

Processing centre

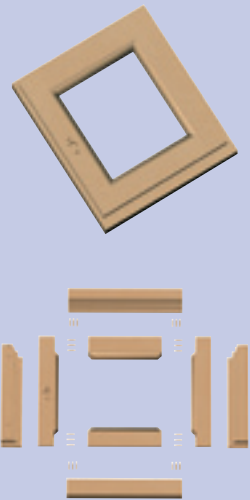
Venture 12



- Integration**
1. Cutting to size
 2. Planing
 3. Complete processing
 4. Frame assembly
 5. Surface
 6. Hardware mounting



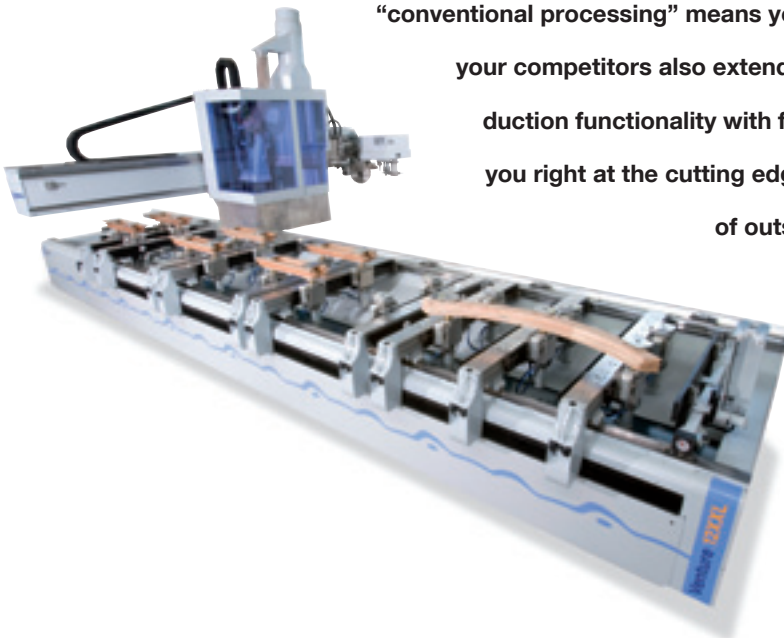
- Tradition**
1. Cutting to size
 2. Planing
 3. Profiling longitudinal/transverse
 4. Dowel drilling
 5. Frame assembly
 6. Rebating
 7. Olive drilling
 8. Surface
 9. Hardware positioning
 10. Hardware mounting
 11. Glazing



exemplary production process

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 FLEX5+ 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.



Single-sash window 130/130 cm (8 parts)	Current time requirement	Tomorrow with Venture	Additional streamlining potential
Cutting to size	appr. Min.	appr. Min.	One operator can take charge of cutting to size, planing and operating the Venture on a parallel basis (depending on the degree of automation)
Transport/Handling	appr. Min.	appr. Min.	
Planing	appr. Min.	appr. Min.	By omitting several work steps, you also save on space for machinery which is no longer required
Transport/Handling	appr. Min.	appr. Min.	
Profiling longitudinal/transverse	appr. Min.	appr. 15 -20 min. for the complete range of cutting processes	
Transport/Handling	appr. Min.		
Dowel hole drilling	appr. Min.	appr. Min.	
Transport/Handling	appr. Min.		
Handle hole and corner bearing hole drilling	appr. Min.	appr. Min.	
Transport/Handling	appr. Min.		
Frame assembly	appr. Min.	appr. Min.	
Transport/Handling	appr. Min.		
Rebating	appr. Min.	appr. Min.	
Transport/Handling	appr. Min.		
Non-standard trimming operations on window frame	appr. Min.	are already performed on the Venture	
Transport/Handling	appr. Min.	are already performed on the Venture	
Surface	appr. Min.	appr. Min.	Efficient single part coating is possible due to single part complete processing
Transport/Handling	appr. Min.	appr. Min.	
Hardware mounting	appr. Min.	appr. Min.	Appr. 20 % faster, as all positioning holes and trimming operations already take place on the Venture
Transport/Handling	appr. Min.	appr. Min.	
Glazing	appr. Min.	appr. Min.	
Total production time	appr. Min.	appr. Min.	

* Dependent on machine and tool equipment

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.



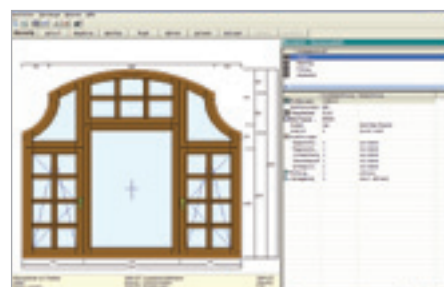
Consistently high precision

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.

