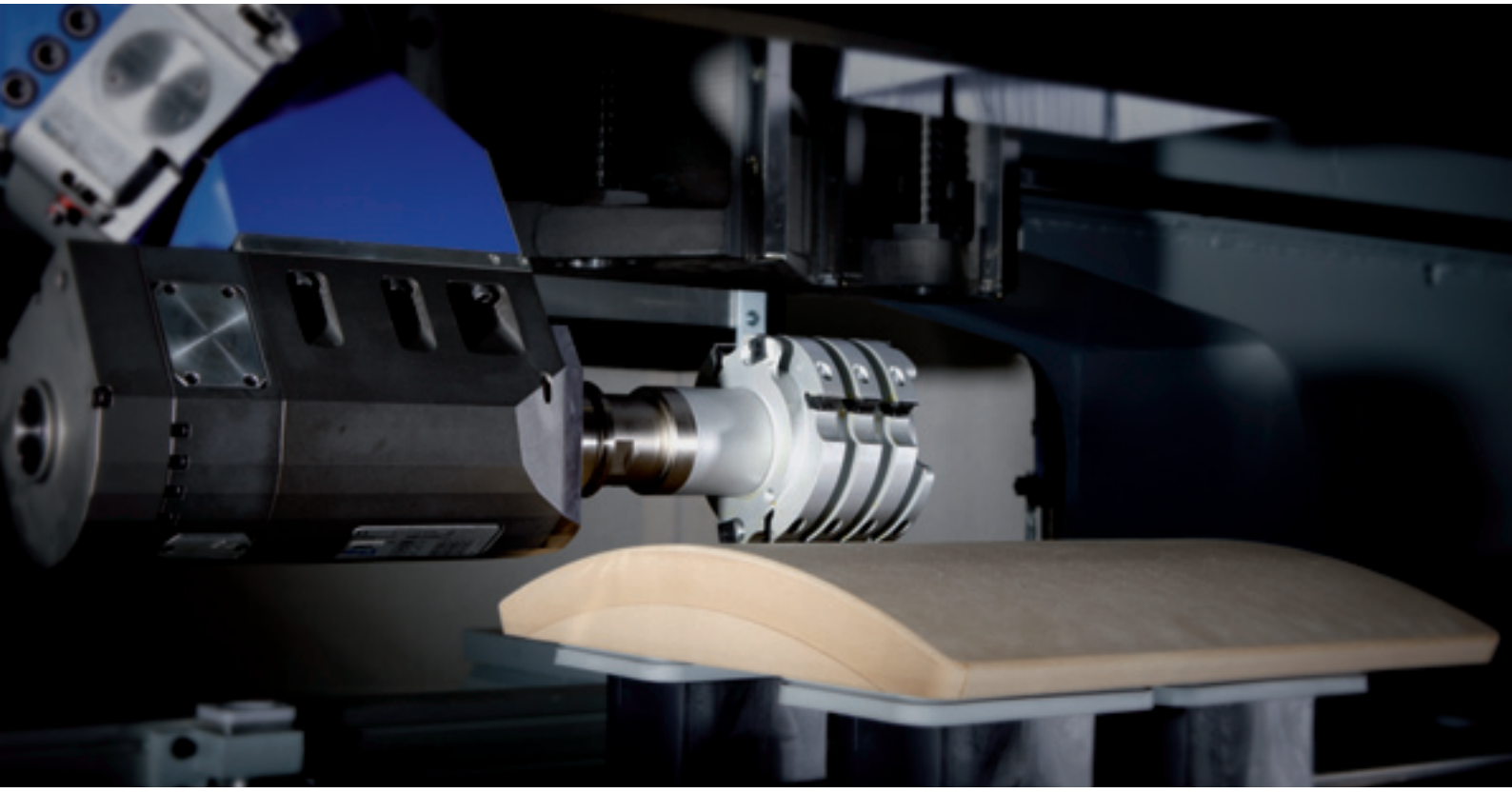
HOMAG

Processing centre

Venture 316



Investments which pay dividends

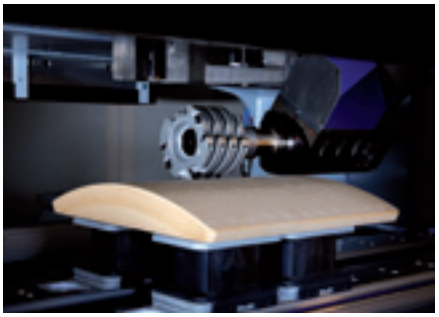
Investing in a new machine or plant needs some thinking about. After all, it is your money at stake. If you decide to opt for HOMAG, then you will get far more than just the right machine for your company – you will also profit from our competence, experience and reliability.

- Competence and experience gathered over more than 50 years
- Production of over 1 000 processing centres a year throughout the HOMAG Group
- A motivated workforce of around 5 000 working to produce the legendary standard of HOMAG quality in 12 locations

High technology for woodworking shops and industrial producers:

- The Venture 316 processing centre is a true all-rounder. Five-axis technology with the DRIVE5C spindle creates maximum flexibility and operating scope
- A heavy-duty basic machine frame and a stable moving gantry form the optimum basis for a high standard of processing quality.

