



High-Resolution Scanning Electron Microscope (HRSEM)

Verios G4 XHR SEM

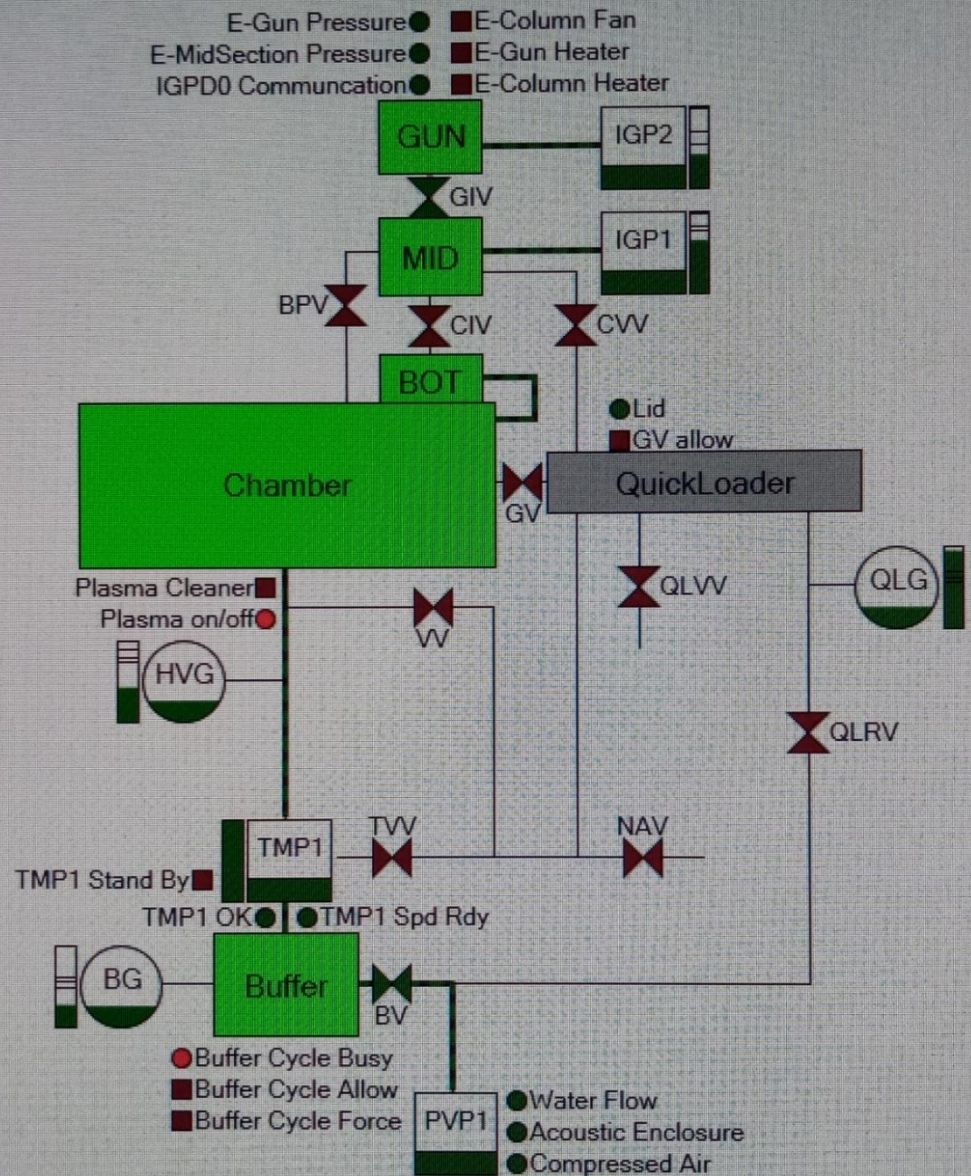
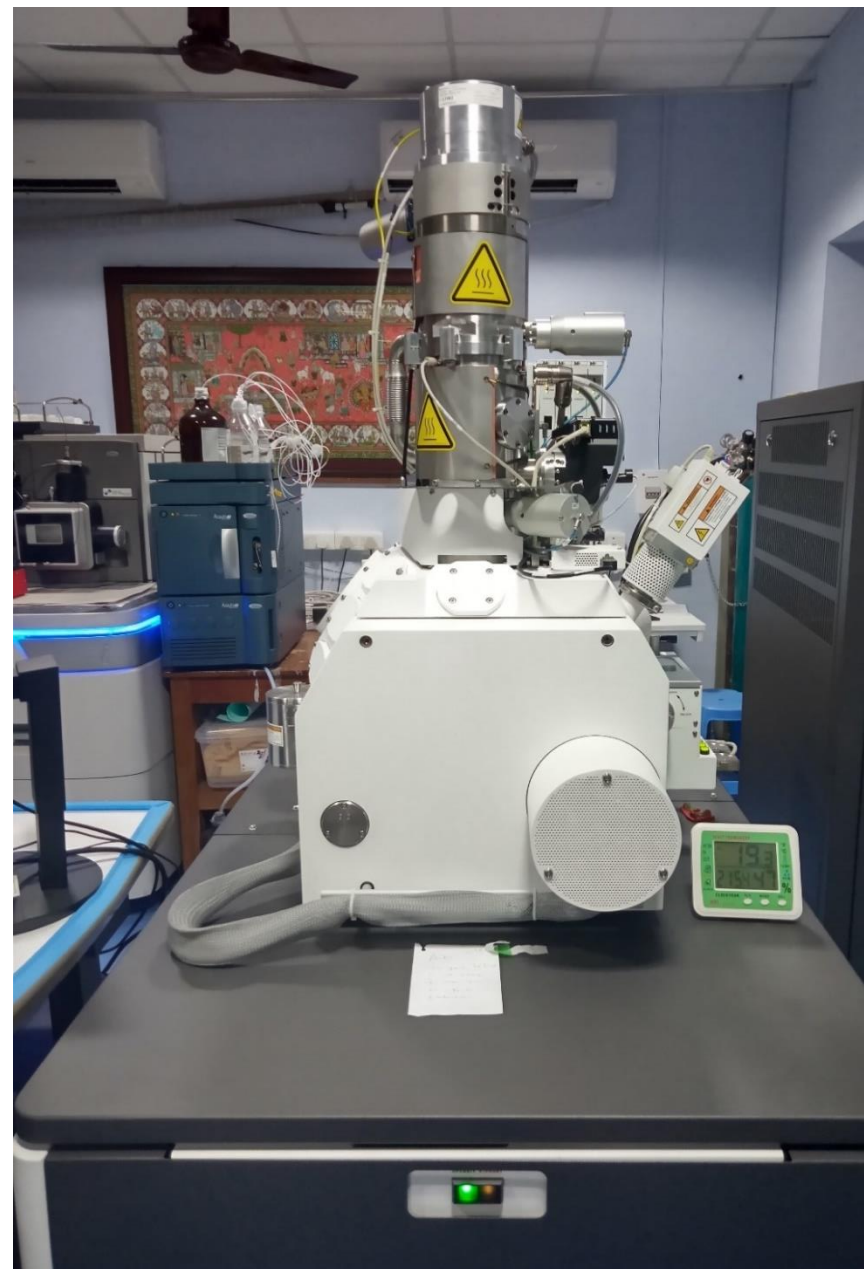
Instrumental Technique

