HOMAG

CENTATEQ N-310

Confident nesting for professionals
The smart combination of compact design and performance with 3-, 4-, and 5-axis processing.



homag.com

YOUR SOLUTION

Building living spaces.

From furniture to homes: The future is built with wood.

Together, HOMAG, WEINMANN, SYSTEM TM and KALLESOE provide comprehensive production solutions for manufacturers of optimized timber, engineered wood, timber construction, interior fittings, furniture and more. With over 500 years of combined experience in machinery engineering, automation systems, and software technology, our focus is on building strong partnerships that enhance your productivity, precision, and profitability.

This is how we are Building living spaces. Together, with you.

HOMAG – YOUR SOLUTION

High-precision CNC solutions.

Dimensional accuracy, repeat accuracy, fits – precision is the top priority in CNC machining. That‘s why we offer superior technology and individual equipment for the high-precision production of furniture, interior fittings and construction elements – with three, four or five axes.

To ensure that your individual furniture transforms rooms into living spaces in the future, too.

Building living spaces.

Building precision.

A millimeter off is a world apart.



CENTATEQ N-310
Advanced Nesting

This machine is a true powerhouse and is designed for anyone seeking high flexibility and performance in a compact footprint. The CENTATEQ N-310 combines nesting with demanding single-piece and molded-part processing, bringing 5-axis processing into the mid-range segment.

YOUR SOLUTION

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CENTATEQ N-310











The highlights at a glance

COMPACT MACHINE CONCEPT
With integrated control cabinet and 25% smaller footprint.

3-, 4-, OR 5-AXIS PROCESSING
Offers that little bit extra in processing variety.

AUTOMATICALLY SELECTABLE VACUUM FIELD SEGMENTATION OF THE TABLE
Adapted to standard market panel sizes.

TOOL CHANGER
Moves in X and Y direction on the main spindle for short tool changing times.

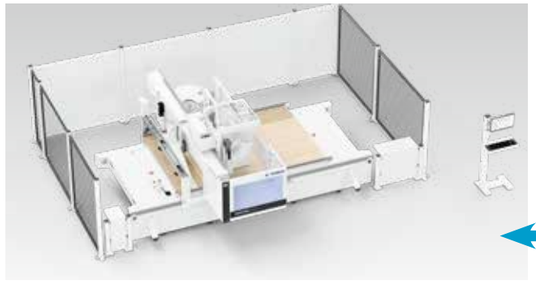
AUTOMATION POSSIBILITIES
From the stand-alone machine to the fully automated cell.

MATRIX TABLE
Cross-segment positioning of vacuum cups without restriction.

ENERGY-EFFICIENT PROCESSING
Vacuum generation, suction, tool change and nesting are designed to be sustainable, saving energy and money.

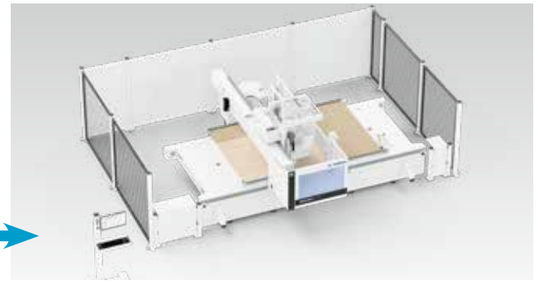
SUCTION CONCEPT
Multi-position extraction on the main spindle and drilling gear for easy integration into production and reduced costs for peripherals.





