

Heesemann

Reliability by proven design

MFA 10

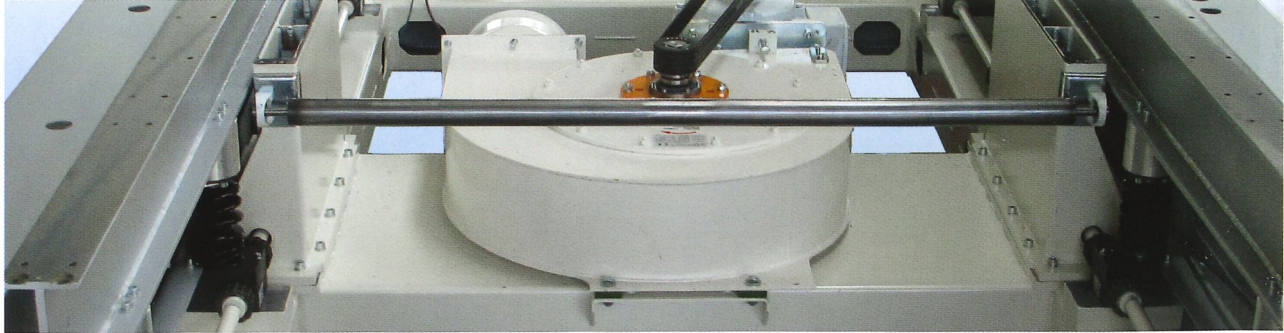
The all-round talent



75 years of sanding innovations

“ *Someone has to lead the way.* ”

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Heesemann MFA 10

The MFA 10 is a real all-round talent for all sanding tasks. It can be flexibly equipped for all conceivable applications with up to 5 different units in accordance with customer requirements. The MFA 10 is available as a machine sanding from the top and from underneath.

Be it for sanding high gloss surfaces or calibrating solid wood panels: the MFA 10 can be configured optimally for any task.

With its extremely robust design for a long service-life it is particularly suitable for multi-shift operation in surface facilities. Even in the upmarket craft business it is without a doubt the right choice for high quality tasks.

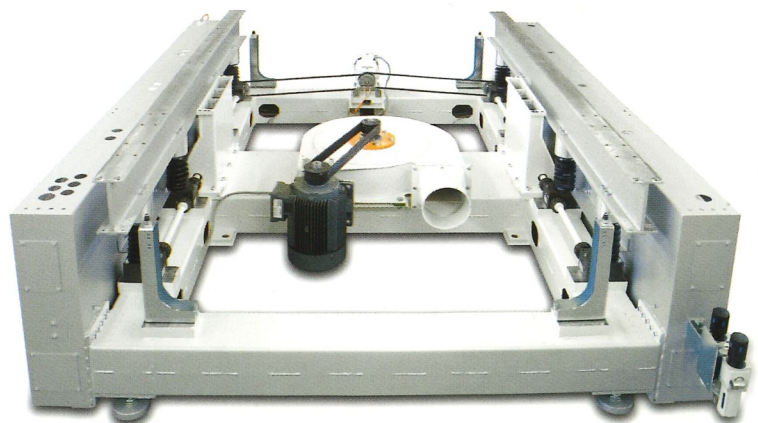
Torsion-resistant machine stand

Machine stand as a torsion-resistant welded construction with integrated fan and flow-optimised ducts for the suction tension. There are no fault-prone hose connections.

The working height of the transport table is constant.

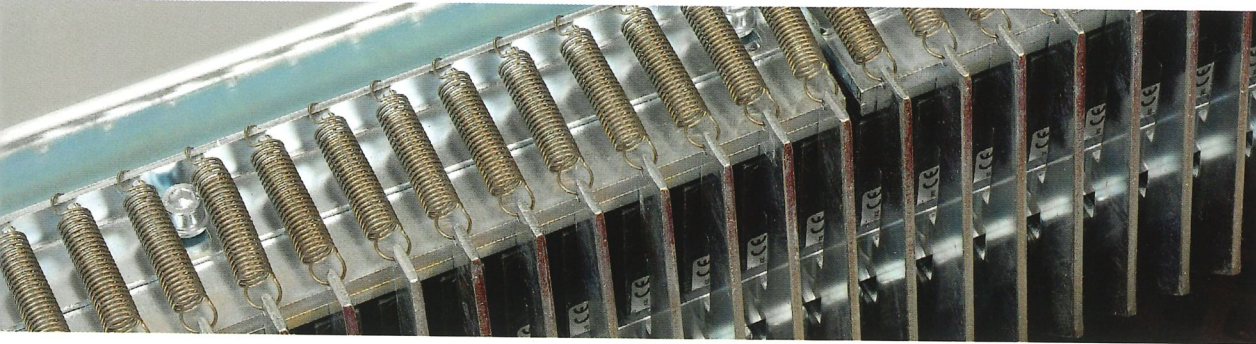
The height adjustment of the units is done by means of height adjustment gears lubricated for life, which are driven by toothed belts and provide for an absolutely exact positioning of the units.

The switch cabinets are integrated into the frame construction which reduces the space required and provides for excellent accessibility, especially in line operation.



MFA 10

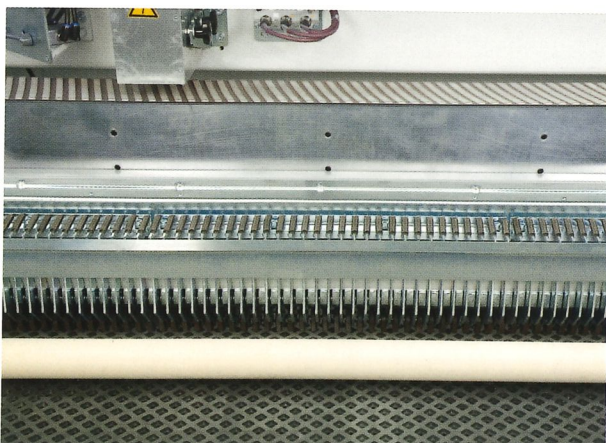
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Workpiece detection

The finely graded workpiece detection by means of control rollers at intervals of 21 mm or, optionally, 16 mm provides the machine control system with information about the form and size as well as the transport belt position of the workpieces to be processed.

