



Reliability by proven design

UKP

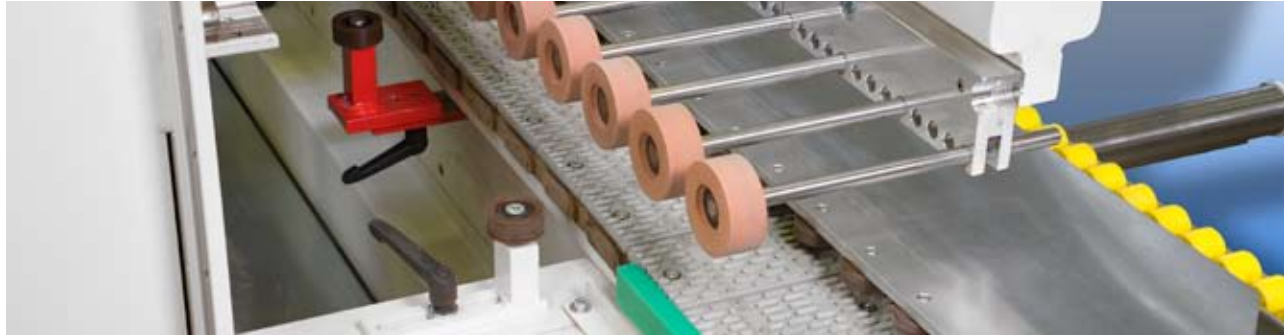
Universal edge and profile sanding machines



75 years of sanding innovations

“ *Workpieces are only perfect with perfectly sanded edges.* ”

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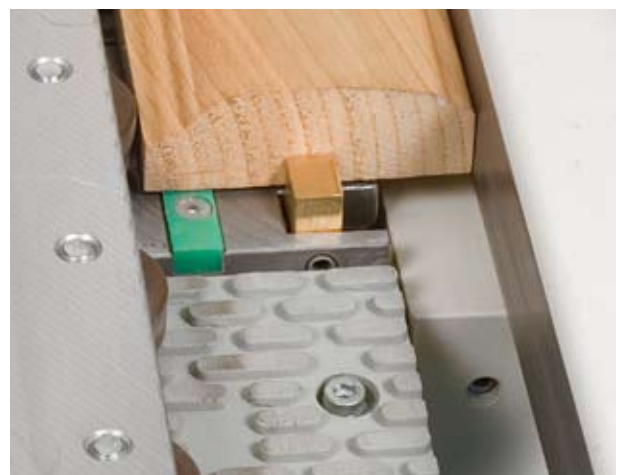
Heesemann UKP 20/22

Due to its modular design, the Heesemann UKP 20/22 is assembled by a workpiece transportation system and the following units according to customer requirements:

- Milling units
- Sanding units
- Brush units
- Cleaning units
- Roller lacquer application units
- Vacuum lacquer application units

The workpiece transportation system

- Workpiece transportation complete with precision chain and rubber-coated contact rollers
- Compact design with integrated switch cabinets
- Torsion-resistant construction for precise and vibration-free workpiece guidance
- Transport chains in different width according to requirements
- Double-sided feed unit for processing panels and doors from both sides
- Divided workpiece transportation system for processing rails from both sides
- Workpiece magazines are available
- Transportation of short workpieces by means of slewable dogs





Universal support

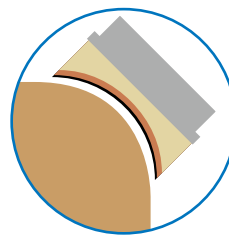
for installation of units M 4, M 4-L, ERS, EGS and for heavy milling units.

In order to meet the requirements of computer-controlled axis adjustment, the design of the universal support was based on criteria from machine tool construction, i.e. stable, vibration-free structure with maintenance-free guide elements. Double round guides made of hardened steel ensure continuous operation without any wearing. The swivelling drive unit, which also does not require any maintenance and comes complete with universal roller bearings from robot technology and free from play, takes up the units and provides for a free swivelling range from 45 degrees under up to 90 degrees above the horizontal.

