

Heesemann



MFA 10

MULTI-PURPOSE SURFACE SANDING MACHINE



THE WHOLE PRODUCTION OF
SANDING MACHINES IS LOCATED
AT THE HEADQUARTERS IN
BAD OEYNHAUSEN, GERMANY.

HEESEMANN - SANDING WITH DEDICATION

Heesemann has produced sanding machines for the industry and craftsmen for more than 80 years.

Numerous trend-setting, essential innovations were made during this time, many of which are now industry standards. Heesemann has, throughout its history, consistently provided new inventions and revolutionized sanding technology.

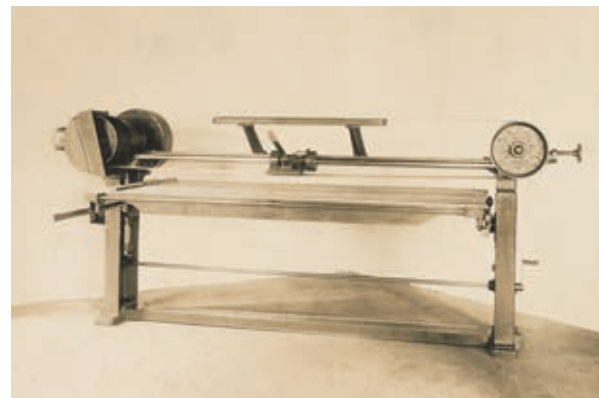
Heesemann has always been the leader in innovative sanding technology and every decision we make is with this objective in mind.

Today Heesemann has about one hundred fifty employees in Bad Oeynhausen, Germany and is the world market leader in the area of wood sanding machines. The production program includes machines for sophisticated handcraft as well as huge industry machines.

A world-wide organized distribution network and service subsidiaries in the most important regions and markets provide appropriate local contact people, guarantee efficient communication and the highest parts and service department performance.

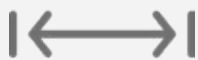
Heesemann supports our customers with broad service offerings covering the entire lifetime of our machines. These include a wide spectrum of services such as an extensive application consultation, professional training of your staff, technical support and functional upgrades.

*One of the first Heesemann
belt sanding machines.*





THE MFA 10
IS A REAL ALL-ROUND EXPERT FOR ALL
SANDING TASKS.



1 350 / 1 600 mm
Sanding width



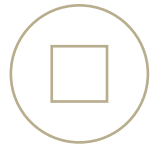
5 - 25 m/min
Feed speed



up to 8
Sanding units

MFA 10

PERFECTLY SANDED SURFACES - ALL-ROUND CAPABILITY



The MFA 10 is a real all-round expert for all sanding tasks. It can be equipped with maximum flexibility for all conceivable applications with up to 8 calibrating, finishing and brush units in accordance with specific customer requirements. The MFA 10 is available as a top sanding machine and as a bottom sanding machine.

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 and durable design it is suitable for multi-shift operation in surface finishing lines. The MFA 10 is standardly equipped with the EnergyManagement-System.



All Heesemann sanding machines are operated via an intuitive user interface based on Microsoft® Windows® on a touch screen device.



MFA 10

AVAILABLE SANDING UNITS



Contact roller unit



Cross belt sanding unit



Longitudinal sanding unit
(with or without pressure segment belt)



Orbital sanding unit OSR



Planetary head DB-S



RUT disk brush unit



Brush unit

MFA 10

SPECIAL EFFECT SANDING

Utilizing Heesemann surface sanding machines equipped with at least one cross belt sanding unit and one longitudinal sanding unit you can achieve stunning sanding results. This is a brief description of what you can achieve and how it works:

ROUGH SAW-CUT PATTERN

Utilizing a Heesemann cross belt sanding unit and a very rough abrasive grain you can create an outstanding rough saw-cut pattern onto the surface of veneered boards in feed through production.



RANDOM TROUGHS

Using a Heesemann longitudinal sanding unit in combination with highly flexible sanding belts, a special steel plate and a special sanding program you can create scattered troughs into the surface of your work pieces.



VINTAGE LOOK

You can achieve a vintage look on your work pieces using a Heesemann longitudinal sanding unit on a surface with two different lacquers. Work pieces primed with a dark paint and then lacquered with a lighter varnish can be processed using a special sanding program to create a specific antique sanding result.





THE HESEMANN CONTACT ROLLER UNITS ARE OFFERED WITH STEEL ROLLERS AS WELL AS WITH RUBBER-COATED ROLLERS IN DIFFERENT SHORE HARDNESSES.

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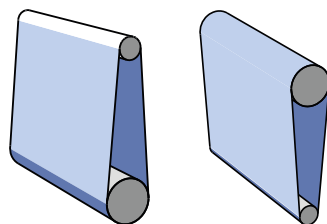
CONTACT ROLLER UNIT

The Heesemann contact roller units are offered with steel rollers as well as with rubber-coated rollers in different Shore hardnesses. Both types are deliverable with different roller diameters.

The contact roller unit with a 250 mm steel roller allows the exact calibration of materials like solid wood, particle board, MDF or plastics. The surface of the roller is grooved in a spiral shape. This allows a better cooling of the roller and makes it easier to extract the generated abrasive dust.

Contact roller units with rubber-coated rollers can be delivered as well. Depending on their Shore hardness they can be used for varying sanding tasks.

The contact roller unit can be equipped with different kinds of hold down elements depending on the requirements of the application.



The contact roller unit can be equipped with different kinds of hold down elements depending on the requirements of the application.





THE CROSS BELT SANDING UNIT IS AVAILABLE WITH SANDING BELT LENGTHS OF 5 400 MM (213") AND 7 000 MM (276").

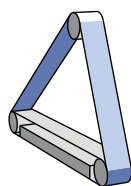
HEESEMANN

CROSS BELT SANDING UNIT

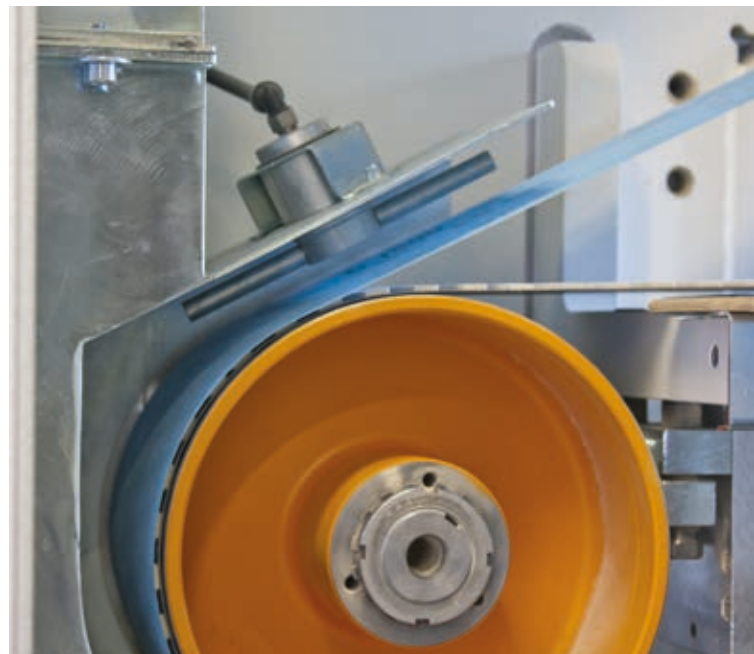
For wooden surfaces the cross sanding method achieves the world-wide accepted best sanding result. The work pieces are sanded crosswise to the grain direction first and are afterwards sanded in direction of the grain with one or more sanding units.

