GRAVURE INDUSTRY

Cleaning solutions

CYLINDERS
PARTS
DISTILLERS
LIQUIDS

FLEXO WASH
Leading Cleaning Solutions

ABOUT US

Improving print quality worldwide

Flexo Wash is a leading cleaning solutions company specialized in cleaning equipment and eco-friendly cleaning liquids for the flexographic and converting industry.

We offer innovative and high-quality cleaning solutions to satisfy the individual needs of printers worldwide. Through our solutions, we ensure consistent print quality and high productivity with a focus on safe working conditions and sustainability.

With more than 30 years of developing innovative cleaning technology, we cover all types of cleaning machines for both solvent and non-solvent cleaning liquids – and also laser cleaning systems as a waste-free alternative.

Our journey began with a simple idea, born out of the daily challenges faced by printers, and it has evolved into a company with core values of innovation, flexibility, trust and sustainability.

That is why we say that our products are ***made by printers for printers.***

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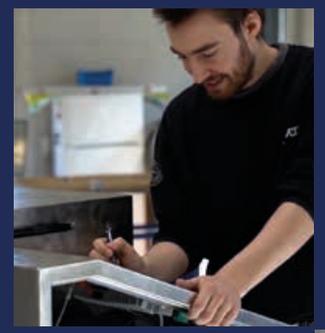
+30
years of innovation

+80
cleaning solutions

+100
different countries

+6000
installations worldwide

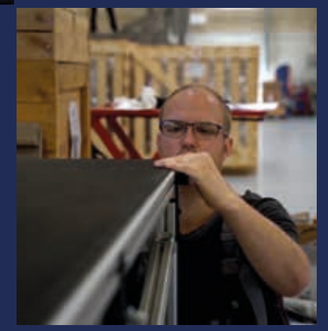


Innovation

Flexibility

Sustainability

Trust



Being flexible, being innovative, being creative, taking care of the environment, and making sure that our customers can profit from our products. To be a trusted partner and a great place to work. That's the Flexo Wash DNA.

Anders Kongstad, CEO

Global service network

We will keep you running!

Our highly qualified team of service engineers is ready to help you with troubleshooting, service hacks, spare parts orders, maintenance, and installation of your Flexo Wash cleaning equipment. All to keep you running as effectively as possible and eliminate your downtime.

We travel the world to perform world-class service in more than 100 countries - but are also available for virtual installations, troubleshooting and guidance. Our cleaning equipment is an integral and important part of the optimum production workflow.

Re-order in our B2B webshop

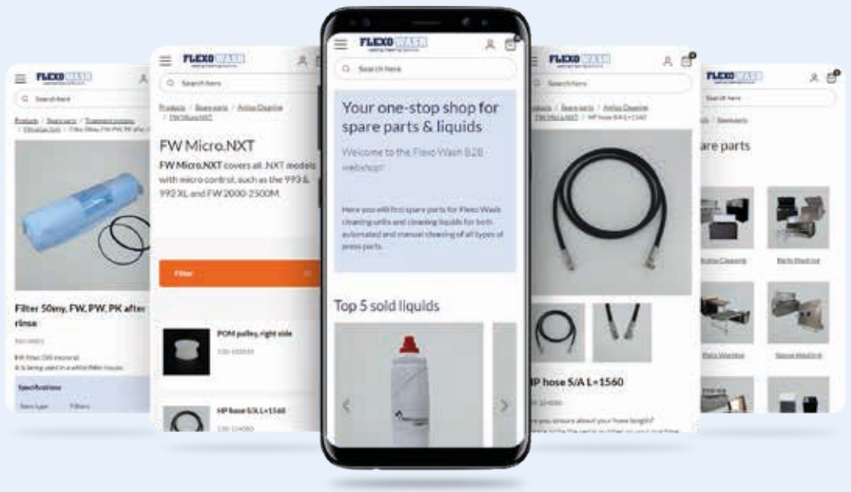
Your one-stop-shop for spare parts & liquids

- Personalized experience
- Faster check-out
- Easy re-order

To avoid running out, make sure to re-order your spare parts, filters & cleaning liquids quickly & easily in our B2B webshop.

Visit the shop at shop.flexowash.com or simply scan the QR-code →

shop.flexowash.com



CleanLink

- to your cleaning unit

- Remote service
- Real-time data
- Webshop access
- Operator app

Get access to real-time data and the status of the machine, all at your fingertips! Whether you're on the go or in the office, you can monitor the performance of your cleaning unit and make adjustments as needed.
No more guessing or wondering if your machine is working properly - the CleanLink system gives you the peace of mind you need to focus on other important tasks. Plus, with remote service capabilities, you can have any issues addressed quickly and efficiently.

Read more at flexowash.com/cleanlink or simply scan the QR-code →

flexowash.com/cleanlink

CleanSolutions

Sustainable cleaning solutions for all needs

- Specially designed to be used in FW cleaning units and ensure a long lifetime of your machines.
- Developed by cleaning experts with a focus on cleaning any type of ink or part without causing damage.
- Tailormade liquids for your specific needs.

Sustainable

Solvent-free
Free of metals
Minimal impact on environment

Certified

ROHS
ISEGA
REACH

Customized

VOC-free liquids
Premixed liquids
Special requirements

One-stop-shop

Full portfolio
Tailormade liquids
On stock worldwide

With CleanSolutions we strive to create a one-stop-shop having more than 100 different high-quality liquids for various purposes. Automatic cleaning equipment is only as good as the liquid you use, which is why we do not compromise the quality, durability, and sustainability of our cleaning liquids.

Shop all CleanSolutions liquids on the Flexo Wash B2B Webshop!

shop.flexowash.com

Developed to ensure high print quality

The Flexo Wash CleanSolutions liquids are of high durability and formulated for easy handling, trouble-free operation, and long service intervals. This makes sustainable cleaning liquids an affordable alternative to solvents, thus providing a safer cleaning of press parts and a cleaner environment.

The Flexo Wash cleaning systems are built to clean with sustainable cleaning solutions and to consume as little cleaning liquid as possible. In all our machines the liquid is always filtrated and recirculated to be reused.

The solutions are developed to meet today's demands of high print quality and productivity. To obtain this if you make sure that your aniloxes, printing plates, and other press parts are kept clean.

Minimal impact on environment

Flexo Wash continues to develop cleaning solutions with a focus on minimizing the environmental impact and you will find both low VOC and VOC-free cleaning solutions in the Flexo Wash product portfolio as well as food packaging-compliant solutions certified by ISEGA.

We also offer cleaning solutions with low COD (chemical oxygen demand), which reduces the oxygen demand for wastewater.

Specific inks require specific solutions

You need to use the right cleaning liquid, for the specific type of ink, in your cleaning machine to get the optimal cleaning results.

Among our wide portfolio of cleaning liquids you will find solutions suitable for cleaning all types of press parts and inks in both Flexo Wash and non-Flexo Wash cleaning systems.

We are always ready to guide you towards the best cleaning solution for you and your needs.

Cylinder Cleaning

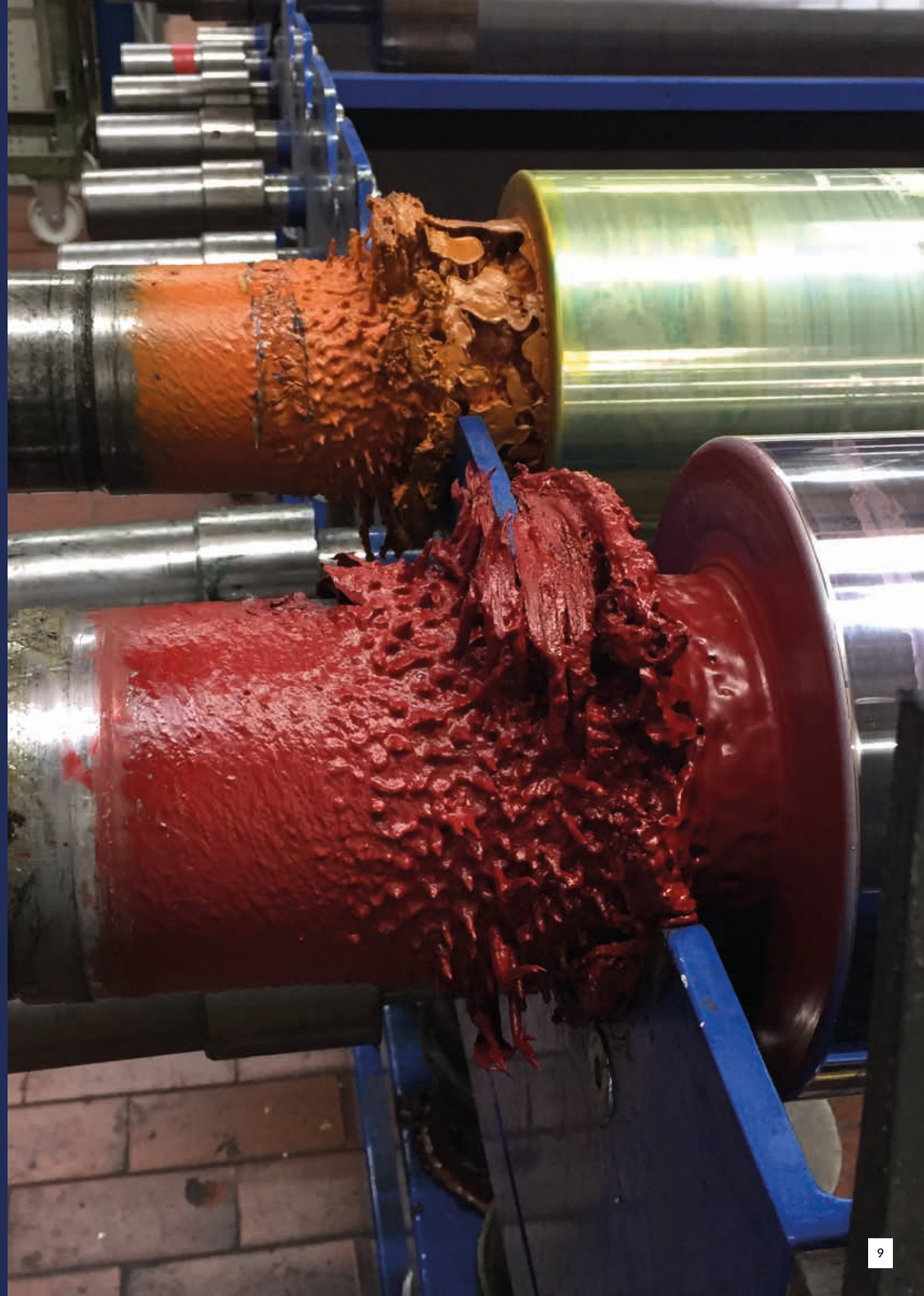
The demand for clean cylinders and time-saving solutions is a constant battle for the gravure industry. The need to clean cylinders effectively and correctly is essential to survive in our competitive world. Optimizing your operation flows and internal logistics is critical to ensure high-quality print with minimal downtime. If you want to excel, you need to have the right procedures and equipment in place.

