HOMAG

SAWTEQ flexTec – the hybrid robot saws

Intelligent automation.
Future-proof production.

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 panel dividing solutions.

Exact angles, exact cuts, over and over again. With maximum precision in cutting, joiners lay the foundation for the high quality craftsmanship valued by customers. However, horizontal panel dividing saws from HOMAG not only impress with real precision work, but also with flexibility, speed and economy.

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

Building living spaces.

Building precision.

Zero tolerance for tolerances.

Intelligent robotics meets freedom of craftsmanship

Businesses with a wide variety of orders, limited production space and challenging staffing situations need machines that take the pressure off, stabilize processes and create valuable flexibility.

Our innovative hybrid concepts, consisting of saws and robotics, do just that: they combine intelligent automation with the freedom of craftsmanship. This allows you to switch flexibly between robot mode and manual operation as required.

In robot mode you can produce batch size 1 highly efficiently, and in manual mode you benefit from the processing versatility of classic HOMAG saws, for example for package cutting or trimming thin panels.

YOUR SOLUTION

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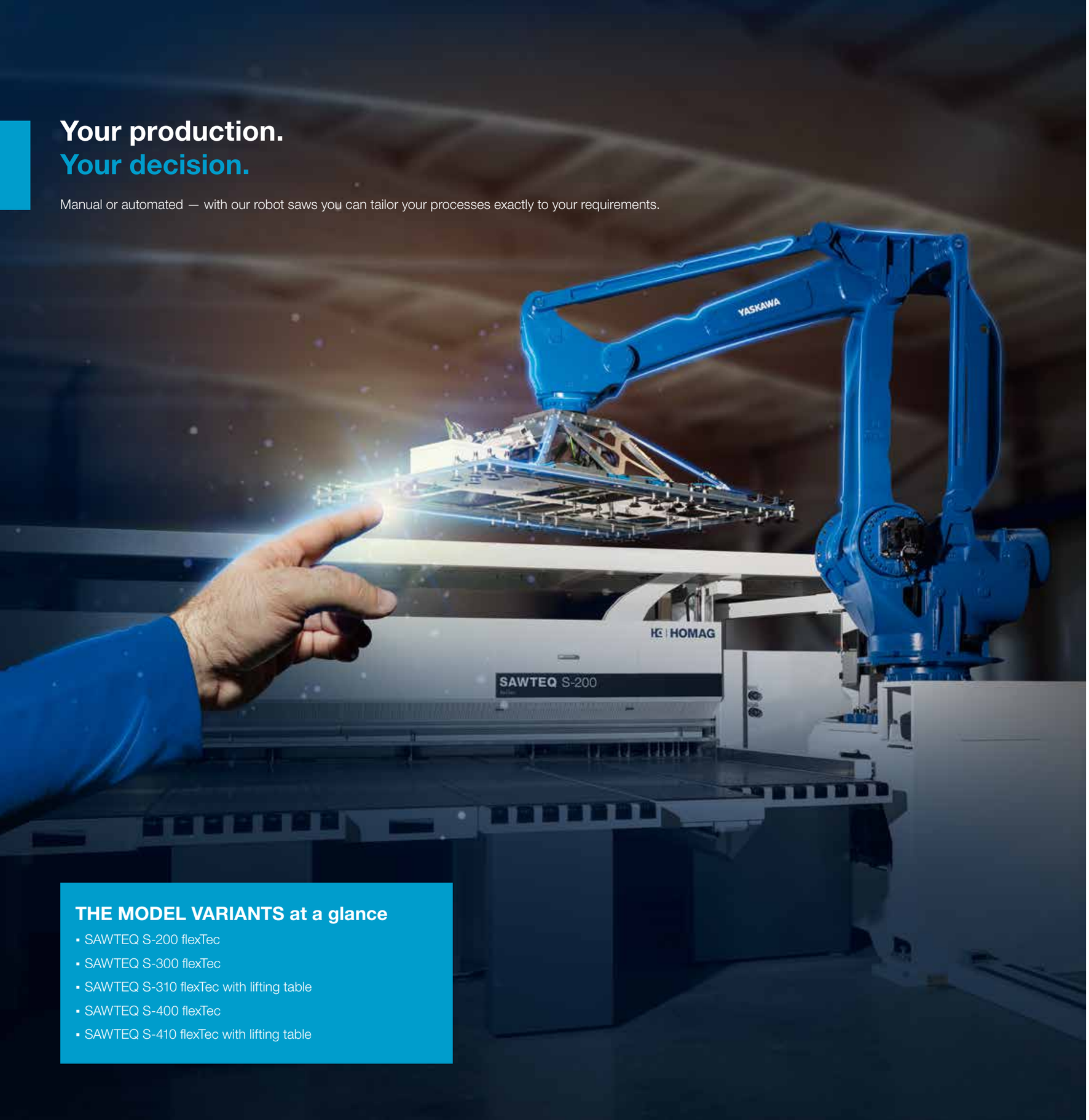
Your production.
Your decision.

Manual or automated — with our robot saws you can tailor your processes exactly to your requirements.



THE MODEL VARIANTS at a glance

- SAWTEQ S-200 flexTec
- SAWTEQ S-300 flexTec
- SAWTEQ S-310 flexTec with lifting table
- SAWTEQ S-400 flexTec
- SAWTEQ S-410 flexTec with lifting table

YOUR BENEFITS

In robot mode:

- Highly efficient batch size 1 production with up to 850 parts with the S-200 flexTec and up to 1000 parts per shift with the S-300/400 flexTec
- Low unit costs per part
- Unmanned operation until stack change
- Extremely low error rates
- Ghost shift: the saw continues working after the end of the working day

In manual mode:

- Complete operating freedom in the cutting process
- Maximum flexibility
- Can be used to cut thin panels and books

Robot technology

SAWTEQ S-200 flexTec, SAWTEQ S-300/S-310 flexTec and SAWTEQ S-400/S-410 flexTec are equipped with the same robot technology as the fully automatic batch size 1 cell SAWTEQ S-320 flexTec. Your benefit: in this point too, you are opting for proven technology and maximum reliability.

Feed options

Whether by hand, using a single-axis feeder, via a storage control connection or an integrated lifting table: there are many technologies to choose from for panel feeding.
Find out more from page 36 onwards.

NEW: Intelligent destacking options

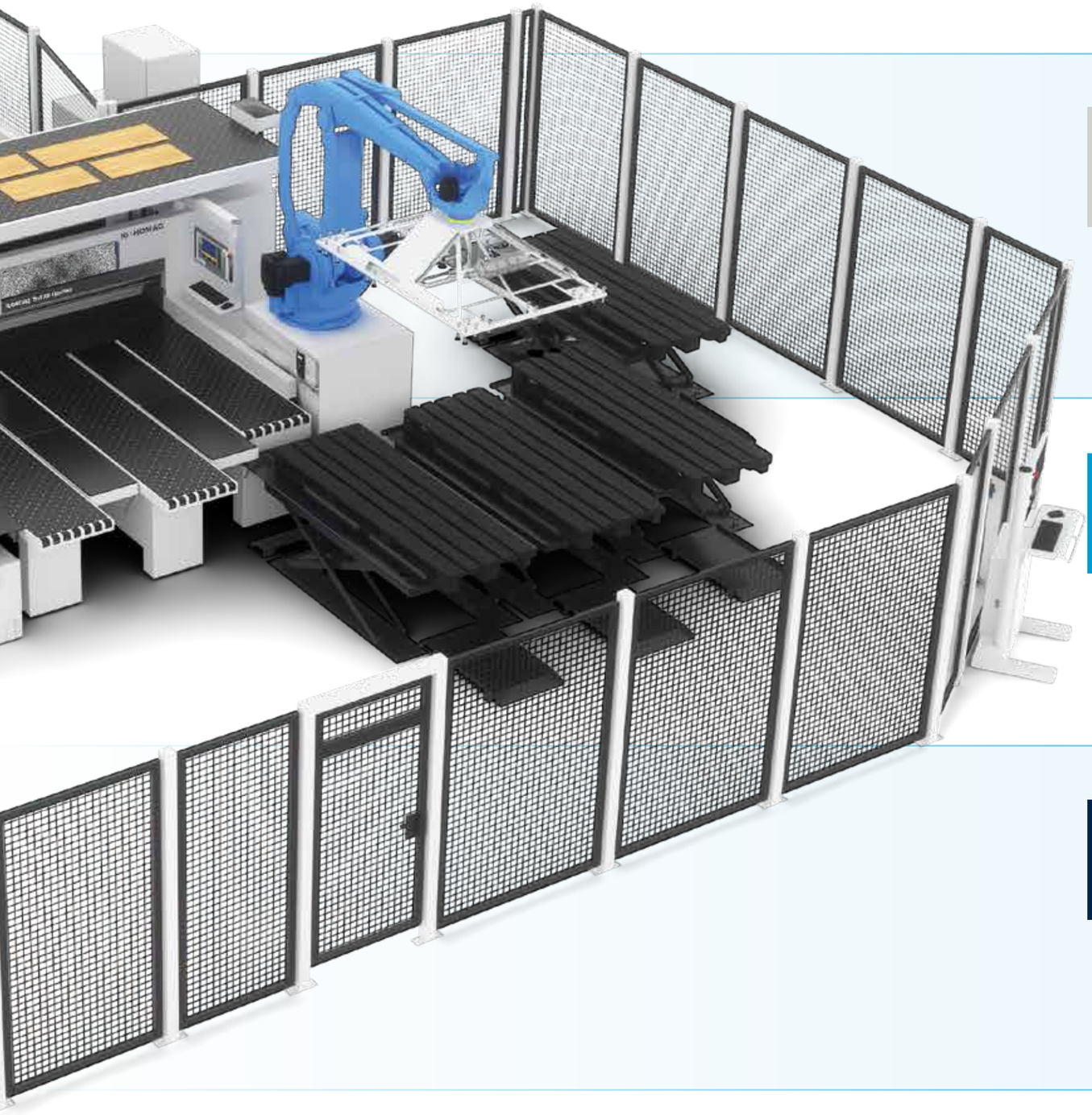
The choice is yours: destacking at floor level or destacking on lowerable lifting tables. Each variant has with its own strengths and can be seamlessly integrated into your processes. No matter which solution you choose, the specially developed destacking software with an intelligent algorithm ensures highly intelligent stacking.

Wide variety of features

The robot saws can be individually tailored to different requirements and production environments. A wealth of additional technical options ensures greater output, ergonomics and flexibility.

Differences
in machine configurations

Essentially, the model variants correspond in design to the SAWTEQ S-200, SAWTEQ S-300/310 and SAWTEQ S-400/410. The standard features and optional features are designed to build on one another – from the smallest hybrid saw SAWTEQ S-200 flexTec, through the SAWTEQ S-300/S-310 to the SAWTEQ S-400/S-410. This allows you to benefit from an integrated concept that grows in line with your requirements.