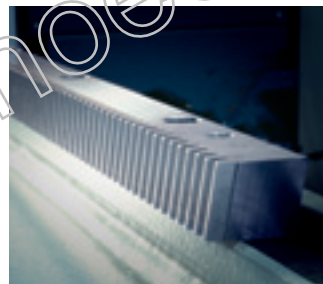
Enclosed trailing cable

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



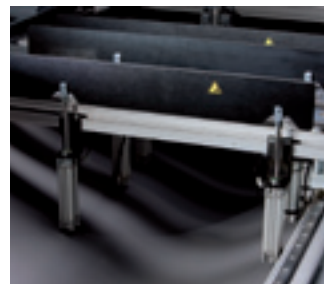
Rack and pinion drive

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



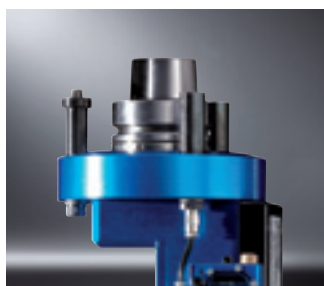
Linear guide and insertion aid

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.



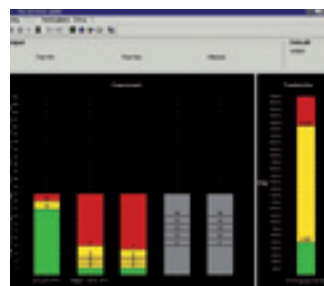
Bolts with end position scanning and for laminate overhang

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



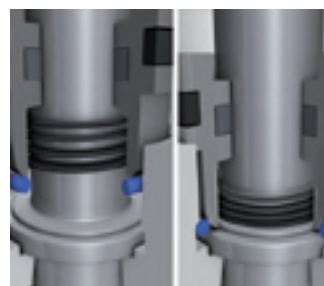
3-point support

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 an essential requirement to the use of for instance 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

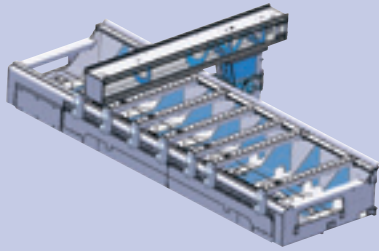
Automatic spindle locking mechanism: Patented system for precise drilling depth every time even with different materials. With speeds ranging from 1,500 - 7,500 rpm for high feed rates / short drilling cycles (appr. 1.5 sec.).



Standby and flap control

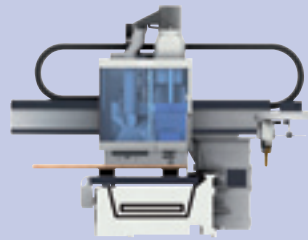
Effective extraction with low connected load due to automatic closure of unused suction nozzles. Reduced power consumption due to automatic standby mode of all consumers and vacuum pumps.





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

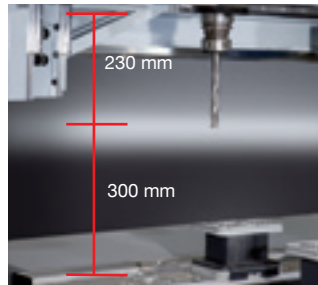
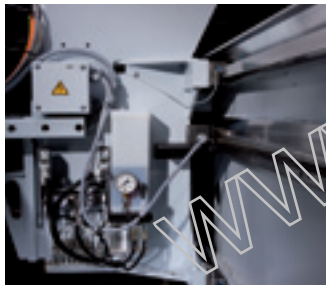
Three hoseless suction cups per console with patented double lip seal for free positioning of any optional number of suction cups.

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.

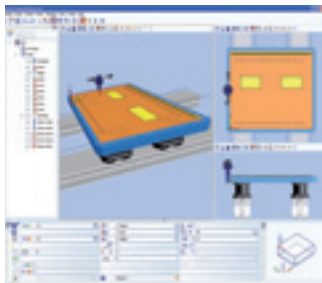
Two Z axes

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



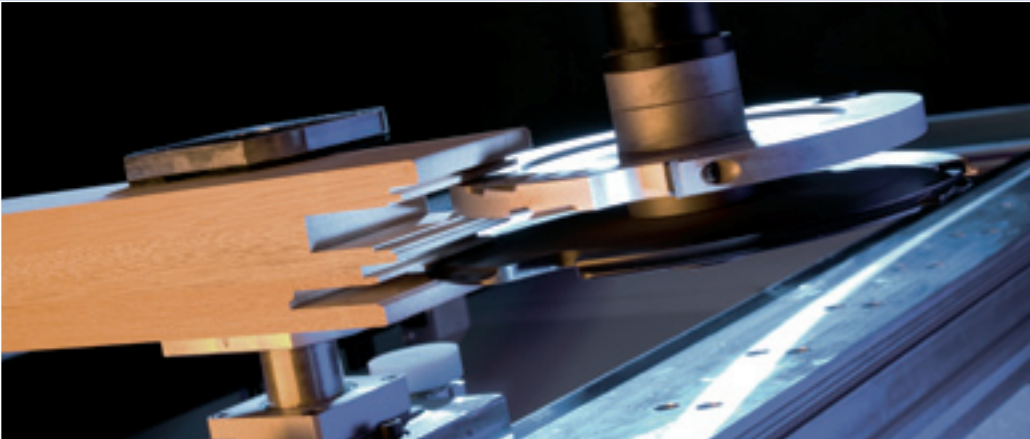
Protection against data loss

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.

