OSR I
ORBITAL SCRATCH REMOVAL
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.

Kingswood Interior Ltd. in Calgary is one of many customers in North America being committed to the advantages of this Heesemann technology.

In order to run the full process two machines are needed. The work pieces have to be prepared on a calibrating machine (e.g. a Heesemann MFA 10) to remove irregularities of thickness from glued connections and remains of glue. In this process the scratches of the abrasives continuously become finer. The second machine removes sharp edges and finally all visible sanding marks.

*Heesemann sales manager Heinz Grupe and a staff member of Kingwood survey the final result using a flashlight and a magnifier.*
AFTER CALIBRATION SANDING TRACES ON THE CROSS GRAINED PARTS OF THE WORK PIECES ARE VISIBLE.
**STEP 1**

**PREPARATION OF WORK PIECES**

- **Steel contact roller (P80 Al₂O₃)**
  Removal of irregularities of thickness from glued connections and remains of glue.

- **Rubber-coated roller (65° shore, P120 Al₂O₃)**
  Removal of sanding marks generated by the P80 abrasive.

- **Rubber-coated roller (55° shore, P150 Al₂O₃)**
  Removal of sanding marks generated by the P120 abrasive.

- **Longitudinal unit with chevron belt (P220 SIC)**
  SIC should be scattered openly. Removal of sanding marks generated by the P150 abrasive, preparation for minimization of deep sanding marks.
HEESEMMANN OSR UNIT EFFECTIVELY REMOVES ALL VISIBLE SCRATCHES AND GENERATES A HARMONIOUS SURFACE.
STEP 2
REMOVAL OF SCRATCHES

RUT - Disk brush unit (P180 + P220)
Breaking the edges of the work pieces.

Cylindrical brush (P220)
Removal of sanding marks generated in inlays by the RUT disk brush unit.

OSR - Orbital scratch removing (P180 Al₂O₃)
Removal of sanding marks crosswise to the grain with a large orbit.

OSR - Orbital scratch removing (P220 Al₂O₃)
Generation of final fine sanded result with a small orbit.
THE LONGITUDINAL SANDING UNIT OF THE MFA 10 OSR
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").

The longitudinal unit with an internally running chevron belt is a reasonable addition to many applications. The chevron 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 chevron 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 chevron belt. This compensates for the thickness of the chevron 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 25 years.
The RUT disc brush unit consists of 19 disc 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 disc brushes rotation speed, and their orbital velocity perpendicular to the feed direction.

The disc 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 disc brush heads abrasive brush inserts with new abrasives or with structuring brushes can be done with a few handles and very little time.
Due to the quick changing device replacing the disc brushes can be done within a few minutes.

The Rut disc brush unit can be equipped with disc brush heads with different abrasive brush inserts or structuring brushes.
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 Tinex 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 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.
HEESELMANN
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 chevron 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.
MACHINE CONFIGURATIONS
FREQUENTLY CHOSEN

Machinery base: Working height 880 mm (2.89 ft) / Working width 1 350 mm (4.43 ft)

<table>
<thead>
<tr>
<th>W 2 300 mm (7.55 ft)</th>
<th>Length (mm)</th>
<th>Weight (kg)</th>
<th>Feed speed (m/min)</th>
<th>Suction power (kW m³/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSR / OSR</td>
<td>approx. 3 000 (9.84 ft)</td>
<td>approx. 6 500 (14 400 lbs)</td>
<td>3 - 15</td>
<td>3.0 11</td>
</tr>
<tr>
<td>OSR / OSR</td>
<td>approx. 3 600 (11.81 ft)</td>
<td>approx. 8 000 (17 700 lbs)</td>
<td></td>
<td>5.5 25</td>
</tr>
<tr>
<td>OSR / OSR</td>
<td>approx. 4 200 (13.78 ft)</td>
<td>approx. 8 000 (17 700 lbs)</td>
<td></td>
<td>7.5 40</td>
</tr>
<tr>
<td>OSR / OSR</td>
<td>approx. 4 800 (15.75 ft)</td>
<td>approx. 10 000 (22 100 lbs)</td>
<td></td>
<td>11.0 60</td>
</tr>
<tr>
<td>OSR / OSR</td>
<td>approx. 6 500 (14 400 lbs)</td>
<td>approx. 12 000 (26 460 lbs)</td>
<td></td>
<td>11.0 60</td>
</tr>
<tr>
<td>OSR / OSR</td>
<td>approx. 8 000 (17 700 lbs)</td>
<td></td>
<td></td>
<td>15.0 66</td>
</tr>
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Subject to technical modifications.
## TECHNICAL DATA
### MFA 10 OSR - UNITS

**Modules**

<table>
<thead>
<tr>
<th>Sanding belt dimensions (L x B mm)</th>
<th>Longitudinal unit with chevron belt</th>
<th>Disc brush unit RUT</th>
<th>Orbital sanding unit OSR</th>
<th>Brushes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,620 x 1,400 (8.6 x 4.6 ft)</td>
<td>19 disc brushes Ø 180 mm (0.6 ft)</td>
<td>2,620 x 1,400 (8.6 x 4.6 ft)</td>
<td>Ø 400 x 1,430 (Ø 1.3 x 4.7 ft)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drives Performance / Belt speed (kW</th>
<th>m/s)</th>
<th>Brush rotation: 7.5 kW FU 160 - 800 rpm</th>
<th>Brush movement: 1.5 kW FU 5 - 25 m/min</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 1.8 - 9 / 18</td>
<td></td>
<td>20,5</td>
<td></td>
<td>5.5 - 22.0 kW 50 - 400 rpm</td>
</tr>
<tr>
<td>22 2.0 - 9 / 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connection diameter (mm)</th>
<th>Longitudinal unit with chevron belt</th>
<th>Disc brush unit RUT</th>
<th>Orbital sanding unit OSR</th>
<th>Brushes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø 160 (0.525 ft)</td>
<td>2 x Ø 160 (0.525 ft)</td>
<td>Ø 146 (0.48 ft)</td>
<td>Ø 160 (0.525 ft)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Air velocity (m/s)</th>
<th>Longitudinal unit with chevron belt</th>
<th>Disc brush unit RUT</th>
<th>Orbital sanding unit OSR</th>
<th>Brushes</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 20</td>
<td>min. 20</td>
<td>min. 20</td>
<td>min. 20</td>
<td>min. 20</td>
</tr>
</tbody>
</table>

Extraction value for the transport belt cleaning 18.5 m³/min.
surface sanding machines for wood
HSM, MFA Impression, MFA 10, LSM 8, KSA 8, BM 8, FBA 8

surface sanding machines for metal
MSM 10

edge and profile sanding machines
UKP 20

sanding machines for 3D processing
BM 8, UKP 20

16.04 - EN - Subject to technical modifications. With regard to machine equipment and its technical design the terms of the offer apply exclusively.