

Carestream INDUSTREX M43ic Processor, M43icN Processor and M37 Processor for Non-Destructive Testing

HIGH-PERFORMANCE PROCESSORS FOR NON-DESTRUCTIVE TESTING



Quality images, efficient output, energy and water savings.

MEET TWO POWERFUL INNOVATIONS FOR PRODUCING HIGH-QUALITY NDT RADIOGRAPHS. CHOOSE THE INDUSTREX M431C FOR HIGH-VOLUME OUTPUT OR THE INDUSTREX M37 FOR SPACE-SAVING DESIGN AND MID-VOLUME OUTPUT.

These feature-rich processors include state-of-the-art microprocessor control, to automatically monitor and regulate:

- High Capacity, ranging from 27-58 35cmx43cm sheets/hour based on model
- Developer temperature
- Drying temperature
- Developing time
- Replenishment rates
- Automatic stand-by mode for low water and power consumption, environmental friendly
- Filtered developer processing solutions

AUTOMATIC TANK SOLUTION REPLENISHMENT

Microprocessor calculates amount of film entering processor based on the input of sensors; it then uses this data to precision-measure the replenishment fluid needed.

ANTI-OXIDATION STANDBY MODE

This function prevents oxidation and chemistry breakdown by automatically injecting developer solution into the tank when unit is not in use.

SUPERIOR FILM-DRYING SYSTEM

Processors dry film thoroughly without the use of damaging infra-red technology.

SPECIALIZED TRANSPORT ROLLERS PROTECT FILM

Eliminate crystallization of chemicals on rollers, and minimize dirt and debris deposited on film. Processor rollers remain submerged in solution when not in use—keeping them clean and running smoothly.

INDUSTREX M37 Processor

The tabletop INDUSTREX M37 is ideal for automatic processing in mid-volume facilities. While compact, it offers the output you need and the excellent image quality and reliability you demand.

The new INDUSTREX M37 film processor incorporates all the experience and features you've come to expect from the INDUSTREX line of products for NDT applications. The processor ensures totally automatic film handling and supports nine programmable-controlled processing channels that allows for flexibility in your day-to-day NDT film production.



THE INDUSTREX M37 PROCESSOR FEATURE SET INCLUDES:

- Ease of operation with nine programmable-controlled processing channels
- Economical medium-range processor with capacity of 27 sheets/hour (35cmX43cm) in the recommended processing cycle
- Compact design for smaller labs or environments
- Comes with a table stand as standard
- Filtered developer solution that reduce film artifacts
- Intermediate rinse rack bath system
- Can be used in stand-alone darkroom or through-the-wall installations
- Automatic film-in detection utilizing a pulsed infra-red sensor bar
- Automatic chemicals replenishment system for developer and fixer
- Automatic heating for developer and fixer
- Automatic anti-oxidation and anti-crystallization cycles
- Separate drainage for developer, fixer and wash chemicals

STANDARD ACCESSORIES

- Two 30-liter replenisher storage tanks
- Light tight feed-tray cover
- Open stand for processor
- Re-locatable controller unit for operator convenience
- Spare part kit included

INDUSTREX M43IC Processor

Designed for the needs of high-volume Non-Destructive Testing customers, the INDUSTREX M43IC provides multiple processing cycles and dry-to-dry processing in as little as two minutes.

This processor also comes standard with an integrated closed-loop chiller to ensure consistent temperature in hot environments or when water supply is not temperature controlled to further enhance capability and image quality in harsh NDT environments.

THE INDUSTREX M43IC PROCESSOR HAS A ROBUST FEATURE SET THAT INCLUDES:

- Up to nine programmable-controlled processing channels for maintaining preferred settings such as processing speed, developer temperature, fixer temperature, dryer temperature and replenishment rate
- High processing capacity of up to 58 sheets/hour (35cmX43cm) in the recommended processing cycle for improved productivity
- An intermediate fix rinse bath rack system that enhance process uniformity to both sides of the film
- Feed-tray cover that allows for room light operation
- Filtered developer solutions that reduce film artifacts
- Integrated chiller unit that maintains developer temperature uniformity in hot environments
- Two 50-liter replenishment storage tanks
- Low level monitoring of all tank solutions
- Automatic tank solution "Top-Up" control that maintains correct solution levels upon processor start up
- Work-in-progress monitoring
- Integrated connectors to an external exhaust air system

THE INDUSTREX M43ICN PROCESSOR FEATURES INCLUDE:

The M43icN is a special configuration designed specially for the demanding needs of customers in nuclear power generating industry and those using linear accelerators to expose x-ray film. The M43icN has the same outstanding features as the M43ic with the addition of custom transfer rollers that enhance process uniformity of high-density radiographs often used in these applications.