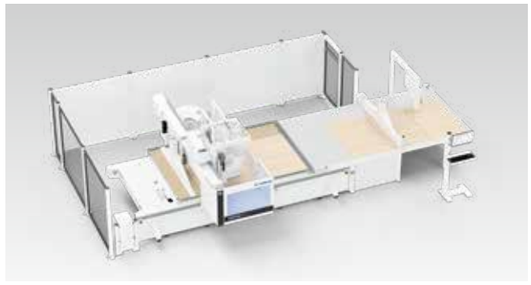
Basic+

Including infeed and push-off device



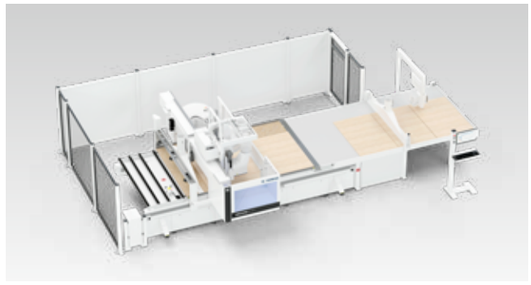
Variants

are also available with the flow direction right to left



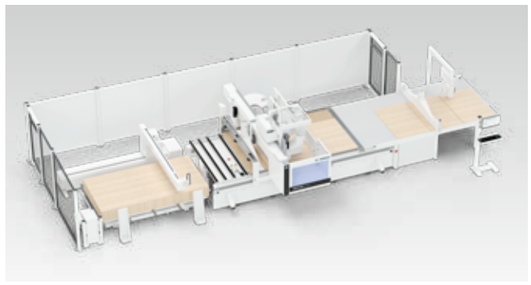
Outfeed+

Automatic push-off for higher productivity



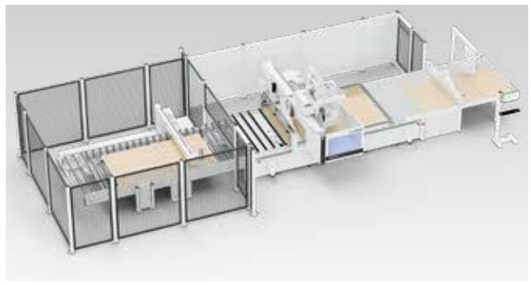
Concept 1+

Prepared for the next expansion stages



Concept 2H+

Panel handling with lifting table

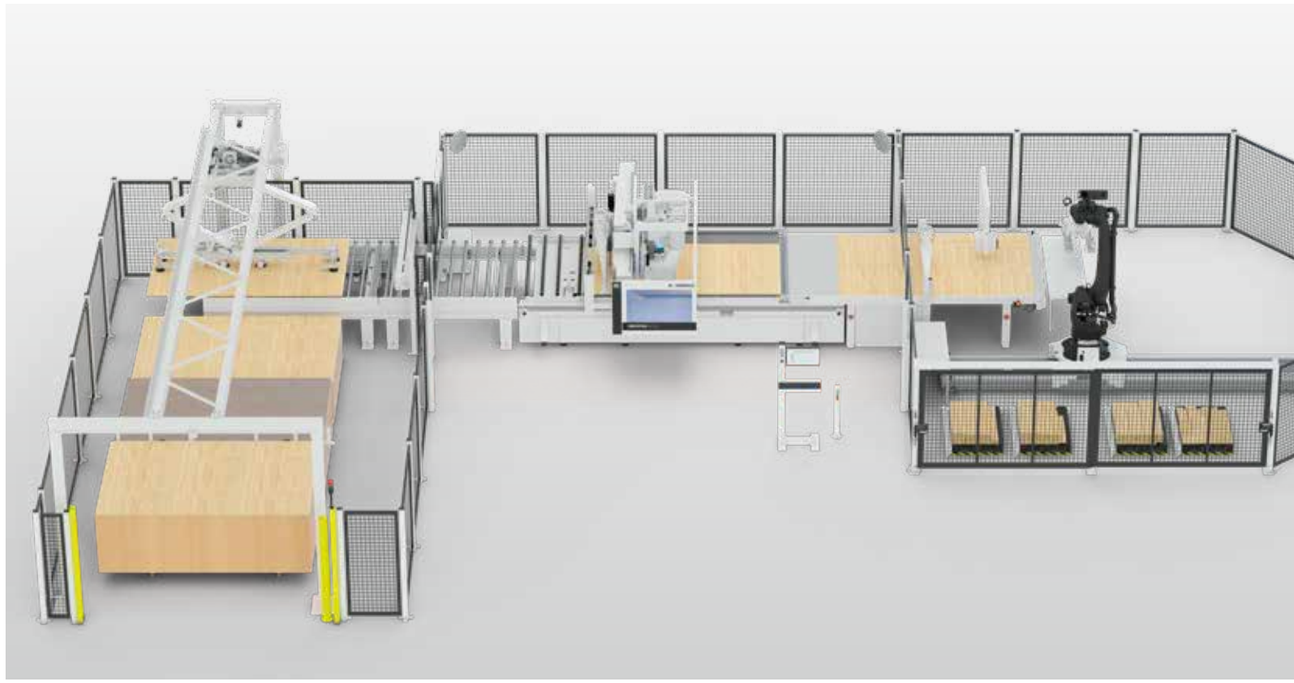


Concept 2R+

Infeed roller conveyor as interface for preceding automation systems

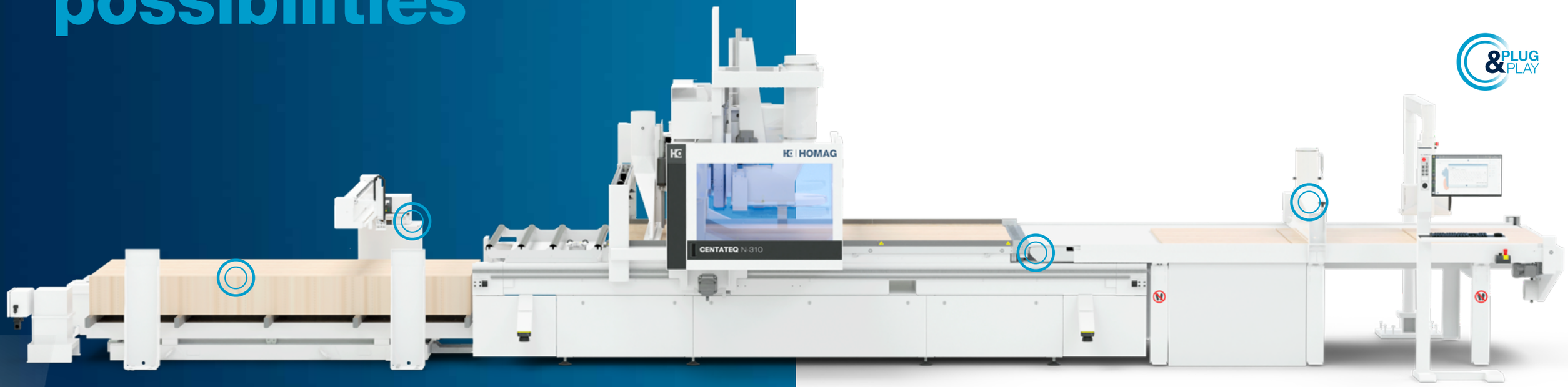
We have the solution
for your nesting requirements!

With the HOMAG nesting solutions you are always well-advised. Whether the workpieces should be fed by hand, by roller conveyor, by lifting carriage or by storage – we have always the proper concept for your application. With our plug & play features, we enable the successive expansion of the machine from the start.



Including destacking via robot

Automation possibilities



Exemplary automation concept

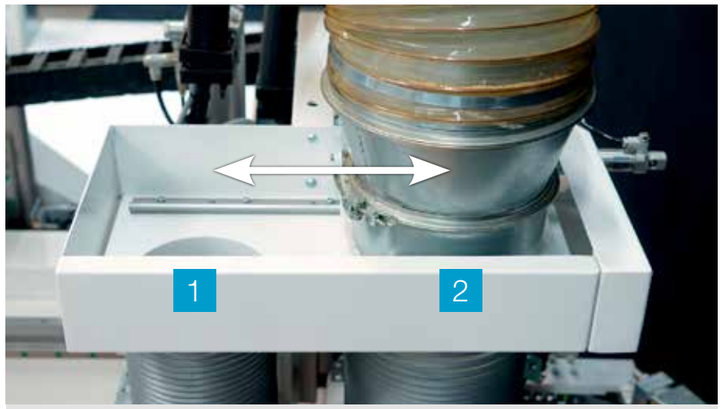
- **Mechanical and electrical plug & play interface to the machine**
- **One central control system – operation via HOMAG powerTouch**
- **Lifting table for automatic and ergonomic loading with automatic labeling at the infeed**
- **Belt conveyor for automatic pushing off of workpieces in different lengths and at variable speed, supplemented by manual labeling with swivel arm**
- **Synchronization of work processes through simultaneous infeed, cleaning of the protection panel and push-off**





Feeding device

- External pull-in device with direct accessibility.
- Easy to retrofit as part of a modernization project.



1 **Position for the drilling gear**

2 **Position for the routing spindle**

Central suction connection on the gantry

- For suction on the drilling unit and on the routing spindle
- Multi-position extraction for easy integration into production and reduced costs for peripherals





Suction hood steplessly adjustable

- Individual adjustment to the workpiece thickness
- No flow loss
- Optimal results
- Reduced energy consumption



Blow-off nozzles in the suction hood

- 4 nozzles controllable via program
- Generation of an air flow to guide the chips
- Improvement of the extraction performance



Combined suction and push-off device

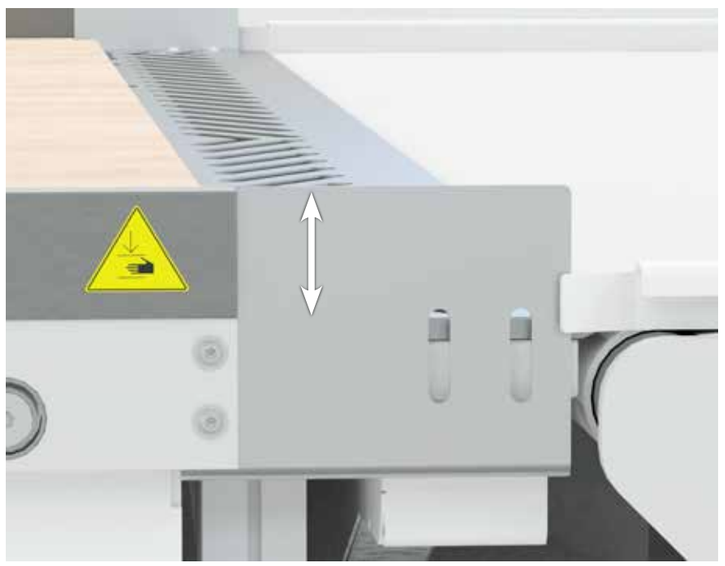
- Flow-optimized device for cleaning the protection panel with manual height adjustment
- Motorized, continuously height adjustment available upon request for an automated nest-cleaning cycle (optional)



Suction from above the belt conveyor



Suction at the end of the belt conveyor



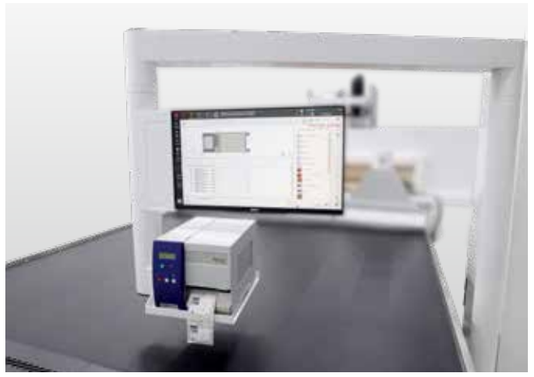


Suction from below at the machine outfeed

- During outfeed, the workpieces and the spaces between them are cleaned from below – manual height adjustment
- Automatic height adjustment in combination with a height-adjustable belt conveyor (optional)

Optimal material utilization
Labeling

Detailed part identification through error-free labeling process with information for subsequent processing steps. Control of edge banding machines and CNC processing via barcode possible.



