

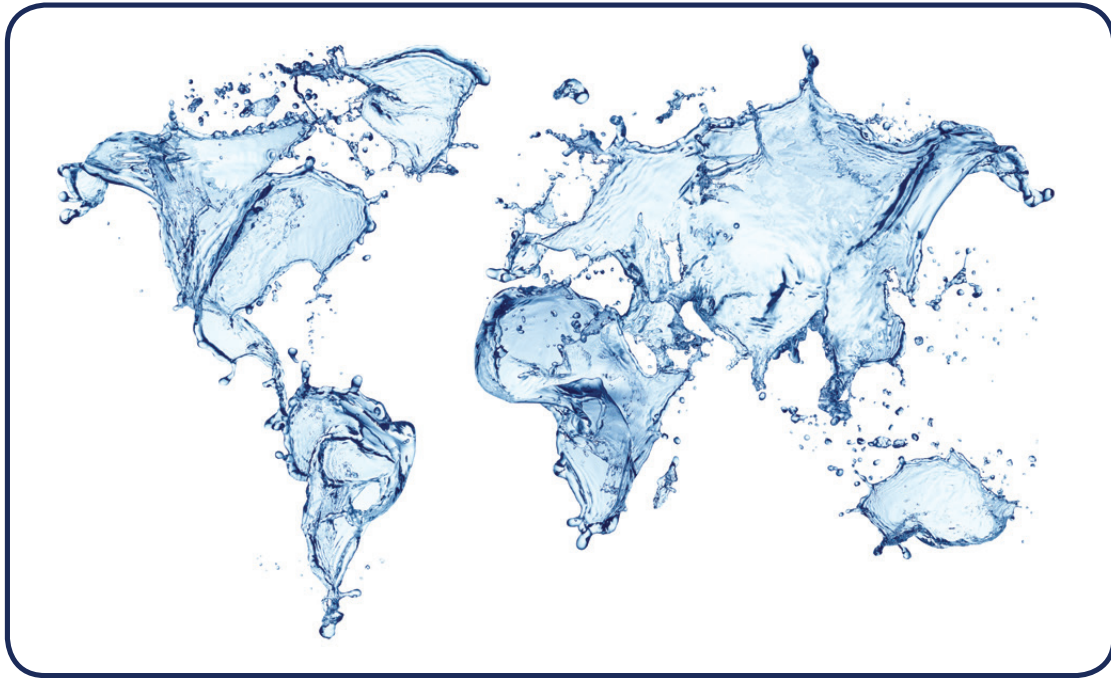
Rotogravure Cleaning



FLEXO WASH

Leading Cleaning Technology

Flexo Wash Around the World



25 years ago Flexo Wash was founded by an inventive Danish label printer who faced the increased requirements for improved print quality as well as a safe and efficient production.

He strove to create cleaning units that would reduce downtime on his press. The first Flexo Wash Parts Washer was built by using his old dishwasher. Later he started building other machines where he could recover the anilox cell volume completely in only a few minutes.

Through continuous innovation and development Flexo Wash today distributes a diverse line of highly advanced cleaning equipment for all sectors of the industry.

The products are distributed around the world through a wide network of subsidiaries and distributors making Flexo Wash the world's leader of flexographic and converter cleaning technology.

During the years more than 3000 machines have been installed.

Flexo Wash is constantly developing their products and strives to make innovative solutions meeting the demand of the customers while being user friendly at the same time.

FLEXO WASH Offices

- Flexo Wash, Skødstrup, Denmark
- Flexo Wash France, Taluyers (Lyon), France
- Flexo Wash, Leeds, United Kingdom
- Flexo Wash, Kentucky, USA
- Flexo Wash Asia, Kuala Lumpur, Malaysia



LEAN Your Production

The mission of Flexo Wash is to help you improve your productivity, keep a constant print quality and a safe and healthy working environment.

Reduction of downtime, waste and investments in cylinders, ink and material are key factors for every printer together with the brand owners needs for a high, constant print quality and short delivery times. The shorter print jobs and quicker change over times require extensive manpower and emphasize the need to have the adequate cleaning equipment to keep a LEAN production.

