GE
Sensing & Inspection Technologies

SEIFERT Universal Inspection Systems

for industrial x-ray applications

GE imagination at work

Take advantage of our long-standing experience in x-ray technology

X-ray inspection systems for any application

Our inspection systems are manufactured using state-of-the-art production methods that meet the highest standards in design and performance. The wide voltage range of our x-ray tubes (160kV-450kV) enables the inspection of various materials, including aluminium, plastics, steel, ceramics, and special alloys. The systems can be equipped either with 7" to 13" image intensifiers or with the latest digital flat-panel detectors. All systems are designed to meet the latest international radiation safety standards, including the German X-ray Ordinance (RöV), which means that they can be installed anywhere without additional radiation protection.

Manipulators for any inspection task

The manipulators used for positioning test samples and directing beams have been designed according to the specific inspection requirements. The compact DP 150 inspection system, for instance, uses straightforward manipulators while the larger DP 472 and X-Cube systems feature the fast, high-precision U-arm system (up to 3 motorized axes) and workpiece manipulators (up to 4 additional motorized axes). All movements and adjustments are controlled by a Fanuc GE PLC or, where necessary, a SIEMENS PLC with profibus interfaces. Several workpiece tables and fixing kits are available as accessories. Customized solutions can be designed on request.

Image enhancement systems to support decision making

The diverse range of functions of the VISTAPLUS V image enhancement system are perfect for rapid and accurate evaluation and assessment of x-ray images. The graphical user interface and x-ray image are clearly displayed on one or two monitors. Features such as the display of reference images, calculation of defect regions and an extensive range of image enhancement functions enable precise analysis of the x-ray images, which can then be stored electronically. The system is logical and intuitive to use and provides easy access to all the image processing functions.

We have the right solution for all of your inspection tasks

	DP 150	X-Cube Compact	X-Cube XL	DP 472
Max. test sample weight	10 kg (22 lbs)	100 kg (220 lbs)**	100 kg (220 lbs)**	100 kg (220 lbs)
Max. test sample diameter *	300 mm (11.8")	600 mm (23.6")	800 mm (31.5")	600 mm (23.6")
Max. test sample height	300 mm (11.8")	900 mm (35.4")	1,500 mm (59.1")	400 mm (15.7")
Voltage range	160 kV	160 - 225 kV	160 - 225 kV	320 - 450 kV
Image enhancement system	Optional	Standard	Standard	Standard
Programming mode	-	Standard	Standard	Standard
Number of axes (motorized)	5 (4)	6 (5)	6 (5)	5

* The penetrable inspection volume varies depending on overall wall thickness and material density
** Depending on load position

Amazingly simple: The DP 150

The DP 150 is a turnkey inspection system that offers excellent basic functionality, takes up minimal space and is very user friendly. It was designed for process control purposes and for performing sampling inspections of small parts, in foundries for instance, and also for goods receipt inspections and product development. Its compact design makes any subsequent on-site reorganization of the inspection system quick and easy to implement.

The modern all-rounder: The X-Cube Compact

The programmable X-Cube Compact system with integrated VISTAPLUS V image enhancement system offers everything you need for fast, high quality x-ray inspection. The new, innovative swivel principle of the x-ray manipulator provides high positioning accuracy, five times faster than other commercially available systems. The system also offers short inspection times thanks to a variable speed programming mode and excellent detail recognition on account of integrated image enhancement. The backpack concept enables easy transportation in addition to quick, easy and safe installation. This versatile system concept is completed by a form-fitting loading position and ergonomically optimized control panel.

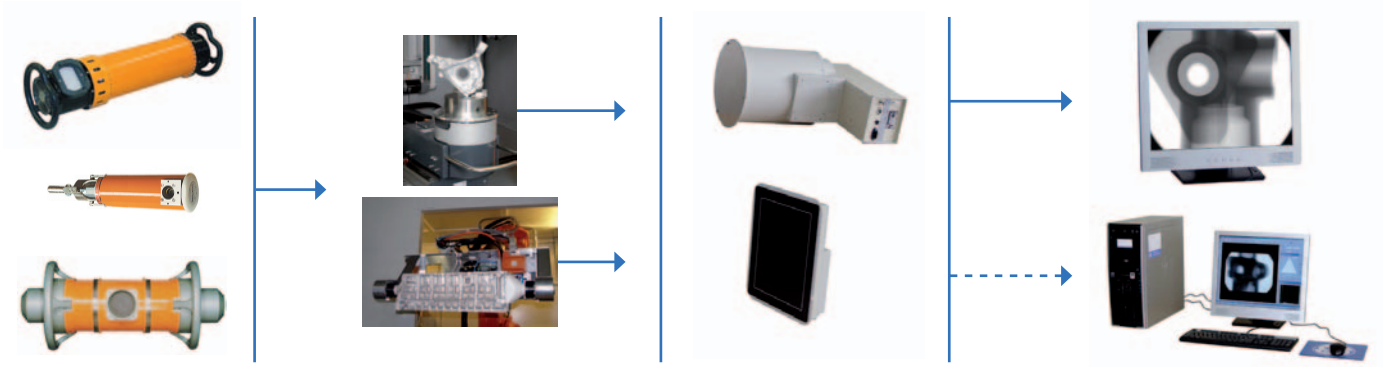
Our solution for oversized test samples: The X-Cube XL

Like the X-Cube Compact, the programmable X-Cube XL system offers everything you need for fast, high quality x-ray inspection; however, its much taller cabinet means that it is also able to x-ray very large test samples. Here too, the tried-and-tested x-ray manipulator, as featured in the X-Cube Compact, offers high positioning accuracy and significantly higher inspection speeds than other commercially available systems. X-Cube XL also offers short inspection times, made possible by the saving of entire test sequences, variable speeds and excellent detail recognition thanks to the integrated VISTAPLUS V image enhancement system. The backpack concept enables easy transportation and installation. This versatile system concept is completed by a form-fitting loading position and ergonomically optimized control panel.

Even able to penetrate high wall thicknesses: The DP 472

The programmable DP 472 x-ray system is designed for applications involving the x-raying of thicker or more highly radiation-absorbent materials. It offers up to 450 kV through the use of bipolar x-ray tubes and appropriate generators, coupled with quick cycle times and high testing throughput thanks to its fast, 5-axis manipulator. Its integrated VISTAPLUS V offers everything you need for fast, high quality x-ray inspection. An interface to external loading and unloading systems is also available as an option, enabling the DP 472 inspection system to be integrated into existing production lines. An indispensable mask wheel for inspection tasks in the 320kV-450kV range or detector apertures which can be positioned and stored round off the package for this optimized inspection system for difficult-to-penetrate workpieces.

Typical components of an x-ray -inspection system



X-ray source
ERESCO or ISOVOLT

Test sample
in manipulator (examples)

Imaging system
VISTALUX or DIGILUX
(examples)

Monitor
to examine and analyze the
radioscopic image

Available as an option:
VISTAPLUS V, image enhancement and analysis system
SABA, fully automatic defect detection

Different applications of standard x-ray inspection systems

Automotive
Airbag inspection
Welded joints
Spark plug inspection
Damage analysis of complete components

Foundries
Aluminium wheels for passenger cars and trucks
Chassis parts
Steering gear housing
Engine blocks
Pump housings
Cylinder heads
Gearboxes

Aerospace
Inspections of
Composite materials
Turbine blades
Landing gear
Honeycomb structures

Electronic components
Integrity inspection of assemblies

Power installations
Inspection of high-voltage insulators

Research & development
Various applications

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