Perfect sanding machines for surface sanding:

MFA 6 Automatic multi-purpose surface sander

Everyday's processing today:

A variety of demands are made on a modern sanding centre for surface sanding, e.g.:

- Veneer, lacquer and foil sanding
- Calibration and finish sanding of solid wood
- Processing cross and longitudinally sanding veneered parts
- Alternating small and large series production
- Sanding warped and differently tolerated parts
- Different workpiece shapes, e.g. round, oval, rectangular and asymmetric
- Processing different wood and lacquer types

Important criteria must be met:

- High surface quality by means of an effective sanding procedure
- High degree of sanding security, no sanding through even with only one workpiece
- Shortest set-up times and simple operation
- An almost maintenance free construction
- Low noise emission and energy consumption

Unmistakably a Heesemann

The practice related requirement profile for an economical machine solution is the background of the construction for the MFA 6 series.

It contains proven caracteristics as follows:

- The innovative **CSD**® magnetic pressure beam system with the steplessly adjustable pressure regulation of each individual sanding pad, an advantage for the sensitive edge area
- The fine sensing of the workpiece contours for precise pressure regulation
- The tolerance compensation of 2 mm max. by the elastic pressure beams
- The cross sanding method for thorough sanding of the workpiece surfaces
- Sanding belt drives allowing the belt speeds for lacquer or wood sanding to be changed in steps or continuously

- A constant working height of the transport table
- A conveniently arranged, graphic operating terminal which assists the user perfectly: a first-class sanding result at a push of the button
- A perfected, energy saving sanding and transport belt blasting and cleaning system
- A solid machine construction combining precision and longevity
- A workpiece suction device with a minimum power consumption is included to transport safely smaller workpieces. The vacuum ventilator used for this purpose is integrated in the machine stands, sound isolated and space saving

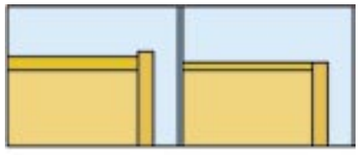
It also offers innovation as follows:

- A proven industrial machine technology, interesting for industry due to its compact design and attractive price
- A suitable offer of different motor ratings to meet various production requirements
- A NC controlled height adjustment

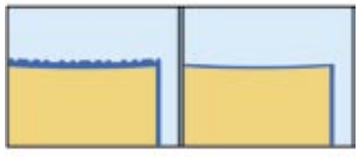
Calibrating unit followed by a cross sanding unit for high-quality sanding of solid wood

Application examples:

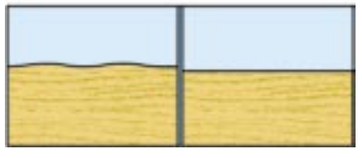
before sanding **after sanding**



Surface sanding for veneers with solid edge banding



Veneer and intermediate lacquer sanding

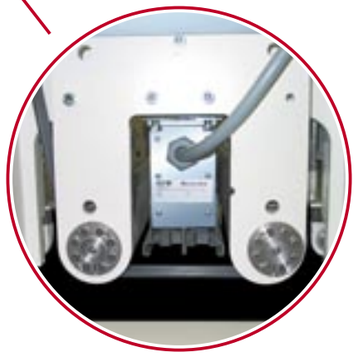


Calibration and finish sanding of solid wood

The graphic operating terminal with Touch Screen

Fine sensing of the workpieces

The maintenance free CSD® pressure beam



The Poly-V belt drive and bearings lubricated for life

Future orientated technology:

The innovative CSD®-magnetic pressure beam system

In detail:
The cross sanding method

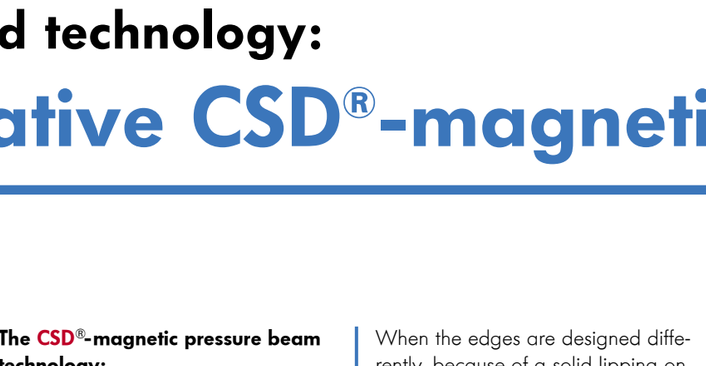
Presanding across the grain and resanding in longitudinal direction achieves world-wide accepted, best sanding results. Raised fibres of veneer are cut off by the cross belt so that they will not reappear during subsequent staining or lacquering. For solid wood with annual rings of different hardness, washing out of the surface is avoided through the combination of cross and longitudinal units. Furthermore, taping paper can be removed better using the cross belt instead of the wide belt.