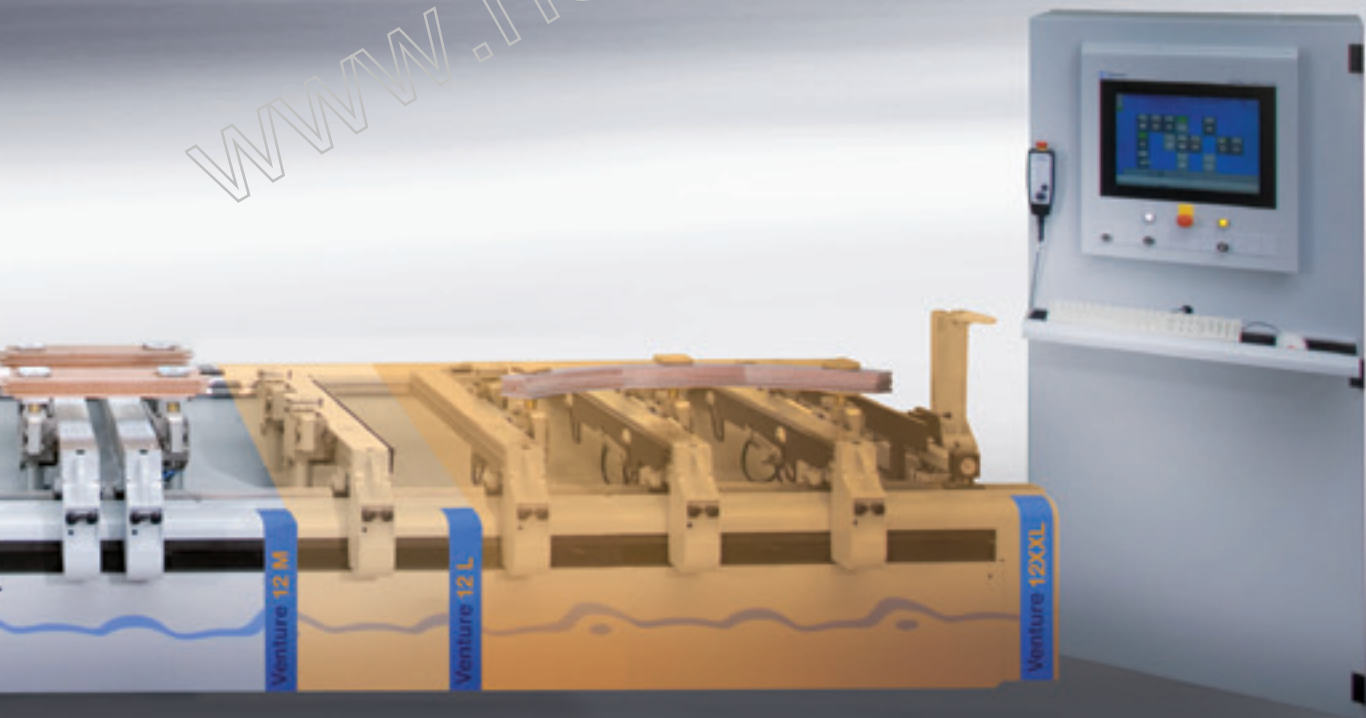
Structural element production from every angle

Increasingly stringent energy saving, noise insulation and safety requirements have culminated in a wide variety of different window systems. HOMAG offers highly flexible processing centres capable of complying with future construction methods: Profile depths of up to 120 mm (optionally 150 mm) for greater insulating glass thicknesses and improved insulating values. Processing of mixed materials such as insulating cores made of PU or curtain walling made of Purenit or aluminium. Conservatory and facade constructions made of materials such as Multiplex. Integration of functional assemblies such as fans or alarm system contacts.





