

# Structurix M ECO

Compact and Ecological Film Processor

The Structurix M ECO is the most compact processor of the Structurix ECO film systems, suited to applications that demand the highest image quality while being ecologically responsible. The secret lies in the double fixing tank, the cascade fixing system - a unique concept in the tabletop processors range.

The ease of use and the problemfree maintenance make the Structurix M ECO an extremely user-friendly and reliable processor. It has been designed for consumers of small and medium quantity of film.



A global leader in  
technology-driven  
inspection solutions  
that deliver productivity,  
quality and safety to  
our customers



## Industry Focus with Broad Experience

No matter what your inspection or testing challenge is, we can help.

At GE Inspection Technologies, we are proud to continue the long legacy of leadership and innovation that we inherit as a member of the GE family of companies. Founded by Thomas Edison in 1878 as the Edison Electric Co., GE is known around the world for its excellence, innovation and imagination. Its rich heritage includes the development of non-destructive testing (NDT) and inspection technologies.

Our focus at GE Inspection Technologies covers a broad range of industries and applications. So, whether it's simple or highly complex, we are the world's proven, reliable resource for NDT. We are setting best practices today and are constantly exploring the next generation of NDT solutions, all in an effort to keep our customers at the front edge of quality, safety and inspection productivity.



# Structurix M ECO

## A Smart Choice for Excellent Film Output

The Structurix M ECO is a compact film processor that occupies a minimal amount of space in your darkroom. The M ECO processor is versatile, in the laboratory or transportable in a mobile site darkroom. It processes sheet film as well as roll film up to any length.

This processor appeals to environment-conscious companies of every size and activity where film image quality is of prime importance.

The M ECO is ideal for:

- on-site testing even with multiple processors which are easy to transport and use
- customers switching from manual processing to an automated system
- serving as a back-up system to provide flexibility in film solutions and to complement digital solutions
- situations where space is limited



## Customized Features

- **Compact size**  
Takes up only 0.56 m<sup>2</sup> of floor space.
- **Well-conceived, lightweight construction**  
Constructed of stainless steel, aluminum and PVC to be corrosion resistant strong, lightweight and durable.
- **Easy to use**  
Built with an automatic start/stop function. Film detection with five scanning rollers allow intelligent and economic replenishment depending on the processed film surface. The detachable **control display** provides visual reference of all process parameters (temperature, dryer settings). An OK light indicates when the next film can be inserted.
- **Easy to service**  
Lightweight aluminum side covers enable fast access to the machine. Circulating pumps and racks are easy to remove, clean and service. The **external water and chemical connections** assure an efficient and separate drainage of the liquids.
- **Light-tight cover**  
The **standard light-tight cover** allows the operator to perform other tasks while film feeding into the Structurix M ECO film processor is ongoing. It also prevents dust particles from entering the processor to help avoid scratches on the film.
- **Globally adaptable**  
Comes with **state-of-the-art electronics**. Worldwide “plug and play” feature allows you to adapt it to any standard outlet, accommodating all voltages globally.





# Structurix M ECO

## Ecological and Economical Design



### Ecological Design

The Structurix M ECO lives up to expectations ecologically with:

- Revolutionary **cascade fixing** system which reduces the amount of silver in the waste water by a factor of 5 to 10.
- **Reduction of fixer replenishment** if the Structurix Eco Fix is used.
- **Economical water and electricity consumption.**
- **Infrared drying** reducing the amount of heat produced in the darkroom to a minimum.
- **Optimal replenishment** system as a result of film surface scanning.
- **Intermediate washing** which ensures that there is hardly any carry-over of developer, keeping the fixer bath in optimum condition. This system also prevents development faults occurring on the film.

- **Design for Recycling**

Extra attention has been given to the selection of the materials in order to improve the recyclability. Materials or components which can disrupt the recycling process are easy removable. A Recycling-Passport (RP) and Equipment Information Sheet (EIS) are available.

