

## Edge banding machines KAL 300



# The range KAL 300: Outstanding both performance and design

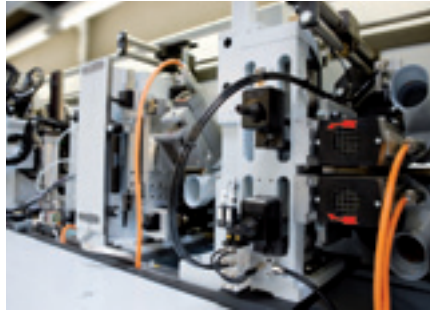
HOMAG, a pioneer in the field of sizing and edge processing and inventor of the hot-cold technique has set a whole new standard with these series: Thanks to innovative engineering and durable quality, new landmark achievements are now possible in the field of edge banding in terms of both economy and performance – no matter what the material. Just as impressive: The cost-to-performance ratio and multiple award-winning industrial design which ideally combines ergonomic styling with functionality.



**powerControl system PC22:**

For efficient operation and simple machine programming.

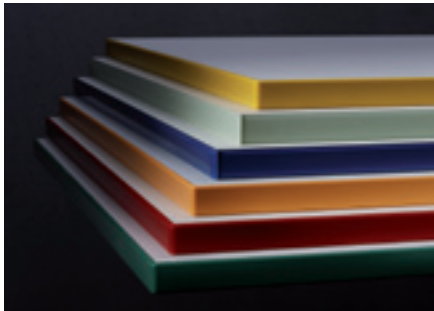




KAL 300 – nothing can beat the original.



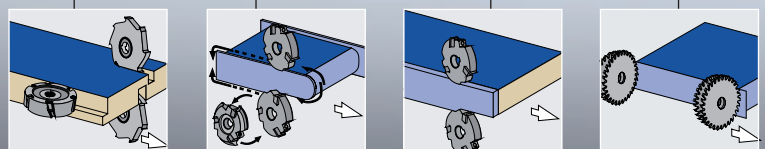
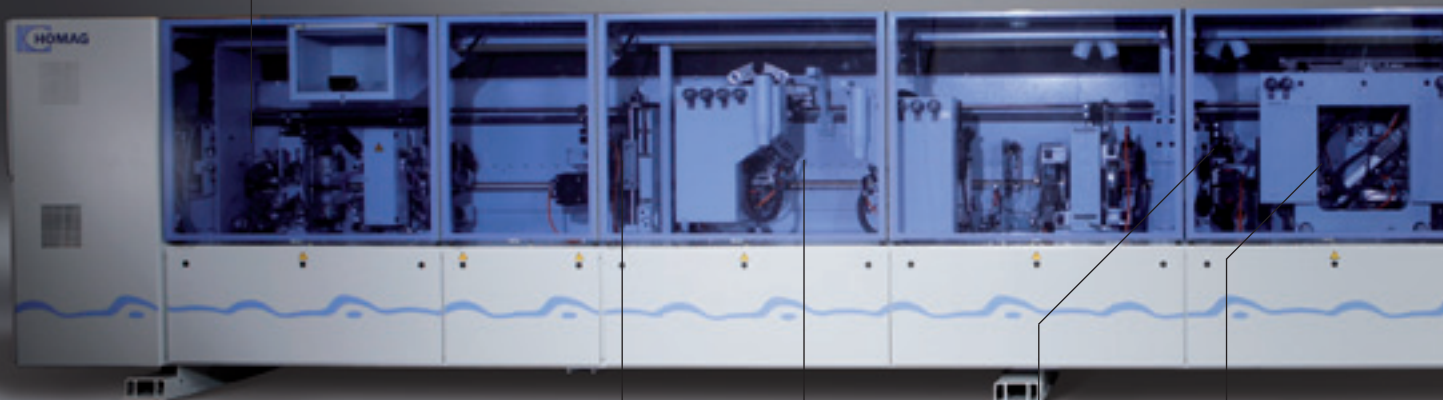
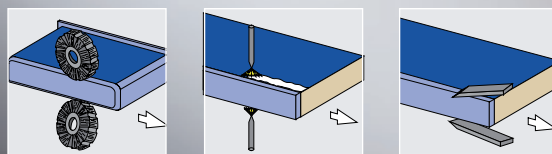
# Optimum results and reduced piece costs – no matter what the edging material



## KAL 300: An all-round top performer

The development of this series provides an innovative answer to the ever tougher competitive situation in the furniture industry. Producers in this field are confronted in this day and age with growing material diversity. Given the rising cost pressures, every investment has to be planned with meticulous care.

Any edge banding machine used in today's toughly competitive environment should be both efficient and capable of material-independent application. The modular HOMAG range delivers a shining performance no matter what the discipline – technology, quality, output, function and design – making for a fast payback of your investment in practical application.



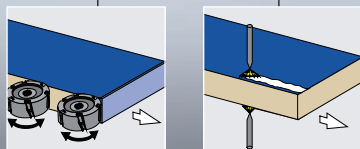
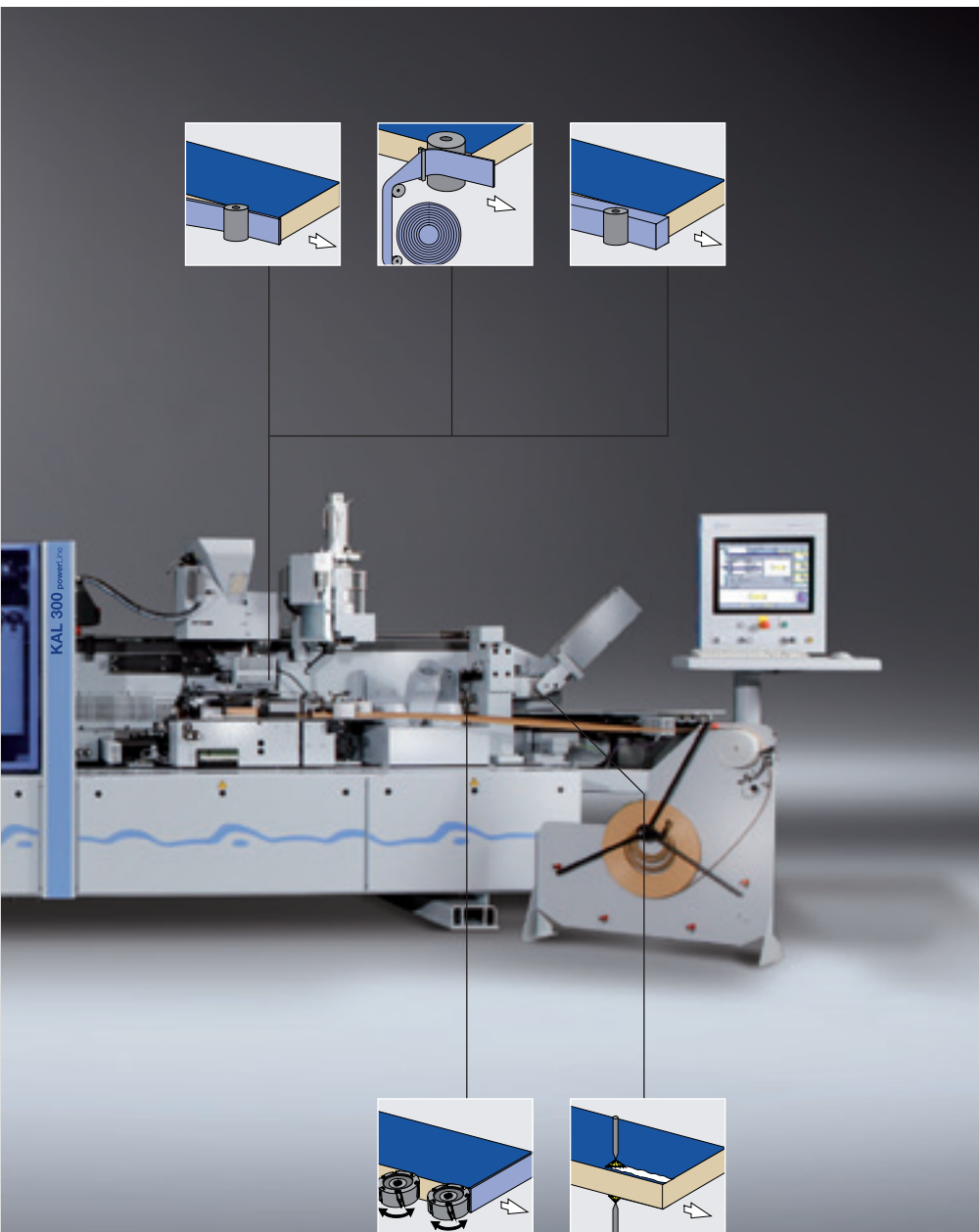
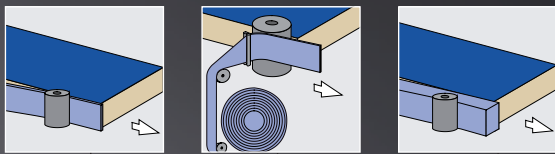


**A needs-based solution every time:  
The modular unit range**

The range offers a choice of two different models:

- KAL 310, for use as a universal machine, also for applications involving PU or solid mouldings
- KAL 330, suitable for output levels over 25 m/min. anchor flexible production with workpiece feed

A comprehensive modular-structured range of units is also available. Individual customers simply select the equipment outfit which ideally suits their specific requirement.



