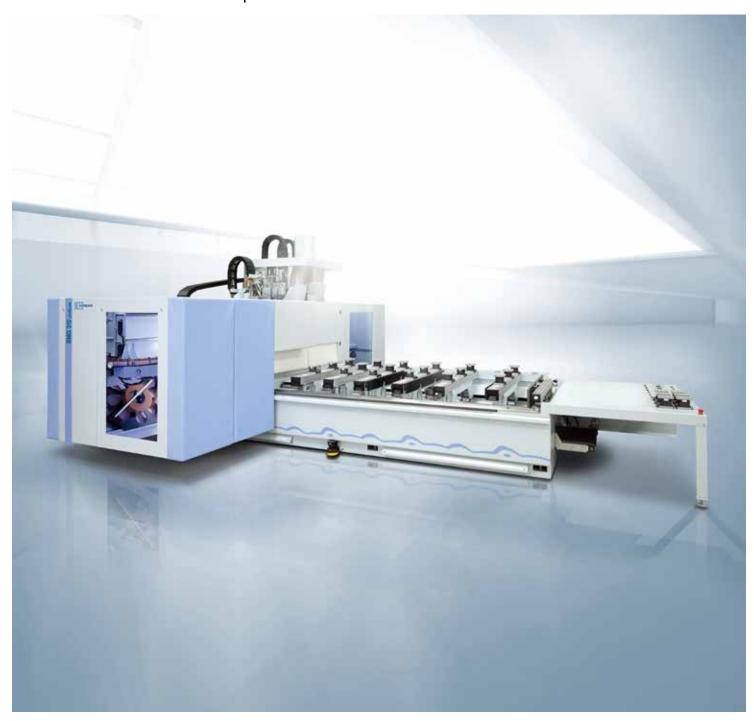


# CNC Processing Centers BMG 310 series | Venture





### Be on the safe side with HOMAG

You should not experiment with investment in a new machine or plant. Rely on the competence, experience and reliability of a strong partner – rely on HOMAG. For more information: **www.homag.com** 

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## Operation made easy

#### WORKING ON A CNC MACHINE HAS NEVER BEEN SO EASY AND CONVENIENT:

All of the essential functions are directly in view and mounted directly on the machine. Thanks to the large window everything is always in view. Access to the table is free, no disturbing fences are required to the left and right. Fully implemented bumpers combine productivity, security and access to the machine.





**Switch bar instead of foot switch** no searching and moving the foot switch – stops, output stroke rails and vacuum clamping can be activated easily.

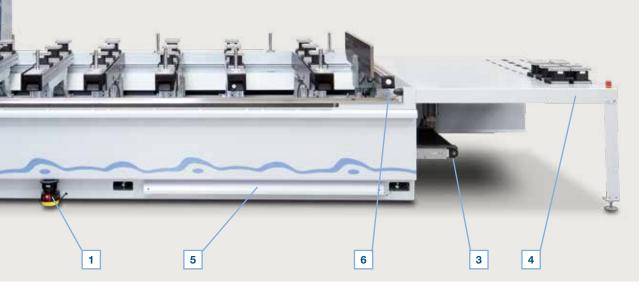


**Button for program start** directly on the left and right stop profile of the machine table. The clamping status is immediately in view thanks to the multi-colored light display.



**Easy access:** Drill changes, service, refilling adhesive and edge changes can be carried out easily from the front side of the machine.

- saveScan scanner for contact-free protection of the positioning of the automatic table and feed reduction in conjunction with the Speed Pack (option).
- Convenience package (option):
  Operating functions can
  be activated with a button
  directly on the machine. An
  integrated proximity scanner
  for intelligent pausing is
  included.
- Simple disposal of the offcuts and chips using the integrated chip belt. A waste box can be easily pushed onto the belt from the front (option).
- 4 Deposit position to the left and right on the machine for clamping equipment.

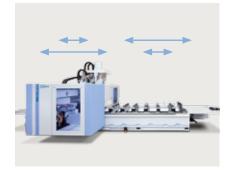




**Smart support** for support and maintenance using the service pad and display of machine status on smart devices.



Second operating terminal (option) for optimum shuttle operation without unnecessary walking – ideal for machines with a large work field. Program selection and assignment of the machine is possible on both sides.



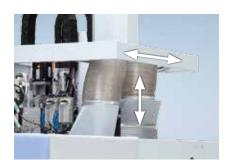
**Dynamic alternating operation** without fixed field subdivision. This means that even in the case of long parts on one side of the machine a short part can still be placed on the other side.

### Quality and innovation down to the last detail

Innovative solutions for every task. Superior technology from the start. Every customer benefits from HOMAG system competence. The sum of decades of experience in machine and plant engineering goes into our machining centers. Identical system components, uniform control technology and ergonomic operation ensure more productivity. The latest technologies for the variable high-quality workpiece shapes.



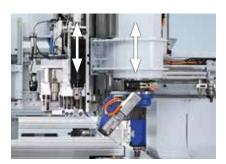
- 1 Powerful 4- and 5-axis routing spindles
- 2 Tool changer traveling with the spindle for tool change during drilling
- Tool change systems traveling for high capacity
   and fast access
- 4 Console table with high-precision linear guides and robust insertion aids



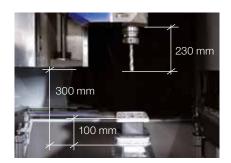
**Effective suction** at low connected load thanks to optimized detection and removal of chips. The hood is stepless with adjustable by motor.



- 1 Automatic central lubrication of all main axes
- 2 Covered linear guide with closed guide carriage
- 3 Rack and pinion drive systems in X and Y
- 4 Closed energy chains to protect cables and hoses



**Two separate Z-axes** for drill head and main spindle enable rapid alternating use of drill head and main spindle. A drive unit moves only one unit over the full axis length.



**Processing height** 300 mm from the upper edge of the console, even with the use of units or long tools.



Central switch cabinet with heightadjustable powerTouch operating terminal, UPS to protect against data loss, Backup Manager for data backup and network connection. Light on the switch cabinet for status display.

# As individual as your needs

When you decide on a HOMAG machine, you receive a powerful processing center for a wide range of tasks. Each machine is a complete system that guarantees maximum performance and efficiency in individual production tasks.