Group Meeting

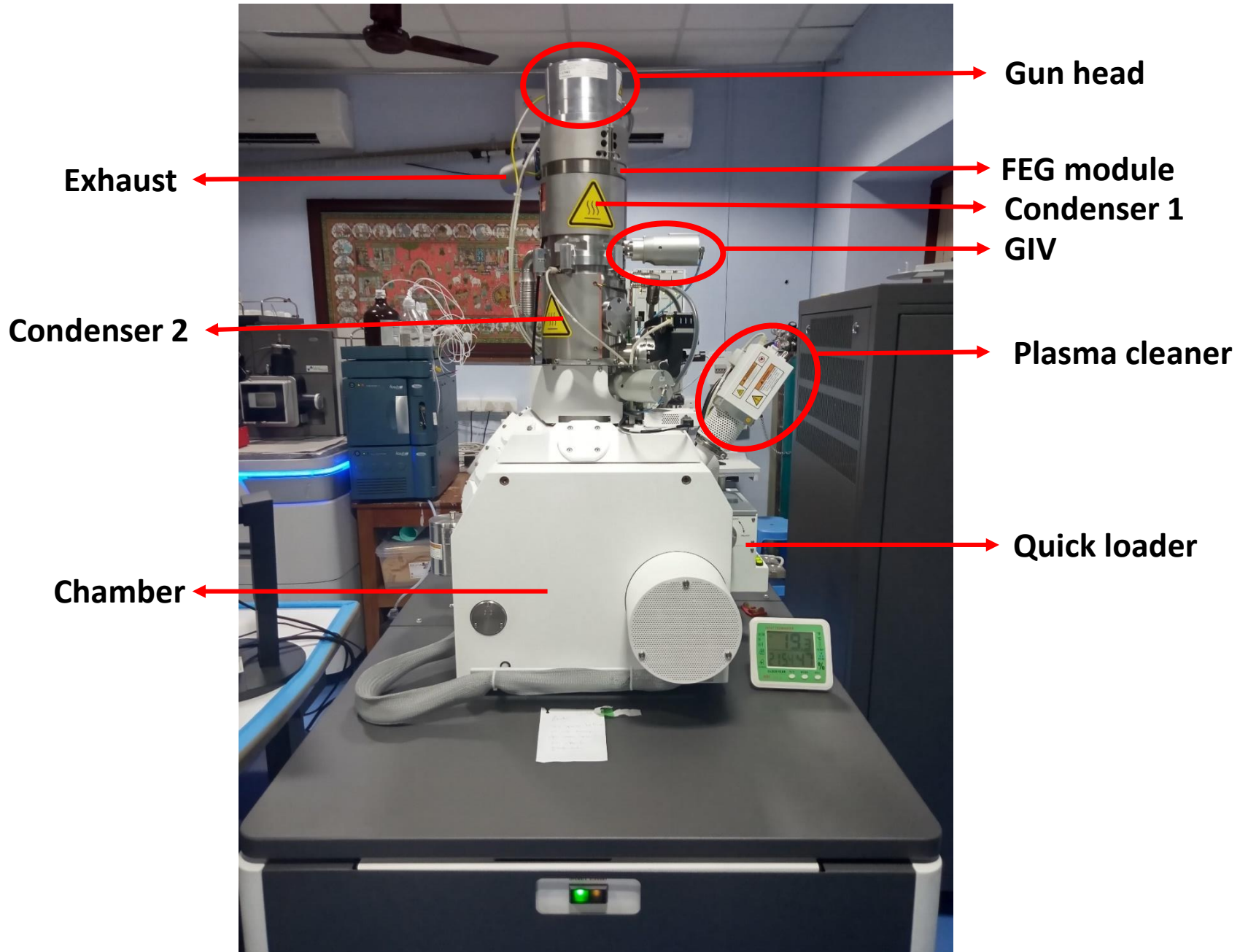
28-09-19

- Ankit Nagar

Working principle



The instrument



Vacuum system

- Complete oil-free vacuum system
- Chamber vacuum: $< 2.6 \times 10^{-6}$ mbar (after 24 h pumping)
- Evacuation time: < 5 minutes

Image processor

- Dwell time range from 25 ns – 25 ms/pixel
- Up to 6144 × 4096 pixels