Having the right washing equipment covering all your washing needs will help you optimize your production and to get the most out of your printing press.

All Flexo Wash products are designed for a LEAN production:

- We customize our equipment to fit the growing complexity of cleaning needs, using specialized holders for doctor blades, ink pans, buckets and other press parts.
- All Flexo Wash machines have a 100% automatic washing process eliminating any manual labour in the washing process.
- Whether you want to clean only a few or hundreds of cylinders per day, Flexo Wash has the right cleaning equipment to fit every type of rotogravure cylinders.

Ask Flexo Wash for a complete package deal to cover all your washing needs in order to LEAN your production and obtain an optimum output from your printing press.



Parts Washer

The PK Electrical ATEX Parts Washer is the latest generation of parts washers for intensive use and high quality cleaning. The PK Electrical ATEX is equipped with high performance pumps making it possible to remove heavy layers of ink, varnishes etc. from rotogravure press parts.

The fully automatic washing units are designed for easy handling of rotogravure press parts. It is possible to wash ink trays, buckets and other removable press parts used with all types of inks, varnishes etc. The units can be equipped with a trolley, which makes the handling even easier. The grid on the trolley is easily slid into the machine from the front.

The quick and easy wash operation allows press operators to focus on press make-ready functions and thus reducing the changeover time and the labour involved in washing.

The PK Parts Washer units are built with customized wash area according to your specific needs. This means that the nozzles are targeted to the specific press parts and the wash area is utilized in the most optimum way - all to ensure an effective cleaning cycle.

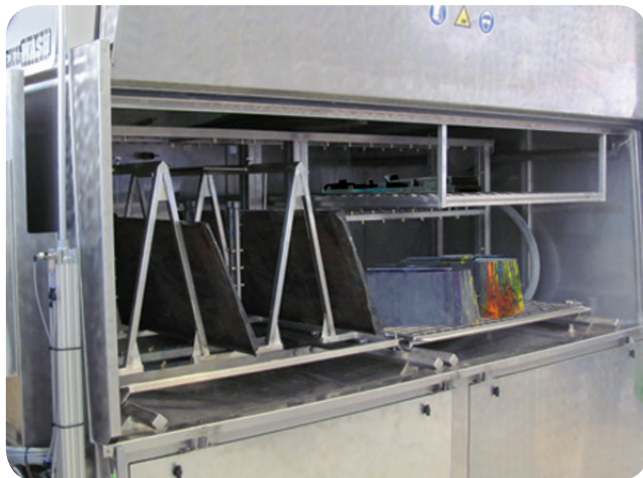


Specifications



| EasyLoad Model | Net Wash Area (LxWxH) | Machine Dimensions (LxWxH) * |
|--|-----------------------|------------------------------|
| PK 240 EasyLoad Electrical Atex | 2100 x 1000 x 600 mm | 3100 x 1700 x 2800 mm |
| PK 280 EasyLoad Electrical Atex | 2500 x 1000 x 600 mm | 3500 x 1700 x 2800 mm |

* Height with lid open



| FrontLoad Model | Net Wash Area (LxWxH) | Machine Dimensions (LxWxH) * |
|---|-----------------------|------------------------------|
| PK 250 FrontLoad Electrical Atex | 2000 x 1800 x 700 mm | 3100 x 2300 x 2800 mm |
| PK 300 FrontLoad Electrical Atex | 2500 x 1800 x 700 mm | 3500 x 1700 x 2800 mm |
| PK 350 FrontLoad Electrical Atex | 3000 x 1800 x 700 mm | 4100 x 2300 x 2800 mm |

* Height with lid open



Customized Wash Areas

All units can be customized according to your specifications. This includes special racks and different types of high performance nozzles that are optimised for the specific application.