Manual labeling with swiveling arm

- Monitor mounted directly above the belt
- No walking distance to the label printer
- Direct view of the nest



Automatic labeling at the infeed

- Flowing process sequences through automatic labeling during the CNC processing
- Mechanical and electrical plug & play interface to the machine



Nesting Production Set

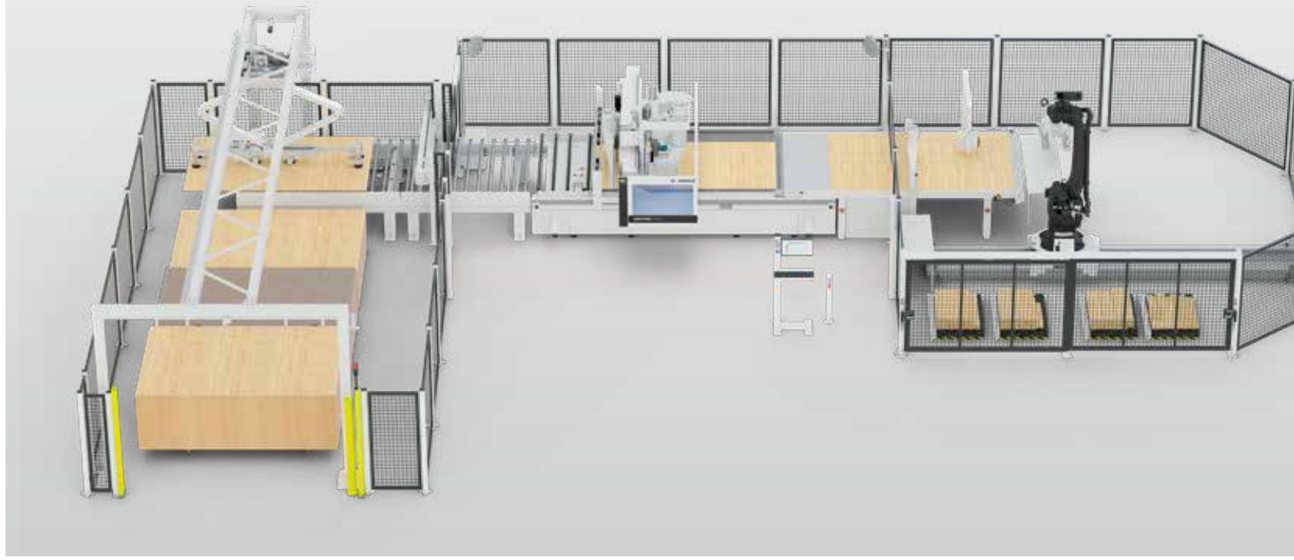
- App „intelliDivide Nesting“ for cutting optimization
- App „productionAssist Nesting“ for nesting plan selection and initiating label printing.
- Plug & Play label printer
- App „materialManager“ and„materialAssist Boards“ for the management of the raw panels and for the reuse of the remnants



Barcode connection

- Barcodescanner / -software
- Supported barcodes:
  1D – Barode,
  2D – Data Matrix Code
- Every workpiece is excactly identified for the further workpiece flow

Residual parts management



Residual parts management | Basic

- Labels for residual parts from Cut Rite
- Manual management

Residual parts management | Advanced

- Automatic management within the storage database
- Manual positioning in automatic mode
- Labels for residual parts can be produced on the machine itself

Residual parts management | Premium

- Automatic residual parts handling for nesting concepts in conjunction with storage solutions from HOMAG



App »materialAssist Boards«

- The app can be used to manage the stocks and storage locations of the panels and remnants
- Optionally, the panel and remnant rack can be equipped with LED strips: The operator gets support during storage and retrieval by displaying the compartment in question by means of LEDs
- The app is available in the Google Play store and Apple AppStore

The MATRIX table

Table structure & efficient table field occupation

The MATRIX table provides a defined grid of channels and supply points to ensure optimum vacuum distribution for processing with vacuum clamping. By automatically selecting and deselecting the table field occupation, the vacuum is activated in the required area and is effective where it is needed. The areas are optimally matched to the established range of boards. This is specifically designed for the desired flexibility in the use.

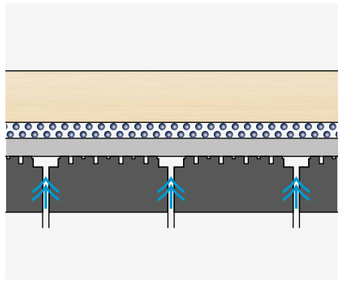


Valves

- Valves allow control of each individual vacuum field

New: transition matrix plates

- Continuous grid groove across the entire MATRIX table
- Easy positioning of suction cups across segments
- 30 x 30 mm grid for optimum vacuum flow



Function extension air cushion (optional)

- Generation of an air cushion for workpiece-friendly and ergonomic handling

Mounting of protective panel

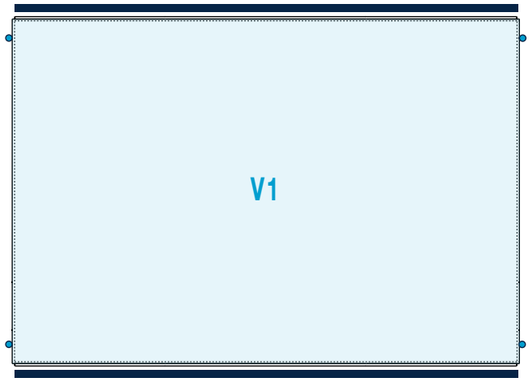
- Fixing points for protective plate integrated in the table

Vacuum pumps

- Low-noise, efficient and compact vacuum pumps with low-maintenance claw technology or dry-running rotary vane pump
- Variable number depending on application and table size
- Automatic activation/deactivation of additional vacuum pumps available as standard
- Frequency-controlled vacuum pumps for demand-based vacuum control available as an option



Classic | No vacuum field segmentation



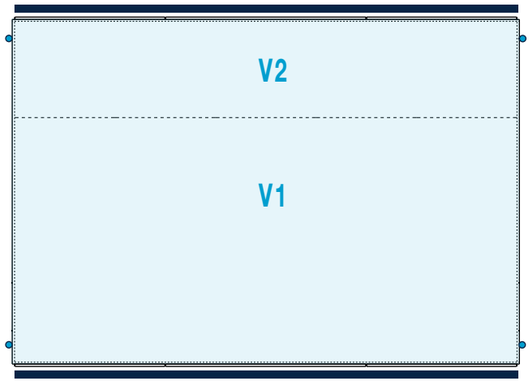
Example

- Table size: 7 x 10 ft (3,180 x 2,160 mm)

Highlights

- Classic nesting processing

Classic



Example

- Table size: 7 x 10 ft (3,180 x 2,160 mm)
- Segmentation into 2 fields

Highlights

- Classic nesting processing
- Vacuum fields are designed so that common panel dimensions can be selected and deselected:
  - 5x10 ft can be scaled down to 4x8 ft (only relevant for the U.S. market)
  - 7x10 ft can be scaled down to 5x10 ft (see example)
  - 7x14 ft can be scaled down to 7x10 ft and 5x10 ft