### Exact Replenishment

The surface area of the film is measured accurately on entry by 5 detector rollers. This unique film area scanning ensures a precise economic, ecologic replenishment operation and reduced replenishment rates.

### Minimal Running Costs

The accurate replenishment, as described above, implies low chemical consumption. In addition, during film processing only an ecologically justified volume of water is used and the consumption of electricity is particularly low due to the infrared drying system.

### Cascade Fixing

The cascade fixing system is an entirely new concept for processing X-ray films.

The Structurix M ECO processor is built with two successive fixing tanks replenished on the counterflow principle.

The result is nothing less than revolutionary in terms of the amount of silver in the wash water.

The cascade fixing principle is basically very simple: the exposed film is first developed in the developer tank and then washed in the intermediate wash tank.

The film is 100% fixed in the first fixer tank and rinsed in the second fixer tank.

Since fixer replenishment is carried out in the second fixer tank, the concentration of silver in this tank remains very low.

There is also very little carry-over of silver into the water tank, so that the waste water complies with the most stringent standards.

The "cascade fixing" system ensures that the amount of silver in the wash water is within the limit  $< 50 \text{ mg/m}^2$ .





# Reliability and User Comfort



## Proven Quality

The Structurix M ECO offers the benchmark quality and outstanding features for processors with which GE Inspection Technology is globally associated.

These exclusive features include:

- Excellent film quality from the first run. The “Intelligent Replenishment” feature means this processor is always ready to use, even if it has been idle for several hours. The processor sends a pulse and ensures the developer and fixer is constantly kept in optimal condition.
- The Structurix M ECO meets the specifications of the international standards, regulations and guidelines. The Structurix M ECO is certified according to TÜV, GS, CE, NRTL.



CE sign



GS sign



USA/Canada NRTL sign

## M ECO Standard Delivery (code ECANF) Includes:

- Table-top Film Processor
- Light-tight Cover
- Customer service documentation and spare parts list
- Operation manual
- International mains connection terminal

## Accessories

- Two replenishment tanks of 30 litres code 3779N
- Water filter with cartridge code EM3YK
- Table stand code 3BNMQ