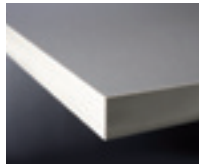
**Your benefits at a glance:**

- Durable design
- Processing of all kinds of materials
- Optimum edge quality
- Enhanced availability through maintenance-friendly machine structure
- Greater economy due to minimized extraction output
- Low energy requirement
- Ergonomic operating functions
- Optimum cost-to-performance ratio
- High degree of flexibility in the choice of equipment outfit

# With or without jointing trimming: Two basic models for precise edges

The KAL 300 range encompasses two different basic models. The KAL 310 as the universal machine for every conceivable application, and the KAL 330, which is ideally suited for feed rates in excess of 25 m/min. and workpiece infeed. Both models feature a free space for jointing trimming. This free space can be used to accommodate a jointing trimming tool mounted either immediately on delivery or at a later date. Two gluing section variants are available: A3 for edges up to 3 mm and A20 for coil material edges up to 3 mm and fixed length material of 20 mm.





0.4 mm melamine



2 mm PVC



20 mm solid moulding



Veneer

## The most important features of the basic models:

### Optimum edge quality

Edge banding takes place with a wafer-thin glue joint, eliminating the need for finish processing. The quick melt system makes for energy-saving machine operation with minimum heating-up time, and also ensures positive locking of the glue joint. The PU 34 glue system can optionally be used for high-resistance, water-proof and heatproof gluing results on a polyurethane basis.

### Modern design and future-oriented technology

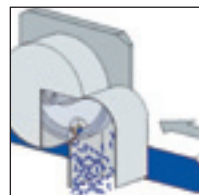
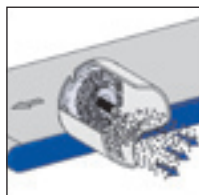
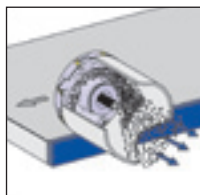
Machine operation is both energy saving and environmentally friendly. The machine is equipped with a PC control system without limit switches. The drive system benefits from low-noise, maintenance-free frequency converter technology, and the motors are braked by an automatic safety system if required.

Machine type	Edging material			Workpiece dimension
KAL 310	Solid wood	Fixed length material	Coils	With a workpiece thickness of 22/60, the minimum workpiece length is 85/125
	A20	20	65	
KAL 330	Solid wood	Fixed length material	Coils	min./max. 12/60 opt. 8/100
	A20	20	0.3 - 3.0	

Dimensions in mm

### Environmentally friendly technology no matter what the material

The KAL 300 is capable of processing any kind of edging material customarily used by the processing industry today. These include for instance solid wood, coil and fixed length material, melamine, PVC, ABS, aluminium, acrylic and veneer edges. Banding is performed primarily using hot-melt glue, or for special requirements also water-resistant PU adhesive.



### Finish processing tooling technology for a longer machine life

Das I-System von HOMAG bietet eine revolutionäre Technik zur kontrollierten Späneerfassung. Im Gegensatz zum unkontrollierten Späneflug bei herkömmlichen Werkzeugen, werden die Werkzeuge hier bereits im Innenraum abgesaugt. Die Späne können so der Absaughaube gezielt zugeführt werden.

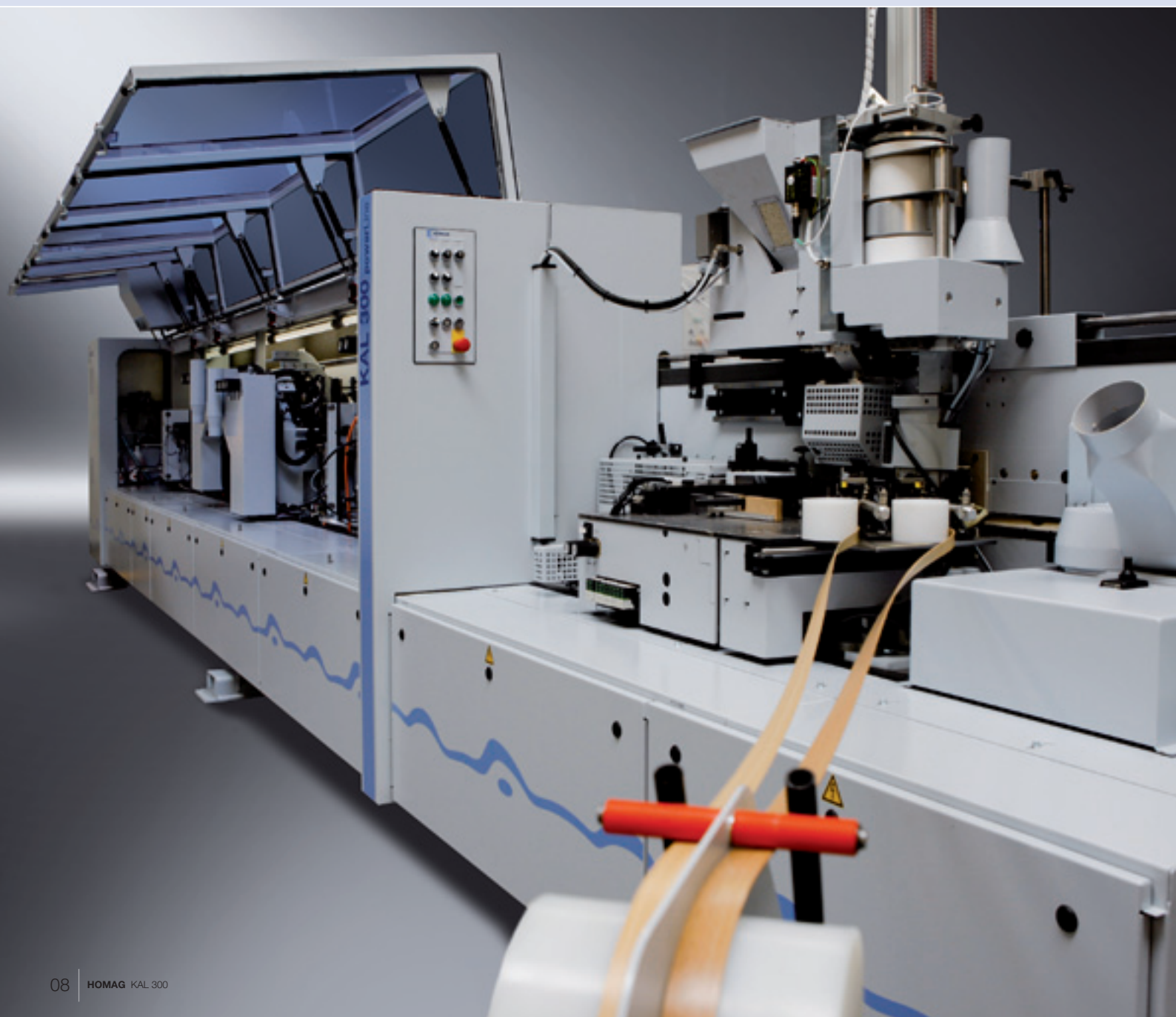
Dadurch wird das Problem verstreuter Späne beim Fräsen oder Fügen, die teilweise an den Werkstücken anhaften können, gelöst. Diese innovative Technik beugt einem hohen Verschleiß der Maschinen und steigenden Servicekosten wirksam vor. Die Wirtschaftlichkeit und die Haltbarkeit der Maschine werden erhöht, zugleich reduzieren sich die Kosten für die Späneentsorgung aufgrund reduzierter Absauggeschwindigkeit.

Bei der Hohlenschaftkegel-Werkzeugschnittstelle (HSK) sind Werkzeug und Motorwelle formschlüssig miteinander verbunden. Toleranzen zwischen Motorwelle und Werkzeug sind Null. Dadurch wird eine bestmögliche Fräsqualität erzeugt, da das Werkzeug einen vibrationsfreien Rundlauf besitzt.



# The HOMAG standard: Optional machine equipment for made-to-measure results

The KAL 300 series machines perform complete processing of every workpiece, without the need for any additional processing steps. To ensure that customers are offered the ideal solution to fit their individual processing needs every time, our engineering staff have developed a wide range of suitable processing units and additional options. With this machine range, HOMAG customers are offered the scope to configure their own equipment outfit, from the first work step to the perfect finish. New product features are being developed all the time - please enquire for details. flexTrim and flexBlade.

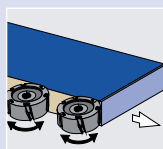




# Separating agent, jointing

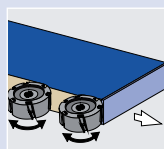
So that every production step can be effectively carried out with top class results, the components used by HOMAG are designed to interact like cogs in a gearing system.

Example: The units used for workpiece preparation provide the basis for perfect glue joints.



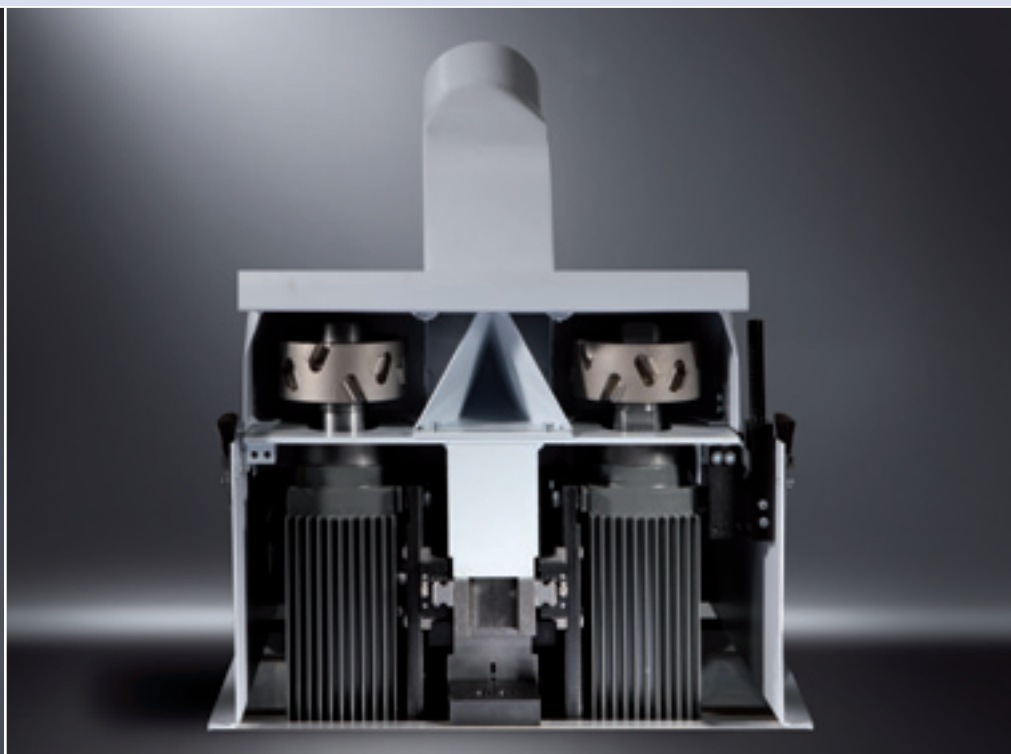
## Separating agent spraying unit

Prevents adhesion of glue residues on the top and bottom surface of workpieces. Benefit: No need for manual finishing steps (in conjunction with the glue joint scraping unit).



