



TRESU MaxiPrint Concept

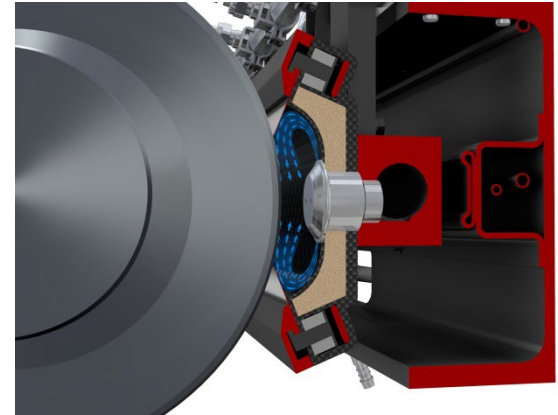
Improving your printing quality consistency

The TRESU MaxiPrint Concept cuts cleaning time and improves quality consistency in Wide Web and Corrugated Flexo

Comprised of a closed chamber, an ink supply unit, and a cleaning cycle, MaxiPrint Concept offers fast, automatic internal cleaning, corrosion-resistance, improved print quality consistency and reduced ink loss.

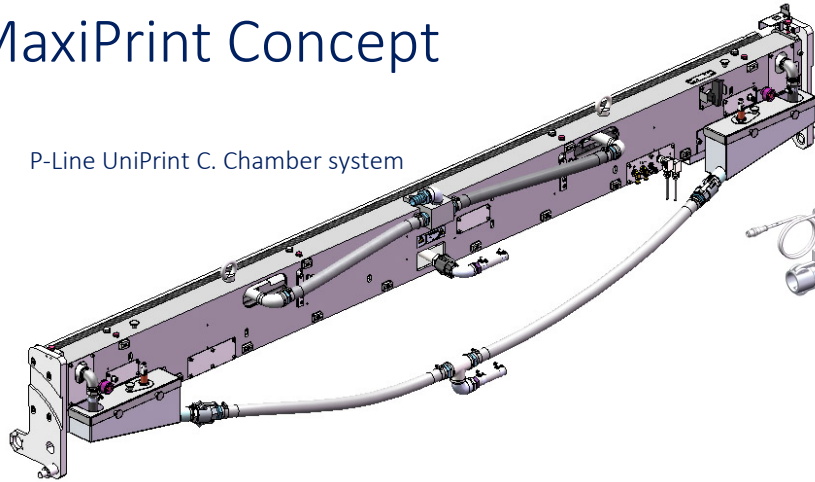
The Benchmark in Wide Web Flexo designed for both new OEM solutions as well as retrofit projects on existing machinery, MaxiPrint Concept is the benchmark for low ink loss, short job changeovers, and efficient cleaning in wide web flexo applications.

TRESU MaxiPrint Concept is available with a peristaltic or diaphragm ink supply system, and can be adapted to any press side according to need and access. The chambers come with a lightweight carbon-fibre (CFC) or ceramic (CFX) surface, in widths of 1600 mm to 6000 mm.



TRESU MaxiPrint Concept

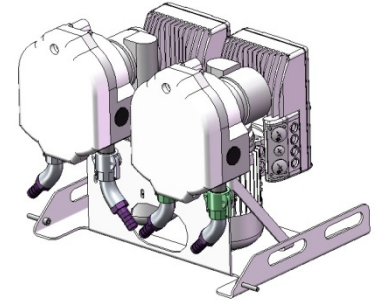
P-Line UniPrint C. Chamber system



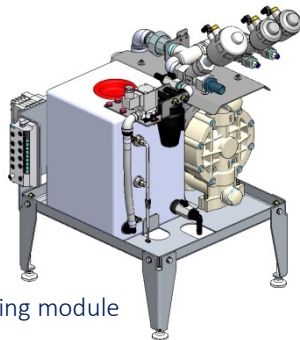
Level sensor for tray
(To prevent overflow)



Flow sensor
(To secure ink flow)

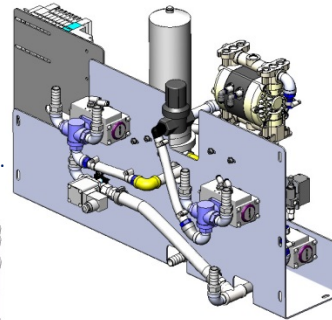


Ink supply system
With peristaltic
pump (Customized)

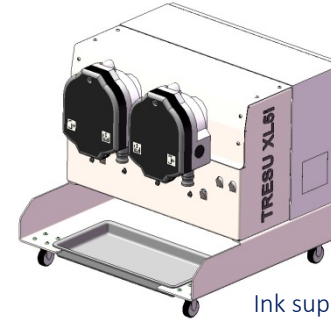


Cleaning module

Ink bucket with lanses.