SAWTEQ S-200 flexTec

Hybrid machine concept, robot, automatic waste disposal system, including waste flap, destacking algorithm with various destacking options: floor-level or on lowerable lifting tables, passive buffer, ejection device, folding air cushion table and inlay panels for air cushion table area, cutting length 4300 mm, simple storage control connection, Advanced labeling system, saw blade projection 65/80, parts output 850 parts per shift.

SAWTEQ S-300 flexTec S-310 flexTec

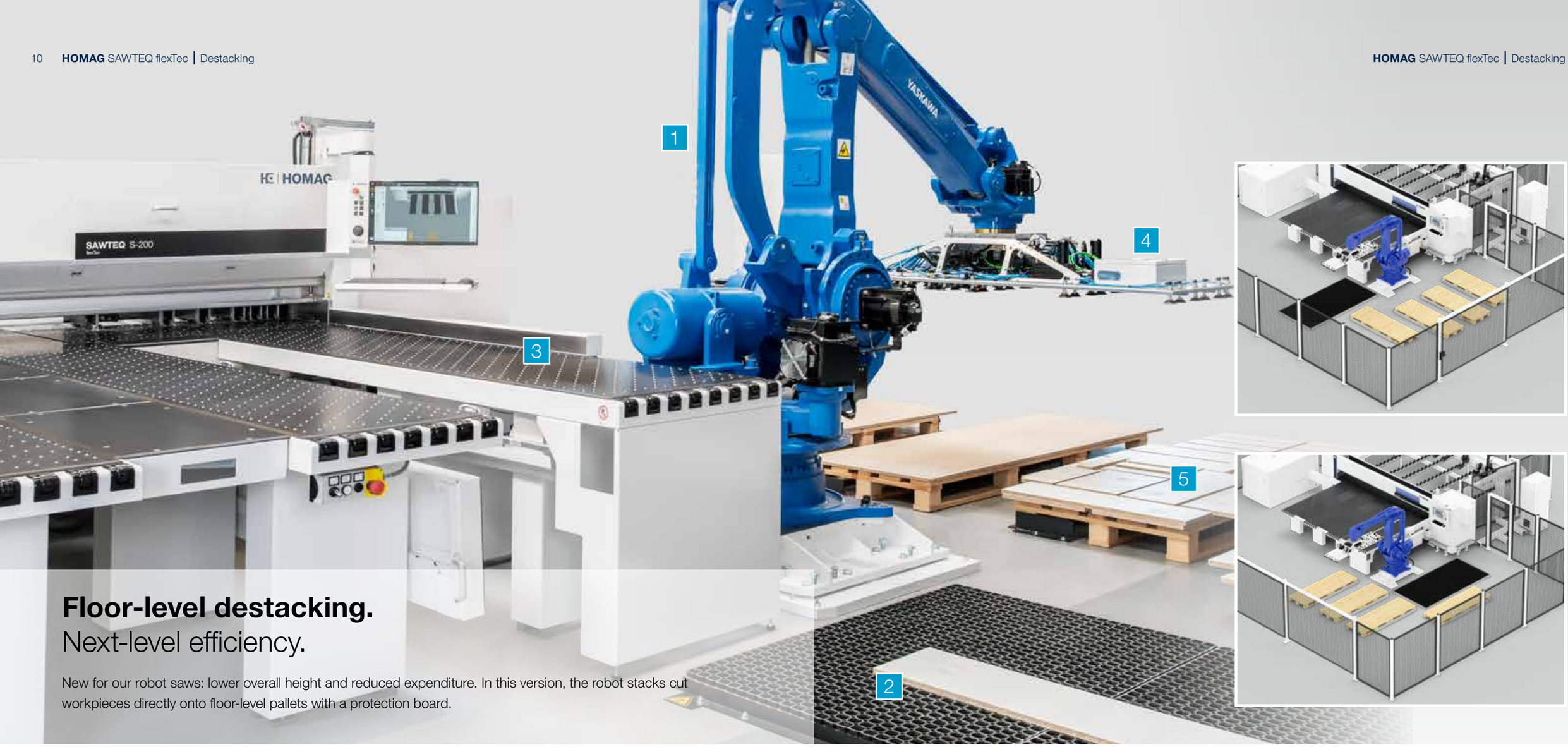
In addition to the SAWTEQ S-200 flexTec equipment

Basic machine also available as a lifting table saw, complex storage control connection, Premium labeling system, semi- and fully automatic stack outfeed, MSQ, toleranceCheck, saw blade projection 80/95, parts output up to 1000 parts per shift.

SAWTEQ S-400 flexTec S-410 flexTec

In addition to the SAWTEQ S-300 flexTec equipment

Saw blade projection 110 and 125, for use with thick panels and package cutting.



Floor-level destacking.
Next-level efficiency.

New for our robot saws: lower overall height and reduced expenditure. In this version, the robot stacks cut workpieces directly onto floor-level pallets with a protection board.

1

Robot

The robot operates in a lower position as it stands directly on the base. This significantly reduces the required hall height and facilitates integration into existing production environments.

2

Parts buffer

In this destacking variant, the parts buffer is located directly on the base. This is where the robot temporarily deposits parts that are to be destacked or fed back into the saw.

It's worth noting that, if the base conditions allow, the part buffer can be implemented with removable mats in an east-facing orientation. Alternatively, a pit solution is possible.

3

Cleaning station for the alignment suction unit

In this version, the cleaning station for the cross rail's alignment suction unit is installed directly on the right-angled fence. Regular blowing off prevents dust deposits on the vacuum suction unit, ensuring consistently high process reliability.

4

Cross rail with integrated height measurement

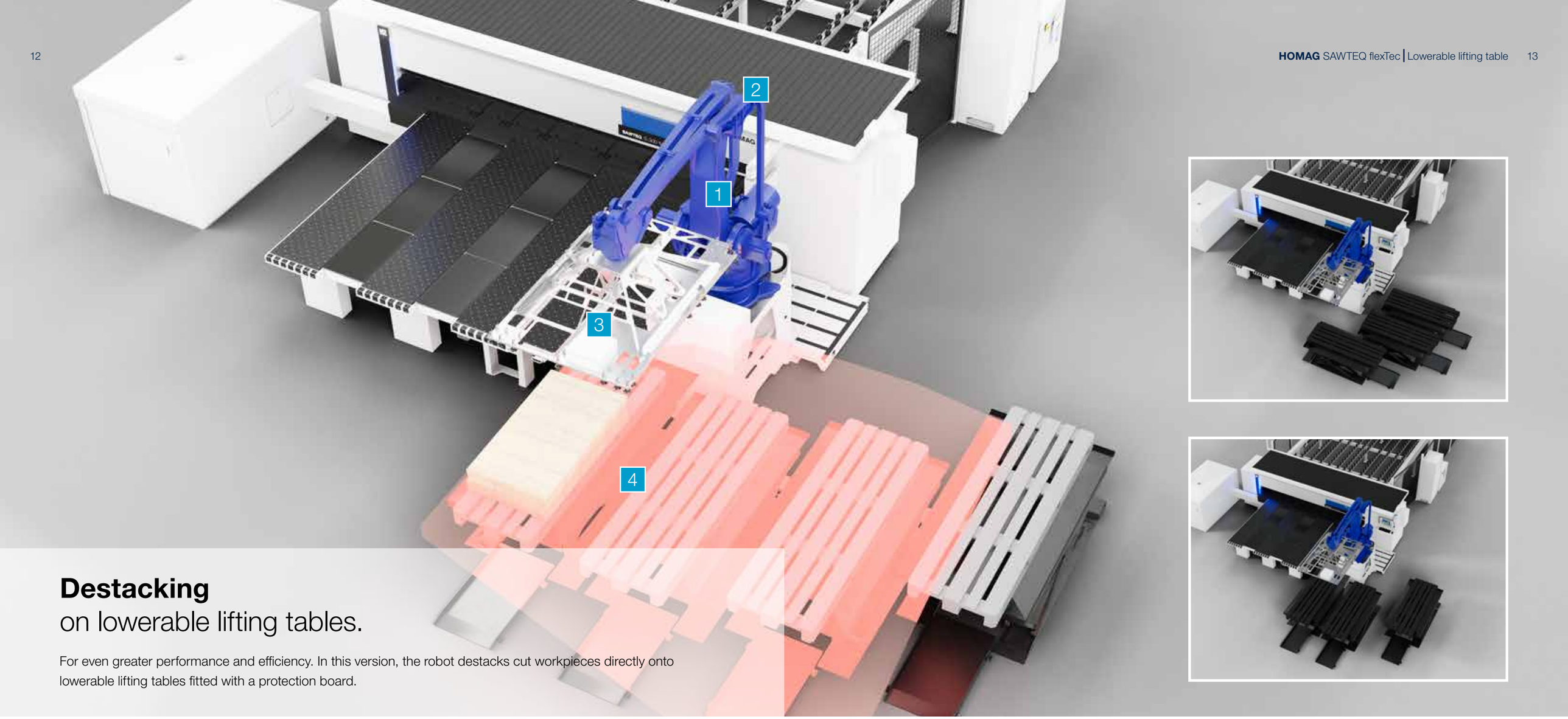
The cross rail has been redeveloped for base-level destacking, but continues to rely on HOMAG's proven technology. Thanks to its slim design, it descends precisely and safely onto every stack, avoiding collisions with adjacent stacks. Integrated height measurement continuously monitors the stack height and signals to the cross rail when to slow down and deposit a part. At the same time, it checks whether the part is positioned exactly at its intended height.

5

Pallet positions and size

The pallets can be customized to suit the customer's requirements, with either an east or south orientation. Base stops clearly mark the intended deposit position and ensure repeatable positioning. After cutting, the pallets can be transported easily using a pallet truck or forklift.

Configuration frame:
Four pallets measuring 2400 x 1200 mm are always configured. Optionally, the first pallet can be selected for larger part formats (3150 mm x 1350 mm).



Destacking
on lowerable lifting tables.

For even greater performance and efficiency. In this version, the robot destacks cut workpieces directly onto lowerable lifting tables fitted with a protection board.

1

Robot

The robot is mounted on a raised base. The additional height increases its range and enables a continuous, efficient process when destacking onto lowerable lifting tables.

2

Parts buffer and cleaning station for the alignment suction unit

The system has a parts buffer directly above the pressure beam. This is where the robot temporarily deposits parts that are to be either destacked or fed to the saw again later. In order to ensure maximum process reliability, the parts buffer is equipped with a cleaning station for the alignment suction device on the cross rail. Dust deposits on the suction cups are regularly blown off.