Different Wash Area Layouts

- *Tray Rail:*
Trays are placed in upright position. With side spray for optimised liquid flow over the parts.
- *2-Story (Only PK FrontLoad):*
For various parts. Gives double wash area.
- *Grid:*
All-round solution for larger parts such as ink trays and chambers.
- *Rotating Nozzles for Cleaning of Buckets:*
Special for cleaning of ink buckets. A nozzle for each bucket is placed on the grid.
- *Hose Cleaning:*
Valves and quick connections for cleaning of 2-4 hoses.
- *Double Sliding Grid:*
For easier loading it is possible to equip the washing area with a double sliding grid, making it possible to load the inner part of the washing area first and afterwards the outer part.
- *Trolley with Slide-in Grid:*
Choosing this option minimizes the handling of the parts. The parts can be loaded on the trolley at the press; driven to the Parts Washer and the grid with the parts on is slid into the cleaning unit. After the cleaning process is finished the grid with the parts is removed from the unit and the parts can be driven back to the press or storage on the trolley.
- *Trolley for Washing 2 or 3 cylinders:*
This makes the machine multi functional: A cylinder cleaner and parts washer in one.



Tray Rails



Cylinder Wash



Hose Cleaning



Fixed 2nd Storey + Rotating Nozzles
for Cleaning of Buckets

Distillers

Flexo Wash offers a complete system where the Parts Washer and Distillation System (distillation unit, clean and dirty solvent tank) are connected and work as a closed loop.

The Flexo Wash Distiller has a:

- Water cooled condenser
- Fully automatic distillation process
- High reclaim percentage
- Tanks for clean and dirty solvent

All distillers deliver a high output during fully automatic operation, which follows three steps:

- The solvent is automatically filled into the distiller from the dirty solvent tank.
- The process works continuously until all solvent has been distilled, where distilled solvent flows into the clean solvent tank.
- Drainage of the viscous residue through valve - no cleaning necessary, the unit is immediately ready for the next operation.

| Model | Tot. vessel vol. | Approx. dist. rate* | Distiller dimensions |
|---------|------------------|---------------------|----------------------|
| DI 500 | 70 L | 7 - 20 L/hour | 1200 x 800 x 1600 |
| DI 1200 | 140 L | 20 - 60 L/hour | 1400 x 1000 x 2700 |
| DI 2400 | 160 L | 40 - 90 L/hour | 1300 x 1000 x 2700 |
| DI 3300 | 300 L | 60 - 140 L/hour | 2000 x 1300 x 2900 |
| DI 5500 | 500 L | 100 - 220 L/hour | 2200 x 1100 x 3200 |

* Depending on solvent type

The parts washers can be made with rinsing directly from the distiller or from a separate tank underneath the machine.

The Parts Washers from Flexo Wash can also be connected to already existing distillers.

Flexo Wash will take care of all connections between distiller, tanks on distiller and parts washer.



Multi Cylinder Cleaner

If you have to clean more than 50 rotogravure cylinders pr. day the solution for you is the Flexo Wash Multi Cylinder Cleaner. The Multi Cylinder Cleaner system cleans and rinses cylinders. The quick and gentle cleaning process leaves the cylinders clean and ready for immediate use or storage after cleaning, without causing any wear or tear to the cylinder.

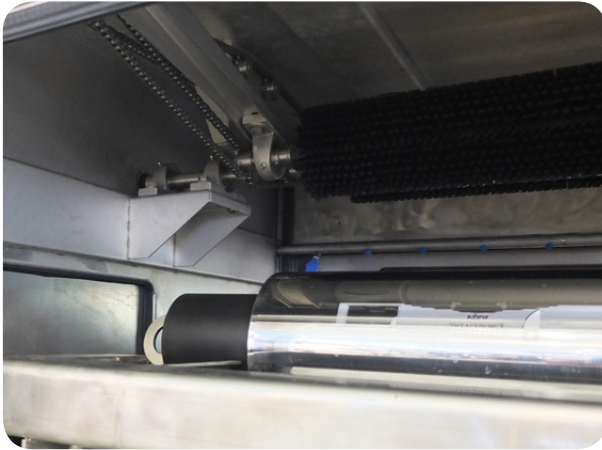
With a standard wash and rinse configuration 8-12 cylinders per hour can be cleaned. All cylinders are cleaned by using end and surface brushes plus eco friendly cleaning liquid. Afterwards they are rinsed with water at high-pressure and finally an air stream removes excess water. The liquid is re-circulated in the Multi Cylinder Cleaner.