We provide two categories of cylinder cleaners:

- Single/double cylinder cleaning for cleaning of less than 60 cylinders per day
- Multiple cylinder cleaning for cleaning of more than 60 cylinders per day

Our Solution

- Designed to clean rotogravure cylinders of all sizes
- Rotating brushes for cleaning of gravure cylinder ends and shafts
- Quick and gentle cleaning process, wash, rinse, and dry cycle
- Automatic liquid filling & emptying system



Single/double Cylinder Cleaning

The Flexo Wash Way

The hard rotating and oscillating brushes will remove all ink from the shaft and the end of the cylinder making it clean on all surfaces. The cylinder can then be taken to production, storage, or re-chroming without any manual treatment or extra cost.
The FW Cylinder Cleaners work with environmentally friendly cleaning liquid, which is specially made for cleaning of cylinders with all ink types. The water from the high-pressure rinse is automatically led directly either to the drain, (depending on local legislations) or to one of our system for reuse of water.

Washing

The cleaning liquid facilitates easy removal of the ink from the gravure cylinder. Average washing time is 5-10 minutes.

Draining

After the washing cycle the liquid is drained back to the wash tank for reuse. Drain time is 2-3 minutes.

Rinsing

High-pressure 120 bar adjustable nozzles complete the cleaning process and removes any remaining ink particles and cleaning liquid.

Drying

High-pressure air drying completes the cleaning process leaving the anilox ready for immediate use or storage. Duration is 1-3 minutes, depending on cylinder length (FW Gravure units only).

Re-use

The water from the high-pressure rinse can automatically be led to a tank for re-use, or to one of our water reuse units (FW Gravure units only).

Case Story

What is the secret to long-term success with a Flexo Wash cleaning machine? For Interprint it was pairing a high-quality cleaning system with a consistent preventive maintenance program and dedicated employees.

Interprint operates in the decorative gravure business where they develop and print designs used in the laminate decorative surface category for products such as flooring countertops, cabinetry, furniture etc. Their print surfaces resemble wood, marble, stone, and granite, just to name a few. In 2008, Interprint transitioned to in-house laser engraving of gravure cylinders to support their internal design development. This process uses zinc as the engraving medium. The zinc is galvanically plated directly over a copper base then laser engraved, cleaned, polished and a final layer of chrome is plated over the zinc to seal the porosity and provide a durable exterior for printing.

Todd Luman, Laser Engraving Manager at Interprint, recommended they try a Flexo Wash Gravure Cylinder Cleaner. He states that:

"We gravitated toward the Flexo Wash system primarily for its minimal impact on the cylinder surface, meaning the system is less invasive to the cells (engraving structure) while cleaning compared to other systems we have used in the past.

Todd Luman continues by saying how important having a low VOC cleaner liquid was for Interprint:

"We liked the fact we could use an environmentally safe low VOC cleaner to effectively clean the water-based ink on our cylinders. We run a few different low VOC water-based ink systems that are designed to set at low temperatures and cure fast. When we wash-up in the press we don't get all the ink out of the cells and require an off-press cleaning system like the Flexo Wash system."

After some deliberation and research into the market Todd Luman got in touch with Flexo Wash who set up a demo unit on-site at Interprint. Luman said:

"A demo Flexo Wash system was brought in and tested on several cylinders that were severely plugged. The results speak for themselves obviously as we proceeded to purchase the system in 2008, because the cleaning was safe and effective."

Interprint has kept the machine running and cleaning for 14 years. Todd Luman shared what the secret was to long-term success with this cleaner?

"No secret really, just good old-school mentality of scheduling your machinery for maintenance before your machine schedules it for you. The system has lasted due to our preventative maintenance program and a dedicated group of individuals (operators) who take pride in their work environment and respect the equipment they use."

Every other month all the sprockets, shafts, chains, and rollers in the drive system are inspected for wear and replaced as needed. Additionally, the in-line oilers are inspected and refilled a task that doesn't require much time.

Liquid to clean the cylinders is added as needed when the machine tells us to the holding tank. Twice a year, the holding tank is emptied, and the sludge is removed, a fresh bath is made at this time.

Todd Luman: "*This does not mean we have not had premature equipment failures. This happens, things break. However, I would contribute a fair amount of this due to the additional demand we put on the machine. Our equipment was designed and specked out to clean 1/3 the number of cylinders we are processing through the system (a lot of additional wear and tear, it may also be of interest to mention the size of our cylinders, which range in weight from 226 kg - 1000 kg - up to 2 meters wide - 1450mm diameter). We can deep clean them with the Flexo Wash unit it takes about a 15–20-minute per cycle time for our biggest cylinders, but we are not damaging the cylinders which is a savings us a lot of money."*

Todd Luman continues: "*This does not mean we couldn't use a harsher chemical and crank up the heat during the cleaning cycle to increase the speed of the cleaning process. However, the end goal is not to damage the cylinders. And 15-20 minutes is still fast cleaning, then we are okay with this.*

We need an effective, environmentally safe, low VOC cleaner, and will pay a bit more to be sure we get the results we desire. "

As their business grows, Interprint will require additional cylinder cleaning equipment in the future:

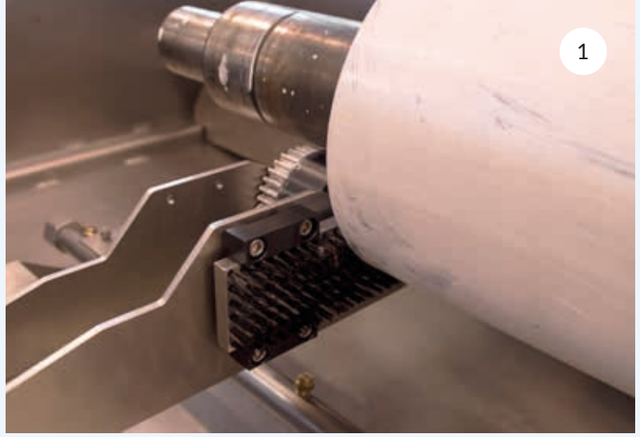
"A few things we take into consideration that weighs strongly on the final investment decision outside of the obvious (performance and price to a certain extent) has to do with the type of technical support/service provided by the manufacturer. The technical support, plus the responsiveness and willingness to listen to our concerns provided by Flexo Wash has been outstanding over the last 14 years which reassures us that Flexo Wash is a company that stands behind their product and will support their customer's needs." says Todd Luman.

"...with the Flexo Wash unit it takes about a 15–20-minute per cycle time for our biggest cylinders, but we are not damaging the cylinders which is a savings us a lot of money."

Single/double Cylinder Cleaning

Quick & easy washing process

The fully automatic gravure cylinder cleaners are designed to clean gravure cylinders of all sizes. Rotating and oscillating brushes will remove excess ink from the shaft and end of the cylinder making it clean on all surfaces. A traversing surface brush will clean the cylinder face. Flexo Wash can supply systems for cleaning with either liquids or solvents.



