

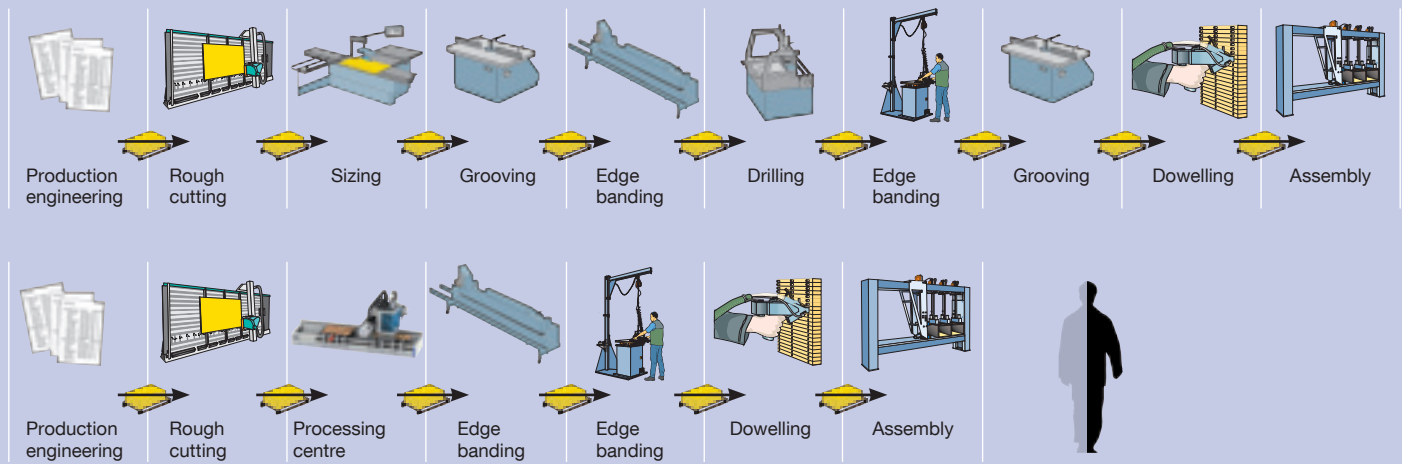
Processing centre

Venture 16/18



Process without BAZ

Time / Labour costs / Transport / Space



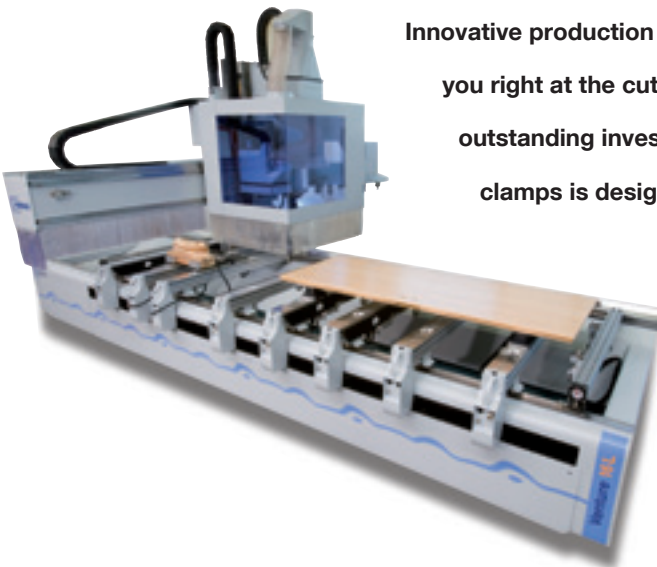
Process with BAZ

Time / Labour costs / Transport / Space

Where efficiency matters

HOMAG processing centre users profit from a whole range of benefits. Its multifunctionality makes for extremely flexible application. Which means more efficient production. The high standard of processing quality permits faster production of standard components and complex parts. Which improves your delivery capability. The Venture allows you to offer bespoke processing operations as standard. This performance advantage over “conventional processing” means you generate more profit. And your advantage over your competitors also extends to product design and quality.

Innovative production functionality with features such as the five-axis unit places you right at the cutting edge. And last but not least: You gain the assurance of outstanding investment security, as your processing centre with its units and clamps is designed for adaptation to future production needs.





Production instead of transportation

By collating several work steps, you save up to:

- 50 % labour costs
- 30 % transport and sorting expense
- 30 % set-up times
- 20 % surface area

You additionally reduce transport damage and expense for production engineering



High degree of utilization, low costs

The collation of work steps, good capacity utilization and low energy consumption add up to a low machine hour rate on the processing centre.