The cylinders can be transported from the printing machine to the Multi Cylinder Cleaner on a specially designed trolley with a cylinder carriage.

The carriage is loaded from the trolley into the loading station and automatically transported through the entire cleaning process.



Specifications



The cylinder inside of the washing chamber ready for wash



Spray arm and brushes inside the washing chamber



End brushes on carriage and high-pressure nozzles in rinse chamber

| Multi Cylinder Cleaner Model | CW 1900 | CW 2300 |
|--|----------------------------|----------------------------|
| Max. total cylinder length (incl. shaft) | 1900 mm | 2300 mm |
| Max. face length | 1350 mm | 1700 mm |
| Max. repeat length | 1130 mm | 1130 mm |
| Min. repeat length (other on demand) | 470 mm | 470 mm |
| Max. weight of 2 cylinders in kg | 800 kg | 800 kg |
| Tank capacity | 170 litres | 170 litres |
| Electricity | 3 × 400V + N + PE, 30 Amps | 3 × 400V + N + PE, 30 Amps |
| Compressed air | 6 bar - 1200 L/min | 6 bar - 1200 L/min |



Fully Automatic Washing, Rinsing and Drying

The Multi Cylinder Cleaner is a modular system and can be configured individually according to your needs. Each unit consists of a loading station, two air locks or machine door arrangements, a number of washing stages and an unloading station.

Loading Station

The cylinders are placed on the trolley at the printing machine and driven to the washing unit. The carriage on the trolley is loaded onto the loading station.

Air Lock

When the start button is pressed the cylinders are automatically loaded into the machine by the automatic conveyer system.

Washing Station

Each washing station has capacity for 2 cylinders. While the first cylinders are being washed, additional cylinders can be placed on the machine's loading station. Each cylinder carriage is moved through the washing stages and the process continues until the loading station is empty.

Rotating surface and end brushes along both cylinders ensure cleaning of shaft, surface and ends on the cylinders. The brushes give a thorough all-around surface cleaning.

Rinsing Station

The cylinders are rinsed with water at a high-pressure. The high-pressure rinse nozzles move along the cylinders during the rinse.

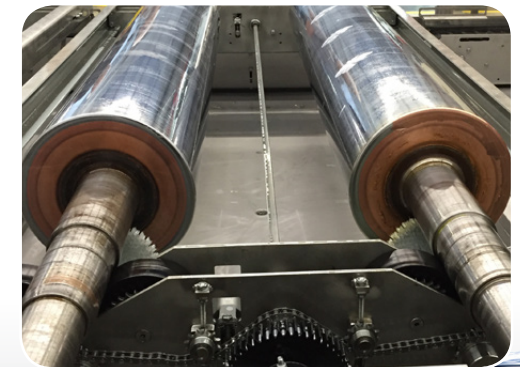
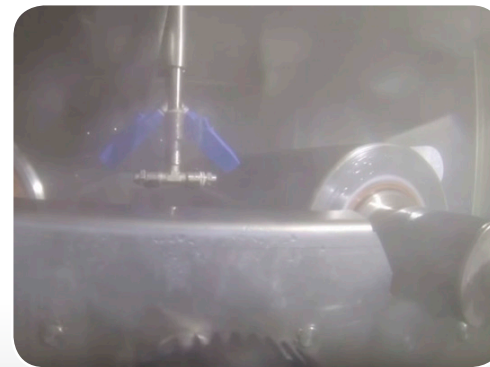
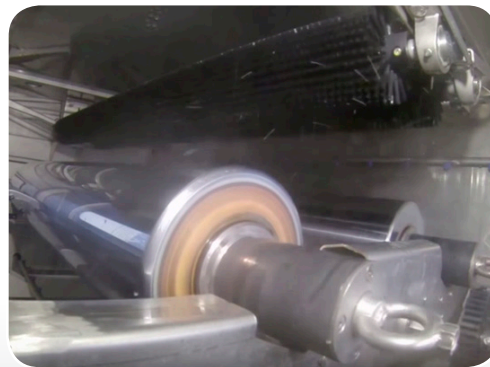
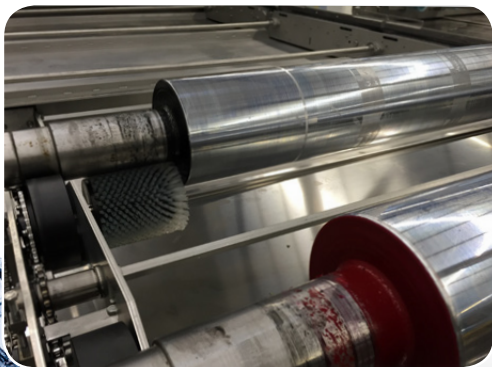
Fresh water is taken into the machine and discharged to the sewer.