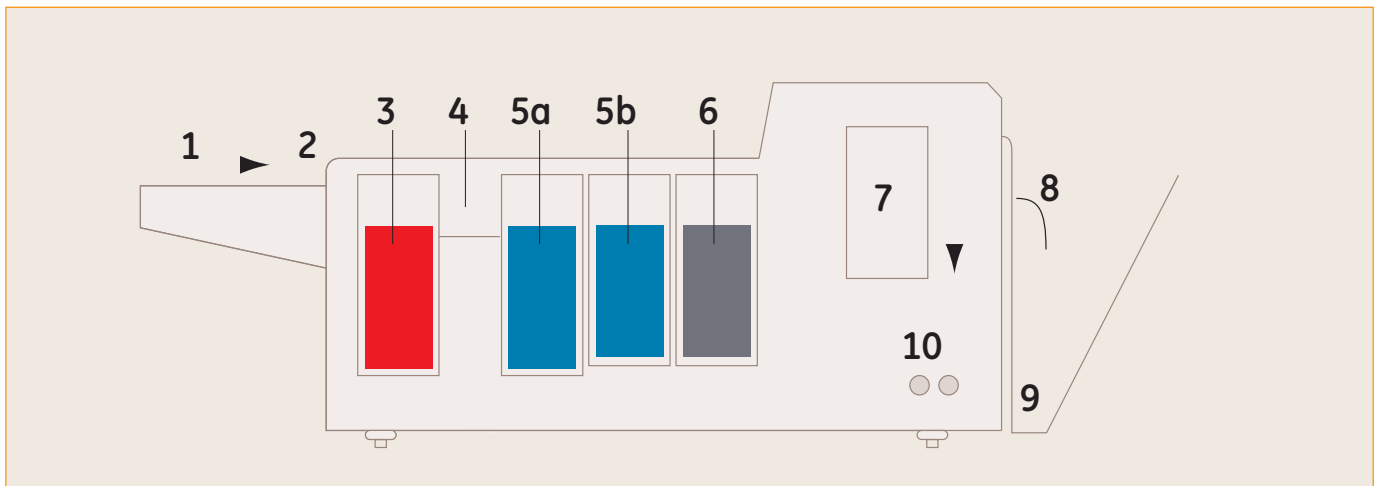
## Peripherals

- NDT Mixer 50 Hz code 3U66F

# Structurix M ECO

## Operating Diagram






Structurix M ECO



### Operating diagram:

- 1 Film feed table
- 2 Film area scanning
- 3 Developer tank
- 4 Intermediate wash area
- 5 a Fixer tank F1
- 5 b Fixer tank F2
- 6 Final wash tank
- 7 Infrared dryer
- 8 Film output
- 9 Film receiving tray
- 10 Overheating protectors for developer and fixer

# Technical Specifications

| Structurix NDT Processors |   |   |  |   |   |                                       |
|---------------------------|---|---|--|---|---|---------------------------------------|
|                           | Si  | S Eco   | U  | M ECO   | NOVA  |                                       |
|                           |  |  |  |  |  |                                       |
| Preprogrammed Cycles      | 7   | 7   | 1  | 1   | 1   |                                       |
| Optional Cycles           | 1.5 up to 12 Min. (per 30 Sec.)   | 1.5 up to 12 Min. (per 30 Sec.)   | 3 up to 12 Min. (per 1 Min.)<br>OS-cycles: 1.5/2/2.5                               | 1.5 up to 12 Min. (per 1 Min.)  | 1.5 up to 12 Min. (per 1 Min.)  |                                       |
| Standard Processing Cycle | 8 Min.  | 8 Min.  | 8 Min.   | 8 Min.  | 8 Min.  |                                       |
| Developer Immersion Time  |   | 100 Sec.  | 100 Sec.   | 100 Sec.  | 100 Sec.  |                                       |
| Capacity (8 Min. Cycle)   | 10 cm x 48 cm (4 Films Side by Side)  | 300 Films/Hour  | 148 Films/Hour   | 106 Films/Hour  | 92 Films/Hour   | 92 Films/Hour                         |
|                           | 14" x 17"   | 75 Films/Hour   | 48 Films/Hour  | 34 Films/Hour   | 30 Films/Hour   | 30 Films/Hour                         |
| Transport Speed           | 50 cm/Min.  | 32 cm/Min.  | 23 cm/Min.   | 20 cm/Min.  | 20 cm/Min.  |                                       |
| Film Sizes                | Format Min.   | 6 x 12 cm   | 6 x 12 cm  | 6 x 12 cm   | 6 x 12 cm   | 6 x 12 cm                             |
|                           | Width Min.  | 35  | 3.5 cm   | 3.5 cm  | 3.5 cm  | 3.5 cm                                |
|                           | Width Max.  | 43 cm   | 43 cm  | 43 cm   | 43 cm   | 43 cm                                 |
|                           | Length Min.   | 12 cm   | 12 cm  | 12 cm   | 12 cm   | 12                                    |
| Dimensions                | Length  | 162 cm  | 162 cm   | 120 cm  | 142 cm  | 119 cm                                |
|                           | Bottom  | 111 cm  | 111 cm   | 75 cm   | 86 cm   | 63 cm                                 |
|                           | Width   | 71 cm   | 71 cm  | 68 cm   | 68 cm   | 68 cm                                 |
|                           | Height  | 123 cm  | 123 cm   | 105 cm  | 59 cm   | 57 cm                                 |
|                           | Surface on Floor  | 0.79 m <sup>2</sup>   | 0.79 m <sup>2</sup>  | 0.50 m <sup>2</sup>   | 0.56 m <sup>2</sup>   | 0.40 m <sup>2</sup>                   |
| Weight                    | Empty   | 298 Kg  | 285 Kg   | 160 Kg  | 104 Kg  | 80 Kg                                 |
|                           | With Chemicals  | 426 Kg  | 426 Kg   | 250 Kg  | 134 Kg  | 110 Kg                                |
| Power Supply              | Amperage  | 16 A  | 16 A   | 16 A  | 16 A  | 8.5 / 7.5 / 6.5 / 7.3 A               |
|                           | Frequency   | 50 Hz / 60 Hz   | 50 Hz / 60 Hz  | 50 Hz / 60 Hz   | 50 Hz / 60 Hz   | 50 Hz / 60 Hz                         |
|                           | Voltage   | 208 / 230-240 V   | 208 V / 230-240 V  | 200 V / 240 V   | 100 V / 120 V / 200-208 V / 230-240 V   | 100 V / 120 V / 200-208 V / 230-240 V |
| Tank Capacities           | Developer Tank  | 37 l  | 41.5 l   | 24 l  | 10 l  | 10 l                                  |
|                           | Fixing Tank F1  | 37 l  | 41.5 l   | 20 l  | 10 l  | 10 l                                  |
|                           | Fixing Tank F2  | 27 l  | 29 l   |   | 9 l   |                                       |
|                           | Final Wash Tank   | 27 l  | 29 l   | 20 l  | 9 l   | 10 l                                  |
| Standard Consumption      | G135 Developer  | 900 ml/m <sup>2</sup>   | 900 ml/m <sup>2</sup>  | 900 ml/m <sup>2</sup>   | 900 ml/m <sup>2</sup>   | 900 ml/m <sup>2</sup>                 |
|                           | G335 Fixer  | 700 - 1200 ml/m <sup>2</sup>  | 1200 ml/m <sup>2</sup>   | 1200 ml/m <sup>2</sup>  | 1200 ml/m <sup>2</sup>  | 1200 ml/m <sup>2</sup>                |
|                           | Water   | 13 l/m <sup>2</sup>   | 13 l/m <sup>2</sup>  | 13 l/m <sup>2</sup>   | 13 l/m <sup>2</sup>   | 13 l/m <sup>2</sup>                   |
| Developing Temperature    | 28°C  | 28°C  | 28°C   | 28°C  | 28°C  |                                       |

