

# Y.Cougar Series

Compact and multifaceted solutions for  
2D and 3D microfocus inspection



- Rapid, high-resolution inspection results
- Y.QuickScan® – The ultrafast  $\mu$ CT solution
- Easy operation
- 16-bit digital image-capture chain
- Low space requirement

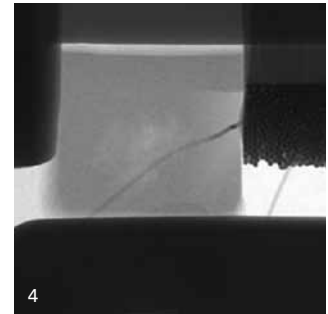
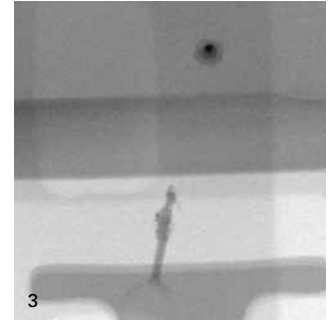
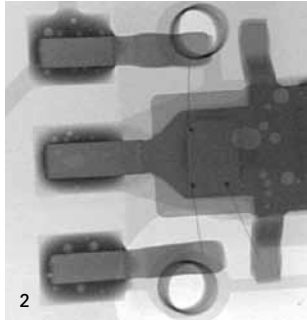
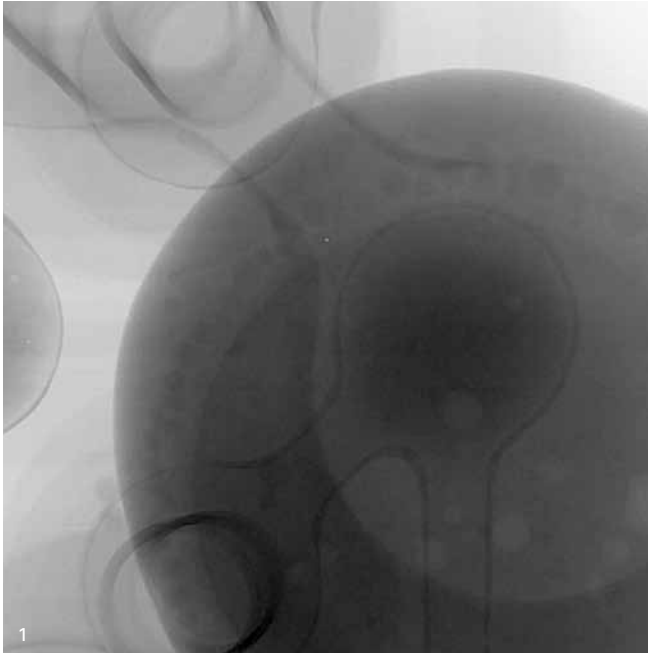
The system's intuitive operation allows inspection tasks to be performed quickly and effortlessly, while the extreme speed of inspection workflows recommends Y.Cougar for use in small-scale series inspection.

In the case of manual or single-part inspection, '1-click operation' makes working with Y.Cougar that much easier. The first radiographic image is available in a few seconds. Functions such as Click & Center, Frame & Zoom, Click & Fly or Grid Inspection can all be executed with one click.

When designing Y.Cougar, special attention was paid to a low space requirement and intuitive operation so that even an inexperienced operator can acquire good images quickly and the system can be run at nearly any location.

As with all units from Feinfocus, Y.Cougar offers a previously unachieved output and efficiency in both manual and automatic X-ray inspection. The brilliant radiographic images are attained via proven Feinfocus X-ray tube technology and an excellently controlled flat-panel detector.

YXLON. X-ray technology at its best.



