

# Product Information

**STRUCTURIX**  
Film Systems

## NDT S-i

**Ecology and Economy  
Go Hand in Hand**

Building on its years of experience, Agfa now introduces the Structurix NDT S-i film processor. The NDT S-i film processor forms the basis of a NEW Structurix High Capacity Film System that boasts a revolutionary design and takes X-ray film processing to the next level.

### **Ecology and Economy Go Hand in Hand**

The Structurix NDT S-i is a leading-edge processor that brings speed, operational flexibility, money-saving innovations, and environmentally friendly design together in a single package.

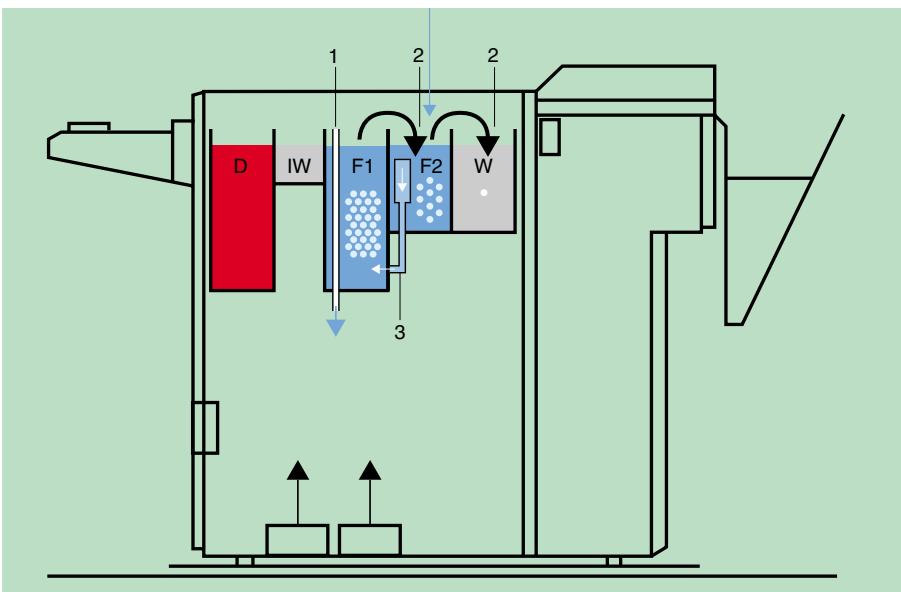
Agfa is an industry leader in processors that use a leading edge "Cascade-Fixing" system. Featuring a double-fixing tank, the Structurix NDT S-i generates improved results, yet requires few resources to achieve those results.

Comprised of Optimized Film, industrial Chemistry, and a New Processor, the High Capacity Film System extracts the maximum in economic and ecological benefits by delivering:

- Higher processing "throughput" (on the order of 20 percent) when compared to its predecessor, the NDT3
  - A reduction of fixer replenishment is possible.  
Check with your local legislation requirements.
  - Optimized archiving results
  - Less handling of the products
  - Dramatically lower silver level in the waste water, representing a reduction of 90 to 95 percent
  - Fewer chemical wastes, and thus a considerably lower cost to dispose of that waste.
  - Lower warehousing and handling costs and less packaging waste due to the need for fewer chemicals
  - Substantially lower costs for energy and water usage
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- At the same time, the Structurix High Capacity Film System is certified to the following Industrial Film Systems Classification Standards (100 sec developer immersion time, G 135, 82.4°F)
    - EN 584-1
    - ASTM E-1815
    - ISO 11699-1
    - JIS-K7627



<b>D</b>	Developer tank
<b>IW</b>	Intermediate wash tank
<b>F1</b>	Fixer tank 1
<b>F2</b>	Fixer tank 2
<b>W</b>	Final wash tank
<b>1</b>	Overflow F1
<b>2</b>	Transfer of residues
<b>3</b>	Replenishment link between F1 and F2 in the direction of F1



## Structurix Films

All Structurix films can be used with this system.

## Structurix Chemicals

### Structurix G135

A standard three part developer bath for universal use, providing film developing and high image quality capabilities.

### Structurix G 335

A two part fixer that provides the lowest possible replenishment rate thanks to the Cascade Fixing System. G 335 also delivers optimum archiving results.