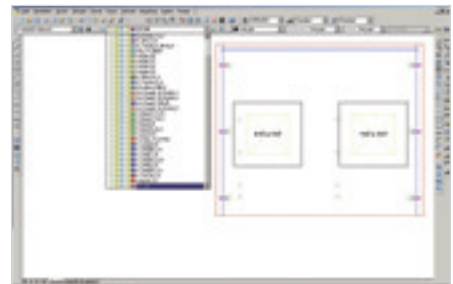
Consistently high precision

A processing centre always guarantees optimum processing quality to a consistently high standard of quality. The rapid, precise post-processing of reject parts ensures adherence to promised delivery dates.



Data transfer from CAD systems and trade-specific software packages

For the generation of CNC programs, all data from your CAD system or trade-specific software can be utilized - quickly, simply and without cost duplication.



Product design "unlimited"

Thanks to variable feed rates and rotation speeds coupled with minimal production tolerance, different materials and individual designs are produced to an outstanding standard of quality.



Processing centre as a standard necessity

Economical in-house production is inconceivable nowadays without the use of a processing centre. Motivated employees safeguard the future of their company through innovative technology.



User convenience

Learning how to operate and program a processing centre is not as complicated as you might think, and will ideally prepare you to meet future challenges.

High-end features – all inclusive

More than 1,000 processing centres leave our production halls each year. This experience is reflected in the wealth of ingenious details in our machines and plants. Because we use many identical components from the **profiLine** category, you benefit from outstanding machine availability for your industrial production. The widespread use of “identical parts” within the HOMAG Group reduces the costs of spare parts and speeds up their delivery. We also offer our customers a complete equipment package which far exceeds the standard scope of supply in the sector.

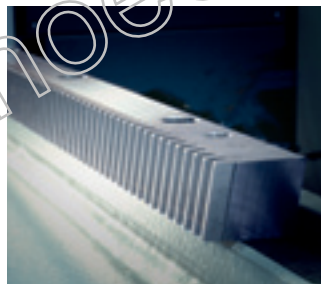
Enclosed trailing cable

Enclosed energy chains prevent damage to cables and hoses. This reduces the incidence of faults and possible repair costs.



Rack and pinion drive

The highly dynamic low-vibration rack and pinion drive systems ensure fast processing cycles and result in higher workpiece quality.



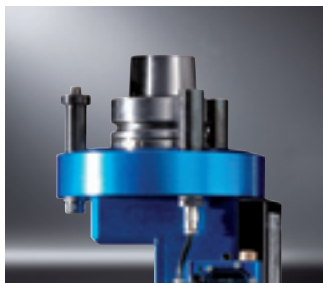
Linear guide and insertion aid

Simple handling by consoles with high-precision linear guides and durable insertion aids with two pneumatic cylinders. Vacuum and compressed air connections are integrated in the consoles for pneumatic clamps and clamping templates.



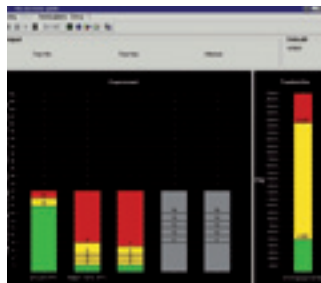
Bolts with end position scanning and for laminate overhang

Stop bolts with end position monitoring to protect tools, units and machine operating staff. Exchangeable stops specifically for workpieces with laminate overhang.



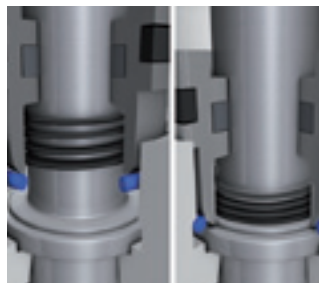
3-point support

The retainer for the three bolts of the highly rigid 3-point support also permits transmission of compressed air and fluids into the units. This is a requirement for the use of e.g. pneumatically traced units.



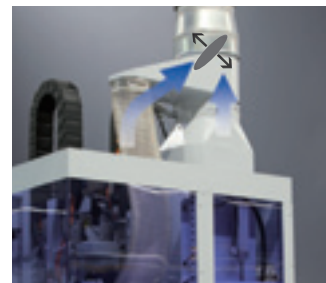
Fluid cooling and spindle sensor

Fluid-cooled trimming spindles with hybrid bearings offer a long service life. An additional vibration sensor detects tool imbalance and protects the spindle from overload, for instance due to excessively high feed rates.



Drilling head with spindle locking mechanism

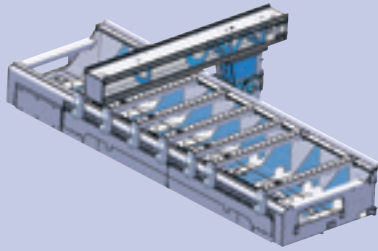
Automatic spindle locking mechanism: Patented system for precise drilling depth every time even with different materials. With speeds ranging from 1,500 - 7,500 rpm for high feed rates / short drilling cycles (appr. 1.5 sec.).



