

Inspection Technologies Catalogue



Contents

Ultrasonic 2

Mentor UT	2
Flaw Detector	3
Thickness Gauge	4
Ultrasonic Small System	4

Eddy Current 6

Radiography 7

X-Ray Generator	7
Radiographic Film System	8
Film Processor	8
Computed Radiography (CR)	10
Digital Detector Array (DDA) Panel	10
Film Digitizer	11
X-Ray Test Machine	11

R V I 12

Robotic Inspection 14

Advanced Ultrasonic

Mentor UT



Mentor UT for Corrosion

Mentor UT is a powerful, connected ultrasonic flaw detector optimized for corrosion/erosion mapping of process vessels and piping and weld inspection. Mentor UT brings the power of array inspection to everyday use with an intuitive, touch-screen interface and customizable inspection applications ("apps"). Build custom apps for your inspections or use apps pre-installed on the device. Increase your inspection productivity and lower training costs with guided on-device setup and calibration.



Palm Flat Scanner

The PALM Flat Scanner - part of the PALM Scanner family - is a versatile and ergonomic UT inspection tool featuring an integrated encoder and magnetic wheels, allowing vertical and overhead operation. The scanner can be used on diameters larger than 90 mm for circumferential scanning and 200 mm for axial scanning.



The PALM Flat Scanner circumferentially inspects pipes of diameters from 90 mm (3.5") outer diameter to flat and inner diameters down to 250 mm (10"). The minimum diameter of axial scanning is 200 mm. The tools can carry probes up to the size of 70 mm (length) x 50 mm (width) to suit any inspection procedure regardless of tube thickness, material or acceptance criteria.

The PALM Flat Scanner is delivered with a wide selection of accessories in order to make inspection and/or equipment handling even simpler. With other types of probes, the PALM Flat Scanner has the potential to solve many other applications as well.



Palm Scanner

When paired with a phased array UT flaw detector, the GE PALM Scanner enables UT weld inspections of difficult-to-access, small diameter pipes in confined spaces.

The PALM Scanner family inspects pipes of diameters from 1.5" up to 3.5". The tools are adaptable with various wedges and phased array probes to suit any inspection procedures regardless of tube thickness, material or acceptance criteria. The PALM Scanners are delivered with a wide selection of accessories in order to make inspection and/or equipment handling even simpler.



Flaw Detector



USN 60

GE's USN 60 ultrasonic flaw detector series has been optimized for use in direct sunlight and operation at extreme temperatures. These new characteristics make the instruments ideally suited for outdoor use with its increased long battery operation time. Depending on the applications challenges, you have the choice between the USN 60 and the USN 60L version.



USM 36

GE's Krautkramer USM 36 is the latest development in GE's USM range of flaw detectors. It combines the 21st century operating platform with the reliable and robust hardware of GE's well-established Krautkramer portable flaw detection instruments. It incorporates a range of innovative flaw detection features to ensure that this new instrument is adopted as the everyday workhorse of flaw detectors by NDT inspectors globally.



USM Go+

The USM Go+ ultrasonic flaw detector is simple to operate using one hand with new arrow-keys. It weighs less than 2 pounds, is robust and well sealed meeting IP67, and built to withstand the rigors and use in harsh industrial environments. It's large, high resolution (WVGA) A-Scan display and outstanding ultrasonic performance are essential for inspections based on common codes and standards. The first choice when top UT performance, combined with ultra-portability and one-hand operation is required.



Spot Checker

SpotChecker is a hand-held flaw detector for testing spotwelds in situ on the production line. It weighs just 3.2 kg, is battery operated and is sealed to IP65. It features hot swap battery exchange to ensure continuous operation. SpotChecker does not require intensive training but offers the advantage of an "expert" system for people less qualified in weld inspection.