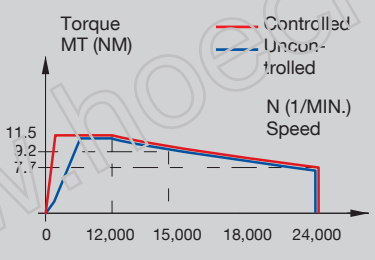
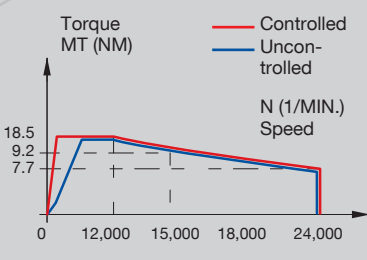







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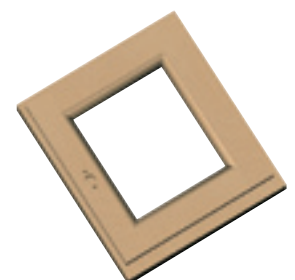









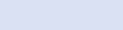



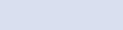


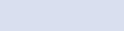

Equipment packages to meet all your needs

Choose from three equipment packages for your Venture 12:

- **Basic** – your entry into the world of structural element and solid wood processing with a high-powered trimming spindle and 28 tool slots
- **Future** – more convenient and faster through automatic console positioning, with a high-speed chain changer and 30 tool slots
- **Performance** – greater spindle output for higher feed rates, with a ceiling laser for more efficient arch production

Equipment variants	Trimming spindle		Pneumatic interface
	<p>Working spindle (15 kW) with controlled spindle speed 1,000-24,000 1 rpm for extreme torque even at low speeds, for example when trimming mortise and tenon joints.</p>	<p>Working spindle (18.5 kW) with controlled spindle speed 100-24,000 rpm for extremely high torque and extremely high performance reserves, e.g. for external sash profiling without rough hogging or mortise-tenon trimming</p>	<p>The transmission of compressed air or fluids to units permits for instance operating units with an air jet capability to be used for optimum chip disposal.</p>
			
Basic			
Future			
Performance			



FLEX5/FLEX5+ interface	Drilling head	Set-up aids	
<p>With the integrated FLEX5+ interface, the FLEX5+ unit can be retrofitted at any time with automatic angle adjustment. For precise execution of shift cuts or drilling and trimming at "any" angle including automatic tool change.</p>	<p>HIGH-SPEED drilling head 7,500 with nine vertical spindles and four horizontal spindles. Ideal for high-speed drilling operations over the entire processing depth of more than 1,550 mm. Optionally with 6 kW supplementary spindle for increasing the processing depth by 445 mm to 1,995 mm.</p>	<p>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.</p>	<p>The ceiling laser system permits efficient positioning of freeform parts such as arch components, also in alternating mode.</p>
			
			
			
			

No.	Part	Time
1	Window frame processing	
	Sawing to length	
	Contour profiling	
	Longitudinal profiling	
	Dowel hole drilling	
2	Sash processing	
	Sawing to length	
	Contour profiling	
2	Longitudinal profiling including "outside rebating"	
	Dowel hole drilling	
	Handle hole drilling	
	Total:	appr. 20 min.









Time calculation Venture 12 Basic

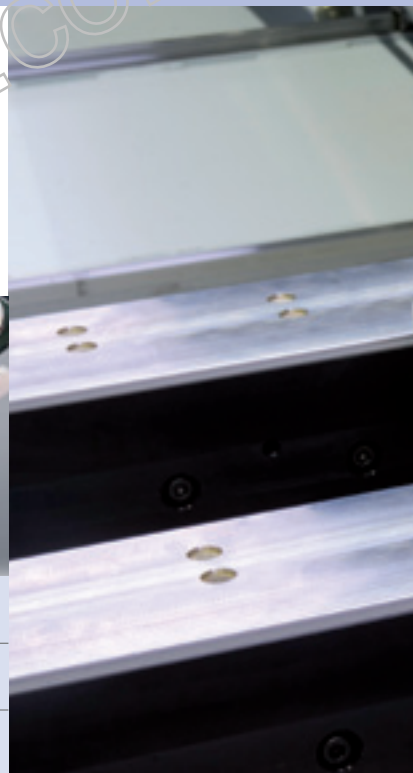
The specified values refer to pure processing times and do not include any set-up times.

While the window components are being processed on the Venture 12, the machine operator can turn his attention to other tasks such as gluing the frame. The machine operator is only active at the Venture 12 for around 30-50 % of his working hours.

*No further cutting processes are necessary



Automatic console positioning	Tool changer	
<p>Automatic console positioning for quick and safe machine feeding. Robust feeding aid to support heavy workpieces.</p>	<p>A coupled-motion 10-slot plate changer for tools and units permits tool changes to be performed while the drilling head is in use. In conjunction with the 18-slot changer, 28 tools and units can be inserted without manual intervention.</p>	<p>Fast chain changer with 30 generous slots for tools and units with a diameter of up to 180 mm. Larger tool diameters can be used for mortise and tenon connections.</p>
		
		
		



Performance increase using the equipment variants



Basic
Processing time of appr. 20 minutes

Future
10 % more output due to:

- Faster equipment with automatic console positioning
- Fast chain changer with converter for "pre-equipping"

 Greater flexibility through:

