

Introduction of the specific design features of the Colenta PCB WideTrack Film Processors.

All **Colenta WideTrack PCB Film Processors** are fully automatic „dry to dry“ processing systems designed for total reliability and high quality production. All models incorporate a non opposed hard roller transport system to provide minimal contact with the film emulsion and a series of intermediate fresh water rinse crossovers safely transfer the film between each stage of processing to produce high quality, clean and consistent PCB film with the minimum of operator involvement and daily maintenance.



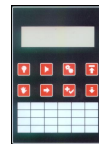
Models available:

Colenta PCB **140/90** NG-4Tank

Colenta PCB **160/90** NG-4Tank

Colenta PCB **200/90** NG-4Tank

processing capacity : 90cm/min @ 35 sec DevTime



Microprocessor
controlled Display



There are a number of high level requirements a film processor used within the PCB industry has to full-fill. **Dimensional stability**, **highest standards in image quality and cleanliness** and, **consistent density**, These are „key facts“ and do not allow any compromise! Read more on page 4!

Colenta, due to regular contact with customers, partners and suppliers working within the PCB industry understand these requirements. With this experience and knowledge we incorporate into our unique and well proven processor design, manufacturing and in house quality control before delivery.

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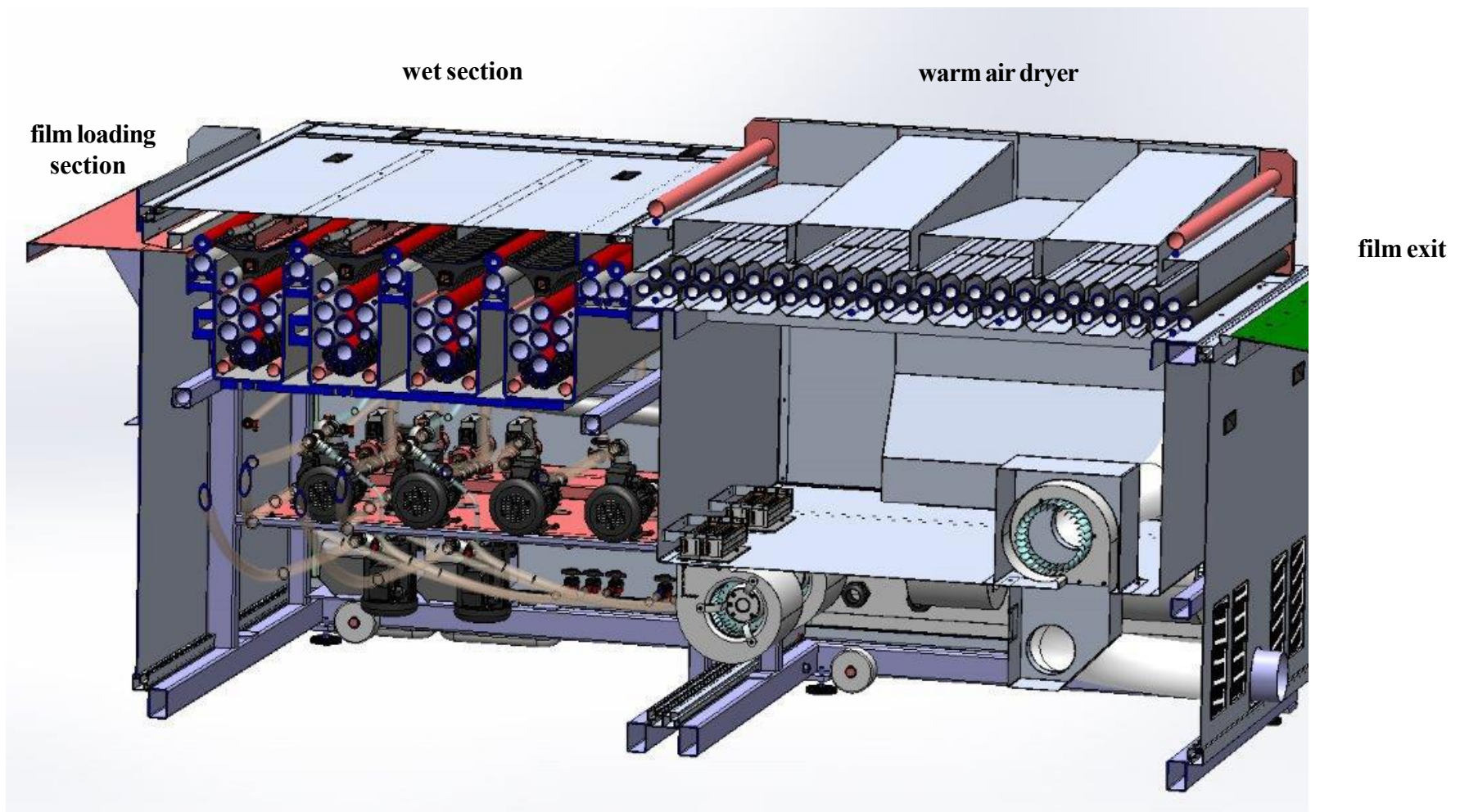
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Colenta PCB 160/90 NG-4Tank