This way the higher standing harder areas of the annual rings are leveled and loosened fibers are sheared off, a wash out effect is avoided and the fibers cannot straighten up again after applying paint or stain.

The Heesemann cross belt sanding units are equipped with the Heesemann CSD® magnetic pressure beam system and a pressure segment belt. They are available as three-point and four-point units as well as with commonly or separately driven pressure segment belt.



The sanding dust is removed from the sanding belt directly after the sanding process.





THE LONGITUDINAL SANDING UNIT OF THE MFA 10 WITH THE OPTIONAL LONG BELT LENGTH OF 3,250 MM (128").

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LONGITUDINAL SANDING UNIT

A longitudinal sanding unit with an optimized distance between the lower driven drums allows a large amount of a freely suspended sanding belt for a highly flexible pressure onto the work piece. This way a smooth sanding and high working speeds are achieved.

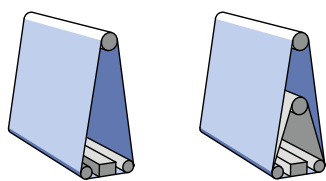
The longitudinal sanding units are available for sanding belts with belt lengths of 2 620 mm (103") or 3 250 mm (128").

Optionally, the longitudinal sanding unit can be equipped with an eccentric bearing of the front driven drum for slight calibration work (**combi unit**). The driven drum is activated into position via the terminal. The driven drums may either be grooved or smooth.

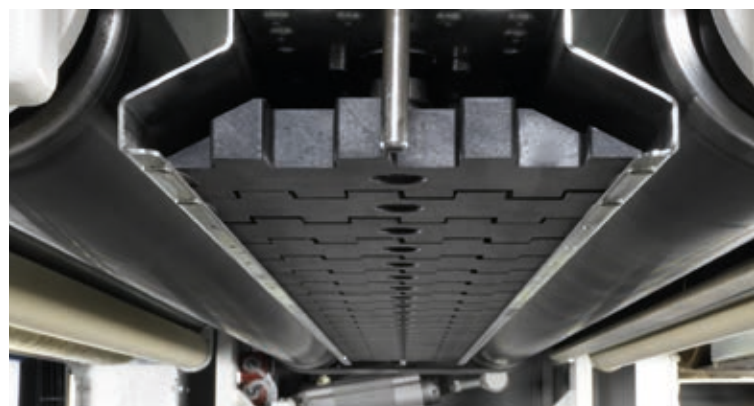
The **longitudinal unit with an internally running pressure segment belt** is a reasonable addition to many applications. The pressure segment belt interrupts the abrasive scratch lines of the sanding belt grit and thus offers a much better blended and even sanding scratch pattern.

If a particularly fine grit is being used for lacquer sanding, the pressure segment belt may significantly increase the lifetime of the abrasive material.

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



The longitudinal sanding unit is equipped with the Heesemann CSD® system that has proven its worth for more than 30 years.





ACHTUNG!
Gefahr bei laufender Maschine!
Nicht in den Arbeitsbereich greifen!

ATTENTION!
Danger when the machine is running!
Never reach into working area!

THE PLANETARY HEAD UNIT DB-S CAN BE EQUIPPED WITH A TOTAL OF 10 DISK BRUSHES (Ø 150 MM) FOR PROFILE SANDING, EDGE BREAKING, STRUCTURING, POLISHING OR SURFACE FINISHING.

HEESEMANN

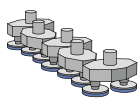
PLANETARY HEAD UNIT DB-S

The high performance planetary sanding unit DB-S consists of five satellites (six satellites for working width 1,600 mm), each accommodating two disk heads with a diameter of 150 mm. The speed and direction of both the satellites and the disks can be independently adjusted for ultimate application flexibility and performance.

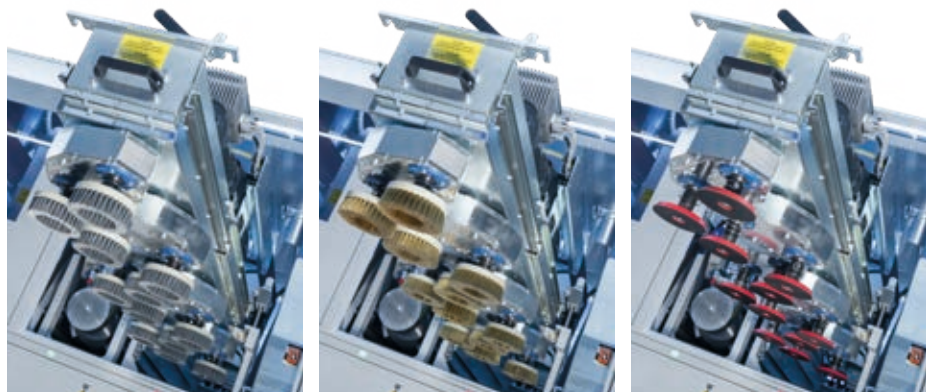
Depending on the application, different disks can be used. Disks with sanding strips for processing three dimensional work pieces, breaking edges or sanding in between lacquer coats, disks with Tynex or stranded wires for structuring or texturing or sanding pad disks for surface sanding and finishing.

The planetary sanding unit delivers a favorable surface finish, thus, the DB-S can be used as the last unit of the sanding machine. The result is a perfectly homogeneous surface. Whether sanding wood, lacquer, solid surface, plastics or metals, the DB-S can be used.

For quick tool changes or application changeover, the DB-S can be pulled out of the machine laterally on integrated rails so all disks are easily accessible. Thanks to the quick-release system, tools can be changed in just a few minutes.



Depending on the application, the planetary head unit DB-S can be used with different disk brushes (Ø 150 mm).





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RUT DISK BRUSH UNIT

The RUT disk brush unit consists of 18 respectively 20 disk brushes. Their arrangement allows the sanding of contours with unparalleled quality. All areas of the work piece are evenly sanded in every direction.