3

Cross rail and surface scanner

To ensure precise positioning of the workpieces, the surface scanner continuously monitors the height of the destacking lifting tables. This reliably prevents collisions with adjacent stacks. As no lowering between the stacks is required when destacking onto lowerable lifting tables, the tried-and-tested, slightly wider cross rail can be used. This reduces gripping movements to a minimum, optimizes process times and thus contributes to increasing the overall performance of the cell.

4

Pallet positions and size

Diversity of materials, picking destinations, number of orders processed in parallel: many parameters determine the optimal number, size and positioning of the lifting tables in each individual case. As requirements vary greatly from one operation to another, we work with you to develop a lifting table layout that is precisely tailored to your processes. When aligning the lifting tables, you can always choose between east and south orientation.

Configuration frame:

- As a minimum, a large and small lifting table are required
- The maximum number that can be combined with each other is three large and two small lifting tables

Your flexTec benefits at a glance

Fully automated batch size 1 cutting process

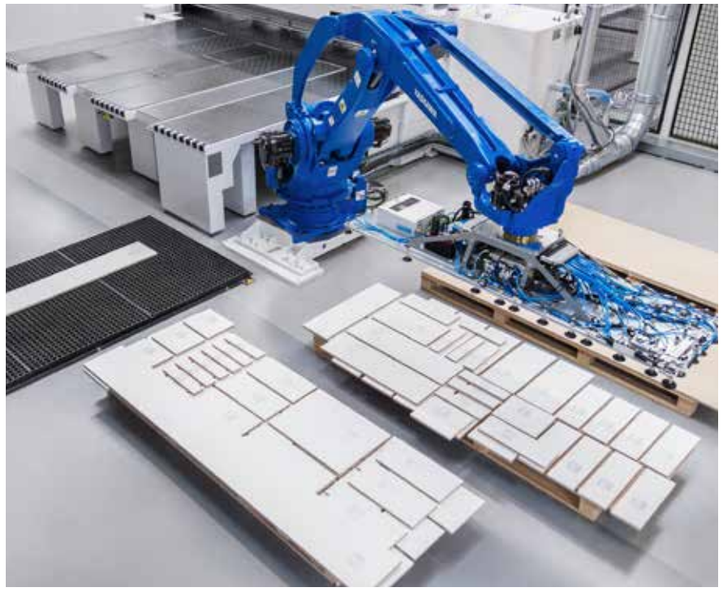
- All saws are optimized for the single-panel cutting process in woodworking shops, but are also suitable for use in industry
- The modular design provides the basis for numerous variants — individually aligned to your requirements
- The result: seamless workflows with high throughput in a compact space
- Minimal operating effort, low tool and maintenance costs
- High output with up to 850 parts per shift with the S-200 flexTec and up to 1000 parts per shift with the S-300/400 flexTec in robot operation
- Carries on working after the shift is over thanks to the ghost shift

Perfect handling

- Fully automatic rip and cross cutting with just one saw
- No more manual panel handling, instead the option for unmanned operation — freely selectable depending on the operating mode
- The robot even takes care of handling the offcuts, provided that offcuts are automatically destacked to a place reserved for this purpose or returned to the store
- Automatic labeling of the finished parts is possible — with part- and order-specific information for further manufacturing operations
- In manual operating mode, it is furthermore possible to cut books of panels or to cut thin or larger/smaller-than-average panels in the usual way. The robot itself can handle panels up to 3200 mm in length; with optional features, panels up to 4300 mm in length can also be cut using a customized process.

An investment that pays off

- Production simulation of your cutting patterns during the quotation phase
- Simulation results optimized for maximum automated cutting or performance
- Transparency regarding the expected parts output, production time and number of stack changes based on your individual production, configuration and series selection as well as the selected destacking variant and strategy
- Displays the automatic production times in which the saw operator can be used in other production areas to create added value
- Shows optimization potential, e.g. use of the ghost shift or lower production times



No special robotics or programming knowledge is required!

Unmanned operation

- In robot mode, unmanned operation is possible over longer periods
- The robot moves the panels using gentle vacuum technology, works accurately, requires little maintenance and is highly available
- Production interruptions are almost completely ruled out thanks to the tried-and-tested industrial robot (almost 100% availability)
- No special robotics or programming knowledge is required
- Extremely low error rate in robot operation

Recuts almost at will

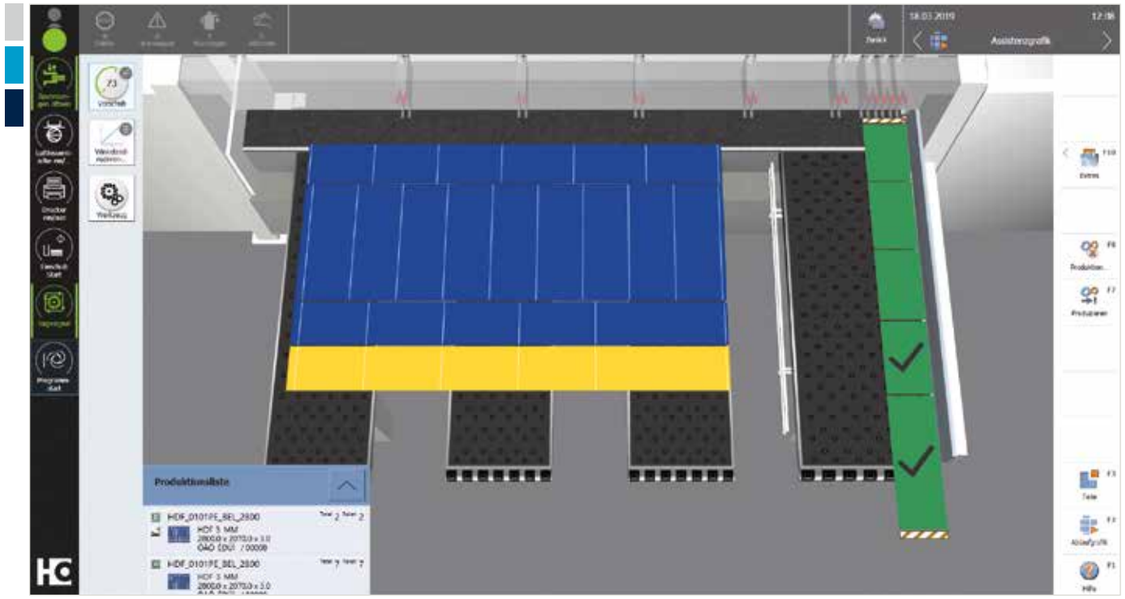
- Full flexibility in cutting pattern amendment thanks to recut technology
- Allows unlimited recuts provided that the panel materials comply with certain minimum and maximum dimensions
- Head parts and thus main parts of any length are possible within the maximum panel dimensions

Systematic safety

- For robot operation, the operator terminal at the saw is parked in a safe position. The position is continuously checked by sensors while the robot is working
- During robot operation, the saw can be operated from a separate machine terminal. This is outside the fenced-in safety area
- During manual operation, the external operator terminal is automatically switched off
- A (three-color) indicator light on the fence informs operating personnel of the current operating status of the saw
- In automatic mode, the lanes between the air cushion tables are closed using insertion plates

Software

Always up to date, intelligent and developed by HOMAG experts: tailored software solutions ranging from optimization to the CADmatic 5 machine control unit and destacking allow you to get the most out of your saw. Highly efficient and reliable.



MACHINE SOFTWARE

CADmatic 5 – intuitive to operate and open for digital networking

The latest generation of the HOMAG saw control system has a 3D assistance graphic that clearly shows the machine operator all the steps in order. It is intuitive to operate, which shortens the training time and reduces errors to a minimum.

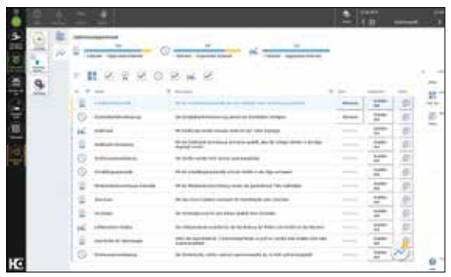
Highlights:

- Simple, intuitive and ergonomic machine operation thanks to the 3D assistance graphic including quickTip
- This results in efficient processes and a steady output
- Swiveling and tiltable 24" full-HD multi-touch display in widescreen format is easy to use by swiping, scrolling and zooming
- Uniform operating concept thanks to the powerTouch user interface
- All HOMAG saws with CADmatic 5 are automatically tapio-ready

Find out more in the "CADmatic" brochure.

quickTip — the assistant for optimal use of the machine functions

quickTip is an assistance function integrated into the HOMAG saw control system for maximum quality, operator comfort and performance. It supports the machine operator by providing recommendations for optimal use of functions directly at the saw. The advantage is that the functions and parameters can be activated centrally at one single point in CADmatic — this simplifies work, ensures smooth processes and a uniformly high output.



DESTACKING

The HOMAG destacking algorithm

Regardless of whether the finished parts are destacked at base level on pallets or on lowerable lifting tables, the specially developed destacking software with its intelligent algorithm enables the flexTec saws to operate unmanned over long distances. The robot works without operator intervention until the stacks are finished.

The operating principle: clever and highly automated

The finished parts exit the saw in the order in which they are cut.

The robot systematically forms stable stacks. It also makes use of the available buffer area during the destacking process. This means that the lifting tables or base-level pallets are used more intelligently than ever to form perfect stacks.

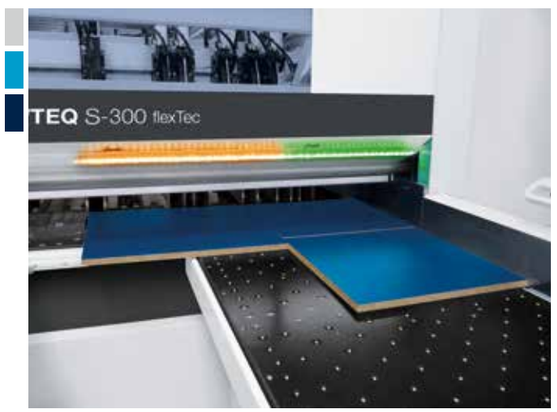
Maximum process stability with minimal operator input

Stack formation is freely configurable and enables sorting by order, parts family or material flow, among other things. The complementary destacking strategy – either random or by type – ensures stable and automated system operation with minimal operator input.