## Structurix processor

### High Capacity

The throughput or processing rate, of the Structurix NDT S-i is designed to meet the needs of a wide range of users, including those with large film processing demands and companies with high production peaks. Set to an eight-minute cycle, the NDT S-i

boosts the processing speed to 20 inches of film per minute, or 78 films (size 14x17") per hour.

### A New Revolutionary Technology "Cascade Fixing"

Agfa's new Cascade Fixing System delivers consistently high-quality images. What makes the system special is that it delivers those images at a higher throughput rate, while reducing the environmental impact. Thanks to a design that features two successive fixing tanks that are replenished on the counter-flow principle, the Structurix NDT S-i significantly reduces the silver residue present in the waste water.

The exposed film is first developed in the developer tank and then rinsed in the intermediate-washing tank. Intermediate washing ensures that little of the developer solution carries into the fixing tanks, this keeping the 'fixer bath' in optimum condition. At the same time, the intermediate washing process helps to prevent faults from occurring on the film being developed.



## The operating method of the Cascade Fixing System is simple but effective.

The film is 100 percent fixed in the first fixer tank and rinsed in the second fixer tank. With fixer replenishment being executed in the second fixer tank, the concentration of silver in that tank stays low. As the silver carryover into the water tank is minimal, waste water from the Structurix NDT S-i processor readily complies with stringent standards for silver content.

Silver recovery is also optimized by the Structurix NDT S-i's design. The first fixer tank being replenished by overflow from the second fixer tank, nearly all of the silver released in the fixing stage ends up in the overflow from the first tank. Providing optimum silver recovery. This unique film processing system ensures that the amount of silver in the wash water is up to 25 times lower than found in conventional processing systems.

## Superior Image Quality

The Structurix NDT S-i was designed to satisfy applications that demand the highest image quality. Agfa's innovative rack construction and roller configurations contribute significantly to the top-of-the-line performance delivered by the NDT S-i. A "smart" microprocessor embedded in the NDT S-i controls all process functions and ensures superior film drying at an even rate under all

ambient conditions. The Structurix NDT S-i offers maximum flexibility with respect to drying rates and film sizes, so that no matter which option is selected it delivers the same high-quality output.

## Precise Replenishment

The design of the Structurix NDT S-i minimizes replenishment demands thanks to a unique scanning feature. Instead of relying only on a measurement of film length, the Structurix NDT S-i precisely maps the film surface area by using 11 detection rollers, assuring accurate minimum replenishment usage.

## Minimum Processing Costs

The more precise that control of the replenishment process is, the lower the consumption of processing chemicals is, and thus the lower costs are. One of the key ways the Structurix NDT S-i achieves this low-cost profile is by automatically switching to standby mode once all films have left the processor. Thus electricity is saved and water conserved. Moreover, the less water used for processing (13 l/m<sup>2</sup>) the greater the environmental benefits.

The design of the Structurix NDT S-i incorporates a low-energy infrared drying technology. Additionally, when in standby mode the Structurix NDT S-i's drive cycle activates its roller transport mechanism sporadically for short periods. This means that energy consumption is minimized and the life of the processor maximized



## Processing Cycles

The NDT S-i's microprocessor also features six pre-programmed processing cycles that vary from 2.5 to 12 minutes. As with all Agfa processors, standard cycles are easily set. Once the desired cycle time has been selected, the other processing parameters — namely temperature, dryer level, fixing temperature, and replenishment rate — are adjusted automatically by the Structurix NDT S-i's microprocessor.

Variable speed mode is another proprietary feature of the Structurix NDT S-i. Along with the standard cycle settings, the NDT S-i's processing speed can also be manually adjusted in 30-second steps (2.5 - 12 min.). In addition these settings can be locked and protected by a password.

## Reliable Electronics

The Structurix NDT S-i's high-performance microprocessor is durable, featuring the reliability and security and ease of operation for which Agfa products are famous.

## User Comfort

Three-way drainage valves are a new feature of the Structurix NDT S-i that makes it simple and easy for photochemicals and cleaning chemicals to be diverted to the correct collection tank.





