

Colenta



Colenta INDX 37 NDT „Mobile“

Established as a world leader in the design and manufacture of high quality processing equipment for sensitised imaging products, Colenta now extend their INDX NDT product range by introducing a new system specifically designed for mobile film processing applications to provide an efficient, robust and flexible system for developing NDT film on location at the job site, which easily installs inside a suitable vehicle to then be taken and used where required.

The system provides the required “all in one” solution to cover the tough demands and special needs in operating a mobile film processing unit and incorporates a compact, fully automatic dry to dry film processor that handles all film sizes up to 35cm in width, producing consistent good quality processing results and using small volumes of chemistry which are accurately replenished and temperature controlled.

Using the combined experience of design and manufacture with the valued input from our customers, Colenta have produced a practical and effective mobile system for developing NDT inspection film inside a vehicle on location.

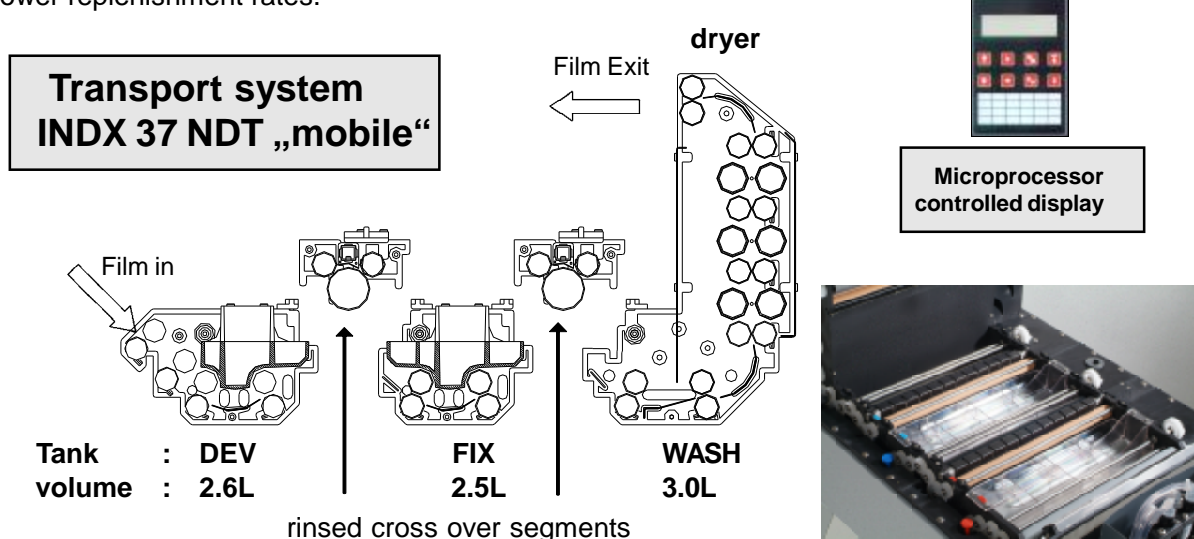
Standard Processor Specifications include:



- * Colenta INDX 37M NDT Film Processor suitable for all commonly used NDT film types
- Maximum film feed width – 37cm
- Minimum film length – 10cm
- Production capacity – 13 cm/min @ 100 seconds development time
- Automatic Replenishment system for Developer & Fixer
- Water Rinse crossover system between the chemical tanks that reduce carryover and repl. rates
- Anti oxidation & Anti crystallisation cycles
- 3 Pre-programmable operating channels
- Automatic developer temp.control and cooling
- Controlled warm air drying with NO Infra-Red in use
- Prepared as standard for use with fresh water
- Well proven and reliable film transport system
- Prepared with ventilation and exhaust

Transport system:

The INDX 37M NDT film processor uses our well proven and well established submersed / staggered hard roller transport system as we use in our INDX 900e model. Water rinse crossovers are positioned between tanks to minimize chemical carry over into the fixer and wash tanks and allow operation at lower replenishment rates.



THE processor for mobile use!