Excess water is removed by a compressed air stream.

Unloading Station

When the cleaning cycle has ended the cylinders are automatically transported to the unloading station by the conveyer system.

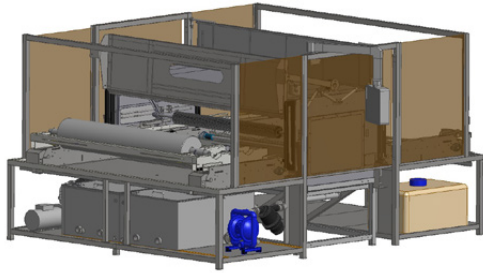
The carriage on the unloading station is moved back onto the trolley making it possible to transport the cylinders directly back to the printing press or storage.



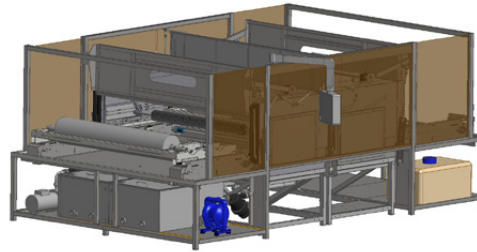
Build-a-Multi-Cylinder-Cleaner

Due to the modular construction of the Multi Cylinder Cleaner, the system can be configured according to your needs. Simply by adding an extra loading station, washing station, rinsing stations and/or unloading station the system is configured to your washing needs.

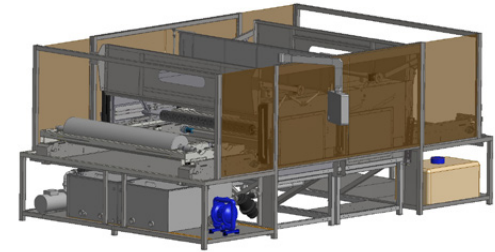
Load-Wash-Unload



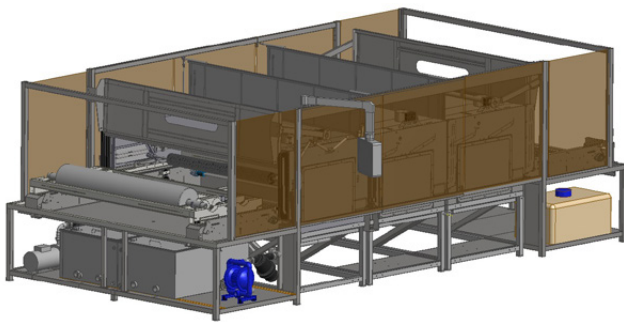
Load-Wash-Wash-Unload



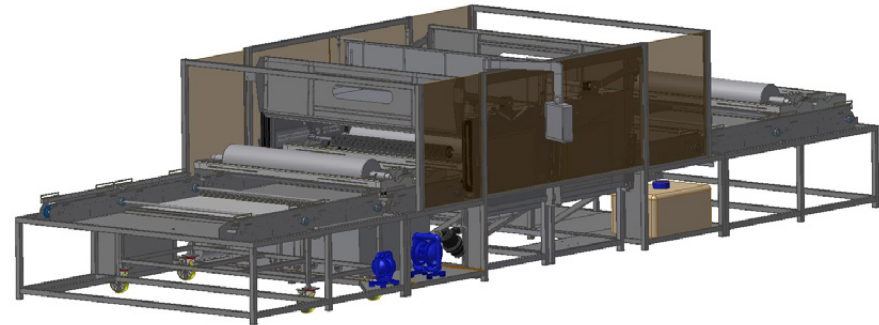
Load-Wash-Rinse-Unload



Load-Wash-Wash-Rinse-Unload



Load-Load-Load-Wash-Rinse-Unload-Unload-Unload



Gravure Cylinder Cleaner

For cleaning of cylinders with solvents, the Flexo Wash Gravure Cylinder Cleaner 2300 Atex is the solution.