Standby and flap control

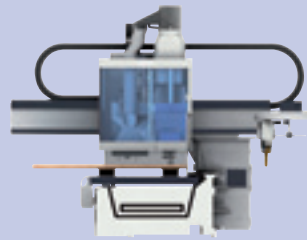
Effective extraction with low connected load due to automatic closure of unused suction nozzles. Reduced power consumption due to automatic standby mode of all consumers and vacuum pumps.





High weight, optimum quality

The highly rigid machine construction has a substantial weight of between 9,000 and 11,000 kgs, guaranteeing a high standard of processing quality due to minimal vibrations. This also prolongs the service life of components.



Panel overhang

The machine bed support over the entire processing depth guarantees optimum waste piece disposal.

Covered linear guides and automatic central lubrication processes

Covered linear guides with closed guide carriage and integrated central lubrication guarantee low-maintenance, reliable operation.

Suction cups fitted with double seal

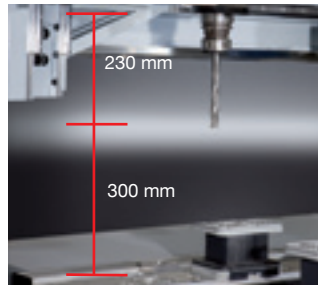
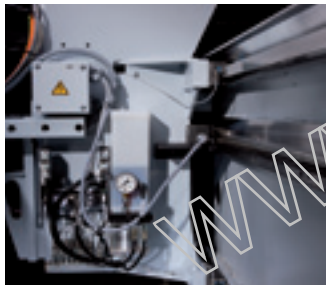
Three hoseless suction cups per console with patented double lip seal for free positioning of any optional number of suction cups.

100 mm suction cup height

The suction cup height permits wide scope for processing the underneath of the workpiece. Processing height 300 mm from upper edge of console and a workpiece length of 230 mm.

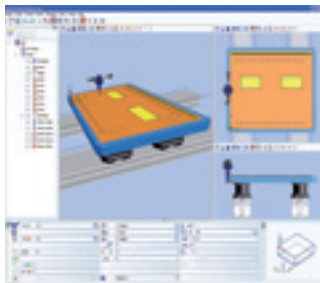
Two Z axes

Two separate Z axes for drilling head and working spindle permit rapid alternating drilling head and working spindle application. The flow-optimized routing of the extraction channels reduces the required suction output – so saving costs.



Operator terminal

The control unit comprises a 17" TFT screen, CD-RW drive, modem, front USB port, 10/100 Mbit Ethernet connection and an ergonomic control terminal. Integrated rollers allow the switch cabinet position to be freely selected. An integrated fan ensures an optimum operating temperature.



woodWOP 6.0

This programming system is the most frequently used in the world. With its 3D design tool woodDesign, it ensures a "short-track" route from the drawing to the finished machine program. With the acquisition of data on produced workpieces and display of maintenance intervals, MDA basic permits optimum utilization of the processing centre.



DXF transfer

woodWOP production engineering station – programming from the comfort of the office

- Programming while ready generated programs are running on the machine
- Data transmission via standard USB port at the machine or over a network connection directly from the office
- woodWOP DXF import – the CAD interface
 - For transfer of workpiece geometries and defined processing operations
 - Data transfer from CAD systems in international DXF format



Protection against data loss

Uninterruptible power supply (UPS) to prevent data loss in case of power failure and mains voltage fluctuations. Free remote servicing during the first two years provides optimum support in the event of possible malfunctions.

No-compromise five axis technology

HOMAG processing centres allow you to benefit from the very latest in modern woodworking technology: Sawing, trimming, drilling at any optional angle (for shift cuts) or contour processing operations in “free” space (for curved furniture fronts and curved handrail elements). You gain in flexibility without the need to buy or maintain additional units. The functionality can be extended using the patented pneumatic interface.



Sawing unit



Sawing /
trimming / drilling
unit, with swivel
action



Lock case
trimming unit



Horizontal
planing unit



Horizontal
trimming unit



Drilling /
trimming unit,
with swivel
action



FLEX5 five
axis unit



FLEX5+ five axis
unit




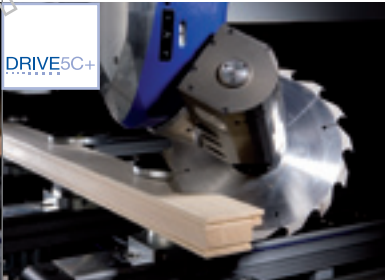




The units shown above are replaced by the five-axis trimming spindle DRIVE5C+ and DRIVE5+.