The result: Complete efficiency

- The software determines the number of stacks to be produced in advance and simulates them in CADmatic
- A preview graphic shows what the planned stacks will look like. This ensures transparency and also makes production planning easier
- Accurate prediction of production times
- The algorithm continuously calculates the remaining production time until completion of a stack
- The robot can destack parts according to an optimization strategy based on either the destacking location or downstream process
- Pure type, chaotic or individually defined stack layouts for even more flexibility and significantly easier handling
- The robot always tries to utilize the maximum stack height
- It forms absolutely stable and, at the same time, fewer stacks than is normal when manually destacking
- If desired, data is transmitted to the tapio MachineBoard app. The app notifies the operator in good time when a stack is finished and operator intervention is required. This makes planning easier and ensures a smooth workflow. Operators do not have to monitor the saw, and can use their work capacity to create value somewhere else.

Software



OPERATOR ASSISTANCE

intelliGuide Classic (optional feature)

intelliGuide always shows the operator the next step directly at the saw. The system accomplishes this by means of an LED strip at the cutting line. The LED strip produces light signals that appear directly in the operator's field of vision.

- Colored LED signals at the cutting line allow intuitive operation and a quicker, safer way of working
- Using the colored LED elements, machine operators can immediately see if a part has been fully processed, needs to be cut again or can be disposed of as a waste part
- Based on the LEDs that are lit up, the operator can determine whether the workpiece being processed meets the required specifications

OPTIMIZATION

Cut Rite (optional feature)

Efficiency through planning: This short phrase sums up the key benefits of the Cut Rite software. With this world-leading software solution, you can optimize waste and systematically lower the overall costs for cutting.

- Seamless, precise and highly efficient processes ensure optimized project control
- Efficient cutting processes that can be individually adapted to your production processes using parameter settings
- Full cost control within the cutting process: Material costs and processing time are calculated automatically when the quotation is prepared
- Cutting pattern optimization takes only a few seconds
- Simple handling: Clearly structured and easy to operate, with graphical display of information

Find out more in the "Cut Rite" brochure.

OPTIMIZATION

intelliDivide (optional feature)

Simply upload the parts list. Done! The result? A choice of several alternatives for cutting patterns and entire runs. That's how easy intelliDivide makes it.

In detail: the cloud-based optimization software intelliDivide utilizes significantly higher computing capacities than are available for locally installed optimization software and can therefore swiftly provide the user with several alternative optimization results.

This means that with intelliDivide, the operator can choose from a variety of options, including cutting plans based purely on reducing waste, on the shortest processing time or on the simplest handling — each perfectly adapted to the relevant requirements.

Applications are varied and are geared toward both woodworking shops and industry.

OPERATOR ASSISTANCE

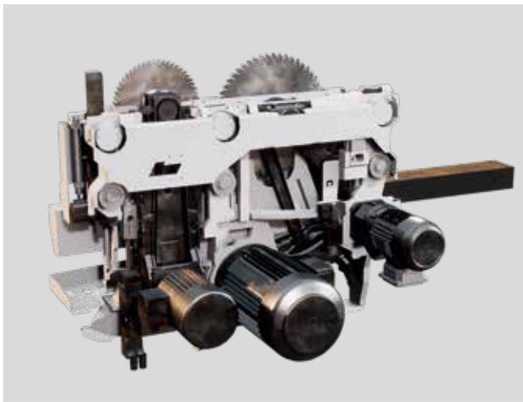
materialManager Advanced (optional feature)

- Efficient and simple machine use: Based on your quality requirements and saw blades, your machine automatically adjusts itself correctly to the material — for optimal interaction of feed and saw blade projection, and potentially also speed, regardless of the respective machine operator.
- Fewer sources of error: Automatic adjustment of saw parameters when the material is changed. The machine operator is also warned if they are using an unsuitable tool.
- Creates transparency: By looking at the app, the user can easily see how the tool was used and when it needs to be sharpened.
- Up to 8% performance potential: optimized feed speed at a defined processing quality.
- Up to 20% lower tool costs: extended tool life thanks to optimal saw parameters.

Illustrations may show the technical principle but not the precise machine variant described. Optional features, for example, may be shown.

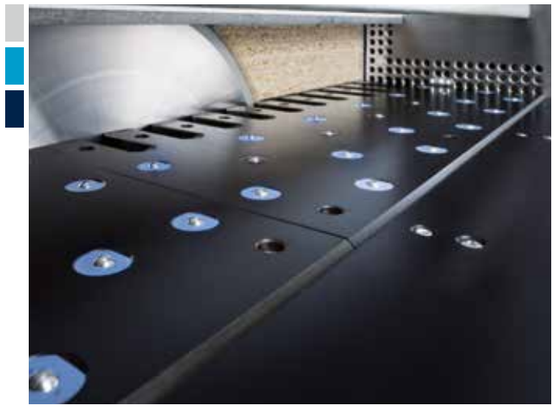
Standard features

The standard flexTec saw is designed so that no optional features are needed for partially unmanned operation. The difference to the classic saw is that flexTec machines have a wide range of options as standard.



One saw carriage, numerous benefits*

- Torsion-resistant, rugged and resilient basic design of the steel plate body for maximum dynamics and precision
- Infinitely variable feed speed — for precision cutting of demanding materials
- Long-term accuracy of saw blade projection
- Fast, precise, low-wear and infinitely variable positioning of the main saw blade by means of linear guide system with rocker arm (patent)
- Energy-saving feature: main saw motor is not raised
- Improved chip guide reduces the suction power by up to -12%**



Patented dustEx technology

dustEx guides dust and chips on a direct route toward the suction device. How does it work? Using combination air jets and an optimized extraction geometry at the right-angled fence. Furthermore, the machine table is fully equipped with nozzles. This is particularly advantageous when cutting sensitive material or handling especially heavy panels and books. To round off the dustEx package, we recommend using a dust-trap curtain.

Robot with suction cross rail including alignment suction device

At the heart of these saws is an industrial robot with a specially developed suction traverse including alignment suction device. It deposits the strips and parts close to the right-angled fence, where the alignment suction device pushes them against the right-angled fence and into the back of the clamp. Additional sensors in the right-angled fence simultaneously monitor the position and alignment of the parts. This ensures the highest cutting quality in automatic mode.

Panel alignment

The panels are aligned by the robot. To do this, the panel is first pushed forward from the rear machine table onto the front machine table. There, the robot grips it and then places it precisely into the clamps. Special optional features are available for even faster alignment processes – see page 32.

Handy cleaning flap

Quick and convenient: The area under the saw carriage is easily accessible via flaps, allowing easy removal or vacuuming of cutting waste.

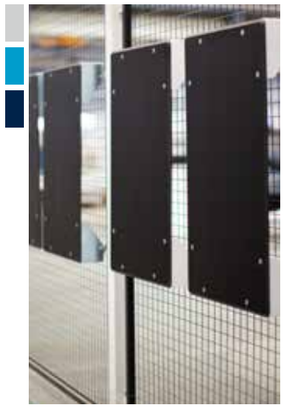
Illustrations may show the technical principle but not the precise machine variant described. Optional features, for example, may be shown.

*Illustration shows the S-300 flexTec saw carriage **Measured on the S-300 flexTec

Standard features

Central side pressure device

- Integrated directly into the saw carriage — shortens cycle times by up to 25% in comparison with conventional systems
- Infinitely variable adjustment of contact pressure — depending on panel thickness. This allows even thin panels, laminates or sensitive materials to be processed perfectly. Another key feature here is the book-height-dependent control of the contact pressure: the higher the book, the greater the pressure



Air table area

- 1. The lane is equipped with a folding air cushion table for easy switching between automatic and manual modes.
- Lanes 2 and 3 are each closed using three insertion plates. These can be removed when switching to manual mode and attached to the protective fence.
- In robot mode, the air cushion table is folded up in the lane 1 and the three insertion plates are inserted for each lane

Fully automatic labeling system on the Advanced pressure beam

A must in robot operation and an advantage in manual mode: the labeler is an integral part of the standard configuration. It labels the finished parts or the top part of the finished parts package automatically (in manual mode).

Good to know: The labeler is located near the pressure beam, i.e. in your field of vision, and has two labeling positions and one maintenance position.

- Labeling position 1: For parts up to 130 mm in width
- Labeling position 2: For parts over 130 mm in width
- Maintenance: 500 mm from the right-angled fence and directly in front of the maintenance flap – for easy access and simple label replacements

The premium version is available for greater flexibility, particularly in terms of labeling positions.

Fully automatic labeling system on the Premium pressure beam (optional feature)

Thanks to the servo-motor axis, there are individual labeling positions along the cutting line and the right-angled fence — even if several strips are processed side by side at the same time (Power Concept).

Advanced and Premium* labeling systems

- Label size: 76 x 76 mm
- Suitable for panels, offcuts and finished parts
- Gives precise details of the destacking location
- Gives precise instructions for further processing
- Saves time
- Minimizes errors
- Guides the operator

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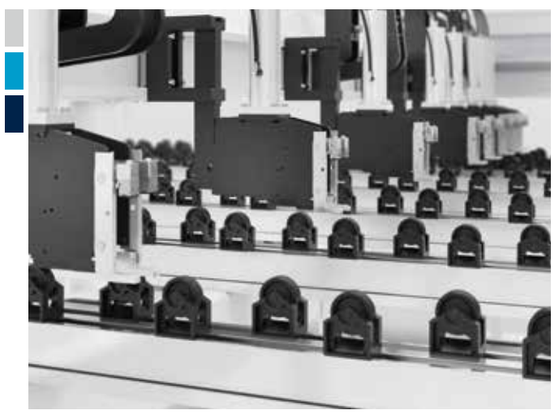
*The Premium labeling system is only available as an optional feature from S-300 flexTec

Standard features



Clamps

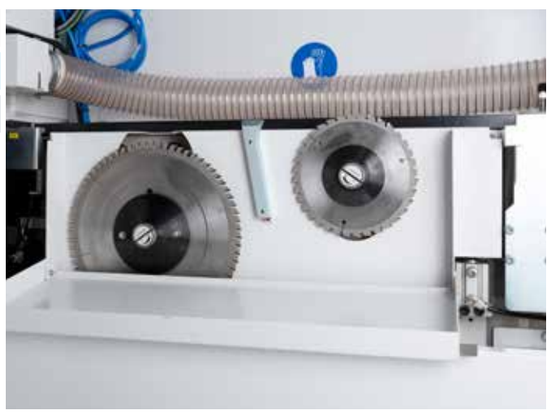
- Gentle positioning of material
- The bottom fingers of the clamps can be removed at any time to allow the back of the clamp to be cut in perfect alignment — a fast way to adjust
- The contact pressure can be adjusted (manually) to suit each particular material
- The short, rugged design allows material to be precisely held and guided more gently
- Irrespective of the book height, the top fingers of the clamps do not exert any leverage; instead, they are lowered horizontally and their entire contact surface rests on the material. This increases the working depth and ensures material is held firmly
- Robust and designed for continuous multi-shift operation. Two-finger design throughout from the S-300 flexTec onwards

Program fence for precision and dimensional accuracy

- Resistant to torsion and bending
- Electronically controlled
- Precision guidance on H-girder
- Electromagnetic measuring system guarantees a positioning accuracy of +/- 0.1 mm per meter
- Measuring system involves no wear and no maintenance

Rugged pressure beam for first-class cut quality

- Increased pressure beam lift*: the suction cross rail can move under the pressure beam
- Large-area pressure zone directly at the cutting line reduces material vibrations to a minimum
- Linear guide on both sides
- Toothed rack and pinion ensure the necessary parallel adjustment
- The result is accurate cuts, for books too
- With height control on request (available as an option)



Power-Loc system

- **NEW:** Reduced maintenance time as well as less damage to the tool and material thanks to an easy, central and ergonomic access
- **NEW:** Flange support* for quick and easy saw blade changes

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*The increased pressure beam lift is available from the S-300 flexTec onwards

*The flange support is available from the S-300 flexTec onwards

Standard features

Automatic ejector fence

- Pushes panel remnants from the rear machine table to the front

Swiveling multi-touch display with operating position on the pressure beam

The display with operating position on the pressure beam enables ideal orientation and a clear path for waste disposal.