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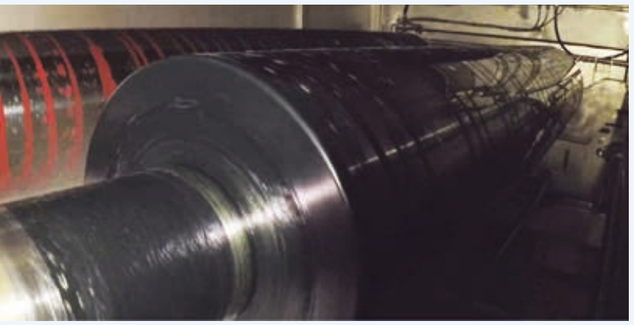

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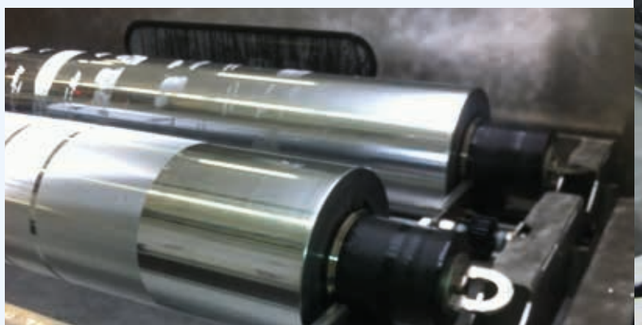
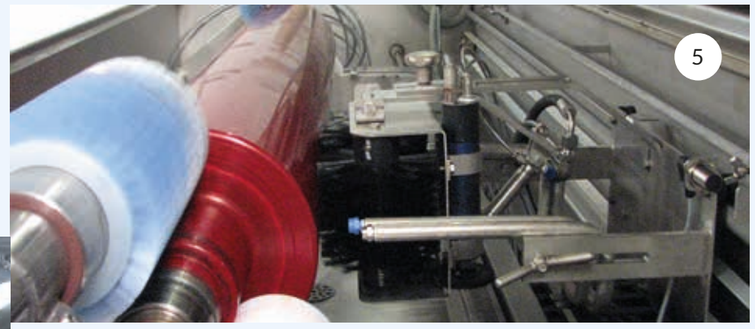
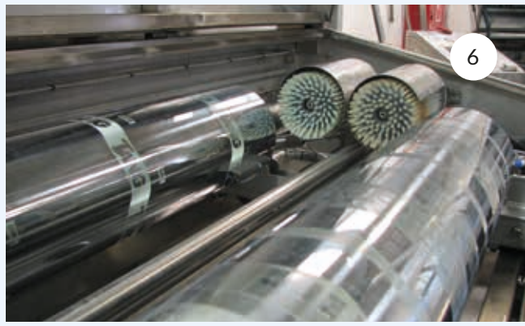
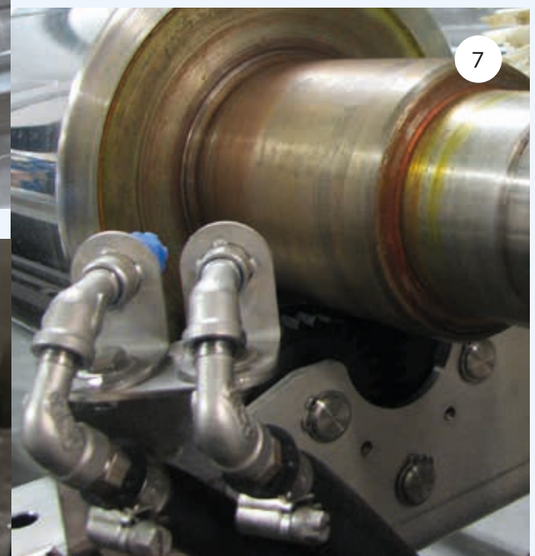








1. The black square brush cleans the end face of the cylinder. The end face brush is slowly oscillating to remove all ink particles (GCC ATEX unit).
2. The adjustable water nozzles completes the cleaning cycle with a high-pressure rinse at 120 bar (FW Gravure units).
3. The GCC unit cleans with the use of solvents and is EEX-proof according to the ATEX standard.
4. The surface of the cylinder is dried up by an air stream leaving them ready for immediate use.
5. The rotating end brush and traversing surface brush run simultaneously during the wash cycle cleaning all angles of the cylinder at once (FW Gravure units).
6. Clean up to 2 cylinders at a time in the washing unit.
7. Additional nozzles can be placed to spray at the roll ends and shaft for cleaning heavy ink layers (optional).

Single/double Cylinder Cleaning

Which machine should I choose?

The Flexo Wash Cylinder Cleaners comes in many different models, which can each be modified by combining the standard unit with one or more of the various models.

FW Gravure Series

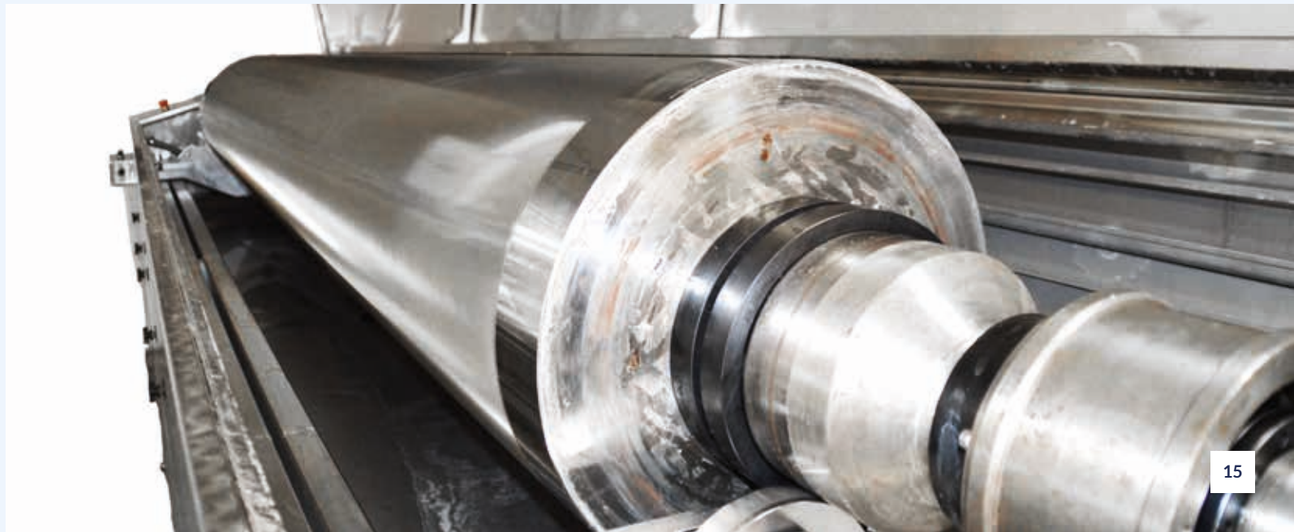
The FW series is now available as .NXT units, which ensures easy handling and a sustainable solution. The FW Cylinder Cleaners are designed to clean large and heavy cylinders and are all equipped with a PLC control, which enables easy change of the various program settings, such a wash time etc.

GCC ATEX series

The ATEX-approved Gravure Cylinder Cleaner is made for cleaning of gravure cylinders with solvents. It is safe to use and gentle on the cylinders, meaning you clean them as often as needed. The system if effective for all types of rotogravure cylinders.

	Cylinders per wash	Max. diameter	Max. cleaning length	Max. cylinder length**	Max. weight total
FW 3000.NXT	1-2*	300 mm *(11.8")*	2400 mm *(94.5")*	2800 mm *(110.2")*	600 kg *(1323 lbs)*/ 800 kg *(1764 lbs)****
FW 3000-2.NXT	2-4**	300 mm *(11.8")*	2400 mm *(94.5")*	2800 mm *(110.2")*	600 kg *(1323 lbs)*
FW 3500.NXT	1-2*	300 mm *(11.8")*	2900 mm *(114.2")*	3300 mm *(129.9")*	600 kg *(1323 lbs)*/ 800 kg *(1764 lbs)****
FW 4000.NXT	1-2*	300 mm *(11.8")*	3400 mm *(133.9")*	3800 mm *(149.6")*	600 kg *(1323 lbs)*/ 800 kg *(1764 lbs)****
FW 4500.NXT	1-2*	300 mm *(11.8")*	3900 mm *(153.5")*	4300 mm *(169.3")*	600 kg *(1323 lbs)*/ 800 kg *(1764 lbs)****
FW 3000 XL.NXT	1-2*	450 mm *(17.7")*	2400 mm *(94.5")*	2800 mm *(110.2")*	800 kg *(1764 lbs)*/ 1500 kg *(3307 lbs)****
FW 3500 XL.NXT	1-2*	450 mm *(17.7")*	2900 mm *(114.2")*	3300 mm *(129.9")*	800 kg *(1764 lbs)*/ 1500 kg *(3307 lbs)****
FW 4000 XL.NXT	1-2*	450 mm *(17.7")*	3400 mm *(133.9")*	3800 mm *(149.6")*	800 kg *(1764 lbs)*/ 1500 kg *(3307 lbs)****
FW 4500 XL.NXT	1-2*	450 mm *(17.7")*	3900 mm *(153.5")*	4300 mm *(169.3")*	800 kg *(1764 lbs)*/ 1500 kg *(3307 lbs)****
GCC 2300-1 ATEX	1	360 mm *(14.2")*	1400 mm *(55.1")*	2300 mm *(90.6")*	200 kg *(440 lbs)*
GCC 2300-2 ATEX	2	360 mm *(14.2")*	1400 mm *(55.1")*	2300 mm *(90.6")*	2 x 200 kg *(2 x 440 lbs)*

** Cleans highest number of cylinders only with option (reduces cleaning length).*
***Including shafts.*
**** Requires option.*



Multi Cylinder Cleaning

The Flexo Wash Way

The demand for clean cylinders and automated time saving solutions is a constant battle for the print industry. With the MCC system it has never been easier. Using a solvent-free system, the Multi Cylinder Cleaner cleans and rinses cylinders, representing a more economical yet sustainable cleaning solution for cleaning of 60-400 cylinders per day.

Inlet

Depending on the configuration you can place an entire print job at the inlet section. When the start button is pressed, the cylinders are automatically loaded into the machine by the automatic conveyer system and the doors close to separate the outside environment from the washing area.

Washing

Each washing station has capacity for two cylinders and consists of pump, filter, brushes, and tanks depending on the function and configuration. While the washing of the first cylinders is taking place, additional cylinders can be loaded onto the machine's inlet section.

Rinsing

The cylinders are rinsed with water at a high-pressure. The high-pressure rinse nozzles move along the cylinders during the rinse. After rinsing an airstream removes excess water.

Outlet

When the cleaning cycle has ended, the cylinders are automatically transported to the outlet section by the conveyer system.