## Jointing trimming

This unit permits optimum processing precision, is extremely hardwearing and capable of achieving an above-average service life. The tool diameter is 125 mm.



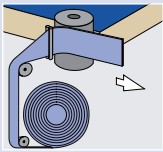
## Automation to suit every need

- Automatic height adjustment
- Program-driven trimming tool centering

# Gluing units

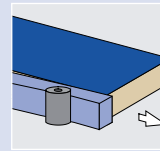
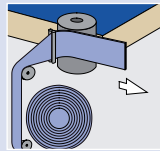


These units provide all the functions needed for fast, friction locking adhesion. A pre-melting unit is included as a standard feature. A heated glue roller takes care of the optimum glue temperature, while magazine height adjustment offers scope for processing wide-ranging different workpiece widths. If a different production step has to be performed, the application unit can be simply and quickly exchanged without using tools.



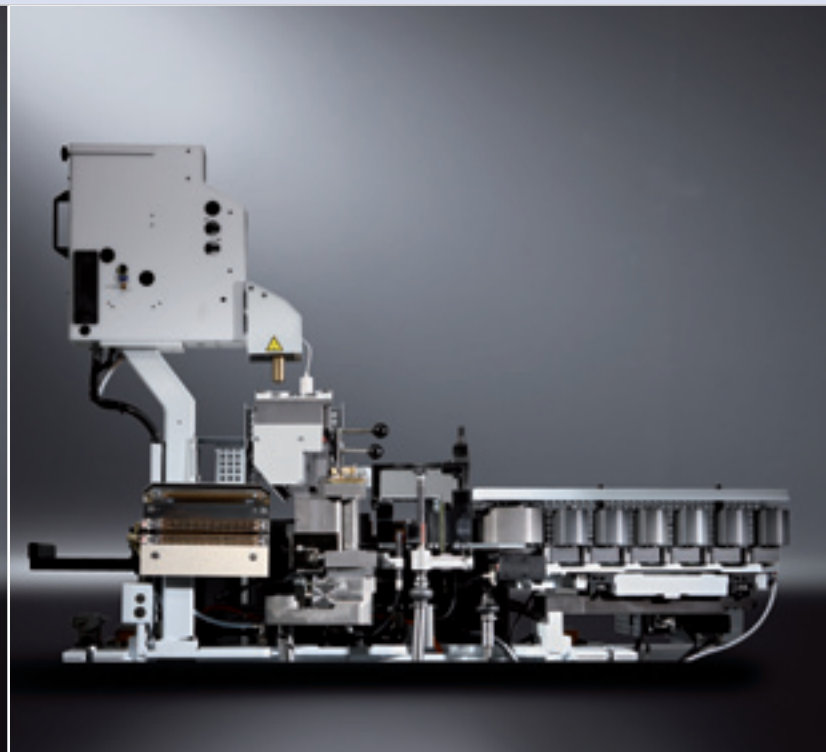
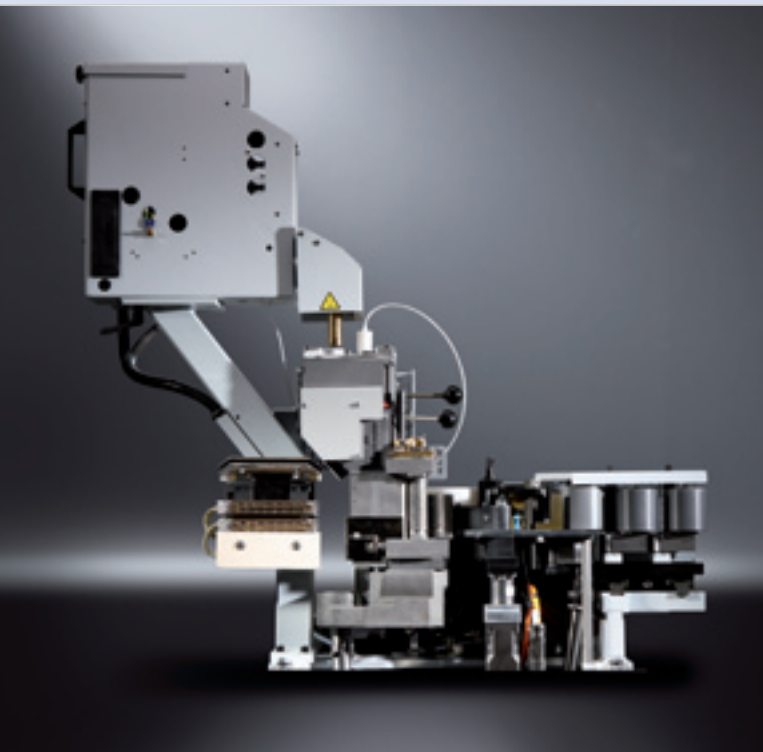
## Hot-melt gluing unit A3

For optimum glue application on the narrow surface. Changes to workpiece thicknesses do not necessitate resetting of the glue application roller (standard feature in the KAL 300/A3).



## Hot-melt gluing unit A20

For optimum glue application on the narrow surface. Changes to workpiece thicknesses do not necessitate resetting of the glue application roller (standard feature with the KAL 300/A20).



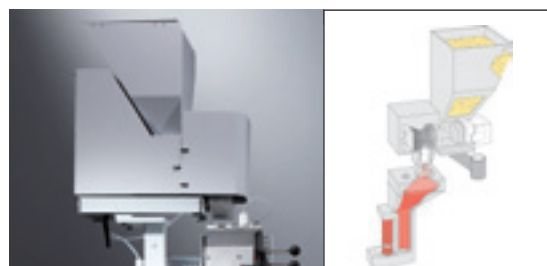
## Automation to suit every need

- Optional pre-melting function
- Edge holding-down device with automatic stepless adjustment
- Automatic adjustment of the pressure zone to the edge thickness
- Edging magazine: 2, 6, 12 to 24 slots

## Pre-melting unit with higher performance optionally available

### Melting unit with granulate tank

With a melting rate of 18-35 kg/h there is always plenty of freshly prepared hot-melt glue available.



### PU melting unit

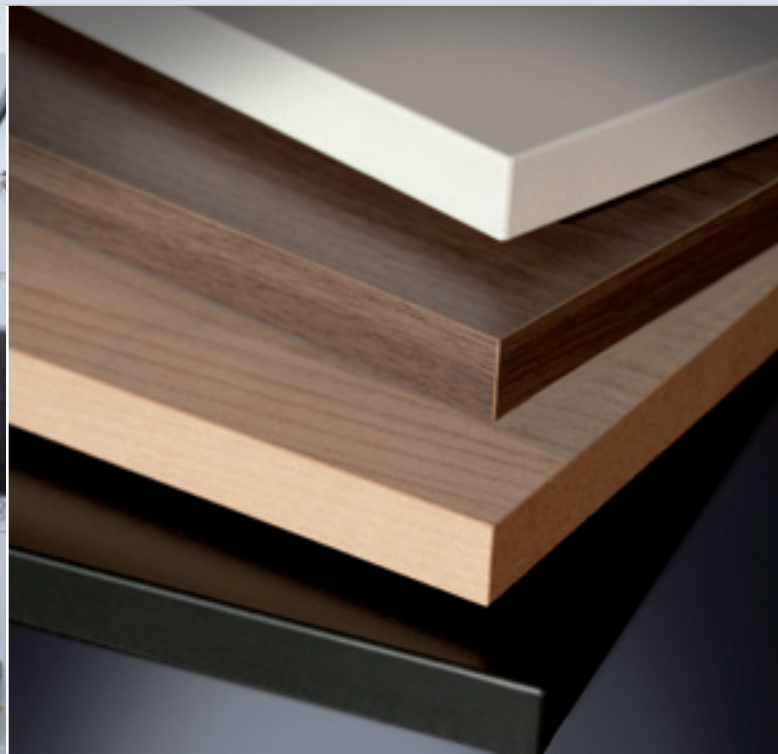
For melting 2 kg drums of PU adhesive (only with the A20).



# laserTec – the quantum leap in furniture production

Edge banding to a previously unattainable standard of quality: HOMAG

**laserTec** is the name of a new production method which is set to revolutionize furniture manufacture. It entails melting the surface to be glued using a laser beam and then pressing it directly onto the workpiece. The result: Edges complying to the highest conceivable standard of quality.



## For the entire laser edge spectrum

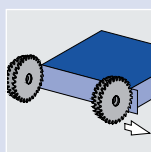
HOMAG **laserTec** can be used to process all customary types of edging such as PVC, ABS, PP, PMMA, wood veneer or melamine. The laser-active layer can be individually adjusted in line with product and customer requirements.

