Washing machines for gravure cylinders, anilox rollers, anilox sleeves and printing sleeves
## Services
### Room concepts
Integration into other existing rooms and cylinder logistics

<table>
<thead>
<tr>
<th>Contamination wash-basin</th>
<th>Toluene inks</th>
<th>NC inks without bonding agents</th>
<th>NC inks with bonding agents PVDF, PVC, etc.</th>
<th>Lining adhesives</th>
<th>Sealing waxes</th>
<th>Water-based inks</th>
<th>Washing machine type</th>
<th>Wash principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravure cylinder up to 10 pieces/wash cycle</td>
<td>2K-inks</td>
<td>Gray</td>
<td>Green</td>
<td>Red</td>
<td>Yellow</td>
<td>Black</td>
<td>Blue</td>
<td>White</td>
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<tr>
<td>Gravure cylinder up to 2 pieces/wash cycle</td>
<td>Gray</td>
<td>Green</td>
<td>Red</td>
<td></td>
<td>Yellow</td>
<td>Black</td>
<td>Blue</td>
<td>White</td>
</tr>
<tr>
<td>Anilox rollers/sleeves up to 2 pieces/wash cycle</td>
<td>Gray</td>
<td>Green</td>
<td>Red</td>
<td></td>
<td>Yellow</td>
<td>Black</td>
<td>Blue</td>
<td>White</td>
</tr>
<tr>
<td>Flexo printing sleeves up to 2 pieces/wash cycle</td>
<td>Gray</td>
<td>Green</td>
<td>Red</td>
<td></td>
<td>Yellow</td>
<td>Black</td>
<td>Blue</td>
<td>White</td>
</tr>
<tr>
<td>Flexo printing sleeves up to 5 pieces/wash cycle</td>
<td>Gray</td>
<td>Green</td>
<td>Red</td>
<td></td>
<td>Yellow</td>
<td>Black</td>
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<td>White</td>
</tr>
</tbody>
</table>

**Cleaning effect:**
- **very good**
- **good – satisfactory**
- **satisfactory – mediocre**
- **not usable**

**Further systems by DWR**

- **Service**
- **Room concepts**
- **Integration into other existing rooms and cylinder logistics**

**Cleaning Washers**

- **Sleeve-Washer 360-W**
- **HA/HA-S**

**Additional Services**

- **360-W**
- **HA/HA-S**

*From page 4*

*From page 8*

*From page 14*
Die Pumpe für das Schmutzlösungsmittel hat die folgenden Daten:

- Schmutziges Lösungsmittel
- Fördermenge ca. 5,4 cbm/h

In the RENZMANN technical centre, all wash procedures used by RENZMANN can be tested in original washing machines with real wash items and under realistic circumstances. Our customers can assess the results achieved with the relevant washing machine type and the applied wash procedure.

In addition, it can be illustrated how contaminated wash solvents are treated in distillation systems. Purifying wastewater can also be achieved by evaporating the contaminated rinsing water and used again as alkaline cleaning agent.

The strictly documented trial results (in writing and photos) are the basis for the contractually promised cleaning qualities by RENZMANN.

Detailed project planning

RENZMANN not only assists the customer in choosing the right wash procedure, but also explicitly plans the integration of the relevant wastewater treatment or complete washing facility (possibly several washing machines, distillation systems, containers, pumps, filters, etc.) into the energy supply, air discharge, wastewater disposal and into the existing or new rooms.

Process descriptions and layout plans are created as early as the negotiation phase. Pigment release as well as circuit and pneumatic systems are also created when the order is processed.

Concerning the interfaces to already existing energy supply systems (electricity, pressurized air, mains steam, thermal oil) as well as to wastewater and air discharge systems, clarification shall be sought.

Furthermore, RENZMANN offers its support when it comes to communicating with authorities, architects and consultants as well as creating authorization documents.
**Room concepts**

D. W. RENZMANN is not only a supplier of machines, but also a certified business according to the ATEX directive and Water Ecology Act.

