



## FEINFOCUS

Versatile X-Ray Inspection

**FEINFOCUS COUGAR**



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Technical Information

**Affordable X-Ray Solutions Can Be Tailored to Your Needs**

The FEINFOCUS COUGAR is the latest product platform strategy that surpasses other flexible X-Ray Inspection Systems. FEINFOCUS COUGAR provides a basic platform for further equipment and accessory implementation, depending on the particular needs of the customer. With the easy-to-use FEINFOCUS COUGAR, COMET demonstrates its unwavering commitment to address constantly changing market requirements with advances in X-Ray Solution technology.

**About the Business Unit FEINFOCUS**

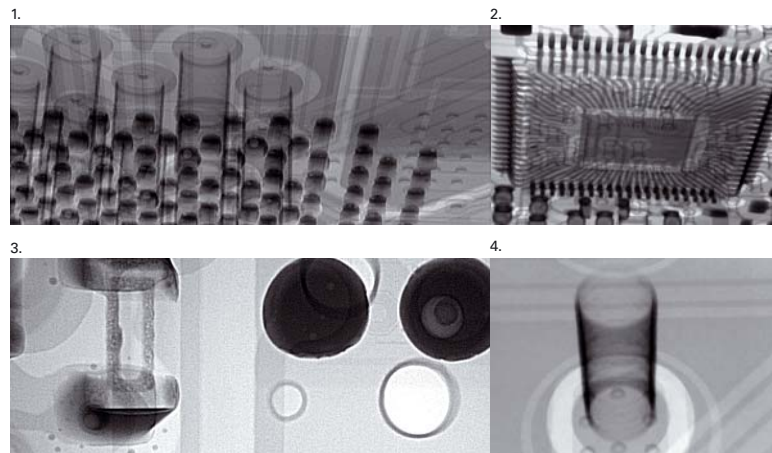
COMET's Business Unit FEINFOCUS is an award-winning leading manufacturer and supplier of high-resolution X-Ray Inspection Solutions, with more than 2,000 system installations worldwide. As the pioneer of Microfocus, Nanofocus, and Multifocus X-Ray Inspection Solutions, we are at the forefront of product innovation in X-Ray Inspection, including True X-Ray Intensity (TXI) control and AIM technology. FEINFOCUS offers X-Ray Sources and radiation-shielded X-Ray equipment, as well as full in-house services, such as failure analysis and component defect detection. We also provide enhanced on-site customer training and system demonstration, and are renowned for our global commitment to customer support.

**The Demand for Flexibility**

As consumer demand drives the evolution of miniaturized products, particularly in electronics, manufacturers are demanding inspection tools with cross-platform capabilities to maintain product integrity, flexibility, and profitability. BGA,  $\mu$ BGA, and Wafer-Level Chip Scale Packages (WL CSP) require X-Ray Inspection as an essential component of the manufacturing process.

The versatile FEINFOCUS COUGAR X-Ray platform addresses constantly changing market and application requirements, allowing for maximum operator flexibility. The platform strategy offers a more flexible array of configurations, depending on the specific application:

- Printed circuit boards
- Semiconductor packages
- Electronics assemblies
- Sensors
- Medical devices
- Wafer-Level Chip Scale Packages (WL CSP)
- MEMS/MOEMS
- Photonics assemblies



1.  $\mu$ BGA inspection. 2. Quad flat package inspection. 3. Passive components and vias inspection of a BGA. 4. Oblique viewing of a via on board.



### Small, Ergonomic Design

The FEINFOCUS COUGAR is ideal for any failure analysis and assembly environment, as it features a small footprint (1 m x 1 m), low system weight (approx. 1,450 kg), and convenient front and side door service access.

The operator console can be adjusted in both height and position, allowing for maximum flexibility. An easily accessible sliding door with an automatic X-Ray on/off feature offers safe sample loading.

### Initial Configurations

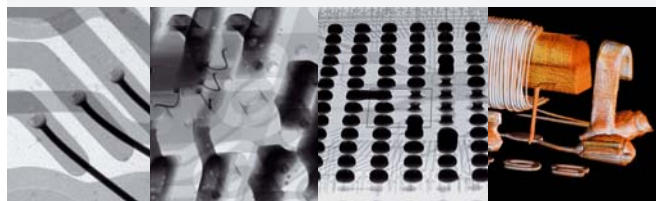
The FEINFOCUS COUGAR comes in two initial configurations: the cost-effective Failure Analysis (F/A) model and the more advanced Surface Mount Technology (SMT) model. The standard platform offers users a wide array of features, including an open Microfocus X-Ray Tube up to 160 kV and a FEINFOCUS real-time image processing system. Users can then add advanced features, such as a Multifocus X-Ray Tube, Direct Digital Detector (DDD), 16 bit imaging chain, and proprietary True X-Ray Intensity (TXI) control, an award-winning technology that controls the output level of X-Ray intensity for 100% consistency in X-Ray images.

- Easy-to-use X-Ray Inspection System
- Oblique angle viewing of up to 135° and 360° rotation
- Anti-collision design for damage-free inspection
- Optional Multifocus X-Ray Tube (MFT) offering 3 different operating modes:
  - Microfocus ( $\mu$ f) for Microfocus applications
  - Nanofocus (nf) for Sub-micron applications
  - High Power (HP) for the inspection of denser materials
- Detail detectability down to < 500 nm
- Highest magnification of up to 2,800 x (geometric) and up to 11,000 x (total)
- Optional flat panel CMOS detector technology/CMOS detector digital imaging chain with 16 bit FGUI
- Optional high resolution Scientific Grade Camera (SGC) configuration
- Digital 16 bit real-time image processing with more than 65,000 gray scales
- FEINFOCUS exclusive Auto Isocentric Motion (AIM) technology means never losing the region of interest
- True X-Ray Intensity (TXI) technology for constant controlled output resulting in sharp, consistent X-Ray images for every inspection

- Optional automatic BGA and void calculation and AVI recording
- CNC capabilities for X-Ray, manipulation and image processing
- Virtually unlimited X-Ray tube lifetime due to open tube design
- Easy service access
- Ergonomic, user-friendly controls on clutter-free console
- Space-saving small footprint and low weight
- Excellent price-performance ratio
- Radiation safety < 1  $\mu$ SV/h

### Award-Winning Technical Services

COMET customers benefit from a worldwide network of Technical Services. The system capabilities can grow with the customer's requirements based on a versatile system design and a variety of upgrade kits. FEINFOCUS' 2D and 3D X-Ray Inspection Services can be used to extend the customer's X-Ray capacities or capabilities. For optimum price-performance ratio, X-Ray Inspection Services can be used until you require a dedicated system.



**COMET is a successful international technology company in the growth markets security, inspection, electronics, and communication. As an expert in the field of applied physics, COMET provides a complete and highly flexible offer of components, modules, systems and services from one source.**

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**COMET – The X-perts for security, inspection, electronics and communication**



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