| ECO Film System at Standard (Eco) Cycle |                                      |                             |  |                       |  |  |
|---|--------------------------------------|-----------------------------|--|-----------------------|--|--|
| Eco Cycle                               |                                      | 8 (5) Min.                  |  | 8 Min.                |  |  |
| Developer Immersion Time                |                                      | 100 (62.5) Sec.             |  | 100 Sec.              |  |  |
| Capacity                                | 10 cm x 48 cm (4 Films Side by Side) | 148 (300) Films/Hour        |  | 92 Films/Hour         |  |  |
|   | 14" x 17"                            | 48 (75) Films/Hour          |  | 30 Films/Hour         |  |  |
| Transport Speed                         |                                      | 32 (50) cm/Min.             |  | 20 cm/Min.            |  |  |
| ECO DEV Developer                       |                                      | 900 (550) ml/m <sup>2</sup> |  | 900 ml/m <sup>2</sup> |  |  |
| ECO FIX Fixer                           |                                      | 700 (700) ml/m <sup>2</sup> |  | 700 ml/m <sup>2</sup> |  |  |
| Water                                   |                                      | 13 l/m <sup>2</sup>         |  | 13 l/m <sup>2</sup>   |  |  |
| Developing Temperature                  |                                      | 27 (29)°C                   |  | 27°C                  |  |  |

Table above shows standard values at standard processing cycle unless differently indicated (modifications possible)



## Regional Contact Information

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### GE Inspection Technologies: productivity through inspection solutions

GE Inspection Technologies provides technology-driven inspection solutions that deliver productivity, quality and safety. We design, manufacture and service ultrasonic, remote visual, radiographic and eddy current equipment and systems. We offer specialized solutions that will help you improve productivity in your applications in the aerospace, power generation, oil & gas, automotive or metals industries.

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