The Gravure Cylinder Cleaner 2300 ATEX is made for cleaning of gravure cylinders. It is safe to use and gentle to the cylinders, meaning that you can clean the cylinders as often as needed. Constant and high quality print is only achieved if the cylinders are completely cleaned.

The system is based on solvents sprayed on the cylinder. The system is effective for all types of rotogravure cylinders. The cleaning process leaves the cylinders totally clean and ready for immediate re-use or storage. The cylinders are cleaned without causing any wear or tear.

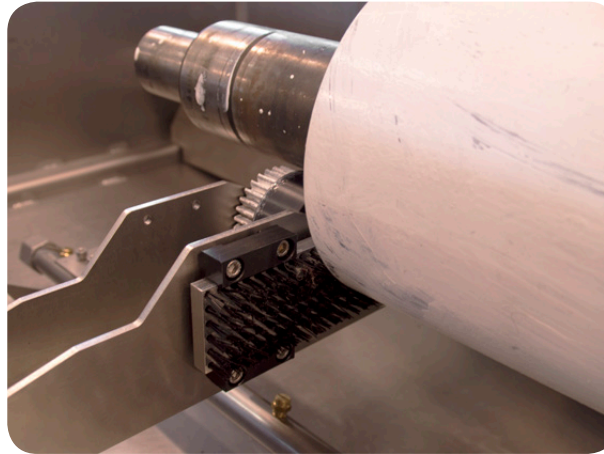
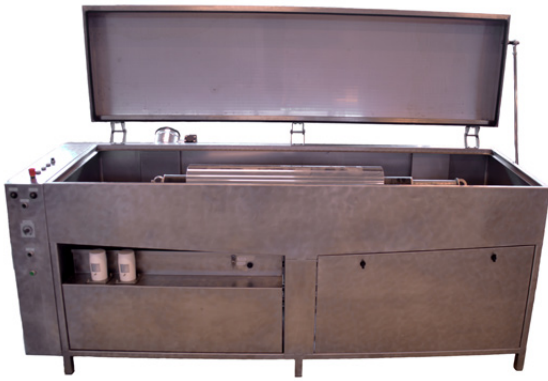
The Gravure Cylinder Cleaner 2300 Atex can be equipped with end face brushes, which can clean the end face of the cylinder. The brushes are slowly oscillating to remove the ink.

The Gravure Cylinder Cleaner will help you reduce manpower by cleaning the gravure cylinders in an effective way. The washing unit can clean both shafted and shaftless cylinders. The shaftless cylinders are mounted by using an adaptor. The washing process is 100% automatic.

The Gravure Cylinder Cleaner can be made for either cleaning of one or two gravure cylinders.



Specifications



| Gravure Cylinder Cleaner Model | GCC 2300 ATEX | GCC 2300-2 ATEX |
|--|-----------------------|-----------------------|
| Max. total cylinder length (incl. shaft) | 2300 mm | 2300 mm |
| Max. face length | 1400 mm | 1400 mm |
| Max. repeat length | 1130 mm | 1130 mm |
| Min. repeat length (other on demand) | 360 mm | 360 mm |
| Max. weight of cylinder in kg | 200 kg | 200 kg |
| Machine dimensions (L x W x H)* | 2853 x 1013 x 1950 mm | 2853 x 1513 x 1950 mm |
| Tank capacity | 150 litres | 150 litres |
| Compressed air | 6-7 bar, 1500 l/min | 6-7 bar, 1500 l/min |

* Height with lid open.