Case Story

Solvent free cleaning improves working environment at the Austrian based Mondi Korneuburg. The company is part of the international packaging and paper Group Mondi.

Mondi Korneuburg decided to move away from cleaning cylinders with solvents to instead cleaning them with a solvent free liquid. They had for years been cleaning cylinders in a machine that required manual cleaning.

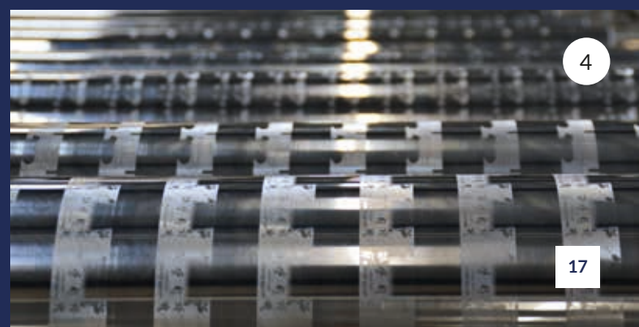
"We didn't realise there was such a great alternative available," says Tarik Aslan, Technical Manager at Mondi Korneuburg.

Mondi is focused on the well-being of its employees: "Our people really matter and providing the best possible working conditions certainly improves this," says Mr. Aslan who continues:

"Since installing the Multi Cylinder Cleaner, we've measured less solvent in the working environment. Another benefit of purchasing a non-solvent system is that we could simply place the machine next to our press rather than needing to invest in a new ATEX room."

"Since installing the Multi Cylinder Cleaner, we've measured less solvent in the working environment. Another benefit of purchasing a non-solvent system is that we could simply place the machine next to our press rather than needing to invest in a new ATEX room"

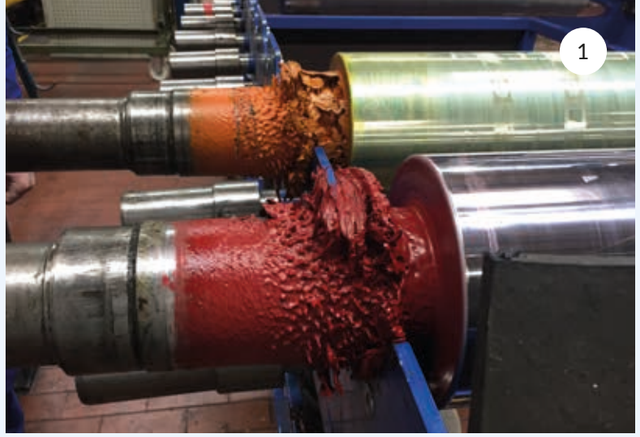
1: Inlet, 2: Washing, 3: Rinsing, 4: Outlet

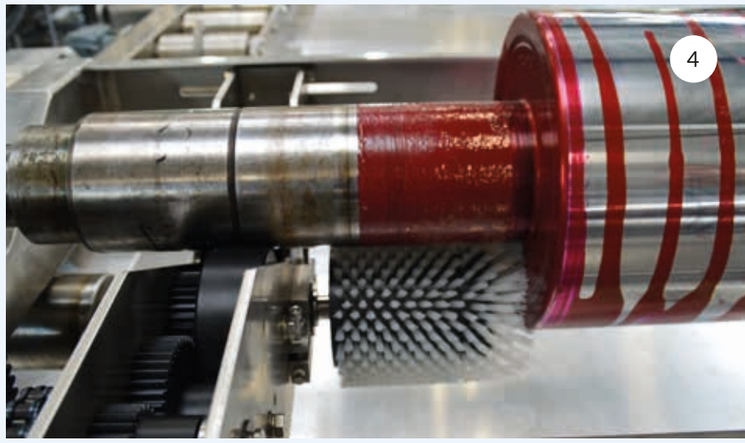


Multi Cylinder Cleaning

Quick & gentle washing process

The MCC unit cleans by using eco-friendly cleaning liquid, afterwards rinsing the cylinders with water at high-pressure and finally an air stream removes excess water.
The cylinders can be transported from the printing machine on a special designed trolley with a cylinder carriage. The carriage is loaded from the trolley into the loading station and automatically transported through the cleaning process.





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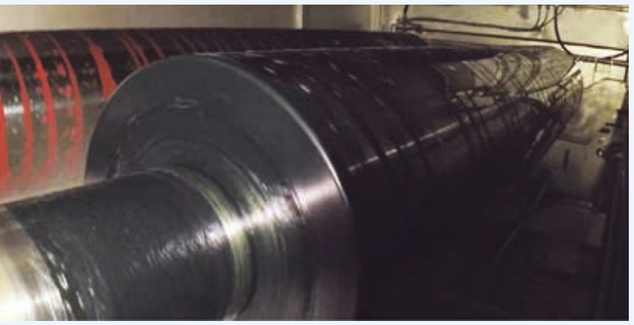

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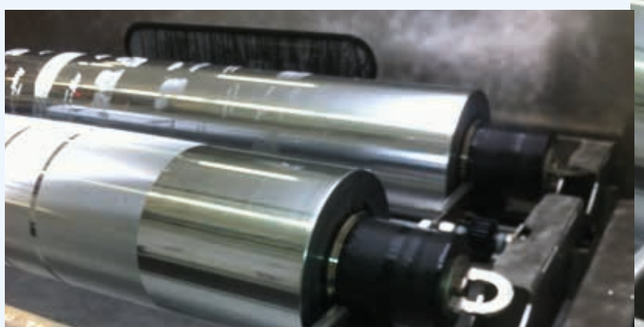


1. Heavy ink built-up at the end face of the cylinder shafts is a difficult cleaning task. With automated cleaning in the MCC unit, the rotating end face brushes eliminate all ink residues during the wash cycle.
2. The conveyer belt automatically transports the cylinder carrier into the washroom.
3. Take your handling to the next level by adding a logistic system to the Multi Cylinder Cleaner.
4. The specially made end face brushes are mounted on the frame and are designed to clean both the end face as well as the shaft.
5. The high-pressure water nozzles are placed on a traversing arm moving from one end of the cylinder to the other rinsing the surface, ends and shafts completely from both cleaning liquid and ink particles.
6. Inside the cleaning unit, the full-length surface brush cleans the surface of the cylinder completely clean from all ink residues.
7. For shaftless cylinders, we have designed a safe and easy-to-handle adaptor.

Build your own Multi Cylinder Cleaner

Your needs - your own configuration

The Multi Cylinder Cleaner is designed to clean a larger number of rotogravure cylinders and it is built after a modular concept in separate sections. Due to this modular construction, the system can be configured according to your needs. This gives you the possibility to create the configuration best fitting your needs. Below you will find examples of different configurations for inspirational purposes only - your individual configuration depends on various factors like cleaning volume, handling and level of automatization.

MCC 2-STAGE WR
1 washing station, 1 rinse and drying station
8-12 cylinders per hour

MCC 3-STAGE WWR
2 washing stations, 1 rinse and drying station
16-22 cylinders per hour

MCC 2-STAGE WR with extra buffer sections
1 washing station, 1 rinse & drying station and 2 extra buffer sections.
8-12 cylinders per hour

Logistic system for cylinder handling

Take your handling to the next level

Combining the MCC with a logistic system creates a loop system making it possible to load a full job of 12 or more cylinders, thus ensuring a continuous flow of cylinders through the cleaning process.

1: Loading
The dirty cylinders are placed on the cylinder carriages of the logistic system.

2: Inlet
A carriage with two cylinders is moved from the logistic system to the inlet section.

3: Conveyor
A conveyor system moves the carriages from inlet to wash, rinse, and outlet sections and hereafter to rinse section and the outlet.

4: Outlet
At the outlet a transfer car moves the carriages with cleaned cylinders from the outlet section to the logistic system where they are unloaded.

Parts Washing

Press parts can be tricky to clean. There are three different automatic cleaning methods and what works best for your printing business depends heavily on your workflow and types of ink you use. Here is how you decide between cleaning with solvents, cleaning with non-flammable liquids and cleaning with alkaline liquids.

Our Solution

- Custom-built system enabling focused cleaning of challenging areas
- Fully automatic cleaning closed-loop process
- Ergonomically friendly grids and trolleys
- Clean all press parts in one single machine
- Low operation costs and environmentally friendly cleaning

Parts Washing

The Flexo Wash Way

The Parts Washers from Flexo Wash have a wash and rinse system with two separate tanks (or one tank and one open-rinse). This offers an automatic two-stage cleaning process, where the first stage is for cleaning and the second stage is for rinsing.
The parts are cleaned by various high-pressure nozzles, spraying, cleaning, and rinse liquid from below and above.

Washing

The parts are placed in the holders/ grids in the machine and the lid is closed by a two-hand control. Activate the washing process by pressing START.

Draining

The draining takes approx. 5 minutes and is designed to ensure that as much liquid as possible comes back through an automatic drain valve to the tank to be reused.

Rinsing

The parts are rinsed leaving them ready for immediate use.

Re-use

The cleaning liquid is filtrated and recirculated to be reused to to minimize liquid consumption.

Case Story

There is only one word to describe Franklin Web's plant, 'enormous!' The Australian company is spread across 100,000 square metres of factory space in Sunshine, Victoria, made up of six buildings, covering a site of some 40 acres. But back in 1935 when Len Taylor opened his print shop in Franklin Street, Sunshine, it wasn't that way.

Taylor started his company in a business climate that was still feeling the pain of the Great Depression. Through hard work and a dedication to quality and service, Franklin Web attracted and retained customers, and one of his sons, Phillip undertook a lithographic printing apprenticeship to become the right-hand-man of the business.