Precise mitre cutting – pinpoint accuracy first time



High-performance profiling of shaped components

Complete processing of doors without the use of units

Contents

www.hoechsmann.com

Always with a system: Engineering excellence from HOMAG

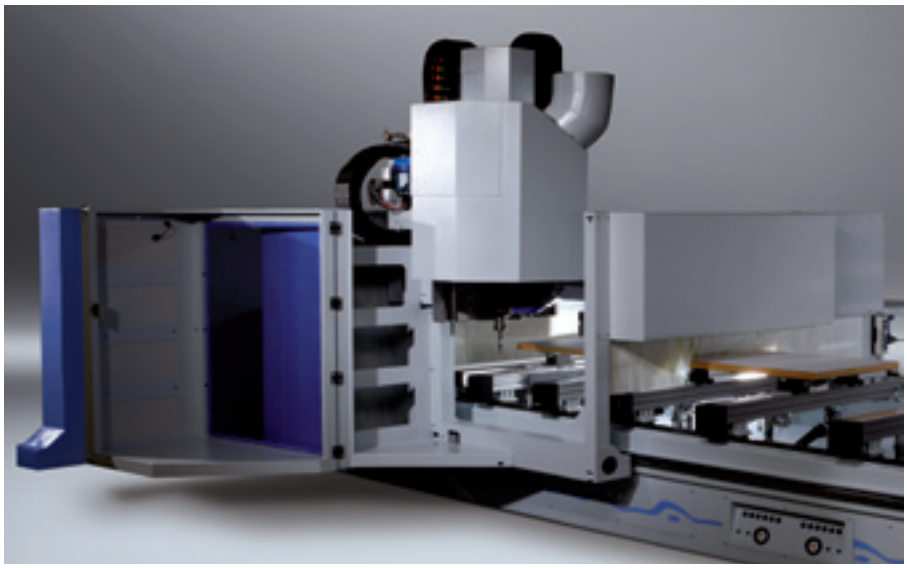
Innovative solutions for every woodworking assignment. Superior technology right from the start. Every customer can benefit from HOMAG's rich fund of system expertise. Our processing centres are the culmination of decades of experience in mechanical and plant engineering. Identical system components, standardized control engineering and ergonomic operation add up to increased productivity. State-of-the-art technologies for variable workpiece shapes at a high standard of quality.

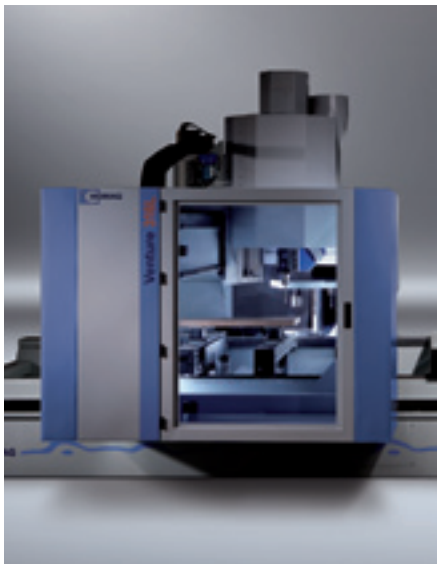
Heavy-duty machine frame and stable mobile gantry construction

The machine frame is made from a heavy-duty welded steel construction based on decades of experience gathered in the world of industrial plant engineering. Positioned on the frame is the stable moving gantry crossbar fitted with trimming spindle, drilling head and traveling tool changer – the perfect basis for high processing quality.

Clear visual access during processing

The coupled-motion partial encapsulation offers optimum protection for the operator and at the same time provides a clear view of the action during processing.





Optimum access to the processing units

The entire machine front can be made accessible by opening a large door, providing easy access to all the processing units for maintenance work.

Large workpiece thicknesses

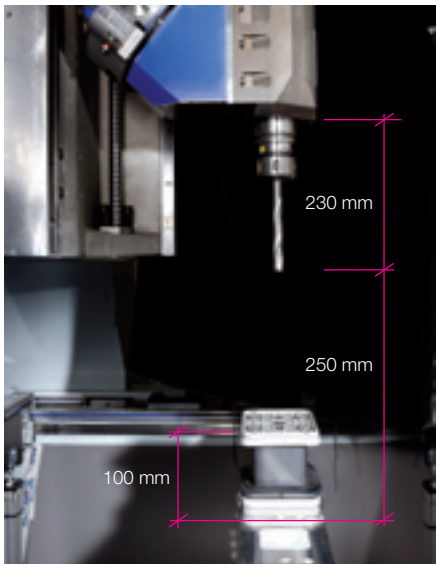
Processing height 250 mm from upper edge of console with a tool length of 230 mm.

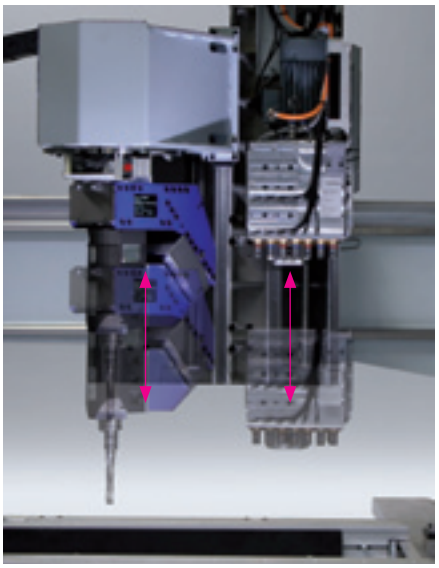
Two Z axes

Two separate Z axes for drilling head and routing spindle permit rapid alternating of drilling head and routing spindle application. A drive system moves only one unit over the entire axis length. This avoids disturbing contours and gives the machine added rigidity and speed.

Five-axis trimming spindle

Compact DRIVE5C five-axis spindle with 10 kW output (optionally 12 kW) and a controlled spindle speed of 1 000 to 24 000 rpm for high torque even at low speeds.