## HOMAG **laserTec** achieves extreme production economy:

- Reduced rejects quota
- Simple operating processes
- Low ancillary costs
- Maximum availability
- Reproducible production parameters
- Resource-saving production
- Extreme production reliability

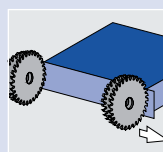
# Snipping units

These HOMAG units prepare the workpiece with a perfect cut surface for further processing.



## Snipping unit HL81

For snipping the edge overhang at the leading and trailing workpiece edge.  
Low-cost snipping unit with drawing cut.



## Snipping unit HL84

For snipping the edge overhang at the leading and trailing workpiece edge with stationary snipping stop to protect sensitive workpieces from damage.  
Drawing snipping cut for optimum snipping saw cutting quality.



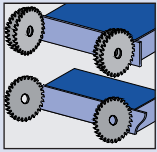
## Automation to suit every need

Programmable chamfer/straight adjustment of the snipping motor.

For fast changeover between flush snipping (e. g. of solid mouldings or inlay shelves) and snipping with overhang (e. g. for finish trimming with profile trimming unit).

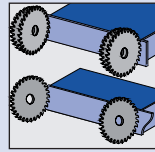






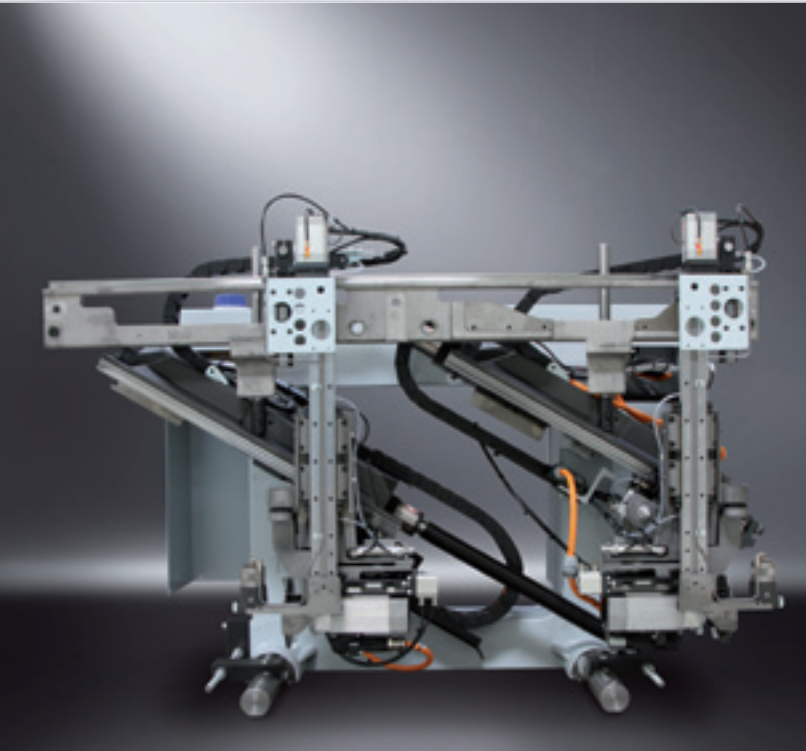
#### Snipping unit HL86

For snipping the edge overhang at the leading and trailing workpiece edge with stationary snipping stop to protect sensitive workpieces from damage. Drawing snipping cut for optimum snipping saw cutting quality. Linear motor for feed rates of up to 35 m/min. and a high standard of processing quality.



#### Snipping unit WK14

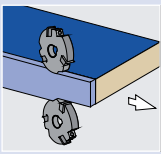
For snipping overhanging edges at the leading and trailing workpiece edge with stationary snipping stop to protect sensitive workpieces from damage. Optimum cutting quality of the snipping saw at feed rates of up to 25 m/min. Workpiece thicknesses of up to 100 mm are processed with ease.



High-powered snipping units for high feed rates and large edge cross-sections.

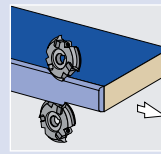
# Longitudinal flush trimming unit

The task of HOMAG trimming units is to transform the workpiece edges to create the required finish shape. Even the basic units provide practically-oriented solutions for the most important trimming requirements.



## Rough trimming unit

For rough trimming the upper and lower edge overhang.



## Trimming unit

For trimming chamfers or radii.



## Automation to suit every need

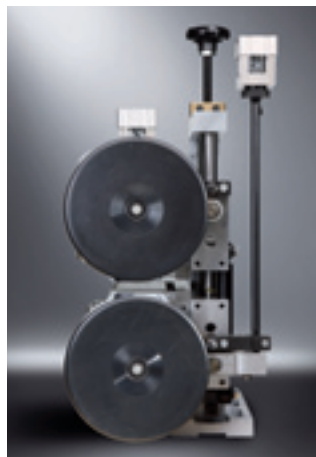
### Rough trimming unit

For automatic changeover from flush trimming to trimming with edge overhang.

Solid mouldings

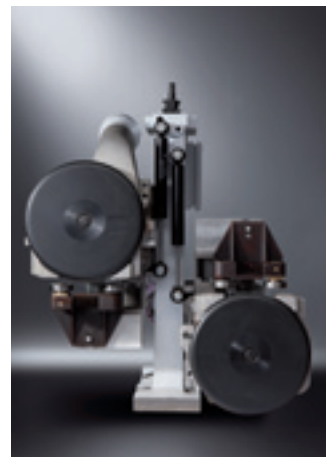


PVC



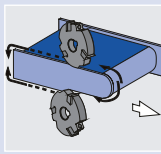
### Multi-trimming unit MF21

For automatic changeover between different profiles, e.g. chamfer 20°, R2 and R3.



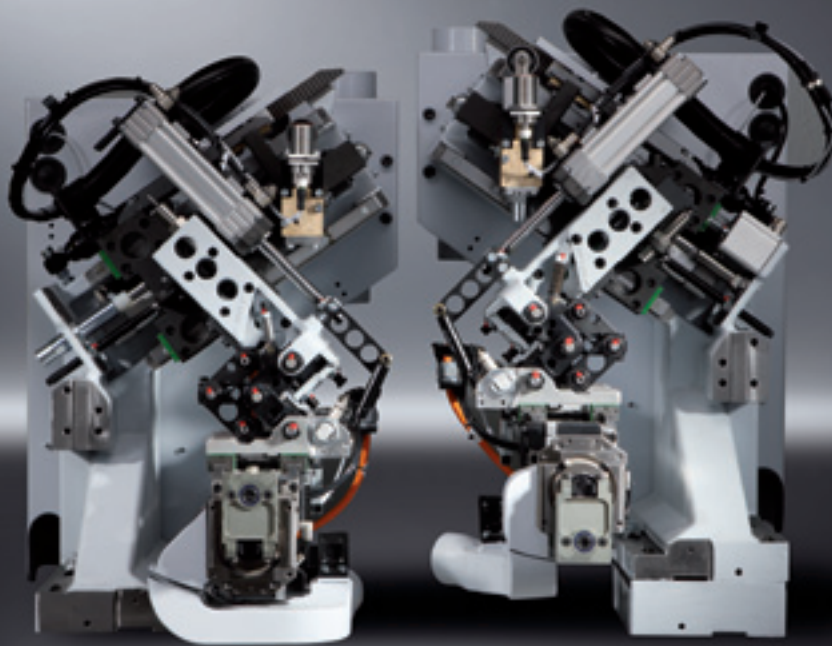
# Formfräsen

Die hohe Schule des Fräsens beherrschen die Formfräs-Aggregate von HOMAG. Dabei werden sämtliche Aufgaben vom Anwender programmiert und in allerhöchster Geschwindigkeit und Präzision ausgeführt. So wird effizientes Arbeiten möglich, das zu höherer Produktivität führt. Die zweimotorigen Formfräsaggregate ermöglichen sowohl das Eckenrunden als auch das Befräsen der oberen und unteren Kantenüberstände.



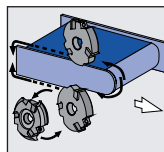
## Formfräsaggregat FK11

Zum Bearbeiten der Kantenüberstände.  
Auch zum Umräsen der Vorder- und Hinterkante.



## Automation to suit every need

Chamfer/radius adjustment for fast changeover between for instance 0.4 mm and 2 mm edges.



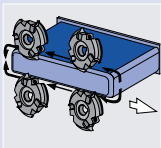
## Profile trimming unit FK13

For processing overhanging edges and trimming around the leading and trailing edge. With 8-slot tool changer.



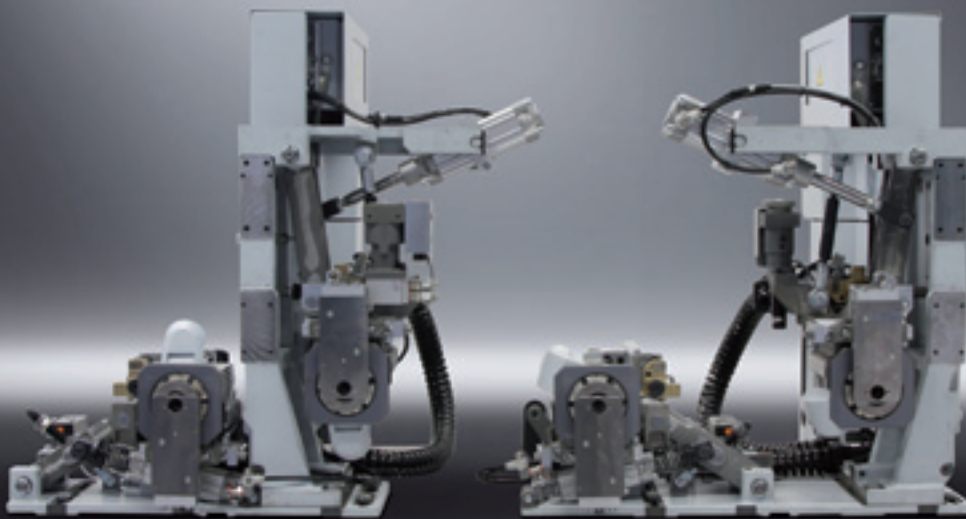
# Profile trimming

The four-motor profile trimming unit takes care of corner rounding when processing veneers. Flush trimming is optionally also possible at the top and bottom workpiece surface.