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Colenta PCB 160/90 NG-4Tank



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1) Dimensional Stability:

- * Each film retains precise dimensional characteristics during development and drying, the system of drying is by high pressure low temperature warm air passed evenly through air knives onto the film surfaces..... **see page 5**
- * The Processor is equipped as standard, with the facility to connect and use a tempered water wash in tanks 3 and 4 for washing each film before drying, washing with excessive cold water can disturb the image quality and should be avoided..... **see page 5**

2) Highest standards in image quality and cleanliness:

- * The 2 tank counter flowed washing system provides high efficiency washing at the minimum water flow rates, Each wash tank is circulated and filtered independently and water is only used on demand at a controlled flow rate..... **see page 6**
- * The transport system in each „wet“ rack is fully submerged under liquid which ensures the roller surfaces remain wet and clean at all time.**see page 6**
- * Water rinsed cross over rollers (easy removable) provide a safe and clean transport system for transferring each film through each stage of processing **see page 6**
- * All processing tanks (Developer, Fixer, Wash1 and Wash2) solutions are circulated and filtered continuously during operation... **see page 6**
- * The processor is equipped with automatic Standby, cleaning/anti crystallisation and anti oxidation cycles, programmed precisely to a customers operating schedule.

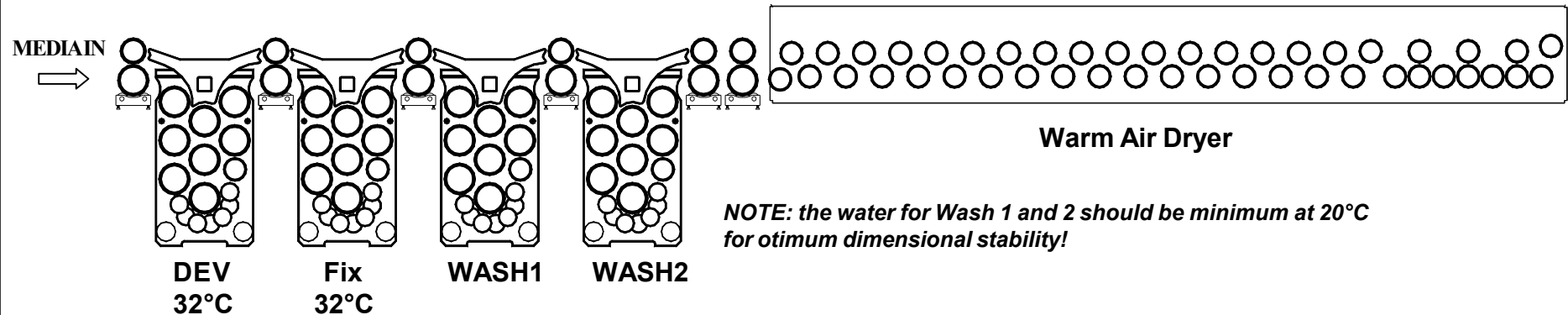


3) Consistent film density:

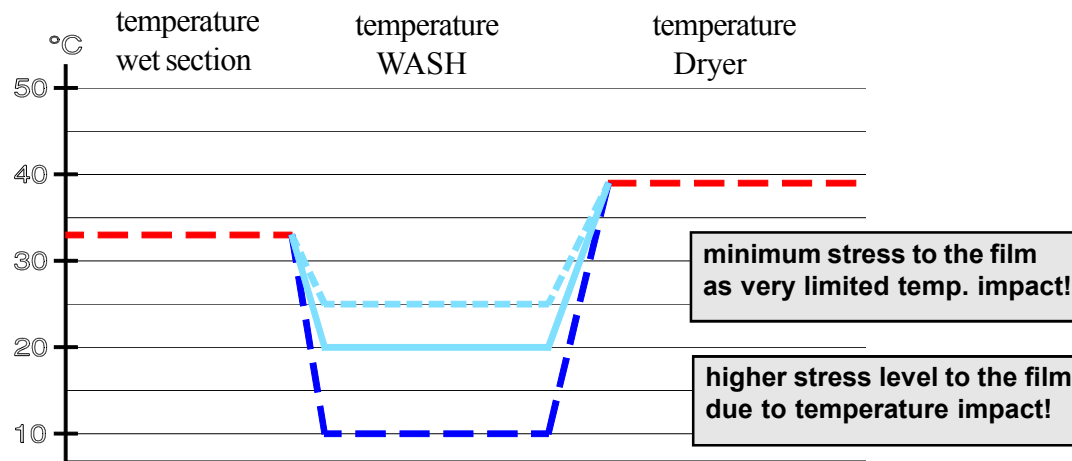
- * Cross circulation for Dev & Fix for even temperature and chemical distribution across the full processor width.....**see page 7**
- * Spray bar agitation**see page 7**
- * Film entry zone circulation especially important for long film format processing to ensure fresh and active chemistry at film entry!**see page 7**
- * Film area based replenishment system - to provide constant fresh chemicals based on actual film surface
- * Automatic programmable replenishment to maintain chemical activity in the developer and fixer tanks during long periods of standby when the processor is on but is not in use

Dimensional Stability:

Most of the film processed within the PCB industry is done within the range of approx **32°C to 35°C** in the Dev and in the Fix - this as recommended by the PCB film manufactures. Film drying, in most cases at 45-50°C. Film washing in most of the cases is done using the local water supply where the temperature - depending on the region & season of the year (!) may be very cold, as a possible consequence, the film, after being heated up to approx 32°C then receives a cold water shock and right after being warmed up again. Depending on the wash water temperature this may effect the dimensional stability.



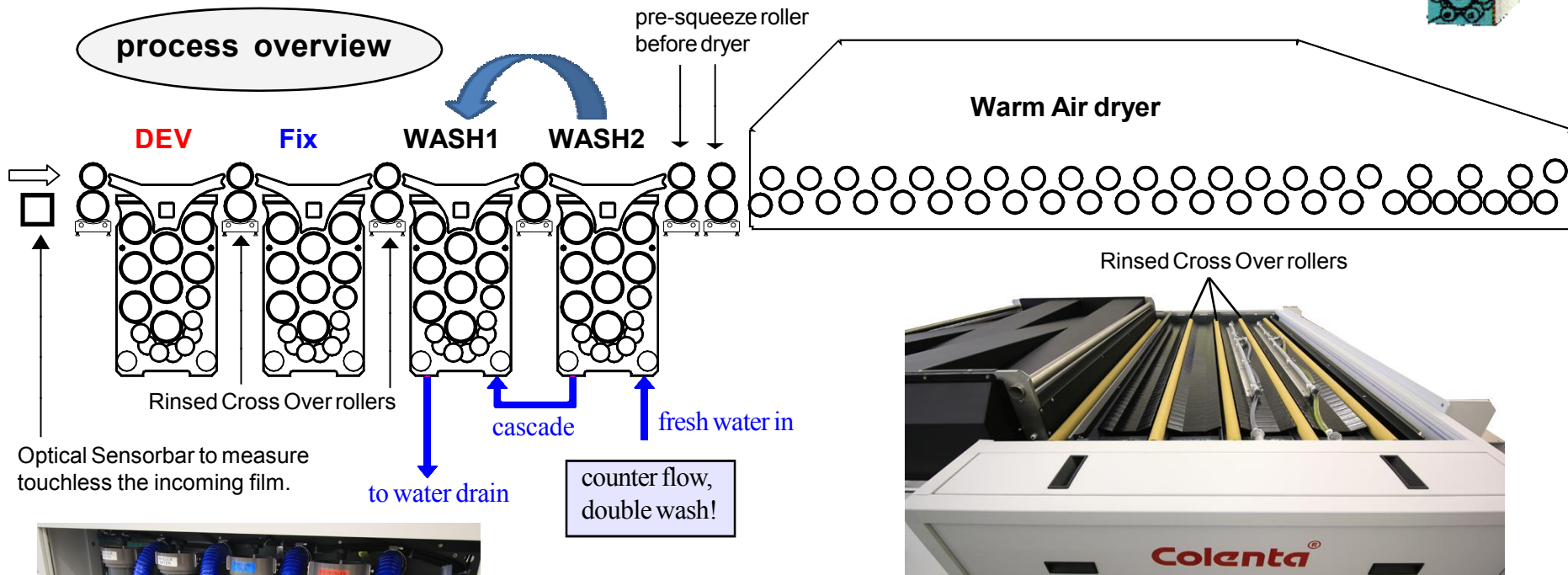
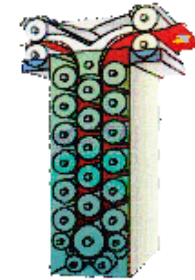
Therefore and primarily for high level and super critical applications, we would recommend to **connect the processor to a tempered water supply** to ensure keeping the temperature differential between chemistry, wash water and warm air dryer to a minimum. All Colenta PCB processor are supplied with the required water connections to support tempered water washing without an additional modification.