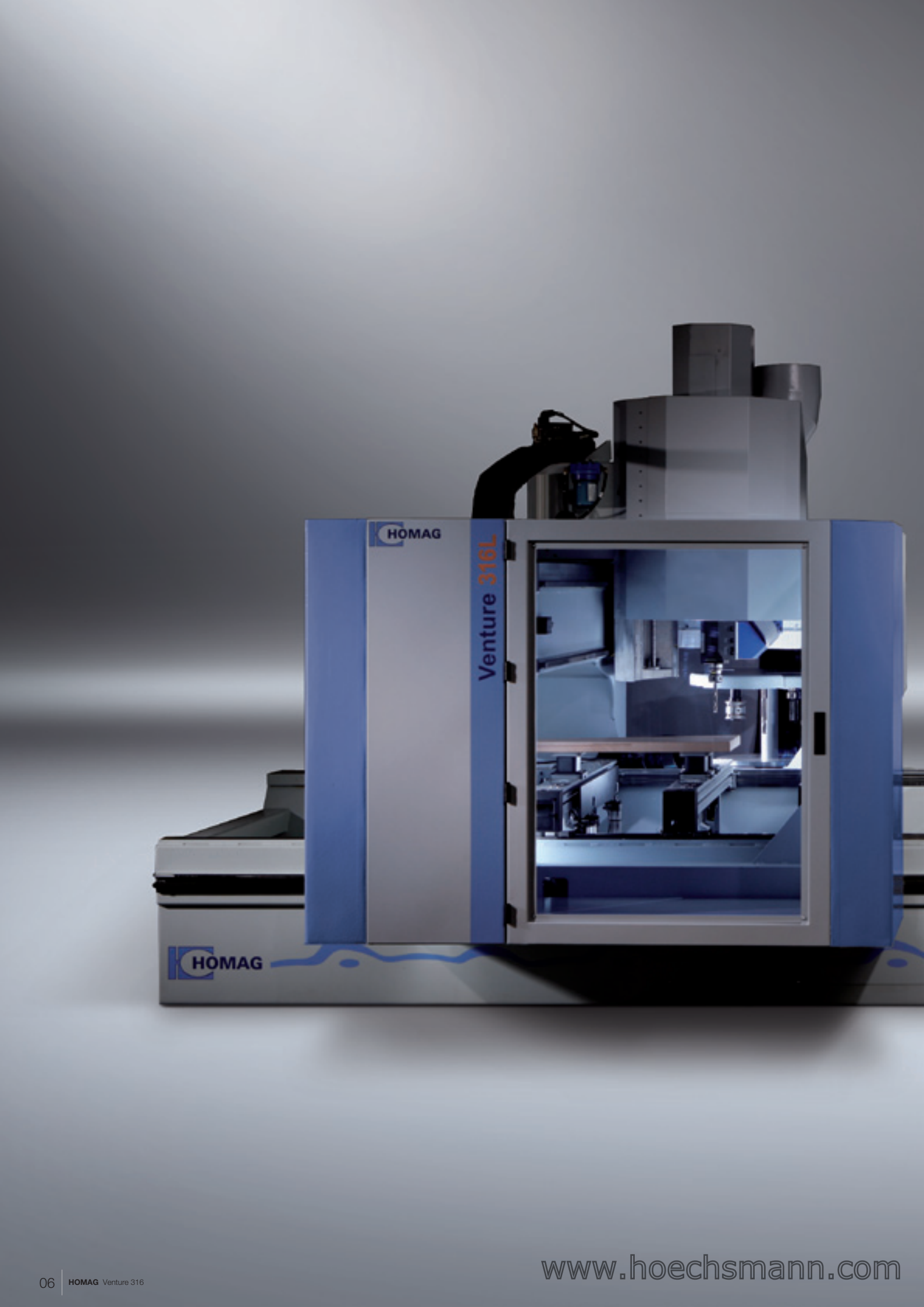


Suction cups 100 mm high with double seal

100 mm suction cup height permits wide scope for processing the underneath of the workpiece. A free number of hoseless suction cups with patented double lip seal can be positioned freely on the console.

Tool and unit interface

Compressed air transmission over the pneumatic interface for the use of units with air jet function, for example for tracing and sanding units.

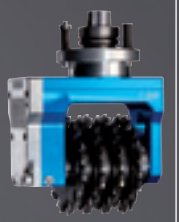


Where otherwise a whole array of units are required, now a single spindle will do the job.
The new DRIVE5C five-axis routing spindle – one for all.

Sawing unit

Sawing/trimming/ drilling unit, with swivel action

Horizontal planing unit

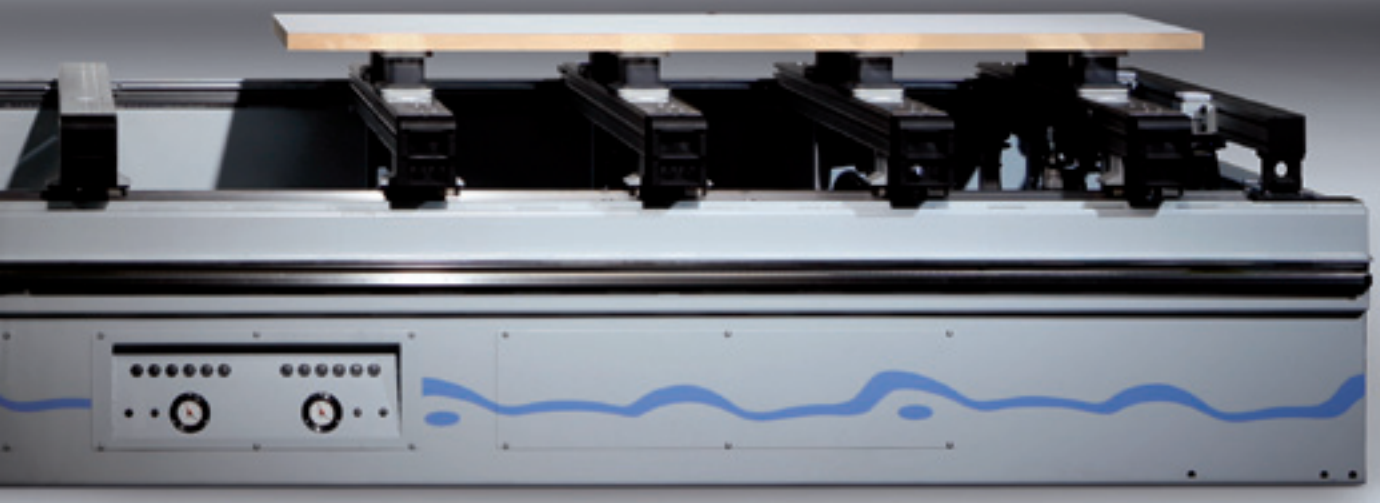


Horizontal trimming unit

Lock case trimming unit

Drilling/trimming unit, with swivel action

FLEX5 five axis unit



As individual as your requirements

Choose from three equipment packages for your Venture 316:

The basic package

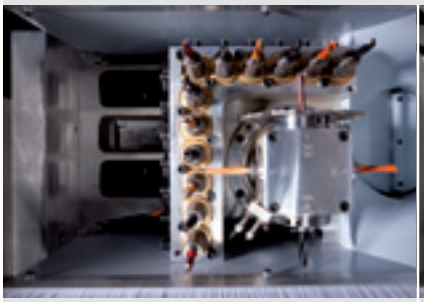
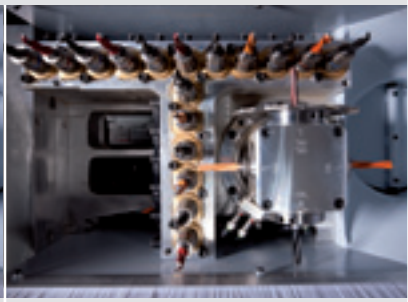
Entry level five-axis processing with full functional scope.

The future package

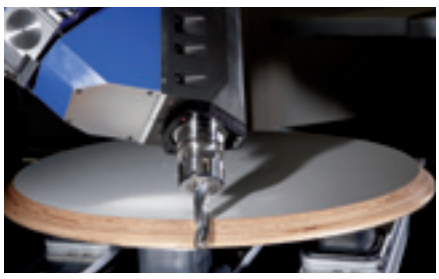
Five-axis processing with the patented LED set-up aid for fast, reliable set-up of clamping elements and consoles.

The performance package

For higher drilling performance in panel processing and wide processing variety with bigger drilling head, tool changer and LED set-up aid.

Equipment variants	Drilling heads	
	HIGH-SPEED drilling head 7 500 with 12 vertical spindles, grooving saw and four horizontal spindles with 0/90° swivel facility. Fast drilling including grooving in the X/Y direction.	HIGH-SPEED drilling head 7 500 with 17 vertical spindles, grooving saw and four horizontal spindles with 0/90° swivel facility. Fewer drilling cycles including grooving in the X/Y direction.
		
Basic	▬	
Future	▬	
Performance		▬

Square corner routing for a glass rebate

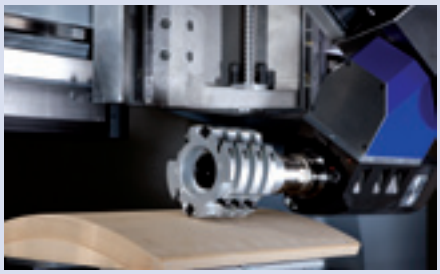


Chamfering on a table top

Clean and precise mitre cuts and inclined grooving for a panel connection

Lock case routing

Step drilling for drill-in hinges



Profiling of shaped components with standard cutter head

Set-up aid

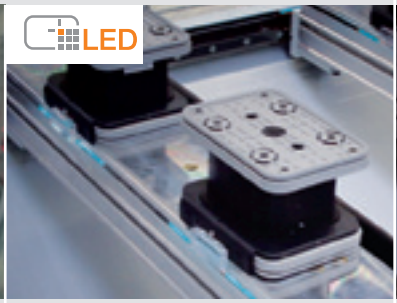
Suction cups are displayed using a laser beam (cross hairs). The workpiece contour can be “travelled” as a positioning aid for freeform parts.

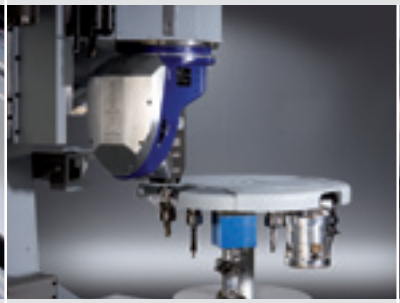
LED displays for fast, simple positioning of vacuum cups and consoles. Up to 70 % time savings during set-up, with correct positioning monitored “at a glance”.

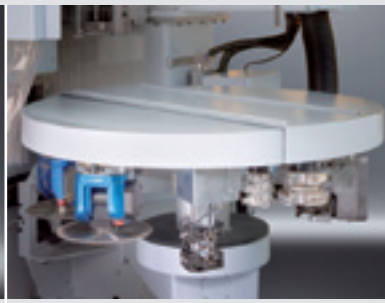
Tool changer

14-slot plate changer for tools and units with a diameter of up to 200 mm. A saw blade with a diameter of up to 350 mm can be accommodated in the changer.

18-slot plate changer increases the number of tools and units which can be directly accessed and reduces set-up times. Here too, a saw blade with a diameter of up to 350 mm can be accommodated.







Routing of a dovetail joint for upright / transom constructions

Mitre cut with high cutting depth for frames

High-end features – all inclusive

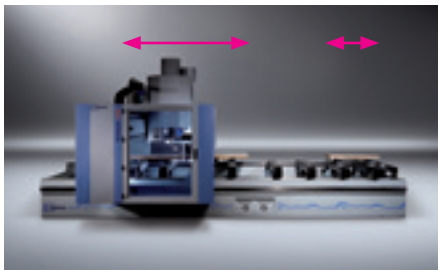
The Venture 316 comes with a complete high-end equipment outfit far exceeding the customary standard scope of supply in the industry. Because we use many identical components from the high-performance machine series, you benefit from outstanding machine availability for your production. The widespread use of “identical parts” within the HOMAG Group reduces the costs of spare parts and speeds up their delivery.