- 1 BGA ball
- 2 Electronic component with air inclusions
- 3 Torn bond wire
- 4 Coil former in a relay

## Configuration and Specifications

### General Product Features

<b>Time to first image (typ.)</b>	~ 20 sec
<b>Reconfiguration time (typ.)</b>	< 60 sec
<b>µCT scan time (min)</b>	8 sec
<b>µCT reconstruction time (min)</b>	~ 90 sec
<b>Image chain</b>	Flat-panel-detector
<b>CNC</b>	yes, incl. «Click & Center» etc.
<b>Twin magnification axis</b>	yes, for Zt and Zd positioning
<b>Oblique viewing</b>	+/-70° (140°)

### Manipulation

<b>Manipulation control via</b>	Mouse & joystick
<b>Inspection area (max.)</b>	310 mm x 310 mm (12" x 12")
<b>Sample size (max.)</b>	440 mm x 550 mm (17" x 21")
<b>Sample tray axes</b>	X, Y
<b>Oblique viewing</b>	+/-70° (140°)
<b>CNC</b>	yes

### X-Ray Tube

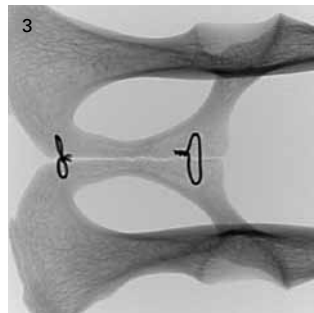
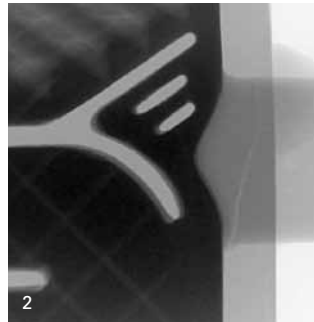
<b>Tube type</b>	Open microfocus tube or Open multifocus tube (MFT)
<b>Target</b>	Transmissive
<b>Target material</b>	Tungsten
<b>Voltage range</b>	25–160 kV
<b>Current range</b>	0.01–1.0 mA
<b>Max. tube power</b>	64 W
<b>Max. target power</b>	10 W
<b>Detail detectability</b>	< 1 µm, < 500 nm with MFT
<b>X-Ray intensity control</b>	TXI

### Image Chain

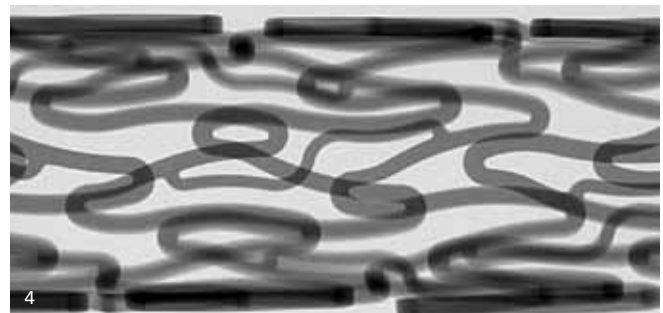
<b>Geometric magnification (max.)</b>	2,000x
<b>Total magnification (max.)</b>	10,000x

### Physical Dimensions

<b>Width/depth/height [mm]</b>	~ 1,100/1,100/2,100
<b>Weight</b>	~ 1,450 kg



- 1 Turntable in Y.Cougar SMT
- 2 Crack in a turbine blade
- 3 Inner bone structure
- 4 Stent