Premium



Example

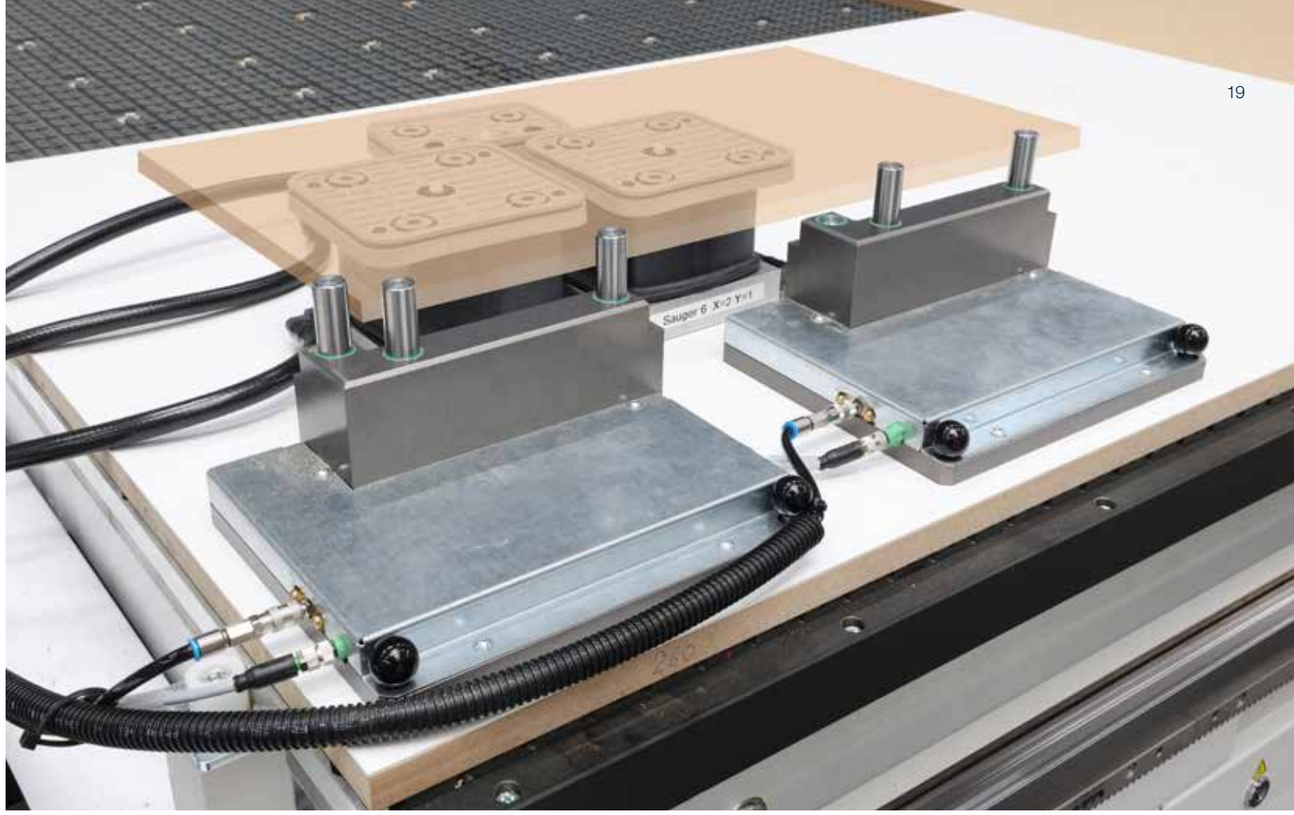
- Table size: 7 x 10 ft (3,180 x 2,160 mm)
- Segmentation into 35 fields

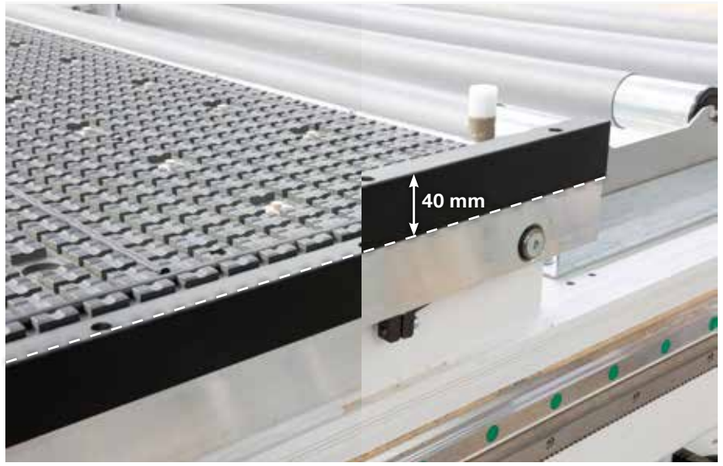
Highlights

- Ideal for all types of applications
- Individually controllable vacuum fields on the entire work table
- Table segmentation with up to 84 fields possible

Stop and alignment systems & clamping elements

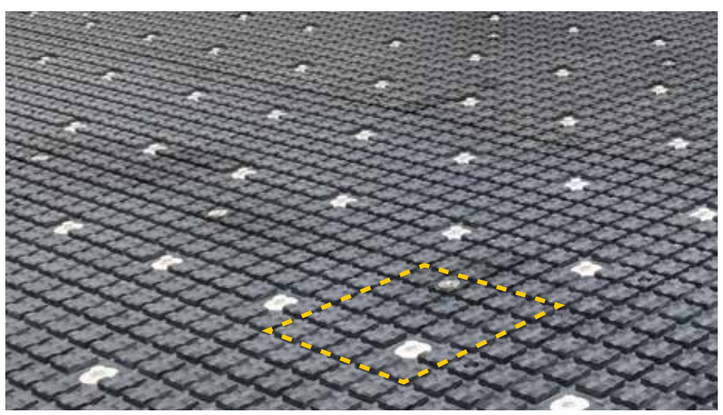
The correct clamping of the panels and workpieces is the basis for an optimal processing result.





Linear guides

- The control of the automated guide rails enables ergonomic handling



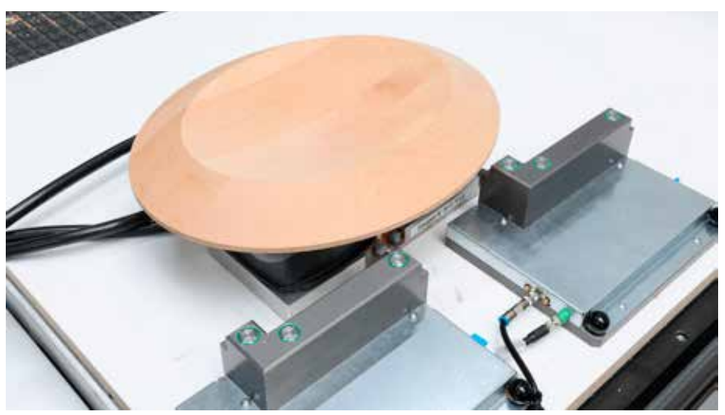
Positioning of clamping devices

- The optimal connection points for the vacuum allow the maximum use of clamping devices at almost any position