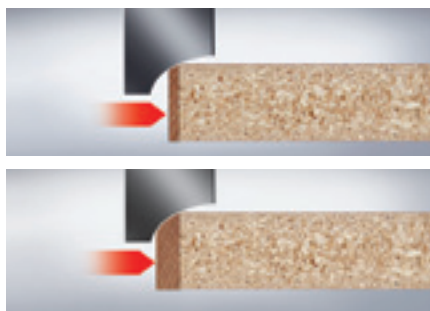
## Profile trimming FF32

For rounding edges above and below at the leading and trailing workpiece edge.



## Automation to suit every need

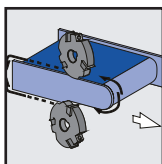
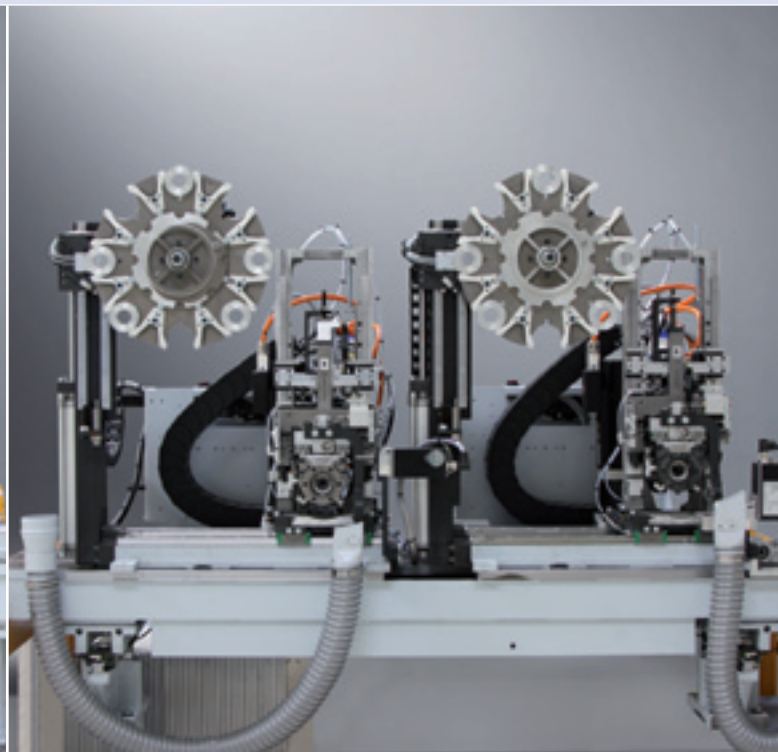
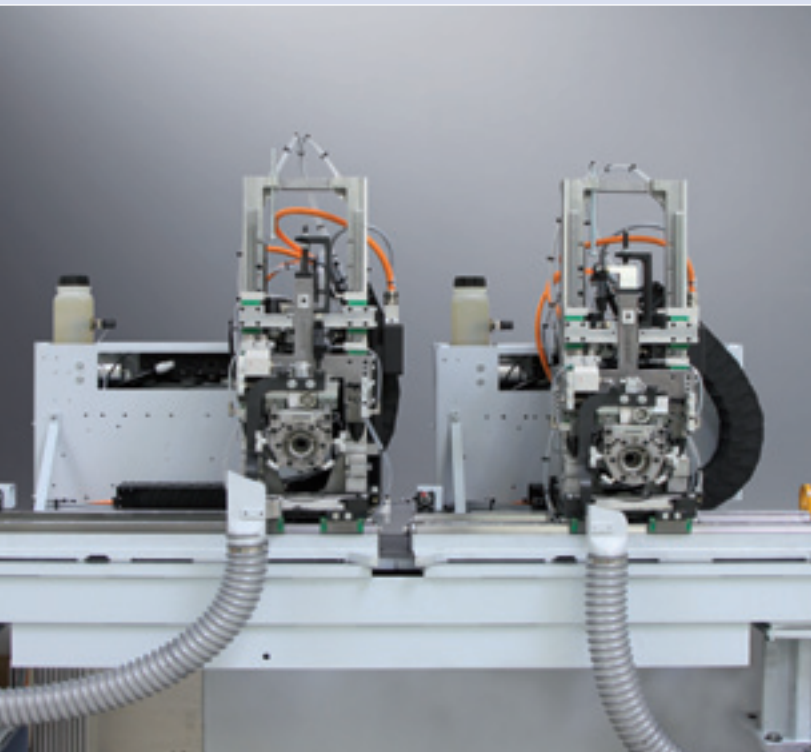
Chamfer/radius adjustment for fast changeover from for instance 0.4 mm to 2 mm edges.





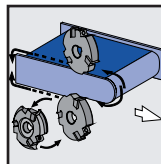
# Servo profile trimming – making you even more mobile

If your expectations are high and you expect more output, greater contour versatility and even higher quality, then we recommend our servo profile trimming units. Here too, greater productivity means reduced unit costs.



## Profile trimming unit FK21 Servo

For processing overhanging edges. Also for trimming around the leading and trailing edge. Servo drive for high dynamics and optimum processing quality from 20 to 30 parts/min.



## Profile trimming unit FK23 Servo

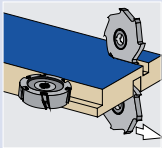
For processing overhanging edges and trimming around the leading and trailing edge. With 8-slot tool changer. Opens up free scope for profile and material versatility. Servo drive for high dynamics and optimum processing quality from 20 to 30 parts/min.

## Automation to suit every need

Chamfer/radius adjustment for fast changeover from for instance 0.4 mm to 2 mm edges.

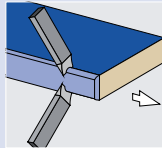
# Universal trimming

Allows grooving with any optional cut-in and cut-out points during trimming operations without the need for an additional pass.



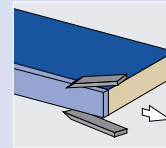
**Universal trimming unit UF11**

For grooving, rebate trimming and profiling.



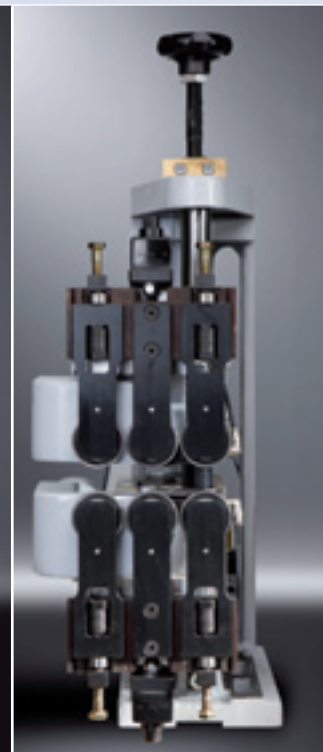
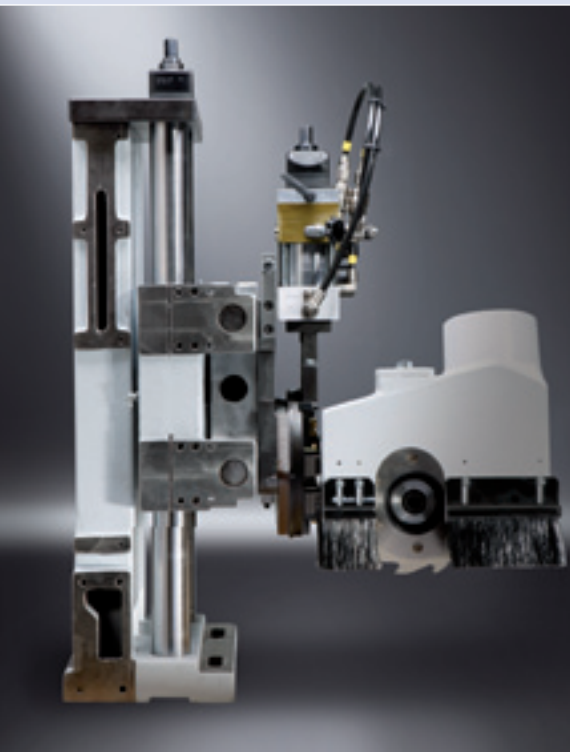
**Profile scraping unit PN20**

For smoothing trimmed edges to achieve an optimum appearance.



**Finish processing unit FA10**

Comprising a glue joint scraping unit for disposal of glue residues at the top and bottom of PVC edges.

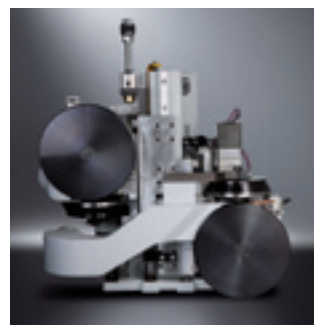


## Automation to suit every need

- Axes for program-driven horizontal and vertical adjustment
- Workpiece tracing from above or from the side for precise edge profiling

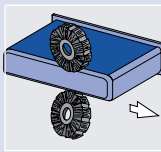
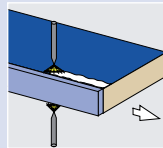
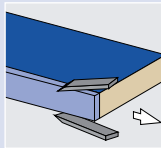
**Multi scraping device MN21**

Changeover between different profiles, e.g. chamfer 20°, R2 and R3.



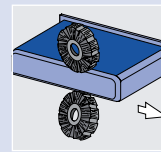
# Finish processing

HOMAG supplies units to meet the most stringent quality standards for the assembly-ready production of panels, with cleaned and automatically finish processed edges. This is where premium quality is produced straight off the production line.