INTERFACE DISPLAY

The units' intuitive keypad interface simplifies operation, and allows new users to become experts in a hurry. Touch a few buttons, and you can preprogram up to nine different settings to automatically accommodate your most frequent applications. Install these processors for free-standing operation in darkroom or for convenient through-the-wall feeding—load exposed film in darkroom, collect processed films in normal room light.

INDUSTREX M43icN and M37 Processors Specifications

Category Group	Standard Specifications	M37	M43ic / M43icN*
Application	Application	Table-top, medium capacity general NDT radiography	Floor-standing, high capacity general NDT radiography
	Specialty application	N/A	M43icN for nuclear power industry imaging requirements*
Developer	Developer	6.2L (including Developer filter system)	13.4L (including Developer filter system)
	Developer tank recirculation pump	Yes	Yes
Dryer	Dryer range	Adjustable in a range 18°C -60°C	Adjustable in a range 18°C -60°C
	Dryer type	Warm air	Warm air
	Integral warm air exhaust port	Yes	Yes
Electrical	Power requirements	200-240VAC 50-60hz Single Phase, 13A, 2.0kW	200-240VAC 50-60hz Single Phase, 16A, 3.6KW
Environmental	Automatic standby (power and wash water savings)	Yes	Yes
Film	Film format types	Rolls / Cut sheets of NDT x-ray films	Rolls / Cut sheets of NDT x-ray films
	Film Sheets Per Hour [35x43cm]	27 sheets/hour @ 110 seconds recommended development time [22cm/min]	58 sheets/hour @ 100 seconds recommended development time [39cm/min]
	Film thickness	0.10 mm - 0.18 mm	0.10 mm - 0.18 mm
	Material length [minimum]	10 cm minimum	10 cm minimum
	Material width	7.5 cm - 37.0 cm	7.5 cm - 43.0 cm
Fixer	Fixer	5.7 L	13.3 L
	Fixer tank recirculation pump	Yes	Yes
Installation	Installation configuration options	Free-standing with included table stand or through-the-wall	Free-standing floor model or through-the-wall
	Processor stand	Yes, included as standard	N/A
Operation	Number of programming channels available	9 channels [comes preprogrammed with standard process cycle recommendations]	9 channels [comes preprogrammed with standard process cycle recommendations]
	Automatic cleaning cycle	Yes	Yes
	Feed tray cover	Included	Included
	Film feed signal	Yes	Yes
	Rack drip tray	Included as standard	Included as standard
	Relocatable control panel unit	Yes	Yes
	Spare parts kit	Yes, small user kit included as standard	Yes, small user kit included as standard
Weight		Empty: 113 kg, with solution: 134 kg	Empty: 177 kg, with solution: 215 kg
Processing Solutions	Adjustable Replenishment rates	Yes	Yes
	Cooling liquid	N/A	2.5 L
	Integrated cooling system	cold water cooling	Yes, integrated chiller with closed loop cooling system
	Replenisher tanks	2x30 liter w/cover lids	2x50 liter w/cover lids
	Replenishment type	Automatic scanning based on film area	Automatic scanning based on film area
	Solution filter elements	Developer	Developer
	Solution Heating (FIX and DEV)	Adjustable in a range of 18°C - 43°C (separate inline 350W heaters)	Adjustable in a range of 18°C -43°C (separate inline 350W heaters)
	Solution level monitoring	Optional	Yes, with automatic top off at start up
	Emergency shut off switch	Yes, fixed position with remote option	Yes, fixed position with remote option
Time/speed	Cycle Time (dry to dry) [min]	1.6-11 min (7 minutes @ recommended development time)	2.1-12.6 min (7 minutes @ recommended development time)
	Intake Speed [cm/min]	95-14 cm/min	128-22 cm/min
	Time in Developer [sec]	Range: 25-170 sec (22cm/min @ 110 seconds recommended dev.time)	Range: 31-184 sec (39cm/min @ 100 seconds recommended dev.time)
Transport	Developer to fixer crossover style	Dry or rinsed crossover rollers	M43ic spray bar style, M43icN dry crossover style*
Wash	Wash tank feature	High power agitation	N/A
	Wash tank recirculation pump	Yes	No
	Wash Water tank	5.7 L	11.5 L
	Wash water reduction system	Yes, water is used only on demand. 2.5 liter/min during a process cycle	Yes, programmable start/stop washing cycles 2.5 liter/min max useage
Feature	Anti-oxidation/cleaning programming	Yes	Yes
	Precision speed control	Yes, motor tacho pulse regulation	Yes, motor tacho pulse regulation
	Developer Filter change prompt	Yes	Yes
	Processor Monitoring	Yes, operator displays w/ audible alerts	Yes, Operator displays w/ audible alerts

*Indicates custom features of M43icN model..

