GRAVURE CLEANING

PRODUCT CATALOGUE

MULTI CYLINDER CLEANING

MCC-series

FLEXO WASH

Leading Cleaning Solutions

CLEANING MULTIPLE CYLINDERS AT ONCE

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 non-solvent system, the Multi Cylinder Cleaner cleans and rinses cylinders, representing a more economical yet sustainable cleaning solution.

ECO-FRIENDLY CLEANING & EASY HANDLING

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.

FLEXIBLE MODULAR CONCEPT

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.

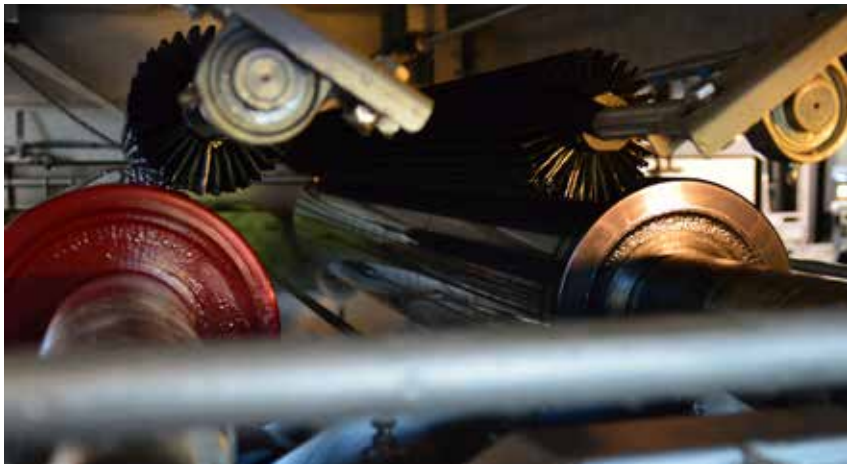
This makes it possible to increase the cleaning capacity over time, by simply adding for example an extra washing or rinsing module station.

BEFORE WASH

AFTER WASH

TAKE CARE OF YOUR CYLINDERS

- Fully automatic and quick washing process can wash up to 8-22 cylinders per hour.
- Extremely gentle cleaning process for all types of ink.
- Time saving and friendly cleaning liquid.
- Rotating brushes ensure deep cleaning of the cylinder.



HOW DOES IT WORK?

INLET

The cylinders are placed on the trolley at the printing machine and driven to the washing unit.

The trolley is then loaded to the loading station.

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 2 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 loading station.

After a pre-set period, the first washing stage of the first cylinders is finished and they are automatically conveyed to the rinse stage of the cleaning process.

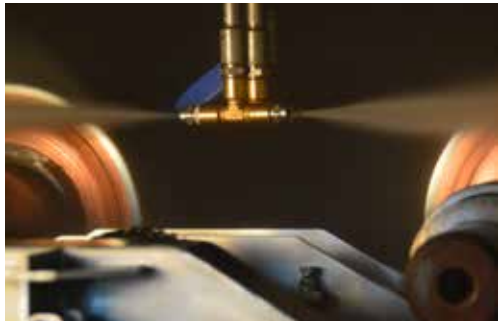
RINSING

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

Each cylinder trolley is moved through the washing stages and the process continues until the loading station is empty and all cylinders have been conveyed automatically to the unloading station on the machine.

OUTLET

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



BUILD YOUR OWN MCC

YOUR NEEDS - YOUR OWN CONFIGURATION

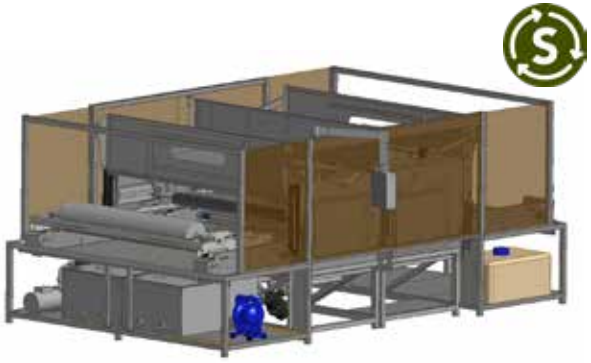
Due to the modular construction of the MCC, the system can be configured according to your needs. This gives you the possibility to create the configuration best fitting your specific needs.

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 continous flow of cylinders through the cleaning process.