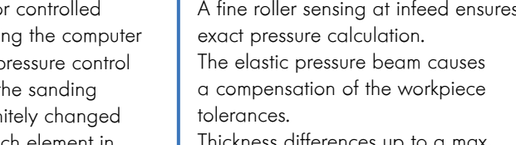
The CSD®-magnetic pressure beam technology:

Proportioning of the sanding pressure is a decisive factor for controlled material removal. Using the computer controlled, selective pressure control of the **CSD®**-system, the sanding pressure may be infinitely changed in milliseconds on each element in the pressure beam. Particularly for asymmetric and round parts the unique **CSD®**-system allows precise adaptation of the pressure force in the edge area.

When the edges are designed differently, because of a solid lipping on one side, the pressure may also be controlled asymmetrically.
A fine roller sensing at infeed ensures exact pressure calculation.
The elastic pressure beam causes a compensation of the workpiece tolerances.
Thickness differences up to a max. of 2mm can be compensated within a workpiece or from workpiece to workpiece.

The CSD®-system





Thickness tolerance

First class sanding results by means of

An innovation of

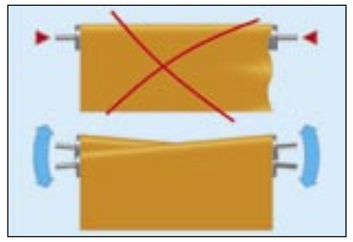
Computer controlled selective pressure control

A technical revolution in the pressure beam.
The contact pressure force of each individual pressure pad continuously adapts to the workpiece shape.

The maintenance free pressure beam: electronically controlled, magnetic pressure, therefore, no sticking or soiling as it is possible with pneumatic elements.
Completely encapsulated, thus no soiling through sanding dust.

The sanding units:

All tensioning rollers of the longitudinal sanding units are equipped with tensioning cylinders. Their arrangement results in an automatic compensation of differences in the sanding belt length.



The pressure beam consists of intermeshing toothed segments, by means of which striation of the junctions is avoided. The arrangement of the drives on the longitudinal belts results in a large wrap around angle of the drive belt on the drive shafts leading to a low sanding belt tension and a higher elasticity during sanding . Evidence of state of the art production methods are the bearings of all drive and guide rollers lubricated for lifetime thereby drastically reducing the maintenance commitment. Wear free electronic direct current brakes of the drive motors prevent after running of the sanding belts after they have been switched off or in the event of malfunctions.

The processing of solid wood

For high stock removals of solid wood a cutter head is available. Even at an extremely high stock removal the loose fibre chips are constantly channelled into the dust extraction system. The well proven quality of the "Oertli" Castor knife cutter block guarantees an optimal surface quality at highest stock removals with its extracting cut movement caused by the spiral position of the cutting knives.

Calibration:

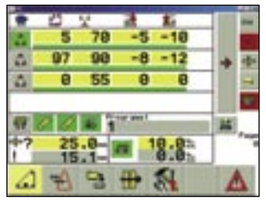
A steel roller sanding unit is a basic condition for an even and precise calibration and a reliable belt run. This is the reason why steel rollers are used for calibration as standard in the MFA 6 series.
A further requirement is a vibration-free running of the fast rotating roller. Therefore, all calibrating rollers of the MFA 6 are fine-balanced. An effective extraction and belt cleaning is the reason for a long lifetime of the belts. A programmable sanding belt grit compensation simplifies the settings of the machine for the operator: only the requested final thickness has to be set.

Bottom sanding machine MFA 6-U:

The MFA 6 series as a sanding line with one machine sanding from below and one from the top reduces the handling costs and allows a higher output.

The machine control system:

The graphic colour operating terminal with Touch Screen enables simplest operation of the high quality machine technology. All machines functions are monitored and controlled by graphic symbols on the screen.

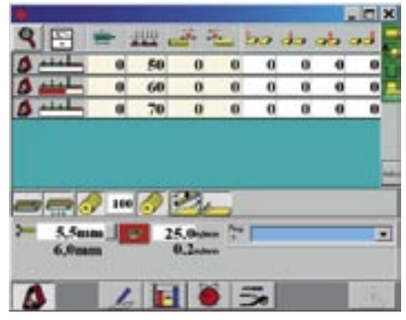


The fully automatic acceleration of the machine, a fault-finding-system as well as the NC controlled thickness setting are part of the standard equipment.
A programme memory ensures a fast conversion to different wood and lacquer types, at a push of the button.