Swiveling multi-touch display

The illustration shows the positioning on the SAWTEQ S-200 flexTec.

Clamp activation

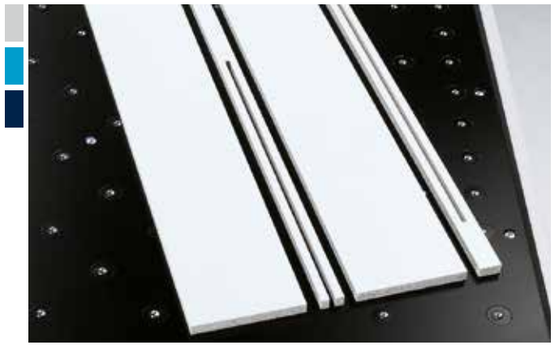
This option prevents damage to edges. Now also available: clamp activation in "measuring" mode.

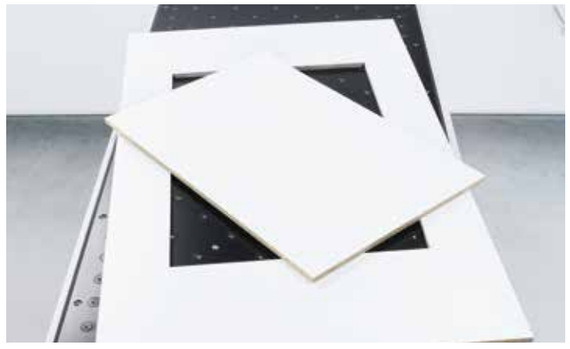
Optional on the SAWTEQ S-200 flexTec.

Illustrations may show the technical principle but not the precise machine variant described. Optional features, for example, may be shown.

Optional features

The HOMAG SAWTEQ S-200 flexTec, SAWTEQ S-300/S-310 flexTec and SAWTEQ S-400/S-410 flexTec saws are designed for maximum flexibility. This is achieved by the innovative machine concept, but also by the many optional features. The choice is yours!





Cut-out and stress elimination cut

Stresses in the material are released when the material is cut and can influence the quality of the dimensions and cuts. The stress elimination cut provides a solution here. Systematic preliminary cuts can be defined during optimization and release the tension in the material. In manual mode, the cut-out feature allows you to produce even cut-outs and insertion grooves immediately — for example, for doors or kitchen sinks.

- Cut-out function can be used in manual mode only.
- Stress elimination cut
  - in manual mode: one, two or three stages
  - in robot mode: two or three stages

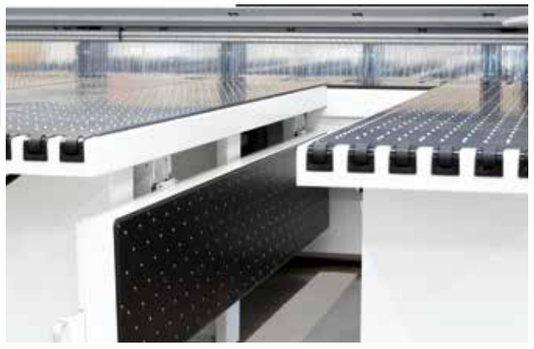
Control scanner

Mounted directly on the pressure beam printer, the control scanner checks just-in-time whether the parts cut are properly labeled.

- Ideal for quality assurance in automatic production
- Minimizes sources of error: the system checks independently whether parts are labeled and barcodes are legible
- If labels are missing or illegible, they are reproduced automatically

Additional start-stop key

- Allows the program sequence to be started independently of the control panel
- Equipped with an emergency stop key



Fold-down air cushion tables

- The lanes between the air cushion tables are equipped with folding tables
- The additional table in lane 1 is equipped with nozzles as standard
- In manual mode, the tables can be folded up or down to enable easy access to the cutting line or to prevent thin materials from sagging and to increase the work area
- For robot operation, the additional tables are raised and all gaps closed

Grooving

These options save you an entire work step in post-processing. This is because your saw will also groove the panel material.

Can only be used in manual mode.

Turbo grooving

With turbo grooving, you can process your panel material even faster than with a conventional processing center.

Can only be used in manual mode.

Optional features

Automatic waste removal

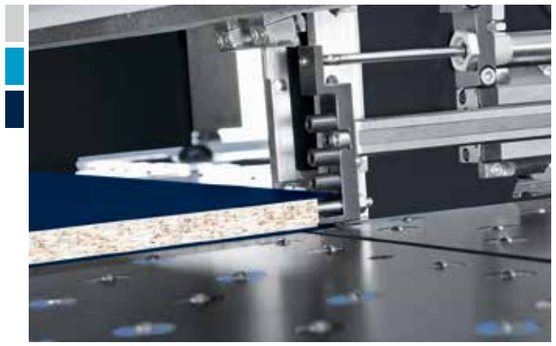
Compact and practical: a robust disk-wheel shredder connected to a waste container is at the heart of the automatic waste removal system. The system is completely enclosed and housed in a sound insulating booth.

Non-reusable offcuts fall through a waste flap onto a conveyor belt and are transported to the shredder. This draws the waste pieces in and shreds them into small pieces. The shredded waste is automatically ejected upward by the mechanism and lands in the waste container.

Can only be used in robot mode.

Option: Integrated direct suction in the waste disposal area

Benefits: the fully automatic waste handling also saves time for the machine operator and frees up their capacity for value-adding activities. In robot operation, intervention by the operator is no longer required. The waste disposal runs fully autonomously, provided the waste material can be burned directly. This means less machine idle time and more output!



Pneumatically operated trim stops

The trim stops are attached to the clamps and are activated as needed by the CADmatic machine control unit.

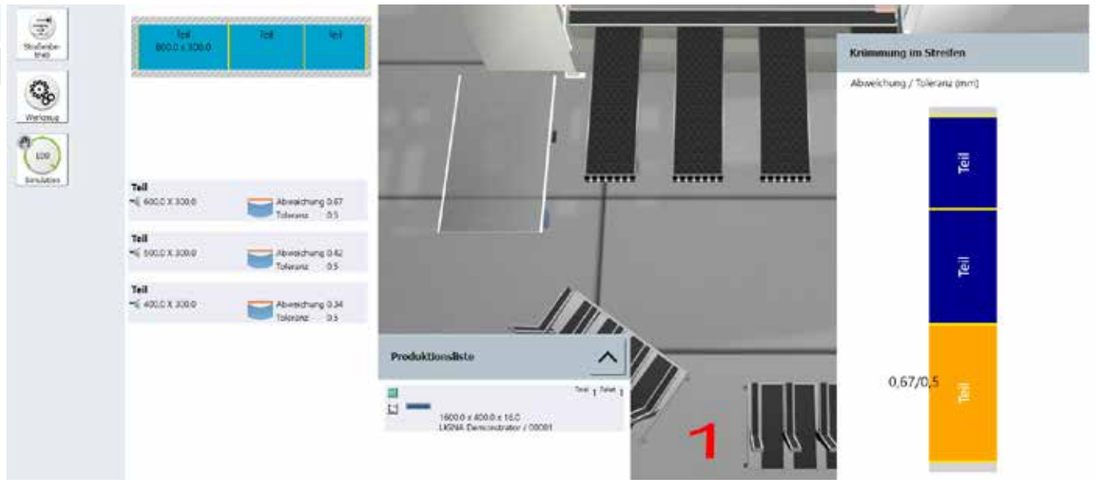
- Robust
- Adjustable to common panel thicknesses
- Gentle handling of sensitive materials with overhanging covering layers
- Precise positioning

Processing of panel material over 3200 mm in length (for saws without a lifting table)

Thanks to a newly developed processing program, the saw can even process large panel sizes of > 3200 mm to 4200 mm fully automatically in robot mode.

How it works:

- After infeed via the rear machine table, a compulsory headcut is executed to reach the maximum panel length of 3200 mm
- The remaining panel is then pulled to the rear and parked in the storage shaft for later processing
- This further increases efficiency and flexibility in robot mode



NEW: Integrated toleranceCheck tolerance measurement for high-precision cutting

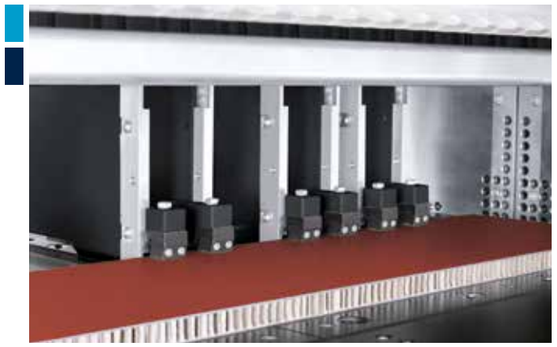
With the innovative toleranceCheck, you can continuously ensure the individual dimensional and angular accuracy you require — even for stress-prone material. In addition, it reliably detects insertion inaccuracies and informs the operator of these. This creates unprecedented transparency over the panel quality. In addition, the process reliability of the subsequent processing steps is increased by integrated quality assurance. The integrated tolerance measurement thus increases quality and productivity. Good to know: toleranceCheck together with the stress elimination cut becomes an attractive quality package.

Can be used in manual mode. Only measure strips in automatic mode — warning message and recording of measurements.

Automatic angle cut device

This technology completes angle cuts fully automatically, after you have entered the respective data in the CADmatic control system.

Can only be used in manual mode.