The following versions are available:

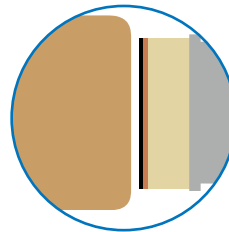
- manual adjustment.
- manual adjustment complete with digital electronic position indicators
- fully automatic CNC adjustment of all axes

Example application:



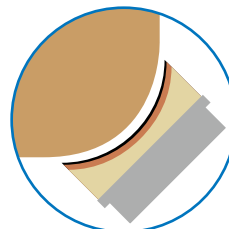
Unit K 4:

For radii as well as for bevels.



Unit M 4:

By using an oscillating wide sanding belt a long lifetime can be achieved.



Unit K 4:

For radii as well as for bevels.

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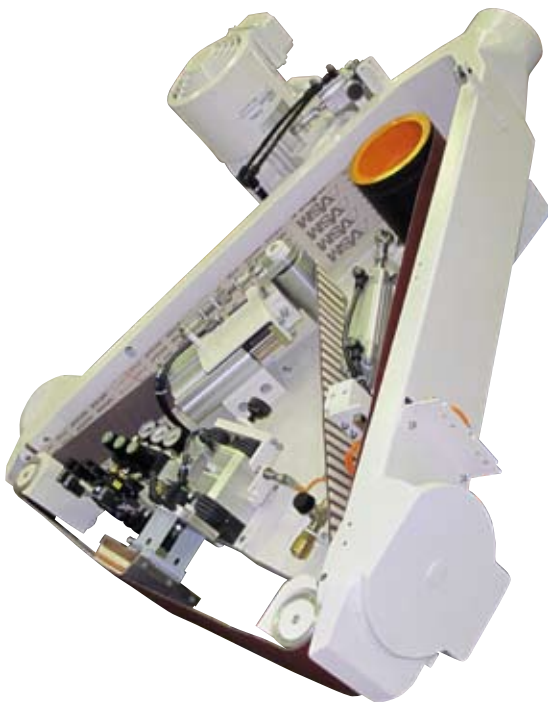
The quality of the edge sanding tells much about the quality level of the furniture.

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Belt sanding unit M 4/4-L

- Sanding belt dimensions:
M 4: 2,300 x 80 mm - max. 220 mm
M 4-L: 2,800 x 80 mm - max. 220 mm
- Free swivelling movement without any interfering edges from -45° to $+90^\circ$
- Fixed position belt return rollers for trouble-free running of the sanding belt with synchronous and reverse running



Once preset, belt tension values remain constant irrespective of different unit angle positions. This is achieved by a balanced suspension of the belt drive motor. Sanding belt speeds of 6 and 12 m/s or steplessly from 0.7 - 12 m/s.

For an improved sanding belt utilisation, an oscillation of the sanding belt is available for synchronous running as well as for reverse running. A compressed air connection for profile tools with air cushion and a safety circuit in case of belt tearing are included in the basic equipment as well as a belt blasting device.

For a harmonious and more homogeneous sanding pattern as well as a longer lifetime, the unit M 4-L can be equipped additionally with a pressure segment belt.

Cross sanding with the M 4 unit

- For high surface quality requirements according to the cross sanding principle
- Sanding of cross-veneered surface and profile sections can also be effected with a cross sanding unit in grain direction



Belt sanding unit K 4

- Sanding belt dimensions 2,000 x 50 mm
- Swivelling range from -45° to $+90^\circ$
- Belt speeds 4 and 8 m/s or steplessly 0.5 - 8 m/s
- Design features as for M 4 units