## Clear Operating Panel

The operating panel provides clear displays about all processing parameters. Incremental controls are available for the temperature of both the dryer and developer. Messages may be displayed in 12 languages.

## Adjustable Film Receiving Tray

The film tray of the Structurix NDT S-i may be easily adjusted to any sheet film size, welding formats, and roll film of up to 16 ft in length. Processed films are always collected in the correct order in the multifunctional output tray.

## Unique Daylight System

When combined with the Structurix Feeder, the NDT S-i becomes a very practical daylight processing system. The Feeder will automatically follow the processing speed of the NDT S-i, even after the processor's speed is adjusted. And when an NDT S-i is used without a feeder, an optional 'light-tight' cover is available from Agfa. In this configuration, once films are positioned on the film feed table the cover may be closed and the darkroom illuminated.

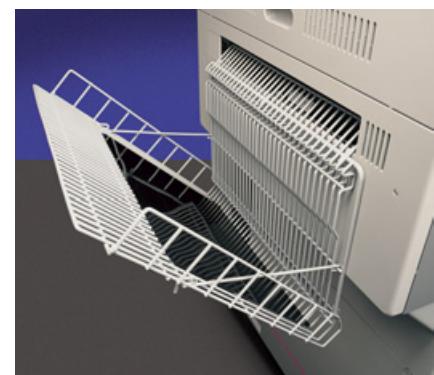
## Ease of Maintenance

The Structurix NDT S-i was designed as the ultimate in ease-of-maintenance systems. The top sections of the NDT S-i's racks can be easily removed for separate cleaning, eliminating the need to remove an entire rack from a tank. While the film sensor rollers on

the feed tray require regular cleaning, the Structurix NDT S-i's design makes even this task a breeze. The rollers can be readily reached by removing the feed tray. And to prevent growth of algae, the wash water automatically drains when the NDT S-i is switched off.

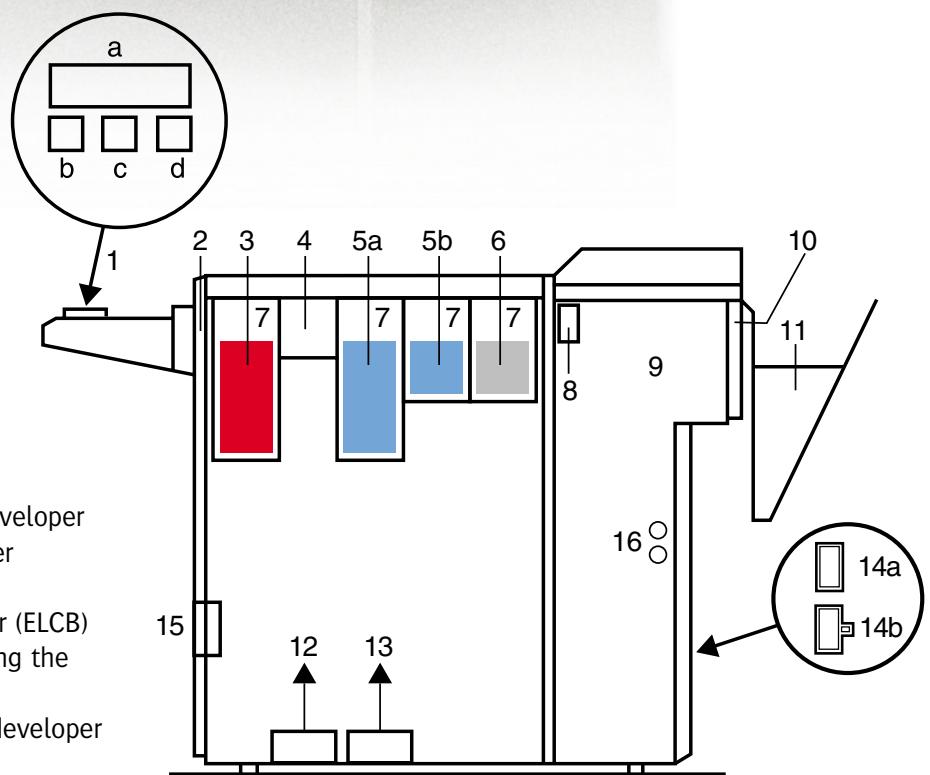
Processing time (min)*	12	10	8	6	5	2.5
Standard dryer setting (increment)	2	4	8	12	14	16
Dryer setting limits (increment)	1–10	1–12	1–14	1–16	1–18	1–20
Standard developer temp (°F)	77	79	82	86	88	97
Standard fixer temp (°F)	82	82	82	86	88	97
Developer G 135			900		600	
Fixer G 335			700–1200		800	
Water l/m <sup>2</sup>			13		10	