Optionally, a contactless high resolution workpiece detection is available. In this system, the workpiece is scanned by means of a laser beam and the image is recorded by a digital camera. This way the workpiece is scanned virtually continuously and the machine control system is able to calculate the contact pressure for the individual electromagnetic elements in the pressure bar even more precisely.



EnergyManagement-System EMS

The MFA 10 comes with the EMS system off-the-shelf. This is an energy management system our environment and the machine user alike benefit from due to lower operating costs.

If no workpieces are fed into the machine, the speed of the unit drive motors will be reduced and a flap on the suction tension blower will be closed in order to heavily reduce the air throughput. Depending on its actual load, this reduces the energy consumption of the machine quite considerably.

If the customer-supplied extraction system provides this option the machine can prevent the airflow through units that are not in operation by controlling closure flaps attached to the individual extraction hoods and thus make the extraction system save energy.



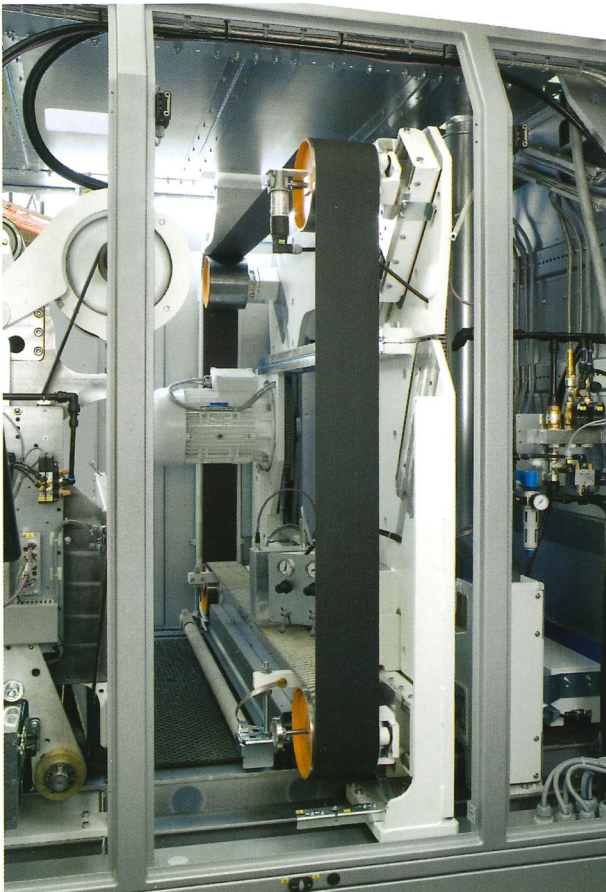
“ *The goal: The perfect surface.* ”

4



Cross sanding unit

Cross sanding unit with standard belt lengths of 5,400 mm and optionally 7,000 mm available.



Longitudinal unit

A longitudinal unit with an optimised spacing of the lower return rollers allows for an extensive free sanding belt length to execute a highly flexible contact pressure to the workpiece. This provides for sensitive sanding and high operating speeds.

Belt lengths of 2,620 or 3,250 mm are available. The optional pneumatic belt positioning assistance allows the sanding belt to be changed quickly and easily.

Optionally with eccentric bearing of the front return roller for PC-controlled minor calibration work. The return rollers may either be smooth or corrugated.



Longitudinal unit with pressure segment belt

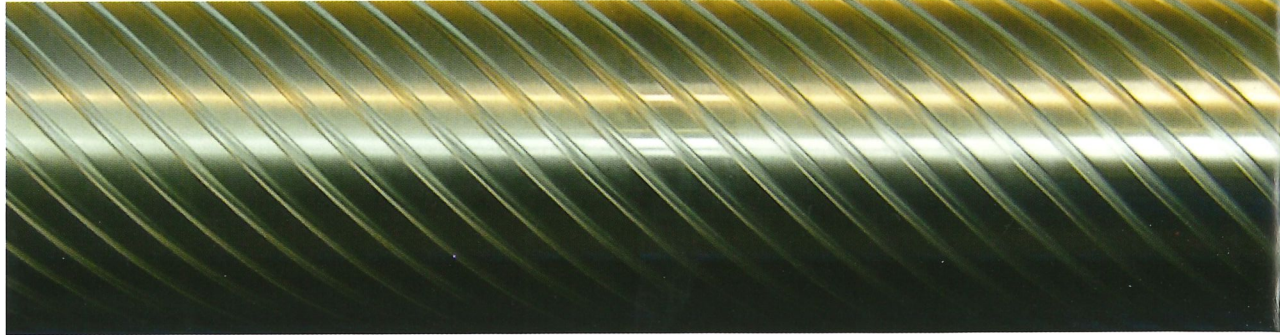
The longitudinal unit with an internally running pressure segment belt is an addition to many applications that makes sense. The pressure segment belt interrupts the sanding trace of the grain and thus offers a harmonious and more homogenous sanding pattern if e.g. sanding is not carried out in line with the wood grain. If a particularly fine grain is to be used for lacquer sanding, the pressure lamella belt may significantly increase the lifetime of the abrasive material.

Two eccentrics are located on the unit by means of which the guide drums can be readjusted in accordance with the wear of the pressure segment belt. This compensates for the wear on the pressure segment belt, and its lifetime is extended many times over.