#### **DRILLING & ROUTING**



High-speed drilling technology with groove saw



Trim a chamfer on a table plate



Angular cutting of a glass rabbet corner



Lock case routing



Routing a staircase handrail



Holes for paling at a tight angle

#### **SAWING & CONNECTING**



Precise and tear-free miter cuts



Routing a burr connection for jamb/rail designs



Separating cuts up to 110 mm in height

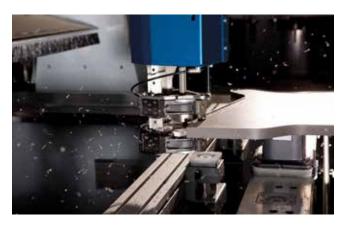
#### **EDGE BANDING**



easyEdge gluing unit for rational gluing on shaped parts



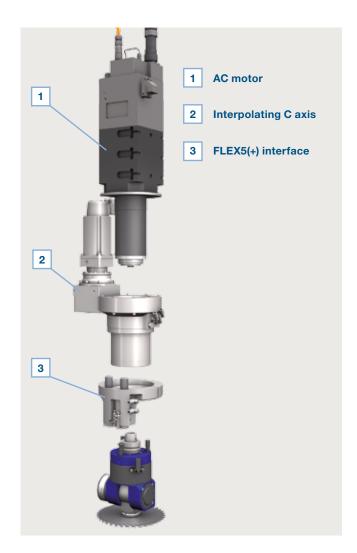
360° edge gluing with the powerEdge edge banding unit



Perfect edge finish through traced combination flush routing/scraping unit

### Main spindle technology

We are setting standards with our main spindle technology, increasing the performance and flexibility of our machines. Our highlights are the vibration sensors, which avoid damage to the routing spindles, and the 5-axis technology. Select the spindle suitable for your current and future product range.



**4-axis routing spindle** with units interfaces, which open up almost unlimited production opportunities. With patented technologies the range of tasks can be expanded at any time.



**Liquid cooling and spindle sensor** Liquid-cooled routing spindles with hybrid storage offer a long service life. An additional vibration sensor detects tool unbalances and protects the spindle against overloading, due to high feed speeds for example.

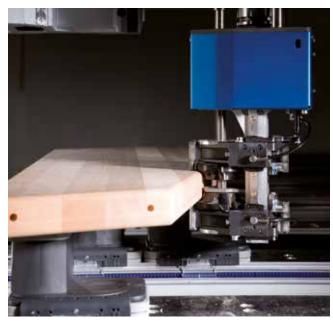


**Sawing, routing, drilling at any angle – FLEX5+ unit** with automatic angle adjustment and automatic tool change. A unique unit for 4-axis spindles, which covers over 90% of 5-axis applications.





**5-axis routing spindle** DRIVE5C/+ with 10 kW of power (optionally 12 or 15 kW) and a controlled spindle speed from up to 24,000 rpm for a high torque even at low engine speeds.



**Pneumatic interface** – the patented interface with 3-way support on all C-axes and 5-axis heads enables the use of traced units, e.g. for precise rounding off at the top and bottom no matter the thickness tolerances.

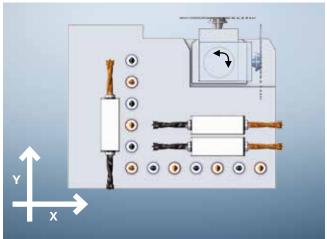
## HOMAG drilling technology: The best of the best

High-speed drilling technology, patented clamping of the spindle and quick-change system for tools. Precise drilling, fast cycles, maintenance-free and durable construction.

Additional optional attachments expand the machine's range of applications.

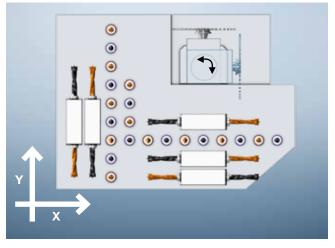


- 1 Measuring device to identify the relevant actual dimensions in X, Y, Z with automatic offset correction in the processing program.
- 2 Additional routing spindle



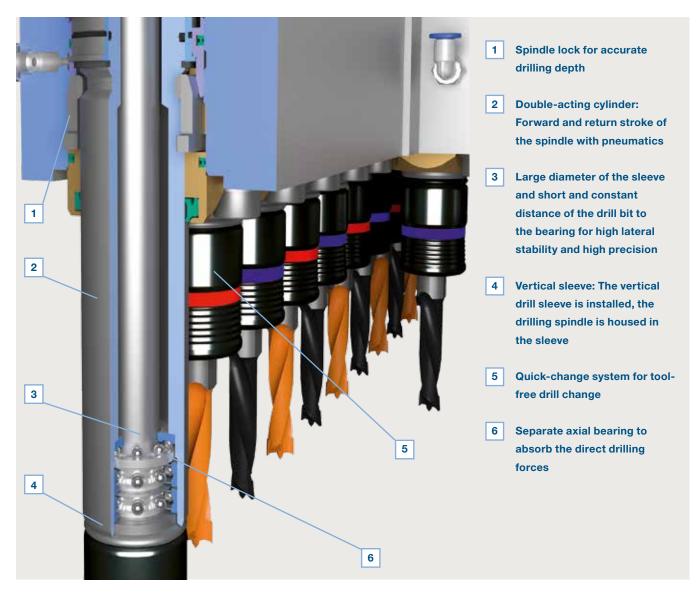
#### Drilling gear V12/H6

- 18 drilling spindles [high speed 7500]
- 12 vertical drill spindles
- 4 horizontal drilling spindles in X
- 2 horizontal drilling spindles in Y
- Groove saw Ø 125 mm (0°/90°)



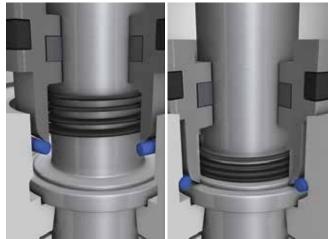
#### Drilling gear V21/H10

- 31 drilling spindles [High Speed 7500]
- 21 vertical drill spindles
- 6 horizontal drilling spindles in X
- 4 horizontal drilling spindles in Y
- Groove saw Ø 125 mm (0°/90°)





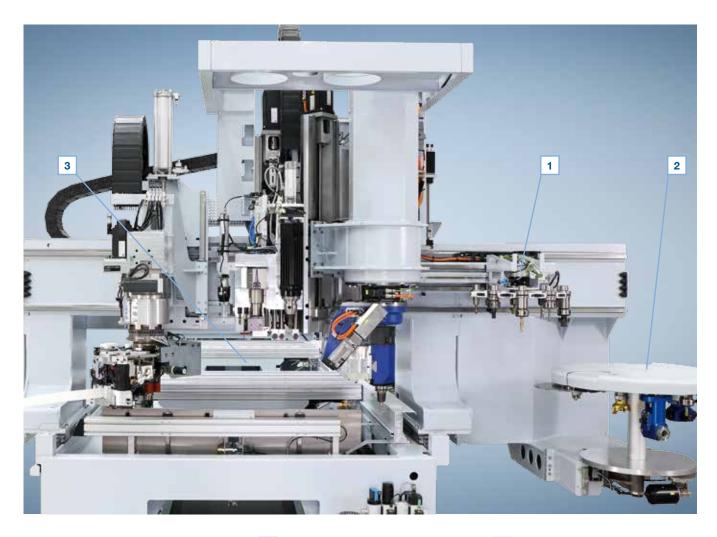
**Patented quick-change system** for a drill change without tools to reduce setup times.