Thickness Gauge



DMS Go+

The new DMS Go+ Series of A-scan thickness gauges provides accurate, reliable and comprehensive thickness inspection data in a wide range of applications and environments. All three models feature intuitive, easy-to-use arrow-keypad control and carry out from simple A-scan verification to B-scan and full Data Recording. The three thickness gauges are easy to upgrade with additional features and capabilities in order to form a powerful and flexible NDT inspection tool that meets your corrosion thickness application needs.



DM5E

The DM5E Series Ultrasonic Wall Thickness Gage enables you to accomplish a large number of demanding tasks, especially with remaining wall thickness measurements on components subjected to corrosion and erosion. These gages are smart, simple-to-use ultrasonic thickness gages that offer big performance in a small lightweight package. Their compact size and ergonomic shape provide comfortable one-hand use.



Ultrasonic Small System



USIP 40

The USIP 40 is a precision, multi-channel ultrasonic testing instrument designed to deliver the utmost in inspection confidence. A variety of packaging options allow the USIP 40 to be configured as an ultrasonic box driven by a remote PC, an integrated rack mount instrument, or as a battery powered portable instrument. Combined with optional application-specific imaging and analysis tools, the USIP 40 offers the ultimate solution for all of your inspection needs.





GE Krautkramer Tank

GE's Krautkramer Tanks are a newly developed automatic ultrasonic C-Scan inspection platform. It utilizes a unique modular design approach to provide different scanning configurations for different types of test pieces. Every optional component is independent in function and integrates seamlessly with the basic framework. This flexible system not only satisfies diverse inspection requirements, but also achieves the perfect balance in terms of functionality, performance and cost.



GE Krautkramer Weldstar

GE Krautkramer Weldstar is today's most advanced automated ultrasonic girth weld testing and inspection system for oil & gas transmission pipeline projects. Designed from the ground up for this particular application by combining conventional and Phased Array ultrasonics on the remote scanner head, GE Krautkramer Weldstar provides uncompromised productivity, flexibility and inspection integrity.



Predictive Corrosion Management

GE's Predictive Corrosion Management solution moves your operation beyond manual inspections to continuously connect assets, data and people. This groundbreaking package combines Predix cloud-based software, Rightrax PM installed sensors and advisory support giving you the actionable intelligence you need to manage corrosion related risk, proactively make disposition decisions and help minimize total cost of operations.



Eddy Current



Mentor EM

GE's Mentor EM eddy current NDT portable allows you to easily access on-device workflow applications that efficiently guide the inspector while capturing electromagnetic (eddy current) inspection data. Real-time collaboration with remote experts allows fast and accurate indication confirmation. No more stacks of paperwork or questionable inspection calls, just easy and efficient nondestructive testing for weld, aerospace (including rotary) and general purpose inspections.



Eddy Current Testing Probes and Accessories

The EMprobes.com site makes it simple and easy to select eddy current probes and accessories used in non-destructive testing (NDT).



Eddy current testing is different from other non-destructive testing method in one important respect: the equipment used, in particular the probes, is specific to the inspection task. Eddy current testing is therefore inherently flexible. In order to get the best results, it is vitally important to choose the optimum equipment for each task.

Visit <http://www.EMprobes.com>. The site makes it simple and easy to select eddy current probes and accessories used in non-destructive testing (NDT).

Whether you're new to the field or an NDT expert, this easy-to-navigate site streamlines the process of choosing from the wide selection of standard eddy current probes that GE offers.

Radiography

X-Ray Generator



ERESCO MF4

ERESCO MF4 portable industrial X-ray generators are designed for reliability in some of the world's toughest conditions. The user interface features graphic visualization and menu driven operation. The robust construction of the control and the tube heads make them suitable for operation in rugged environments. Low power consumption reduces energy cost and makes operation with portable power supplies easier. Special power electronics allow for an alternative operation in the field and integration into crawlers.