To provide easy and practical installation within mobile transport vehicles/containers the following features are provided as standard

STANDARD features included:

1. Mechanical X-Y axis levelling system

1.1 Inclusive of 2 spirit levels positioned onto the frame

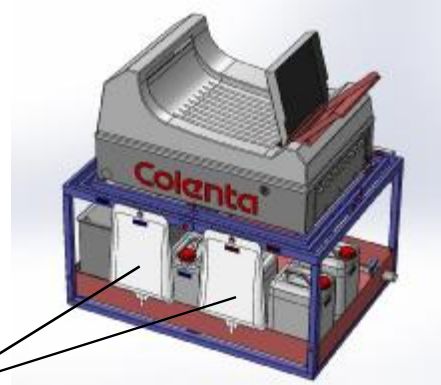
2. Levelling Range : +/- 5cm

3. Compact design incorporating :

- 2x10 Litre tanks for replenishment storage
- 2x10 Litre tanks for waste chemicals

3.1 Flexible and easy to use „air tight“ bag system to store the processing chemicals when the vehicle is moving.

4. A thermoelectric cooling element to ensure a stable developer operating temperature – independent of local water supplies



5. With the following features

- Ambient temperatures closely monitored and alarmed
- The processor is installed onto a robust metal frame/cradle incorporating a stainless steel floor trough with drain
- A light tight cover lid
- AC Line Filter to remove electrical supply noise and spikes (HF noise/ static discharge protection)
- CE approval / certification



6. Level control for the replenishment supply and waste tanks

OPTIONAL features / accessories:

A. Film Loading Guides are available for the required sizes of film in use (ease and safety when loading film in darkness) →



B. Active frost protection - to protect the equipment when kept outside in freezing conditions

C. High efficiency AC Voltage protection – recommended when the available power supply is unstable, i.e. generator

D. Closed circuit wash water system incorporating:

- A 40 litre PVC holding tank integrated within the processor chassis
- A water pump to supply water to the processor
- Level controlled, with a drain facility
- Software monitored



water holding tank
incl. of a pump ↑

E. LED switched lighting system – to illuminate the area under the processor when required

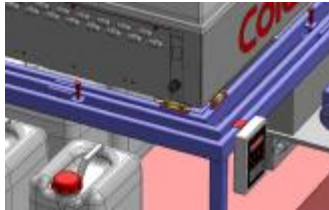
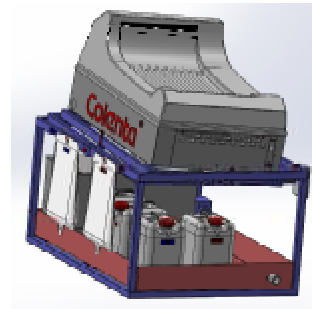
Colenta INDX 37 NDT „Mobile“

INDX 37 NDT „mobile“ standard features

1. Mechanical X-Y axis levelling system.

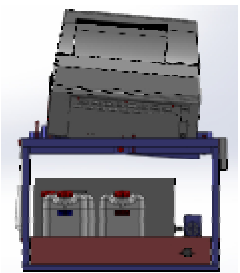
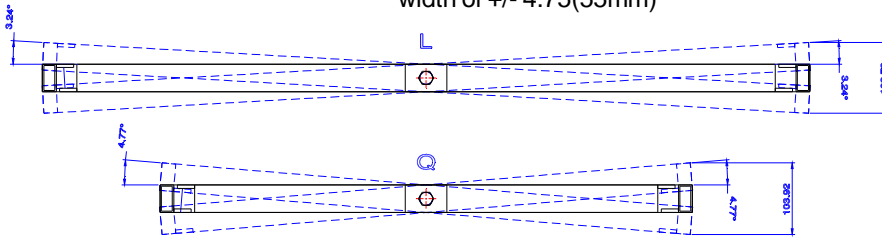
A challenge when operating a film processor in a mobile facility is always to find a way to maintain a level operating platform, with this in mind Colenta have designed and provide an effective, simple and reliable solution for this

– the lower processor frame is connected to the floor of the vehicle, the processor then sits on a frame within this mainframe and this frame is then adjusted to the required level position.



1.1 Two spirit levels are fixed in position on the mounting frame that display when the processor holding frame has been adjusted to a level position – once in position the frame is locked to ensure there is no movement during operation.

1.2 This levelling system can clear a maximum misalignment in length of ± 3.25 (53mm) and in width of ± 4.75 (55mm)



3. Compact Design

All supply and waste tanks are positioned within the chassis area so no additional space around the processor is required.