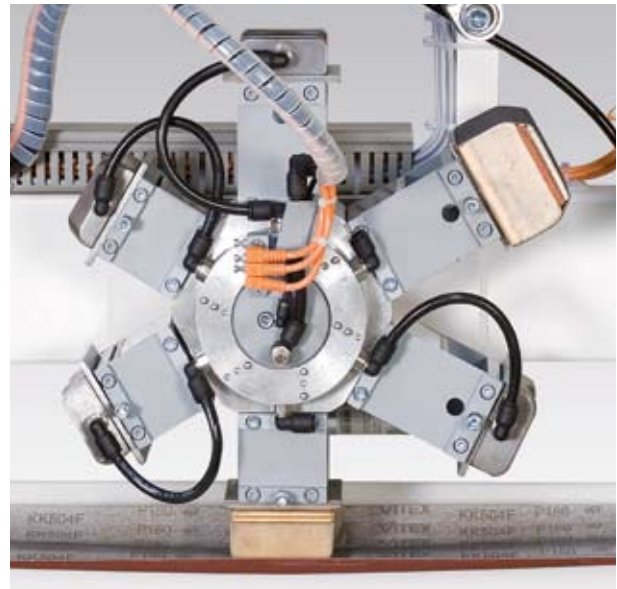
Tool holder

Compared to standard cylinders the easy-running Heesemann contact system compensates tolerances of several millimetres - and that along with an even sanding intensity. This provides for a constant adjustment to edges and profiles in throughput without any risk of sanding through. Depending on the sanding intensity required, the sanding pressure can be sensitively adjusted pneumatically, by request even electronically.

For sanding multistage profiles with a unit, a double sanding tool can be used.

Revolving tool for 6 tools

For use on changing contours, M 4-L units can be equipped with an automatic 6x revolving tool. The steel sanding shoes with air cushion are automatically supplied with air during operation.



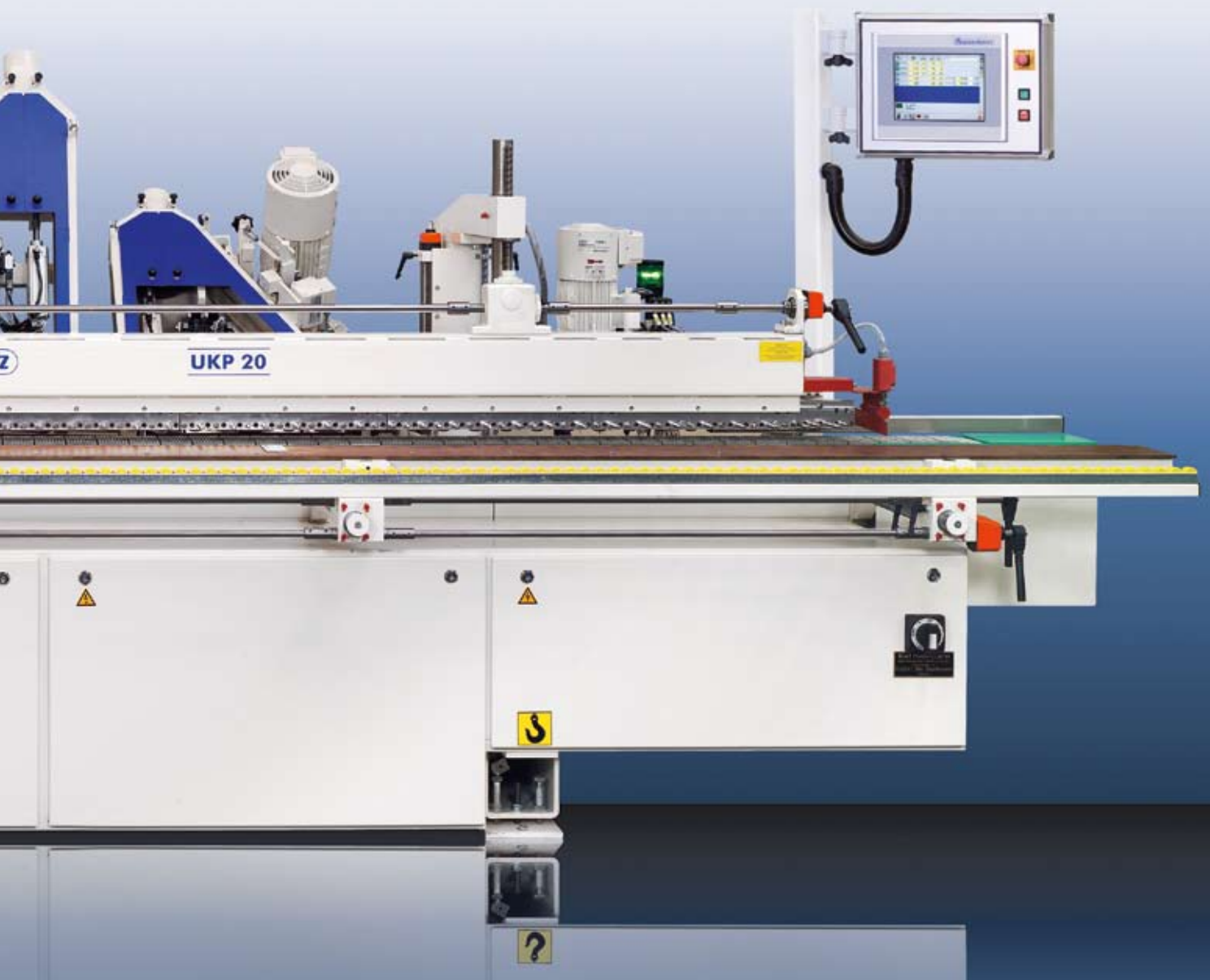
Universal edge and profile sanding machines