Directional :

- Eresco 42 Mf4 5-200kV
- Eresco 65 Mf4 5-300kV
- Eresco 160 Mf4-R 10-160kV
- Eresco 200 Mf4-R 10-200kV
- Eresco 280 Mf4-R 10-280kV

Panoramic :

- Eresco 32 Mf4-C 5-200kV
- Eresco 52 Mf4-C 5-300kV



Isovolt Mobile

The ISOVOLT mobile has been designed to cope with even very complicated inspection tasks. It is very frequently used in container, pipe production and power plants where the objects are difficult to access. Therefore the ISOVOLT mobile features a small X-ray tube and a cable of up to 20 m length, enabling high quality on-site inspections at hard-to-reach places.



Isovolt Titan E

GE's ISOVOLT Titan E stationary 160 or 225 kV X-ray machine is based on the field-proven ISOVOLT Titan series, but offers significant improvements in ease of operation, controllability and on-board logic to allow greater operational productivity and reliability. The machine finds increasing application in meeting the requirements of system integrators for automated X-ray and long-term stable CT solutions, as well as being used as a stand-alone X-ray machine for conventional and digital X-ray radiography.



Radiographic Film System

AGFA NDT eco FILM SYSTEMS

The AGFA NDT eco Film System breaks new ground in being economical to use and ecologically responsible. This advanced film system increases economics and minimizes its impact on the environment with:

- up to 60% higher film throughput capacity
- up to 40% less chemistry and packaging
- up to 40% less chemistry and packaging waste
- considerable decrease in wash water replenishment rates
- lower silver freights in the wash water
- less energy consumption

You can trust GE Inspection Technologies as a company to do our part to preserve the global environment.

Structurix

GE offers different forms of film packaging, all in accordance with the ISO 5655 norm. Whatever the application of industrial radiography, there is a right AGFA NDT film available, in the right packaging. No object is too large nor too small. AGFA NDT films are supplied in all standard sheet and roll sizes (special sizes on demand) and in darkroom or daylight packaging. The introduction of the Industrial Film Systems Classification Standards EN 584-1, ASTM E-1815-96, ISO 11699-1, and JIS-K7627 provides an important means to assign film systems to the appropriate film system class.



Film Characteristics and Applications

- | | |
|--------------------|-----------------|
| • AGFA NDT D2 | • AGFA NDT D7-M |
| • AGFA NDT D3 | • AGFA NDT D8 |
| • AGFA NDT D3 s.c. | • D4W |
| • AGFA NDT D4 | • D6W |
| • AGFA NDT D4 s.c. | • AGFA NDT F6 |
| • AGFA NDT D5 | • AGFA NDT F8 |
| • AGFA NDT D7 | |



Film Processor



Structurix U

The high reliability of our processors and years of practical experience led to the development of this unique processor. Ease of use, ease of maintenance and the fact that it is suitable for almost every application combine to be the main advantages of the STRUCTURIX U.



Film Digitizer



Digitizer FS50B

GE Film Digitizers FS50B are designed to provide high-end performance in film digitizing, offering superior quality at high throughput. The steel housing is ideal for the industrial environment of NDT applications. All standard film formats can be digitized, up to a width of 35 cm (14 in.), without length limitation in resolutions between 50 μm and 500 μm . The FS50B is the first and only digitizer on the market that handles the full density range in one working range with the requested contrast sensitivity.



X-Ray Test Machine



x|cube

The x|cube series is a highly versatile industrial X-ray system family for radioscopic spot tests and inspection of automotive or aerospace samples such as light metal castings, steel components, plastics, ceramics and special alloys with 160, 225 or 320 kV. Its design allows a great flexibility in applications such as production, incoming inspection, failure analysis or research & development. The ease of operating and programming and Flash Filters™ image enhancement enable the user to make the correct inspection decisions. Optional Computed Tomography allows even 3D inspection.



x|blade

GE's Seifert x|blade is a user-friendly, non-destructive (NDT) X-ray inspection system, designed with casting parts in mind, featuring premium image quality and high-volume throughput. It combines robotic positioning of parts to be inspected, with an imaging chain which can be customized to meet specific application needs and a DICOM-compliant image review, sharing and archiving system to offer fast, flexible inspection and reviewing tools.