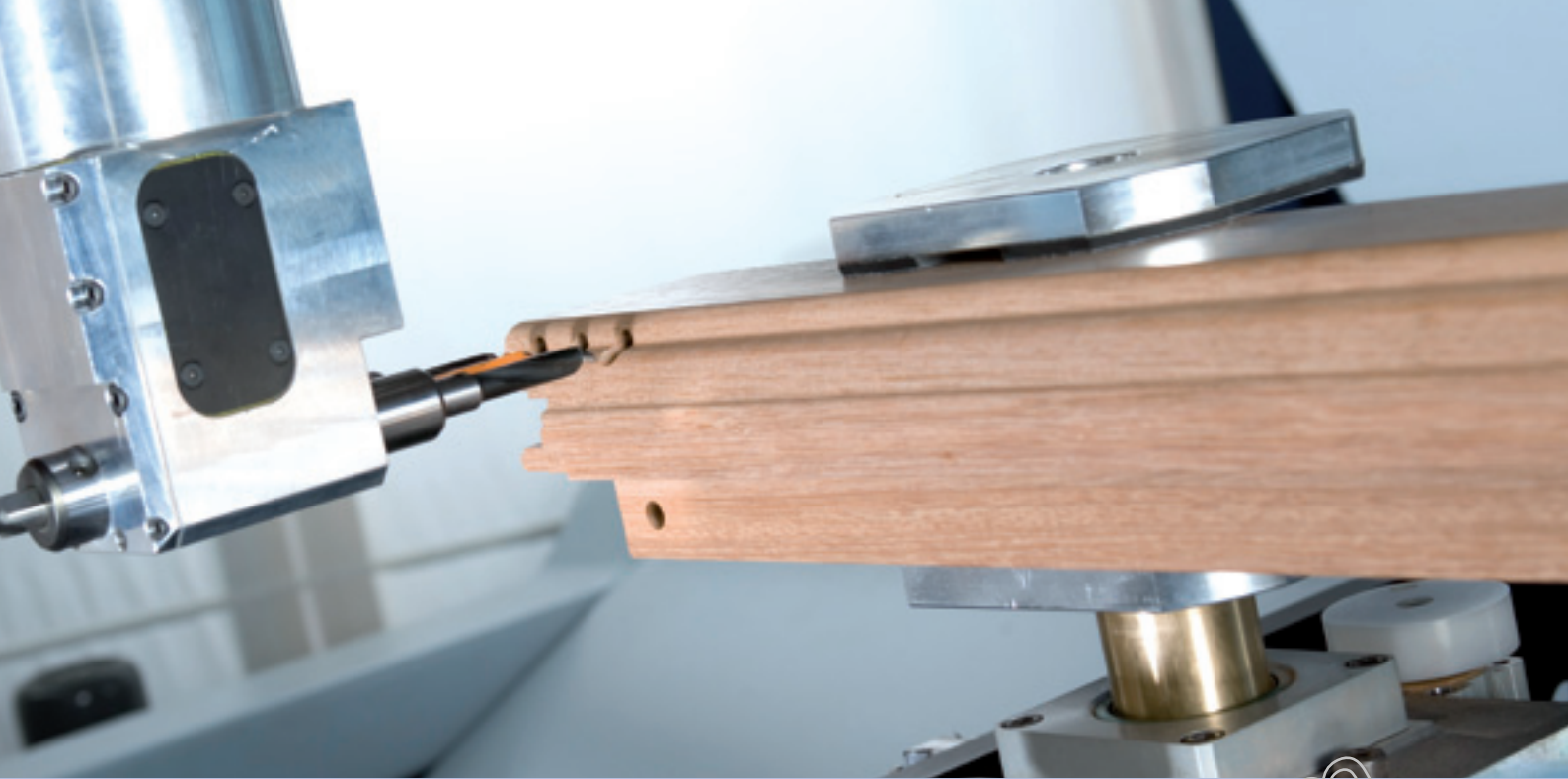
- Larger tool store (less set-up work)

Performance
20 % more output due to:

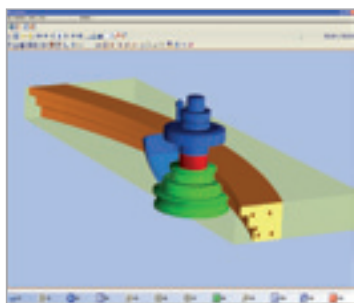
- Higher feed rates with high spindle output
- Faster equipment with automatic console positioning
- Fast chain changer with converter for "pre-equipping"

 Greater flexibility through:

- Larger tool store (less set-up work)
- Ceiling laser system for fast set-up when processing freeform parts



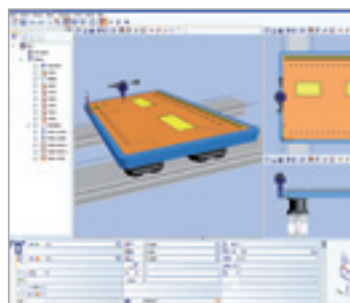
Premium software package Venture (optional):



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



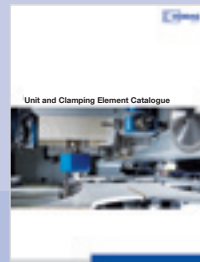
Additional woodWOP licences

- 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.

powerClamp

This clamping system is used for reliable clamping of window components.