The frequency controlled drive system permits continuous regulation of the disk brushes rotation speed, and their orbital velocity perpendicular to the feed direction.

The disk brushes can be equipped with two different abrasives at the same time. Thus the RUT unit can sand with different grits running with and against feed direction.

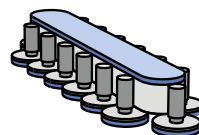
Due to an innovative quick changing device, replacing the disk brush heads abrasive brush inserts with new abrasives or with structuring brushes can be done with a few handles and very little time.



THE RUT DISK BRUSH UNIT CAN BE EQUIPPED WITH DISK BRUSH HEADS WITH DIFFERENT ABRASIVE BRUSH INSERTS OR STRUCTURING BRUSHES.



Due to the quick changing device replacing the disk brushes can be done within a few minutes.

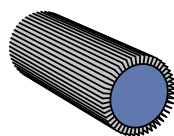


HEESEMANN BRUSH UNITS

Heesemann sanding machines have available a wide variety of brush units with different bristles and abrasives for sanding and structuring. The brush units can be mounted on an angle to the feed direction or can be equipped with oscillation.

Heesemann offers brushes with horsehair, nylon fiber, sisal cord and mixed trimmings to clean the work pieces, fleece brushes to smooth lacquered surfaces, brushes with Flex Trim abrasive strips to sand 3-dimensional work pieces and brushes with Tynex or stranded wire bristles as well as twisted knot brushes to structure the work pieces for a distressed effect.

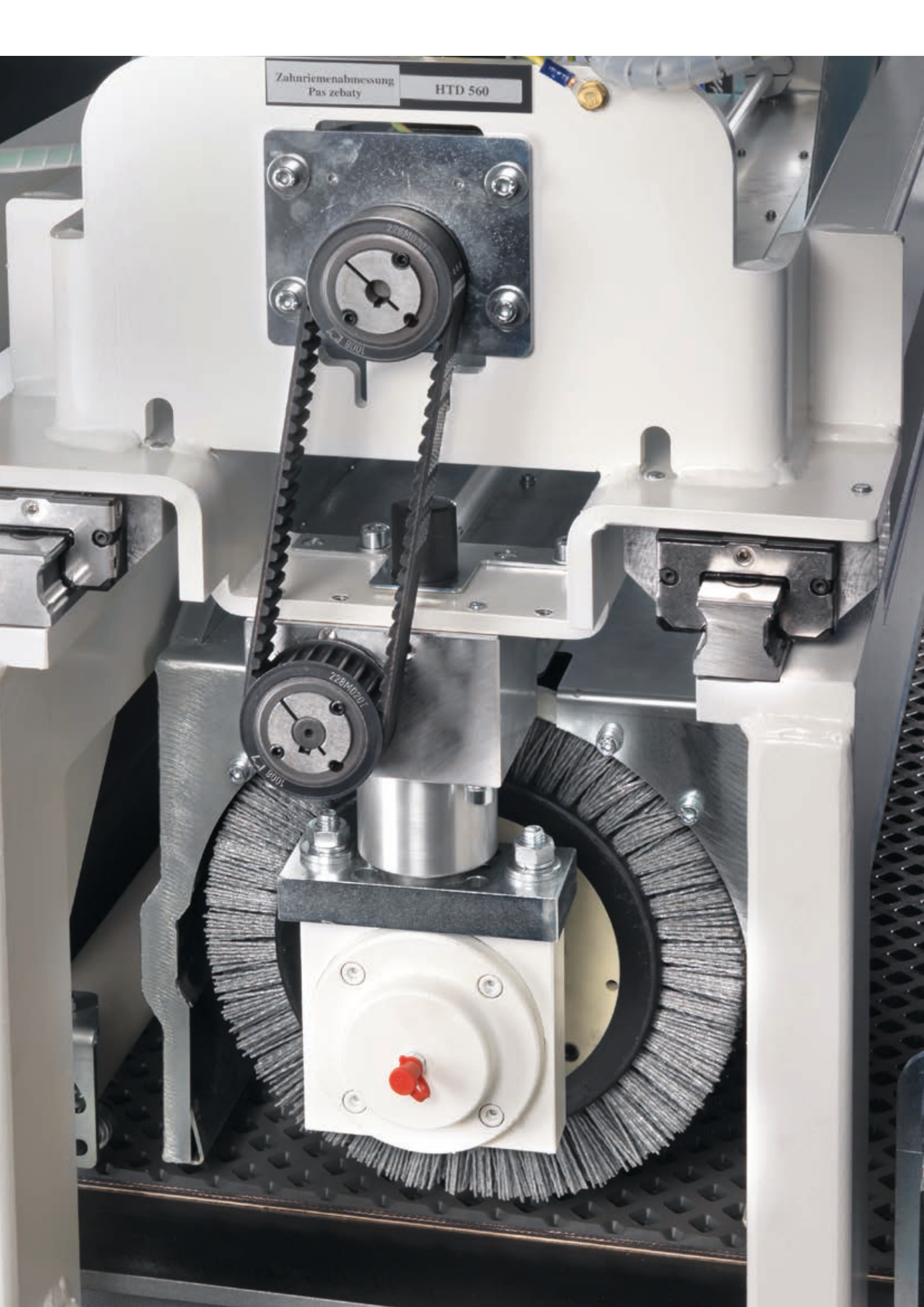
THE HEESEMANN BRUSH UNITS CAN
OPTIONALLY BE EQUIPPED WITH AN OSCILLATION
MECHANISM.



The Heesemann brush units can be equipped with different trimmings for sanding or structuring.



Zahriemenabmessung
Pas zebaty HTD 560





THE ORBITAL SANDING UNIT IS DESIGNED FOR FINE
SANDING OF WORK PIECES WITH CROSS OR LONGITUDINAL GRAIN
(KITCHEN DOORS OF SOLID WOOD) AND TO SIGNIFICANTLY
REDUCE THE SANDING TRACES PRODUCED
BY CROSS AND LONGITUDINAL BELTS.

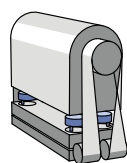
HEESEMANN

OSR ORBITAL SANDING UNIT

When sanding frames and other work pieces with different grain directions sanding against the grain direction cannot be avoided. The generated scratch patterns are very evident, especially when dark stains are used. The Heesemann orbital sanding unit removes these scratches and leaves a clean surface with no visible scratches.

The unit works based on a variable speed, single eccentric orbit with a big diameter. An additional pressure segment belt system moves between the pressure beam and a vibrating sanding belt perpendicular to the feed direction.

The scratch pattern of the vibrating sanding belt is interrupted and a blended sanding result is achieved without any obvious random sanding scratches.