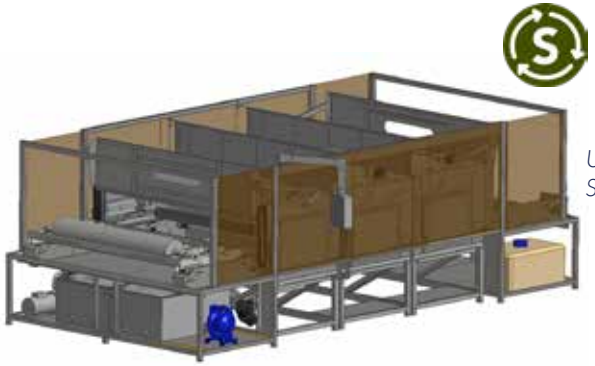
MCC 2-STAGE WR

- 1 washing station, 1 rinse and drying sections.
- **8-12 CYLINDERS PER HOUR**



MCC 3-STAGE WWR

- 2 washing stations, 1 rinse and drying station
- **6-22 CYLINDERS PER HOUR**



Use together with Sedimentation Tank

MCC 2-STAGE WR

W/ EXTRA BUFFER SECTIONS

- 1 washing station, 1 rinse and drying sections & 2 extra buffer sections (more buffer space for handling).
- **8-12 CYLINDERS PER HOUR**

MACHINE DETAILS

INLET SECTION & WASHING STAGE(S)

SYSTEM CONTROLS

ALL stages of the cleaning process are controlled by a central PLC.

LOADING CAPICITY OF INLET SECTION

1 cylinder carriage/frame for 2 cylinders.

WASHING PROCESS

The cylinders rotate while being washed by means of high pressure nozzles.
Rotating brushes ensure deep cleaning of the cylinder. Hard brushes at the cylinder ends give a thorough cleaning of the cylinder ends.

PUMP

The washing stations have an electrical pump. 5.5 kW – 7,5kW (depending on number of stages).
The pump circulates the cleaning liquid onto the cylinders at 3-6 bars by nozzles.

FILTER

The unit has a filter, for collection of the ink particles. This ensures a longer lifetime of the cleaning liquid. The filter is placed under the washing unit and can easily be changed or cleaned. Weekly change of the filter is recommended.

TANK OF STAINLESS STEEL

The washing station has a tank for cleaning liquid. The tank is placed by each washing station and cleaning liquid can easily be filled into the tank through the filling funnel. The tank has a valve in the bottom, which makes it easier to empty it.

LIQUID LEVEL

The tank has a float to visualize the liquid level.

MANUAL LIQUID FILLING AND EMPTYING SYSTEM

The cleaning liquid can easily be filled by connecting the machine to a liquid container. The liquid is filled through the lid.The liquid can easily be emptied from the tank easily directly to a waste collection point.

MACHINE DETAILS

INLET SECTION & WASHING STAGE(S)

ALARMS

To ensure optimal performance the cleaning machine is equipped with alarms programmed to send messages to the front screen telling the operator what to do when the machine needs service.

Filter alarm:	Reminds that it is time to change the filter.
Service alarm:	Reminds that it is time to arrange service for the machine.
Liquid level alarm:	No washing is possible before the liquid level is normal.
Logic alarm:	Error in control or conveyer system.
Temperature alarm:	Temperature too low/high.

EXHAUST

The unit is prepared for exhaust and can be connected to the local ventilation system.

PROCESS INDICATOR LAMP

On top of the machine that indicates that the machine is in operation. Green = Ready, Yellow = In operation, Red = Fault

CLEANING LIQUID

Various cleaning liquids can be used depending on the type of inks used:

- FW UV/Solvent cleaner 1A, 1B, 4, 8 (Unmixed) – For all normal ink types
- FW Anilox Deep Cleaner (Mix with water) – Special pump required
- FW Anilox + Cleaner (Mix with water) – Special pump required

CONVEYER SYSTEM

The cylinder trolleys are transported through the washing machine units by an electrical driven conveyer system. The conveyer system is fully automatic and controlled by the central PLC.

TANK FLUSH FOR WASH TANK

Submerged pipe system with jets installed in the wash tank. The system is connected to main pump with manually operated valves.

Before change of liquid the sludge/ink waste from the bottom of the tank is agitated with the jets where after the tank can be emptied.

MACHINE DETAILS

INLET SECTION & WASHING STAGE(S)

AUTOMATIC LIQUID FILLING

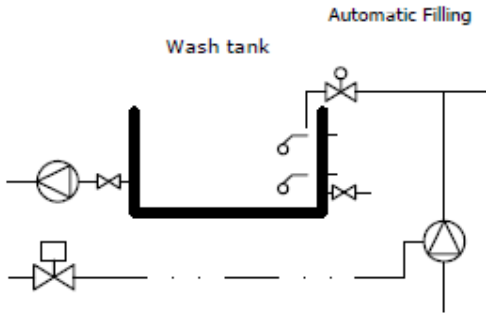
The machine can be equipped with pump, valve and pipe system for easy refilling of the tanks. This includes a level sensor in the tank, which is connected to the control system and the pump so the filling will automatically stop, when the tank is full.

