

NCFL's FEI Quanta 600 FEG

Features and Specifications

Electron optics

- High-resolution field emission- SEM column optimized for high brightness/high current
- 45 degree objective lens geometry with through-the-lens differential pumping and heated objective apertures

Resolution

- High-vacuum
 - 1.2nm at 30kV (SE)
 - 2.5nm at 30kV (BSE)
 - 3.0nm at 1kV (SE)
- Low-vacuum
 - 1.5nm at 30kV (SE)
 - 2.5nm at 30kV (BSE)
 - 3.0nm at 3kV (SE)
- Extended vacuum mode (ESEM)
 - 1.5nm at 30kV (SE)
- Accelerating voltage: 200V 30kV
- Probe current: up to 100nA continuously adjustable

Detectors

- Everhardt-Thornley SED
- Low-vacuum SED (LFD)
- Gaseous SED (GSED)
- IR-CCD
- Solid-state BSED
- Gaseous BSED

Chamber vacuum

- High-vacuum: $\leq 6 \times 10^{-4}$ Pa
- Low-vacuum: 10 to 130 Pa
- ESEM-vacuum: 10 to 4000 Pa

Vacuum system

- 1x 240 l/s TMP, 2x PVP
- Patented through-the-lens differential pumping
- Beam gas path length: 10 or 2 mm

Chamber

- 379mm left to right
- 10mm analytical WD
- 10 ports
- EDX take-off angle: 35 degrees

5-axis motorized stage

- Pseudo-eucentric goniometer stage
- X,Y = 150mm
- Z = 65mm (Z clearance 93.5mm)
- T = -5 degrees to +70 degrees (WD dependent)
- R = 360 degrees continuous

Specimen stage

- SW controlled WETSTEM system
- SW controlled 1000C heating stage
- Peltier/Heating Stage Control Kit
- Bruker QUANTAX 400 Energy Dispersive X-Ray Spectrometer, (high speed Silicon Drifted Detector)