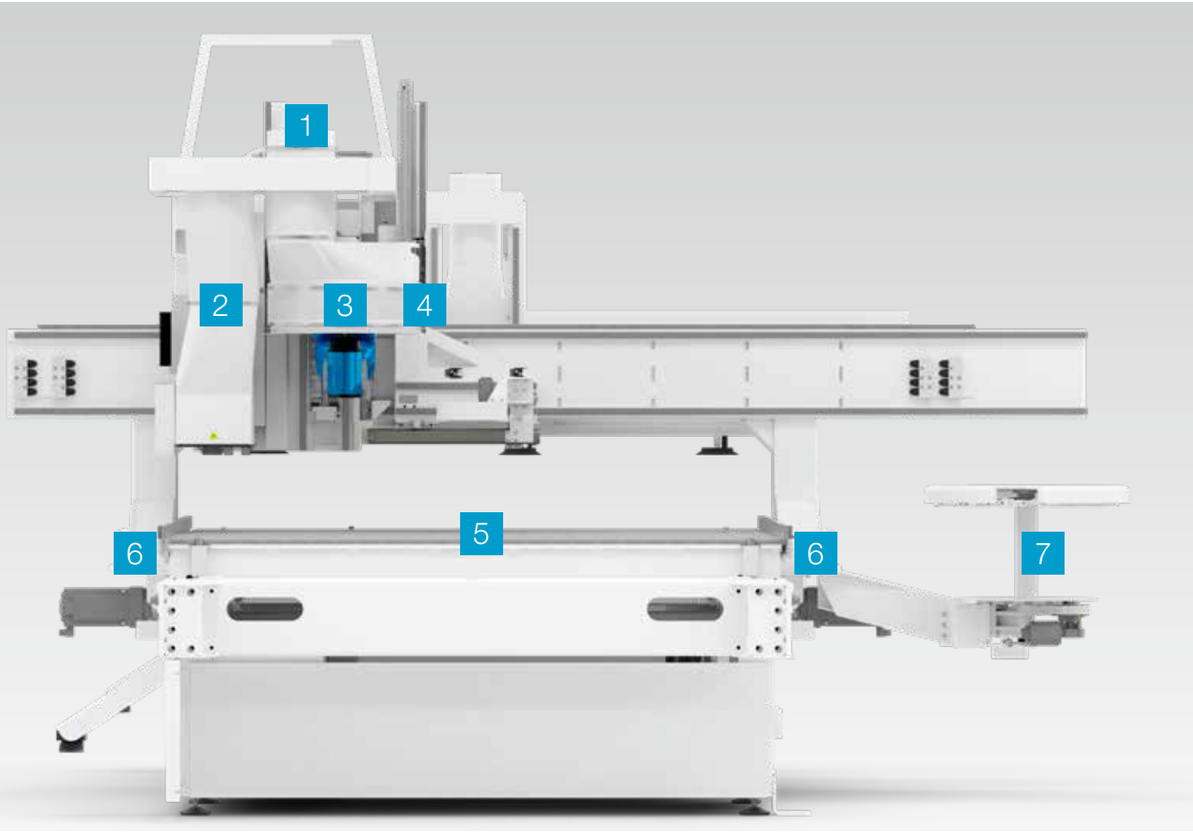
Adaptive stop system for use on the protecting panel

- The adaptive stop system can be positioned at will on the protecting planel
- Stop cylinder for positioning the workpiece at the zero point are integrated
- The workpiece can be easily clamped using vacuum cups



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
One central suction port for drilling unit and routing spindle

2
High-speed drilling unit with exclusive spindle clamping and variable speed

3
Powerful 3-, 4- or 5-axis routing spindles

4
8-fold tool changing system moving in X- and Y-direction

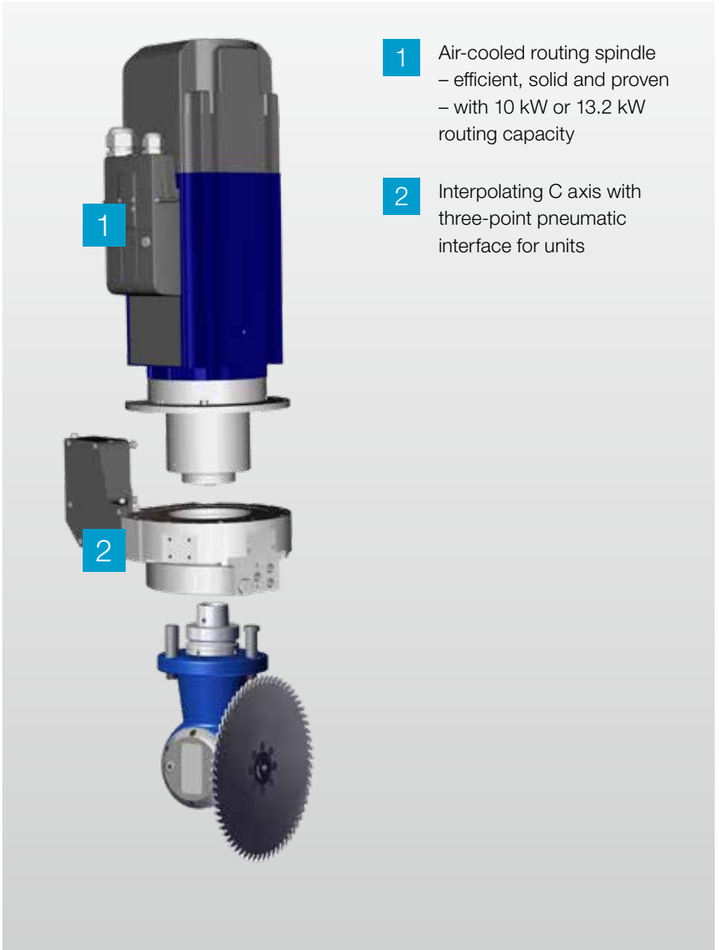
5
MATRIX table with automatic vacuum field division

6
Double-sided synchronized drive system

7
14-fold tool changing system moving in X-direction

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. Select the spindle suitable for your current and future product range.

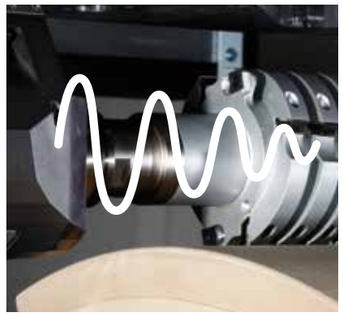


1 Air-cooled routing spindle – efficient, solid and proven – with 10 kW or 13.2 kW routing capacity

2 Interpolating C axis with three-point pneumatic interface for units

4-axis routing spindle

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.



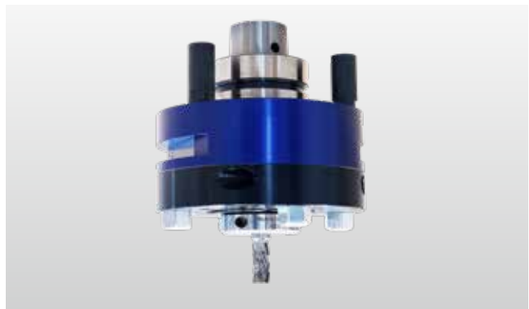
Spindle sensor

An additional vibration sensor detects tool unbalances and protects the spindle against overloading, due to high feed speeds for example.



DRIVE5CS 5-axis-head

The smart DRIVE5CS 5-axis-head – compact design with short power transmission. Comprehensive technology on small space without limits regarding the processing range. Liquid-cooled spindle with 10 kW (as option 12 kW routing capacity) for efficient operations. The short design provides more space for processing (e.g. with a 350 mm saw blade, under the hood).



Trimming tool holder

Trimming tool holder with jet for compressed air and fluids: For trimming operations combined with compressed air feed, for example for tool cooling when processing plastics or to improve chip disposal when trimming deep grooves.