This option saves time when refilling liquid and at the same time it helps keeping the tank clean.

- Capacity: Maximum 100 L/min
- Control: When control panel indicates low liquid level

Operation:
1. Operator starts automatic liquid filling.
2. The filling pump starts, valve opens and the pre-mixed liquid is pumped into the tank.
3. When the tank is full, the system stops.

See drawing.



WATER HEATER

BuilT-in water 1000W heater connected to the unit. Runs as soon as the machine is connected to power of 1000W.

We recommend rinse water of 30-35°C. 55L tank.

Include boiler, mixing valve, mounting, wiring and piping.

MACHINE DETAILS

RINSING STAGE & OUTLET SECTION

PROCESS

The cylinders are rinsed by water at 140 bars pressure. The high-pressure rinse nozzles move along the cylinders during the rinsing process.
Fresh water is taken into the machine and discharged to the sewer.

PUMP

5.5 kW high pressure pump.

FILTER

Filter on the fresh water inlet, for the protection of the high-pressure pump.

EXHAUST

The unit is prepared for exhaust and can be connected to the local ventilation system.

CONVEYER SYSTEM

The cylinder trolleys are transported throughout the washing machine units by an electrical driven conveyer system. The conveyer system is fully automatic and controlled by the central PLC.

MONITORING OF PRESSURE DURING HIGH PRESSURE AFTER RINSE

The actual pressure in the high-pressure water system is read out in the operating panel in BAR or PSI.

The system also gives an alarm if the pressure drops below the expected value. This could indicate insufficient water supply, plugged filter or a leakage in the high-pressure system, e.g. the high-pressure hose.

The system comprises a transmitter in the discharge line of the high-pressure pump, connection to the PLC system and software for operator interface.

MACHINE DETAILS

RINSING STAGE & OUTLET SECTION

RECIRCULATION SYSTEM FOR RINSE WATER

The rinse water outlet is drained into a buffer tank and reused. For better rinsing a small amount of fresh water is added to the system at each wash. The excessive rinse water is pumped automatically to a holding tank. Approx. consumption of water 3-6 liter / cylinder

The system comprises:

- Buffer tank of PE with inlet suitable for 38 mm drain hose from cylinder cleaner.
- Volume approx. 150 L
- Level switch mounted at maximum level. The level switch is connected to the control system and will stop the cylinder cleaner in case of over flow.
- Automatic operated pump, pumping the water from the tank to drain or holding tank. Maximum pressure 30 m W.G. (3,0 bar)
- Automatic operated pump for recirculation

Recommended holding tank, e.g. 2nd hand plastic pallet tank. Volume approx. 1000 L (not included)

RINSE WATER

Disposal of liquid waste and rinse water must be in accordance with local rules and authorities. It is the customers responsibility to ensure that any disposals are approved by all the required local authorities.

LOADING CAPACITY OF OUTLET SECTION

1 cylinder carriage/frame.

CONVEYER SYSTEM

The cylinder trolleys are transported through the units of the washing machine by an electrical driven conveyer system, which is fully automatic and controlled by the central PLC.

CUSTOMER FEEDBACK

Solvent Free Cleaning Improves Working Environment at the Austrian based Mondi Korneuburg. The company is part of the international packaging and paper Group Mondi.

PROVIDING THE BEST POSSIBLE WORKING ENVIRONMENT

Mondi Korneuburg decided to move away from cleaning cylinders with solvents to instead cleaning them with a solvent free liquid. It 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.”

> *We did not realize there was such a great alternative available*

> *Since installing the Multi Cylinder Cleaner, we’ve measured less solvent in the working environment*

UP TO 24 CLEAN CYLINDERS PER HOUR

Mondi cleans 60-80 cylinders per day and each washing cycle takes seven minutes, plus rinsing and drying. In addition, the 2K inks that Mondi uses are cleaned in seven minutes if they are not left overnight.

The Flexo Wash Multi Cylinder Cleaner cleans two cylinders per wash. The cylinders are placed in a frame on a conveyor that automatically takes the cylinders through the washing, rinsing and drying process.

Depending on the machine configuration, the Multi Cylinder Cleaner can clean up to 24 cylinders an hour.