But it was in 1980 that business really kicked off with the installation of a Toshiba 16pp web press, and today, Franklin Web is one of the major suppliers of catalogues to Australian retailers, and a huge percentage of its production makes up the 8 billion catalogues that are distributed every year to Australian letterboxes.

The company has continued to grow and now has some of the most impressive presses in the country. "As a printer, we're constantly looking at ways to optimise performance on our presses," said Taylor. "We aim for 80% utilisation at 80% of top speed, and to achieve that we need to prevent ink build-up on the guards, which really affects uptime."

Another major problem on the presses was the formation of ink droplets, which at running speeds of 15 m/sec can cause the web to break. With four printing units running 24/7 this can involve substantial downtime. On analysis, Franklin Web found that 50 % of its stoppages were due to ink droplets and also took the initiative of investing in a second set of guards that are changed every week.

The whole project began to take shape when Franklin Web's Business Service Manager, Bill Van Den Dungen, contacted Flexo Wash's Australasian agent Ruvan Weereratne of Jet Technologies. He explained: "Flexo Wash has been in press cleaning equipment since 1991 and manufactures a variety of models for anilox rolls, cylinders, sleeves, and ink trays." Knowing that the company's wide-web products could be customised to fit all parts from different press manufacturers, he invited Flexo Wash's Area Sales Manager, Mette Laursen, to visit the customer.

"While we make a range of different sizes, we felt Franklin required a larger than normal unit to allow it to handle any extra washing of parts that may be required in the future. After measuring the area and the number of guards on presses, we devised the right unit to suit Franklin's needs," she explained. The washing unit from Flexo Wash allows Franklin between 8-10 washes before having to change the exhausted wash fluid. It cleans finger guards and all the other parts that Franklin was previously cleaning by hand, in the preventive maintenance programme.

The Flexo Wash technology now automates the cleaning process and delivers substantial savings.

"Before we installed the Flexo Wash we were manually cleaning the guards and trays fitted on every machine during a routine shutdown. After investigation, we found the operators then had no real-time to spend setting the rollers in the roller train, which is what really was required of them," Business Service Manager Bill Van Den Dungen explains.

Terrific difference with great results

Concluding for Franklin Web, Owner Phillip Taylor commented:

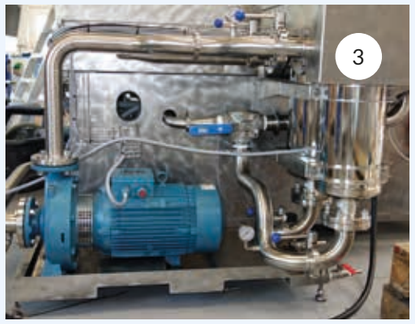
"The unit has made a terrific difference to the cleaning regime and has achieved great results. We work in an exciting and dynamic market, and even after 37 years I still get a buzz out of seeing catalogues streaming off the presses and being despatched all over Australia."

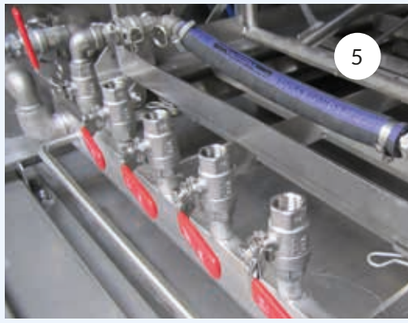
> *"Before we installed the Flexo Wash we were manually cleaning the guards and trays fitted on every machine during a routine shutdown."*

Parts Washing

How does it work?

The fully automatic washing units are designed for easy handling of press parts. It is possible to wash doctor blade chambers, 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.





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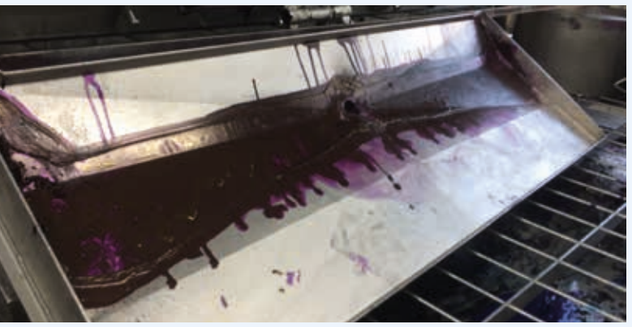

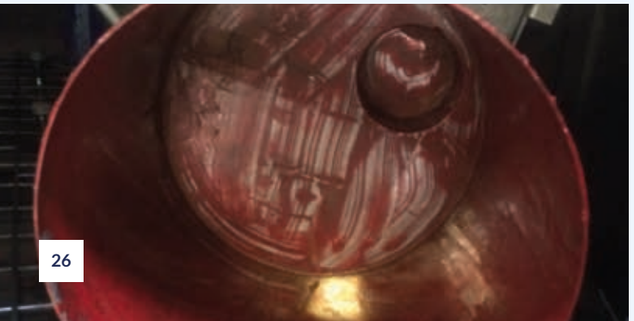

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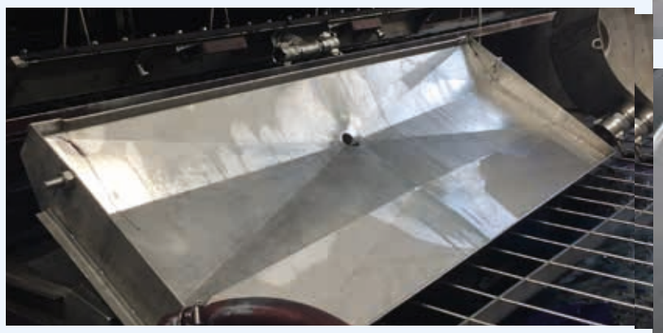
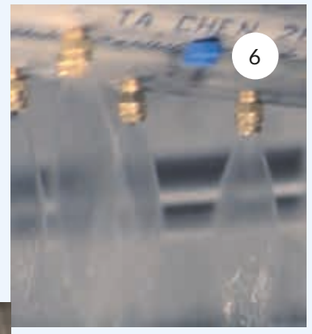
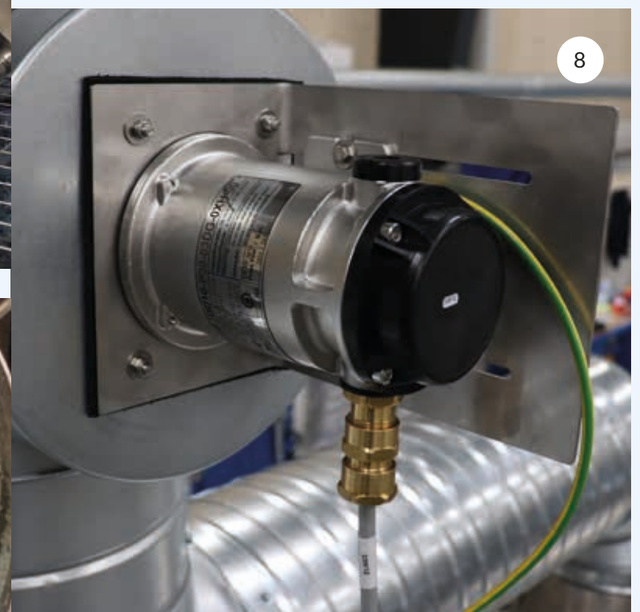






1. The trolleys with slide-in grids make it possible easily to transport the parts from the printing machine to the parts washer. This means less heavy lifting, easier handling, and more efficient processes.
2. High-performance rotating nozzles for bucket cleaning can be placed below the grid (optional). The bucket is placed upside down over the nozzle, which cleans the inside during the wash cycle.
3. The large pump ensures a consistent flow from the wash tank of liquid into the washroom during the cleaning cycle.
4. For washing of standard ink buckets, a rotating holder with brushes can be installed (optional). When placed on the holder the bucket is washed from the inside and outside at once.
5. The hose cleaning valves and quick connections make it possible to clean 2 or 4 hoses during the wash cycle (optional).
6. The wash and rinse nozzles are placed on a moveable spray bar, which moves from one side to the other when rinsing and washing the parts with high-pressure liquid.
7. The large stainless steel filter house is placed on the machine, easily accessible for maintenance and filter change.
8. When the washing machine is connected to exhaust, an air treatment system or an RTO, regulation of fresh air with solvent concentrated air is a necessity. With a LEL sensor and regulator, the solvent concentration in the air is monitored and kept at an acceptable level for the system.

Moving Nozzles

Save energy - choose moving nozzles

With fixed nozzles you typically see 4-5 times the number of nozzles in a machine compared to a machine with moving nozzles. More nozzles mean larger requirements on the power of the pump. Typically pumps in a cleaning machine with fixed nozzles would be 50-70% larger, however the larger pump does not compensate sufficiently, and the nozzles pressure is therefore lower than in a machine with moving nozzles. A larger pump in the cleaning machine with fixed nozzles consequently also consumes more energy when cleaning.

When it comes to moving nozzles the key factor that is going to give you all the advantages are the dynamic. Think of when you are washing your car, when you start spraying water onto it nothing happens until you start moving your spray. The same goes for the moving nozzles. The magic happens when you introduce movement to the liquid spraying.

As a printer you may have a lot of different parts, some of them with very specific cleaning challenges relating to dimensions and design. A custom built wash layout of the cleaning space in the cleaning machine where the nozzles are angled specifically for all surfaces on your parts ensure optimal cleaning, where the moving nozzles can really work their magic.