The static sanding belt of the orbital sanding unit OSR can be moved after a certain amount of sanding is done, all at the push of a button.





Heesemann



A LED STRIP IN THE INFEED OF THE MACHINE HELPS TO DETERMINE WHERE THE NEXT WORK PIECE SHOULD BE PLACED IN ORDER TO ACHIEVE EVEN WEAR OF THE SANDING BELTS.

WARNING
Please read the operating instructions carefully before using the machine.
The machine is equipped with a safety system that prevents the machine from starting if the safety system is not closed.
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HEESEMANN

MMI - INTUITIVE OPERATION

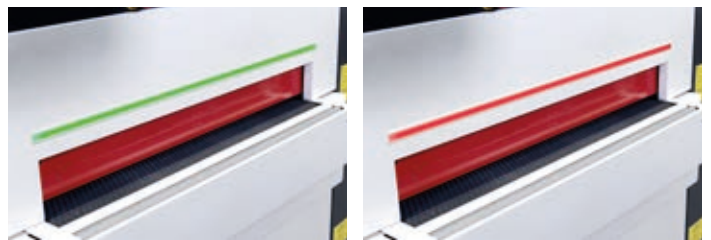
The optional MMI package equips your Heeseemann with LED strips at the infeed and outfeed. The LEDs have two decisive functions: On the one hand, the strips indicate via simple color signals where the work piece should be inserted in order to optimize the wear of the sanding belts. The controller processes various parameters that can be influenced by the operator. This method reduces your tool costs immediately and significantly, as the belts wear out more evenly.

On the other hand, warnings or errors are also displayed via the LED strips. To recognize from afar, if something is wrong. With the help of the additional strips on the operating side of the machine, you can easily locate errors.

LEDs at the side of the machine indicate the status of the individual units. This allows simple localization of faults. The LEDs are updated in real-time, making it redundant to take a look at the operating terminal to check whether the fault has been eliminated.

Optionally, your machine can also be equipped with an additional camera. The operator receives a live image from the outfeed on the terminal and can react at any time if, for example, a work piece blocks the outfeed.

In this way, the MMI package gives you additional control and helps you to sustainably improve the profitability of your processes.



The status of the machine is also displayed via the LED strips in the infeed and outfeed of the machine so that its status is always visible even from a greater distance.



THE COMPUTER CONTROLLED SELECTIVE PRESSURE REGULATION OF THE CSD[®] ELECTRO-MAGNETIC BEAM SYSTEM CAN SMOOTHLY ADJUST THE SANDING PRESSURE TO EVERY INDIVIDUAL ELEMENT IN THE PRESSURE BEAM WITHIN MILLISECONDS.

HEESEMANN

CSD® MAGNETIC PRESSURE BEAM

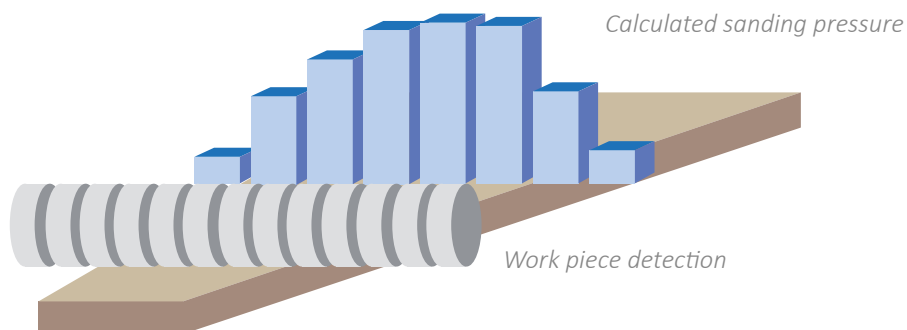
Precise control of sanding pressure is crucial for a high-grade, uniform surface sanding quality.

The computer controlled pressure regulation of the CSD® electro-magnetic pressure beam system can smoothly adjust the sanding pressure to every individual element in the pressure beam within milliseconds. A highly sensitive sensing system at the infeed supplies the data for exact calculation of pressure required.

The elastic pressure beam compensates for work piece thickness differences of 2 mm and more, whether the variation occurs within a single work piece or from one work piece to another.

The CSD® pressure beam system is maintenance free. There is only one moving part and the elements have electrical connections in a dust proof housing.

The CSD® magnetic pressure beam is an integral part of all Heesemann cross and longitudinal sanding units.



The elastic pressure beam compensates for work piece thickness differences of 2 mm and more.



From our EnergyManagement System our environment and the machine owner benefit to the same degree. A diminished energy consumption unburdens the environment and reduces the cost.

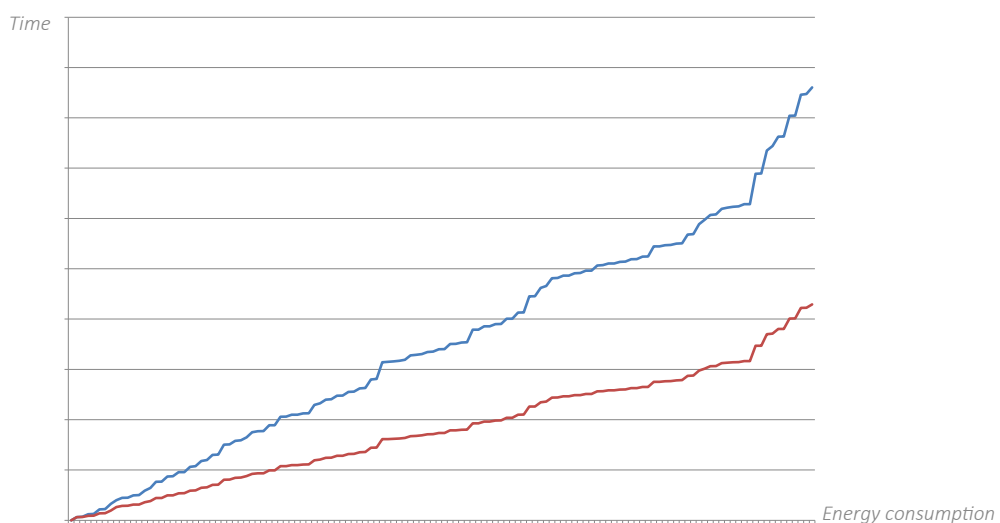
HEESEMANN

ENERGYMANAGEMENT-SYSTEM (EMS)