**Automatic spindle lock** patented system for a drilling depth that is always accurate for numerous different materials. With speeds from 1500–7500 rpm for high feed speeds or short drill cycles.

# Changer systems: Just be flexible

Everything is in good hands and quick to access. Tool changers are the basis for flexible utilization of tools and units, and also for large saw blades or heavy units.



- 1 Changers traveling with the spindle for tool change during drilling or edge banding.
- Changer traveling in X
  direction for fast access and
  large capacities.
- 3 Changer on the side of the machine bed with integrated tool transfer station.
  Additional capacity and convenient exchange of tools from the front.

# Systems for all requirements

There is nothing left to be desired: More than enough capacity with up to 50 (32 + 10 + 8) storage spaces and fast processing by systems with short change times.



**8-space linear changer** with tool transfer station, mounted on the side. As an option, the pick-up station for the easyEdge unit can also be integrated.



**10-space tool changer** traveling with spindle. Tool change during drilling or edge banding. For tools and units with a diameter of up to 180 mm.



**32-space tool changer –** arrangement of the tools in an inner and an outer ring. For tools and units with a diameter of up to 200 mm and saw blade up to 350 mm in diameter (in the outer ring).



**14-space tool changer** for tools and units with a diameter of up to 200 mm and saw blade up to 350 mm in diameter.

# Units: Excellent processing quality and new standards for speed

The HOMAG units provide numerous innovative technologies. They can be combined and precisely coordinated to your specific application situation. Even special tasks are worked out safely and efficiently.