Equipment package custom tailored to your needs

A Venture processing centre can be precisely tailored to your performance requirements and your individual needs. You can choose between three different equipment lines:

- **Basic**, the affordable entry into the world of “real” five axis processing
- **Future** with higher drilling performance for panel processing with additional functional features
- **Performance** with high spindle output for higher feed rates and machining performance for solid wood processing

Equipment variants	Trimming spindle		
	Compact DRIVE5C+ five-axis spindle with 10 kW output and controlled spindle speeds from 1,000 to 24,000 rpm for high torque even at low rotational speeds.	With its separate cooling unit, the DRIVE5C+ spindle offers an increased output of 12 kW.	Alongside a pneumatic interface, the fork head-type DRIVE5+ five axis spindle has an output of 15 kW and offers high performance reserves, for example for solid wood processing.
			
Basic			
Future			
Performance			

Panel



Carcase component



Central wall



Top / base



Door



Tool and unit interface		Cross roller bearing of the A axis (5th axis)	Dust hood
<p>The compressed air transmission permits, for example, a sanding unit with integrated cleaning air jet to be used to improve tool service life (permanent air jet cleaning of the abrasive).</p>		<p>Pretensioned, backlash-free cross roller bearings for A axis adjustment guarantee a high standard of trimming quality and an optimum contour match during interpolating processing even with high hogging performance.</p>	<p>The compact design of the DRIVE5C+ und DRIVE5+ trimming spindles allows the dust hood to be used effectively even in conjunction with a 350 mm dia. saw blade or tools up to 230 mm in length.</p>
			
			
			
			

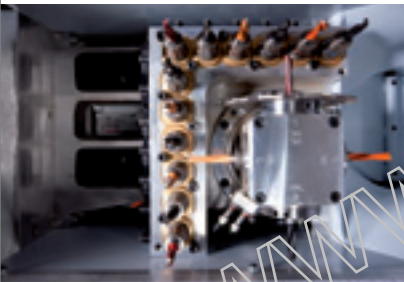







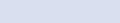


No.	Part	Time
1	Panel	
	Contour trimming	
2	Carcase sides	
	Construction hole vert. (4 cycles)	
	Series holes (6 cycles)	
	Rückwandnut (Nutsäge)	
1	Central wall	
	Construction holes horiz. (12 cycles)	
	Series holes (6 cycles)	
2	Top / base	
	Construction holes horiz. (12 cycles)	
	Construction holes vert. (2 cycles)	
	Rear wall groove (grooving saw)	
	Fastening holes - legs/spacer (4 cycles)	
4	Doors	
	Cup hinge holes	
	Handle hole drilling	
Total:		appr. 5 min.

Time calculation Venture 16 Basic

The specified values refer to pure processing times and do not include any set-up times.



Drilling head		Quick-change system	Set-up
HIGH-SPEED drilling head 7,500 with 12 vertical spindles, grooving saw and four horizontal spindles with 0/90° swivel action. Ideal for fast drilling operations and grooving without tool change across the entire processing depth of over 1,550/1,850 mm.		Patented quick-change system for drill bit changeover without tools to reduce set-up times.	woodWOP automatically determines the optimum positioning for the suction cups taking account of the workpiece dimensions and processing operations. These are displayed using the laser beam (cross hairs). The workpiece contour can be "travelled" as a positioning aid for freeform parts.
			
			
			

Performance increase using the equipment variants

Basic

appr. 5 minutes processing time

Future

10 % more output due to:

- Higher feed rates with high spindle output
- Faster set-up with LED

Greater flexibility through:

- The use of traced units (pneumatic interface)
- Larger tool store (less set-up work)

Performance



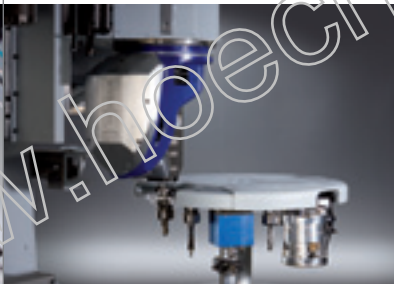
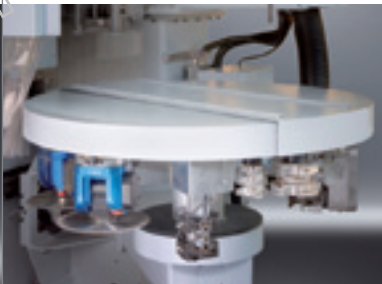






20 % more output due to:

- Higher feed rates with high spindle output
- Faster set-up with LED
- Faster tool change with changer located at spindle height.