“ *Our surfaces are perfect.* ”

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Roller unit

The roller unit e.g. with steel roller and 250 mm diameter for the exact calibration of materials made of e. g. solid wood, chip board, MDF or plastic. The roller surface is grooved in a spiral shape.

Also available: a rubber-coated roller body with a diameter of 300 mm and different Shore hardnesses for different sanding tasks.

Depending on the actual requirement the roller unit can be fitted with different types of contact lips.



OSR Unit

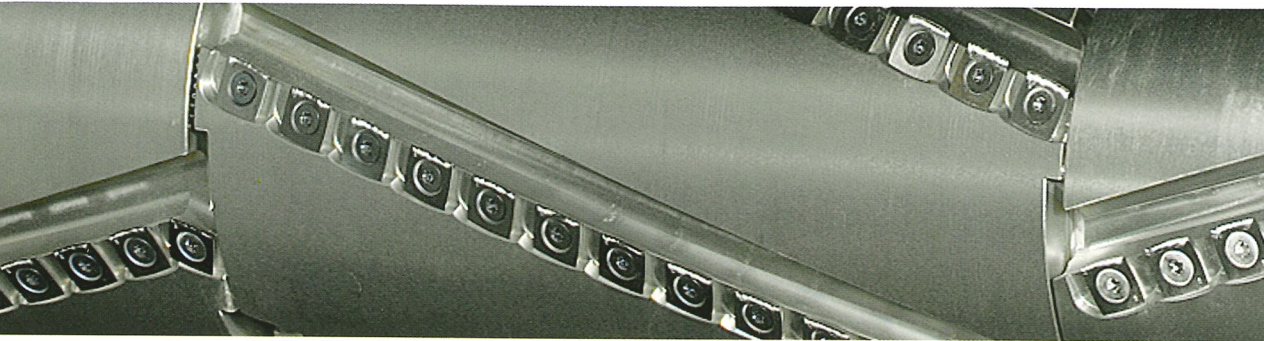
When sanding frames and other workpieces with different grain directions, sanding cross-wise to the grain direction cannot be avoided. The sanding traces which occur as a result are clearly visible, especially with dark stain.

The Heesemann orbital sanding unit removes these traces. A 2,620 mm long continuous sanding belt is cycled according to wear; this reduces setting time significantly.



MFA 10

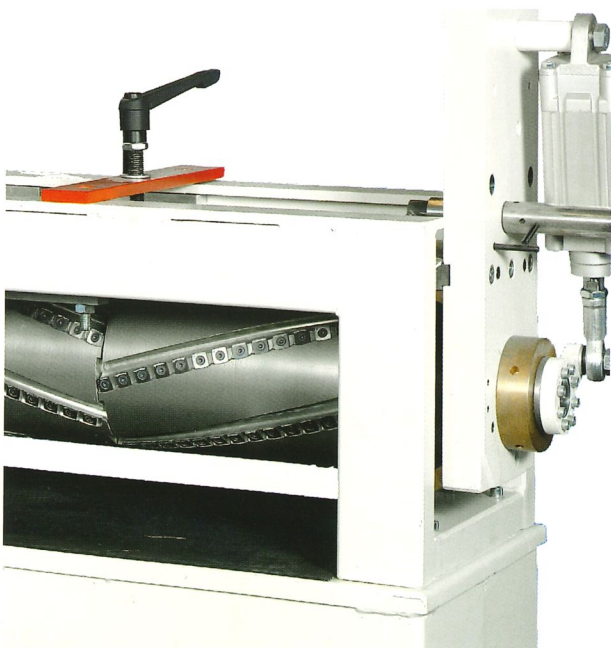
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With the pressure segment belt running in the two opposite directions underneath the pressure bar, the orbitally running sanding traces will be interrupted again and again and can thus virtually no longer be identified.

Cutter head

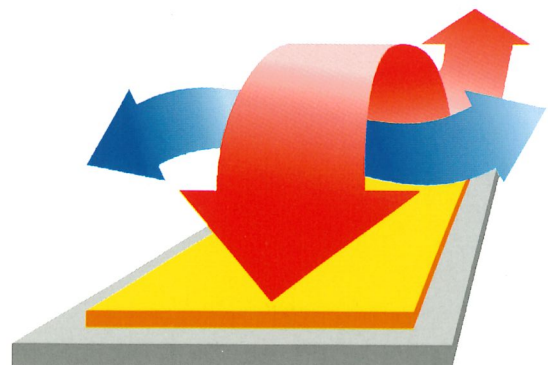
For a high material removal, e.g. in the case of solid wood panels, the use of a cutter head is recommended. Spirally arranged metal carbide cutters with replaceable blades provide for low noise and low vibration.



The cross sanding method

By general acknowledgement, the cross sanding method offers the best sanding result for wood surfaces. First, a cross sanding unit is used for sanding crosswise to the wood grain, in order to then sand along the grain with one or multiple units.