	Moving Nozzles	Fixed Nozzles
Nozzle Quantity	Machines with moving nozzles require a lower quantity of nozzles.	A larger number of nozzles are required to compensate for the lack of movement.
Nozzle pressure	Higher nozzle pressure due to better pump efficiency.	Lower nozzle pressure due to lack of pump efficiency.
Energy consumption	Moving nozzles result in better pump efficiency and lower energy consumption.	Larger requirements on the pumps result in higher energy consumption.
Cleaning Effectiveness	Effective cleaning with optimum utilization of solvents.	Risk of do-over jobs due to inconsistent cleaning results.
Operational Costs	Higher cleaning efficiency results in lower operational costs.	Higher energy consumption and do-over jobs mean higher operational costs.
Maintenance	Limited number of nozzles to clean and maintain.	Large number of nozzles to clean and maintain.

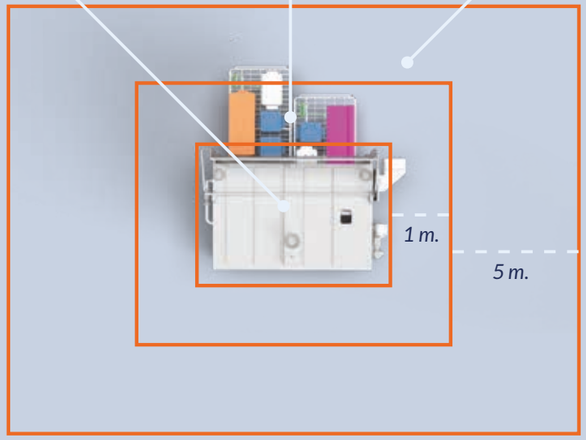
The ATEX Room

Certifications and requirements

Zone 0 = Category I
Explosive atmosphere is continuously present for long periods.
Inside the washing unit and tanks the unit will have ATEX zone 0

Zone 1 = Category II
Between 10 and 100 hours of explosive atmosphere per year.
Around the unit will be ATEX zone 1.

Zone 2 = Category III
Less than 10 hours of explosive atmosphere per year.
Zone 2 is often referred to as the remotely hazardous area.



ExVeritas

DANISH TECHNOLOGICAL INSTITUTE

Ex CE

How do I build an ATEX-room?

When deciding to implement an ATEX room, it's important to carefully consider key factors that ensure the room's safety and effectiveness in containing potentially explosive environments. Some of these considerations are:

1. Budget: ATEX rooms require costly specialized materials, ventilation, and safety gear for explosive atmospgeres.

2. Maintenance: ATEX rooms need ongoing maintenance to ensure safety measures, including ATEX-rated components.

3. Space limitations: Building an ATEX room can limit available space for other operations or processes due to its size.

Understanding these crucial factors provides comprehensive insights into the implications of implementing an ATEX room, facilitating informed and strategic planning for the establishment and maintenance of a safe and efficient working environment within the facility. If you are looking for ATEX-rated size reduction machines, we can provide you with options that meet the necessary requirements.

You can read more about our parts washer to look for other alternatives that comply with ATEX requirements.

After considering the above, we provide an inclusive 8-step guide to help you comprehend the fundamental requirements for setting up an ATEX room. Establishing an ATEX room involves considering various key factors, such as ATEX ventilation and ATEX-rated size reduction machines, to ensure the safety of both personnel and equipment within the designated area.

Parts Washing

Different needs, different techniques

Different needs require different techniques. Therefore, the Flexo Wash EasyLoad, and FrontLoad parts washers can all be built to clean with solvents, alkaline liquids, or eco-friendly cleaning liquids and distillable eco-friendly liquids.

All methods give excellent cleaning results and will reduce downtime and ease the handling of parts cleaning. But which is the best solution for you and your needs?

Follow the question guide on the next page to see which system might be the right choice for you.

Benefits of cleaning with ...

Non-flamable liquids

- Safer & easier handling
- Non-corrosive & non-evaporating
- Eco-friendly alternative which improves working conditions

Alkaline liquids

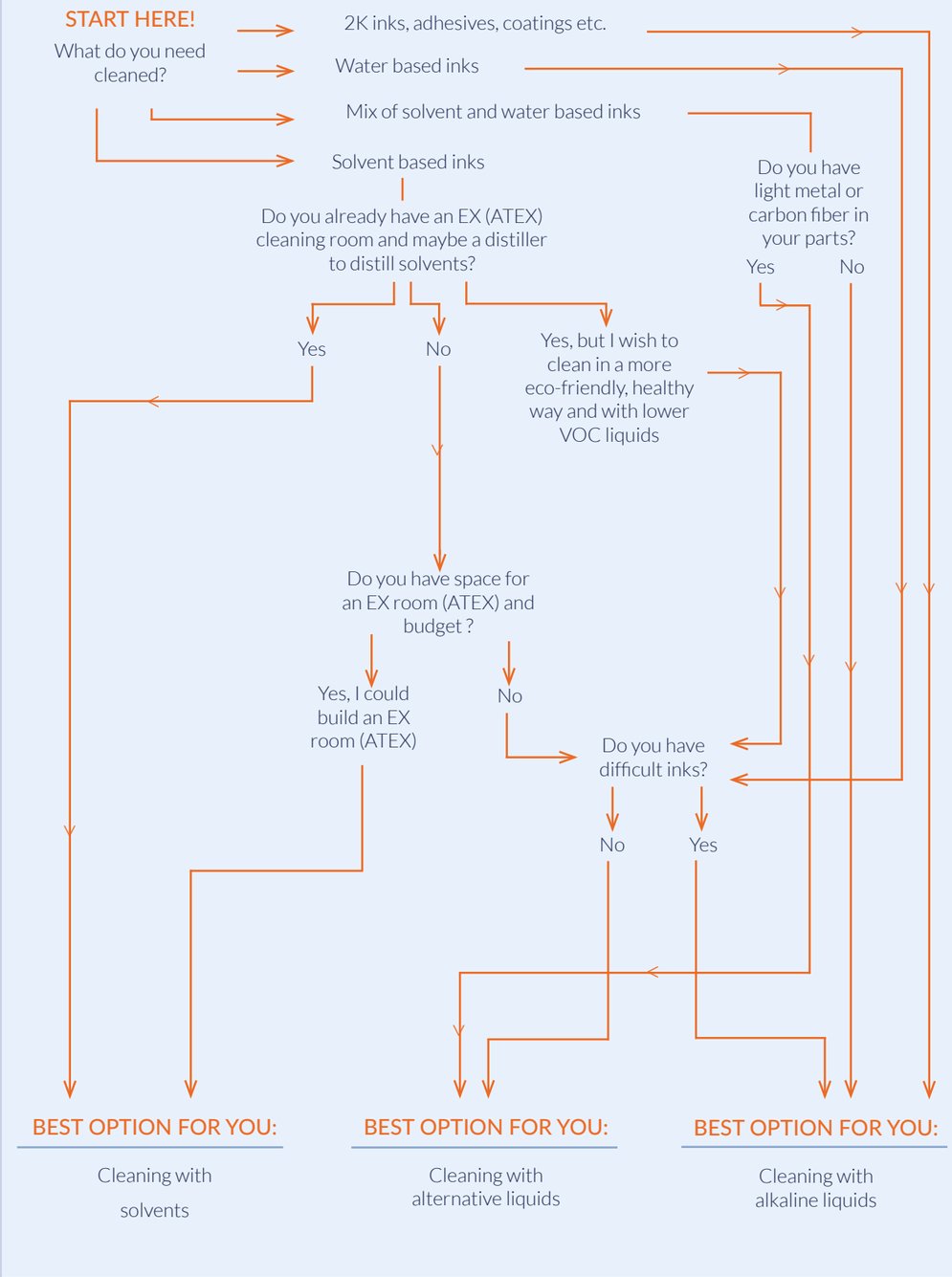
- Non-flammable
- Powerful cleaner for 2K inks, adhesives, coatings etc.
- Very effective on combinations of water and solvent based inks

Solvents

- Very effective with solvent based inks
- Easy accessable when solvents are used in production and cleaning already
- Distillable

Test your needs:

Which system is right for me?



** Also possible to clean with non-flammable liquids with a double liquid tank solution*

Parts Washing

Which machine should I choose?

Factors like ink types, thickness of ink layers, installation space etc. determine which kind of Parts Washer you should choose. Below you will find brief info of each type of cleaning method - for more info ask your FW sales representative.

Standard Parts Washer
Designed to clean with non-flammable and eco-friendly cleaning liquids.

ALKA Parts Washer
Designed to clean with alkaline liquid and made with safety features and components that ensure safe working conditions.

ATEX Parts Washer
Designed to clean with solvents and are made EEX-proof according to the ATEX standard. It is made with a fully electrical system with ATEX-approved electrical control system and pumps.

PK FrontLoad

With the FrontLoad units you will get highly intensive cleaning from several angles. The machines are controlled by a PLC control system.The standard unit comes with two trolleys, which makes it easy to move the parts directly from the printing press to the grid.

PK EasyLoad

With the EasyLoad units you will get a very effective and cost-efficient parts washer for various wide web press parts. The machines are controlled by a microprocessor. The standard unit comes with one large trolley, which makes it easy to move the parts directly from the printing press to the grid.

PK SideLoad

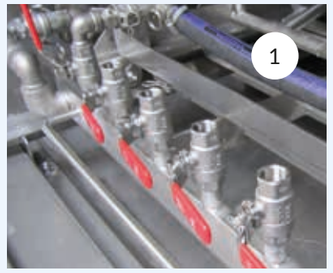
If you want to place your Parts Washer in an ATEX certified container or have limited space possibilities a SideLoad might be the right choice for you.

