Field Emission Scanning Electron Microscope (FESEM)

Make: JEOL
Model: JSM-7610FPlus
Key Specifications:

Parameter	Specification
Secondary Electron Image Resolution	0.8 nm (Accelerating voltage 15 kV)
	1.0 nm (Accelerating voltage 1 kV GB mode)
	0.8 nm (Accelerating voltage 1 kV GBSH mode)
	During analysis: 3.0 nm (Accelerating voltage 15 kV, WD 8 mm, Probe current 5 nA)
Magnification	Direct: x25 to 1,000,000 (120 x 90 mm)
	Display: x75 to 3,000,000 (1,280 x 960 pixels)
Accelerating Voltage	0.1 to 30 kV
Probe Current	A few pA to 200 nA
Electron Gun	In-lens Schottky field emission electron gun
Lens System	Condenser lens (CL), Aperture-angle control lens (ACL), Semi-in lens objective lens (OL)
Specimen Stage	Fully eccentric goniometer stage
Specimen Movement	X: 110 mm, Y: 80 mm, Z: 1.0–40 mm, Tilt: -5° to +70°, Rotation: 360°
Specimen Holders	12.5 mm diameter x 10 mm thick, 32 mm diameter x 20 mm thick
Specimen Exchange	One-action exchange mechanism

Electron Detector System	**Upper detector, r-filter, Built-in, Lower detector**
Automatic Functions	**Focus, Stigmator, Brightness, Contrast**
Image Observation LCD	**Screen size: 23-inch wide**
	Maximum resolution: 1,280 x 1,024 pixels
SEM Control System	**PC: IBM PC/AT compatible computer**
	OS: Windows® 7 Professional
Scan and Display Modes	**Full-frame scan**
	Real magnification
	Selected-area scan
	Two-image display (different magnifications, different image modes)
	Two-image wide display
	Four-image display (four-signal live display)
	Addition image (4 images + addition image)
	Scale
Evacuation System	**Gun chamber, first and second intermediate chambers: Ultra-high-vacuum dry evacuation system using ion pumps**
	Specimen chamber: Dry evacuation system using a turbo-molecular pump (TMP)
Ultimate Pressure	**Gun chamber: Order of 10^{-7} Pa (for standard configuration)**
	Specimen chamber: Order of 10^{-6} Pa (for standard configuration)