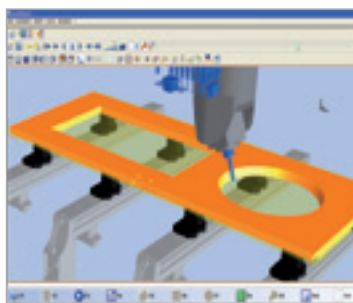
Greater flexibility through:

- The use of traced units (pneumatic interface)
- Larger tool store (less set-up work)



aids	Tool changer		
<p>LED displays for simple, high-speed positioning of the vacuum clamps and consoles. Up to 70 % time savings for set-up and monitoring correct positioning "at a glance".</p>	<p>14-slot plate changer for tools and units with a diameter of up to 200 mm. The changer is even capable of working with saw blade diameters of 350 mm.</p>	<p>18-slot plate changer increases the number of tools and units which can be directly accessed and so reduces set-up times. Here too, saw blades with up to 350 mm diameter can be processed by the changer.</p>	<p>An 18-slot changer located at spindle height reduces changing times. The maximum tool diameter, also for saw blades, is 200 mm. An optional pick-up station for saw blades up to 350 mm diameter is available.</p>
 			
			
			

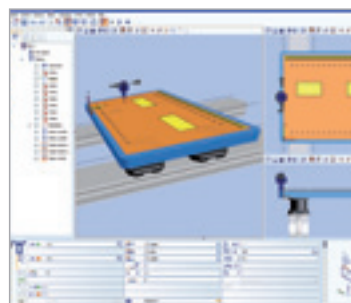
Premium software package Venture (optional):



woodMotion

Graphic simulation of the CNC program at the office PC:

- 3D view, free positioning, rotation and zooming
- Stock removal and waste piece detection
- Collision monitoring between the tool and clamping elements
- Inclusive of 4 licences for your PCs in Production Engineering



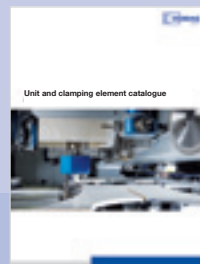
Additional woodWOP licences

- 3 additional licences for your PCs in Production Engineering
- Inclusive of CAD data transfer in DXF format

Unlimited opportunities for future assignments

A HOMAG processing centre is a decision for the future. You will go on profiting in the long term. Because your Venture grows flexibly step by step with your requirements. With its complementary processing units, clamps and software, you will always have the ideal production technology to address your changing needs. The sound backing of competence behind the HOMAG Group and our worldwide servicing network are your assurance of an investment which pays dividends.

For additional software packages, please request our brochure "Software for processing centres"



For other applications, please request for our processing unit and clamping fixture catalogue.

Tracing ring

Permits high-precision trimming of ornamental grooves. Pneumatic tracing allows workpiece tolerances to be automatically compensated during processing. (Equipment packages Future and Performance).



Pick-up station

An additional pick-up station for saw blades. With a diameter of 350 mm, this station offers plenty of storage space and saves slots in the tool changer.



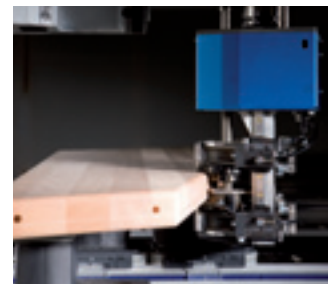
Clamping device

Uprights and staves can be securely and simply clamped in no time using this clamping device.



Traced flush trimming unit

During traced flush trimming, the unit compensates for any workpiece tolerances, permitting special production assignments such as simultaneous precise rounding of staircase treads (equipment packages Future and Performance).



Trimming tool holder with jet for compressed air and fluids

For trimming operations with plastics, this allows compressed air to be fed to the tools for cooling and also helps improve the disposal of chips during trimming of deep grooves (nesting). When processing aluminium, it allows optimum processing to suit the material with a minimum quantity lubrication. The maximum tool diameter is 120 mm with tool projection of max. 80 mm.



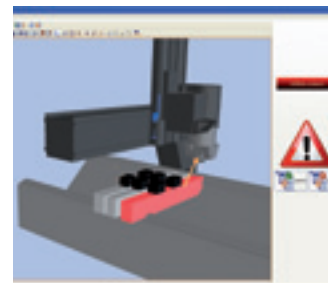
Underside trimming unit

For trimming and drilling of workpieces from the underside, for instance recesses for kitchen work top connectors or hardware holes in the edge area without the need to flip the workpieces. The maximum distance to the workpiece edge is 110 mm and the tool projection is max. 30 mm.



4-spindle drilling / trimming unit

The 4-sided spindle outlet makes available four different drilling and trimming tools without the need for tool change. Ideal for interior fittings and furniture construction with different connecting and hardware holes. The highly rigid monoblock design and crown wheel gearing (Cylkro gear) permit light-duty trimming operations to be performed. The maximum useful length of tools is 50 mm / 55 mm.



