Cylinder Cleaning

Gravure Industry

FLEXO WASH
Leading Cleaning Solutions

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.

✓ ISEGA-certified
✓ REACH-compliant
✓ ROHS-compliant
✓ Low COD solutions
✓ Low VOC solutions
✓ VOC-free solutions

Developed to ensure high print quality

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 Flexo Wash solutions 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 solutions are developed to meet today's demands of high print quality and productivity. This is only possible to obtain if you make sure that your aniloxes, printing plates, and other press parts are kept clean.

Specific inks require specific solutions

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. You need to use the right cleaning liquid, for the specific type of ink, in your cleaning machine to get the optimal cleaning results.
Our own Flexo Wash consumables brand CleanSolutions offers many types of liquids. Additionally, we offer filters, brushes, sponges, and manual cleaning equipment.

Let us guide you towards better cleaning

We are always ready to guide you towards better and more efficient cleaning of your aniloxes, plates, parts, screens etc. based on your specific combination of inks or varnishes.

We can provide liquids that work best with our cleaning systems, but also cleaning liquids for all other cleaning machine brands.

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 a low COD (chemical oxygen demand), which reduces the oxygen demand in the wastewater.

CleanLink

- to your cleaning unit

- Remote service
- Real-time data
- 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 →

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:

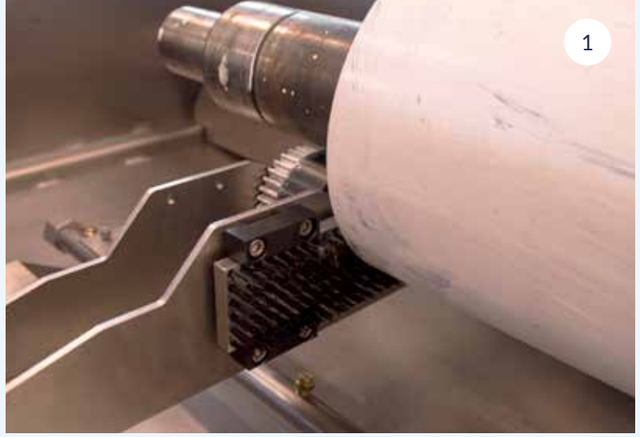
"A few things we take into consideration that weighs strongly on the final investment decision outside of the obvious (performance and price to a certain extent) has to do with the type of technical support/service provided by the manufacturer. The technical support, plus the responsiveness and willingness 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

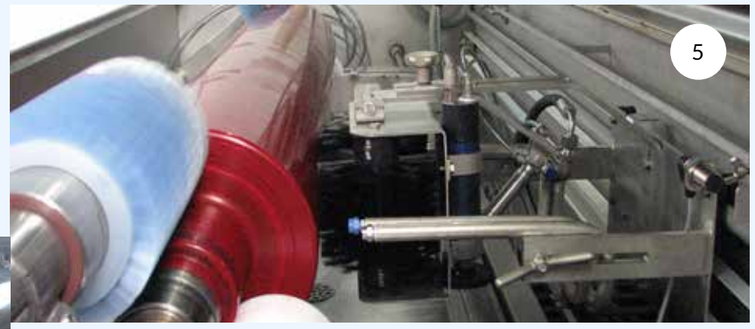
Quick & easy washing process

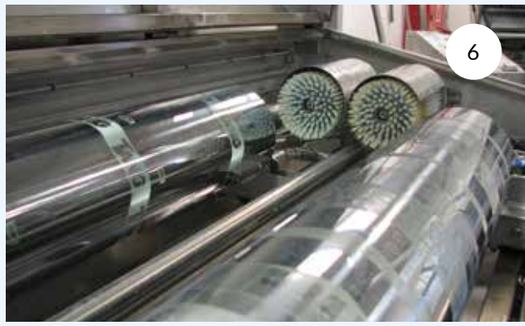
The fully automatic gravure cylinder cleaners are designed to clean gravure cylinders of all sizes. Rotating and oscillating brushes will remove excess ink from the shaft and end of the cylinder making it clean on all surfaces. A traversing surface brush will clean the cylinder face. Flexo Wash can supply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



Before

After





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.

	Cylinders per wash	Max diameter	Max cleaning length	Max weight *(total for all cylinders)*
FW 3000.NXT	1-2*	300 mm *(11,8")*	2400 mm *(94,5")*	600 kg *(1323 lbs)*/ 800 kg *(1764 lbs)****
FW 3000-2.NXT	2-4**	300 mm *(11,8")*	2400 mm *(94,5")*	600 kg *(1323 lbs)*
FW 3500.NXT	1-2*	300 mm *(11,8")*	2900 mm *(114,2")*	600 kg *(1323 lbs)*/ 800 kg *(1764 lbs)****
FW 4000.NXT	1-2*	300 mm *(11,8")*	3400 mm *(133,9")*	600 kg *(1323 lbs)*/ 800 kg *(1764 lbs)****
FW 4500.NXT	1-2*	300 mm *(11,8")*	3900 mm *(153,5")*	600 kg *(1323 lbs)*/ 800 kg *(1764 lbs)****
FW 3000 XL.NXT	1-2*	450 mm *(17,7")*	2400 mm *(94,5")*	800 kg *(1764 lbs)*/ 1500 kg *(3307 lbs)****
FW 3500 XL.NXT	1-2*	450 mm *(17,7")*	2900 mm *(114,2")*	800 kg *(1764 lbs)*/ 1500 kg *(3307 lbs)****
FW 4000 XL.NXT	1-2*	450 mm *(17,7")*	3400 mm *(133,9")*	800 kg *(1764 lbs)*/ 1500 kg *(3307 lbs)****
FW 4500 XL.NXT	1-2*	450 mm *(17,7")*	3900 mm *(153,5")*	800 kg *(1764 lbs)*/ 1500 kg *(3307 lbs)****
GCC 2300 ATEX	1	230 mm *(9")*	1400 mm *(55,1")*	200 kg *(440 lbs)*
GCC 2300-2 ATEX	2	230 mm *(9")*	1400 mm *(55,1")*	200 kg *(440 lbs)*

** Clean up to two cylinders per wash with option.*
*** Clean up to four cylinders per wash with option.*
**** Requires option*

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.

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."

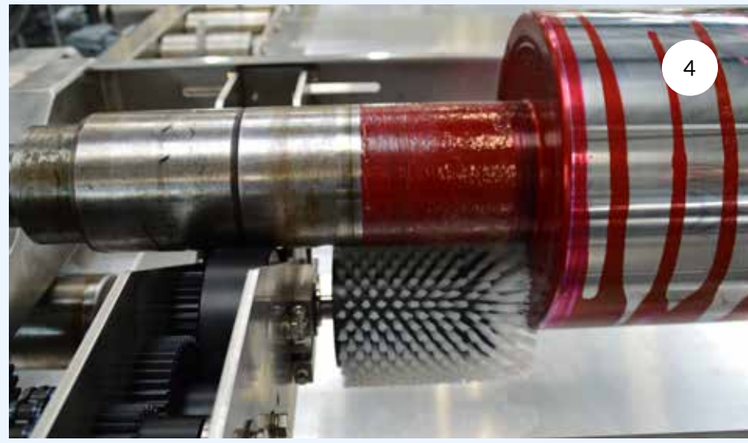
"Since installing the Multi Cylinder Cleaner, we've measured less solvent in the working environment. Another benefit of purchasing a non-solvent system is that we could simply place the machine next to our press rather than needing to invest in a new ATEX room"

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.



Before

After

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
6-22 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.

Notes

Notes

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FLEXO WASH
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