3.1 „Air tight“ bag system

Another well known problem when using processors in mobile applications is how to quickly and safely handle the chemistry in the processor tanks when moving the vehicle to a new location – Colenta considered and worked with all the options and decided on an easy and trouble free “air tight” bag system. To drain the tanks after use the operator simply positions a bag on the lower frame and opens a tap, the tank solution then under gravity, runs quickly into the bag until the tank is empty. To refill the tank again the operator moves the bag to a position above the processor tank and opens the tap and under gravity the chemical flows back into the tank. A clean and easy system with no expensive and troublesome pumps used.



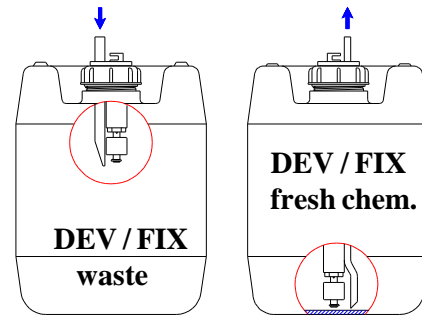
4. cooling:

In general NDT films are processed at low developer temperatures that require an efficient cold water or closed loop chiller system to maintain.....which very often are not available or too expensive to provide. Colenta's answer to this was to design a cooling system using a thermoelectric cooling element which works independently from the local water supply to ensure a stable developer temperature under operating conditions within the range of 8-10°C below the ambient temperature.

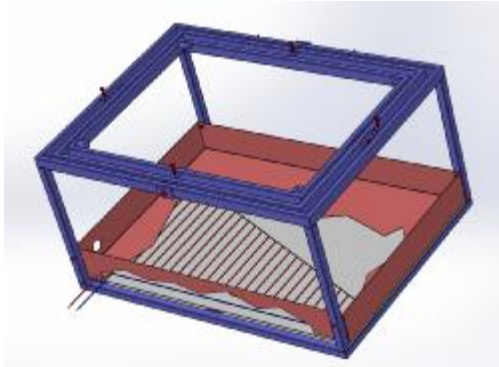
THE processor for mobile use!

5. Level Control:

As an option, the storage and waste collection tanks positioned below the processor can be fitted with level detection devices which monitor a low level replenishment and a high level of waste and are directly connected to the processor electronics to inform and warn the operator when the tanks have to be emptied/filled. Again another useful and practical feature.



INDX 37 NDT „mobile“ optional accessories

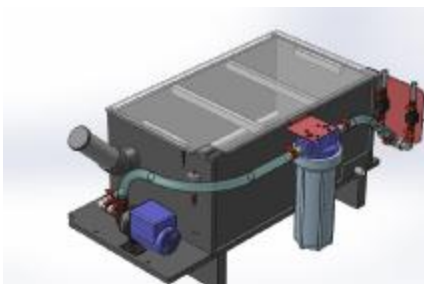
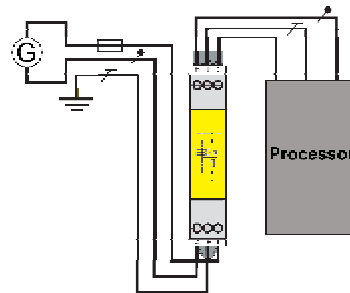


B. Active Frost Protection:

Another factor that can effect the operation of mobile processing equipment is the excessive cold temperatures during a winter period causing liquids inside the processor tanks and storage containers to freeze which can then cause expensive damage. With this in mind Colenta have designed a system which monitors the ambient room temperature – at a set temperature value the processor electronics will automatically start the dryer to generate a warm air flow to keep the liquids above freezing point - there is also an optional heating mat available that can be installed within the processor chassis to provide a heat source in the base of the processor for additional frost protection. An important and useful feature for year round operation.

C. High Voltage Protection:

Very often at the operational sites where mobile processing facilities are required, the electrical power is supplied from generators. The quality of this electrical power is sometimes badly effected by other activities on going at the site (welding/heavy duty motors etc.) and these generators can become unstable – to prevent this effecting the processor Colenta offer, as optional, a high efficiency voltage protection device which when ordered can be factory fitted before delivery.



pump / 40L water holding tank & filter

E. Closed loop water system:

As we know from our experience, a suitable water supply system is not always available on site when film has to be processed and for this situation we offer the option for the processor to have a 40 Litre closed loop water supply system integrated into the lower base section of the processor consisting of a PVC tank and pump controlled and monitored by the processor electronics which circulates the 40 litres of water into and through the processor rinse and wash tanks as required – a level switch within the tank is installed for safety reasons. The processor electronics is continuously measuring the square metre of film area entering the processor which, after a pre-set area has been reached, will alert the operator to replace the tank water with fresh water to ensure the quality of washing meets the required film archival standard. However, when using the optional internal 40 litre water

storage system for film washing, the unit can still be adapted for use with an external fresh wash water supply thereby providing total flexibility in adapting to the local conditions on site.