3-step clamp

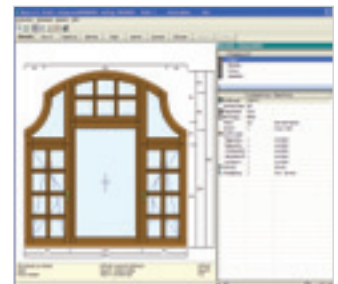
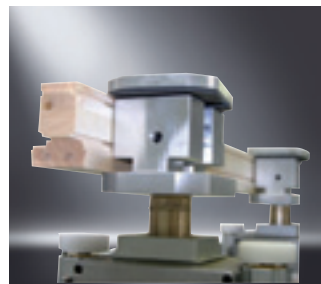
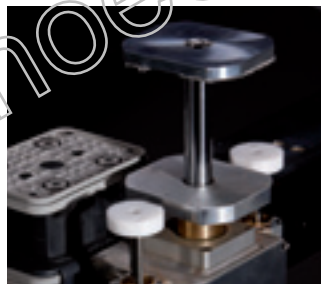
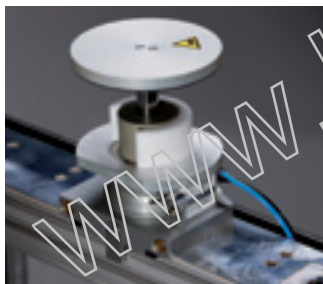
Highly rigid 3-step clamps for precise complete processing of window and front door components without subsequent rebating on glued window sashes. The clamping range is 0-120 mm (optionally 150 mm). For precise clamping of wide staves, insertion aids are optionally available.

Sash bar insertion aid

Special inserts for sash bar clamping simultaneously act as insertion aids.

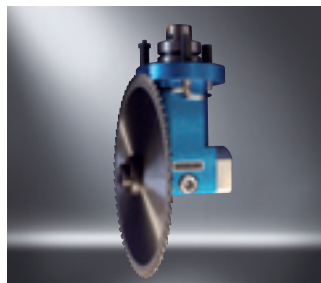
Window interface woodWindows

The entry software package for the design of window elements. Integrated: Data transmission to the Venture.



Drilling unit 3+1 spindles

The dowelled corner connection has become an ever more established technique in the window production sector. Alongside sash bar and transom boreholes, this unit can also be used for the efficient production of corner connections with different drilling patterns using three boreholes in a single cycle (spacing pattern 20 mm or 32 mm). The additional drill at the back offers greater flexibility, e.g. for producing the single boreholes required for inclined windows.



High performance sawing unit

In conjunction with the C axis, sizing, grooving, snipping and separating cuts can be executed at any possible angle, and recesses or notches can also be sawn. The maximum cutting depth is 75 mm or 110 mm depending on the model.



Lock case trimming unit High performance with two toolholders

For heavy-duty trimming work with high feed rates in hard wood, for instance for front door production or paling hole trimming in staircase construction. Chip removal is supported by an integrated air jet nozzle. The two tools with a maximum useable length of 130 mm and 50 mm respectively permit efficient production without the need for a tool change.



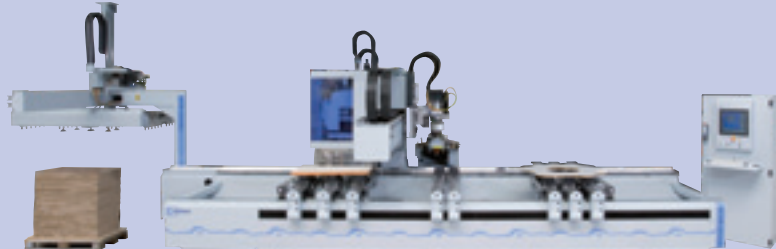
Chip guidance unit

A deflecting plate coordinated individually to the tool improves the catchment of chips by deflecting the chip flow upwards toward the machine's extraction system. The deflecting plate continuously tracks the trimming direction / workpiece geometry by means of the machine's C axis to assume the optimum position at all times. Depending on the tool supplier, the toolholder is fitted with a driver pin or a keyway groove.

Individuality and improved performance

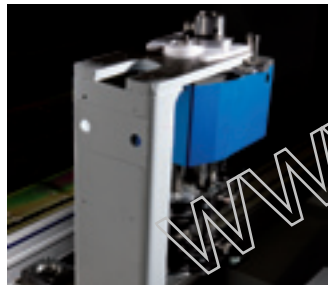
For individually configured cantilever processing centres, series B200/300 is available with a range of highlights such as:

- Automatic workpiece handling system TBA 330
- Automatic positioning AP table
- 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 catchment over the entire processing depth of 1,600 mm. This prevents waste pieces from dropping in front of the machine (optional: chip conveyor belt).