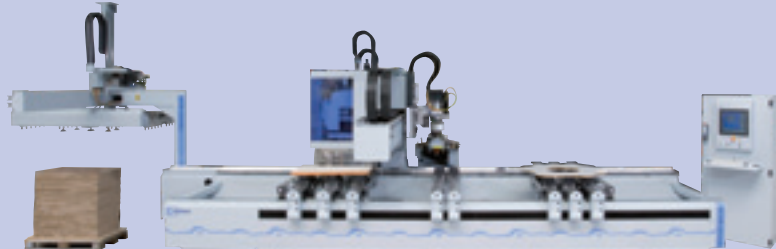
collisionControl – permanent protection for your machine

- Monitors possible collisions between machine components and clamps at the machine during processing
- Automatic machine stop in the event of an impending crash situation
- The crash situation is depicted in snapshot form with colour highlighted collision elements
- Depiction of the machine as a moving 3D model in live operation

Individuality and improved performance

For individually configured cantilever processing centres, series B200/300 is available with a range of highlights such as:

- Automatic workpiece handling system TBA 330
- Automatic positioning AP table
- Aluminium grid table
- Patented double spindle technology



Tool transfer station

A tool transfer station enhances operating convenience and ensures greater safety: by preventing errors when loading the tool changer slots.

Chip transport

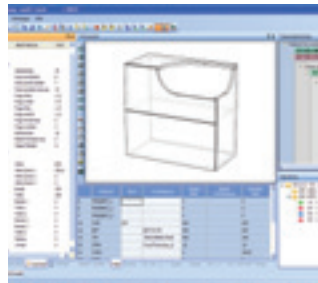
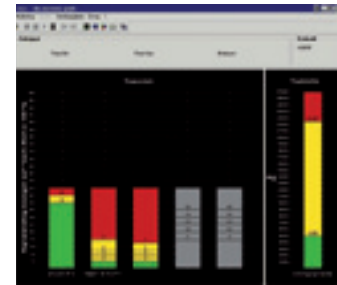
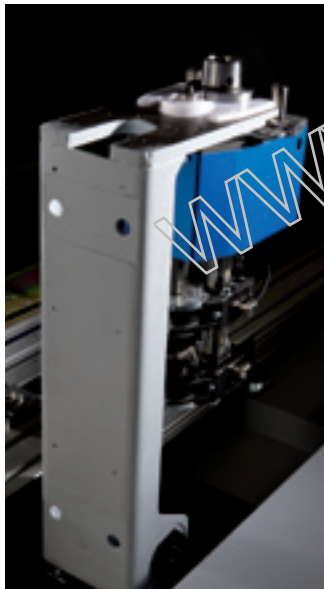
Highly rigid machine bed with integrated waste piece collection over the entire processing depth of 1,600 mm. No waste pieces drop in front of the machine (optionally with chip conveyor).

Barcode

Automatic accessing of processing programs to suit the presented workpiece by means of bar code reader.

Visualization of working spindle vibration data

- Detection of critical oscillation and vibrations during processing.
- To reduce chatter marks (improved processing quality).
- Permits monitoring of tool / balancing quality
- Extended trimming spindle service life.



Machine data acquisition MDA – for a productive environment

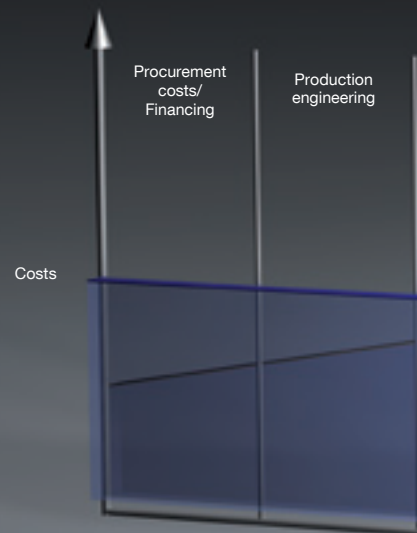
- Registration of piece numbers and ACTUAL operating times at the machine
- Integrated maintenance indication for optimum planning and execution of necessary maintenance work
- Optional professional version permits detailed breakdown and logging of registered data

Interface to trade-specific software

- For trouble free linkup of trade-specific software packages
- For transfer of already existing data from production engineering
- Countless links to all reputable room planning systems, window design software, staircase software, CAD/CAM systems and ERP/MRP systems

Tool service life determination – for a complete overview

- Module for monitoring and documentation of tool service life
- Machine availability and workpiece quality are enhanced by the timely exchange of tools
- Cost reduction through optimum planning of tool deployment and comparative analysis of tool life



LifeCycle Cost reduces unit costs



Unit cost reduction through optimum financing

- HOMAG Finance offers optimized financing concepts based on individual business administration requirements
- The outstanding value stability of HOMAG processing centres offers benefits in terms of leasing and subsequent replacement investment