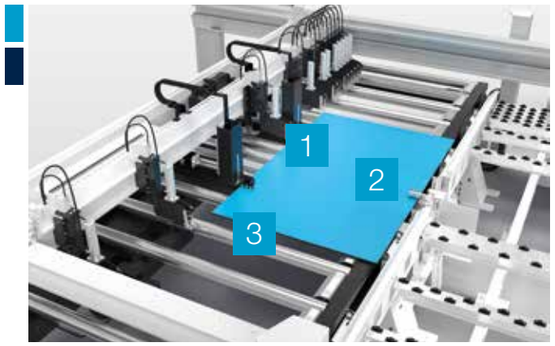


Soft Touch for pressure-sensitive material

As the diversity of materials increases, so do the requirements: pressure-sensitive lightweight panels, composite panels and plastic sheets are steadily gaining in importance. HOMAG has a range of solutions in its portfolio designed to meet these requirements. Simply ask your customer advisor.

Can only be used in manual mode.

Optional features



1 Micro-feed for thin panels (for lifting-table saws only)

The micro feed option allows thin panels from 6 mm upward to be pushed onto the rear machine table (provided that their properties meet HOMAG specifications). Book height is measured by a non-contact, electromagnetic measuring system which is completely maintenance-free.

2 Hold-back device for thin panels (for lifting-table saws only)

For thin panels from a thickness of 3 mm.

Can only be used in manual mode.

3 Extra impetus for feeding (for lifting table saws only)

The automatically driven roller conveyor integrated into the lifting table and additional roller conveyors on the side ensure fast stack changeover.

Turning device for headcuts

- Process integrated perfectly into the machine cycle
- Labor-saving device for operators
- With automatic alignment function
- Less time required for preparation
- Easy to use
- Significant increase in output

Can only be used in manual mode.

Panel orientation

1) On-the-fly alignment for automatic feeding from the rear

With the on-the-fly option, the clamps initially remain open as the panel is pushed forward. Due to the inertia of the incoming panel, it is automatically guided into the clamps. The clamps close during movement as soon as a sensor detects the correct position of the panel.

Benefit: The feeding process is significantly accelerated, as the panel doesn't have to be fully extended forwards, but is aligned directly in the flow and then cut.

2) On-the-fly alignment with additional alignment device

The alignment device is only activated if the on-the-fly alignment is unsuccessful. In this case, it moves up and fixes the panel securely. This enables the clamps to grip the panel optimally and align it precisely.

Benefit: Maximum positioning accuracy, even with complex panel movements or challenging panel conditions.

Power Concept Premium

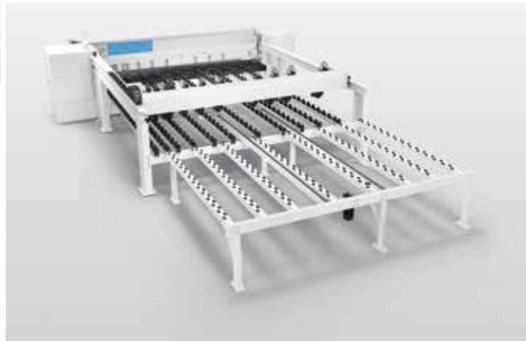
- Additional clamp that operates independently
- Clamps on the program fence that can be raised out of the overlapping work area as needed
- Simultaneous processing of two strips of different lengths
- Precision cutting — even of very narrow strips
- An algorithm adapted to the Power Concept Premium sorts the strips directly at the saw. This is based on existing optimization data for the shortest machining times

Can only be used in manual mode.

POWER CONCEPT

- **Lower costs per cut**
- **Significantly improved material flow**
- **High material throughput to easily handle peaks in production**

The Power Concept Premium clamp positions the last strip on the cutting line while the program fence retrieves the next panel or the next book of panels.



Feed-stacking table with integrated feed

When a new panel is fed, the saw only needs to pause briefly before the program fence if there is a storage control connection with storage area. The feed-stacking table ensures smooth, faster cycles: while one panel is still being cut, the storage system already positions the next panel(s) on the feed-stacking table with integrated feed.

- Ideal in combination with the HOMAG panel labeling system
- Can be retrofitted
- Plug & Play: easy add-on
- Without alignment
- Perfectly matched to the saw (height, width, roller rails)
- Virtually no more idle time

Some illustrations show the technical principle but not the exact machine variant described. Optional features, for example, may be shown.

Optional features

Panel labeling system

The HOMAG panel labeling system labels the unprocessed panel before it is cut, utilizing previously unused non-productive time. It can also be combined with the feed-stacking table with integrated feed.

- Smallest part size 170 x 170 mm
- Up to 10 labels/min, optionally up to 15 labels/min
- Labeling independent of cutting process
- Saves time, because non-productive time is used productively
- Optimizes handling during destacking because all the parts are already labeled
- Simplifies and speeds up production processes
- Automated parts tracking
- Can be retrofitted

Can only be used in manual mode.

Label printer for superb results

The label printer is integrated directly into the saw. This allows you to create customized labels for manual part identification directly at the workstation. These can be flexibly designed with barcodes, text or graphics. When used in conjunction with our optimization software, the labels contain all relevant instructions for the downstream processing steps. In this way, the saw integrates seamlessly and efficiently into your production flow.

Can only be used in manual mode.

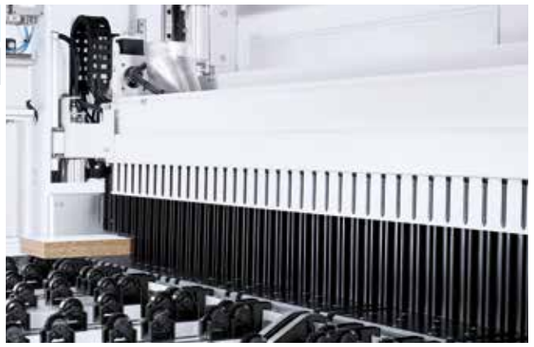
The illustration shows SAWTEQ S-200 flexTec the label printer.

Measuring System Cutting Quality (MSQ)

- Cutting quality is monitored automatically through regular checks on possible edge breaks
- Material-specific warning and limit values are observed

Lots of potential for your production:

- Objective and regular evaluation: more frequent quality management and unique results interpretation with reduced operator interventions
- Demand-based saw blade change: use of maximum saw blade service life and increased availability
- Avoid reject parts: less post-production effort since specified, material-specific limit values are observed
- Increased process reliability and potential for further process and cost optimizations



Dust-trap curtain

- Attached to the rear of the pressure beam
- Protects operators from dust
- Improves dust extraction

Cutting gap closers

They open and close automatically in front of and behind the saw blade, preventing narrow strips or trims from getting caught in the cutting line or falling into the cutting gap.

Illustrations may show the technical principle but not the precise machine variant described. Optional features, for example, may be shown.

Growing together.
The all-in-one solution for your storage system.

Whether it's a large range of parts, high speeds or minimal space requirements, the HOMAG STORETEQ portfolio combines the strengths of automation with intelligent logistics – from a single-axis feeder, to storage systems, second-level storage systems, double-level storage systems right through to storage systems with two bridges. This results in noticeable optimization effects in reliable panel handling, intuitive operation and higher material utilization while simultaneously improving sustainability – all thanks to the consistent use of the **woodStore 8 storage software.**

HOMAG offers two suction traverses (ST61 and ST71) for storage systems as standard. Both suction traverses are self-learning and generate the data required for panel handling independently. They are also equipped with integrated weight control, panel correction and efficient vacuum generation, ensuring precise, safe and efficient material handling and an accurate, high-quality production process.

- **Efficient material flow:** Safe panel transport without unnecessary travel paths and gentle handling without searching for panels save time and space — even when handling a wide range of materials.
- **Fast delivery times:** Timely material procurement, provision and optimized processes increase efficiency.
- **Sustainable material management:** Offcuts are organized and automatically managed via the offcuts storage or are returned to the storage system.
- **Gentle panel handling:** Reliable panel separation and safe handling using a vacuum on the suction traverse.
- **Intuitive operation:** Intelligent operating and analysis functions and proactive support thanks to setting recommendations.
- **Simple integration of one or more processing machines:** Standardized interfaces and uniform data integration and processing.

Wide range of materials

Whether plastic, plexiglass or laminate, coated or uncoated panels, the STORETEQ P-300/P-500 is also a true all-rounder when it comes to handling panels.

- Panel weights up to **350 kg** and panel lengths up to **5600 mm**
- Smooth transport even of textured surfaces
- Handling plastic panels

STORETEQ P-500 — maximum flexibility in terms of length and width

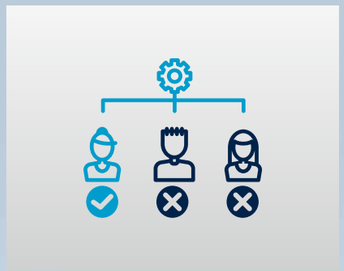
The STORETEQ P-500 allows even greater flexibility in length and width.

- Spans of up to **16 m** and travel path lengths of up to **100 m**
- Controlled, low-vibration movements, even in the largest version

woodStore8

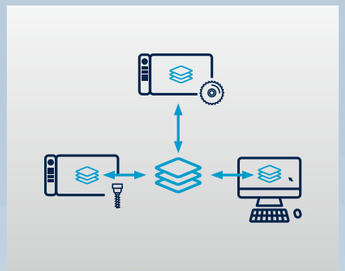
Smart storage software. Intelligent panel management.

What makes woodStore a leading storage control system?



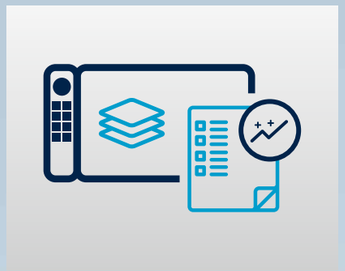
User management

Person-controlled storage operation with up to 40 different user rights and an unlimited number of user interfaces – at the saw, nesting machine or in the office.



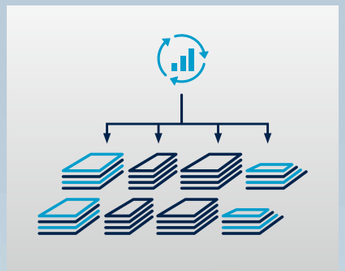
Multiterminal interface

An unlimited number of user interfaces creates full transparency and optimal work processes. Whether on the saw, the nesting machine or in the office, the storage interface is completely accessible at all times and can be used in parallel depending on the access rights.



quickTip

Proactive setting recommendations, centrally in one place in woodStore, lead to optimal storage management and smooth processes.