F. LED Illumination

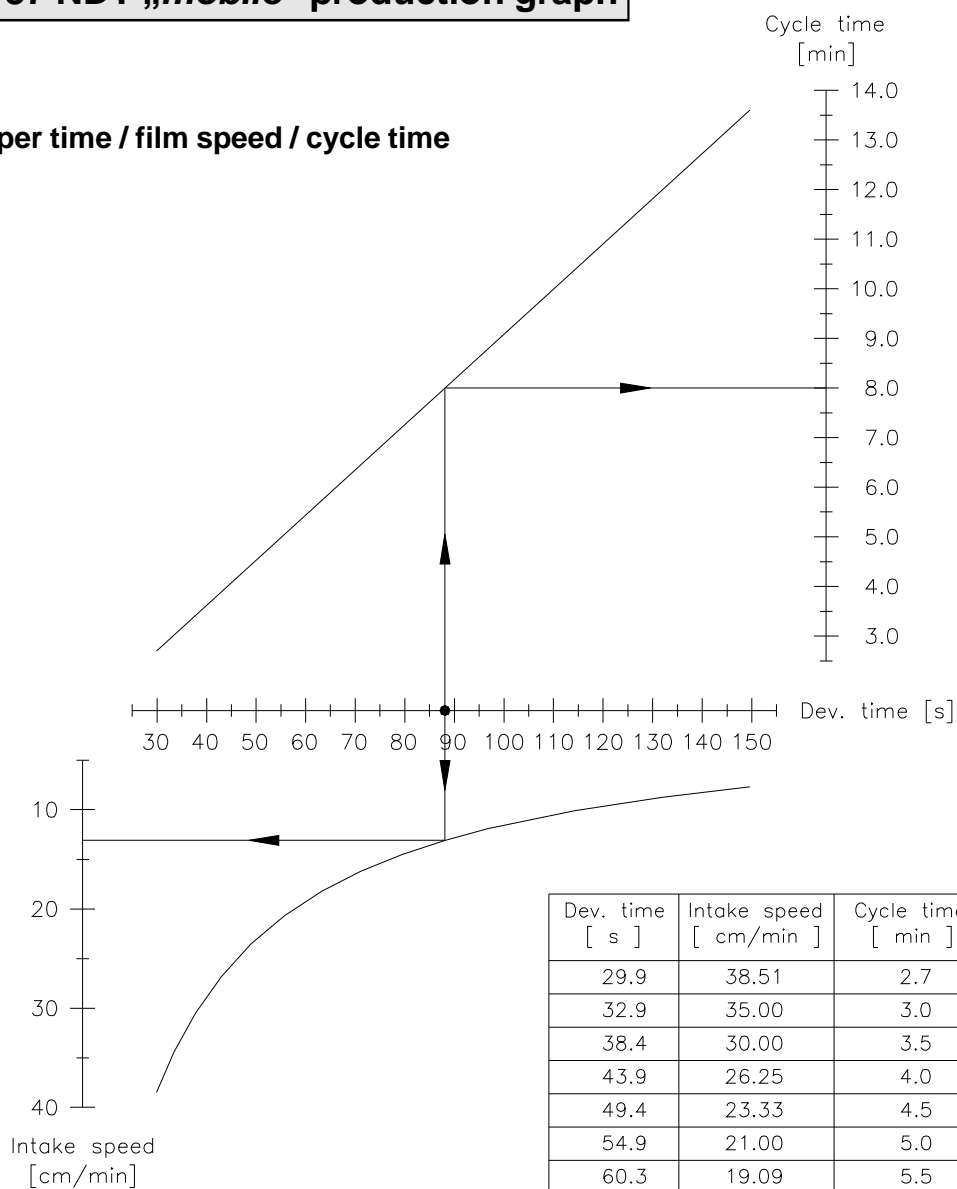
An inspection light in the lower section of the processor to use when checking the chemical supply and waste tank levels, is available as an option. For this we provide a set of small LED's (red 632nm) positioned below the processor main frame that can be turned on and off as required. A "nice to have" feature.



