PTW Asia presents

FEI Helios NanoLab 400

Specifications

Dual Beam (FIB/SEM [Focused Ion Beam / Scanning Electron Microscope])
Tool for Failure analyzing and Micromanipulation

Beam	Electron	Elestar : 0.35kV-30kV
	Ion	Sidewinder: 0.5kV-30kV
Resolution	Electron	up to 1nm at 5kV
	Ion	Up to 4.5 nm @ 30kV
Stage	size	100x100 mm
	Tilt	-10 to +60 Degree
	visual size	80 mm Diameter
	Piezo Stage	With Load Lock
Detectors	ETD,CDM,TLD	
GIS	Max 4	Installed: Idep, PT, EE
Vintage	2007 (updated 2010)	
Additional Possible	• Evactron 10 Plasma Cleaner • anti Vibration platform • Faraday Cage, around the machine, including the magnetic compensator.	

FEI Helios 400

FEI Made in the Netherlands CE

Type : PW 2046/34	230 V ~
NC : 9432 020 46341	50/60 Hz
S/N : D5031	10 A

Exploring New Dimensions

xTm Copyright © FEI Company 1999 - 2010
Uses XJ Charts © XJ Technologies

Product Version	3.8.8.1937
Build Date	07-01-2010
Build Number	1937 [Release]
DNumber	D5031
Machine Type	Helios NanoLab 400

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Server / Utilities

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GIS, Detectors and Software

Gas Injection

Overview | Details

Selected GIS: Ins dep

Name	Value
Port	Port 1
Lifetime	56.9 hours

Gas Injection

Overview | Details

Selected GIS: Pt dep

Name	Value
Port	Port 4
Lifetime	86.8 hours

Selected GIS: Enh etch

Name	Value
Port	Port 5
Lifetime	28.3 hours

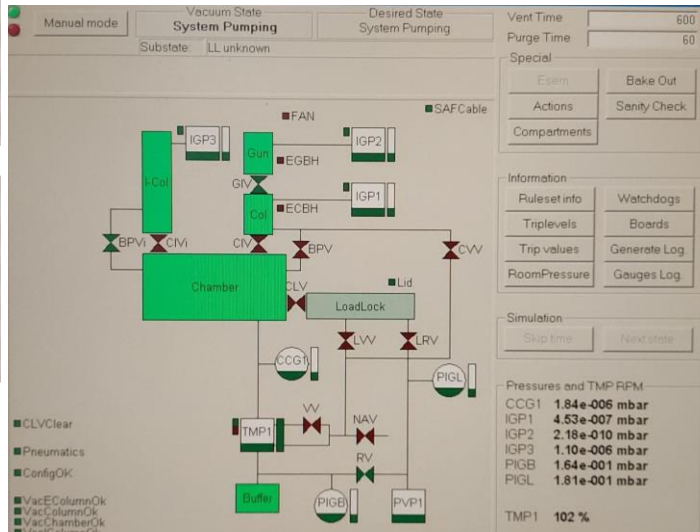
Detector Settings

Detector: ETD

ETD
TLD
CDEM

Mode:

Grid Voltage 260 V



Detector Settings

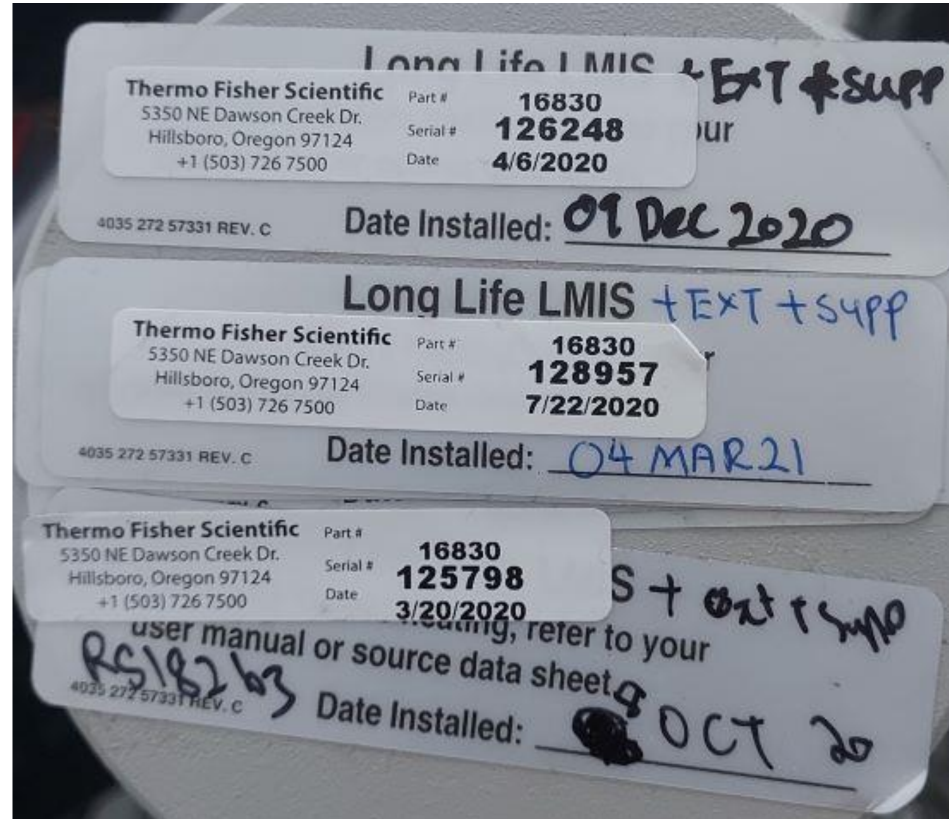
Detector: ETD

Mode: Custom

Secondary Electrons
Custom

Grid Voltag

OEM Service



Additional Tools

Plasma Cleaner

Vibration Absorber

Electromagnetic Field Compensation

System Possibilities / Summary

- **Dual Beam Tool for Failure analyzing and Micromanipulation in nm and ym scale**
- High resolution SEM (**S**canning **E**lectron **M**icroscope) imaging.
- **F**ocused **I**on **B**eam and Focused electron beam induced deposition of different Substrates.
- Surface patterning by FIB with a minimum feature size of 10 nm (processing areas below mm2).
- Complex structures fabrication (including 3D structure).
- Sample preparation for transmission electron microscopy (TEM).
- 3D characterization of the structure with FIB Nano tomography. Imaging of large areas up to cm2
- Micro and nano structure fabrication
- Etching or deposition of different structures: high resolution nanopatterns, direct fabrication of photonic crystals, micro/nanopillars arrays, fabrication of modification/tuning of AFM cantilevers, sharp probes for SNOM, diffractive optical elements, micro/nano labelling, conductive bridges between contacts…
- Micro and nano structures and devices on different substrates
- Customized structured calibration and reference samples (microscopy, metrology).
- Topographically changed surfaces with advanced properties (optical, mechanical, adhesion, friction).

Thank You

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