Automated X-ray Inspection System
Transmission - CT

XCT-1000

High resolution Offline AXI system with CT technology

The **XCT-1000** series systems meet the most stringent demands in CT X-ray. With this Computed Tomography system, MatriX Technologies offers the highest possible fexibility for individual customer requirements. This space-saving system can be equipped with different X-ray powers, from 130 kV to 150 kV with nano/micrometer resolution. It is especially suitable for the inspection of small to medium production volumes or for the use in laboratory environment.

The **XCT-1000** system is capable of processing the Siemens CERA-TXR technique with exact Volume reconstruction by using the latest CMP-technology for automatic geometrical correction and calibration. This fast, real-time CT reconstruction technique provides cone artifact free images with automatic volume slice separation and automatic analyzing functionalities. The fexible manipulator system allows different and optimized magnifcation-setups depend on sample sizes and geometry. The XCT-1000 system is ideal for non-destructive testing, materials investigations and, in particular, dimensional measurements for internal structures, undercuts and free form surfaces.

Features and Benefits

- Industrial X-ray Computed Tomography (CT)
- High-resolution / High power setup with 130kV/40W or 150kV/75W X-ray tube (sealed)
- Digital fat panel detector
- Multi-axes motion system w/ rotating sample table
- Transmission mode for highspeed manual and auto mated analyzing
- CT-Mode for volume and slice analyzing
- Real-time CT Volume reconstruction
- CERA (Siemens) core reconstruction with high speed CT functionality
- CMP (Siemens) CT calibration software with automated correction/compensation of geometrical motion parameters
- Automated locating and CT slice separation
- AXI algorithm library with customized algorithms for transmission and volume (slice) analyzing
- Optional: Customized sample holder

Inspection & Process Software

- PC-Station with multi-core processor setup
- Windows 7 or Windows 10 platform
- MIPS_NDT control software and GUI for manual and automatic X-ray analyzing and automatic defect detection
- MIPS_CT volume reconstruction and volume (slice) analyzing including CERA and CMP software tools
- MyVGI Software License / Viewer for CT volume visualization

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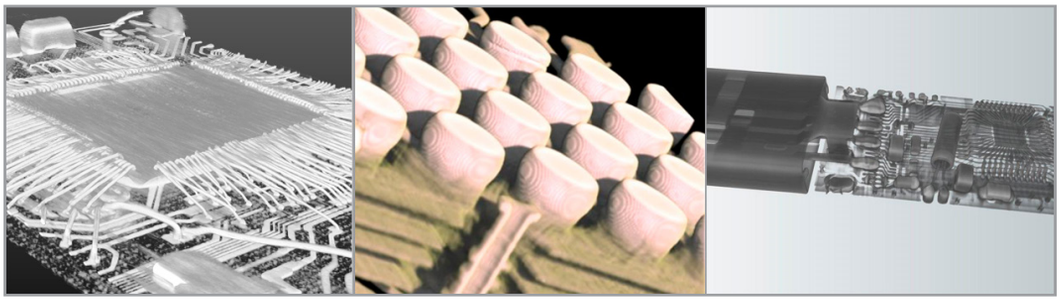
Applications

SYSTEM CONCEPT

- Horizontal X-ray beam and vertical rotation axis for avoidance of gravitation infuences
- Universal, adjustable detector mounting for various types of fat panel detectors
- Adjustable x-ray tube mounting
- Five axes motion system with adjustable sample rotation table



Specifications

Facilities

Dimensions:
1600 mm (H) x 800(W mm) x 1600 mm(D9

Weight: appx. 1.250 kg

Safe Operating Temperature: 18° - 28 °C

Relative Humidity: 20 – 70%

Power Consumption: max. 5 kW

Line Voltage: 220 VAC single phase, 16 A

Part Handling / Motion

CT-multi-axes motion system with rotating sample table

programmable sample motion system:
X, Z rotation

Manual Sample table: Y axis

Manual adjust detector: xd,yd

X-ray Source (sealed tube)

X-ray Voltage / Current: up to 150 kV/500µA

Energy: up to 75W

Focal Spot Size: 5 - 7 microns

X-Ray Tube Orientation: End window tube

X-ray Imaging

A) High Dynamic Setup (16bit)

Detector Type: digital fatpanel (amorphous silicon)

Active inspection area: 200 x 200 mm

Detector pixel number: 1k x 1k

Grey value resolution: 16 bit

B) High Resolution Setup (1512)

Active inspection area: 115 x 115 mm

Detector pixel number: 1,5k x 1,5k

Grey value resolution: 16 bit

Inspection features

A) Image Performance (high dynamic setup)

FoV & Voxel Resolution

FoV range 15 x 15 to 150x150 mm

Minimum Voxel-Size (XRD0820): 15-20µm

B) Image Performance (high resolution setup)

FoV & Voxel Resolution

FoV range: 15 x 15 to 150x150 mm

Minimum Voxel-Size (XFD1512): 10µm

FDD (focus detector distance): 130 to 700 mm

FOD (focus object distance): 50 to 650 mm

CT projection for 360: 500…1.500

Sample size: up to 150x150 mm

Sample/tray weight: up to 5kg

For more information, speak with your MatriX representative.

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