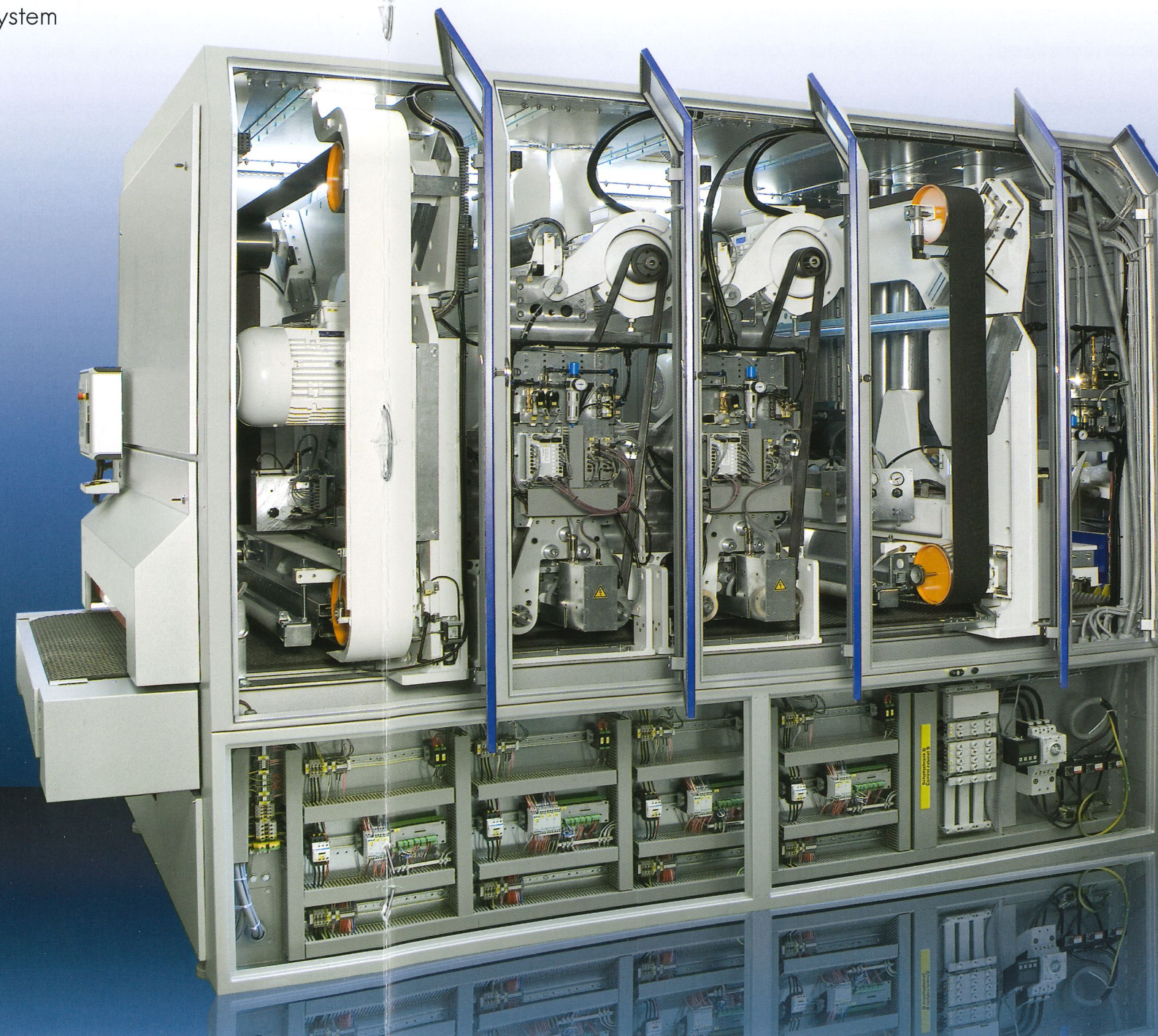
It is advisable to level the protruding hard areas of the annual rings and to shear the loose wood fibres. This avoids any washout effect and any springing back of the fibres after lacquering.



The all-round talent **MFA 10**

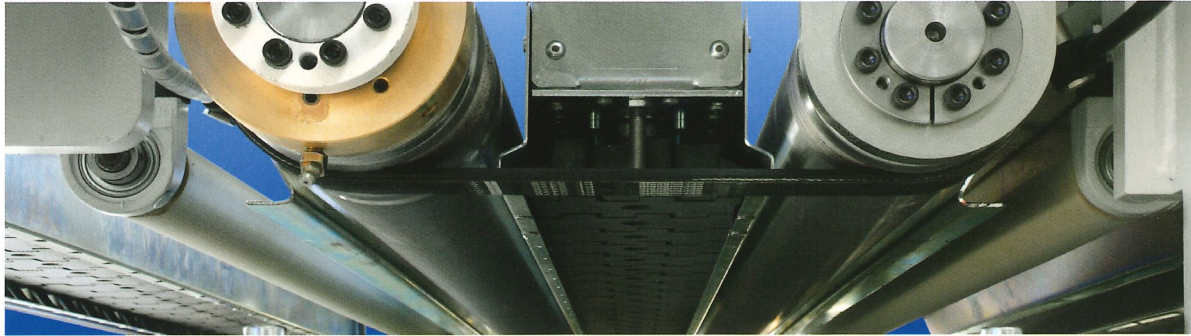
Key features:

- Torsion-resistant machine stand
- No defect-prone hose connections due to flow-optimised channels for suction tension integrated into the frame construction
- Switch cabinets integrated into the frame construction
- Auto Trace System - automatic adjustment of the abrasive belt run
- The proven Heesemann CSD[®] magnetic pressure beam system
- Motion Control - the 2nd generation of the CSD[®] system
- Fine workpiece detection
- Optional contactless and high resolution workpiece detection
- Equipped as standard with the new EnergyManagement System EMS



“ *Enthusiasing and proven solutions.* ”

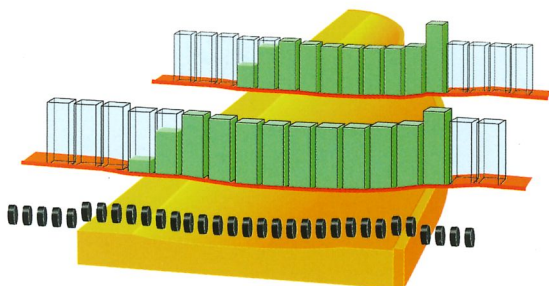
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The CSD® magnetic pressure beam technology