Corner notching unit



**Underfloor routing unit** 



Boring/routing unit



Boring/routing unit



FLEX5 drilling/sawing/routing unit



**Traced routing unit** 



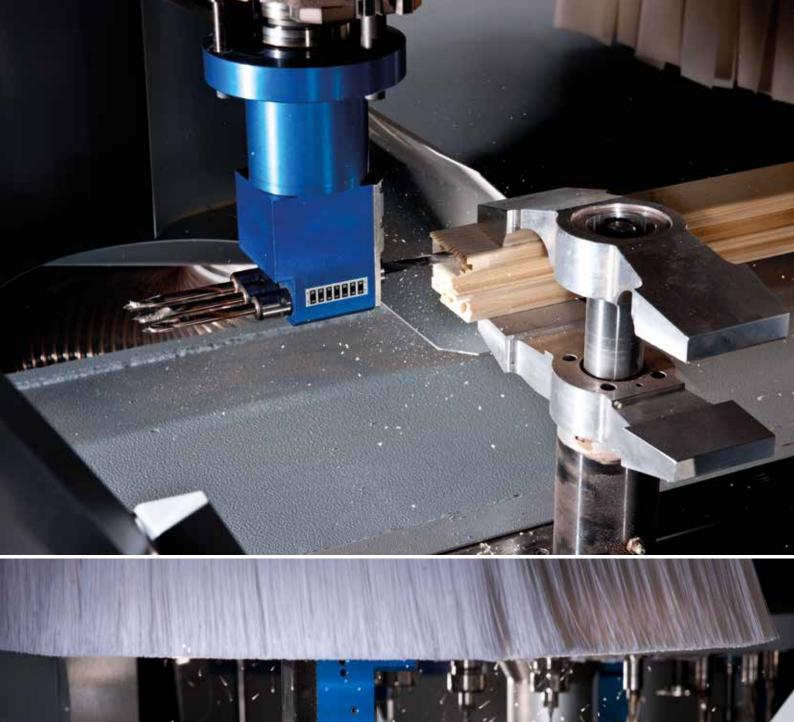
Lock-plate routing unit

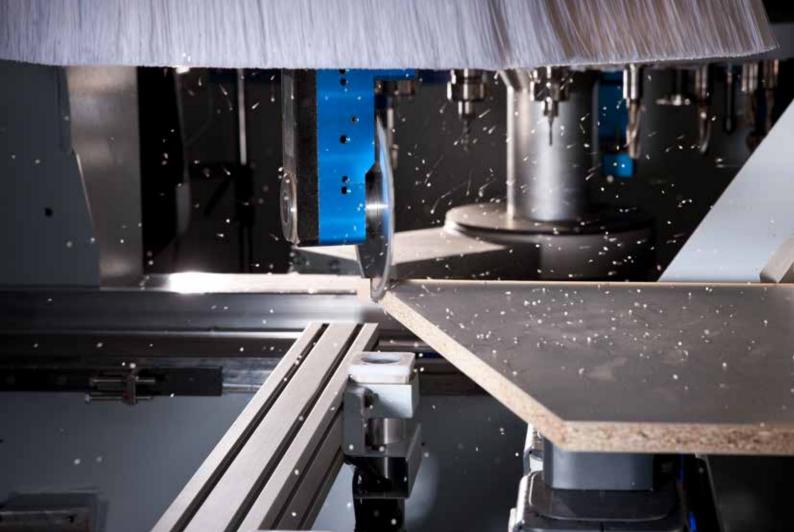


Belt sanding unit

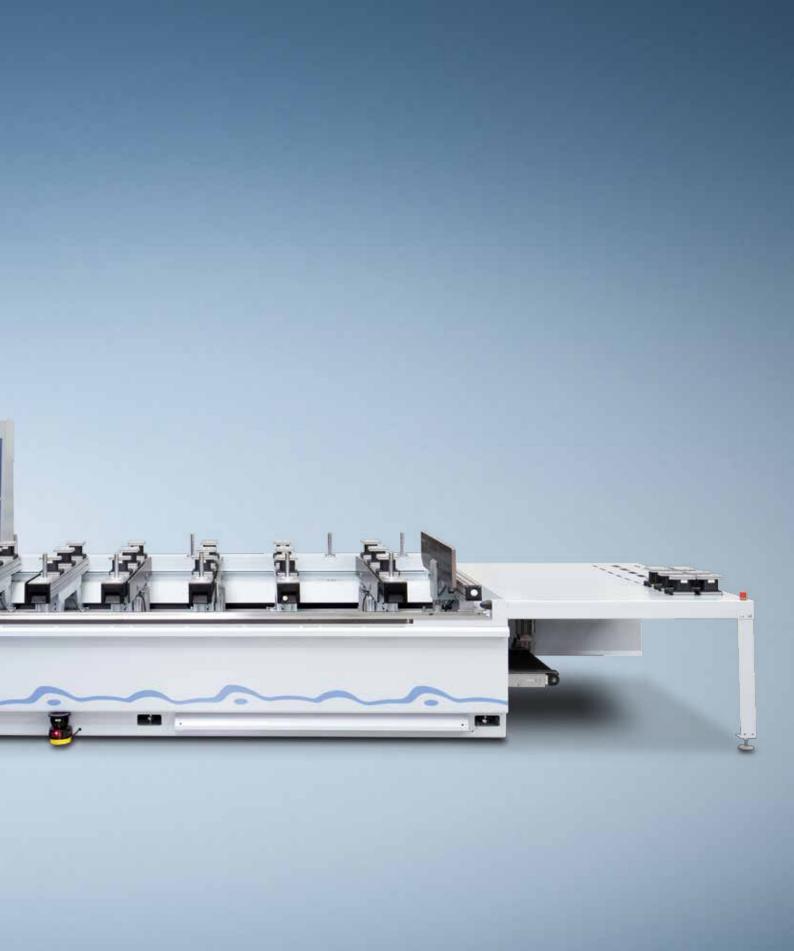


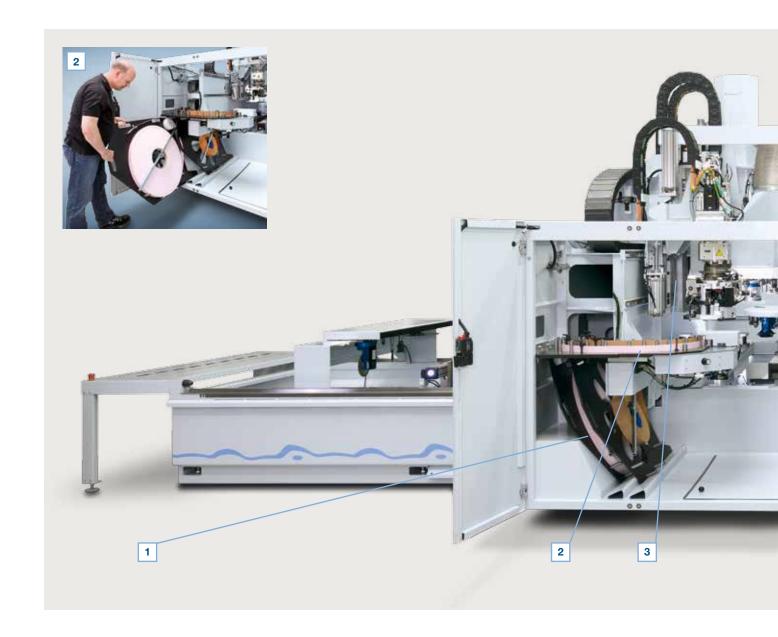
**Eccentric sanding unit** 







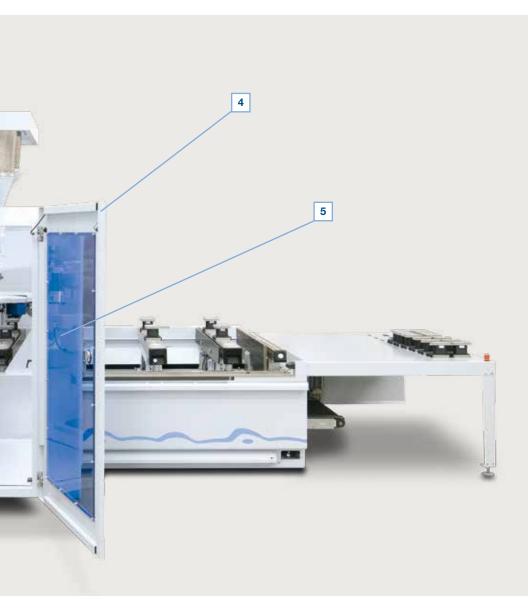




# Edge banding with HOMAG: Top edge quality with easy operation

Compact and powerful: The BMG 310/V is the ideal solution for smaller companies and suppliers when it comes to shaped edge banding. The BMG310/V achieves a high level

of performance in a small space thanks to the compact arrangement of the units and the free choice of configuration, with tool change spindles, drilling gears and tool changers.



- 1 External preparation of the edges with exchangeable roll plates
- 2 Quick and convenient insertion and exchange of edge materials through installation of the edge magazine on the front side of the machine
- 3 Easy refilling of hot-melt glue, simple inspection and service of the gluing station
- 4 Optimal access to the processing units through a large access door
- Optimum view into the processing through large viewing window



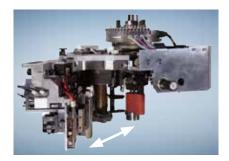
- 1 powerEdge gluing unit with pneumatic outward stroke
- 2 High Speed drilling gear with attachments (optional)
- Powerful 4- and 5-axis routing spindles

### Perfection for corners and edges

The BMG310/V is a real all-rounder. Formatting, profiling and drilling is supplemented with shaped edge banding, with perfect joints and edge finish.



**powerEdge edge banding unit** with proven technology from industrial multishift application. For perfect radii and 360° butt joint gluing.



**Quick service function** for fast and efficient maintenance and cleaning thanks to straightforward opening.



**easyEdge edge banding unit** is the universal solution for edging small quantities.



**Additional application unit** for quick changing for different glue types. With optional non-stick coating for manual filling with PU.



**Sawing and snipping unit** with saw blade in the center of the C axis. Snipping cuts during edge banding are therefore performed with high precision.



**Combination unit** for flush milling of the edge overhang and the scraper post-processing in order to remove blade strokes and other unevenness on the edge profile.