Ink supply system
with Diaphragm
pump



Ink supply system
with peristaltic
pumps (XL5i)

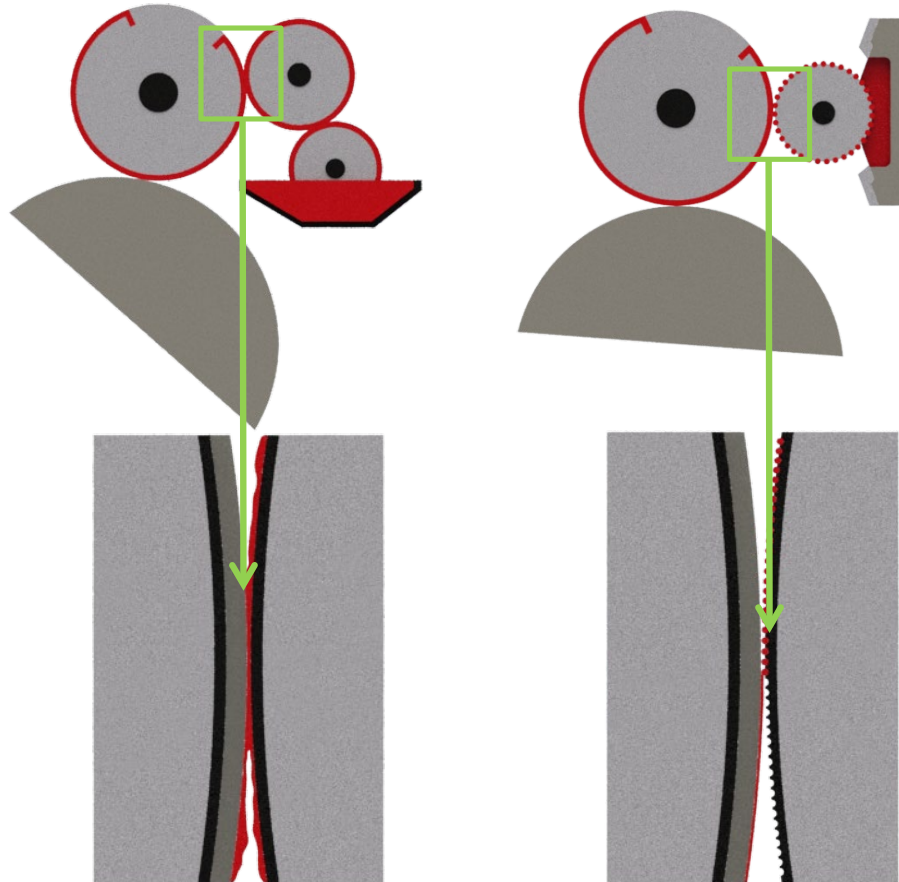
Application of TRESU Chamber Doctor Blade System with Anilox Roller

The unique thing about the TRESU chamber doctor blade system with anilox roller used in ink systems is the ability to apply a consistent ink layer.

The laser-engraved ceramic roller is consistent regarding circumference and longitudinal direction and in combination with doctor blades this is the key to a consistent ink layer of the circumference and longitudinal direction.

It is not possible to achieve a totally consistent ink layer with a multi roller (rubber/chrome) ink system because the rubber roller cannot be made with the same accuracy in terms of circumference and longitudinal direction. The consistent ink layer from the TRESU chamber doctor blade/anilox roller ink system means that a thin ink layer provides a totally consistent coverage of both sheet directions. With a multi roller ink system this is not possible. Here the thickness of the ink layer varies along the sheet and from the front to the backside. To achieve sufficient coverage in the areas where the rubber/chrome rollers apply a thinner layer, some areas will get a thicker ink layer than necessary. In average this results in a thicker ink layer.

Due to the consistent ink layer the tests and experiences that TRESU made in connection with leading manufacturers of flexo printing machines and various key customers show that the TRESU chamber doctor blade system in average uses 20% less ink layer for the same printing job. This is the main reason to achieve better economy by using the TRESU chamber doctor blade system with an anilox roller ink system.