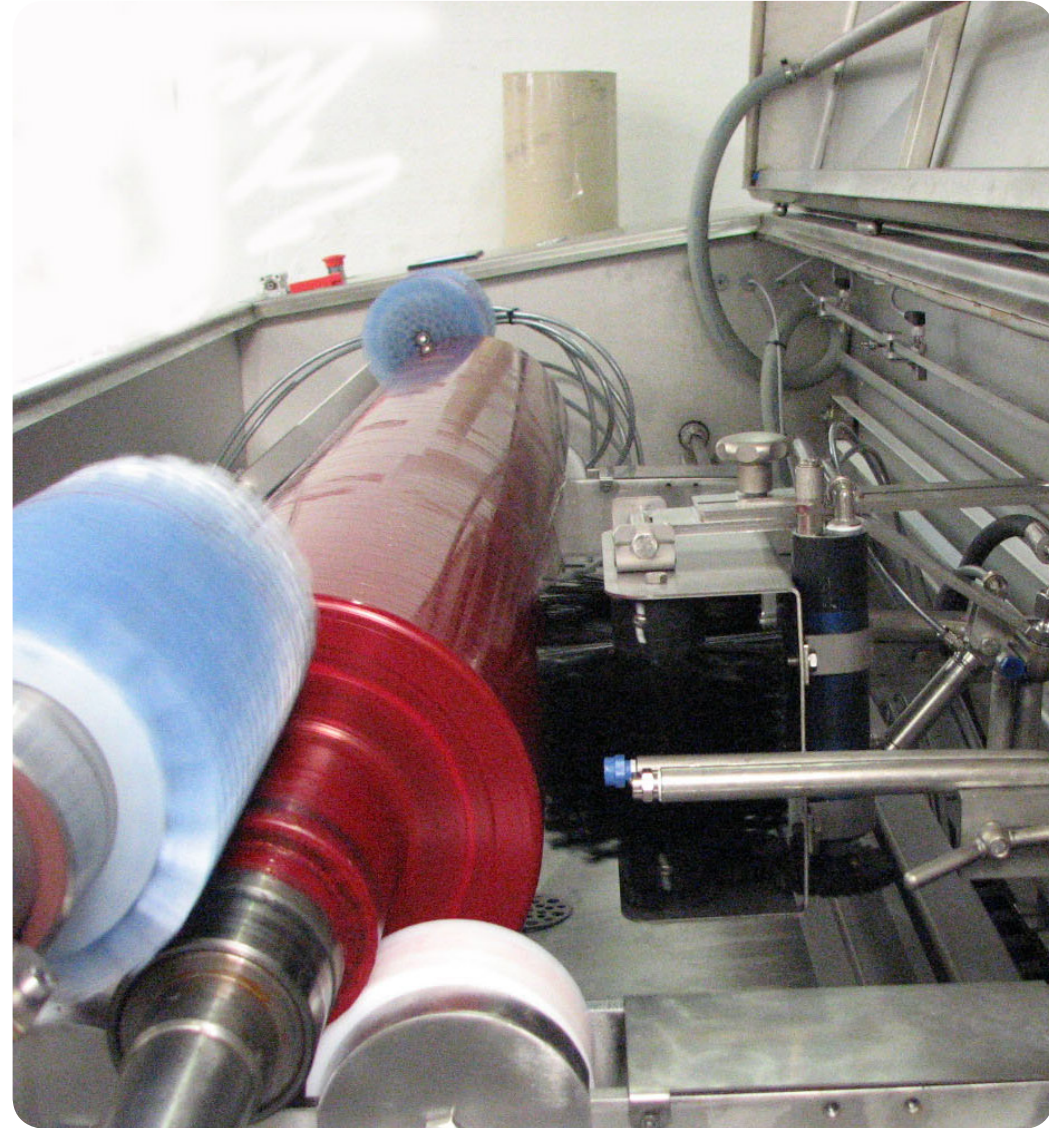
FW Cylinder Cleaning

For deep cleaning of rotogravure cylinders by using eco friendly cleaning liquids the FW Cylinder Cleaning is the solution.

The fully automatic FW Cylinder Cleaners are designed to deep clean rotogravure cylinders of all sizes. The system is based on liquid and high-pressure water. The system is effective for all types of rotogravure cylinders. The quick and gentle cleaning process is a wash, rinse and dry cycle, which leaves the cylinders totally clean and ready for immediate re-use or storage after just 10-20 minutes cleaning without causing any wear or tear.