Colenta INDX 37 NDT „Mobile“

INDX 37 NDT „mobile“ production graph

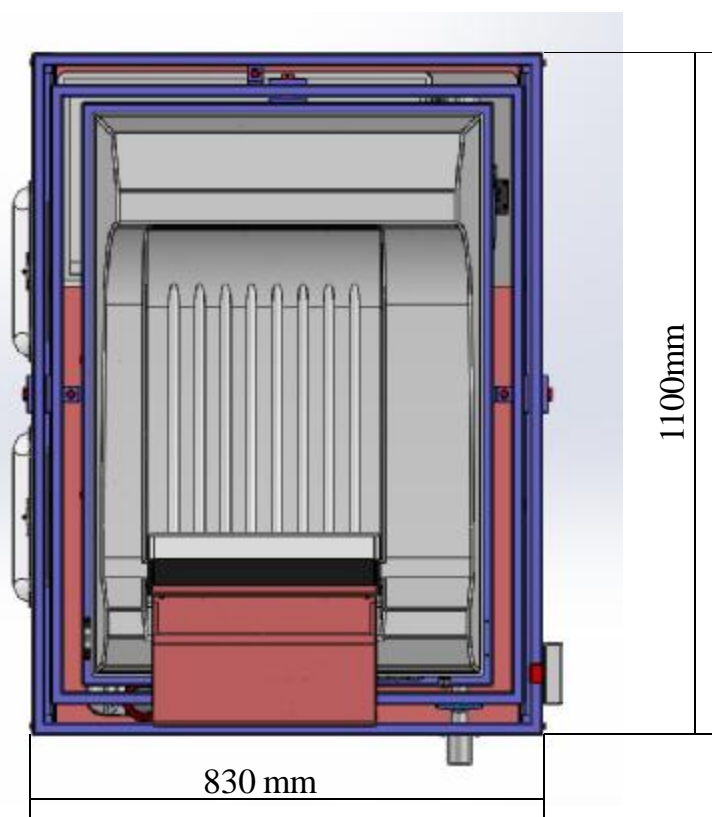
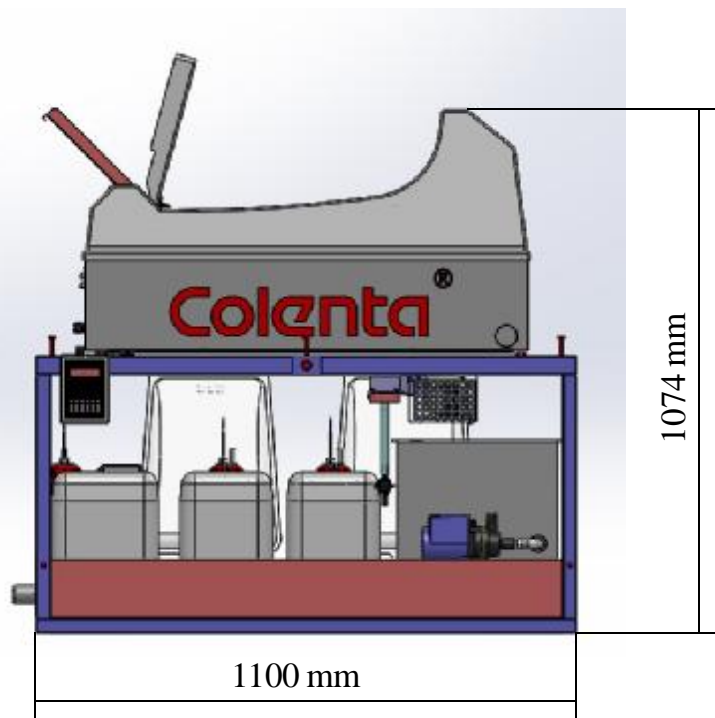
developer time / film speed / cycle time



Dev. time [s]	Intake speed [cm/min]	Cycle time [min]
29.9	38.51	2.7
32.9	35.00	3.0
38.4	30.00	3.5
43.9	26.25	4.0
49.4	23.33	4.5
54.9	21.00	5.0
60.3	19.09	5.5
65.8	17.50	6.0
71.3	16.15	6.5
76.8	15.00	7.0
82.3	14.00	7.5
87.8	13.13	8.0
93.3	12.35	8.5
98.7	11.67	9.0
104.2	11.05	9.5
109.7	10.50	10.0
120.7	9.55	11.0
131.7	8.75	12.0
142.6	8.08	13.0
149.6	7.70	13.6

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INDX 37 NDT „mobile“ dimensions





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



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