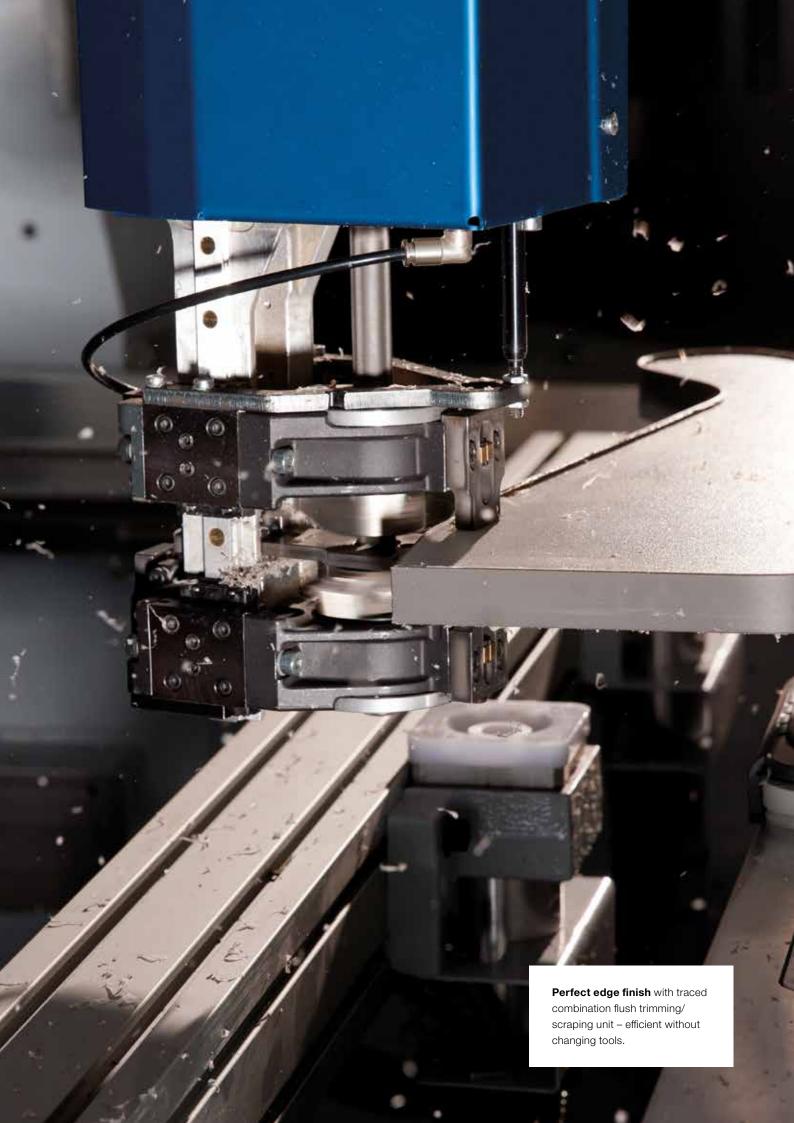
**Combination unit,** snipping/corner rounding. For the traced cutting to length of edge overhangs and precise corner rounding of edges.



Flush trimming unit with separating agent reduces the glue residue on the workpiece and often makes the glue joint scraper unnecessary.



**Trimming unit,** horizontally traced for flush trimming of edge overhangs, e.g. on the postforming profile of a kitchen worktop.



### Flexible and fast: The K-table

#### THE CLASSIC, DUAL-CIRCUIT VACUUM SYSTEM.

The vacuum clamps are infinitely positionable and offer a free space for the use of tools as well as for the falling offcuts. The K-table is the ideal solution when flexibility, secure clamping of very different parts and fast exchange of the clamping

systems are required.

The rapid, precise and especially easy positioning of the suction unit is enabled by the LED or laser positioning aid.



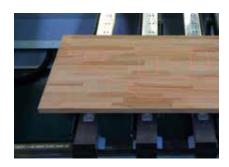
**LED system** arguably the fastest and safest positioning system for consoles and clamping elements (patented).



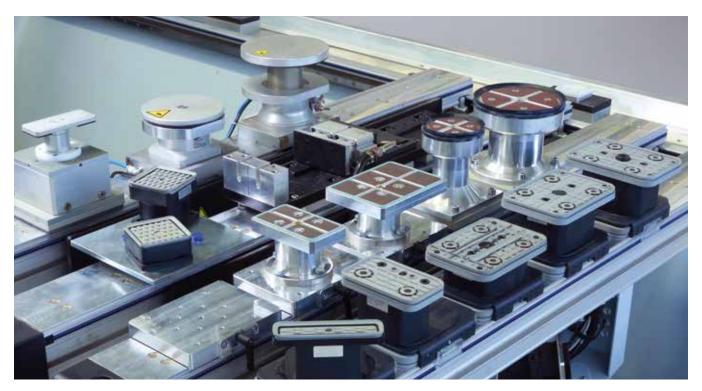
**Measuring tape** for positioning the suction units.



**LASER positioning aid** vacuum suction units are indicated by a laser cross-hair. The workpiece contour can be "moved" as a positioning aid for free-formed workpieces.



**Laser projection** of the clamping equipment and the workpiece contour for optimal utilization and simple positioning of unprocessed parts that cannot be aligned on the stops.





**Clamping unit** ensures safe and quick clamping of jambs and scantling.



**powerClamp** manual clamping device for straight and curved parts. Ideal for all curved, narrow and frame parts.



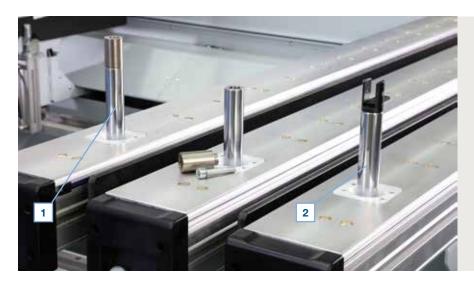
**Multi-clamp** for dual-circuit vacuum system. Vacuum-actuated clamping element for clamping strips and elements.



Matrix adapter plate also offers secure fixing for filigree workpieces. Shaped parts in the nesting process can also be "tailored" on a console table in an optimized way with the matrix adapter plate.

### Accurate and safe with the console table

Thanks to the patented system of solenoid valves, vacuum suction units and other clamping equipment can be used in any number and in any location on the consoles. Application-optimized stops and insertion aids ensure precise placement and positioning of the components.



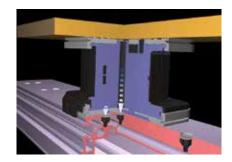
- 1 Stop pin
- 2 Stop pin for covering layer overhang





Stop pin for covering layer overhang with end position monitoring to protect tools, units and machine operating personnel.





**Dual-circuit vacuum system** – exclusive vacuum clamping technique with patented double sealing flange for infinitely variable movement of the clamps along the console. The first clamping circuit fixes the clamp on the console and prevents unintentional moving, the second then keeps the material stably in position.

