

Phenom ProX Tabletop SEM with EDS

Additional Specifications

W&M Campus, ISC3, Room 1223

Specifications (from Phenom-World)

Spec Sheet

System:

- Imaging module, 19" touch-screen monitor, rotary knob, mouse, diaphragm vacuum pump, power supply, USB flash drive
- Elemental Mapping and Line Scan: Reveals distribution of elements within the sample, fully integrated Energy Dispersive Spectrometer(EDS)

Imaging Modes:

- Light Optical Magnification: 20 to 135x
- Electron Optical Magnification range: 80 - 130,000x, Digital zoom: max. 12x

Illumination:

- Light Optical: Bright field/Dark field modes
- Electron Optical: Long lifetime thermionic source, low, imaging spot analysis and mapping mode, beam currents selection
- Acceleration Voltages: Default: 5 kV, 10 kV and 15 kV, Advanced Mode: Adjustable range between 4.8 kV and 15 kV imaging and analysis mode
- Resolution: less than or equal to 10 nm

Digital Image Detection

- Light Optical: Color Navigation Camera
- Electron Optical: High sensitivity backscattered electron detector (compositional and topographical modes)

Image Format: JPEG, TIFF, BMP

Image Resolution: Options 456 x 456, 684 x 684, 1024 x 1024 and 2048 x 2048 pixels

Data Storage: USB Flash drive, network and ProSuite PC

Sample Stage: Computer-controlled motorized X and Y

Sample Size: Up to 32 mm (dia) and up to 100 mm (h)

Sample Loading Time

- Light Optical < 5 s
- Electron Optical < 30 s

Dimensions & Weight

- Imaging Module 286 (w) x 566 (d) x 495 (h) mm, 50 kg
- Diaphragm Vacuum Pump 145 (w) x 220 (d) x 213 (h) mm, 4.5 kg
- Power Supply 156 (w) x 300 (d) x 74 (h) mm, 3 kg
- Monitor 375 (w) x 203 (d) x 395 (h) mm, 7.9 kg
- Standard ProSuite System including 19" monitor with PC and network router mounted, 375(w) x 250(d) x 395(h) mm, 9 kg

EDS Specifications

- Detector Type: Silicon Drift Detector (SDD)
- Detector Active Area: 25 mm sq.
- X-ray Window: Ultra thin Silicon Nitride window allowing detection of elements B to Am
- Energy Resolution: Less than or equal to 135 eV
- Processing Capabilities: Multi-channel analyzer with 2048 channels at 10 eV/ch
- Max. Input Count Rate: 300,000 cps
- Hardware Integration: Fully embedded
- Software: Integrated in Phenom ProSuite, integrated column and stage control, auto-peak ID, Iterative strip peak deconvolution, confidence of analysis indicator, export functions CVS, JPG, TIFF, ELID, EMSA
- Report: Docx format

Ambient Conditions

- Temperature 15°C ~ 30°C (59°F ~ 86°F)
- Humidity < 80 % RH
- Power Single-phase AC 110 - 240 Volt, 50/60 Hz, 300 W (max.)

Recommended Table Size 150 x 75 cm, load rating of 100 kg