The FW Cylinder Cleaner can be equipped with traversing rotating brushes for the surface and rotating brushes for cleaning of the gravure cylinder ends. The cleaning time and efficiency is greatly improved with brushes when cleaning off inks that are not easily washed away. The brushes rotate and move from side to side during cleaning process.

All this makes it possible to keep your cylinders totally clean at all times ensuring a high and consistent print quality and a long lifetime of the cylinders.



Eco-friendly Cleaning:

The FW Cylinder Cleaners work with environmentally friendly cleaning liquid, which is specially made for deep cleaning of cylinders with all types of ink.

Flexo Wash offers a large selection of specially made cleaning liquids to handle all cleaning jobs, no matter if you use special inks, glue, varnish, lacquer etc. The special combination of the right cleaning liquid and the high-pressure water will ensure a perfect cleaning result.

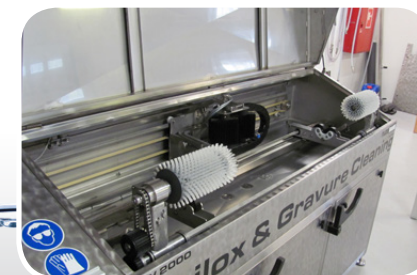
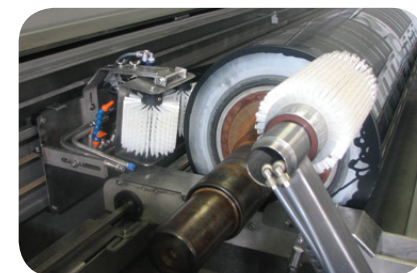
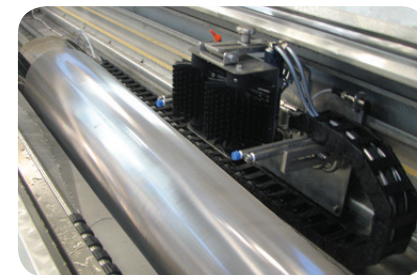
Options and Accessories:

- Cleaning of 2 cylinders.
- Traversing rotating brushes for Cylinder surface.
- Rotating brushes for cleaning of gravure cylinder ends.
- Adaptor for shaftless cylinders.
- Double tank system for 2nd cleaning liquid.
- Drainage tank for re-use of rinse water.
- Automatic liquid filling system.
- Servo driven traction system.

| FW Cylinder Cleaner | FW 3000 XL | FW 3500 XL | FW 4000 XL | FW 4500 XL |
|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Max Diameter | 450 mm | 450 mm | 450 mm | 450 mm |
| Max Length incl Shaft | 2800 mm/(2400 mm)** | 3300 mm/(2900 mm)** | 3800 mm/(3400 mm)** | 4300 mm/(3900 mm)** |
| Max Cleaning Length | 2400 mm/(2000 mm)** | 2900 mm/(2500 mm)** | 3400 mm/(3000 mm)** | 3900 mm/(3500 mm)** |
| Max Weight | 1000 kg | 1000 kg | 1000 kg | 1000 kg |
| Number of Rolls | 1 | 1 | 1 | 1 |
| Machine Dimensions (LxWxH)* | 3500 x 1200 x 2150 mm | 4000 x 1200 x 2150 mm | 4500 x 1200 x 2150 mm | 5000 x 1200 x 2150 mm |
| Power Supply | 3x400V+N+PE, 50 Hz, 35 Amp | 3x400V+N+PE, 50 Hz, 35 Amp | 3x400V+N+PE, 50 Hz, 35 Amp | 3x400V+N+PE, 50 Hz, 35 Amp |
| Compressed Air | 6 Bar, 350L/min | 6 Bar, 350L/min | 6 Bar, 350L/min | 6 Bar, 350L/min |
| Control System | PLC | PLC | PLC | PLC |

* Height with lid open

** Length in parenthesis are if the FW Cylinder Cleaner is equipped with rotating end brushes





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