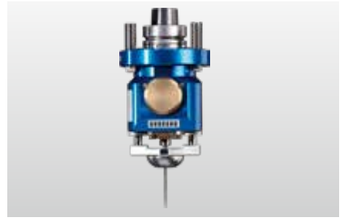


Aggregate technology

Aggregate technology makes the machine more variable and flexible to use.

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.



Cutting unit



Drilling unit Cabineo, 3 spindles



Sawing unit, swiveling



Vertically traced trimming unit



Hinge drilling unit, 3 spindles



Drilling unit, 3 spindles



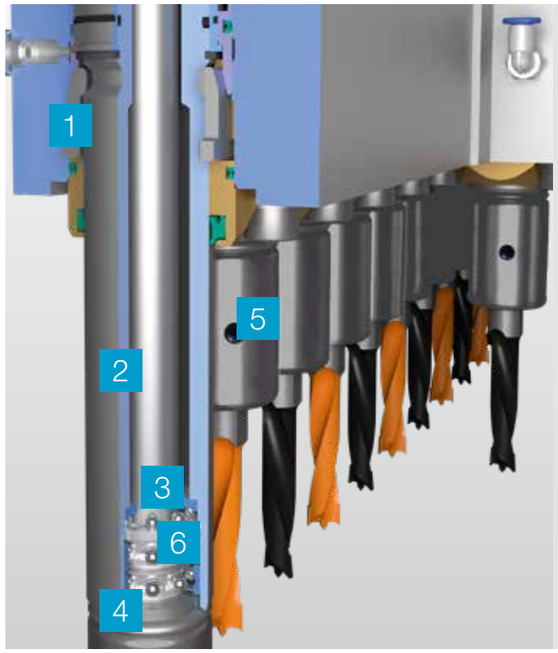
Aerotech tool chuck



Eccentric sanding unit

HOMAG drilling technology
The best of the best

High-speed drilling technology and exclusive clamping of the spindle. Precise drilling, fast cycles, maintenance-free and durable construction. Additional optional attachments expand the machine's range of applications.



1 Spindle lock for accurate drilling depth

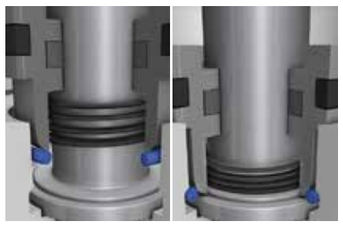
2 Double-acting cylinder: Forward and return stroke of the spindle with pneumatics

3 Large diameter of the sleeve and short and constant distance of the drill bit to the bearing for high lateral stability and high precision

4 Vertical sleeve: The vertical drill sleeve is installed, the drilling spindle is housed in the sleeve

5 Weldon change system

6 Separate axial bearing to absorb the direct drilling forces



Automatic spindle lock

The 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.



Tool box »STARTER KIT«

Top equipment – from the very start

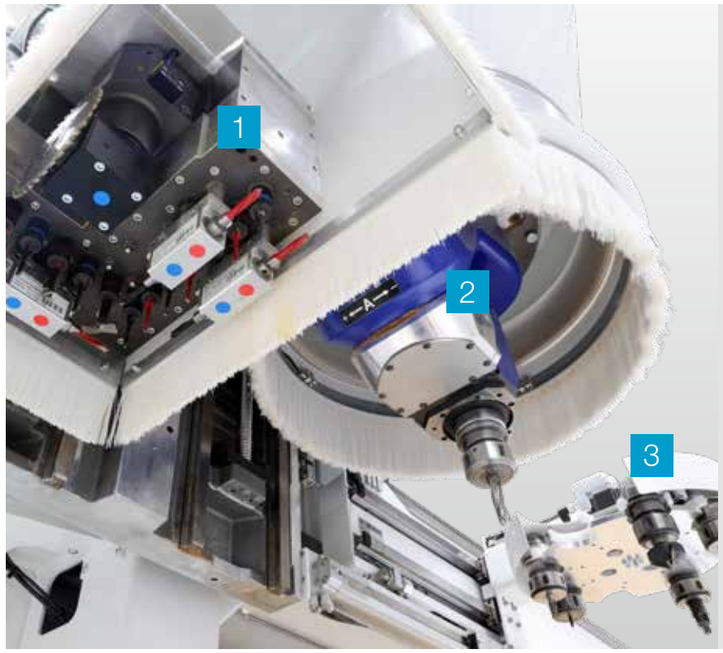


Weldon change system

For a drill change with tools

Tool changer systems
Simple flexibility

All neatly stored away for quick access. Tool changers provide the basis for the flexible deployment of tools and units.



1 **Drilling gear V12 [High-Speed 7500]**
12 vertical drilling spindles
6 horizontal drilling spindles
1 Grooving saw (0°/90°)

2 **Air-cooled routing spindle**
Efficient, solid and proven with 10 kW or 12 kW routing capacity

3 **Tool changing system**
8-fold tool changer moving in X- and Y-direction



Tool changing system

14-fold tool changer moving in X-direction



Tool pick-up station

Folding transfer station at the front of the machine for efficient setup



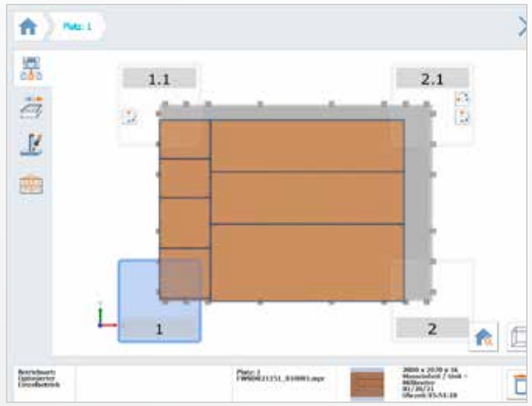
Tool length control

After changing a tool, the length of the tool is queried and compared with the integrated tool databas

Software | Machine

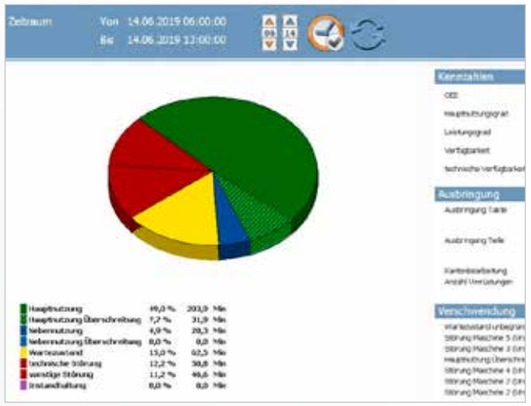
Our machines are equipped with everything needed for productive use as standard.
In addition, a wide range of software modules can be supplemented to create the optimum configuration.