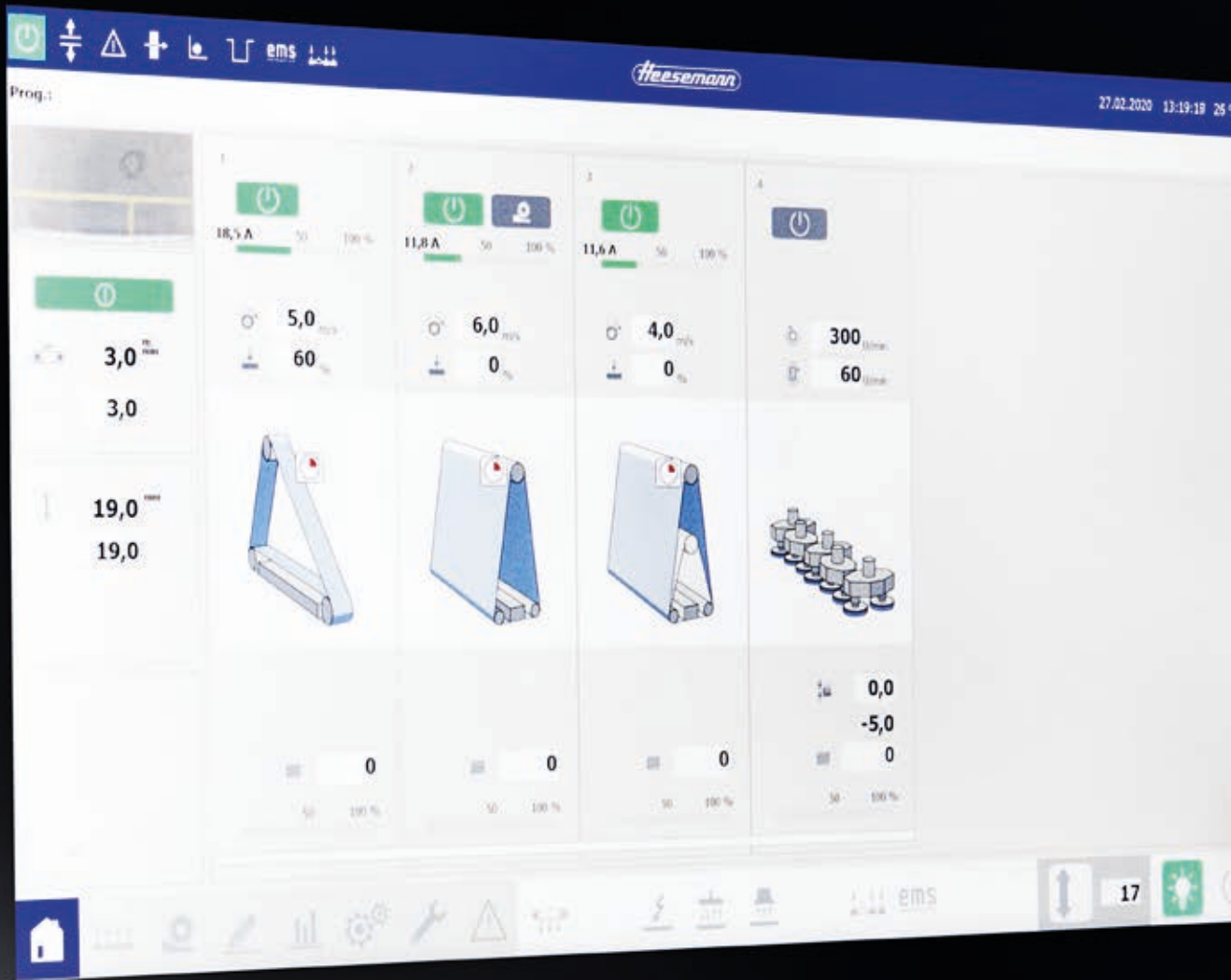
The MFA 10 comes with the EMS system as a standard. Both, our environment and the machine owner, benefit from this energy-saving system to the same degree. A diminished energy consumption unburdens the environment and reduces the cost of the machine operation.

If no work pieces are being fed into the machine, the motors in the machine are run down to a low speed and a flap is closed on the suction blower in order to extremely reduce air consumption. Depending on its actual load, this reduces the energy consumption of the machine quite considerably. When new work pieces are fed into the machine, all motors are rapidly started up again automatically.

If the customer-supplied extraction system is purchased with an option to slow down its motor, the sanding machine can prevent the airflow through units that are not in operation by controlling dampers attached to the individual extraction hoods and thus make the extraction system save energy.



The use of our EnergyManagement System leads to significant savings at the power consumption of the machine and the whole installation.



ALL HEESEMANN MACHINES ARE EQUIPPED WITH A POWERFUL AND HIGHLY FLEXIBLE INDUSTRIAL PC.