Effective production engineering

- Links to trade-specific software packages and CAD/CAM systems reduce program generation times and make use of already existing data
- woodMotion determines processing times for optimum capacity planning and maximum machine time utilization
- Collision monitoring prevents faults by advance testing of programs under "real conditions"

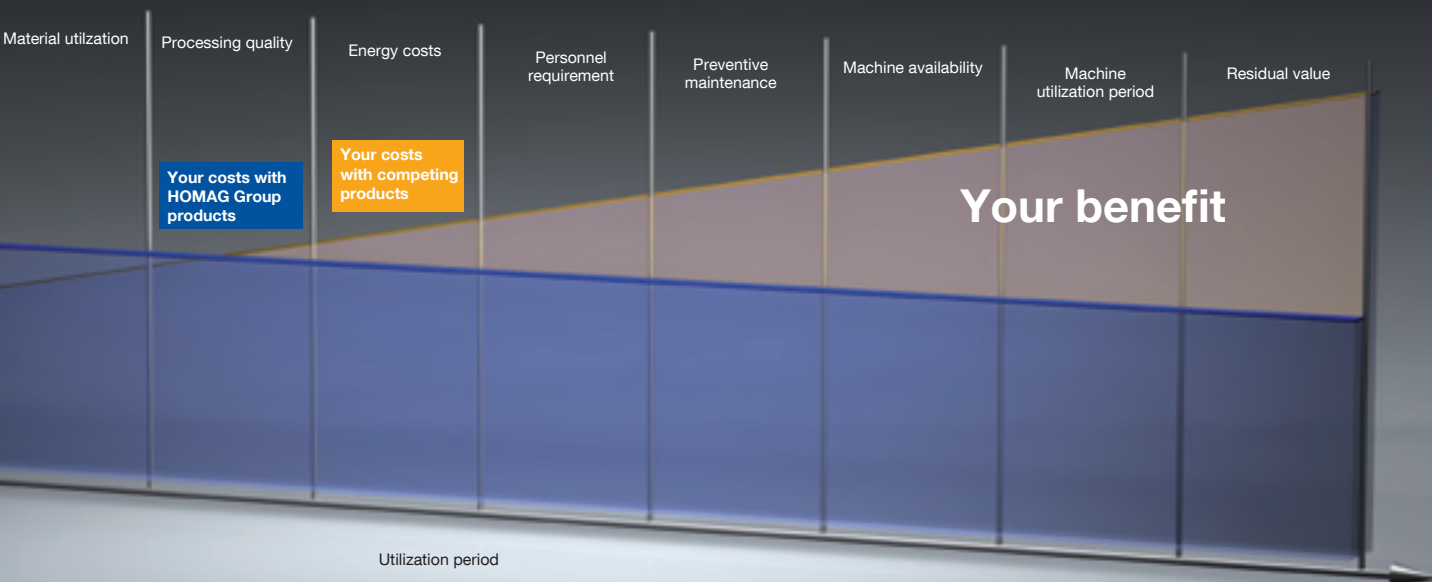
High level of processing quality "without" finish processing

- A highly rigid machine design reduces vibrations and increases tool service life
- Vibration sensors in the working spindles automatically reduce feed rates under high levels of stress (such as knots in solid wood) or in case of unbalanced tools
- The tool life determination software optimizes tooling costs and ensures optimum workpiece quality (option)

Low energy costs

- Intelligent stand-by operation reduces energy costs during break times or in case of partial capacity utilization by up to 10 %, saving up to 8,000 kwh of power per year*
- A flap control system switches the volumetric flow of the extraction system to the processing units actually in use. This cuts up to 20 % of the costs for extraction, corresponding to a saving of up to 12,000 kWh per annum*
- Cooling of the working spindle by means of water ring vacuum pumps saves an additional 2,000 kwh per year*





Reduction of labour costs

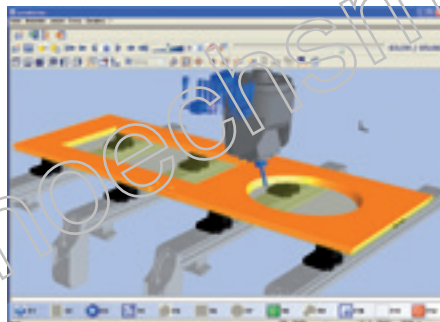
- Automatic part handling with robot systems or linear feeders
- Fast, simple operating capability of machines

Preventive maintenance

- Regular inspections and preventive maintenance help avoid machine faults and extend service life
- MDA software informs the machine operator about scheduled maintenance requirements and provides cost transparency for calculation

High degree of machine availability

- World-wide service reduces machine downtimes
- TeleServiceNet – our “eye” into the machine eliminates the need for costly service callouts
- woodScout diagnostic software – intelligent self-help for all machine operators