PC87 Slot assignment

- Simple control of main machine functions through soft keys
- Graphical loading



MMR Basic

- Machine Data Recording – collecting and evaluating machine states via time meter and event meter
- Display and logging of maintenance measures
- Expandable with further modules from the MMR product family

woodWOP

- The programming software for HOMAG CNC machines
- WOP programming, CAD design and CAM system combined in one software package
- High ease of use and more programming safety due to modern 3D user interface
- Variably expandable with many powerful additional modules

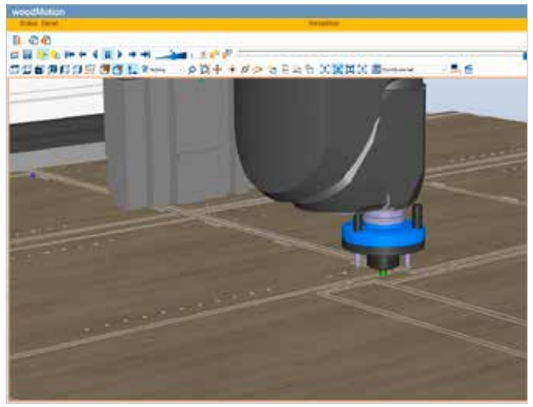
New in woodWOP 9.0

- New design, including dark mode
- Favorites menu
- Drag&Drop, intelligent object snap, multi-select, new mover

Mobile operator terminal

- The mobile operator terminal with 24“ full HD multitouch display can be moved freely.
- To the left or right of the machine, or for the run-in directly in front of the machine – the terminal is always at the right place.





woodMotion

- Graphical 3D simulation software
- Material removal and residual part detection
- Collision detection
- Processing time calculation
- High realism through simulation based on a virtual machine control system

collisionControl

- Monitoring of collisions between machine components during processing
- Automatic machine stop in the event of an imminent crash situation



intelliDivide Nesting

Entry into cutting optimization for CNC machines

intelliDivide is the web-based cutting optimization program of the HOMAG Group. The optimization software enables, among other things, intelligent import from CSV, XLS(X), PNX, MPR, rectangular and free-form part optimization and part-in-part nesting. Part of the Nesting Production Set.

THE ADVANTAGES:

- No local hardware is needed. intelliDivide operates independently of the operating system; internet access is all that is required
- Users do not have to worry about maintenance or updates
- Low-cost entry into optimization
- Intuitive, simple operation.
- Simple, usage-based booking possible. Whether a free trial month, monthly subscription or annual subscription, every customer chooses the best option for them.



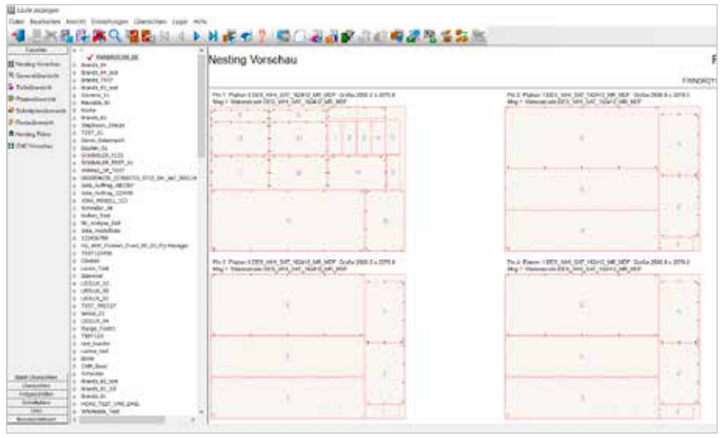




Cut Rite Nesting:

Cutting optimization for CNC machines with many additional functions

Cut Rite is the HOMAG Group‘s cutting optimization for use in work preparation and can be used for saws and CNC nesting machines. Interfaces for data import and export are part of the standard scope. Other standard functions include batch mode, the definition of cutting rules and the assignment of priorities for parts.



With the additional option Industry for Cut Rite Nesting, the waste can be further reduced (approx. 10 to 20% depending on the parts spectrum). The woodStore interface is available for automatic communication with a HOMAG panel storage system.

THE ADVANTAGES:

- A software for cutting optimization for saws and/or CNC machines.
- High flexibility already included in the standard scope of delivery
- Seamless communication with the HOMAG automation concept and with the HOMAG panel storage system
- Wide range of options and interfaces for importing and exporting data

INFO POINT

Discover more. Make better decisions.
Scan the QR codes to access additional content for this brochure, including videos, real-world examples, digital solutions, spare parts access, and services from HOMAG – anytime, right on your mobile device.

SCAN OR CLICK

Product Videos
See, understand, decide

See for yourself: Our videos demonstrate features, applications, and concrete benefits – in a realistic, practical, and solution-oriented way.

Product Insights
The content of the brochure

Discover in-depth information – for a better understanding and greater confidence in your decisions.

Digital Solutions from HOMAG
Better overview. Greater efficiency.

Streamline your processes with minimal effort: Our apps are the perfect starting point – they provide transparency, reduce workload, and boost your productivity in the long term.

HOMAG eShop
Spare parts without downtime

Save time and avoid downtime: Find genuine replacement parts quickly, order them with confidence, and take advantage of attractive price savings.

HOMAG INTELLIGENCE
Systematically leverage competitive advantages

BRAND NEW: Get more out of your data: Intelligent networking of machines and processes for better decisions and measurably higher efficiency. Unique in our industry, this solution optimizes the data flow end-to-end.

Personalized Consultation
Solutions that fit

We have a proven track record of having the most extensive and longest-standing experience in the market. Talk to our experts: fast, direct, and personalized – we'll help you find the best solution.



Robot integration

Automatic panel and workpiece handling with STACKBOT C-300

The smart concept allows parts to be picked from the entire nest as required and placed on a roller conveyor or stacked smartly onto a pallet.

ADVANTAGES OF ROBOT INTEGRATION AT A GLANCE

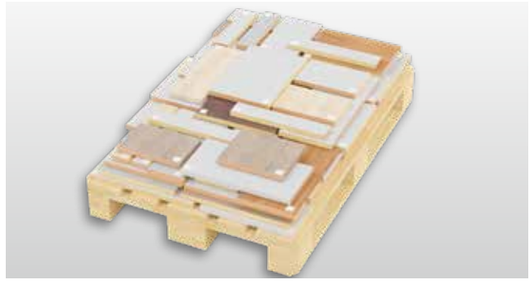
- State-of-the-art industrial image processing for maximum process reliability
- Compact stacking of individual parts in batch size 1 in a chaotic stacking pattern
- Intelligent remnant management for high material utilization
- One control system for simple and centralized operation using powerTouch 2
- No programming or robot knowledge required to operate the cell
- Central remote service access for support, via which all cell components can be viewed
- Industrial components for high availability and a long service life
- Increased performance thanks to extended production times (over breaks, after the end of shifts)

Efficient robot cross rail

- Individual and automatic control of the individual suction cups
- Gentle workpiece handling thanks to rubberized suction unit surfaces
- Structures in the workpiece can be offset without reducing the suction power

Picking from the nest

- Individual parts are visually recognized and identified
- All component data is known at all times and can be passed on to downstream processes



Chaotic stacking

- Compact stacking of individual parts in batch size 1
- Intelligent algorithms calculate an optimal and stable stacking pattern
- Pre-sorting of individual parts into different target stacks for efficient production processes

LIFE CYCLE SERVICES

Always by your side, right from the very start.

Team & coverage

Largest global service network in the industry with over 1,750 personnel.

eShop & online advantage

A few clicks and it’s fixed. Receive exclusive advantages by ordering spare parts online, depending on market availability. shop.homag.com.

Maintenance & servicing

To keep things running, we’re happy to take a preventative approach. You decide how often and how intensively you want the support to be. As we all know, prevention is better than the cure.

Modernization & improvement

Our modernization program is tailored to your machines and processes. We can evaluate your data and situation and advise you on the next step.

Training & education

With classroom, live online or eLearning training, we offer flexible options to help you get knowledge. We conduct over 4,000 customer training courses every year, and we even have our own training centers in 19 countries.

sR Bridge

The serviceRemote Bridge is our secure remote service solution for HOMAG machines and is compliant with the latest EU safety standards. The sR Bridge enables us to establish a secure and updateable connection.