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The highest standards in image quality and cleanliness:

The **COLENTA** roller transport system does not use spring tensioned opposed rollers or metal guides, which can cause pressure marks and scratches on the emulsion. Any length of film format can be processed. All transport rollers are below solution level, eliminating crystallization and dirt build-up on the roller surface that again could cause damage to the emulsion or dirt related quality problems. The submerged rollers are designed to balance in solution consequently reducing pressure and wear on bearings - virtually eliminating maintenance costs and extending the life of the racks.



10" inline filter systems for all processing tanks!

The **COLENTA** transport racks are individually identified and fitted with maintenance free inline precision gearing systems to give trouble free operation. We know, how much our competitors are suffering by their worm gear driven transport racks.

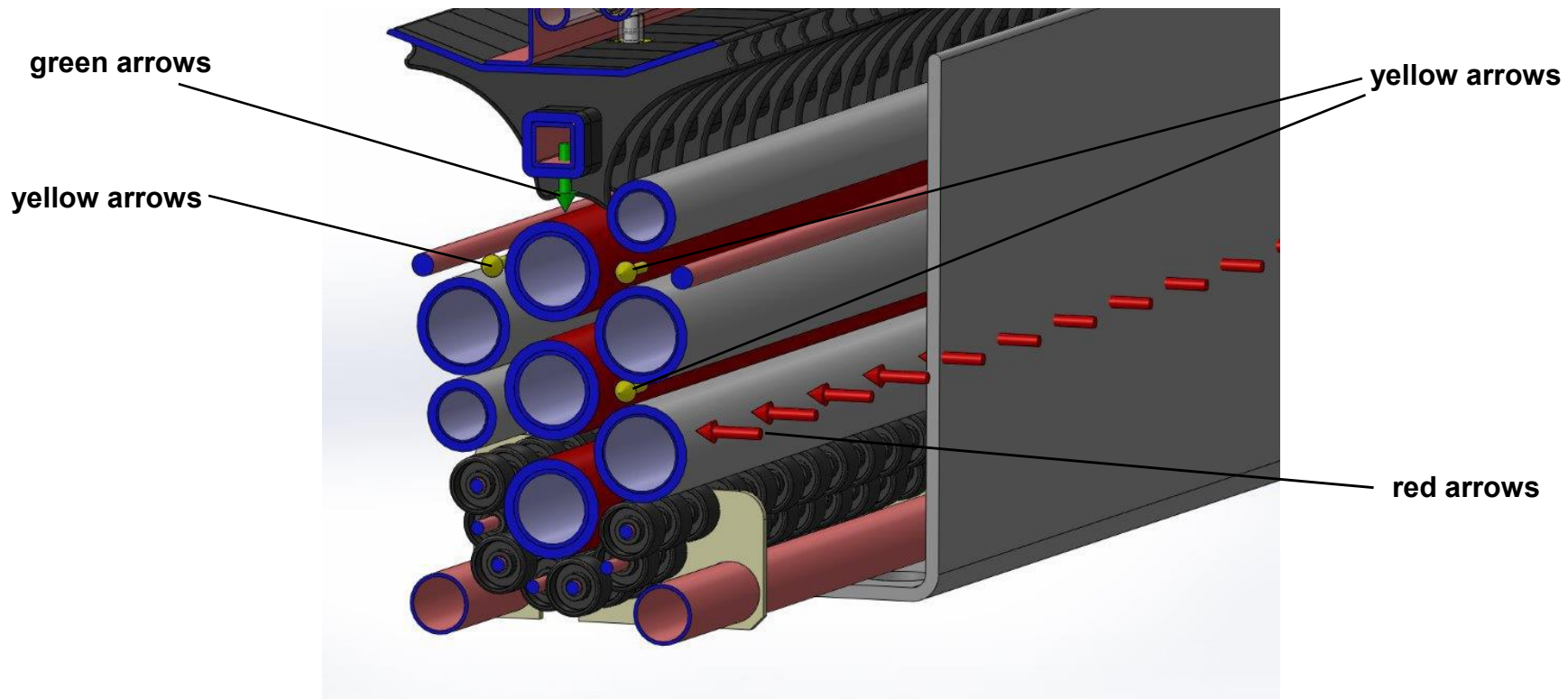
The **COLENTA** intermediate rinse baths system with squeegee rollers gives consistently clean film/paper with minimal carryover of chemistry into the next solution, and savings in the replenishment costs and daily cleaning time. Crossover rollers located above liquid level are designed for easy removal and cleaning.