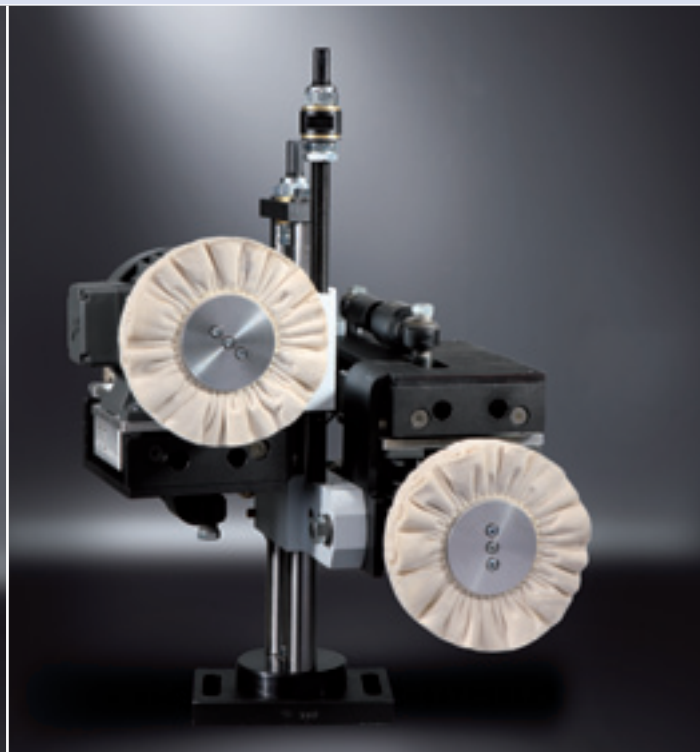
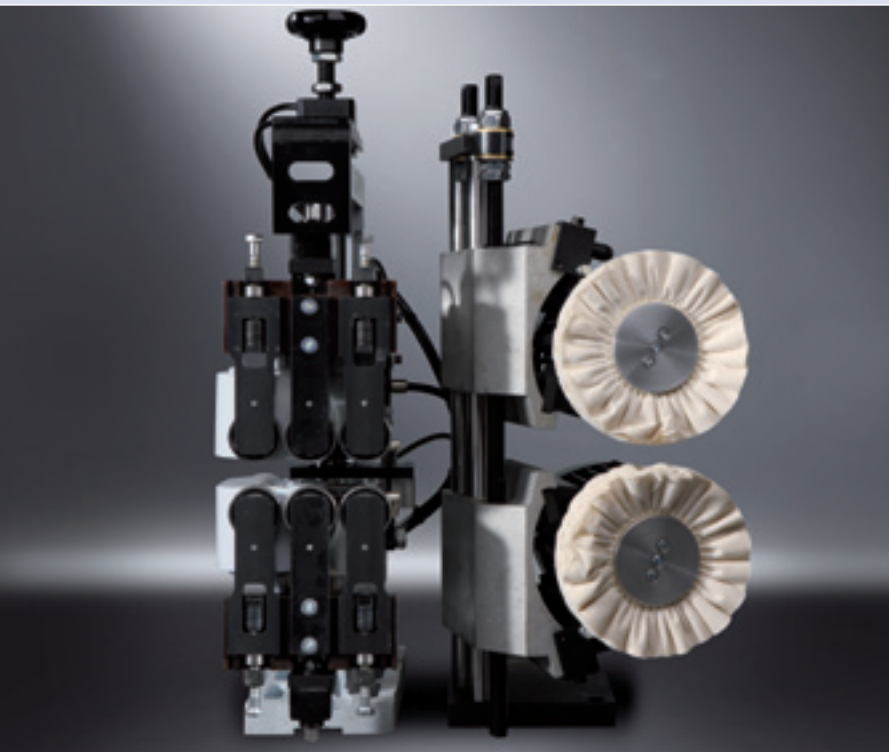
## Finish processing unit FA11

Comprising a glue joint scraping unit, cleaning agent application and buffing for disposal of glue residues on PVC edges.



## Buffing unit top and bottom with oscillation

For smoothing off edges using the entire disc width.

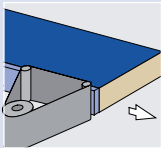


## Automation to suit every need

- Automatic move-in and move-out from the work area

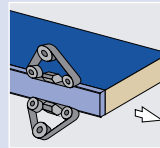
# Finish belt sanding

Sanding units from HOMAG impart the perfect finishing touch to straight or profiled veneered edges. Naturally with facility for general sanding pressure adjustment.



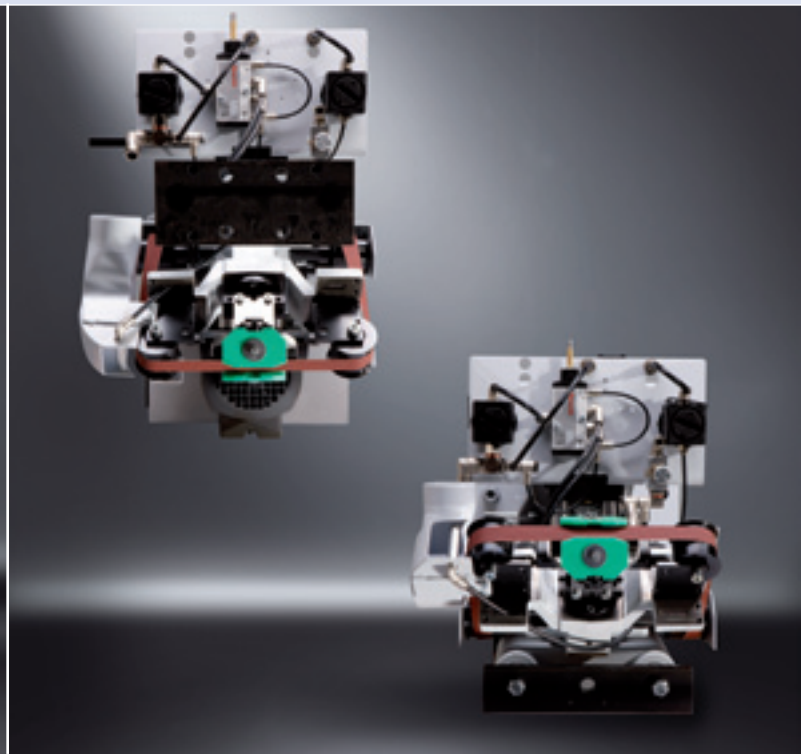
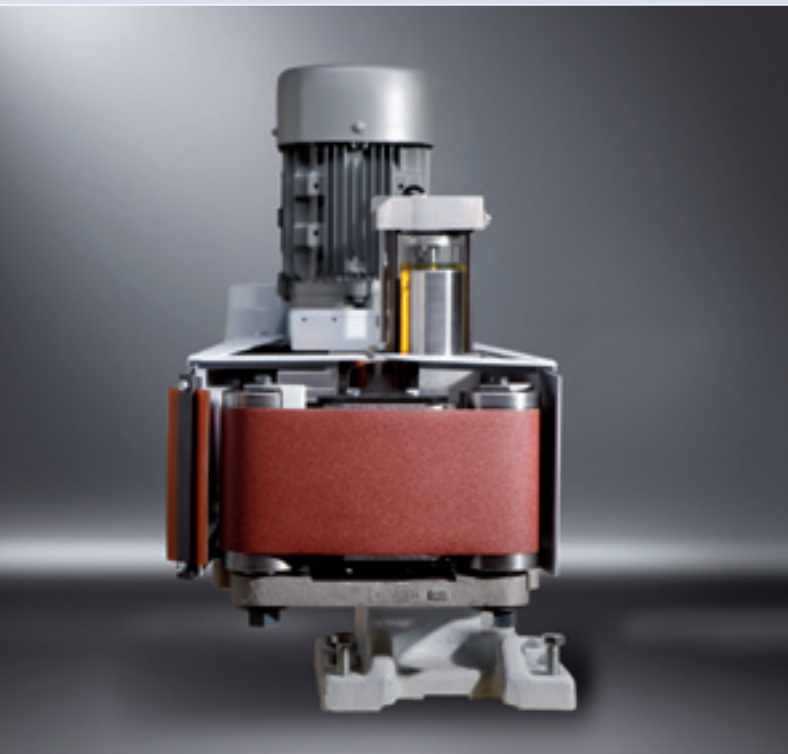
## Belt sanding unit KS10

For sanding straight veneered and solid edges including oscillation as a standard feature.



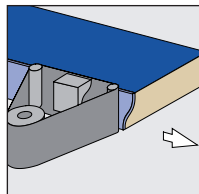
## Chamfer/radius sanding unit PS41/PS42

For sanding chamfers and radii at the top and bottom of veneered and solid wood edges.



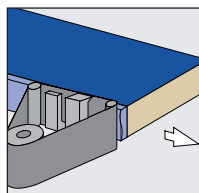
## Automation to suit every need

- For moving out of the work area
- For stepless adjustment to different edge thicknesses and moving out of the work area



## PS10

For profile sanding.