**Chip conveyor** for easy disposal of the offcuts and chips.



"PURE STOP" side stop made of anodized aluminum is guided on linear guides. Precise and solid stop for positioning strips and rounded-off components.



**Side stops** can be moved via a quick-release mechanism.



Linear guide and insertion aids – easy handling by consoles with highly precise linear guides and robust insertion aids with two pneumatic cylinders. Vacuum and compressed air connections for pneumatic clamps and clamping templates are integrated in the consoles.

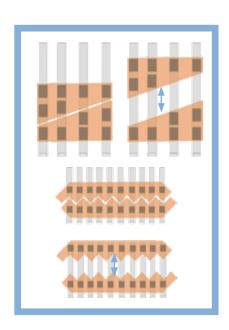


# Automatically in the right place: The A-table

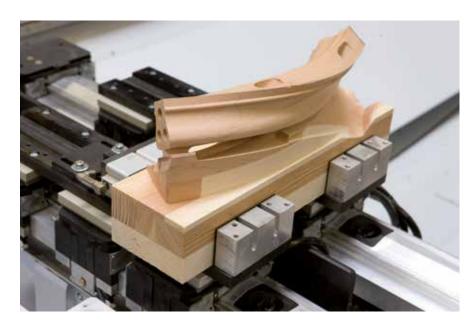
The A-table is the key to greater convenience and automation. Through the program-controlled positioning of the consoles and clamping equipment, batch size 1 operation is possible without manual intervention and workpieces can be moved apart after a separating cut.



**movePart** ensures automatic moving apart after separation in the program sequence for complete processing.



In staircase construction, for example, stages can be moved after separating for complete processing.



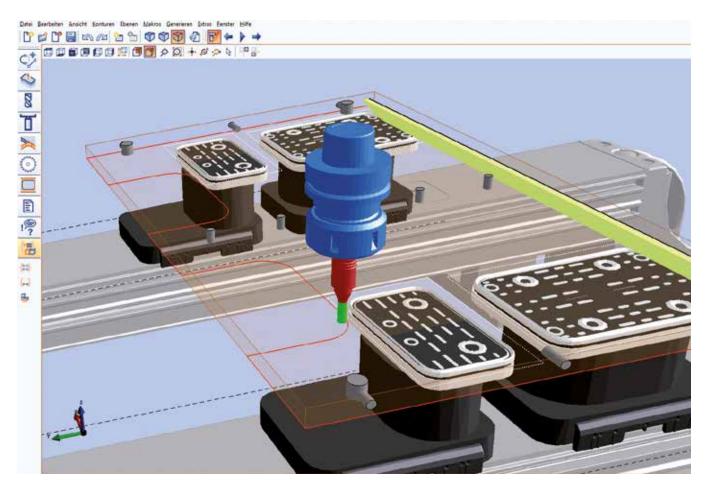
Clamping unit ensures secure and quick clamping of jambs and scantling.



# HOMAG software solutions: The basis for simple and efficient operation

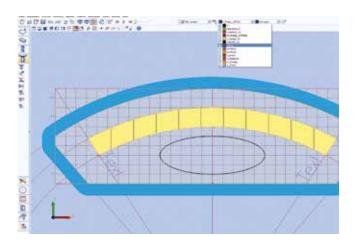
Our processing centers are one thing – the software to operate them conveniently and easily day-to-day is another. HOMAG software and control modules ensure maximum flexibility and operational safety. Naturally with HOMAG:

Interfaces to external programming and construction systems, auxiliary programs for nesting and modules for machine monitoring and performance tracking.



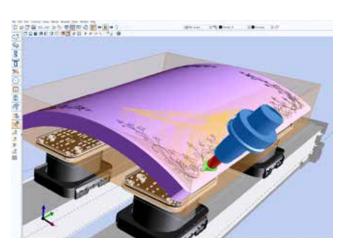
#### woodWOP - efficient thanks to fast programming

- Fast and intuitive operation thanks to simple, direct navigation
- Select from a choice of variables for flexible variable programming
- Quickly create individual subprograms
- Increased programming security through 3D images of workpieces, processing and clamping equipment.
- · Very easy to use through infinitely adjustable windows, multi-screen capability, language-neutral input screens, help images, etc.
- The largest online forum for CNC programming is: www.woodWOP-Forum.de



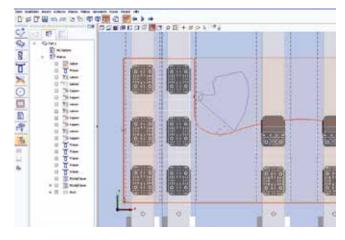
#### woodWOP CAD plugin

- CAD functions integrated directly into woodWOP
- Creation of your own CAD drawings on the machine and the work preparation station
- Import of CAD objects in the formats DXF, IGS, STP, STL



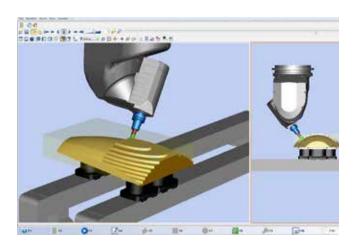
#### woodWOP CAM plugin

- CAD/CAM functions directly integrated into woodWOP
- Rapid construction of 3D surfaces in the CAD plugin or by importing 3D models
- Automatic generation of the milling paths for roughing, finishing and formatting 3D objects
- Safe work, because the milling paths and the overrun movements are displayed graphically and simulated in woodWOP



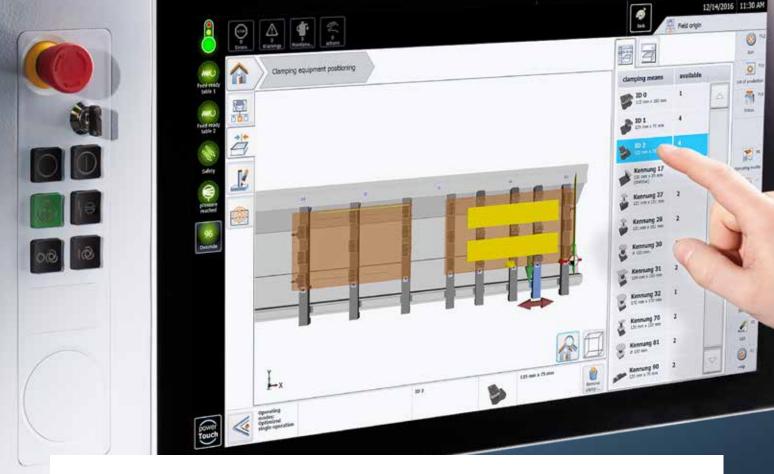
#### woodWOP wizard - automatic for perfect edge