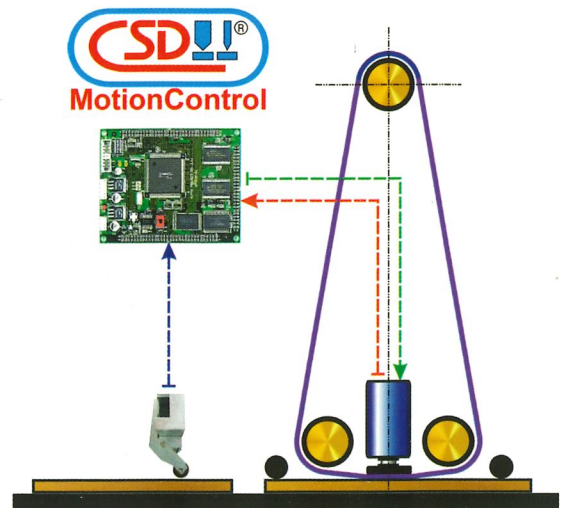
The CSD® magnetic pressure beam works with electric magnets for activating the segments of the pressure beam. The exact control of the magnets allows for a continuous adjustment of the sanding pressure to the shape and position of the workpieces within split seconds. Even at high feed speeds and workpieces with complex shapes an absolutely even sanding result can be achieved.

3 different segment widths are available for the pressure beam.

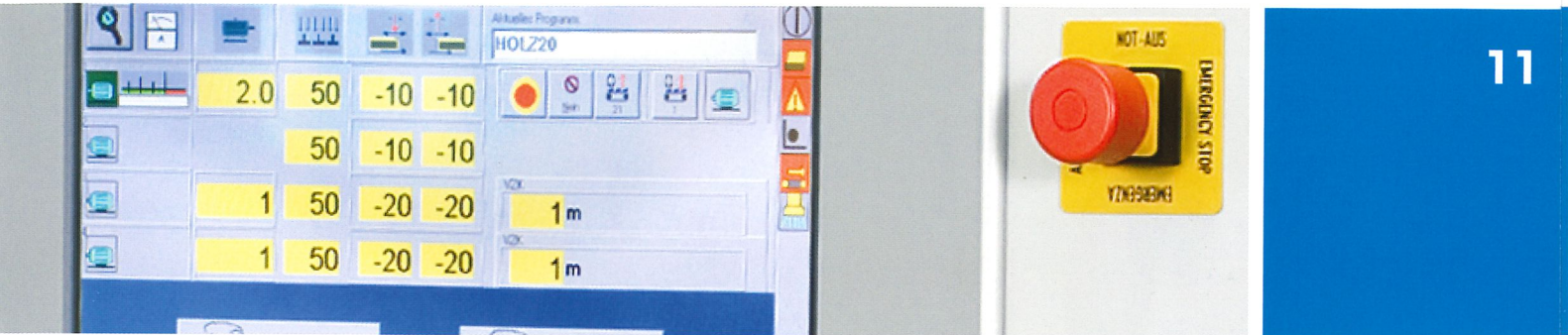


CSD® Motion Control

As the CSD® system already considers the 2-dimensional form and dimension of the workpiece for the exact adjustment of the sanding pressure of each individual element, the Motion Control System now processes additionally the 3-dimensional form. Workpieces thinner than the preset dimension require longer strokes of the pressure beam segments, which leads to a loss of power due to the sanding belt tension acting in the opposite direction. Motion Control measures the stroke of each element and adjusts the loss of power accordingly. Motion Control is the worldwide first spatially working pressure beam system.



MFA 10



Industrial PC

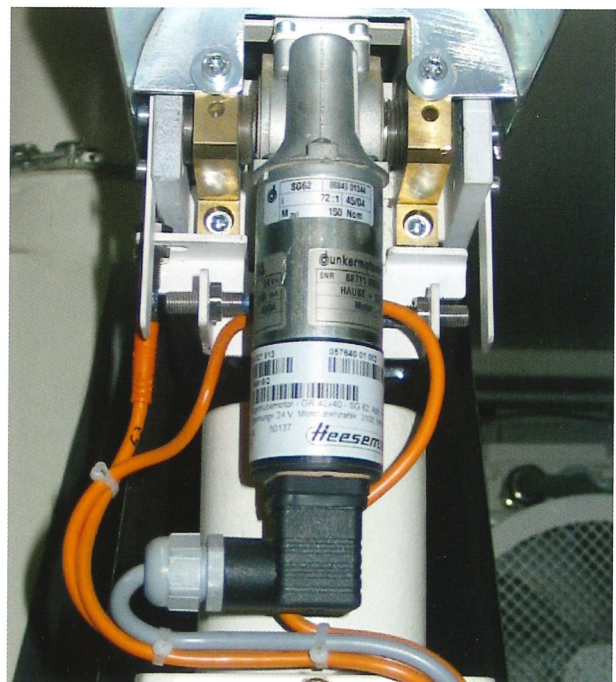
The machine is operated via an industrial PC with an intuitive user interface based on Windows. The pre-selected setting can be stored as a freely programmable sanding programme and called up again any time. As an additional feature, the system offers a recording of operating data along with an indication of actual sanding belt wear, plus a log file as well as all inputs and outputs in their switching position on the display to provide support for any service work.

A clearly designed fault diagnosis system and a standard modem for the use of the Heese-mann teleservice provide assistance in case of emergency.