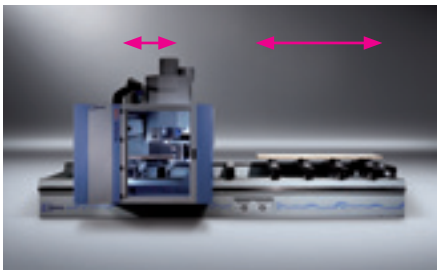
Dynamic alternating field size

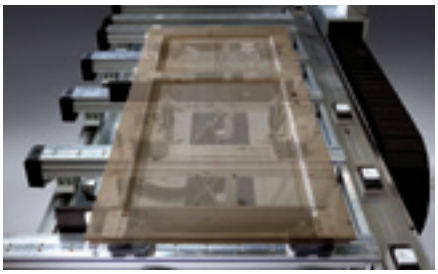
Bumper safety technology allows a dynamic alternating field size without fixed field allocation. This means that when processing longer parts on one side of the machine, it is still possible to prepare and position a shorter part on the other side.

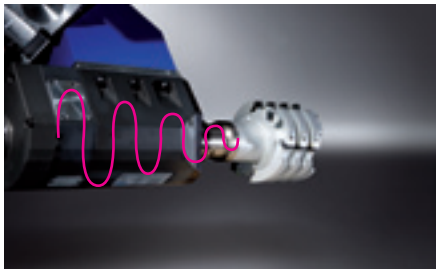
Linear guide and insertion aid

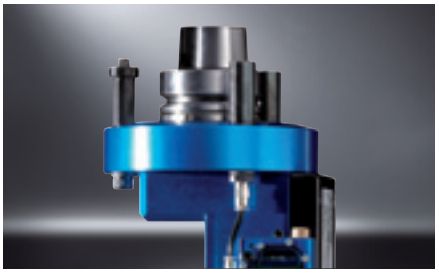
Simple handling by consoles with high-precision linear guides and durable insertion aids with two pneumatic cylinders. Vacuum and compressed air connections are integrated in the consoles for pneumatic clamps and clamping templates.

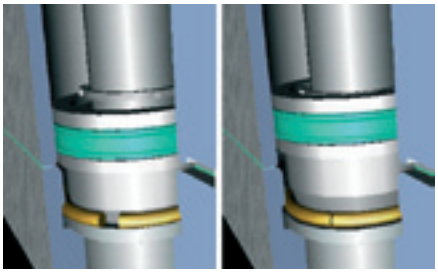












Fluid cooling and spindle sensor

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.

3-point support

The retainer for the three bolts of the highly rigid 3-point support also permits transmission of compressed air into the units.

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.).

Bolts with end position scanning and for laminate/veneer overhang

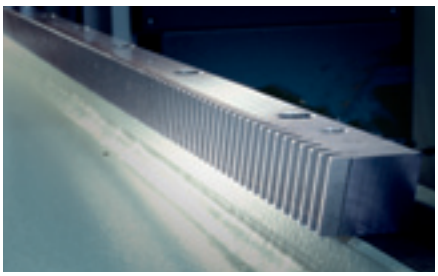
Stop bolts with end position monitoring to protect tools, units and machine operating staff. Exchangeable stops specifically for workpieces with laminate/veneer overhang.

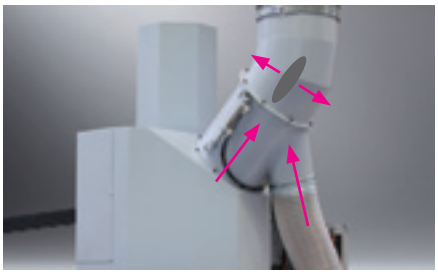
Closed energy chains

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

Energy efficiency built in

Effective extraction with low connected load due to automatic closure of unused suction nozzles. Reduced power consumption due to standby operation of all powered components at the press of a button or automatically after a set time delay. Reduced compressed air consumption due to optimized pneumatic components.





Rack and pinion drive

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

Covered linear guides and automatic central lubrication processes

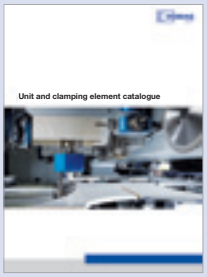
Covered linear guides with closed guide carriage and integrated central lubrication of all axes guarantee low-maintenance, reliable operation.

Protection against data loss

Uninterruptible power supply (UPS) to prevent data loss in case of power failure and mains voltage fluctuations.

Equipped to meet future challenges

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 other applications, please apply for our unit and clamping element catalogue.

Performance pack for spindles

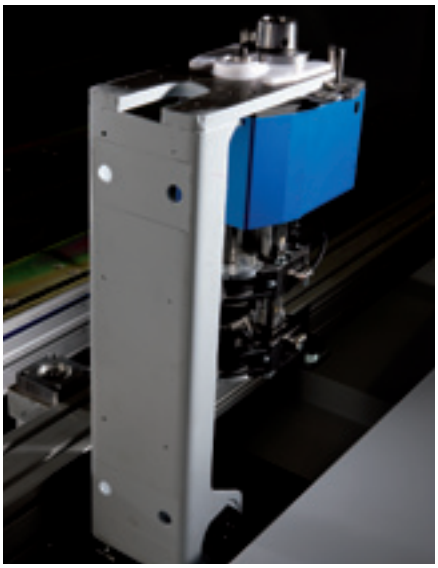
Performance upgrade for the DRIVE5C spindle to 12 kW including an active cooling unit.

Projection laser

Laser projection of the workpiece contour for optimum utilization and simple positioning of raw parts which cannot be aligned at the stops.