- Automatic generation of the entire processing sequence for the edging
- Creation of all processing steps such as pre-milling, joint trimming, edging, cutting, flush trimming and scraper
- Considers workpiece geometry, edge overhangs and edge type
- Time savings of over 90% compared to conventional programming



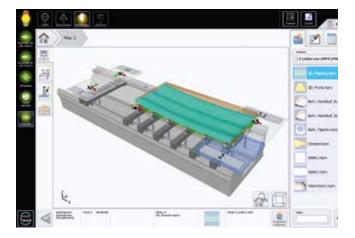
#### ${\bf woodMotion-processing\ simulation\ of\ programs}$

- Graphic simulation of the CNC program on the workstation PC
- Optimal program preparation as running-in periods on the machine are reduced
- Simulation of 5-axis processing including material removal
- Display of the actual processing times and collision monitoring between tool and clamping elements



#### powerTouch PC87 with full touch operation

- 3D view of the machine bed, consoles, suction unit and workpiece
- Simple assignment using drag & drop
- Saving and loading of complete assignment situations
- Automatic location-specific suction unit recommendation with selectable suction unit types
- Manual clamping equipment positioning using touch under consideration of all travel areas



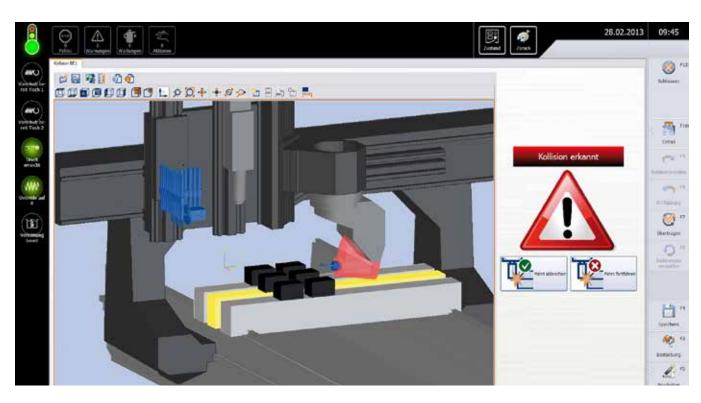
#### Slot assignment

- Can be operated completely by touch
- Simple assignment using drag & drop
- Preview of the woodWOP programs as a miniature view
- Assignment of parts with different thicknesses
- Saving and loading of complete assignment situations
- 3D view can be freely rotated
- 3D representation of machine bed, consoles, stop cylinders, suction unit and clamp, workpiece and processing



### Automatic suction unit recommendation for workpiece or entire table

- Suction unit recommendation with preselection of suction unit
- Processing tracks as an aid for positioning clamping equipment
- Manual clamping equipment positioning using touch under consideration of all travel areas
- Check of suction units already included in the woodWOP program
- Warning when suction units are not in the correct position



#### collisionControl - permanent security for your machine

- Monitors for potential collisions between machine components and clamping equipment during processing
- The machine stops automatically in the event of an imminent crash situation
- The crash situation is displayed as a snapshot with colored collision bodies
- The machine is displayed as an active 3D model in live mode



#### woodScout - help in your language

- Optional powerful diagnostic system
- Graphic display of the malfunction location on the machine
- Clear plain-text error messages in different languages
- Adaptive system through the allocation of causes and measures



#### Graphic tool data base

- Dimensioned graphics for easy setup and management of tools and units
- 3D representation of the tools and units
- Graphic setup of the tool changer using drag & drop



### Machine data acquisition MMR – for a productive environment

- Record quantities and actual operating times on the machine
- Integrated maintenance instructions for optimum time and quantity-based planning, as well as performing maintenance
- Optional professional version allows detailed breakdown and logging of the recorded data



### HOMAG LifeCycleServices

The sale of our machines comes with all-in optimum service backup and individual advice.

We support you with service innovations and products which are especially tailored to your requirements. With short

response times and fast customer solutions we guarantee consistently high availability and economical production – over the entire life cycle of your machine.



#### Remote Service

- Hotline support via remote diagnosis regarding control, mechanics and process technology. Thus the on-site service can be reduced by 85.2 %!
- Mobile applications such as ServiceBoard reduce the costs through fast help in case of troubles by mobile live video diagnosis, online service message and the online spare parts shop eParts



#### **Spare Part Service**

- Identify, request and order spare parts around the clock via www.eParts.de
- Local availability of parts offered by our sales and service companies as well as sales and service partners all over the world
- Reduction of downtimes through defined spare parts and wear parts kits



#### Modernization

- Keep your machinery up-to-date and increase your productivity as well as your product quality. This is how you can meet tomorrow's requirements today!
- We support you with upgrades, modernization as well as individual consultancy and developments

1,200

Service employees around the world.

650

processed spare parts orders / day.

85,2%

less on-site-services through successful remote diagnosis.

>150.000

machines, all electronically documented in 28 different languages – in eParts



#### **HOMAG Finance**

#### - precisely the right financing

- We offer you tailored financing proposals for your machinery or plants. Our financial advice goes hand in hand with our expertise relating to technical questions. Your personal contact person will take care of the whole process.
- The benefit for you: The ability to invest without delay in new technologies and remain financially flexible.



#### **Trainings**

- The trainings perfectly suit to your requirements. Through this your machine operators can operate and maintain the HOMAG machines optimally.
- The trainings also include customerspecific training documents with practice-proven exercises



#### Software

- Telephone support and consultancy through software support
- Digitalization of your sample parts via 3D scanning saves time and money compared to new programming
- Subsequent networking of your machinery with intelligent software solutions ranging from construction to production



#### Field Service

- Increased machine availability and product quality by certified service staff
- Regular checks through maintanance / inspection guarantee the highest quality of your products
- We offer you the highest availability of technicians in order to reduce downtimes in case of unpredictable troubles

# Overview | Configurations

The choice is yours. There is a package available for all common requirements. Nothing is left to be desired.

#### Basic:

Universal basic configuration for furniture parts, components and edge gluing.

#### Future

Increased performance in panel processing thanks to more drilling spindles.