Hotline & readiness

When there‘s an emergency, we‘re here. Direct by phone, digitally via app or video, or with on-site support. We are close to you with over 90 regional service organizations worldwide. With more than 60,000 spare parts immediately available, we can deliver 90 % of your orders fast.

Financing & consulting

We offer you tailor-made financing concepts worldwide. With more than 60 years of experience and a close partner network of prominent banks and insurance companies to help us to find the right solution for you, we’re always transparent and reliable in processing.

We have been working primarily with HOMAG machines for over 30 years. With preventive maintenance and regular inspections, we have increased the useful life by more than 3 years to an average of 18 years in multi-shift operation.

Ulrich Weber, Plant Manager, Duravit



VALYOU

Our Mission, Your Performance

Fast support
94% resolution rate via our hotline

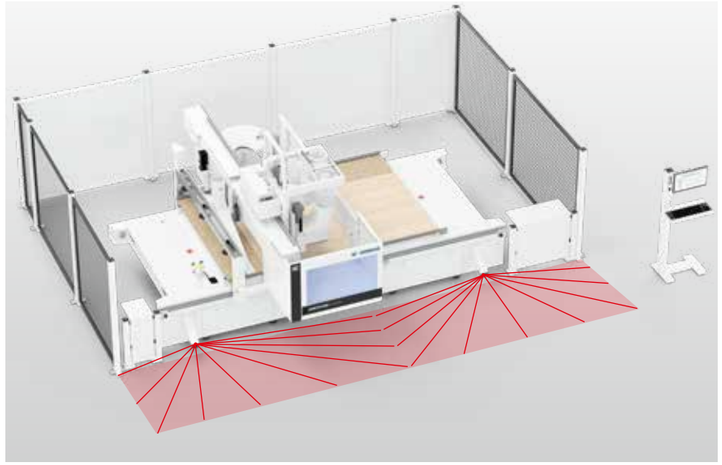
Close to you
1,750 service experts worldwide

We get things moving
Over 2,000 worldwide spare parts shipments each day

No one else has that
Electronic documentation on over 150,000 machines, available in 28 languages

Safety concept
Safescan

The focus of the selected safety concept is on output and productivity.
The system can produce independently, quickly and with high dynamic parameters without intervention.



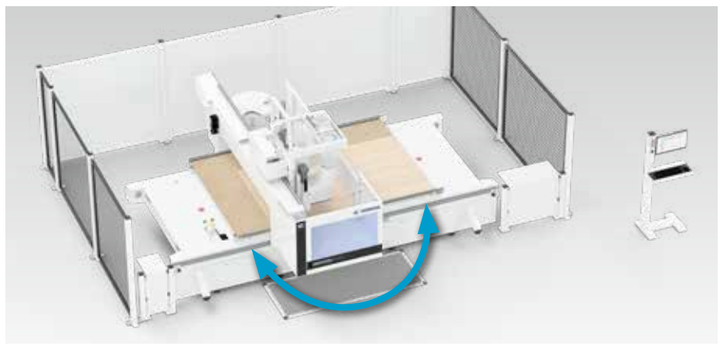


Safescan

- When entering the safety area, the machine stops.
- After leaving the safety area and confirming at the operating terminal, the machine continues processing.
- The sides of the machine are secured with fences. There must be a closed, bullet-proof wall at the rear.

Alternating operation
Gapless changeover between left and right table sides

Separate vacuum supply of the table sides enables normal and dynamic alternating operation. The vacuum fields are assigned to the table sides and can be controlled individually. While workpieces are being routed on one side of the table, they can be loaded on the other side. Highly efficient, time and money saving production.



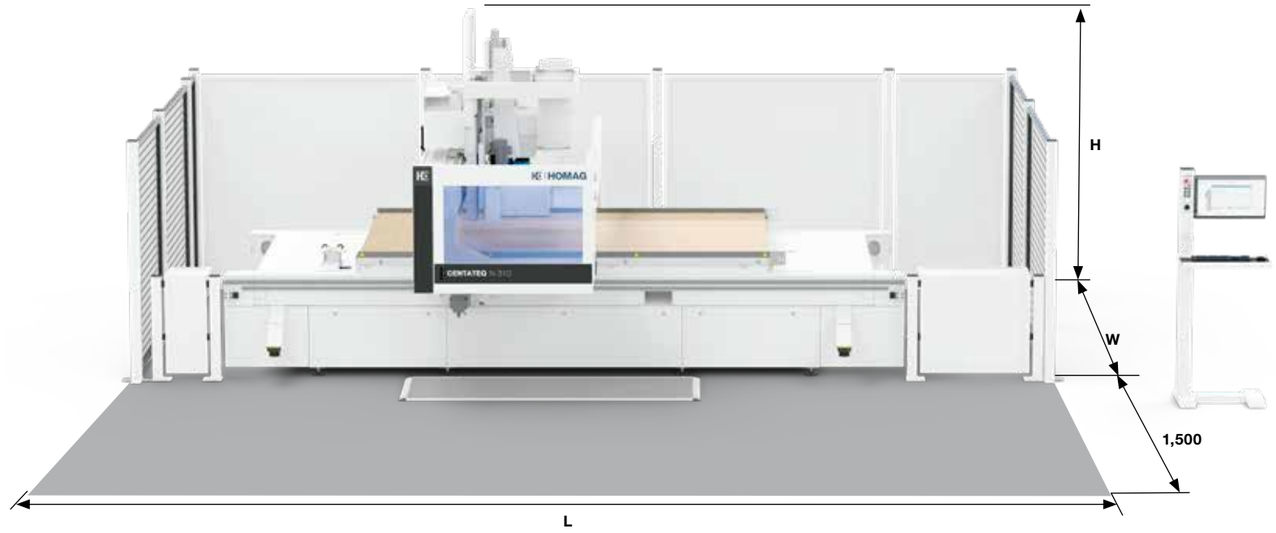
Dynamic alterning operation in nesting as well

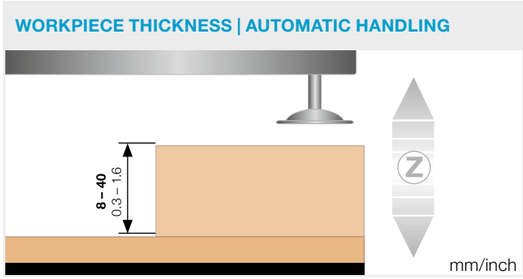
- Simultaneous workpiece handling and processing of different components



Access-protected mat with alterning operation

- The access-protected mat serves as a protective measure for the operator and is activated when stepped on.





WORKING DIMENSIONS

Y = Workpiece width 1 or 2 Z-axes		**A = 0° with tool diameter 25 mm**	**A = 90° with tool length 195 mm / with all aggregates**	**Drilling / Loadable workpiece**
/16	mm/inch	1,590 / 62.6	1,590 / 62.6	1,590 / 62.6
/22	mm/inch	2,160 / 85.0	2,160 / 85.0	2,160 / 85.0

X = Workpiece length		**A = 90° with tool length 195 mm / with all aggregates Individual processing**
/32	mm/inch	3,180 / 125.2

Z = Workpiece thickness		**from table**
	mm/inch	260 / 10.2

INSTALLATION DIMENSIONS

Machine type		**Installation length L**	**Installation depth W**	**Installation height H**
/X/Y Compact	mm/inch	approx. X + 4,385 / 172.6	approx. Y + 3,840 / 151.2	2,825 / 111.2
/32/22 Konzept 2H+*	mm/inch	approx. 10,550 / 415.4	approx. 6,000 / 236.2	2,825 / 111.2

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

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