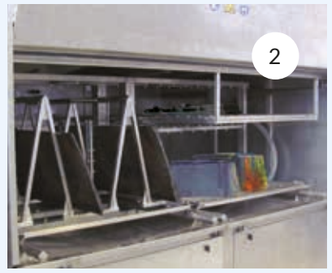
	Wash area *(WxLxH)**	Trolleys included	Standard	ALKA	ATEX Elec.	XL**	XXL***
PK EasyLoad 240	2150 x 1030 x 700 mm *(84.6" x 40.5" x 27.6")*	1	X	X	X	-	-
PK EasyLoad 280	2550 x 1030 x 700 mm *(100.4" x 40.5" x 27.6")*	1	X	X	X	-	-
PK SideLoad 200	1050 x 1950 x 700 mm *(41.3" x 76.8" x 27.6")*	1	-	-	X	-	-
PK SideLoad 300	1050 x 2950 x 700 mm *(41.3" x 116.1" x 27.6")*	1	-	-	X	-	-
PK FrontLoad 250	1800 x 950 x 700 mm *(70.9" x 37.4" x 27.6")*	2	X	X	X	X	X
PK FrontLoad 300	1800 x 1200 x 700 mm *(70.9" x 47.2" x 27.6")*	2	X	X	X	X	X
PK FrontLoad 350	1800 x 1450 x 700 mm *(70.9" x 57.1" x 27.6")*	2	X	X	X	X	X

** Wash area per trolley*
***Adds 300 mm (11.8") in length of wash area per trolley.*
**** Adds 800 mm (31.5") in length of wash area per trolley.*

Options and Accessories

- Trolley with slide-in grid for easy handling of parts
- High performance rotating nozzles for ink buckets
- Flexible jets to focus spray on difficult to clean items
- Two-story wash area
- Racks for ink trays, buckets, and doctor blades
- Cleaning of hoses
- Extra tank, pump, and nozzles for 2. cleaning liquid
- Distillation systems and integration between parts washer, tanks, and distiller
- Wastewater treatment unit
- Automatic liquid filling system





1: Cleaning of hoses 2: Racks for ink trays and doctor blades, 3. Distillation systems and integration between parts washer, tanks, and distiller.

Trolley Wash

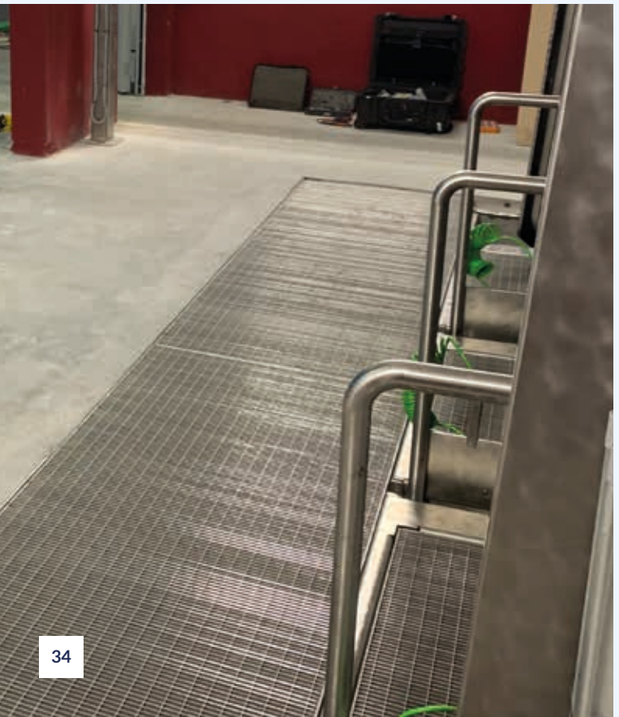
Easy cleaning of printing trolley station

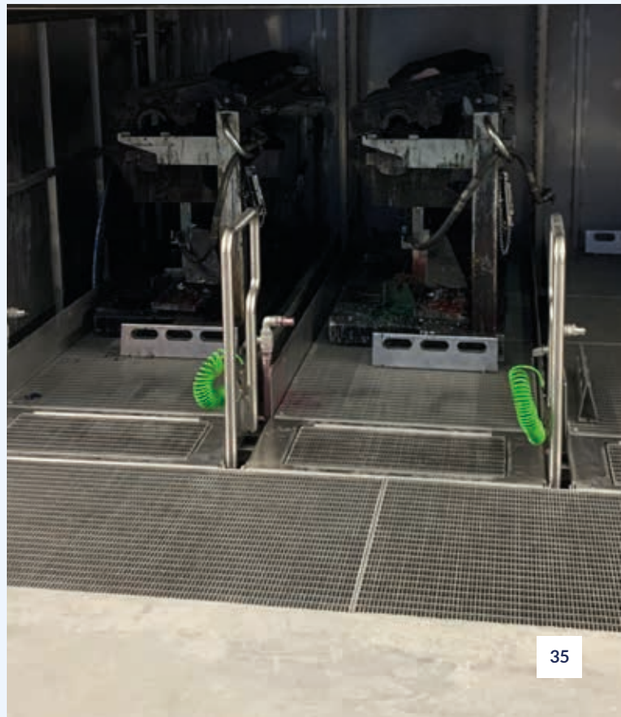
Printing trolley stations get really dirty and are very difficult to clean. With the PK Trolley Wash units you will get a very effective and cost-efficient automatic washing machine for cleaning different types of printing trolley stations.
The printing trolley station is pushed directly into the washing machine. The machines are controlled by a PLC unit, where it is easy to modify the different parameters such as wash-time, drain-time, and stabilization time.

Our Solution

- Custom-built system enabling focused cleaning of challenging areas
- Fully automatic closed-loop cleaning process
- Ergonomically friendly grids and trolleys
- Clean all press parts in one single machine
- Low operation costs and environmentally friendly cleaning

	Wash area *(LxWxH)* per washroom	Wash capabilities	Standard	Alkaline	ATEX Electric
PK 350 WR XL Trolley Wash	2100 x 850 x 1100 mm *(82.7" x 33.5" x 43.3")*	3 ink trolleys	X	-	X
PK 350 WR XXL Trolley Wash	2400 x 930 x 1300 mm *(94.5" x 36.6" x 51.2")*	3 ink trolleys	X	-	X





Bucket Wash

Quick & easy operation

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

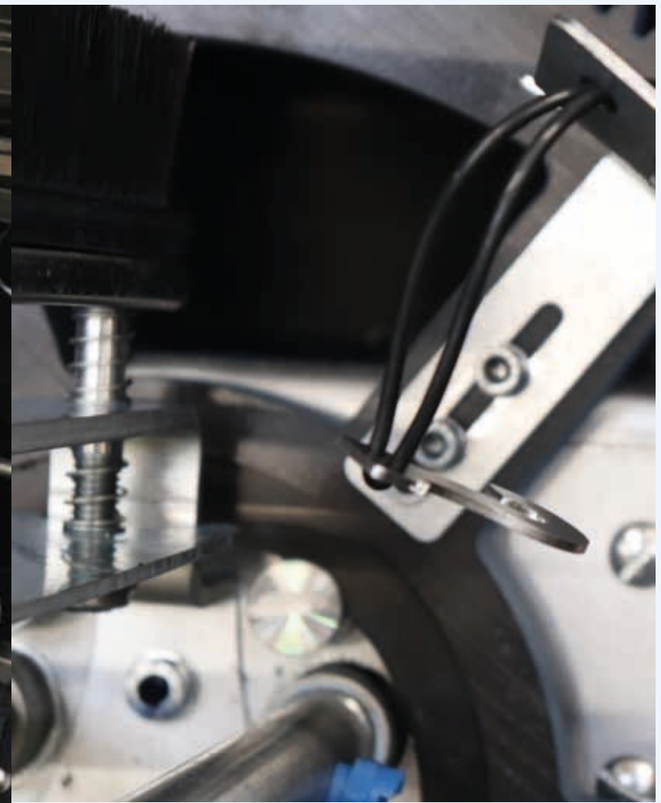
The Bucket Washers from Flexo Wash have a Wash and Rinse system with two separate tanks (or one tank and one open-rinse) which offers an automatic two-stage cleaning process, where the first stage is for washing and the second stage is for rinsing. The buckets are cleaned by a rotating brush, spraying, cleaning, and rinse liquid from below, above, and inside the bucket.

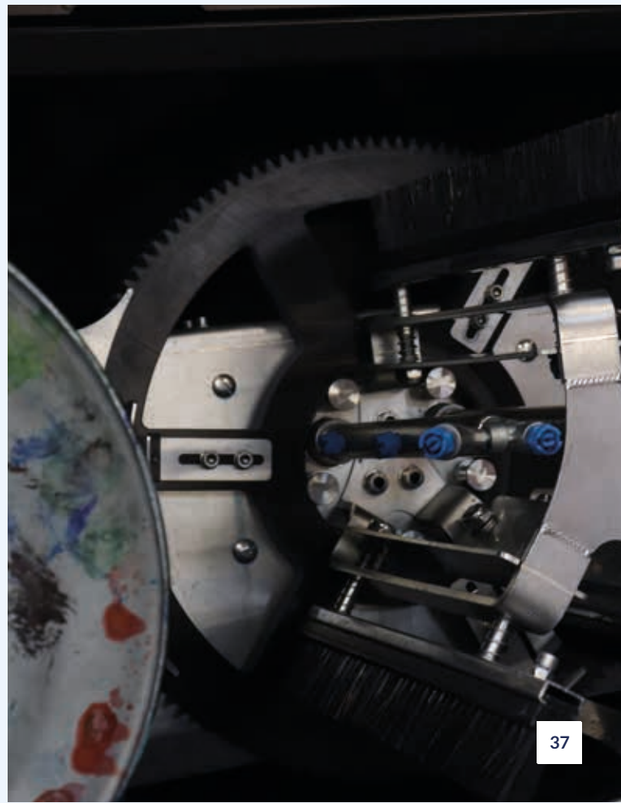
	Wash capabilites	Min. diameter	Max. diameter	Min. height	Max. height
PK ECO Maxi.NXT Bucket Wash	3 buckets	280 mm *(11")**/ 310 mm *(12.2")**	330 mm*(12.9")**/ 360 mm *(14.1")**	280 mm *(11")***/ 370 mm *(14.5")***	340 mm*(13.4")***/ 430 mm *(16.9")***

** Max. range from min. diameter to max. diameter: 50 mm.*
*** Max. range from min. height to max. height: 60 mm.*

Benefits of automated bucket washing

- Reuse your buckets
- Lower expenses on buckets
- Reduce the environmental impact
- Limited labor involved and minimal maintenance
- The Bucket Wash lets you clean 3 buckets in 15-20 minutes.