Machine utilization period

- Facility for continuous upgrading of processing centre functionality using standardized interfaces ensures compliance with future production requirements
- The HOMAG conversion department offers solutions to address major conversion requirements, ensuring a high degree of investment security over years

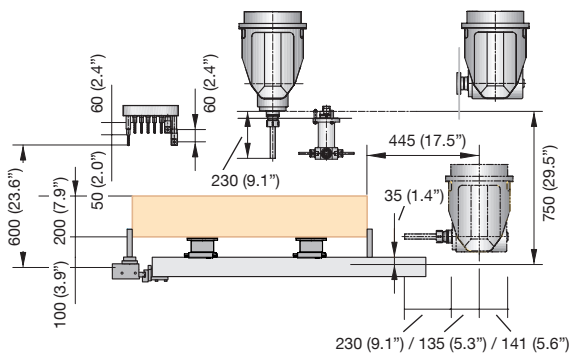
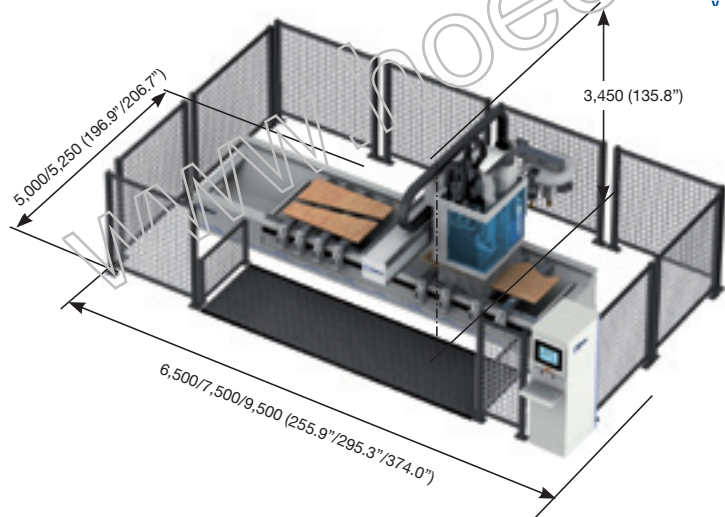
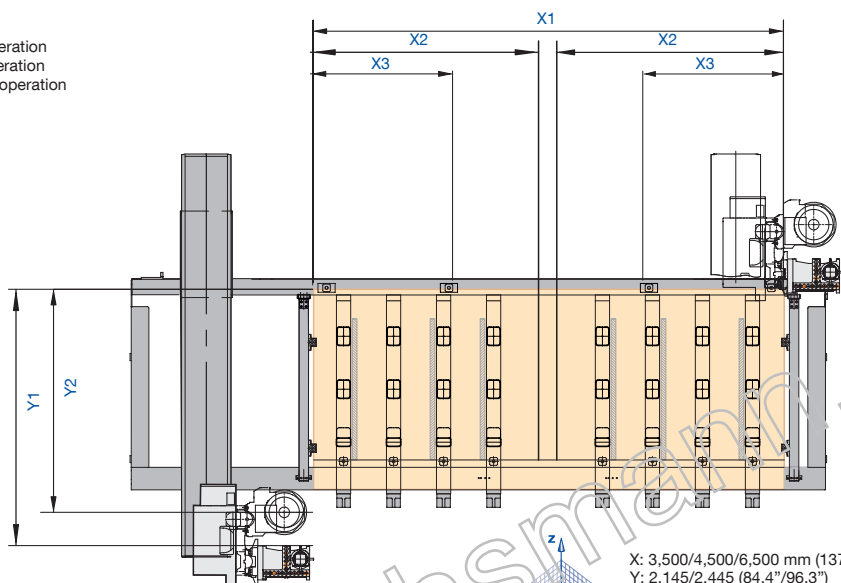
* Based on single-shift operation

Specifications

	X1	X2	X3	Y1	Y2
Venture 16M	3,225 mm (127.0")	1,475 mm (58.1")	1,075 mm (42.3")	1,870 mm (73.6")	1,550 mm (61.0")
Venture 16L	4,175 mm (164.4")	1,950 mm (76.8")	1,550 mm (61.0")		
Venture 16XXL	6,175 mm (243.1")	2,950 mm (116.1")	2,550 mm (100.4")		
Venture 18M	3,225 mm (127.0")	1,475 mm (58.1")	1,075 mm (42.3")	2,170 mm (85.4")	1,850 mm (72.9")
Venture 18L	4,175 mm (164.4")	1,950 mm (76.8")	1,550 mm (61.0")		
Venture 18XXL	6,175 mm (243.1")	2,950 mm (116.1")	2,550 mm (100.4")		

Technical data and photos are not binding in every detail. We reserve the express right to make changes in the interests of further development.

X1 = Single operation
X2 = 2-fold operation
X3 = Alternate operation



A member of the HOMAG Group



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