GE Sensing & Inspection Technologies
phoenix|x-ray

microme|x – the high performance X-ray inspection solution

At an excellent price-performance ratio, the microme|x combines high-resolution 2D X-ray technology and computed tomography in one system while offering innovative features. The versatile, easy-to-use microme|x offers outstanding image quality and can be used in failure analysis labs as well as on the production floor. It is equipped with phoenix|x-ray’s proprietary image processing software (optional available with the powerful algorithm toolbox Xe²), for the automated inspection of PCB assemblies offering higher defect coverage while improving production efficiency. The microme|x with the new x|act package is the system of choice to ensure meeting actual and future zero defect requirements.

Winner of the Euro Asia Industry Award 2007

Setting new standards

- 180 kV / 20 W high-power submicron tube
- 2-Megapixel digital image chain
- 24" TFT monitor

- x|act software package: easy and fast CAD based programming for high-resolution automated X-ray inspection (μAXI) with high magnification and repeatability
- Outstanding ease-of-use
- Detail detectability down to 0.5 μm
- Optical zoom up to 23320 x
- Active temperature-stabilized digital DXR detector with 30 fps for brilliant live images
- Oblique views at angles between 0 and 70 degrees
- Combined 2D / 3D CT operation
As a solution for μAXI with extreme high defect coverage, phoenix|x-ray provides its high precision off-line μAXI system microme|x including the unique x|act software package for fast and easy offline CAD programming. Outstanding precision and repeatability, small views with resolutions of only a few micrometers, 360° rotation and oblique viewing up to 70° ensures meeting highest quality standards. Besides the automated X-ray inspection, the μAXI system can be used for manual failure analysis or 3D computed tomography as well.

**Inline or offline inspection?**

With common in-line AXI, the inspection depth is normally determined by the throughput of the SMT line. Principally, X-ray inspection takes much more time than optical AOI, and the higher the defect coverage, the more inspection time is required. For zero defect production, inspection with small fields of view with micrometer resolution, 360° rotation and oblique viewing up to 70° is essential. To ensure these higher defect coverage requirements, μAXI has to be performed beside the production line.

**Efficient CAD programming**

- Import of CAD-data
- Easy pad-based offline programming
- Optimized inspection strategies for different pad types
- Automated generation of inspection views
- Full programm portability for all x|act compatible phoenix|x-ray systems

**3D auto-referencing**

- Automated measurement and compensation of height differences and distortions:
  - High precision CNC manipulation
  - Local 3D height and distortion referencing by X-ray
  - Automated correction of image chain distortion
  - Positioning accuracy even at oblique viewing and rotation ensures highest defect coverage

**Live 3D CAD overlay**

- Live overlay of CAD-data and test results even in ohm
- Pad ID available at any time
- Inspection results and images include correct pad numbering for easy rework
- Easy pad identification even in manual inspection

[Image of efficient CAD programming]

[Image of 3D auto-referencing]

[Image of Live 3D CAD overlay with inspection results]