Depending on the requirements, different interfaces enable linking of the control system with higher ranking control systems. Furthermore, the machine control system takes over the fully automatic pressure calculation on the pressure beam element, based on the sensed workpiece dimensions.
A programme for the control of automatic opening and closing of flaps in the dust extraction hoods can divide the wood and lacquer dust programmable controlled while changing from wood to lacquer sanding.

The Industrial PC:

Upon request the use of an industrial PC is possible. The industrial PC is the most comfortable and perfect terminal for linking the machine to sanding lines.



An operating data recording module for indication of m^2, current metres, quantity, production and rest period for production sequence analysis.
Included in the PC is a modem for connecting the machine to the telephone line and giving the possibility to get long distance analysis of malfunctions and assistance directly from Heesemann or other service points.

The MFA 6 series:

Variable and expandable

Sanding of solid wood

MFA 6 CuRL
Calibration and fine sanding machine for huge stock removals or higher feed speeds

MFA6 RCL
Calibration and fine sanding machine for first class surface qualities

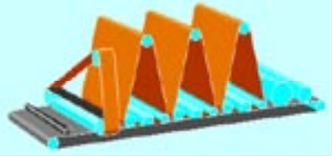
MFA6 RRL
Calibration and fine sanding machine for high stock removals

MFA6 RCLL
Calibration and fine sanding machine for first class surface qualities with fine final grits

Veneer sanding

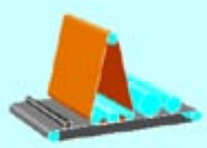
MFA6 CL
Cross sanding machine for low feed speeds

MFA6 CLL
Cross sanding machine for medium feed speeds

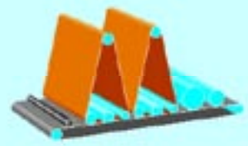


MFA6 CLLL
Cross sanding machine for high feed speeds

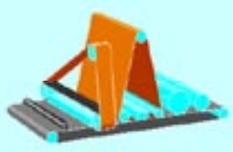
Lacquer sanding



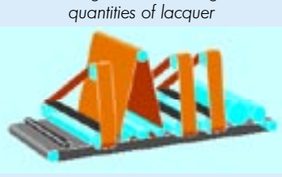
MFA6 L
Sanding machine for low quantities of lacquer



MFA6 LL
Sanding machine for higher quantities of lacquer

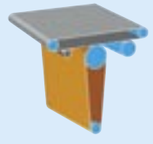


MFA6 CL
Sanding machine for higher quantities of lacquer

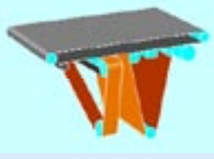


MFA6 CLCC
Sanding machine for high gloss lacquers

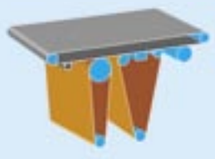
Bottom sanding machines



MFA6 U R
Calibration machine



MFA6 U CL
Cross sanding machine for medium feed speeds

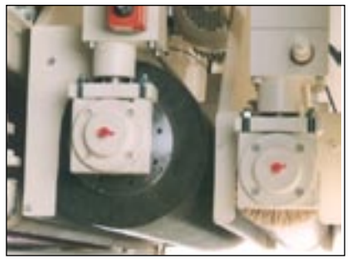


MFA6 U RL
Calibration and fine sanding machine

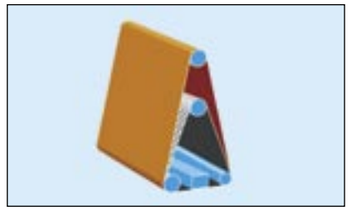
Expansion without problems:

The MFA 6 machine construction series can be made even more flexible by means of different accessory equipment. A calibration roller on the longitudinal sanding unit, activated by the operating terminal, also enables calibration works.

As support aids non driven rollers may be provided at the infeed and outfeed. For intermediate lacquer sanding, an additional free space may be equipped e.g. with a second brush (Vlies or Anderlon).