\*Processing time setting depends on film system characteristics, please contact your Agfa representative





1. Film feed table
  - a. LCD display
  - b. Menu selection
  - c. Increase setting
  - d. Decrease setting
2. Film area scanning
3. Developer tank
4. Intermediate wash tank
- 5a. Fixer tank F1
- 5B. Fixer tank F2
6. Final wash tank
7. Removable top rack parts
8. Distribution rollers
9. Infrared dryer
10. Film output
11. Film receiving tray
12. Replenishment pump for developer
13. Replenishment pump for fixer
- 14a. On/off switch
- 14b. Earth leakage circuit breaker (ELCB)
15. Three-way valves for draining the machine tanks
16. Overheating protectors for developer and fixer



## Technical specifications

The following tables show the standard values (the right to make modifications is reserved)

Filmprocessing	Type	Power supply connection	ABC Product Code
NDT S-i	5320/350	208, 230-240 Volt / 50,60 Hz	EBEZE

### Characteristics

Dimensions	Length (max)	63.8 in (including basket 82.3 in)	
	Width	28 in	
	Height (max)	48.5 in	
	Footprint	28 x 43.7 in	
Weight (lb)	Empty	net: 657 lb	
	With tanks full	939 lb	
	Racks	Cross Over Tank	Tank Rack Complete
	- developer rack	7.7	46.3
	- intermediate wash rack	-	6.6
	- fixer 1 rack	7.7	43
	- fixer 2 rack	7.7	32
	- water rack	7.7	32
Electrical connection	Electricity (amp)	16A	
Power supply	Voltage (volt)	208 to 240 V (UL Approved)	
	Frequency (hertz)	50/60 Hz	
Dryer	Capacity (watt) (max)	3.300 W (film transport)	
	No. of dryer settings	20	
Noise level	Standard setting	setting 8 for 8 min. cycle	
	Film transport	63 dB	
	Stand by	50 dB	
Tank volume	Developer	9.8 gal	
	Fixer1	9.8 gal	
	Fixer2	7.1 gal	
	Final washing	7.1 gal	

### Film

Process time	Default setting	8 min/82°F
	Limits	2.5 to 12 minutes
Process speed	Default setting	19.7 in/min.
	Limits	7.9 to 31.5 in/min.
Film	Types	STRUCTURIX and all industrial X-ray films suitable for automatic processing
	Width (max)	17 in
	Length (min/max)	5 in / 17ft
	Smallest format	2 3/4 x 5 3/8 in
	Capacity per hour	3.5 x 17 in      14 x 17 in
		300 films/hour      75 films/hour

The above data apply to film processing with the standard cycle of 8 minutes-100 seconds immersion time

### Liquids

Water	Connection	Permanent connection 3/4
Standard usage	13 l/m <sup>2</sup> (0.53 gal/sheet 14x17 )	10-30 l/m <sup>2</sup> (0.44 to 1.01 gal/sheet 14x17 )
	Usage limits	1-6 bar
	Pressure (min/max)	41°F
	Temperature (min)	6.5 to 8
Chemistry	pH value	G 135 + G 135 S
	Aut. devel.	G 335
	Dev.	0.900 l/m <sup>2</sup>
	Fix.	700-1.200 l/m <sup>2</sup>
	Standard replen.	Dev.
		Fix
	Replen. limits	Dev/Fix
	Default setting temp	0.200 -1.500 ml/m <sup>2</sup>
	Temp. limits	82.4°F
	Temp. limits	68-104°F
	Warm-up time from	22 min.

**AgfaNDT.com**

Visit the NDT Super Site, AgfaNDT.com, for more information on the NDT S-i film processor and to learn more about Agfa NDT's complete line of Ultrasonic, X-ray, Digital and Film systems

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