Key features:

- Milling, wood and lacquer sanding, edge chamfering
- Wide swivelling range of the sanding units
- Individual unit equipment
- Central unit control on the screen (touch screen)
- Special path control for short setting times



- Roller top pressure by means of pressure beams
- Central adjustment of press-on and guide elements
- Fast tool change, may also be done automatically
- CNC axis adjustment



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A perfectly sanded edge increases the quality of the furniture.

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Double belt unit

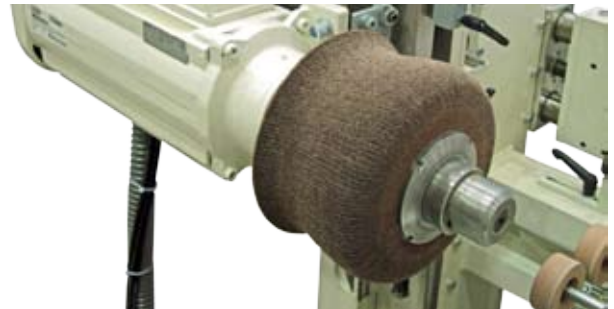
By means of an automatic travel movement, either the first or the second sanding belt can be deployed.

This gives e.g. the option that one sanding belt can be used for wood sanding and the other one for lacquer sanding. Without any additional setting times, the respective sanding belt is moved into position for operation at the push of a button on the operating terminal. Also ideal for batch size 1.



Controlled sanding disc unit EGS

Disc wearing is automatically compensated during the sanding process. The cutting speeds can be continuously adjusted to the different sanding tasks.



Profile sanding unit for rounded corners ERS

A profiled sanding disc follows the workpiece contour in the edge area without a template and sands the front or rear edge. In addition to solid wood and veneer, the unit is also suitable for lacquer sanding.





Milling units

Milling units are available in different versions for straight profiles, as a round corner unit and as a contour-milling unit.



Application of lacquer and UV drying

In order to be able to carry out a complete processing of edges and profiles on a single machine, a vacuum or roller lacquer application unit as well as UV drying unit can be installed on the UKP. Profile edges on boards can be sanded, de-dusted, lacquered and dried in one pass.

In case of coated boards with solid edge bands the sanding as well as the lacquering is carried out exactly up to the glue edge, even with rounded edges.

Rotating blasting device

For an intensive cleaning of the workpieces from the adhesive sanding dust, the UKP can be equipped with a rotating blasting unit.



Electronic position indicators

Manual adjustment complete with digital electronic position indicators that can be networked with the machine control system and thus permit a nominal/actual value comparison.