- **Ex-area Non-ex area**
  - Loading and unloading in non-ex area

**Integration into the existing rooms and cylinder logistics.**

- **Ex-protection of the machines and facilities of the operation site**
  - Survey, risk assessment and suggestions regarding protective measures and the preparation of documents required for the explosion protection document.
  - Ex supply with closed, protected cabinets for manual washing machines, confidence in a safe and secure separation for the containment of ex areas as well as gas warning devices.

- **Water and soil protection**
  - Floors and drainage of water-hazardous substances and to the room situation.

- **Steel construction**
  - Planning and delivery of statically tested steel constructions and platforms for a space-saving assembly of the wash facilities according to the room situation.

**Integration of the RENZMANN gravure cylinder washing machine into the fully automatic cylinder production lines and cylinder storage/logistics centers.**
**Operation scheme: Closed solvent circulation of a cylinder wash facility**

**Type 150**
- **Equipment**
  - Powerful wash pump / ex-motor power
  - Accommodation of gravure cylinders
  - Machine can only be operated when loaded from the front
  - Throughput washing machine with type examination
  - Internal exhaust system with powerful air-intake and air-admixture chokes
  - Ventilator and pneumatically controlled solenoid valves
  - Dry-run protection of wash pump (P1) due to retrieval of minimum speed
  - Spraying only possible if door is closed due to automatic retrieval of door position
  - Solvent stability of all parts, which are in contact with the medium
  - The compliance with all applicable EC safety regulations is evidenced by a declaration of conformity (Atex 95), spray system with type examination
  - Ex-protection of all electrical and mechanic components according to explosion protection guidelines 94/9/EG

**Type 360**
- **Equipment**
  - Powerful wash pump / ex-motor power
  - Accommodation of gravure cylinders
  - Machine can only be operated when loaded from the front
  - Throughput washing machine with type examination
  - Internal exhaust system with powerful air-intake and air-admixture chokes
  - Ventilator and pneumatically controlled solenoid valves
  - Dry-run protection of wash pump (P1) due to retrieval of minimum speed
  - Spraying only possible if door is closed due to automatic retrieval of door position
  - Solvent stability of all parts, which are in contact with the medium
  - The compliance with all applicable EC safety regulations is evidenced by a declaration of conformity (Atex 95), spray system with type examination
  - Ex-protection of all electrical and mechanic components according to explosion protection guidelines 94/9/EG

### Specifications

<table>
<thead>
<tr>
<th>Type 150</th>
<th>Size 1</th>
<th>Size 2</th>
<th>Size 3</th>
<th>Size 4</th>
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</thead>
<tbody>
<tr>
<td>Diameter (mm)</td>
<td>5500</td>
<td>6500</td>
<td>7500</td>
<td>8500</td>
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<tr>
<td>Height (mm)</td>
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<td>4000</td>
<td>4000</td>
<td>4000</td>
</tr>
<tr>
<td>Depth (mm)</td>
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<table>
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<td>Depth (mm)</td>
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</table>

### Capacity of Wash Pump

<table>
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<th>Size 1</th>
<th>Size 2</th>
<th>Size 3</th>
<th>Size 4</th>
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</thead>
<tbody>
<tr>
<td>Capacity (m³/h)</td>
<td>33</td>
<td>50</td>
<td>66</td>
<td>83</td>
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<table>
<thead>
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<th>Size 2</th>
<th>Size 3</th>
<th>Size 4</th>
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<tr>
<td>Capacity (m³/h)</td>
<td>80</td>
<td>105</td>
<td>160</td>
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</table>
High-pressure system for directed wash medium container equipped. Wash medium system consists of high-pressure water container provided with high-pressure pump and a spray pump system. Stainless steel wash medium container provided with high-pressure slot nozzle (travel adjustable). The spray wash of the wash item surfaces takes place while wash item is rotating.

The facility meets the requirements of all EC safety guidelines. This is certified by means of a conformity declaration and a CE notice on the machine.

The machine is equipped with a high-pressure piston pump including immersion heater (heating capacity 6 KW), double carriage and double the capacity of the high-pressure spray system. Two high-pressure nozzles are arranged in the spray head for different wash item lengths; henceforth also usable for different washing jobs. A turnable wash medium system is provided for each wash item length.

