

## CLARA

### Rejuvenating machine for film cleaning and regeneration

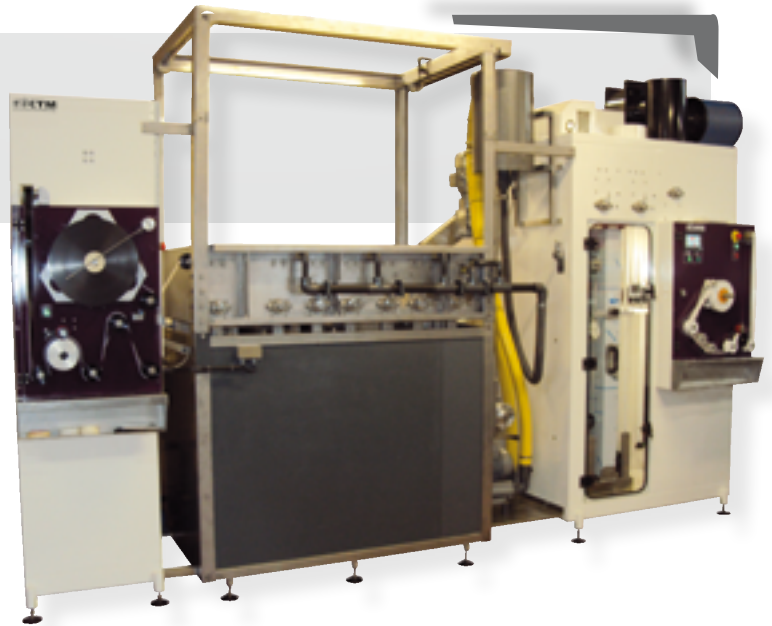
#### Features

- Full rejuvenating process
- Ultrasonic cavitation (option)
- Fast and efficient drying unit
- Demand-drive
- Electronic controlled
- Pumps integrated into the washing tank (module)



#### Cleaning machine consists of the following blocks:

- Unwinding unit
- Humid part (frames, pumps, lift system)
- Winding unit (drying)



#### ■ Full rejuvenating process

The humid part is a monoblock consisting of 4 PVC tanks, 7 stainless steel racks of 12 loops in each. Tanks are filled with chemical or film processing agent and washing water, circulating and maintained at a regulated temperature by a specific pump and exchanger. The 3rd and the 4th tanks mainly serve for washing-out before drying. The last tank contains distilled water to avoid any stain during the drying.

#### ■ Washing block on the 1<sup>st</sup> tank

Washing block is installed on the 1<sup>st</sup> tank. This block consists of 4 cleaning rollers turning by a gear motor-drive, in the opposite direction of the film.



#### ■ Polishing block on the 4th tank

The additional polishing block can be installed on the 4th tank. This block consists of 5 rollers covered with suede. After being moistened, the suede becomes inflated and soft. Thus after having come into contact with emulsion layer, scratches aren't left.



Polishing of the emulsion layer is carrying out for smoothing all the surface of film.

During washing and regeneration, most of scratches are removed without risk of physical damage. Rollers are turning in the opposite direction of the film. The rollers' rotation speed can be regulated. The cleaning rollers are supplied with distilled water. While removing the lift, the machine cuts off water supply to the 4th tank to avoid its pouring out of the tank. Owing to distilled water, spots and stains aren't left during the drying.

### ■ Ultrasonic cavitation (option)

Ultrasonic cavitation can be installed for an optimum cleaning of the film. Ultrasonic transducer is conditioned in a specific stainless steel element. Generator of ultrasonic waves is installed in the machine independently. All its controls are placed on the generator itself.

### ■ Efficient drying unit

It is composed of 1 stainless steel cabinet of:

- 2 x 9 loop racks
- 1 film drying and reheating system
- air supply into the drying unit
- 1 temperature regulator with a probe
- Humidity regulation system with a sensor

The drying module's regulation is simple in use and depends on chosen speed.

### ■ Demand-drive

Film is driven by demande-drive. CLARA uses servo systems, which are employing the smooth continuous motion of the demand-drive system. The demand-drive removes the risk of damaging the negative.

### ■ Electronic controlled (PLC)

All CLARA's processes are electronically controlled. It includes chemical agents' temperature control, air temperature control (drying unit), processing speed control, a footage counter and a global panel control (switch on, stop, pause, pumps and so on). Configuration and controlling - by a color touch screen. This screen has several menu pages. Depending on operation, you chose corresponding menu page and make needed configurations.



Electronic control is realized by PLC (Programmable Logic

Controller). The machine has the history of work: you can see temperature and other graphics for previous working hours. There is also an operator assisting system. While malfunction is occurred, the message with error description and location is shown on the touch screen. CLARA has also a alarm system: the end of film, film break and other elements.

### ■ Several cleaning modes

Depending on a film type, client can choose cleaning and regeneration mode. In addition, CLARA II integrates two systems of brushes for various type of cleaning (dirt, mould, etc.). The first type of brushes is only for cleaning and the second is for cleaning and polishing.

### ■ Unique lift system designed by Debrie

Debrie designed a new technology for simultaneous lift of all frames in the washing unit.

This operation is motor-driven by means of metal ropes. It facilitates technical maintenance and inspection of the frames and reduces the take-up time. If film break-up and other failures happen, operator can immediately lift the frames and take out the film thus preventing damage.

### ■ Compact modular machine by Debrie

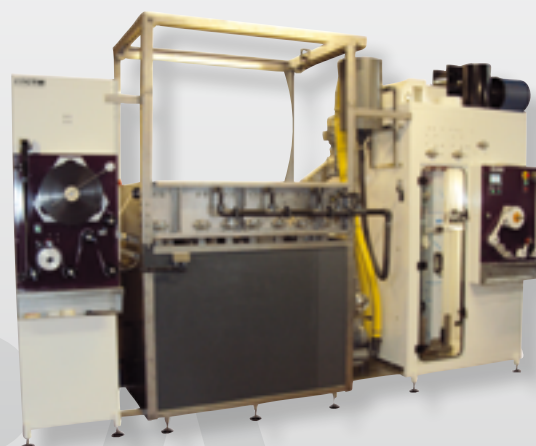
Rejuvenating machine CLARA II is very compact and simple to install in every premise with ceiling height up to 2m50.

### ■ Technical specifications

<b>Film capacity:</b>	600m (2000 feet)
<b>Film formats:</b>	16MM/35 MM
<b>Film speed:</b>	0 to 750 m/h, possibility of regulation
<b>Tanks:</b>	1 PVC monoblock of 4 tanks.
<b>Unwinder buffer:</b>	1min 30s at full speed (750 m/h)
<b>Winder buffer:</b>	1min 30s at full speed (750 m/h)
<b>Pump:</b>	2 circulation pumps
<b>Heat exchanger + filter:</b>	2
<b>Take-off &amp; tale-up:</b>	Electronic control
<b>Film drive:</b>	Electronic control

### ■ Dimensions:

<b>Length:</b>	4100MM
<b>Width:</b>	1375MM
<b>Height:</b>	2447MM
<b>Weight:</b>	2000 kg
<b>Power:</b>	380V, 50Hz, Three phases (P+N+Ground), 15 kW



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