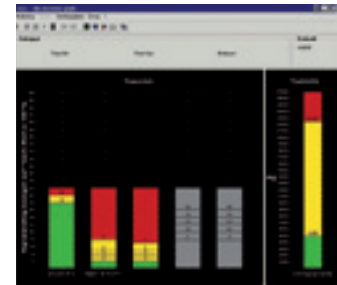
Barcode

Processing programs are automatically accessed in line with the presented workpiece by means of a barcode reader, e.g. for front door leaf processing.



Visualization of working spindle vibration data

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



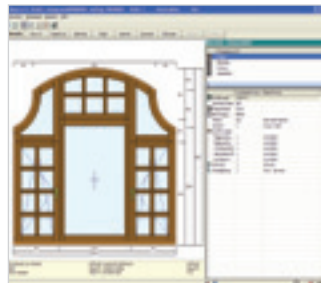
Tool management

Efficient tool and unit detection system to prevent "loading errors" in the tool changer.



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



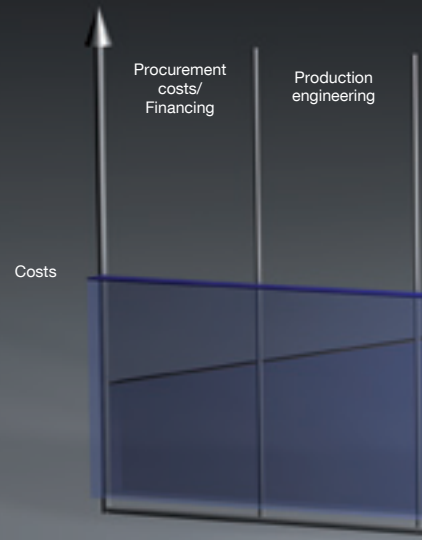
Interface to trade-specific software

- 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 trade-specific 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"

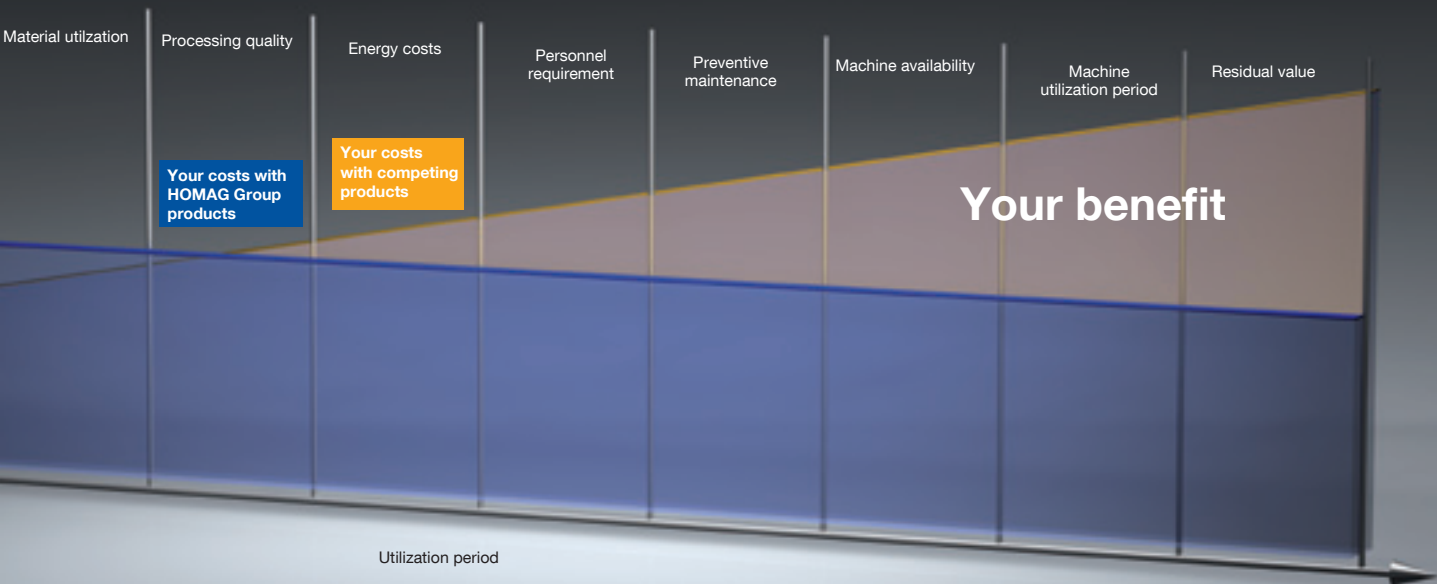
High level of processing quality "without" finish processing