Computed Radiography (CR)



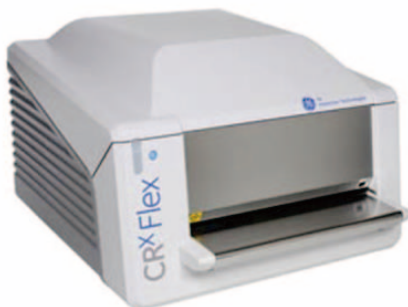
CRx25P

Portability, Versatility and Performance in Harsh NDT Environments. The CRx25P computed radiography scanner from GE's Inspection Technologies business combines portability and durability with simple operation to create high-quality digital images within seconds. The scanner is constructed to withstand the demanding conditions of industrial radiography for both in house and field service applications. The proven imaging performance of the CRx25P in conjunction with GE's phosphor plates is certified by the German BAM.



CRxVision

CRxVision is the high resolution weld inspection and all-purpose computed radiography scanner from GE. Packed with innovative features to increase throughput, extend plate life and provide excellent image quality, the CRxVision is designed specifically for the inspection of welds. The scanner is developed to cover the stringent ISO 17636-2 Class A and B requirements, as well as ASTM, ASME and EN weld standards. Because of its versatility, it can also be used for many other applications across the NDT industry.



CRxFlex

Designed specifically for applications in non-destructive testing, the CRxFlex™ is optimized for usage with both isotopes and X-ray sources. The system versatility can be seen through the premium performance across a wide range of applications.

The new CRxFlex™: a reliable field-proven platform with upgraded core technology for : Improved Noise Performance, excellent Image quality, DICOM compliant image analysis and data management.



Digital Detector Array (DDA) Panel



DXR 250C-W / DXR 250U-W

Based on GE's expertise in medical and industrial radiography and supported by various customer success stories across different segments, the development of the DXR250C-W and DXR250U-W wireless digital X-ray detectors is a logical progression to our product portfolio. These new digital X-ray detectors are specifically designed to meet the demanding requirements of industrial radiography inspections.





Structurix S eco

In addition to the unique advantages of the 'ECO' processing technology, the STRUCTURIX S ECO guarantees several other features. These include a large capacity, superior image quality, precise replenishment and minimum processing costs.



Struxturix M eco

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.



Structurix DRYER

The STRUCTURIX DRYER is an instrument that helps customers who process films manually.

- Fast and efficient film drying
- Easy to operate
- Excellent result



Remote Visual Inspection



Mentor Visual iQ

Welcome to a new era in precision, productivity and portability. GE's Mentor Visual iQ Video Borescope with 3D Measurement puts the power of state-of-the-art point cloud measurement and analysis in your hands. Mentor Visual iQ delivers processing capability you need to speed inspections and increase probability of detection - all in a portable yet rugged design. With Inspection Works Connect, inspectors can collaborate in real time, providing expertise anywhere in the world.



Mentor Visual iQ Longsteer

The Mentor Visual iQ LongSteer is an accessory for the MViQ Borescope that provides users the flexibility to inspect objects up to 30 metres away, while maintaining the image quality and point-to-point inspection of the original MViQ instrument.

Features : QuickChange probe with standard iQ system; 10mm with 8.4mm bending neck; 10mm with 3DPM 6.1mm bending neck; Available in 18M and 30M lengths; Slip Ring Reel: The user may remove as much or as little of the insertion tube while attached to the handset so there will be no interruption of operation. Min of 10ft / 3m required for full articulation; Single Joystick: The integrated joystick in the handset is used to control the system and the articulation.



XLVU

The XL Vu VideoProbe™ system is a versatile video borescope that combines portability, durability with high quality imaging technology and measurement to help you make smart decisions fast. Designed with general inspection applications in mind, the XL Vu delivers superior resolution over conventional fiberscopes.