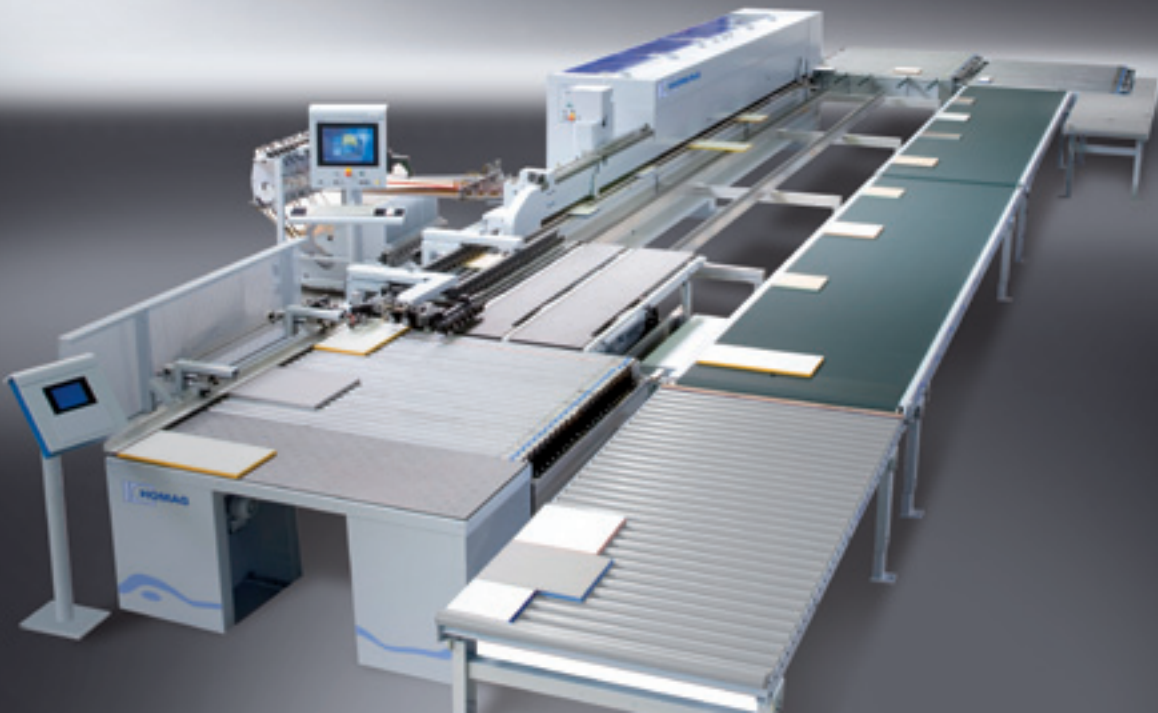
## PS20

For profile sanding using dual pad technology with two separately adjustable sanding pads



# Batch size 1 in series production – HOMAG makes it happen

There is growing demand for the manufacture of individually configured products, and this trend is on the rise in the furniture industry too. The markets are calling for furniture designed to customer order with an affordable price tag. And only those with the capability to produce this type of one-off product economically can remain competitive in the long run. We have the solutions it takes to make this happen. Our concepts will allow you to produce batch sizes of one as economically as conventional “mass produced furniture”. More successfully than ever before!



No matter how many different parts you need to process and whether you wish to produce single units or small production runs. The 300 series allows you to compose your own batch size 1 plant for outputs of between 400 and 500 parts per shift. Modern feed systems, return conveyor systems or robots make for simple handling of wide-ranging different parts, whether for batch size 1, series or repair operation. Making you even more flexible.

## User-friendly control system

The modular structure of the PC control system permits whole plants to be operated from a single computer. The various control modules can be specifically configured to your individual requirements.

# Operation and control – ergonomics hand in hand with efficiency

To allow the full performance potential of your machine to be utilized, simple operation and reliable control are highly important issues - particularly for smaller outfits. In the KAL 300 machine series, manual intervention in the machine's operation is cut to a minimum with a control system solution tailored to the user's needs. Above and beyond the standard package, a wide choice of options is available to extend the functional scope and operating convenience of the machine as well as enhancing productivity.

## Standard

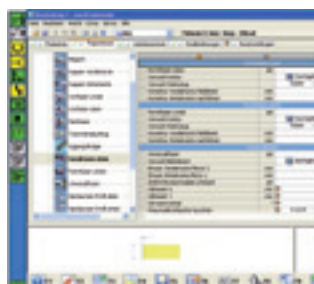


### powerControl system PC22

This modern, highly flexible control system offers a range of additional functions for the simple, reliable operation of your machine:

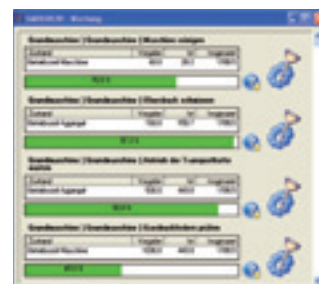
- User-friendly menu prompting using the Windows-XP standard
- Large 17" display affords a clear overview of all machine functions
- Easily understandable plain text messages in the local language

These benefits combine to ensure a production-ready machine as and when you need it.



### woodCommander

The programming system for all HOMAG throughfeed machines. Extreme user convenience due to graphically supported input masks for simple navigation and menu prompting.



### Schuler MDE basic

The acquisition of piece numbers and actual operational times at the machine provides meaningful information about your machine's productivity. Integrated prompting ensures timely execution of necessary maintenance work in keeping with the maintenance schedule.





## Options



### Diagnostic system woodScout

High-performance diagnostic system which as well as providing plain text messages also offers a graphic indication of the fault location at the machine. The facility for saving remedial actions in the woodScout memory permits the expert knowledge supplied with the diagnostic system to be continuously extended by the customer.



### Schuler MDE professional

By upgrading from Schuler MDE basic, users can obtain a detailed breakdown of actual operational times into production time, set-up time, down time due to faults and down time due to interruptions. The integrated shift management and logging system allows production data to be acquired and evaluated on a user-dependent basis.

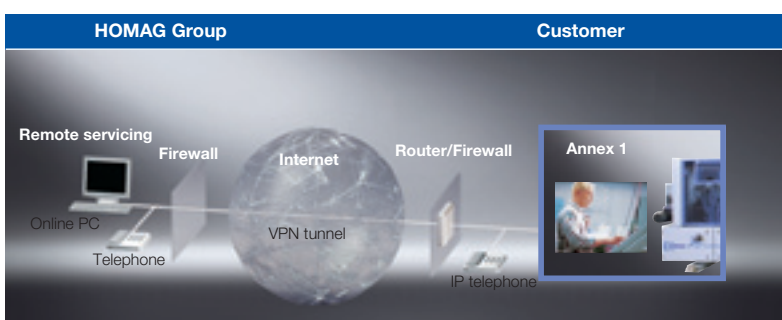


### Barcode reading system

This system encompasses a wireless radio scanner and the software for automatic transfer of barcode information, allowing programs to be simply and quickly loaded into the machine.

### Touchscreen operation

The new touchscreen offers an outstanding degree of user convenience coupled with operating simplicity. Just a single "touch" on the large 19" display allows the user to select all the important functions for fast, reliable production: Program selection, selection of edges and changing the workpiece height are just some of the possibilities afforded by this new and innovative operating concept.



### TeleServiceNet

Selective fault analysis and diagnostics using Internet technology offer scope for rapid service and assistance. With a single connection, all the machines of a production line can be accessed right down to the last link in the control chain.

# You invest, we reduce: Life cycle cost management

It is not the investment costs which decide the economic success of your production, but the capacity utilization and unit costs. This is why our primary objective is to combine top class production with higher productivity and consequently lower unit costs.



## Unit cost reduction through

### Optimum financing

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

### High level of processing quality “without” finish processing

- Perfectly coordinated machine configuration

### Practically oriented training

- Targeted training, cutting time to full productivity
- Employees are prepared for safe, efficient machine operation

### Reduction of labour costs per piece

- Fast, simple operating capability of machines
- Simple resetting processes

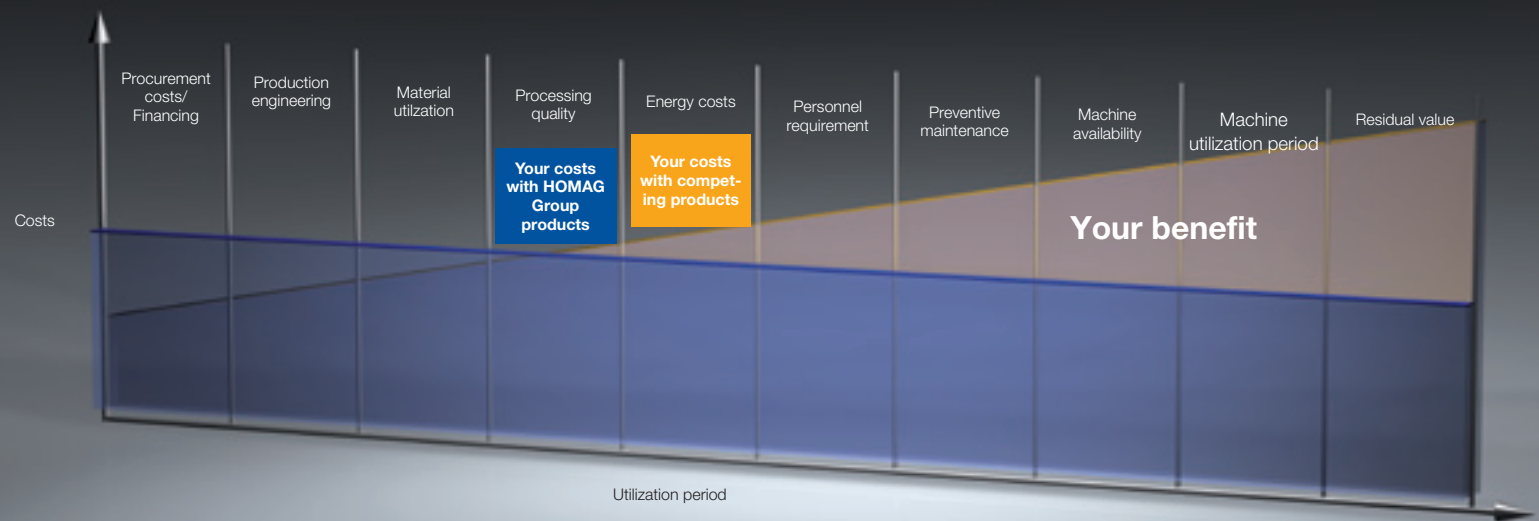
### High degree of machine availability

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

### Fast achievement of productivity

- To get you quickly up to your targeted high shift output, our employees will visit your company to ease you into the start of production. This will take you faster to your targeted production output.