Pump Wash

Prevent downtime

The system consists of a stainless steel cabinet with a reservoir for solvents and 6 stations for pump cleaning. At each station the pump is connected to a hose and motor which ensures a steady and constant flow of cleaning solvents through the pump.

From the operating panel, each of the 6 stations can be individually controlled and operated. An optional set of adaptors enables the washing unit to accommodate different pump sizes. To reduce solvent evaporation empty pump slots are covered during the wash cycle.

	Wash capabilites	Machine dimensions *(LxW)*	Standard	Alkaline	ATEX Electric
PK-6 Pump Wash	6 ink pumps	3279 x 1100 mm *(129.1" x 43.7")*	X	-	X

Benefits of pump washing

- Prevent downtime - no need to use printing press to clean pumps.
- Easy handling and mounting of pumps
- Effective cleaning with solvent in ATEX approved unit.

Manual Cleaning Station

Easy operation

The system consists of a cabinet with a reservoir for solvent or other cleaning liquids, like UV/Solvent cleaner 1A. To reduce evaporation of liquid from the reservoir, the lid that can be closed when the system is in stand-by. The interior of the 200 mm deep tub has a sliding grid that can be pushed aside making it possible to dip or soak parts to soften the ink before washing them in an automatic washing unit. The system has a brush that can be used to clean the parts manually.

	Area for washing *(LxW)*	**Drip tray area** *(LxW)*	**Machine dimensions** *(LxWxH)*	**Standard**	**Alkaline**	**ATEX**
PK Manual Cleaning Station	950 mm x 1900 mm *(37" x 74")*	950 mm x 1700 mm *(37" x 66")*	3800 x 1388 x 1069 mm *(150" x 55" x 42")*	X	-	X

Ease your manual cleaning

- Soak parts with difficult ink residues before washing them in an automatic washing unit for a better result
- Reuse liquids/solvents to reduce consumption
- Both as ATEX or non-ATEX models.

Distillation

Distillers make it possible to reduce the solvent waste to an absolute minimum and is a very economical instrument to reduce costs in the printing and coating industry.
Flexo Wash offers a complete system where the parts washer, the inline wash system in the printing press(es), and the distillation system is connected and work as a closed loop. Our distillers are fully automatic and perform a high output during operation.

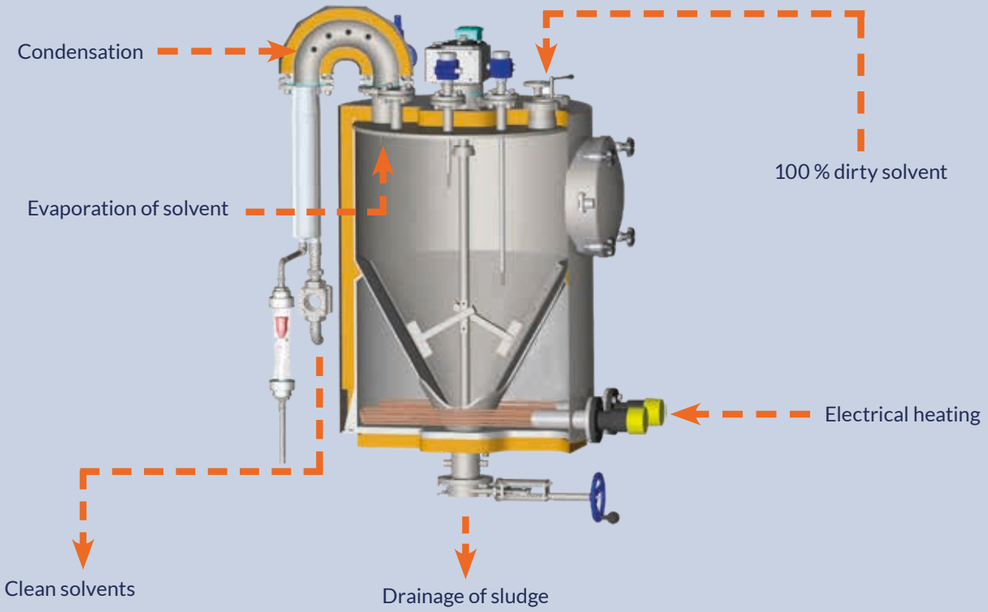
Our Solution

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

Distillation

How does it work?

When investing in a Flexo Wash Distiller we will take care of all connections between distiller, tanks, and Flexo Wash parts washer. We will guide you through all the requirements of the installation and prepare an installation layout to give you concrete measurements before deciding which DI unit best fits your needs and space requirements.



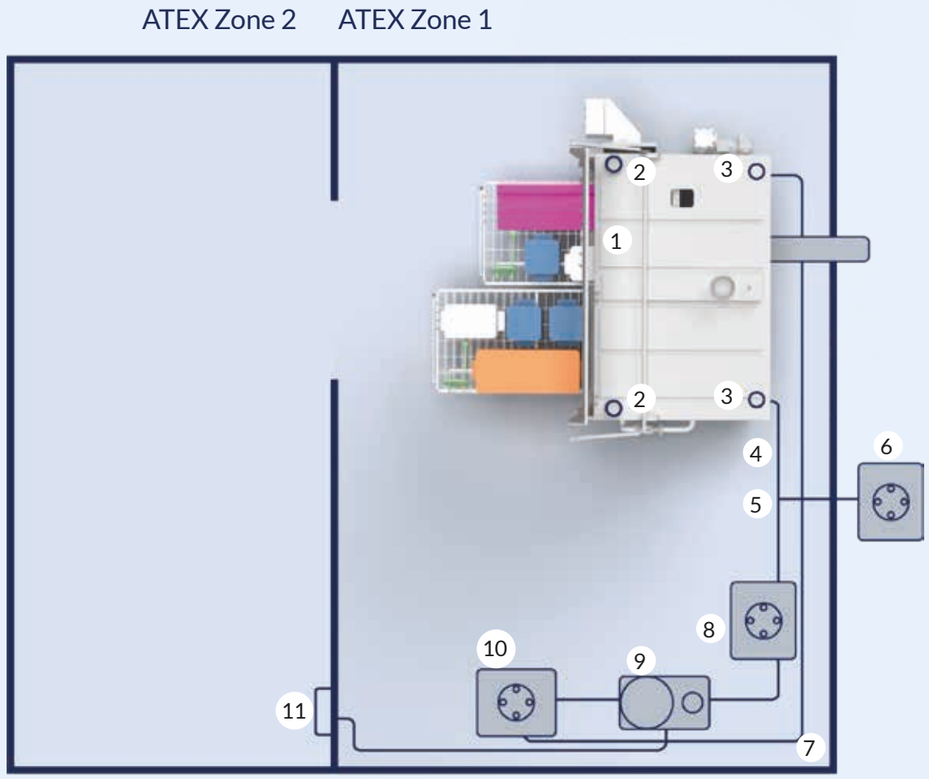
3-STEP PROCESS

All distillers run by a fully automatic 3-step process:
The solvent is automatically filled into the distiller from the dirty solvent tank. The process works continuously until all solvent has been distilled
During the continuous distillation process the distilled solvents automatically run into the clean solvent tank.

Complete installation

Example layout

1. ATEX Parts Washer
2. Fresh air inlet for ventilation (from room, no connections)
3. Outlet ventilation system from machine
4. Connection for clean solvent. Must be connected to the part washer filling system.
5. 3-way valve to select which solvent reservoir to fill from.
6. Connection to earth tank with fresh clean solvent.
7. Connection from the part washer to dirty solvent tank. Must be connected to the part washer empty system.
8. Tank with clean solvent from solvent recovery system.
9. Distiller
10. Dirty solvent tank
11. Connection electrical control box



Distillation

Which distiller should I choose?

When choosing the right model of distiller, various factors come into play. Concerning the capacity of the distiller, it is essential to know which solvents are being distilled.
Furthermore, many aspects will influence the capacity, such as: Ink type in the solvent, level of contamination, the temperature limit of the specific solvent to distillate.

	Total vessel volume	Approx. distillation rate
DI 1200	140 L *(37 gal)*	20-40 L/hour *(5-10 GPH)*
DI 2400	160 L *(42 gal)*	40-60 L/hour *(10-16 GPH)*
DI 3300	300 L *(80 gal)*	60-80 L/hour *(16-21 GPH)*
DI 5500	500 L *(132 Gal)*	90-140 L/hour *(24-37 GPH)*

CONTACT

Langs Skoven 38
DK-8541 Skoedstrup
Denmark
+45 8699 3631
flexowash.com
info@flexowash.com

FLEXO WASH
Leading Cleaning Solutions