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**LR PERIPHERAL
CONVERTING PRODUCTS**

- Ink viscosity controls
- Automatic ink pH regulation
- Ink temperature control
- Solventless mixers
- Monocomponent metering
- Solvent based mixers
- Automatic flexo wash-up units

www.sincro.com

lr.products)

LR CONVERTING PERIPHERAL PRODUCTS, SL

**AUTOMATIC INK PUMPING
AND ON-PRESS WASH UP
SYSTEM WITH ELECTRONIC
FLOW REGULATION**

- Volumetric pumps
- Reversible ink and cleaning pump system
- Eliminates pump pulsation
- On-demand flow regulation
- 100% control over the inking process
- Eliminates ink foaming problems
- Patented technology



sincro  **clean**

AUTOMATIC INKING & WASH-UP EQUIPMENT

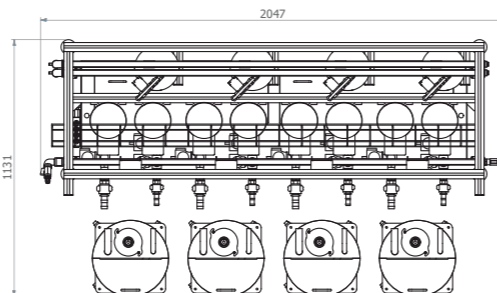
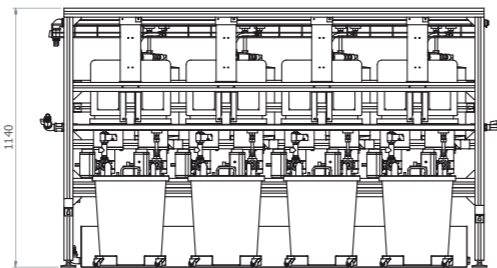
Patented technology:
High precision double volumetric pumping



ACCURATE AND FULL CONTROL OVER THE INKING PROCESS
EFFICIENT WASH-UP
FULLY AUTOMATIC

SINCROCLEAR

The **Ir.products** sincroclean system gives the operator the ability to control the flow of ink and cleaning solution through the closed chamber system under full control. It provides independent regulation for the ink suction return vs. the ink delivery flow, as well as the ink flow variations as required due to the press speed and ink consumption. A 100% controlled inking process!



Options SINCROCLEAR equipment



VISCOCHECK

- Automatic ink viscosity control and regulation
- Conventional or vibrating sensors available
- High precision and accuracy
- Intelligent algorithm control
- Automatic cleaning when installed on a sincroclean



VISCOCHECK TC

- Ink temperature control system
- Automatic cooling or warming the inks
- Highly efficient heat exchangers
- Consistent Ink pumping pressure
- Ink settings maintained throughout press run
- No additional recirculation pumps



VISCOCHECK PH

- Water-based ink pH regulation
- Accurate pH control at all times
- Avoids uncontrolled pH solution additions to the ink
- Proprietary self-checking software monitoring the pH sensors with alarm if out of calibration



INK/WASH-UP VOLUMETRIC PUMPS:
INK SUPPLY/RETURN ELECTRONICALLY CONTROLLED

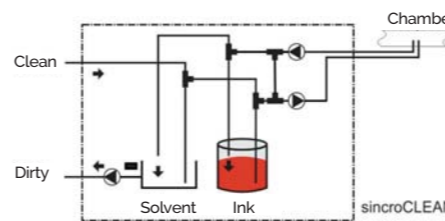
By means of the **PATENTED volumetric pump technology from Ir.products**, customers achieve full control and stability over the inking process unattainable when using existing technologies and pneumatic pumps.

Pressure variations inside the chamber system are controlled, so leakage, ink starvation and all related problems are eliminated.

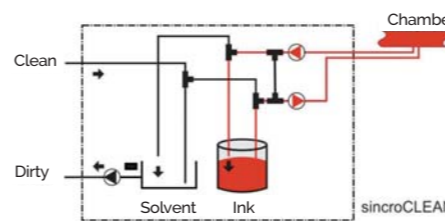
Main advantages of the SINCROCLEAR technology:

- 1 Press on printing mode**
 - The SINCROCLEAR pumps do not create pressure pulsation inside the ink hoses and chamber.
 - No pressure variations inside the chambers, that can cause leaks.
 - The two pumps per color are synchronized by means of frequency inverters.
 - 100% control over the effective flow delivered to the chamber system.
 - Ink Flow variation required by the press speed, without any changes in pressures.
 - Allows an independent per color flow variation curve, depending on ink consumption.
 - No ink foaming, very important for water-based inks.
 - Scheduled preventive maintenance of the pumps through monitoring of the pump cycles.
- 2 Press on wash-up mode**
 - Effective washing of all the colors simultaneously or only the selected ones.
 - Initial washing cycle with high pressure of the solvent/water at higher pump speeds; followed by a cycle using very low speed and pressure.
 - A minimum amount of solvent will be used during the wash cycle, and also to assure that the anilox is always wet with the cleaning agent to avoid damage.
 - Module ECO, recirculation of solvent or cleaning agent.

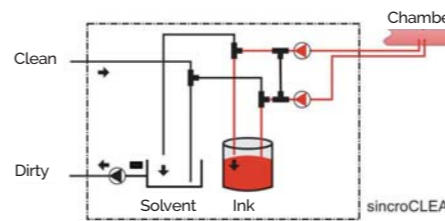
General diagram



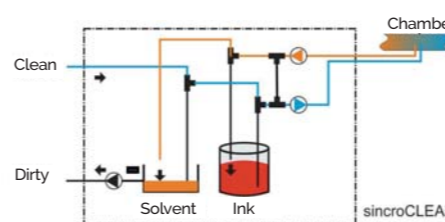
Press on printing mode: fill deck



Remaining ink back into the bucket



Cleaning with solvent/water



ECO module: solvent / water recirculation

The Optional ECO module on the sincroclean unit reduces the solvent/water needed for cleaning to a minimum; only the required volume needed for feeding all the inking circuit on the press, and to recirculate it during the programmed time period chosen.
It's more important this feature be used on wide presses, where the solvent/water consumption can be very high. Also, it is mandatory for water-based ink cleaning when using some type of chemical additives for wash-ups because these chemicals are not easy to reclaim; therefore recirculation is more economical.