

FEI Helios NanoLab 660 G3 UC

Scanning electron microscope with focused ion beam milling equipped for cryo-imaging and correlative light and electron microscopy (CLEM)

Application

- 3D scanning electron microscopy (FIB-SEM)
- high resolution scanning electron microscopy (embedded, dried or frozen samples)
- elemental analysis (EDS)

Microscope

Software	AutoSlice&View 4.1, Amira 6 softwares for image analysis												
Electron and Ion sources	Electron gun with Schottky thermal field emitter LMIS Ga3+ ion source												
Electron column/optics specifications	available accelerating voltage: 350 V – 30 kV probe current: 0,8 pA – 100 nA imaging modes: field free, XHR immersion, EDS optimized												
Ion column/optics specifications	Ion column type: Tomahawk available accelerating voltage: 500 V – 30 kV probe current: 0,1 pA – 65 nA												
Detectors available	<ul style="list-style-type: none">• in-lens detector (TLD – SE, BSE)• in-column SE detector (ICD)• in-column BSE detector (MD)• Everhart-Thornley SE detector (ETD)• Retractable high contrast solid-state backscatter electron detector (CBS)• Retractable STEM detector with BF/DF/HAADF segments• Secondary electrons/ions detector (ICE)• energy dispersive spectrometer (EDS) • Others: IR camera for viewing sample/column, Chamber mounted Nav-Cam+, Integrated beam current measurement												
Resolution	<table><thead><tr><th>Top resolution</th><th>Conditions</th></tr></thead><tbody><tr><td>0,6 nm</td><td>30 kV (STEM)</td></tr><tr><td>0.6 nm</td><td>15 – 2 kV</td></tr><tr><td>0,7 nm</td><td>1 kV</td></tr><tr><td>1,0 nm</td><td>500 V (ICD)</td></tr><tr><td>4 nm</td><td>30 kV (i-beam)</td></tr></tbody></table>	Top resolution	Conditions	0,6 nm	30 kV (STEM)	0.6 nm	15 – 2 kV	0,7 nm	1 kV	1,0 nm	500 V (ICD)	4 nm	30 kV (i-beam)
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Stage	Stage type: High precision 5-axes 16 inch piezo motorized stage Cryo-stage Leica VCT100												
Others	Gas Injection System – platinum and carbon depostion, Plasma cleaner (mounted on the chamber), Micromanipulator EasyLift EX (FEI)												