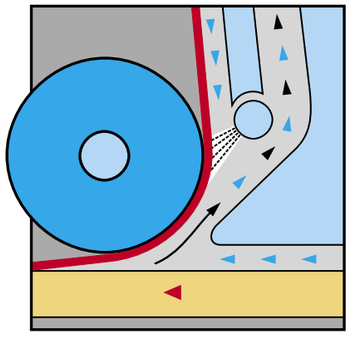
Belt length for longitudinal units can be chosen as 2,150 mm; 2,620 mm or 3,250 mm.
The longitudinal sanding unit can be equipped with a pressure segment belt in order to achieve an optimum finish for wood and lacquer sanding.



The following control extension stages are available:

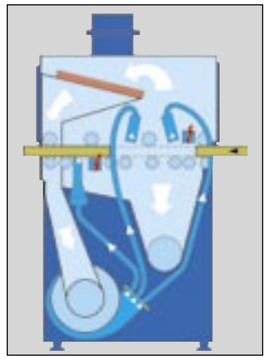
- Interfaces permitting linking into higher ranking control systems in accordance with the application requirements.
- An automatic thickness measuring device, which automatically moves the machines to varying workpiece thickness with or without manual intervention.

The dust extraction:
Each sanding unit is equipped with a combined blasting and extraction unit. The blasting unit is always activated workpiece dependent, keeping the air consumption at a minimum. The extraction ducts are arranged directly behind the sanding zone to guarantee minimum extraction and compressed air consumption while achieving first class sanding results. A perfected air flow assists in the belt cleaning.
Thus, as far as energy savings are concerned, the MFA 6 construction series is a trend-setting machine conception.



Controlled workpiece dependent transport belt cleaning system prevents soiling of the workpiece bottom face.

Dust removing unit EA 8:



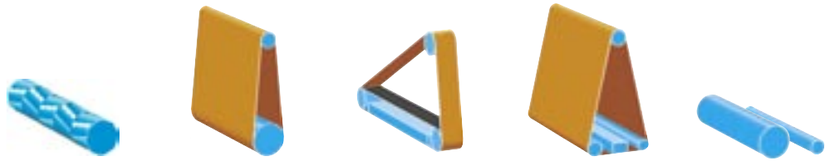
For thorough removal of adhering sanding dust from the workpiece surfaces and edges, the MFA 6 may either be linked to a rotating blasting device or to the dust removing unit EA 8. An additional ionization device increases the cleaning effect by reducing the electrostatic charge of the particles.

Accessory equipment for the MFA6:

- Connectable calibration roller
- Additional brush (Vlies/Anderlon) for lacquer sanding
- Dust removing unit EA 8
- Rotating blasting nozzles
- Sanding belt run in and against feed direction
- Pressure segment belt
- Interfaces

MFA6

Automatic multi-purpose surface sanding machine



Modules

	Planer head (Oertli)	Calibrating roller	Cross unit	Longitudinal unit	Brush unit
Dimensions (L x W x H mm)	1,350	2,150 x 1,400 2,620 x 1,400	4,800 x 150	2,150 x 1,400 2,620 x 1,400	Ø 150 x 1,430 * Ø 250 x 1,430 *
Drive Power/belt speed (kW/ms)	22 30	15 22 30 37	11 16 13/17 10/20 15 1,8-18	13/17 9/18 15 1,8-18	1,5
Extraction value** (m^3/min.) Socket (mm)	35,0 Ø 250	35,0 Ø 250	30,5 Ø 180	30,5 Ø 180	18,0 Ø 146
Air speed (m/s)	20	20	20	20	20

* Bristle trimming: 1. position structuring/smoothening brush Anderlon or Vlies; 2. position cleaning brush Fibre or Sisal strings
** Extraction value for transport belt cleaning device 18,5 m^3/min.

Machine stands: working height 880 mm / sanding width 1350 mm*

	W 2,300 H 2,050	Weight	Feed		Suction device	
		(kg)	(kW	m /min.)	(kW	m^3/min.)
1-belt machine	2,215	4,200	1,5	3 - 15	5,5	25
2-belt machine	2,515	5,000	1,5	3 - 15	5,5	25
3-belt machine	2,965	5,700	2,2	3 - 15	5,5	25
4-belt machine	3,540	6,500	3,0	3 - 15	7,5	40

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The offer applies exclusively with regard to the machine equipment and technical design.

Production range for wood, lacquer and foil sanding
- Automatic cross sanding machines
- Automatic longitudinal sanding machines
- Automatic lacquer machines
- Automatic veneer sheet sanding machines
- Automatic universal edge and profile sanding machines
- CNC profile and surface sanding machines for 2 and 3D shaped parts

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DIN EN ISO 9001
Zertifikat: 08/100/9494/6

Reliability by proven design

MFA6

Automatic multi-purpose surface sanding machine