage by residual pieces, chips, etc.
- linear guide-ways in X and Y directions are covered with a steel band in order to avoid dirt intrusion
- TÜV certified according to DIN EN ISO 9001:2000
- energy-efficient drives according to the EU no. 640/2009
- the machine is run-in and delivered using a standard Homag program
- energy saving functions:
    - ECO Plus button for start of the stand-by mode, which can be activated during the last operation; after program end the button starts the following:
        - the drives stop running
        - the vacuum pumps are switched off
    - when machine is not producing parts, the control voltage is disconnected by means of a preset time
    - when no panel is clamped, the vacuum pump is disconnected by means of a preset time
    - gate control for reduction of the necessary dust collection energy by automatic switching between router spindle and boring head