The Auto Trace System

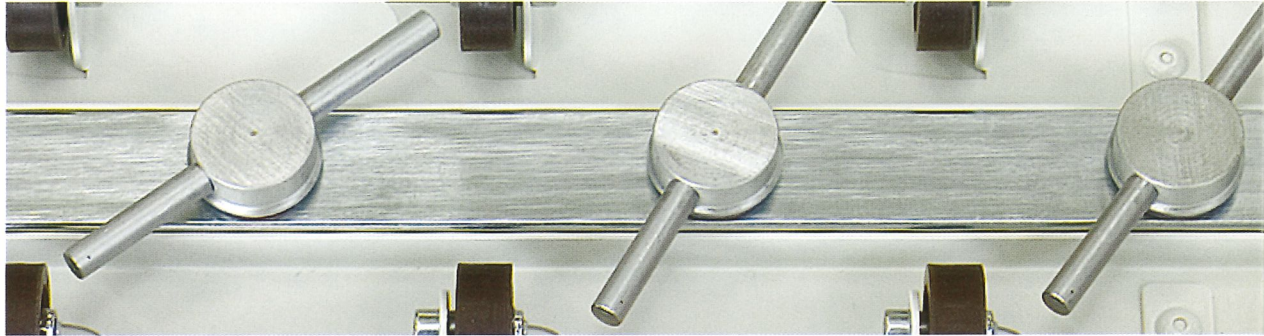
The Auto Trace System supersedes any manual adjusting of the belt run after the sanding belt has been changed. It also adjusts the sanding belt oscillation automatically in such a way that it performs an even oscillation movement on both sides.

This avoids an uneven sanding belt trace on the workpiece surface. A homogenous sanding pattern can only be produced by means of an evenly working sanding belt oscillation.



“ *Enthusiasing details.* ”

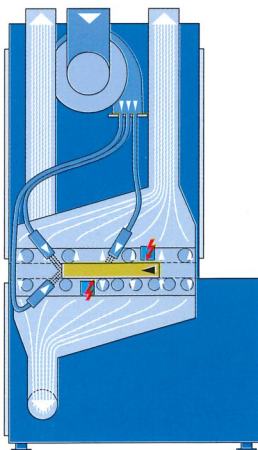
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Workpiece cleaning

A cleaning brush for workpiece cleaning, with its own 1.5 kW drive motor, is included with the standard equipment of each machine. In machines with 4 or 5 units, additional free space is provided for an extra brush. Here, e.g. a structuring brush or a smoothing brush may be used. With smaller machines, a second free brush space is optionally available.

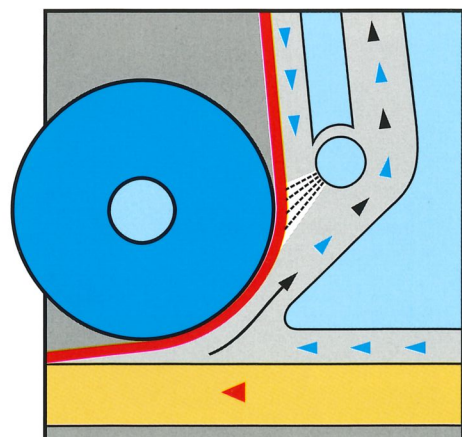
For efficient and energy-saving workpiece cleaning the machine can be supplemented by additional devices. For example, a rotating blasting device, along with an ionisation bar at the machine outfeed, or an additional type EA 8 cleaning machine are perfectly suitable for workpiece cleaning before applying lacquer.

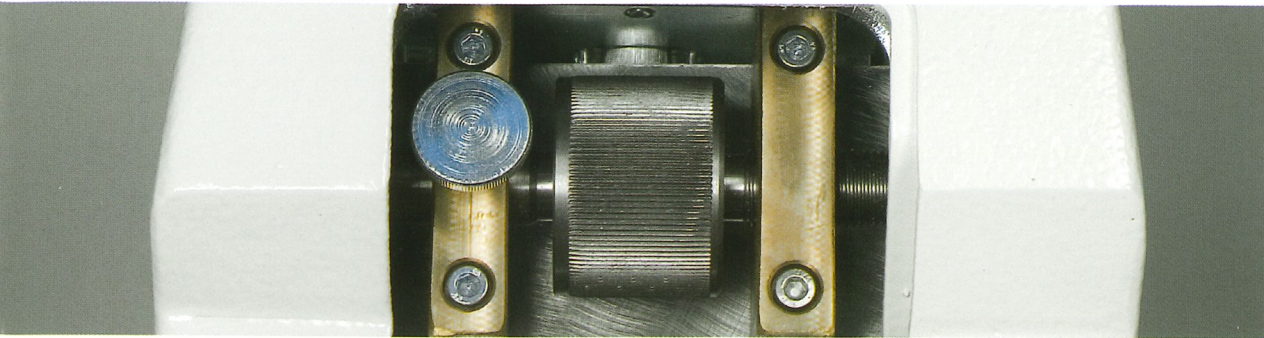


Sanding belt cleaning

Each sanding unit features a sanding belt cleaning device which blows compressed air into the sanding belt by means of a pipe oscillating directly at the sanding belt, thus removing the dust. The device is located close to the area where dust is produced in order to be able to work in a particularly efficient and energy-saving manner.

The system will be activated only if a workpiece is sanded underneath the unit.



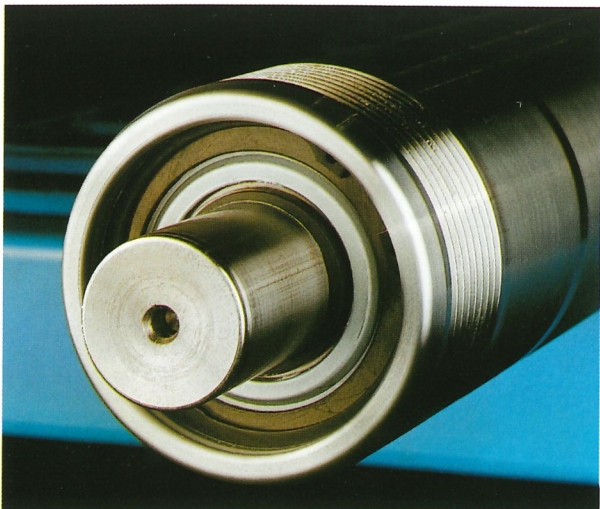


Guide drum with Poly-V-belt

The units are driven by a vibration-free Poly-V-belt.