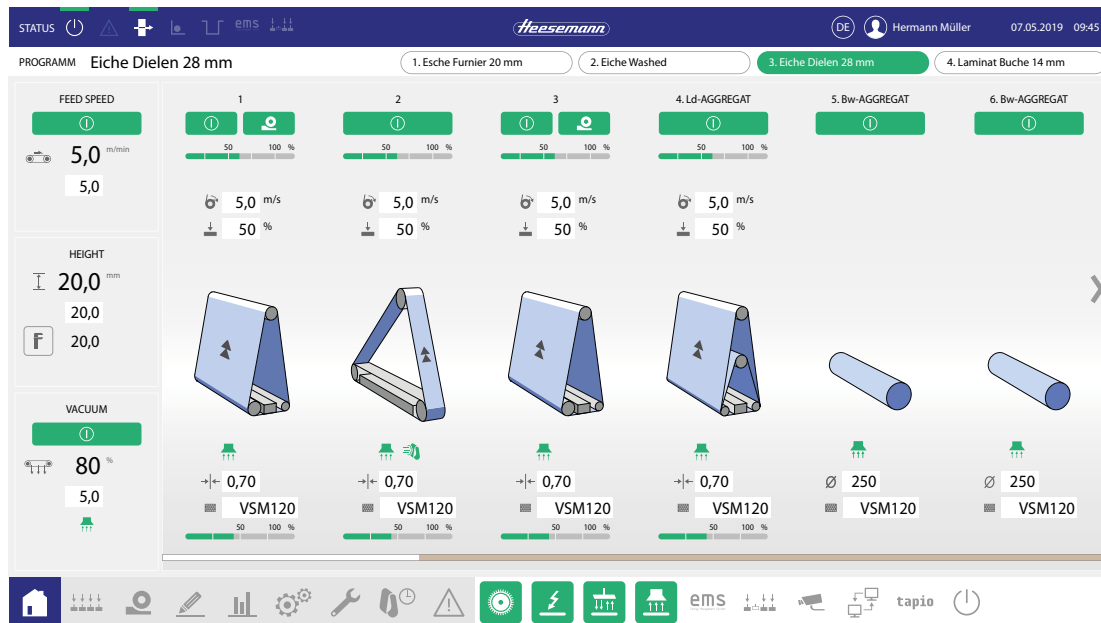
HEESEMANN

IPC WITH TOUCHSCREEN

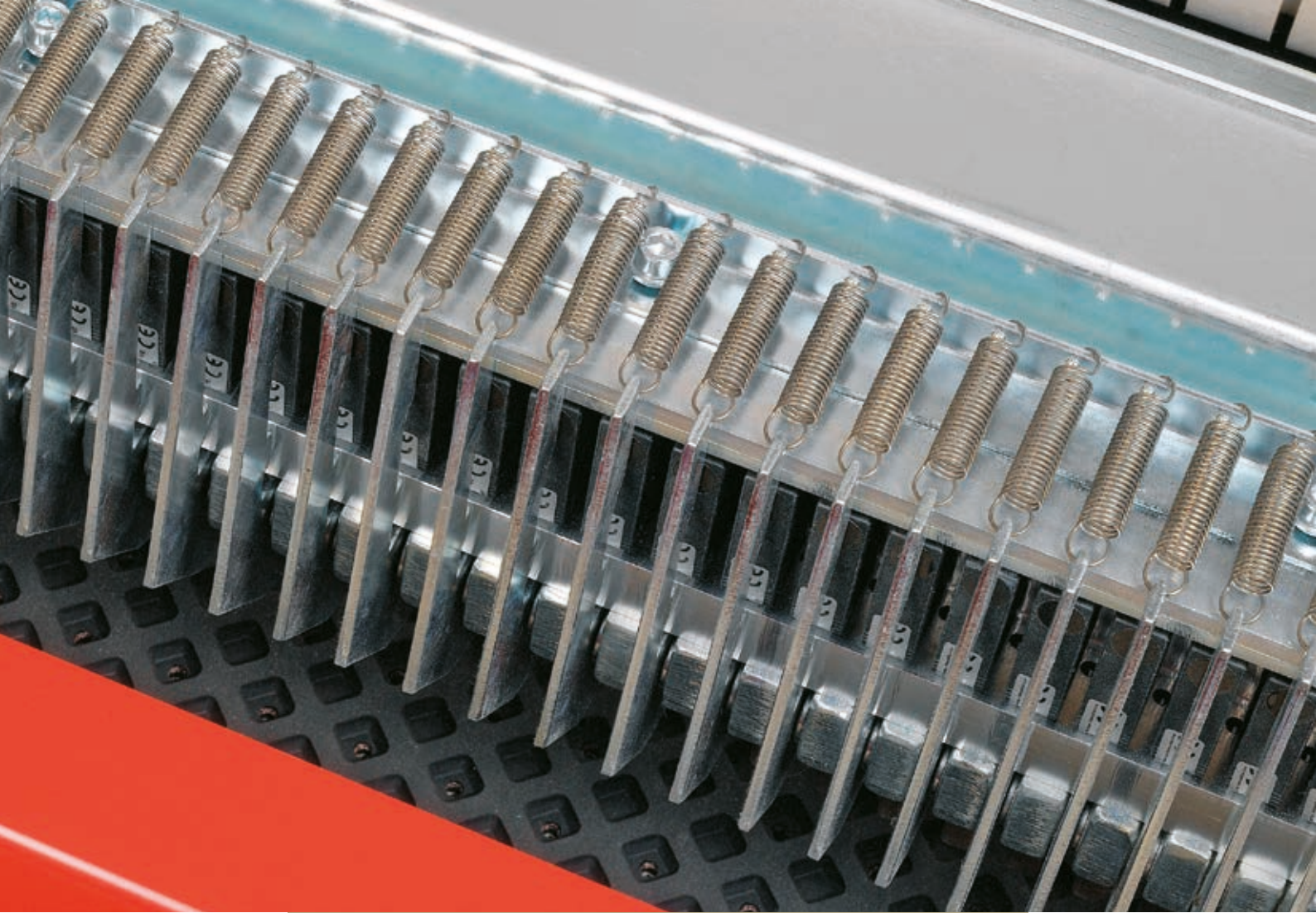
All Heesemann machines are equipped with a powerful and highly flexible industrial PC. All frequently repeated adjustment values are graphically displayed clearly on one screen page.

In addition, this industrial PC provides the ability for fault diagnosis and the ability to use peripheral equipment at standard interfaces. It can also be connected to internal and external networks using Ethernet TCP/IP. The industrial PC acts like a web server and is accessible using standard internet browsers.

The multitouch-capable operating terminal has a screen diagonal of 21.5“, Full-HD resolution and can be aligned to the operator via a swivel arm.



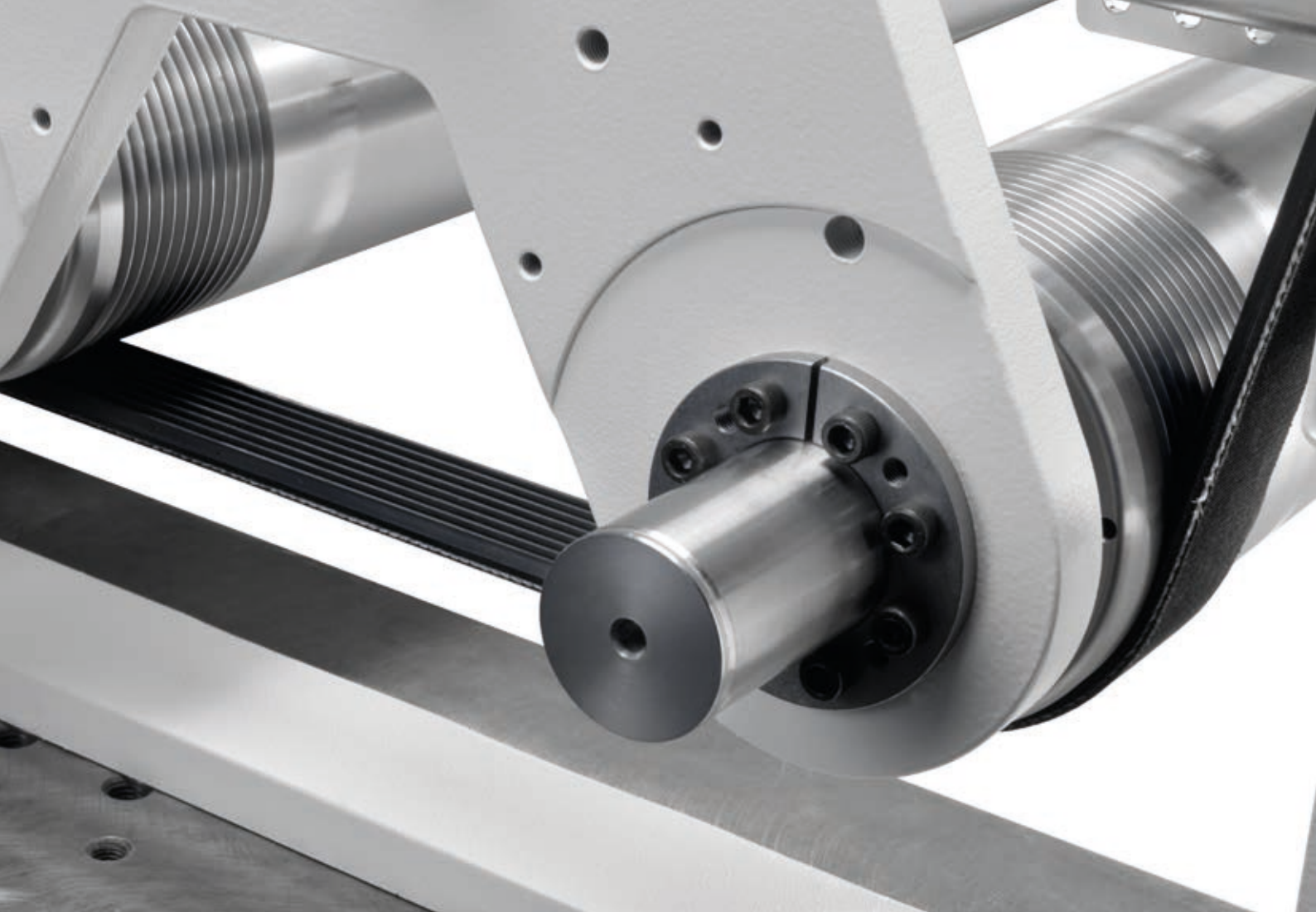
The industrial PC has a screen size of 21.5 inch.