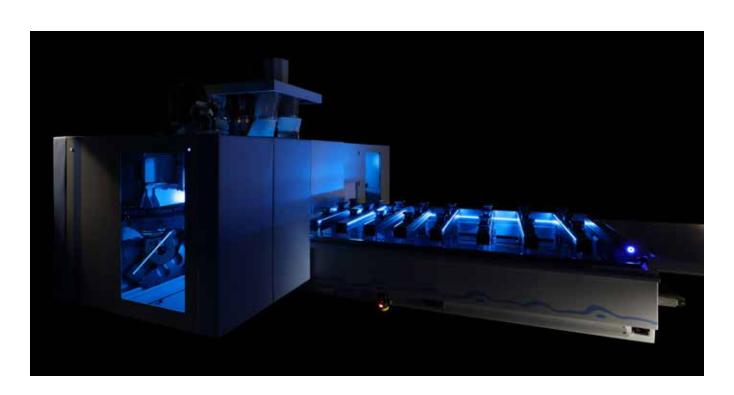
#### Performance:

Fast drilling and universal application with high tool variation.

#### Solid:

Powerful routing spindle and large changer. Ideal for window, stairs and door manufacturing.

			Spindle		C axis	
				- H		Piggybacking in X
4-axis	Basic	Air-cooled 10 kW/13.2 kW	Liquid- cooled 12 kW/15 kW		✓	✓
	Future				✓	✓
	Performance				✓	
5-axis	Basic	DRIVE5C	DRIVE5C	DRIVE5C+		✓
	Future	10 kW	12 kW	15 kW		✓
	Performance					
	Solid					



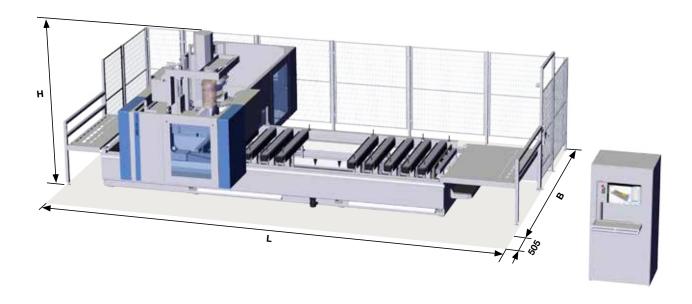
	Tool change			Drilling gear						
Disk changer Linear changer					Drilling	Grooving				
	32	0.10								
Piggyba	acking in X	Piggybacking in Y		vertical	horizontal in X	horizontal in Y	Attachments	S0/90°		
		0	✓	12	4	2	0	✓		
		0	✓	21	6	4	0	✓		
	✓	0	✓	21	6	4	0	✓		
		0	✓	12	4	2	0	✓		
		0	✓	21	6	4	0	✓		
	✓	0	✓	21	6	4	0	✓		
	✓	0	✓	12	4	2	0	✓		

#### TECHNICAL DATA BMG 310 | BMG 310/V

			33		42		60		
Markmines length	v	mm/inch	Individual	Alternating	Individual	Alternating	Individual	Alternating	
Workpiece length	<b>X</b>	mm/incn	processing	processing	processing	processing	processing	processing	
A = 90° with tool length 140 mm/with all aggregates		3300 / 129.9	1000 / 39.4	4200 / 165.4	1450 / 57.1	6000 / 236.2	2350 / 92.5		
Workpiece width	Υ	mm/inch	Rear stop						
A = 0° with tool diameter 25 mm			1600 / 63.0						
A = 90° with tool length 230 mm / with all ag	greg	ates	1350 / 53.1						
Edge gluing and post-processing			1600 / 63.0						
Workpiece width Y mm/inch			Stop forwards						
A = 90°/with all aggregates			1350 / 53.1						
Edge gluing and post-processing			1350 / 53.1						
Workpiece thickness	Vacuum cup height 100 mm								
	200 / 7.9								
Electrical connected load** kW			30						
Total machine weight** approx. kg		5750 /	226.4	6100 /	′ 240.2	6800 /	267.7		

<sup>\*</sup> Dimension with central division.

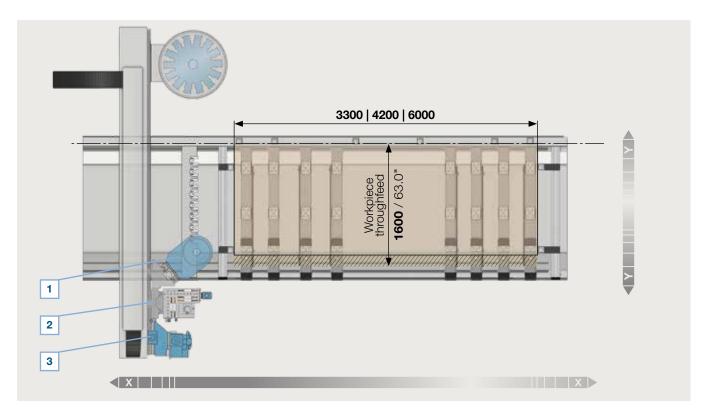
Technical data and photographs are not binding in every detail. We reserve the right to make changes during further development.

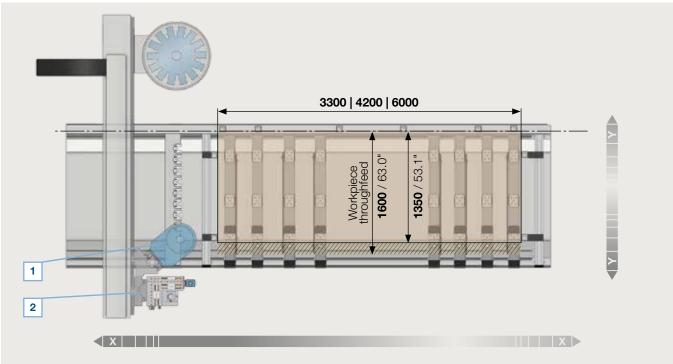


Installation dimensions				BMG310		BMG310/V		
	Tool changer		33	42	60	33	42	60
L		mm/inch	7400 / 291.3	8300 / 326.8	10100 / 397.6	7400 / 291.3	8300 / 326.8	10100 / 397.6
B***	32-fold	mm/inch		4865 / 191.6			5365 / 211.2	
Н		mm/inch		2910 / 114.6			2910 / 114.6	

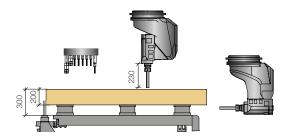
 $<sup>^{***} \ \</sup> Depends \ on \ the \ tool \ changer \ configuration, \ specification \ to \ the \ front \ edge \ of \ the \ enclosure \ plus \ safety \ distance \ of 505 \ mm \ to \ the \ front.$ 

<sup>\*\*</sup> Depends on machine configuration.





- 1 Routing spindle
- 2 Drillig unit
- 3 Edge banding unit



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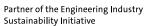














For the Success of Original Technology. A campaign of the VDMA