Flexible storage organization

Flexible and customer-specific assignment and division of panels and storage positions into meaningful groups, including selection of the storage strategy. This means that the storage system adapts optimally to individual requirements while making maximum use of the storage capacity.

intelliStore

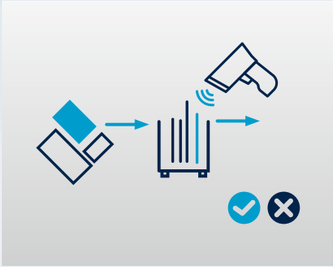
Permanent monitoring of all storage movements and automatic adaptation to current production conditions.

woodStore Analyzer

In a period that can be specifically defined, the main functions of the storage system are examined and analyzed according to the customer's requirements in order to determine whether the storage system is being used optimally and efficiently.

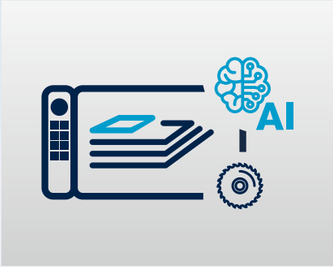
Management of external storage

Central management of cantilever racks (block storage, external storage) in realistic 3D view including forklift operator management.



Scrap management

Automatic storage of offcuts from the saw and/or nesting with integrated measurement of the panels during the material intake process and management of manual offcuts in an external offcuts storage.



IntelliStore AI — offcuts

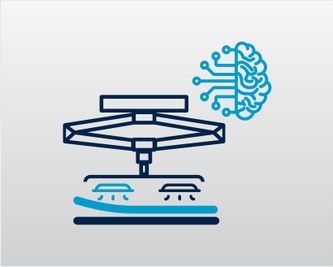
Automatic storage of offcuts on defined stacks of panels distributed across the storage system optimizes the use of space and reduces storage movements by up to 40%.

FlexSortPlus pre-sorting

Advance removal from storage everywhere in the storage system, e.g. at storage return positions and storage positions that are not required, and automatic generation of advance removal from storage orders from ongoing production or the program sequence of the processing machine improve the storage organization and efficiency.

Intelligent vacuum management

The cross rail measures the parts in three axes with every movement and generates the data required for panel handling by defining only two panel properties (surface and rigidity) – this ensures dependable process reliability.



Smart Separation Learning

Fully automatic panel separation that requires only two panel handling settings.

SAWTEQ S-200 | SAWTEQ S-300/S-310 | SAWTEQ S-400/S-410

Feed variants

The versatility of flexTec robot saws starts with the feeding. Which variant is your favorite?

Feeding via storage system

For customers with high automation requirements, HOMAG offers tailor-made horizontal storage systems — ranging from small systems for woodworking shops to large industrial solutions. This allows you to significantly speed up your processes and reduce costs per part.

- Attractive price
- Movable in x and y directions
- Saw and storage system compatible with each other
- Perfect handling — even with just one machine operator
- Easy, ergonomic operation
- Storage system controls the saw
- Storage control connection with storage area only in front of the program fence on the S-200 flexTec
- High-performance storage control connection with feed-stacking table from S-300 flexTec onwards

Feeding via lifting table

- In the case of lifting-table saws, panels are fed via an electro-hydraulic four-column lifting table
- Automatic determination of book height
- Equipped as standard with longitudinal profiles and sensing device
- Also suitable for thin materials with a thickness from 9 mm. Suitable for materials with a thickness from 3 mm upward in operator mode if equipped with the optional micro feed and hold-back device (page 32)
- Maintenance-free and no lubrication required
- In order to ensure precise cuts, the backing wall is not attached to the machine bed

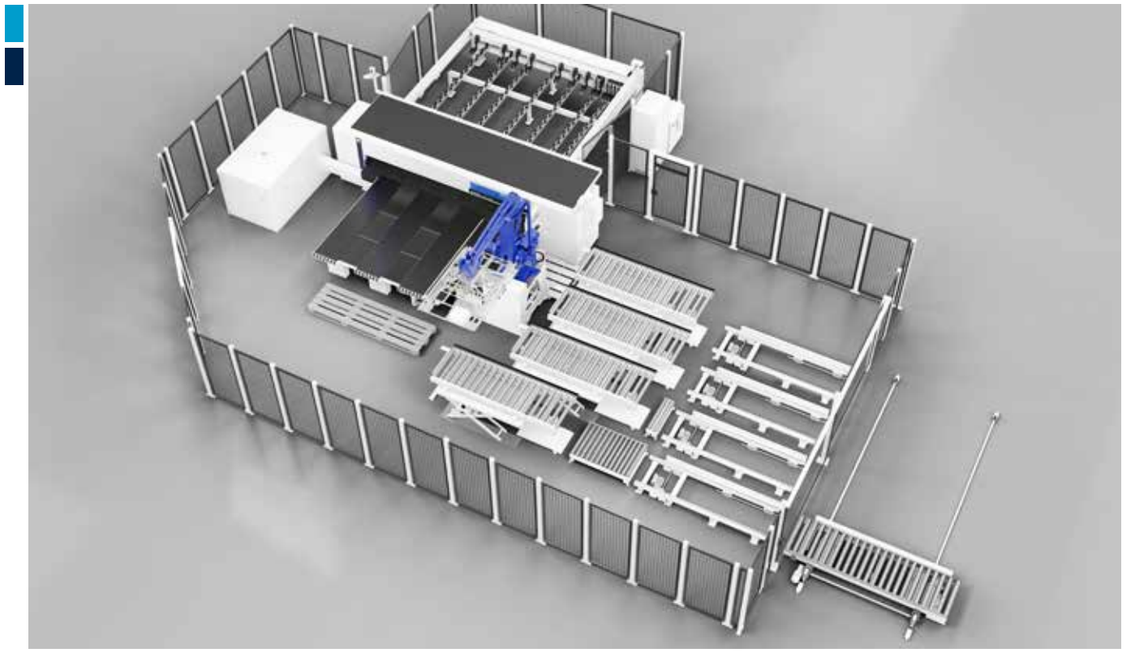
Feeding via single-axis feeder (for saws without a lifting table)

The HOMAG STORETEQ F-100 single-axis feeder promises automation in the smallest of spaces. It retrieves the next panel from the stack station next to or behind the saw, rotates it if necessary, and feeds into the saw. Fully automatic and gentle in saw cycle.

- A choice of various layouts to suit specific requirements and available space
- With traveling lifting device and suction traverse
- Turning device for up to 90 degree rotation
- With automatic weight determination
- For especially ergonomic handling
- Stack height: 1800 mm
- Panel weight up to max. 250 kg
- Expandable up to 8 function positions as standard
  - max. 3 machines
  - max. 4 storage return positions

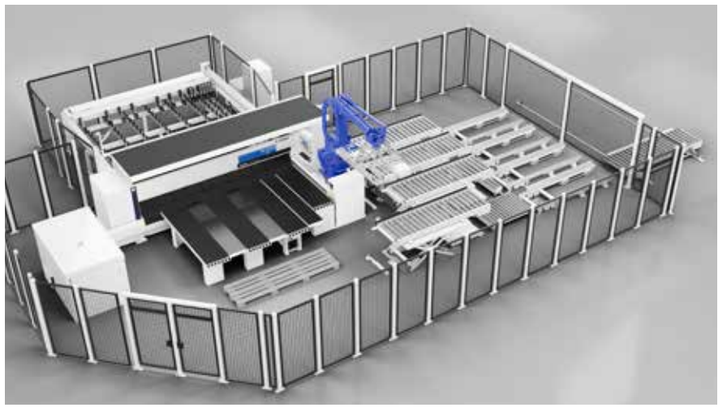
Complete automation
through semi-automatic and fully automatic stack outfeed

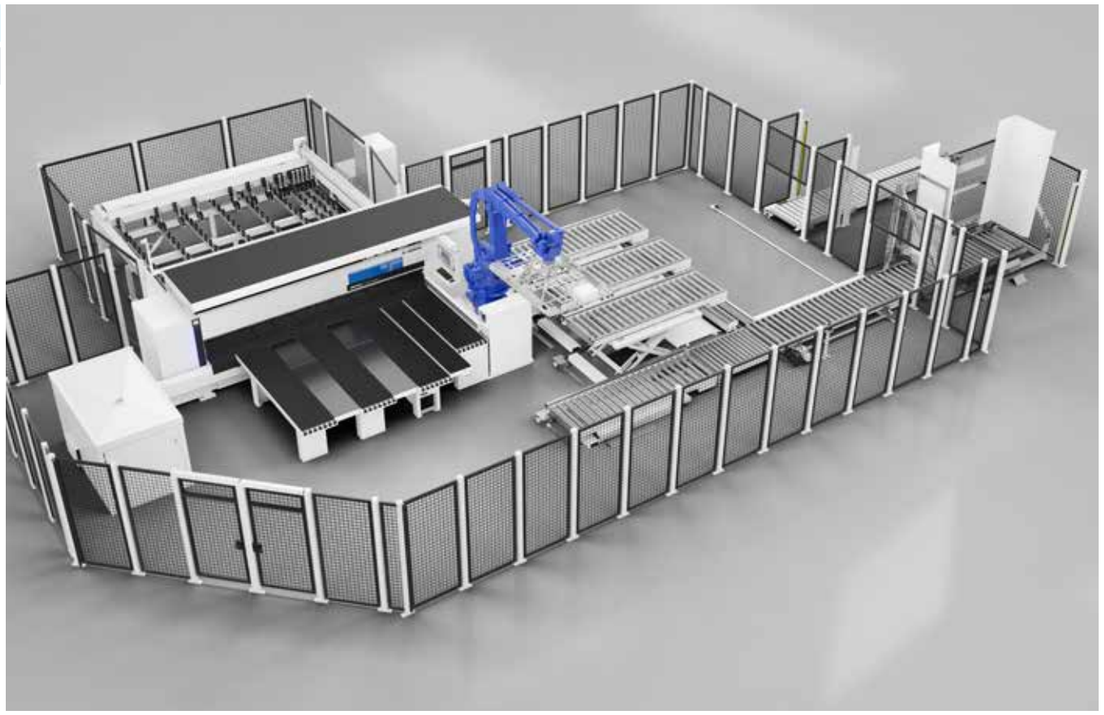
To further reduce the need for operator intervention, semi-automatic and fully automatic stack outfeed was developed. In line with the intelligent destacking software, the parts are not only destacked, but the finished pallets are also transported out of the system. Operator intervention is reduced to a minimum. Developed for the destacking variant with lowerable lifting tables, this option completes your automated workflow.

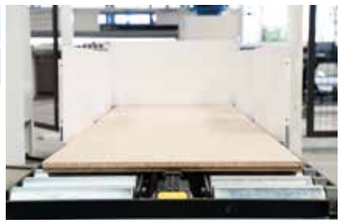


Semi-automatic stack outfeed:

- flexTec can work even longer without operator intervention
- Stacks are automatically moved out of the storage area of the robot
- The number of stacks that can be produced doubles until the next stack change
- The upstream protection board magazine enables the robot to automatically change the protection boards







Fully automatic stack outfeed:

- Produced parts are destacked onto pallets or protection boards. These are transported out of the danger zone via roller conveyors.
- No operator intervention required.