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Consistent Film density:

The picture details the 3 levels of circulation inbuilt into the processor to provide consistent processing parameters (temperature and agitation) within the developer and fixer racks/tanks to provide an even level of density from side to side and front to back on each film passing through the processor.

The **red arrows** show the spray bar agitation distributing evenly across the full roller width, the **yellow arrows** to show the cross flow agitation directed from the filter pump through injection nipples and across the inside roller system, the **green arrows** to show an additional agitation system that directs solution from the top surface of the rack down into the central area of the rack.



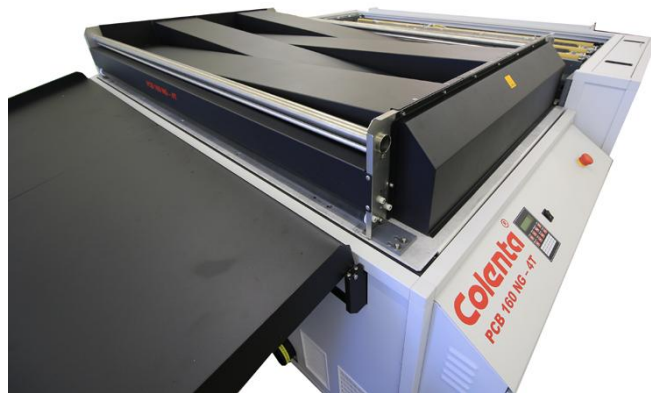
Additional features to enhance the operation and processing stability:

- * The Water Cross over rollers also provide a squeegee action on the film surface to minimize the chemical carry over from tank to tank
- * Cross over rollers are easy to remove during periods of no processing!
- * Removable rack rollers for easy cleaning & maintenance
- * The operating software includes a „Sleep Mode“ feature that, if activated, will automatically put the processor to sleep and then automatically re-start the processor at a programmed time and day as required by the customer. The sleep model activation tool also places the top cover in a position which allows the processor to self ventilate when asleep. During „Sleep time“ cleaning cycle are active.
- * The Monitor mode feature within the software allows the operator to check the position of film within the transport racks at any time, there is also the option at additional cost, to have an additional monitoring feature inbuilt to check each film into and out from the processor.
- * The processor is supplied with a COLD water cooling system for the developer and fixer tank solutions, this cooling function is controlled automatically by the microprocessor whereby a „cooling“ solenoid is activated if the temperatures exceed the limit of the programmed values. When the cooling solenoid is activated/ opened, cooling water flows through the cooling coils located in the developer/fixer tanks until the temperature falls back to the programmed value, at this point the solenoid will then close. Important to understand that, the temperature of the incoming „cold“ water used for cooling, will determine the efficiency of the cooling system and the amount of water used - meaning the longer the cooling solenoid remains active, the more water is used – If an incoming cold water temperature is not sufficiently cold to provide an efficient cooling system then we would suggest to use the option of a closed loop chiller system controlled automatically by the processor and NO water is used for cooling.
- * An in-built service mode allows for all input and output signals to be manually activated when checking the devices/functions of the processor.
- * Other software features include „filter alert“ to advise when filters should be changed, auto-fill facilities/level switches on the 4 processor tanks, level safety protection to disable pumps/heaters when a low level is detected.