Tool transfer station

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

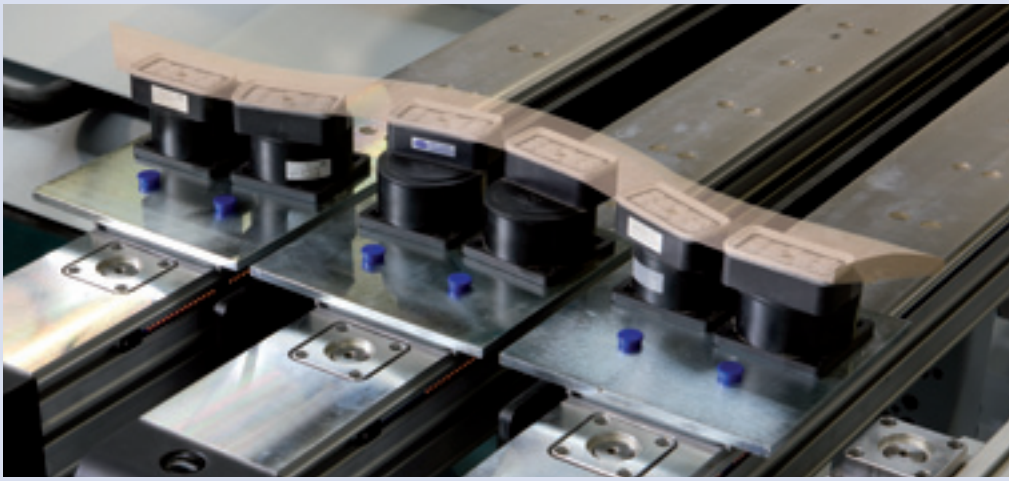


Chip conveyor belt

Highly rigid machine bed with waste piece catchment over the entire processing depth. No waste pieces drop in front of the machine (optionally with chip conveyor belt).

Position measurement

Automatic position measurement and offsetting of raw part tolerances are carried out.



A wide choice of different clamping elements allows workpieces to be clamped with absolute speed, precision and flexibility without the need for non-standard fixtures.

powerClamp

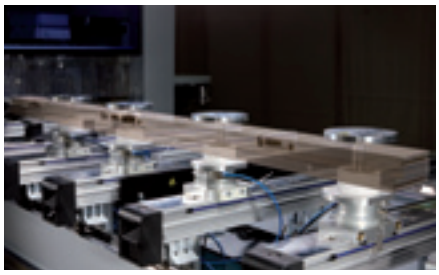
Manual clamping fixture **power**Clamp for straight and curved parts. Ideal for all arched, narrow and frame parts.

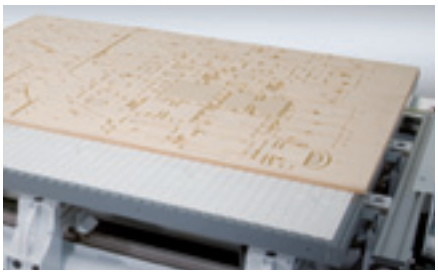
Clamping device

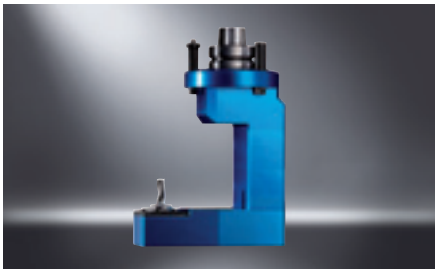
Uprights and staves can be securely clamped in no time using this clamping device.

Matrix adapter plate

Highly flexible clamping systems offer secure fixture even when working with filigree workpieces. The matrix adapter panel even permits shaped components to be “cut to size” with optimized cutting waste on a console table machine using the nesting process.







4-spindle drilling – trimming unit

The 4-sided spindle outlet makes available four different drilling and trimming tools without tool change. Ideal for interior fittings and furniture construction involving different connecting and hardware holes. 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.

Underside trimming

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

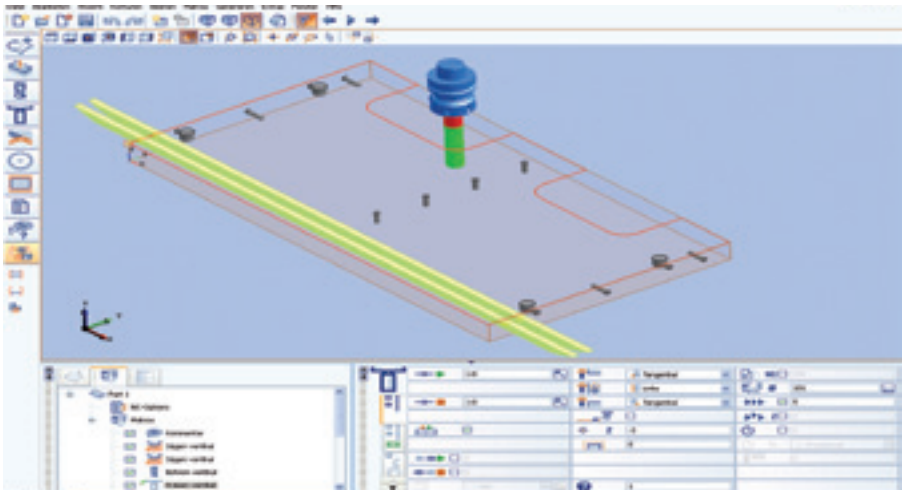
Corner notching unit

For the production of right-angled, splinter-free, sharp-edged recesses where space is restricted, for example for efficient processing of door glazing cutouts, sink cutouts in kitchen worktops.

Simple flexibility: Software and service

Offering the very latest software solutions and a comprehensive range of services, we provide our customers with a unique package for efficient CNC production. Our modular machine-oriented software ensures fast integration into the production environment. Precisely tailored servicing and maintenance packages can be accessed anywhere in the world over the complete life cycle of your machine – ensuring maximum availability and added investment security.