Consistent ink and coating layer = **better printing quality**

With the consistent ink layer combined with the right anilox roller it is possible to achieve a sharper and more uniform printing quality resulting in better production economy. With the consistent ink or coating layer a more even surface and for coating a better reflection with a higher gloss level can be achieved. A more consistent coating layer means more gloss.

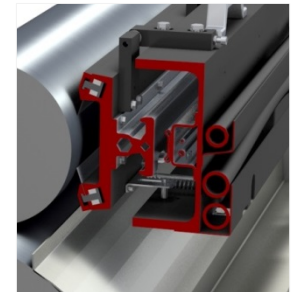
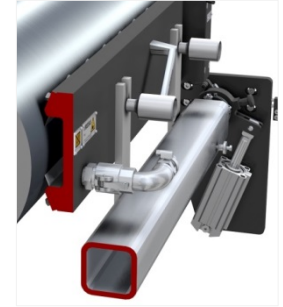
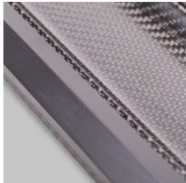
Thinner ink layer = **Reduced energy consumption, faster printing speed**

A thinner, more consistent ink layer on the sheet means that less ink has to be dried. It means reduced energy consumption from the drying system. If the drying capacity is a problem, a preset drying capacity will allow the printing machine to run faster if less ink needs drying. Apart from that a reduction of the drying energy is always an advantage.

Chamber description

The lightweight carbon fiber chamber doctor blade system offers corrosion resistance, controlled flow and easy handling

- The carbon fibre composition ensures high-strength and anti-corrosion chamber qualities
- The design enables water based ink and coating circulation in optimum volumes
- The easy to clean ink-repellent surface offers extra protection against ink and detergents with high and low pH-values
- Curved inner surfaces minimize volume, minimize left over ink and waste after cleaning, and enable perfect cleaning
- Ink for both flow and pressure mode
- For printing and coating units and for TRESU profile D4P and D5P
- Easy handling
- Different construction principles as UniPrint **B** suspension or UniPrint **C** suspension. Depending on space condition and/or applications

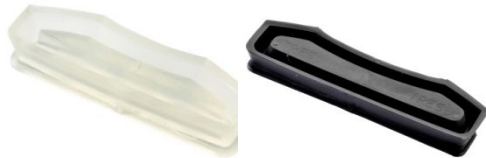
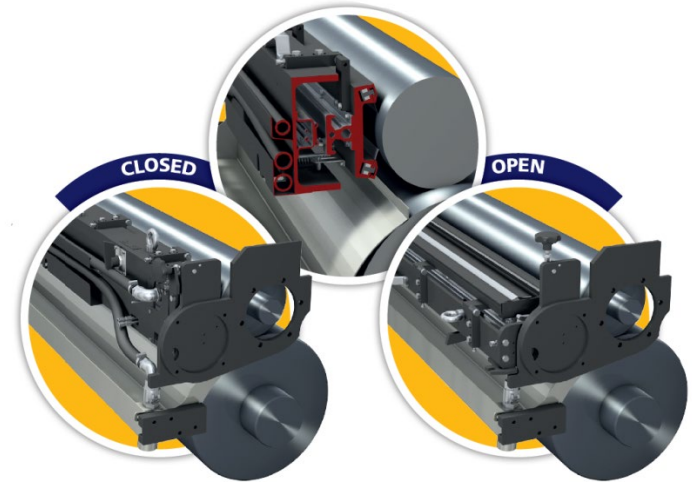


Chamber description

TRESU UniPrint C-Suspension

Compact and stable UniPrint C-Suspensions hold the MaxiPrint Concept chambers in place.

The UniPrint C-Suspension offers high stability at high print speeds, and in limited space, making it perfect for retrofit projects. The UniPrint C-Suspension has a pneumatically or mechanical (chamber) loading arm at each machine frame.



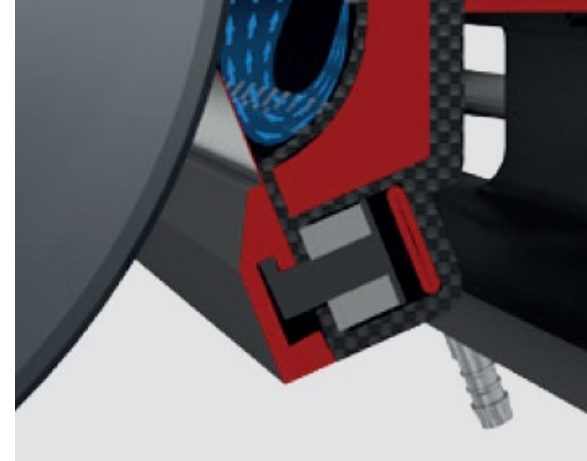
TRESU Seal

MaxiPrint Concept features TRESU's patented Seal System. TRESU Seal ensures perfect sealing and prevents leakage.