* Freely accessible and well structured processor electronics

* Transport rack assemblies can be manually handled into and out from the chemical/wash tanks, a rack carrier/drip tray is provided to transfer each rack from the processor to the washing area when required.



* Safe film handling : safe and controlled film exit function / dryer off function

* Maintenance free and reliable chain drive system

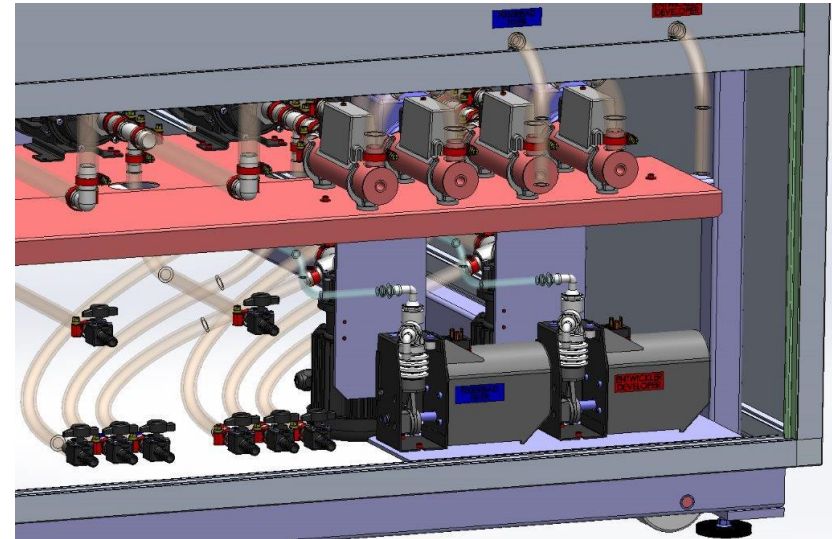


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* In-direct heating system to prevent any direct contact between heaters and chemicals. Heaters are positioned within flow tubes positioned in the circulation lines to the filters so as they can be removed without the need to drain any chemistry from the tanks.



* Replenishment of the developer and fixer chemistry is very precise and fully automatic based on the area of film entering the processor, there is also the possibility to activate manual replenishment cycles.



*Ventilation & exhaust ... important to connect the processor to external exhaust system. All Colenta PCB processor are supplied with the required ventilation and exhaust ports (dia 100mm) to ensure sufficient air exchange within the processor (wet section and dryer section)!



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Colenta Labortechnik GmbH & Co KG take pride in their qualification as an approved manufacturer to ISO 9001 standards.

The ISO 9001 status confirms our commitment to maintain the highest standards demanded by our customers in both the quality of our products and the services we provide.

DNV GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No:
123925-2012-AQ-GER-DAKKS

Initial certification date:
03. January 2001

Valid:
01. March 2019 - 28. February 2022

This is to certify that the management system of

Colenta Labortechnik GmbH & Co. KG

Neunkirchner Str. 117, 2700 Wiener Neustadt, Austria

has been found to conform to the Quality Management System standard:

ISO 9001:2015

This certificate is valid for the following scope:

Design and production of automatic exposure systems and processing equipments for all kind of light-sensitized materials as well as distribution and trading of accessories and consumables

Place and date:
Essen, 07. February 2019



Deutsche
Akkreditierungsstelle
D-ZM-18453-01-00

For the issuing office:
DNV GL - Business Assurance
Schnieringhof 14, 45329 Essen, Germany

Thomas Beck
Technical Manager

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL Business Assurance Zertifizierung und Umweltgutachter GmbH, Schnieringhof 14, 45329 Essen, Germany.
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