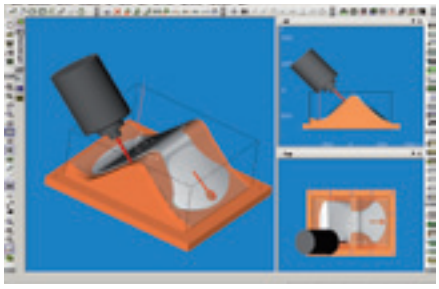
For additional modules and more information, refer to our “Software for machining centers” brochure.



wood**WOP – streamlined operations through fast programming**

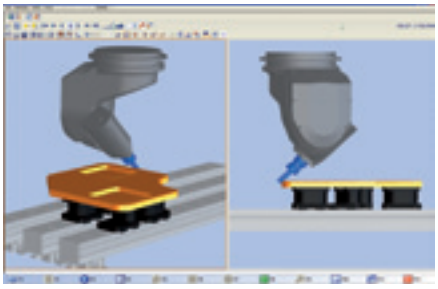
- Fast, intuitive operation based on simple, direct navigation
- Optional use of variables for flexible variant programming
- Fast creation of your own subroutines
- More programming reliability with 3D graphics of the workpiece, processing operations and clamps
- High degree of operating convenience due to freely configurable windows, multiscreen capability, language-neutral input screens, help graphics and much more
- Biggest forum for CNC programming in the Internet: www.woodWOP-Forum.de

Options



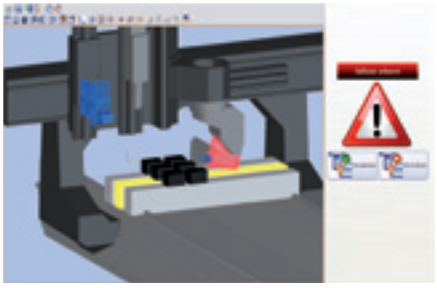
Interface to CAD/CAM systems and CAD data import

- Adoption of programs from external CAD/CAM systems
- CAD data import into the integrated programming system for simple adoption of geometric and processing data



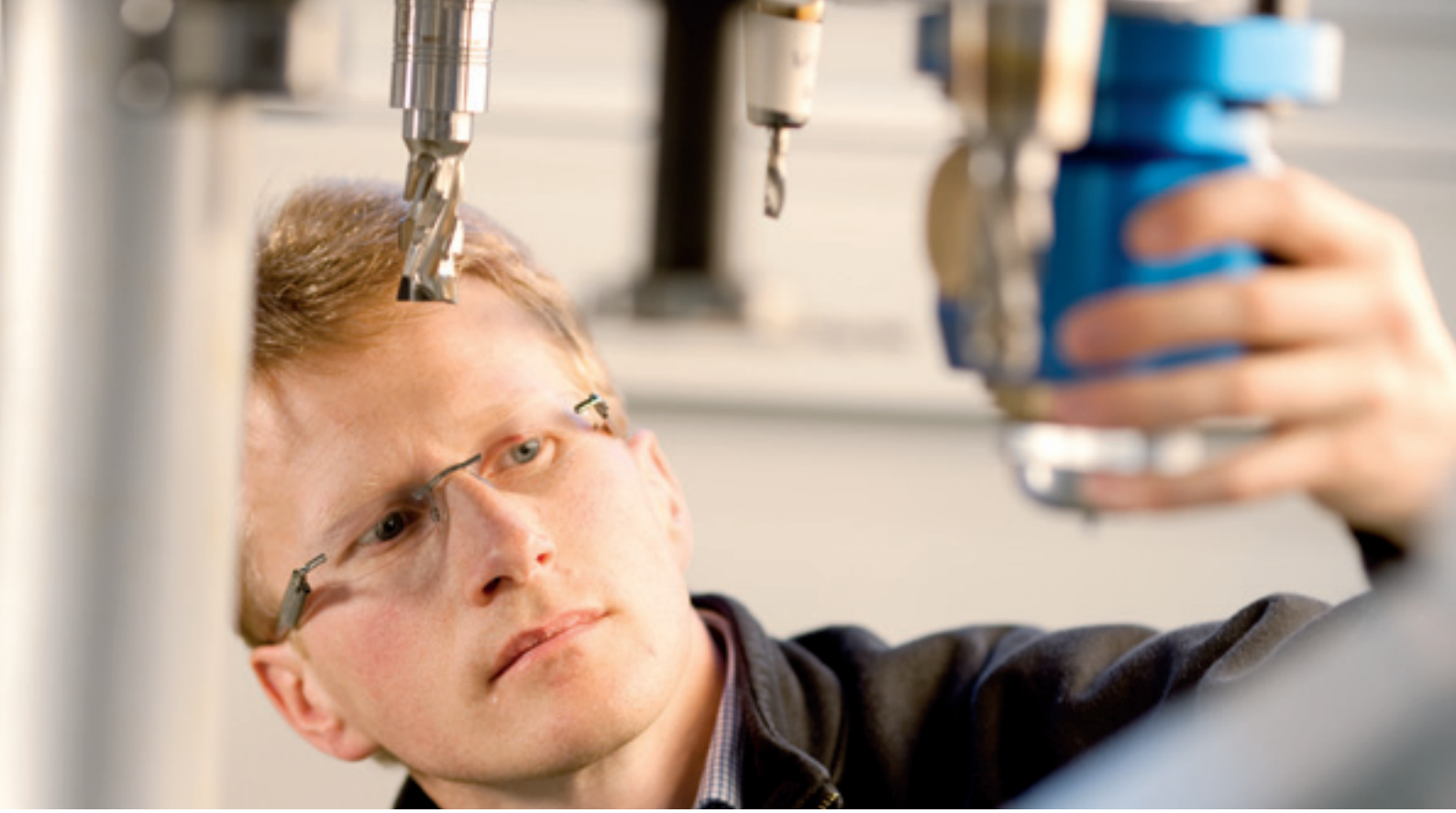
wood**Motion – processing program simulation**