Instead of a screwed-on drive disk which may produce an imbalance after disassembly, the profile of the drive belt is integrated into the most finely balanced drive roller. This way a permanently low vibration run is ensured.

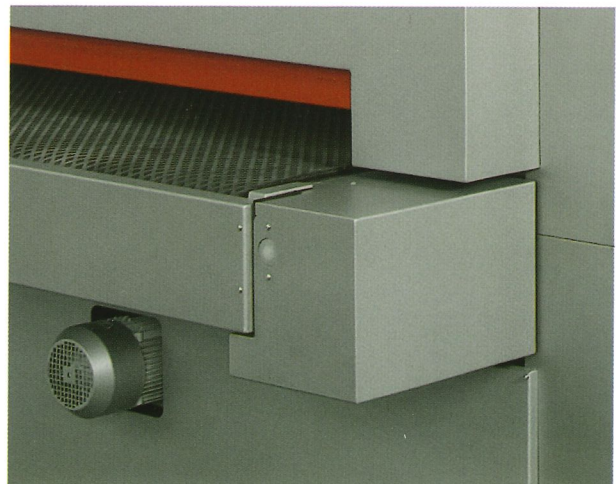
All bearings have been lubricated for life; this excludes maintenance errors in the selection of the lubricant and the lubrication intervals as well as assembly faults; any maintenance work is not required.



Transport belt control system

The transport belt control system works with just a few moving components following a new concept symmetrically on to the tensioning drum and saves space due to its compact size.

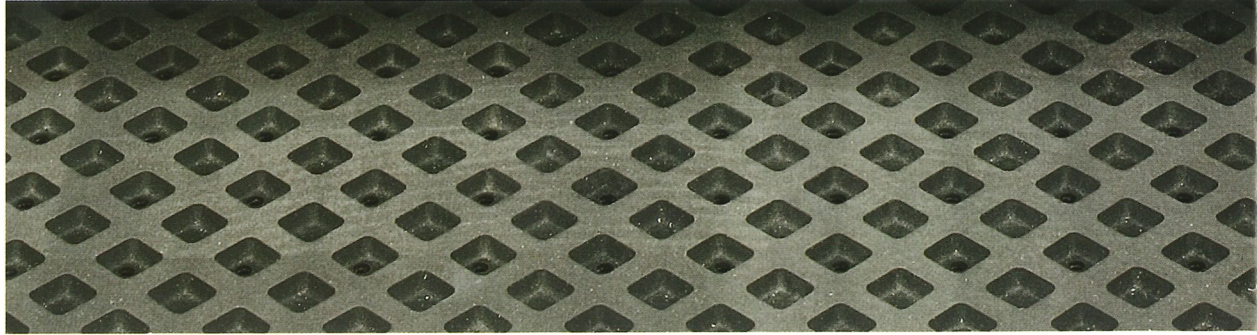
Whilst providing for the maximum possible protection of the transport belt, this system ensures an effective control even with large transverse forces, which e.g. can be applied by several cross sanding belts.



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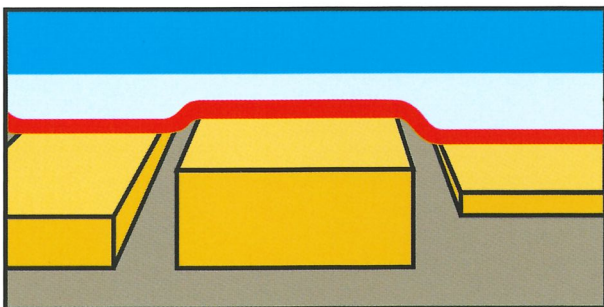
We do what we are good at. And we are good at what we do.

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Tolerance compensation

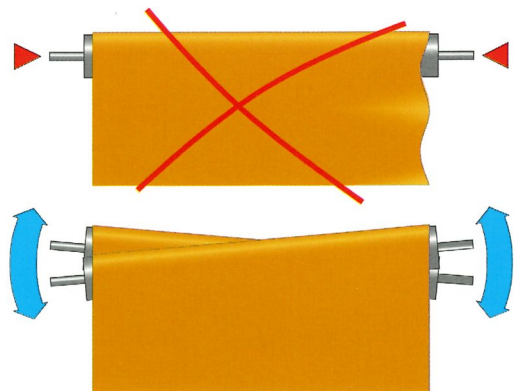
For units equipped with a pressure beam, the exact thickness of the workpieces does not play a major role here, for due to a tolerance compensation of the pressure bar with a component thickness of up to 2 mm and more everything can be sanded without any problems and without any loss of quality.



Belt edge compensation

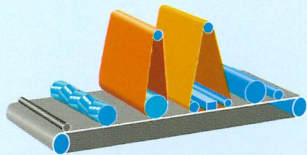
Even in the case of sanding belts with production-induced differences in the edge lengths, the sanding belt is tensioned without any trouble.

The sanding belts are tensioned by means of a tensioning device (patent applied for), which is equipped with 2 bellows cylinders and a central guide. This system works with high elasticity and wear-free.