### Low energy costs\*

- Intelligent stand-by operation reduces energy costs during break periods by up to 90 %.
- A valve control system switches the %extraction on only for units which are actually operational. This reduces extraction costs by up to 20 %.
- I-tools reduce the necessary extraction speed per individual I-tool. Current consumption per machine is reduced in this way by around 1,250 kWh. This does not take into account savings due to room air which requires no extraction (heating / air conditioning).
- With the PC22 control system, the switch cabinet is cooled by means of cooling plates / fins at the rear without using a powered fan. This passive cooling system requires no energy. No filters need to be exchanged. Maintenance costs are saved. The system also remains closed. No dust is able to penetrate.

### Machine utilization period

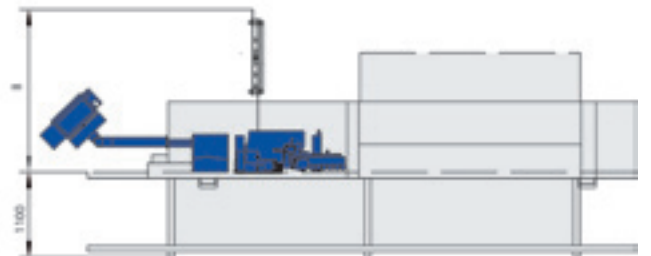
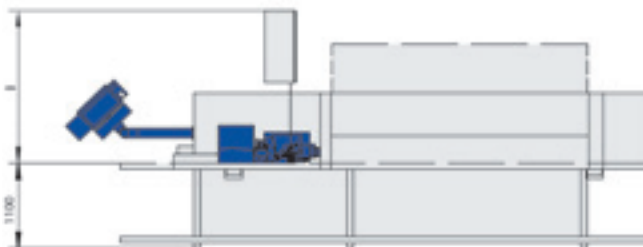
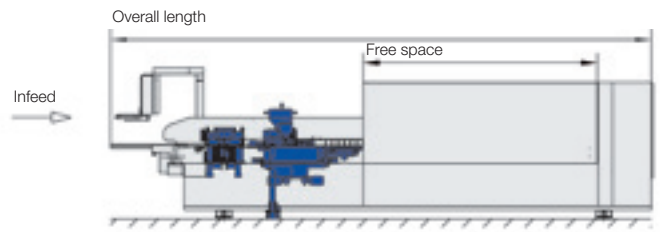
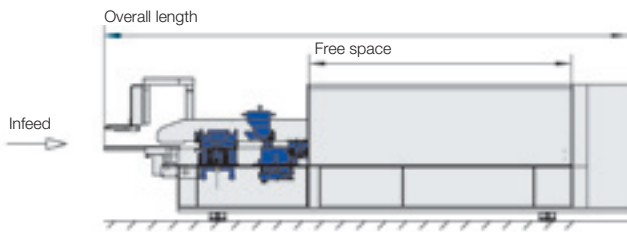
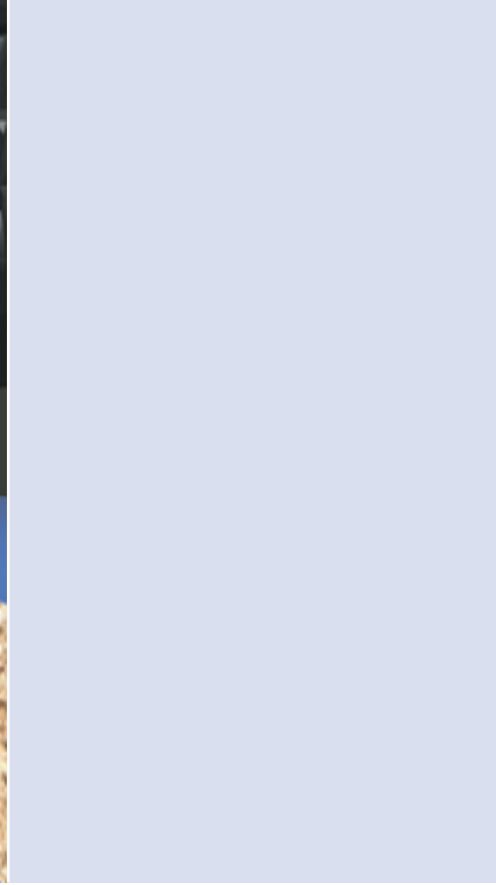
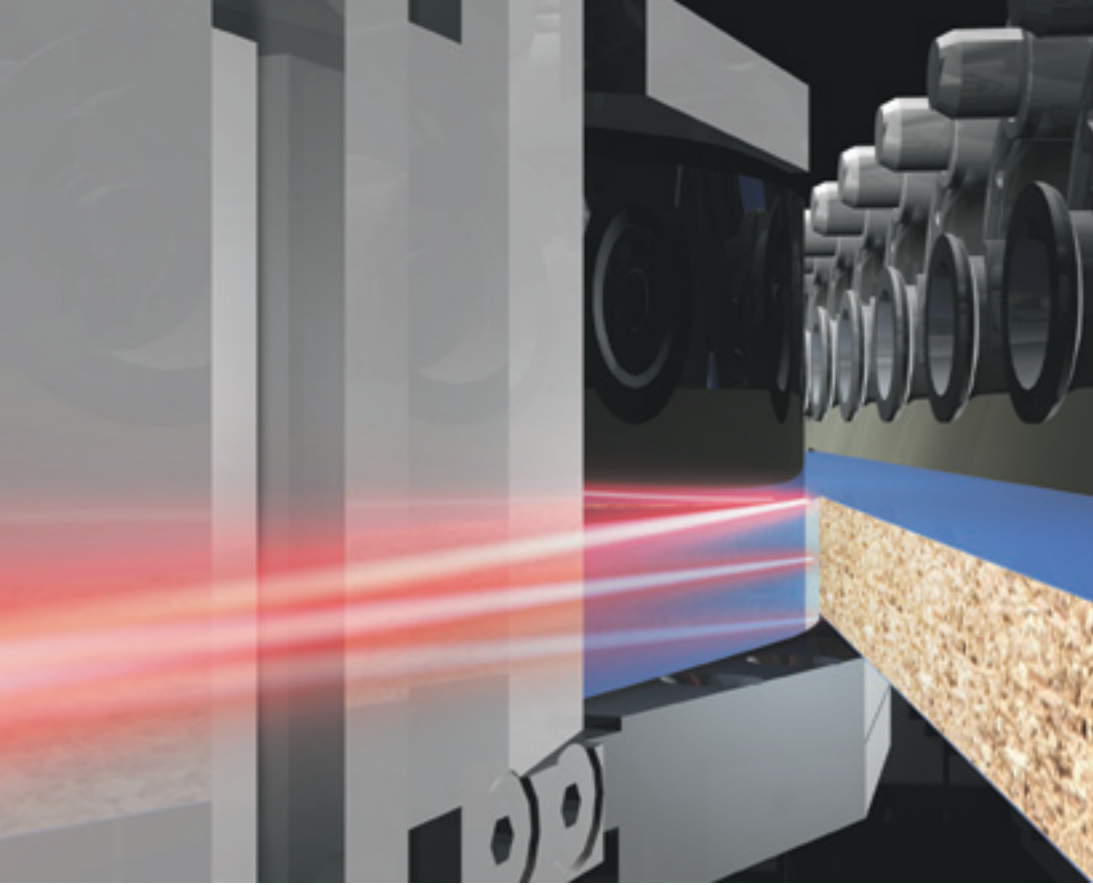
- Capability for continuous expansion of functionality ensures compliance with the requirements of tomorrow
- The HOMAG conversion department offers solutions to address major conversion requirements, ensuring a high degree of investment security over years

### Preventive maintenance

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



\*Depending on equipment configuration, service period and workpiece spectrum.



# Technical data KAL 300

The KAL 300 series offers a wide-ranging product spectrum to the very best HOMAG standard of quality at a highly affordable price. This machine model permits precisely positioned edge banding and is available in different overall lengths. It can be integrated into any machine environment. An extensive range of available retrofit units allows users to accept widely varying production assignments.

KAL 310 and KAL 330										
<b>Overall length [mm]</b>	5,630	6,130	6,880	7,755	8,545	9,295	10,045	10,860	11,610	12,360
<b>Machine type</b>	3	4	5	6	7	8	9	10	11	12

Machine dimensions	
<b>Overall length [mm]</b>	See table above
Noise protection covers	
Overall width closed/open [mm]	910/1,540
Overall height closed/open [mm]	1,740/2,280
Working height [mm]	950
Working dimensions	
Workpiece width	
with workpiece thickness 22 mm [mm]	min. 55
with workpiece thickness 60 mm [mm]	min. 100
Workpiece thickness [mm]	
	min. 12 opt. 8
	max. 60 opt. 100
Edge thickness, fixed lengths/coils [mm]	
A3 [mm]	min. 0.3
A20 [mm]	max. 3.0
	max. 20.0
Edge length, coil A3/A20 [mm]	
	min. 150
Edge length, fixed lengths A3/A20 [mm]	
	min. 200
Workpiece overhang fixed [mm]	
	30
Optionally adjustable with the KAL 330 [mm]	30–70

Connected loads	
Operating voltage	400 V
Control voltage	24 V
Frequency	50 Hz
Static converter	built-in
Switch cabinet	externally mounted
Total electrical connected load kW	depending on equipment
Total extraction output m <sup>3</sup> /h	depending on equipment
Air speed	28 m/sec.
Compressed air consumption	depending on equipment
Compressed air port	R1/2" Female thread supply line R1"
Pressure loss	appr. 200 mm/WG
Miscellaneous	
Feed rate, fixed	18 m/min.
Optional: Steplessly adjustable	18–25 m/min. (32 m/min.)
Machine speed appr. kg	depending on machine type

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



## Choose the Original Choose Success!

For the Success of Original Technology  
A VDMA Campaign



A member of the HOMAG Group



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