



# Focused ion beam (FIB)

## FEI Altura 855



### Description

FIB is precision machine for local etching, sputtering, drilling, or different materials deposition on predefined points of wafer. Its working instrument is beam of accelerated gallium ions which incident with item surface and sputtered it in given point or ionized some added gaseous precursor for the specific material local deposition. The type of the chosen action-sputtering, drilling, or deposition- is defined by the beam accelerating voltage. The action locality, in turn, is defined by controlling of the beam diameter.

### Specifications / Capabilities

- Cross Sections and their Images preparation
- Ultra High Resolution milling & imaging
- TEM samples preparation
- Energy-dispersive X-ray spectroscopy - an analytical technique used for the element analysis or chemical characterization of a sample
- CAD navigation
- Deposition of metals precisely on predetermined place directly from CAD
- Deposition of dielectrics precisely on predetermined place directly from CAD ds
- Etching of metals precisely on predetermined place directly from CAD
- Etching of dielectrics precisely on predetermined place directly from CAD
- Repairing of electrical shorts in microstructures and repairing defects on masks
- Localized checking of electrical chains
- Finding and characterization of defects in technological processes
- Fully insensitive to sizes and forms of the substrate up to 200 mm at thicknesses up to 5 mm

Typical beam diameter for lithography defects repairing:	20 nm
Current :	5 pA
Beam energies:	5 keV – 30 keV
Beam current stability-:	< 3%/h
X and Y stage translation:	±100 nm from the stage center
Stage moving accuracy:	±0.5 μ over 125 mm stage
Measurement system:	Differential laser interferometer with 4.9 nm resolution
Navigation along substrate:	Using imaging secondary electron or secondary ion images

### Link

<http://www.fei.com/>