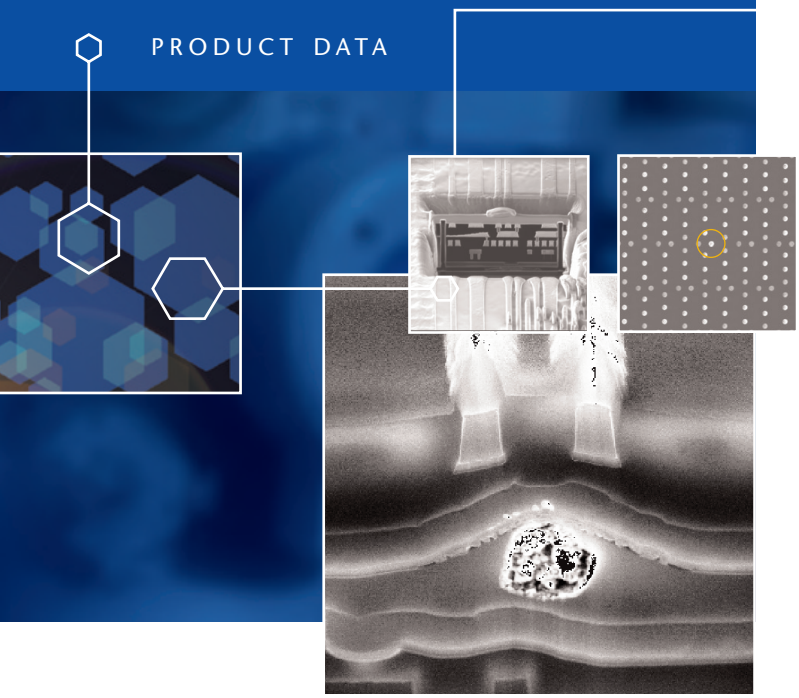
PRODUCT DATA

FEI COMPANY™



Defect Analyzer 300

Advanced 300 mm DualBeam™ System for In-Fab Structural Diagnostics

With more than eighty percent of today's defects occurring below the surface, determining the root cause of yield excursions or process problems has exceeded the capabilities of optically-based tools and even conventional scanning electron microscopes. The ability to locate and visualize defects of all types — systematic, process margin, or particulate — *below the surface* has become critical to understanding costly yield excursions and improving fab performance.

FEI's Defect Analyzer 300, with the versatility of accomodating either 300 mm or 200 mm wafers, delivers a powerful combination of tool automation, industry-leading electron imaging, unsurpassed focused ion beam milling, and proprietary beam chemistry technology to enable three-dimensional analysis of advanced process defects. The result: better control over advanced processes, reduced time-to-market, and drastically reduced process development costs.

- *Bridge tool for 300 mm and 200 mm wafers*
- *Locate and visualize systemic, process margin and particulate defects below the surface*
- *In-fab compatibility for maintaining lot integrity and providing real-time wafer yield improvement*
- *Integrated defect navigation*
- *Fully-configurable software enabling automated navigation, cross-sectioning and imaging*
- *Automated job processing ensures consistency and minimizes operator "on-tool" time*
- *Defect analysis data can be shared with off-line yield management tools*
- *Compatible with KLA-Tencor eS20XP for voltage contrast defect analysis*

Giving you a competitive edge

Whether your fab is introducing new processes, or is in volume production mode, the Defect Analyzer 300 can significantly improve your fab's performance by capturing

high acuity images that facilitate rapid root cause analysis. Tasks that once required external lab analysis can now be accomplished in-fab, saving time and money previously lost to manual cleaving and polishing procedures.

Whether you are ramping up a new, advanced process, or running at full capacity, the 3D advantage of DualBeam defect analysis will improve your efficiency and significantly improve yields.

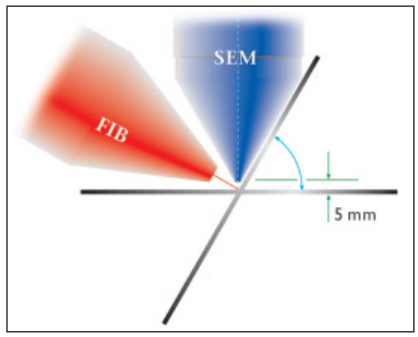
Software automation for increased productivity

FEI has focused on the process of root cause analysis, and has engineered the operation of Defect Analyzer 300 for maximum ease of use and productivity. A new generation of software uses programmed recipes for consistent automation of repetitive tasks, automated job sequencing to ensure maximum tool use with minimal operator intervention, and off-line functionality for job creation and data analysis. The result is a decrease in system operator time, allowing you to focus resources on what really matters: what parameters to change to improve process yield.

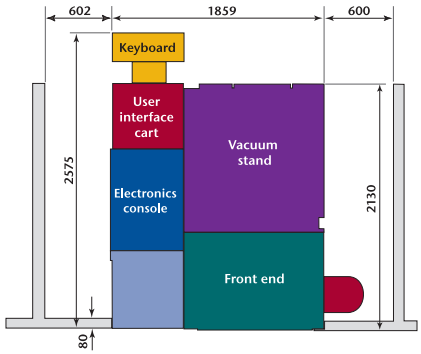
In-fab capability for multiple wafer sites

The Defect Analyzer 300 is engineered to operate in the most demanding fab environments. Cleanroom compatible system construction and S2-93 safety certification make the system an easy tool to integrate into your fab facility. This powerful DualBeam system is based on the same fully integrated FIB/SEM technology that has made FEI the leading supplier of 3D analytical and metrology solutions for advanced semiconductor and data storage manufacturers.

The Defect Analyzer 300 will change the way defect analysis is performed on your manufacturing floor. By providing critical root cause analysis in a fraction of the time currently required by other techniques, the Defect Analyzer 300 ensures that your production processes for both 200 and 300 mm wafers can be optimized in real-time for continuous yield improvement .



FIB and SEM work together at a single point to monitor 3D structures.



scale in mm

Defect Analyzer 300 workstation footprint.

Specifications

Ion source	Gallium liquid metal, 1500 hours guaranteed
Electron source	Schottky, over 1 year lifetime
Beam voltage	200 V - 30 kV SEM, 5 kV - 30 kV FIB
Image resolution	5 nm SEM, 7 nm FIB
Precision	< 5 nm, based on FEI process and measurements
Stage motion	XYZRT, 305 x 305 mm travel, tilt eucentric, 1.5 µm accuracy
User interface	Icon-driven, Windows™ 2000 GUI
System Automation	Multiple site, multiple wafer, full FIB milling and SEM image capture

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