XLLV

A utility video borescope equipped to handle a wide variety of remote visual inspection needs. GE's video borescopes provide one of the best equipment values in the industry.



Portable

Our XL Lv Video Probe system provides inspectors with unparalleled access—without a bulky base unit. Weighing as little as 1.77 kg (3.90 lb), the XL Lv Video Probe system can easily “view anywhere.”

Excellent Image Quality

Ge's XL Lv borescope utilizes LED illumination to display excellent image quality. You can save clear, accurate still images and motion video to the internal flash memory or removable USB ThumbDrive



PTZ

GE's Inspection Technologies Ca-Zoom® line of PTZ cameras is ideal for inspecting large areas such as tanks and vessels, pipelines or nuclear power installations while avoiding manned access. Rugged and durable Ca-Zoom PTZ cameras put image management in the palm of your hand with interchangeable camera heads in three different diameters, advanced camera setup, high-powered lighting, integrated image capture and full motion video recording, up to 36X optical and 12x digital zoom, on-board file manager, annotation and comparison measurement.

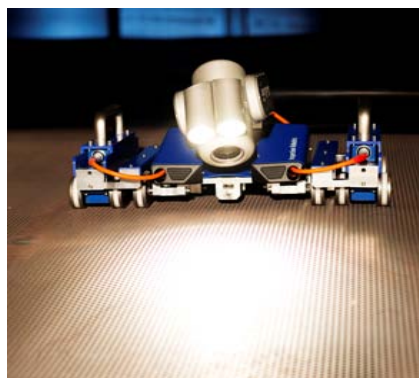


Robotic Inspection



Fast UT

Advanced NDT applications are getting more and more widely used in the oil&gas and power industries. Requirements on repeatability and data quality are getting stronger. This is exactly what FAST-UT offers. Its probe holders are designed to ensure a proper coupling of the sensors in most of the situations while video information on the surface condition and accurate position are recorded. With its compatibility with UT, PA, TOFD and ET, FAST will allow complete inspection of welds as well as corrosion mapping in a very efficient way.



Fast RVI

Visual Inspection is the most performed inspection type in Oil & Gas industry – 80% of all inspection are VT. For documentation and reporting purposes the inspector uses camera and video footage. Far hard to reach locations today's PTZ cameras make it possible to inspect safely & remotely. Usually the camera is mounted onto a stick to reach the location of interest. With the FAST RVI the reach and precision of these inspections are greatly increased.



Bike Platform

Mobile inspection and maintenance robotics is a fast growing industrial market. One of the main advantages of mobile robots is that they can reach locations inaccessible by humans because of size constraints, temperature, immersion in liquids or safety reasons. Certified and experienced engineers today enter and “look” at the predefined locations to take pictures for reporting. Beside very expensive organizational issues such as watchmen and ventilation this procedure is very dangerous for the experts. In this framework, the BIKE inspection robot has been developed. The BIKE platform is a magnetic wheeled robot capable of inspecting power plant facilities and multiple applications in the oil&gas industry, such as vessel or pipe inspection.





Boiler Wall Cleaning & Inspection

Water walls (tubes welded to tubes in parallel) in coal-fired boilers need to be inspected on a regular basis carrying out a visual inspection and a wall thickness measurement. To avoid time consuming scaffolding time, especially for partial inspection, an automated system for water wall inspection and cleaning was designed by Inspection Robotics in collaboration with our partners.




Fast Cleaning

Thanks to the open platform approach of the FAST robotic platform various cleaning and surface preparation devices such as waterjetting, power tools for rust and paint removal or vacuum suction systems are integrated onto the FAST robotic platform. By this needed preparation work for inspection and surface treatment such as painting can be performed by this light weight robotic tool.





Baker Hughes 

Robert-Bosch-Straße 3
50354 Hürth, Germany
+49 2233 6010
www.bhge.com

 **Pratita**

Jl. Tegol Rotan No.28
Tangerang Selatan 15224
+62 21 74861800
www.pratita.com

Notes