TRESU pneumatic doctor blade exchange system P-Line **= minimum downtimes**

The TRESU chamber doctor blade system is equipped with a pneumatic doctor blade change system. This doctor blade system provides fast doctor blade exchange because the pneumatic system which releases the doctor blades is simply activated by means of a pushbutton. Then the doctor blade holders are removed and the doctor blades are exchanged - all within 2 minutes

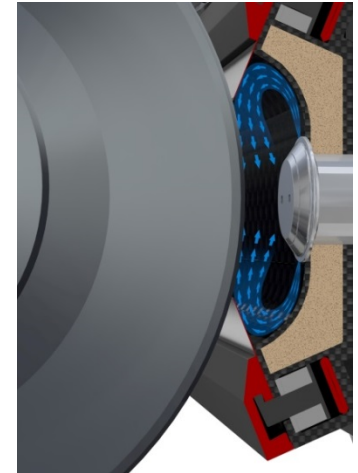
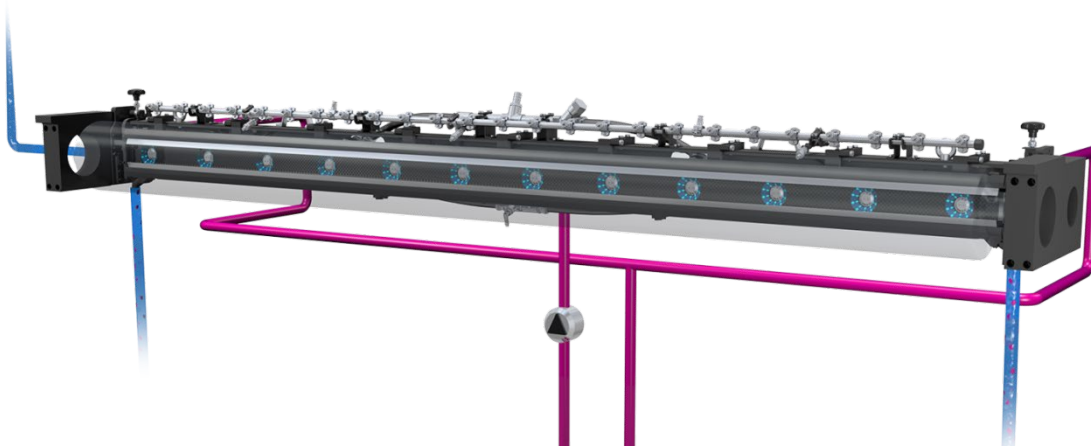
This system ensures a very even doctor blade clamping which increases the lifetime of the doctor blades considerably compared to chambers with doctor blade clamping with screws. Since the pneumatic mechanism is integrated in the chamber profile, the doctor blade exchange system only consists of one part, the doctor blade holder which can be disassembled by the user.



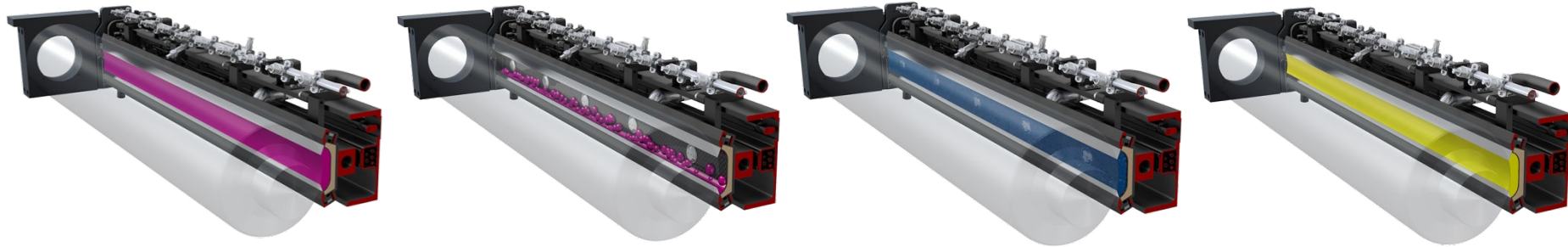
Complete Ink Change and Cleaning Cycle within 3-5 minutes

The MaxiPrint Concept chambers feature integrated cleaning nozzles with robustly designed water-shot mechanisms, ensuring quick emptying for fast and efficient cleaning of the chamber and anilox roll, and limiting ink loss during the cleaning cycle.