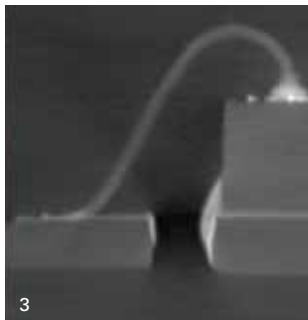
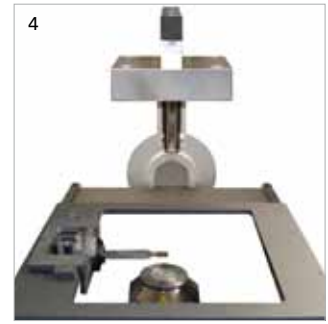
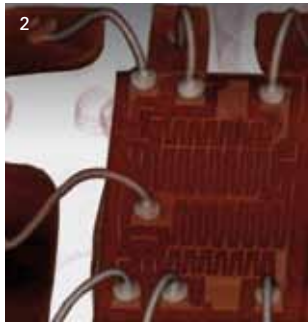
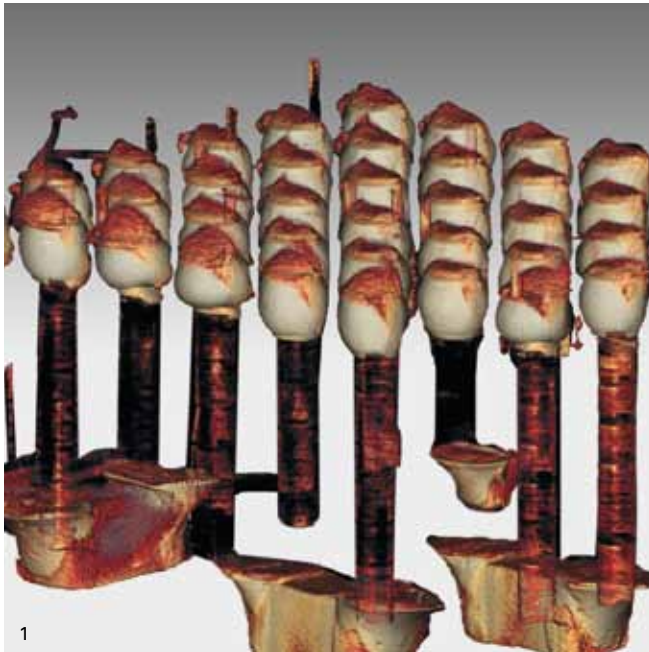
## Y.Cougar SMT

The enhanced Y.Cougar SMT system offers greater flexibility in manual and semiautomatic 2D and 3D  $\mu$ CT X-ray inspection for medium-range and large-scale numbers of items. The standard version includes a digital flat-panel detector, CNC, oblique views and the following possibilities for manipulation:

- Z-axis detector with 140° tilt
- Sample tray X/Y positioning
- 360° specimen turntable (optional)
- Highly precise  $\mu$ CT sample rotation (with Y. $\mu$ CT module)
- Z-axis tubes

## Inspection Workflow

Y.Cougar SMT systems with oblique viewing and the CNC function are particularly suited for demanding tasks. The system can be guided manually via joysticks or by «Click & Center» within the X-ray and overview image. All it takes are a few mouse clicks to be able to train inspection workflows code-free. The Visual Basic Script generated thereby is excellently suited for additional adaptations specific to the customer. The “Easy-View” user interface allows direct access to libraries containing trained inspection workflows.



1 Defective BGA  
2 Bond wires in a CT image  
3 Tomogram  
4 CT axis

## Y.μCT Module with Y.QuickScan® Option

The Y.μCT module allows an in-depth look into the inner, three-dimensional construction of inspection items via virtual cross-sections and layers. The Y.μCT module is obtainable for the Y.Cougar SMT system and includes the following components:

- μCT manipulator with highly accurate rotation axis
- User-friendly scan and reconstruction software
- Workstation for reconstruction and visualization
- Y.QuickScan® for μCT scans within seconds and reconstructions in less than 2 minutes (optional)

## Inspection Workflow

Systems with the Y.μCT module are particularly suited for high-resolution volumetric scans. Tube settings and positioning can be carried out within seconds or loaded via pre-deposited inspection workflows.

A sequence of projections is acquired during 360° sample rotation and fed on for reconstruction. The visualization software using an interface similar to CAD enables the detailed analysis of virtual cross-sections, layers and a lot more.

# YXLON

Technology with Passion

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