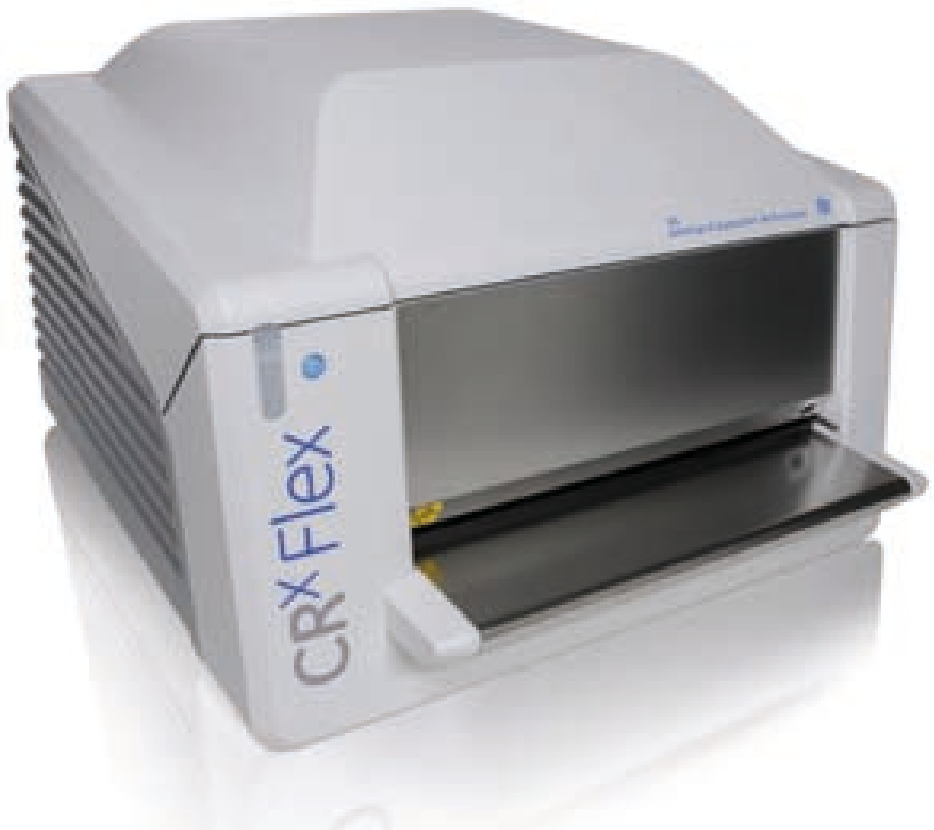
GE
Sensing & Inspection Technologies

CR^{x}Flex

Computed Radiography



Reliability, Versatility and Performance in Harsh NDT Environments

The CR^{x}Flex computed radiography scanner from GE Sensing & Inspection Technologies combines flexibility, reliability, dynamic range and ease-of-use.

Designed specifically for applications in non-destructive testing, the CR^{x}Flex is suitable for usage with both isotopes and X-ray sources. It is well suited for a broad range of applications in the aerospace, oil & gas, power generation and automotive industries.

GE imagination at work

Extending the Boundaries of Computed Radiography

Versatility

The CR^{x}Flex phosphor scanner also offers extremely wide dynamic range and high signal-to-noise ratio, which typically results in streamlined technique development and higher component throughput. A broad range of thicknesses can be inspected in a single exposure with the wide dynamic range making the CR^{x}Flex a perfect match for the inspection of castings and/or piping for erosion/corrosion. This capability also leads to less exposures and fewer re-takes.

Flexibility

One of the more unique features that the CR^{x}Flex offers is it's ability to be utilized with either hard cassettes (in which the phosphor imaging plate never leaves the cassette) or the ability to scan any size of phosphor screen up to 35 x 43 cm (14 x 17 inches): any unique shape or size: circles, triangles, rectangles, pie shape, etc. These unique sizes can be exposed using a soft, flexible cassette and then scanned by the CR^{x}Flex.

Reliability

The robust CR^{x}Flex has a small tabletop footprint and is designed for reliable operation in the harshest of NDT environments.
Its modular internal construction allows ease of servicing and features long mean-times-between-failures (MTBF) and maintenance (MTBM) — minimizing downtime and maximizing uptime.

Horizontal Transport System

The CR^{x}Flex has a state-of-the-art, horizontal transport system that is designed to have limited, or no direct contact with the imaging plate during the scanning process. The result of this is that there is no imaging plate damage and/or physical wear that occurs during the scan. The phosphor scanner can accept imaging plates that are used with soft cassettes and/or can be used in a hard cassette for applications in which the imaging plate would not have to be removed from the cassette — extending the life of the imaging plate.

Superior Image Quality

Because of its specially designed optics, true square 50 micron pixel size and its unique 30 micron laser spot size, the CR^{x}Flex can guarantee image quality with excellent IQI sensitivity. This superior image quality is supported by its BAM certificate that states that CR^{x}Flex is IP Class Special/60 (ASTM E2446-05) and/or IP Class 1/60 (EN 14784-1) — ideal for weld inspection.

Rhythm® Software

The CR^{x}Flex, in conjunction with the GE's Rhythm software, allows users to acquire, review, report and archive inspection data. The DICONDE-compliant Rhythm platform also permits image enhancement and data sharing to provide significant improvements in productivity and faster identification of defect indications.