MaxiPrint Concept offers option significantly faster emptying performance because the ink/coating fluid is evacuated through both the inlet and the unique quick-emptying outlet.



MaxiPrint Concept Ink Change and Cleaning Cycle



Ink from previous job



Quick emptying

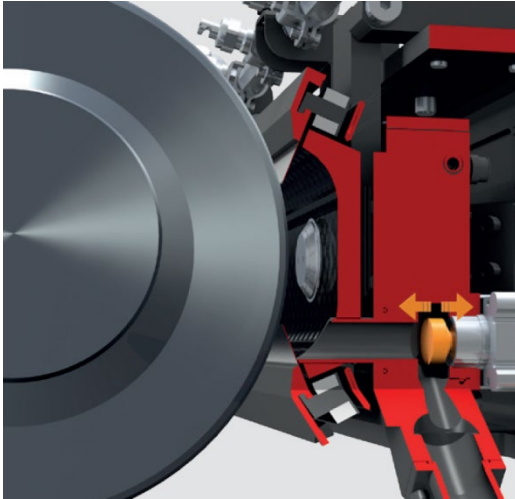


Automatic cleaning

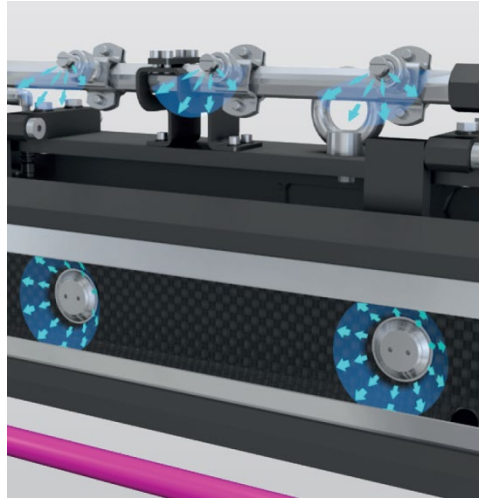


Supply of new ink

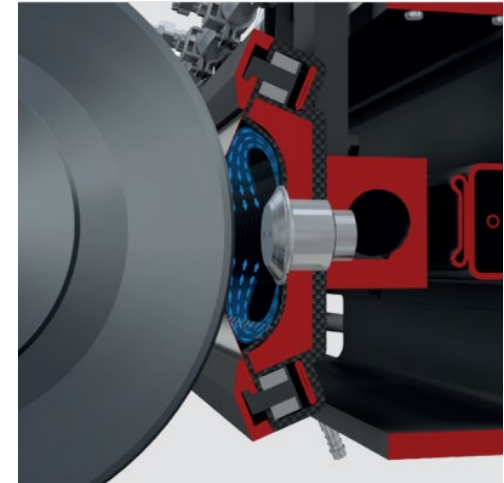
Options



The optional, highperformance Valve ensures quick and efficient emptying of ink/coating fluids from the chamber.



The optional TRESU Spray Bar ensures efficient exterior moistening of anilox roller and doctor blades during the cleaning process.



Robust, integrated cleaning nozzles with water-shot mechanism ensures fast cleaning with convincing results.

ROI (Printing Speed)

Economical point of view

To calculate the economic advantages of a TRESU chamber doctor blade system with anilox roller and ink supply system with integrated high-pressure cleaning a few data is interesting:

- Type and size of printing machine
- Technological condition of the machine in terms of speed, equipment etc.
- Typical job numbers and number of job changes
- Hourly rates of the company

Printing speed

Multi roller system versus TRESU chamber doctor blade system

Printing speed with 10% increased speed (example)

Machine hours per year: (e.g. 220 days x 8 hours)	1760 hours/year
Average printing speed per hour incl. downtimes (multi roller system)	9000 sheets/hour
Average printing speed per hour incl. downtimes (chamber system)	10000 sheets/hour
Printing time approx. 15,800,000 sheets (multi roller system)	1760 hours
Printing time 15,800,000 sheets (chamber system)	1584 hours
Hour saving by using TRESU chamber doctor blade system	176 hours
Machine costs per hour	€ 400.-
Economic savings by using TRESU chamber system (176 * 400)	€ <u>70.400.-</u>