MFA 10

WORK PIECE DETECTION

The finely graded work piece detection by means of control rollers provides the machine control system with information about the shape and size of the work piece to be processed as well as its position on the transport belt.



MFA 10

POLY-V DRIVE BELTS

The sanding heads are driven by a vibration-free poly-V belt. The profile of the drive belt is machined into the most finely balanced drive roller (quality class G1, cf. car tyre G40). 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; no maintenance work is required.



MFA 10

SANDING BELT CLEANING

All sanding units are equipped with a cleaning device that loosens the sanding dust from the sanding belt and makes it accessible for the dust extraction. This cleaning takes place directly after the sanding process has been completed so that the sanding belt does not move the sanding dust through the machine.



MFA 10 SERVO DRIVES

Due to the use of new and extremely thin lacquer systems it can become necessary to reduce the sanding belt speeds to lower speeds than generally achievable with frequency inverters. Water-cooled servo drives allow a constant and safe abrasive belt running at full sanding power, without any fluctuations in speed even at minimum sanding belt speeds of 0.1 m/s. Machines equipped with these servo drives are perfect to use for water-based lacquer systems. The water-cooled servo drives are comparable to efficiency class IE 4.



OUR SERVICE TECHNICIANS TRAVEL
WORLDWIDE, IF NECESSARY OUR SERVICE
TECHNICIANS ARE ON SITE IN A FEW HOURS.

HEESEMANN

SERVICE - ON-SITE WORLD-WIDE

As a manufacturer of highly technical machines with a long machine life our customers' satisfaction is our highest priority. Customers' confidence in our competence is one of our most important goals.

Our technical customer service supports you troubleshooting an effective solution for possible problems. If advice by phone is insufficient, an online diagnosis can take place. If the dispatch of a technician is necessary, no problem - our service technicians travel world-wide, if necessary our service technicians are on site in a few hours.

Heesemann offers their customers all classical service activities like installation, commissioning, application enhancement, maintenance and repair.

We ensure a fast supply with wear and spare parts by our extensive spare parts warehouse. In cooperation with our freight partners we deliver world-wide with speed and reliability. Heesemann delivers original spare parts only which deliver our high standards in accuracy, material properties, durability, functionality and quality.

Our inspection service provides a detailed evaluation of your machines' technical condition. On demand we compile offers for further provisions, installation possibilities of latest sanding technology and control upgrades.

Such as our machines our customer service and spare parts are warrantors for quality and reliability "made in Germany".



Service hotline:



+800 188 188 19¹



+49 5731 188-300²

Our service team is available 24/7.

¹ Service number at no charge from Germany and Poland.

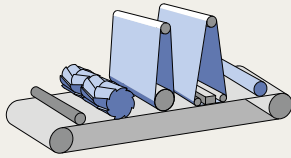
² All calls are billed at local rates from within the German landline.





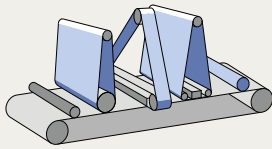
MACHINE CONFIGURATIONS FREQUENTLY CHOSEN

Solid wood sanding



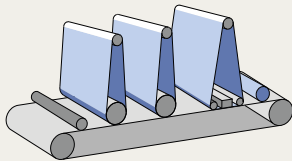
MFA 10 Cu/Lr/L

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



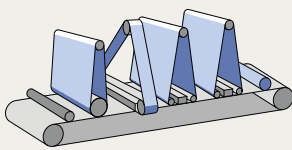
MFA 10 Lr/C/L

Calibration and fine sanding machine for very high surface qualities



MFA 10 Lr/Lr/L

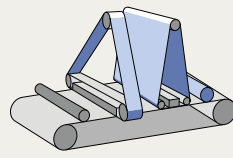
Calibration and fine sanding machine for high stock removal



MFA 10 Lr/C/L/L

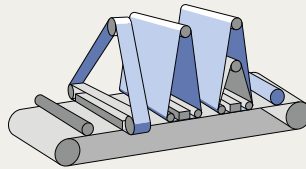
Calibration and fine sanding machine for high surface qualities with fine final grains

Veneer sanding



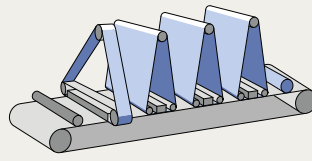
MFA 10 C/L

Cross sanding machine for low feed speeds



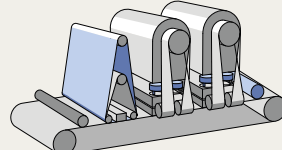
MFA 10 C/L/Lp

Cross sanding machine with pressure segment belt for medium feed speeds



MFA 10 C/L/L/L

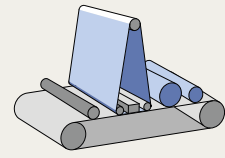
Cross sanding machine for high feed speeds



MFA 10 Lp/OSR/OSR

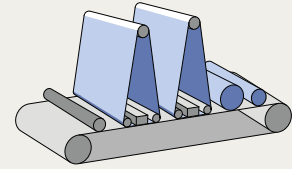
Finish sanding machine for work pieces with different veneer directions