Set-up for safe operation of facility:

- The facility meets the requirements of all EC safety guidelines. This is certified by means of a conformity declaration and a CE notice on the machine.
- Clearing motion consists of all parts in contact with the medium.
- Frames, spring and spray units protected against contamination by Means F1 and F2.
- Splash-proof enclosure of all parts in contact with the medium.
- FS switch F1 provides the facility with the help of fault switches L1 / L3.
TYPE Sleeve-Washer

Washing machine Type Sleeve-Washer Size 1 Size 2

<table>
<thead>
<tr>
<th></th>
<th>Size 1</th>
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<tbody>
<tr>
<td>Nominal power</td>
<td>5 kW</td>
<td>7.5 kW</td>
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<tr>
<td>Control (PLC)</td>
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<tr>
<td>Pressure (bar)</td>
<td>8</td>
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<tr>
<td>Dimensions mm</td>
<td>2850 x 1100 x 2315</td>
<td>3450 x 1300 x 2415</td>
</tr>
<tr>
<td>Required space mm</td>
<td>4500 x 3400 x 2315</td>
<td>5100 x 3600 x 2415</td>
</tr>
<tr>
<td>Clearance for installation mm</td>
<td>3200 x 1300 x 2000</td>
<td>3800 x 1500 x 2000</td>
</tr>
</tbody>
</table>

**Evolver**

- Sleeve home of machine made of aluminum profile system. Precise housing consisting of 5 panals, moved moveable safety door with a glass panel, a central glass column and a right column.
- Drum magazine with 2 partly drained sleeves made of stainless steel.
- Rotating motion of drum magazine of 180 degrees with double-driven drum integrated over motion in automatic operation the motor drives the drum magazine to the wash position, when loading the machine with sleeves, the drum magazine can be moved in any desired position with the help of the pedal switch.
- Wash system contains wash medium circulation system and wash brush, designed as strip brush, which, with the help of a motor-operated drive system, is moved towards the sleeve and, with the help of a short stroke cylinder, is put in a cyclic-horizontal stroke movement during the automatic wash process.
- Control (PLC) including controls and operating safety lamps located in timing case fixed on the base frame of the machine.
- Equipment
  - Re-rinse system consisting of separate stainless steel container with integrated filter, low-pressure pump (in manual operation the pump can be used to pump out the contaminated wash liquid) as well as a nozzle pipe for the spraying of the sleeves.
  - Subsequent cleaning system (only in connection with re-rinse system), consisting of 2 wash brushes.
  - Illumination of wash chamber for better supervision of wash process.

**Set-up for safe operation of facility**

- The facility meets the requirements of all EC safety guidelines. This is certified by means of a conformity declaration and a CE mark on the machine.
- Cleaning medium consistency of all parts in contact with the medium.
- Cameras, spring and spray units protected against contamination by filters F1 and F2.
- Automatic control of the output of pumps is closed due to automatic on/off switch and locking of safety switch P1 and P2.
- Dry-run protection of the pumps and heaters with the help of float switches L1 / L2.
Depending on the number and size of the parts to be cleaned, the product range includes various models for part washing.

The amount of the wash medium to be processed as well as the requirements on operational convenience are the distinguishing features of the distillation systems of the product range.

We want you to benefit from our know-how:
We determine the profitability of your project in terms of performance, staff requirements, investments costs and operating costs, taking into account all relevant laws, regulations and directives. We support you in planning the site of your new equipment, dealing with the authorities and obtaining the required approvals and connecting your equipment to existing or future exhaust air systems.

In our lab, we provide distillation units for practical tests with your solvent or washing agent. All tests are documented electronically and the results are made available to you.

We take customer service literally: we want to serve our customers. Our top priority is to ensure smooth proceedings on your premises. To eliminate potential problems from the start, we offer to have our staff check the conditions on site and determine the possibilities of connecting our products to existing equipment.

RENZMANN engineers are trained and experienced experts that ensure smooth commission and service on-site.

When spare parts are needed, we do our utmost to supply these parts as quickly as possible.