- Graphic simulation at the workstation PC
- Reduction of machine running-in time due to optimum program preparation
- Simulation of 5-axis processing including stock removal
- Display of real processing time
- Collision monitoring between the tool and clamping elements



collisionControl **– permanent safety for your machine**

- Monitors possible collisions between machine components and clamps during processing
- Automatic machine stop in the event of an impending crash situation
- Snapshot display of crash situation
- Live depiction as a moving 3D model



Low energy costs

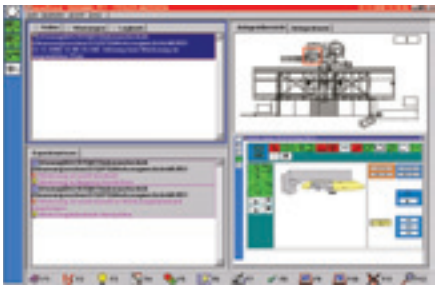
- Intelligent stand-by operation reduces energy costs during break times or in case of partial capacity utilization by up to 10 %, saving up to 8 000 kwh of power per year
- A flap control system switches the volumetric flow of the extraction system to the processing units actually in use. This cuts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

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

Value stability and long machine service life

- 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

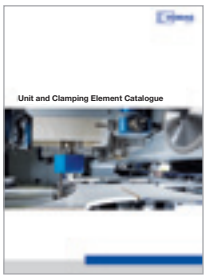


High degree of availability through preventive maintenance and worldwide service

- Worldwide service with over 500 technicians
- 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
- TeleServiceNet – our “eye” into the machine avoids costly on-side services
- wood**Scout** diagnostic software – intelligent self-help for all machine operators

ecoPlus

For details of other applications, please apply for our **eco**Plus brochure.



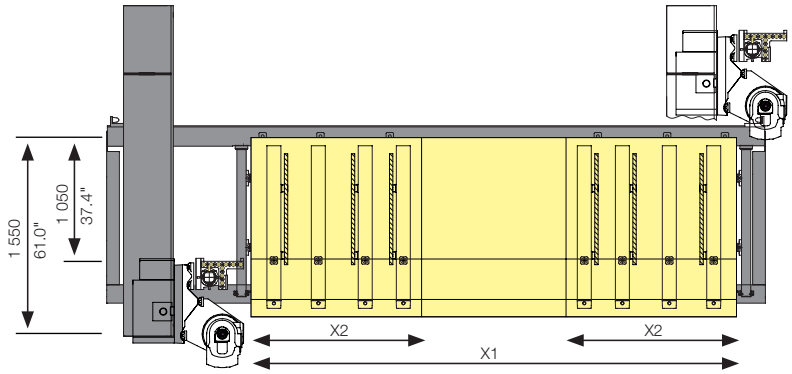
For other applications, please apply for our processing unit and clamping element catalogue.

Technical data

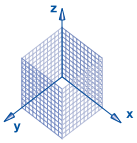
Model	X = Workpiece length [mm]			Y = Workpiece width [mm]			Workpiece thickness [mm]
	all units		with tool diameter 25 mm	A = 0° with tool diameter 25 mm	A = 90° with tool length 230 mm	A = 0° all units A = 90° with tool length 230 mm	with tool diameter 230 mm
	Individual processing (X1)	Alternating processing* (X2)	Alternating processing*	Rear stop	Rear stop	Front stop	From console
Venture 316 M	3 300 129.9"	1 025 40.4"	1 200 47.2"	1 550 61.0"	1 400** 55.1"	1 050** 37.4"	250 9.8"
Venture 316 L	4 200 165.4"	1 475 58.1"	1 650 65.0"	1 550 61.0"	1 400** 55.1"	1 050** 37.4"	250 9.8"
Venture 316 XXL	6 000 236.2"	2 375 93.5"	2 550 100.4"	1 550 61.0"	1 400** 55.1"	1 050** 37.4"	250 9.8"

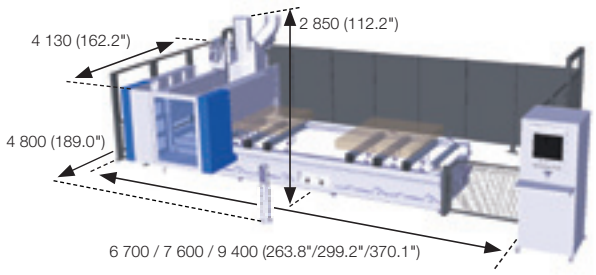
* Dimension with central division. Size of alternating field dynamically adapted to component size.
** Overall length of tool for rear processing operations max. 150 mm.

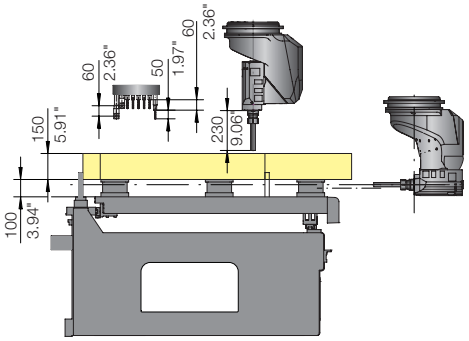
Technical data and photos are not binding in every detail. We reserve the express right to make changes in the interests of further development.



X1 = Single operation
X2 = Alternating workpiece processing







A member of the HOMAG Group

HOMAG Holzbearbeitungssysteme GmbH
Homagstraße 3–5
72296 SCHOPFLOCH
GERMANY
Tel. +49 7443 13-0
Fax +49 7443 13-2300
info@homag.de
www.homag.com