Lacquer sanding



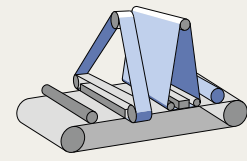
MFA 10 L

Sanding machine for low application quantities



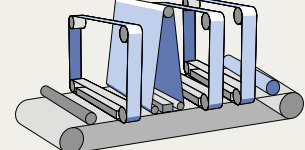
MFA 10 L/L

Sanding machine for higher application quantities



MFA 10 C/L

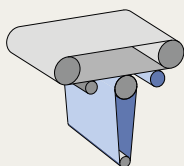
Sanding machine for higher application quantities



MFA 10 C/L/C/C

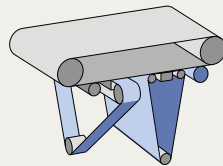
Sanding machine for high gloss lacquers

Sanding machines working from below



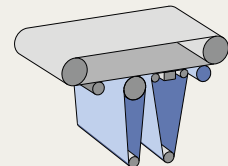
MFA 10-U Lr

Calibration machine



MFA 10-U C/L

Cross sanding machine for low feed speeds

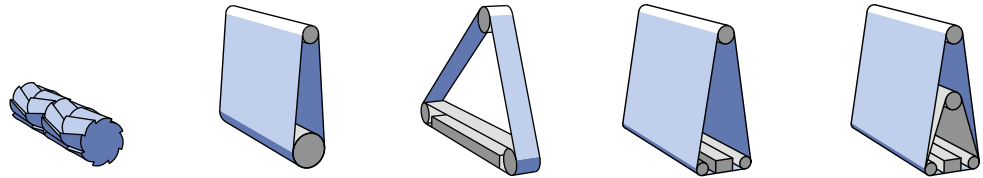


MFA 10-U Lr/L

Calibration and fine sanding machine

TECHNICAL DATA

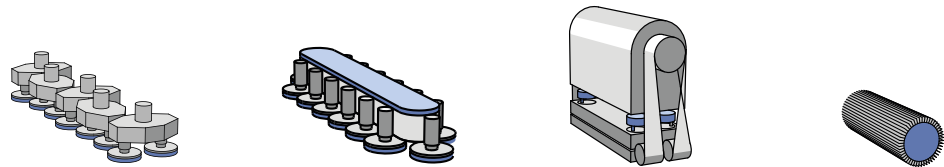
MFA 10 - UNITS



Modules

	Cutter head	Contact roller	Cross unit	Longitudinal unit	Longitudinal unit with pressure segment belt
Sanding belt dimensions (LxB mm)	∅ 180	2 620 x 1 400 / 1 650 3 250 x 1 400 / 1 650	5 400 x 150 7 000 x 150	2 620 x 1 400 / 1 650 3 250 x 1 400 / 1 650	2 620 x 1 400 / 1 650
Drives Performance / Belt speed (kW m/s)	22 30	15 24 22 24 30 24 37 24 45 24	15 2.0 - 2.0 22 0.5 - 2.0	15 1.8 - 1.8 22 0.5 - 2.0	15 1.8 - 9 / 18 22 2.0 - 9 / 20
Connection diameter (mm)	∅ 250 / ∅ 280	∅ 250 / ∅ 280	∅ 160 / ∅ 180	∅ 160 / ∅ 200	∅ 160 / ∅ 200
Air velocity (m/s)	min. 20	min. 20	min. 20	min. 20	min. 20

Modules



	Planetary head unit DB-S	Disk brush unit RUT	Orbital sanding unit OSR	Brushes
Sanding belt dimensions (LxB mm)	10 / 12 disk brushes ∅ 150 mm	18 / 20 disk brushes ∅ 180 mm	2 620 x 1 400	∅150 x 1 430 / 1 620 ∅250 x 1 430 / 1 620 ∅ 400 x 1 430 / 1 620
Drives Performance / Belt speed (kW m/s)	Satellite rotation: 1.5 kW FU ± 60 - 300 rpm Disk rotation: 5.5 / 7.5 kW FU ± 260 - 1,300 rpm	Brush rotation: 7.5 kW FU 160 - 800 rpm Brush movement: 1.5 kW FU 5 - 25 m/min	20,5 -	∅ 150 / ∅ 250: 2.2 kW 850 rpm ∅ 400: 5.5 - 22.0 kW 50 - 400 rpm
Connection diameter (mm)	2 x ∅ 160 / 2 x ∅ 180	2 x ∅ 160 / 2 x ∅ 180	∅ 146	∅ 160 / ∅ 180
Air velocity (m/s)	min. 20	min. 20	min. 20	min. 20

Extraction value for the transport belt cleaning 18.5 m³/min.

TECHNICAL DATA

MFA 10



Machinery base: Working height 880 mm / Working width 1 350 mm / 1 600 mm

W 2 300 / 2 510 H 2 250 / 2 750	Length (mm)	Weight (kg)	Feed speed (m/min)	Suction power	
				(kW)	(m ³ /min)
1 unit	max. 2 340	approx. 4 200 / 4 900	3 - 15 5 - 25 8 - 40	3.0	11
2 units	max. 2 940	approx. 5 000 / 5 800		5.5	25
3 units	max. 3 540	approx. 5 700 / 6 600		7.5	40
4 units	4 140	approx. 8 500 / 9 800		11.0	60
5 units	4 740	approx. 10 000 / 11 500		11.0	60
6 units	5 340	approx. 11 500 / 13 300		15.0	66
7 units	5 940	approx. 13 000 / 15 100			
8 units	6 540	approx. 14 500 / 16 900			

Subject to technical modifications.

PRODUCT MATRIX

SURFACE SANDING MACHINES

	 Sanding width	 Feed speed	 Sanding units
HSM	1 300 mm	3 - 15 m/min	2 or 3
Impression	1 350 mm	3 - 15 m/min	up to 5
MFA 10	1 350 mm / 1 600 mm	5 - 25 m/min	up to 8
BM 8	1 350 mm	5 - 25 m/min	up to 6
LSM 8	1 300 mm / 1 400 mm	5 - 25 m/min	up to 6
LSM 8-C	1 300 mm	3 - 15 m/min	3 or 4
KSA 8	1 600 mm - 2 600 mm	5 - 25 m/min	up to 6
FBA 8	650 mm / 1 350 mm	6 - 30 m/min	up to 4



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Surface sanding machines for wood
HSM, Impression, MFA 10, LSM 8, KSA 8, BM 8, FBA 8



Deburring and edge rounding machines for metal
profiRounder



Edge and profile sanding machines
UKP 20



Sanding machines for 3D processing
BM 8, UKP 20