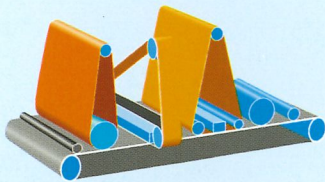
MFA 10

Solid wood processing



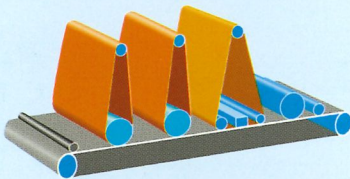
MFA 10 Cu/R/L

Calibration and fine sanding machine for high material removal or very high speeds



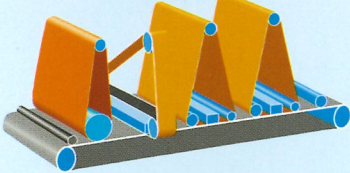
MFA 10 R/C/L

Calibration and fine sanding machine for very high surface qualities



MFA 10 R/R/L

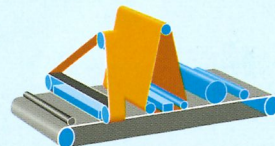
Calibration and fine sanding machine for high stock removal



MFA 10 R/C/L/L

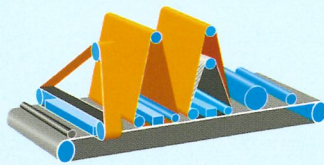
Calibration and fine sanding machine for high surface qualities with fine final grains

Veneer sanding



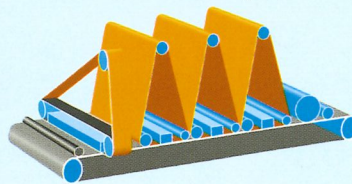
MFA 10 C/L

Cross sanding machine for low feed speeds



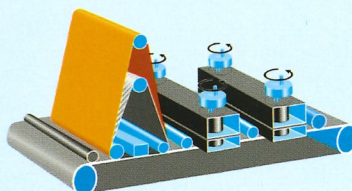
MFA 10 C/L/L/LEF

cross sanding machine with pressure lamella belt for medium feed speeds



MFA 10 C/L/L/L

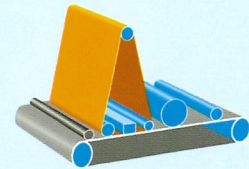
cross sanding machine for high feed speeds



MFA 10 LEF/OSR/OSR

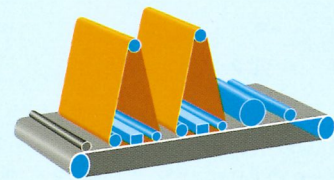
Finish sanding machine for workpieces with different veneer directions

Lacquer sanding



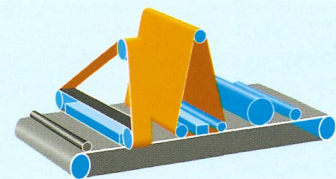
MFA 10 L

Sanding machine for low application quantities



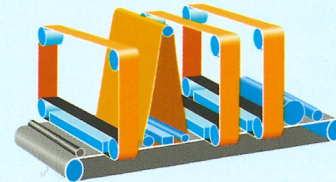
MFA 10 L/L

Sanding machine for higher application quantities



MFA 10 C/L

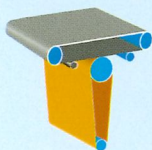
Sanding machine for higher application quantities



MFA 10 C/L/C/C

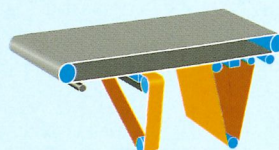
Sanding machine for high gloss lacquers

Sanding machines, working from below



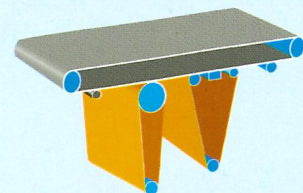
MFA 10-U R

Calibration machine



MFA 10-U C/L

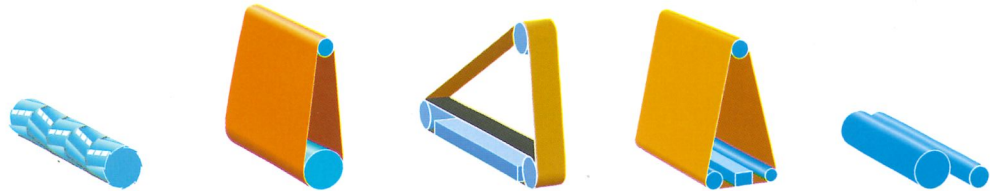
Cross sanding machine for low feed speeds



MFA 10-U R/L

Calibration and fine sanding machine

MFA 10



Modules

Working width 1,350 mm	Cutter head (Oertli)	Calibrating roller***	Cross belt	Longitudinal belt	Brush
Dimensions (L x W x H mm)	Ø 180 mm	2.620 x 1.400 3.250 x 1.400	5.400 x 150 7.000 x 150	2.620 x 1.400 3.250 x 1.400	Ø 150 x 1.430 ** Ø 250 x 1.430 *
Drives Performance / belt speed (kW/ m/s)	22 / 30	15 / 24	15 / 2,0-20	15 / 1,8-18	1,5
Extraction value ** (m ³ /min) connection piece (mm)	Ø 250	Ø 250	Ø 160	Ø 160	Ø 140
Air velocity (m/s)	min. 20	min. 20	min. 20	min. 20	min. 20

* Bristle trimming : 1st space structuring / smoothing brush Anderlon or Vlies; 2nd space cleaning brush fibre or sisal strings

** extraction value for transport belt blasting 18.5 m³/min.

*** Ø 250 (steel), Ø 300 (rubber-coated)

Machine stand: Working height 880 mm / working width 1,350 mm

B 2.300 H 2.250/2.750	Length (mm)	Weight (kg)	Feed m/min
1-Belt machine	max. 2.340	4.200	3-15 5-25
2-Belt machine	max. 2.940	5.000	
3-Belt machine	max. 3.540	5.700	
4-Belt machine	4.140	8.500	
5-Belt machine	4.740	10.000	

Subject to technical modifications.

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Production programme for wood, lacquer and foil sanding
Cross sanding machines
Longitudinal sanding machines
Lacquer sanding machines
Veneer sheet sanding machines
Universal edge and profile sanding machines,
NC and CNC controlled
CNC profile and surface sanding machines
for 2- and 3-dimensional parts