- 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

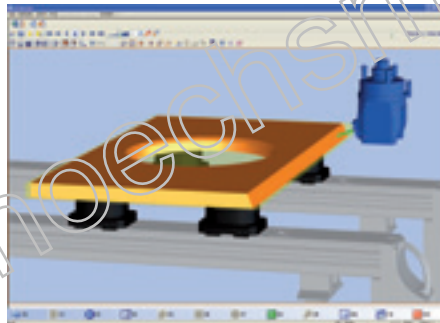
- Automatic part handling with robot systems or linear feeders
- Fast, simple operating capability of machines

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

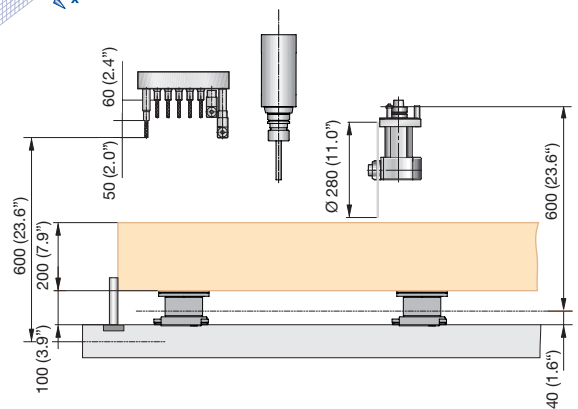
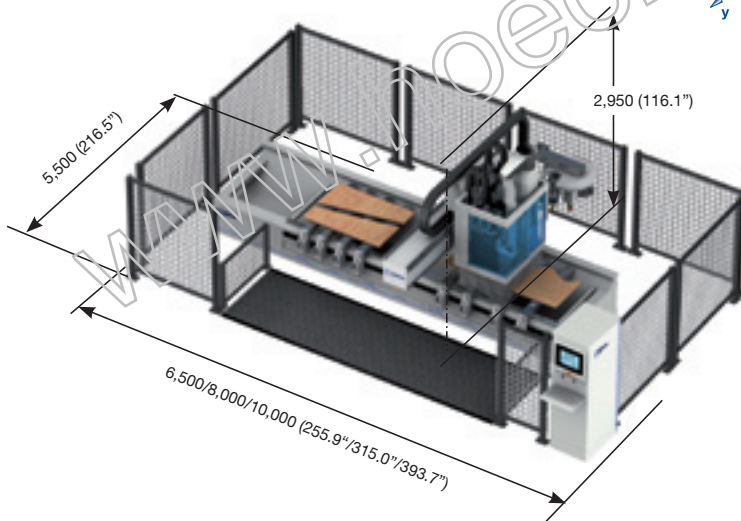
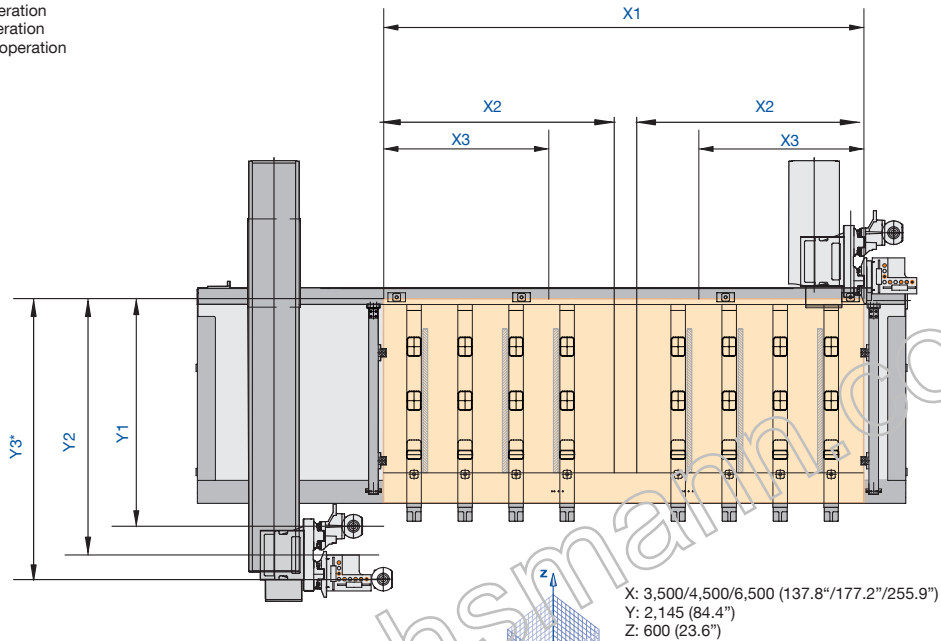
Specifications

	X1	X2	X3	Y1	Y2	Y3*
Venture 12M	3,225 mm (127.0")	1,475 mm (58.1")	1,075 mm (42.3")	1,550 mm (61.0")	1,850 mm (72.8")	1,995 mm (78.5")
Venture 12L	4,175 mm (164.4")	1,950 mm (76.8")	1,550 mm (61.0")			
Venture 12XXL	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.

* In conjunction with optional supplementary spindle.

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



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