- File type: TIFF (8, 16, 24-bit), BMP or JPEG standard

Electron beam resolution

- 0.6 nm at 2-15 kV
- 0.7 nm at 1 kV
- 1.0 nm at 500 V

Electron beam parameter space

- Electron beam current range: 0.8 pA to 100 nA
- Accelerating voltage range: 350 V – 30 kV

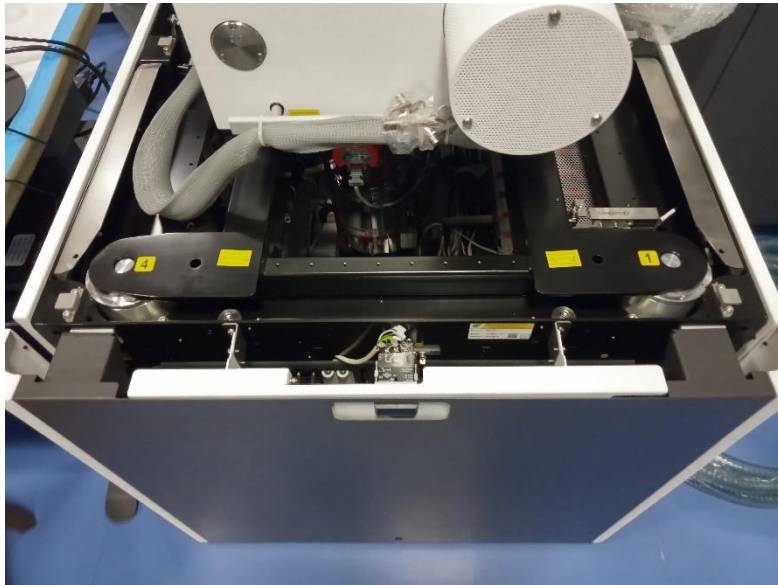
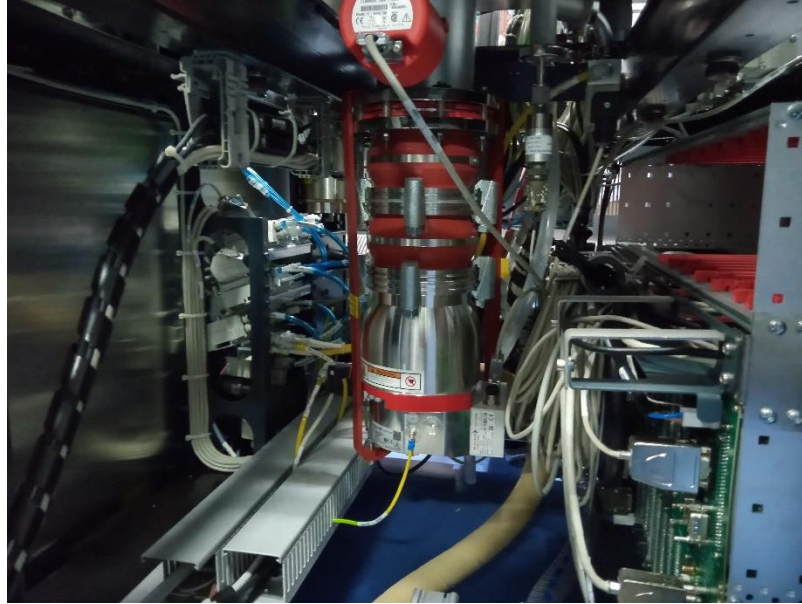
Installation pictures



Earth pit



Components



THANK YOU