Cleaning

Manual cleaning with multi roller system

- Typically an operator takes care of the entire cleaning process which includes the following steps:
- Access to the machine is prepared, perhaps the printing units must be taken from each other (e.g. Martin DRO 1628)
- Emptying of drip tray, handling of coating pump, lances etc.
- Disassembly of covers, hoses, and drip tray
- Manual cleaning of chrome roller and rubber roller
- Installation of covers, hoses, and drip tray
- Preparation of new ink, viscosity etc.
- This routine must be carried out for each single printing unit

Automatic cleaning with TRESU chamber doctor blade system and ink supply system with integrated high-pressure cleaning. Since the above describe process is automatic, the operator is able to prepare the ink, fill out production papers and insert new printing plate in the machine while the cleaning process is being carried out.

ROI (Cleaning times)

Experiences from other Corrugated printing machines with a multi roller system

Approx. 5-6 minutes of cleaning per printing units at 4 printing units gives approx. 20-25 minutes per job change.

Experiences from other Corrugated printing machines with TRESU chamber doctor blade system with ink supply system with integrated high-pressure cleaning

Approx. 7-8 minutes of cleaning for all 4 printing units at the same time.

Working days per year 220 days

Downtime in hours at 4 job changes per day (multi roller system) 100 x 220 days

366 hours/year

Downtime in DKK at 4 job changes per day (chamber system) 20 x 220 days

73 hours/year

Savings in downtime

293 hours/year

Machine costs per hour

€ 400.-

Economic savings by using TRESU chamber system with

ink supply system with integrated high-pressure cleaning (293 * 400.-)

€ 117.200.-

Ink

Multi roller system versus TRESU chamber doctor blade system

A too thick ink layer with a multi roller ink system is due to lack of consistency from the rubber rollers and the fact that the operator as a matter of precaution always uses a too thick ink layer in connection with a multi roller ink system. This will in practice increase the ink consumption.

Ink consumption is reduced by approx. 15-20% by using the TRESU chamber doctor blade system.

Contact TRESU for further ROI calculation in relation to Doctor Blade Change, Ink savings and water and cleaning detergent savings.

Upgrading of existing pieces

Enhance Printing Quality with a Closed Chamber Doctor Blade System

1

In close cooperation with you, TRESU will define and outline the project for upgrading your new or existing machinery. A TRESU specialist will check the dimensions of your press, determine the right solution for your needs, and outline the project timeline, cost and specifications.

2

TRESU will design, manufacture and assemble the components for your new chamber doctor blade system at our production facilities in Denmark. We will conduct thorough testing prior to delivery.

3

TRESU will deliver your new state-of-the-art chamber doctor blade system, complete with PLC control, ink supply and cleaning system to your facilities. If retrofit, we will handle the installation, and if necessary, reposition the drives to the anilox rollers. We will of course make sure everything is running smoothly before signing off.

[Watch our video on YouTube](#)

Technical Data F10 iCon

Machine type	CL-, Stark, In-Line or other press configurations
Coating type	Water- or Solvent based ink and coating
Approval	Atex/EX
Dimension (HxWxD)	
Pump unit (Dual Unit)	965x900x536 mm
Operation unit	1872x810x800 mm
Weight	
Pump unit (Dual Units)	103 kg
Operation unit	130 kg
External Connections	
Voltage	100-230 VAC - 50-60 Hz
Max. current	13A
Cable connection	3g 1,5 mm ²
I/O Signal from external PLC	Yes
Air supply	Min 6 bar - max 10 bar, clean and dry (ISO)
Air consumption	100-200 l/min per unit
Pump hose connections	3/4"/1"

Cleaning with water based ink

Water supply	0,5-1 bar, 50-100 l/min
Cleaning program	Up to 15 minutes for a 8 color press
Water consumption	Approx. 20-25 liter per unit
Detergent	Approx. 1 liter per unit

Cleaning with solvent based ink

Solvent supply	0,5-1 bar, 50-100 l/min
Cleaning program	Up to 10 minutes for a 8 color press
Solvent consumption	Approx. 14 liter per unit
Data logging	Optional
Filter solution	Yes
Alarm history	Yes
iCon-based HMI touch screen	Yes
Multi-option cleaning process	Yes

TRESU