Protection board infeed

- Protection boards are transported into the system just-in-time using a mechanical chain conveyor
- The feed runs parallel to the ongoing production on the other destacking positions
- No operator intervention required
- Can also be used with pallets

Automatic alignment

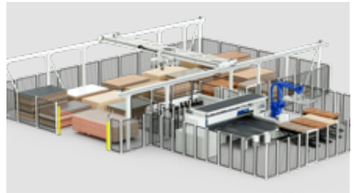
The protection boards or pallets are aligned fully automatically during infeed into the system to ensure optimum stack formation later.

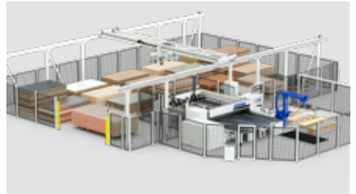
Performance and level of automation tailored to your needs

PERFORMANCE

flexTec as a saw with lifting table

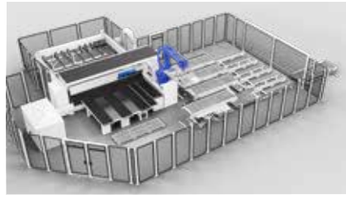
flexTec with single-axis feeder



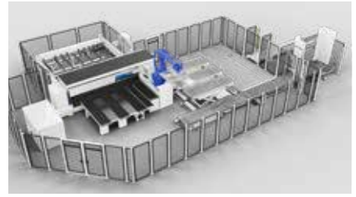


flexTec with storage system

flexTec with surface storage on two levels



flexTec with semi-automatic stack outfeed



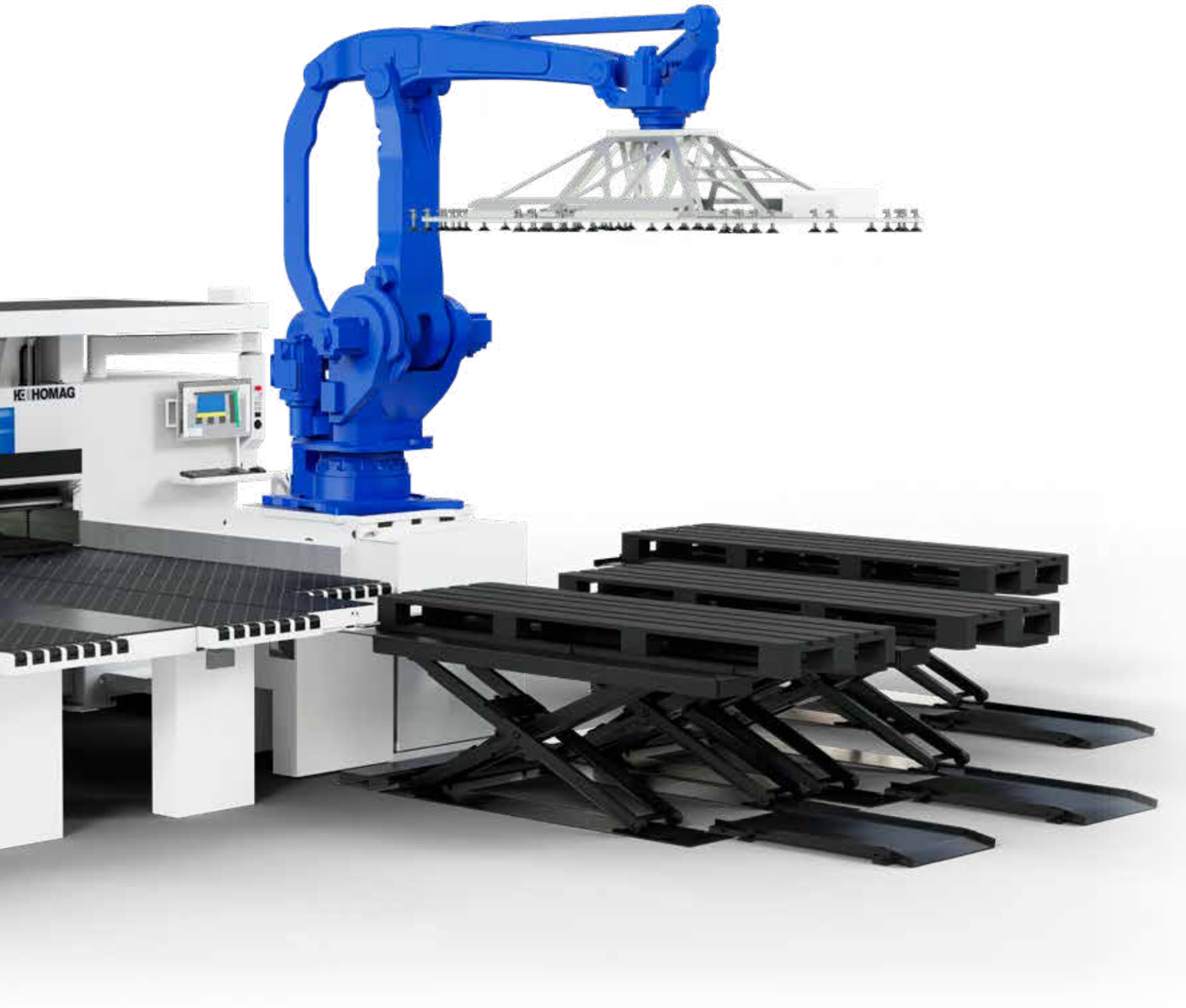
flexTec with fully automatic stack outfeed

AUTOMATION

TECHNICAL DATA*	S-200 FLEXTEC	S-300 FLEXTEC	S-310 FLEXTEC WITH LIFTING TABLE	S-400 FLEXTEC	S-410 FLEXTEC WITH LIFTING TABLE
Saw blade projection (mm)	65 (optional: 80)	80 (optional: 95)	80 (optional: 95)	110 (optional: 125)	110 (optional: 125)
Cutting length (mm)	4300	3800/4300	3800/4300	3800/4300	3800/4300
Lifting table width (mm)	-	-	2200	-	2200
Program fence speed (m/min)	up to 80**	up to 90**	up to 90**	up to 90**	up to 90**
Saw carriage speed (m/min)	up to 80 (optional: 120)	up to 150 (optional: 170)	up to 150 (optional: 170)	up to 150 (optional: 170)	up to 150 (optional: 170)
Main saw motor (kW)	50 Hz: 7.5 (optional: 11 or 18) 60 Hz: 7.5 (optional: 11 or 21)	50 Hz: 11 (optional: 18 or 24) 60 Hz: 11 (optional: 21 or 28)	50 Hz: 11 (optional: 18 or 24) 60 Hz: 11 (voptional 21 or 28)	50 Hz: 18 (optional 24) 60 Hz: 21 (optional 28)	50 Hz: 18 (optional 24) 60 Hz: 21 (optional 28)
Scoring saw motor (kW)	1.5	2.2	2.2	2.2	2.2
Average total air requirement (NL/min)	400	400	470	420	490
Required compressed air supply (bar)	6	6	6	6	6
Max. panel size (mm) in automatic mode	3200 x 2100 (optional up to 4200 x 2100)	3200 x 2100 (optional up to 4200 x 2100)	3200 x 2100	3200 x 2100 (optional up to 4200 x 2100)	3200 x 2100
Max. part size (mm)	2800 x 1200 (optionally 3150 x 1350)	2800 x 1200 (optionally 3150 x 1350)	2800 x 1200 (optionally 3150 x 1350)	2800 x 1200 (optionally 3150 x 1350)	2800 x 1200 (optionally 3150 x 1350)
Min. part size (mm)	190 x 80	190 x 80	190 x 80	190 x 80	190 x 80
Min. strip width (mm)	100	100	100	100	100
Max. panel thickness (mm) in automatic mode	30	60	60	60	60
Min. panel thickness (mm) in automatic mode	8	8	8	8	8
Max. panel weight (kg)	125	125	125	125	125
Min. recut width (mm)	490	< 25 mm panel thickness: 120 > 25 mm panel thickness: 805	< 25 mm panel thickness: 120 > 25 mm panel thickness: 805	< 25 mm panel thickness: 120 > 25 mm panel thickness: 805	< 25 mm panel thickness: 120 > 25 mm panel thickness: 805
Min. hall height, floor-level destacking (mm)	3,060	3,060	3,060	3,060	3,060
Min. hall height Destacking on lowerable lifting tables (mm)	4000	4000	4000	4000	4000

* Values relate to the standard features
** Forward 25 m/min

Differences at a glance



A wide variety of options

FUNCTION / OPTION	S-200 FLEXTEC	S-300 / 310 FLEXTEC	S-400 / 410 FLEXTEC
Main saw frequency converter	×	yes (optional)	yes (optional)
Cutting line control for main saw	×	yes (optional)	yes (optional)
Scoring saw stroke	pneumatic	pneumatic, motorized (optional)	pneumatic, motorized (optional)
Slide rails for thin panels	yes (optional)	yes (optional)	yes (optional)
Cutting gap closers	×	yes (optional)	yes (optional)
Dust-trap curtain	×	yes (optional)	yes (optional)
Automatic angle cut	×	yes (optional)	yes (optional)
Soft Touch	×	yes (optional)	yes (optional)
Pressure adjustment	Manual	manual, automatic (optional)	manual, automatic (optional)
Spring-pressured running wheels	×	yes (optional)	yes (optional)
toleranceCheck	×	yes (optional)	yes (optional)
Measuring System Cutting Quality (MSQ)	×	yes (optional)	yes (optional)
Plastic/plaster package	×	×	×

Feeding and flexTec-specific variants

FUNCTION / OPTION	S-200 FLEXTEC	S-300 / 310 FLEXTEC	S-400 / 410 FLEXTEC
Type of machine	Single saw	Single saw and lifting table saw	Single saw and lifting table saw
Feed-stacking table / VIE	×	yes (optional)	yes (optional)
Turning device	×	yes (optional)	yes (optional)
Collet chucks can be raised fully (lifting elements)	×	yes	yes
Power Concept (manual mode)	×	Premium (optional)	Premium (optional)
Panel labeling system connection (manual mode)	×	yes (optional)	yes (optional)
Semi-automatic stack outfeed	×	yes (optional)	yes (optional)
Fully automatic stack outfeed	×	yes (optional)	yes (optional)
Labeling system on the pressure beam	Advanced	Advanced, Premium (optional)	Advanced, Premium (optional)
Manual labeling	Classic (optional), Advanced (optional)	Premium (optional)	Premium (optional)

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