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Perfect edge and profile sanding: The best advertisement for your product!

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Tools, sanding belts

Profiles will be sanded with flexible twilled sanding belts. Usually, the counter-profile consists of a special felt.

If the load on the felt counter-profile should become too high due to the shape and quantity of the workpieces to be sanded, it is possible e.g. to use a metal tool - equipped with air nozzles for cooling and generating a friction-reducing air cushion - to achieve a longer lifetime.

For manufacturing the counter-profiles with a constant shape precision, the profile tool sanding machine **PWS-T** is particularly suitable. The respective sample workpiece is used for the sanding-in of the counter-profiles.



Brush units

For cleaning and for an additional smoothing, profiled or cylindrical sanding brushes can be used in different width depending on the shape of the workpiece. The brush units are installed in a swivelling manner.

For special sanding effects, such as structuring, the units can be supplied in a controlled version.





Line control

At the infeed of the machine, the workpieces are detected and the impulses are transmitted millimetre by millimetre to all subsequent units. The different settings of the units with regard to sanding pressure, angle position, belt tension and feed speed are electronically compensated. Even the different adjustment behaviour of steel and felt tools are taken into account. This ensures that even after a complete reset of the entire machine the control system adjusts the precise associated values automatically, relieving the operator from additional setup work.



Sanding from below - H-G/U

- Sanding belt dimensions 2,000 x 220 mm
- Sanding width up to max. 300 mm
- Combinations of cross and longitudinal sanding
- Driven fence units

Computer-controlled axis adjustment CNC

for axis positions, sanding belt speed, sanding pressure, direction of belt run and line control points for the different profiles. Sanding belt grits are stored as values. At a simple push of a button, the units move simultaneously in all three axes, that is, horizontal, vertical and angle adjustment. This results in a drastic reduction of setting times.

Operation

The setting of all relevant sanding parameters such as sanding belt speeds, line control values for infeed and outfeed when using the tools in the units for sanding, is carried out centrally via an industrial PC with a touch screen user surface.

UKP

Technical data	Motor performance Speed	Belt speed or feed speed	Swivelling range of the sanding units	Sanding belt dimensions mm
Belt sanding units				
M4 80 M4 - L 80	2.0 kW at 750 rev/min 2.6 kW at 1,500 rev/min	6 and 12 m/s or frequency control 3.0 kW 0.7 - 12 m/s	from the horizontal 90° upwards until 45° downwards	2300 x 80 2800 x 80
M4 130 M4 - L 130	2.6 kW at 750 rev/min 3.2 kW at 1,500 rev/min			2300 x 130 2800 x 130
M4 150 M4 - L 150	2.6 kW at 750 rev/min 3.2 kW at 1,500 rev/min			2300 x 150 2800 x 150
M4 200 M4 - L 200	4.2 kW at 750 rev/min 4.5 kW at 1,500 rev/min			2300 x 200 2800 x 200
K4 50	0.55/0.75 kW 1.1 kW	4 and 8 m/s or 0.5 - 8 m/s frequency control		2000 x 40
Sanding brush	0.25 kW	-	from the horizontal 90° upwards	Brush width 60
Sanding brush	0.75 kW	-		Brush width 150
Circular sanding machine ERS for corners	0.75 / 1.1 rev/min	1400 / 2800 400 - 2800 rev/min	-	Ø 45 x 50 Ø 80 x 80
Sanding disc EGS Workpiece transportation	1.5 – 7.5 kW	from 5 - 25 m/min to 12 - 60 m/min	from the horizontal 90° upwards to 45° down- wards	Depending on version
Milling units	Data depending on version			
Subject to technical modifications				



Karl Heesemann Maschinenfabrik GmbH & Co. KG
P. O. Box 10 05 52, 32505 Bad Oeynhausen
Reuterstrasse 15, 32547 Bad Oeynhausen
Germany
Phone: +49 5731 188-0
Fax: +49 5731 188-129
Internet: www.heesemann.com
E-mail: sales@heesemann.de



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