Applications

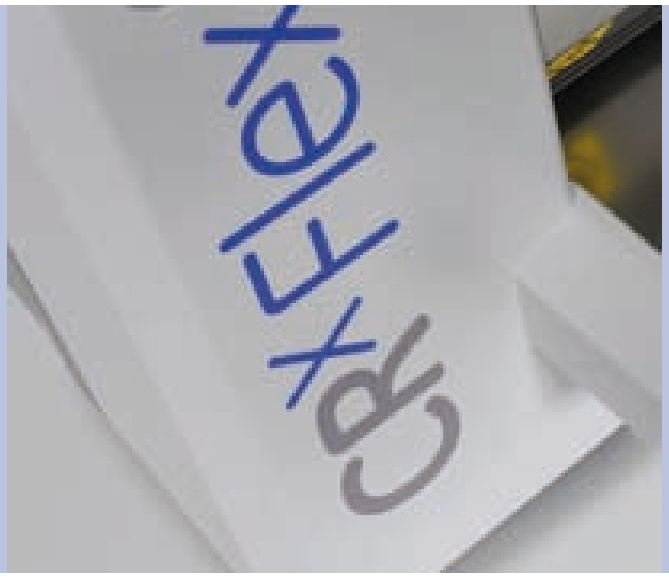
The CR^{x}Flex is suitable for a wide range of applications spanning various industries.

Aerospace
Manufacturing
On-wing inspection

Oil & Gas
Plant construction
Asset management
On-stream inspection

Power generation
Plant construction
Asset management

Automotive
Component manufacturing
Assembly inspection



Imaging Plates

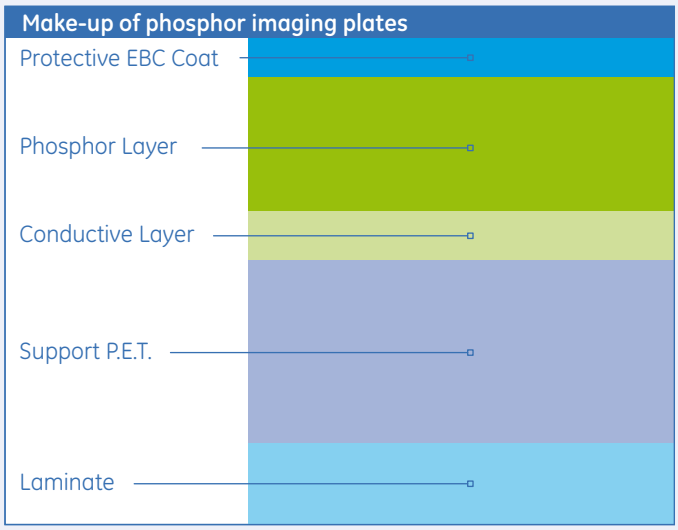
Our offering consists of different types of phosphor imaging plates. The plates have special/proprietary protection layers that prevent scratches and damage. Odd sizes and/or shapes up to 35 x 43 cm (14" x 17") imaging plates and associated inserts can be manufactured to support your specific application and scanned by the CR×Flex.

Fewer Retakes
High tolerance for varying exposure conditions and a greater freedom in the selection of the exposure dose.

Dose Reduction
In many cases, imaging plates allow the visualization of all diagnostic information with only one exposure.

Long Lifetime
Imaging plates are protected by an EBC (electron-beam-cured) topcoat. This results in plates with superb protection from mechanical wear and excellent chemical resistance.

Image Quality
The composition of the imaging plate storage phosphor material ensures optimum performance. The material has high absorption efficiency, excellent homogeneity and short response time to ensure high sharpness and contrast.



Cassettes

GE cassettes are specifically designed for NDT applications. The CR cassettes are lightweight and very simple to use. Synthetic material provides maximum rigidity for overall durability.

The higher radiation energies used in industrial X-ray makes the use of standard medical cassettes impossible. Therefore, the cassettes can be supplied with built-in, front lead (Pb) screens of 250µm (0.010") and are always lead-backed with 150µm (0.006") to ensure optimal backscatter protection resulting in optimal image quality.

Technical Specifications - CR^{x}Flex

Functional Data		
Throughput (Cassettes/Hour)	35 x 43 cm (14 x 17")	54/Hour @ 100 µm
		27/Hour @ 50 µm
	18 x 24 cm (7 x 9")	80/Hour @ 100 µm
		40/Hour @ 50 µm
	Multi-plate scanning	
	e.g. 4 x (6 x 24 cm) OR 4 x (4.5 x 10")	216/Hour @ 100 µm
		108/Hour @ 50 µm
Laser Spot Size	30 µm	
Pixel Size	50 µm and 100 µm	
Bit Depth	16-bit Linear	
Image Buffer	256 MB	
Certifications	CE, UL, RoHS, CCC, WEEE	
Dimensions	693 W x 786 D x 497 mm H (27.3 W x 30.9 D x 19.6" H)	
Weight	75 kg (165 lb)	
Interface	FireWire (IEEE 1394)	

Electrical Data	
Voltage	100 - 240 V AC, autosensing
Frequency	50/60 Hz
Power Consumption	120 W standby, 320 W peak

Consumables	
Imaging Plate Sizes	All sizes up to 35 x 43 cm (14 x 17")
Custom Imaging Plate Sizes	Any size and/or shape up to 35 x 43 cm (14 x 17")
Cassette Sizes	35 x 43 cm (14 x 17")
	15x 30 cm (6 x 12")
	18 x 24 cm (7 x 9.5")

www.gesensinginspection.com

GEIT-40044EN(02/09)

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