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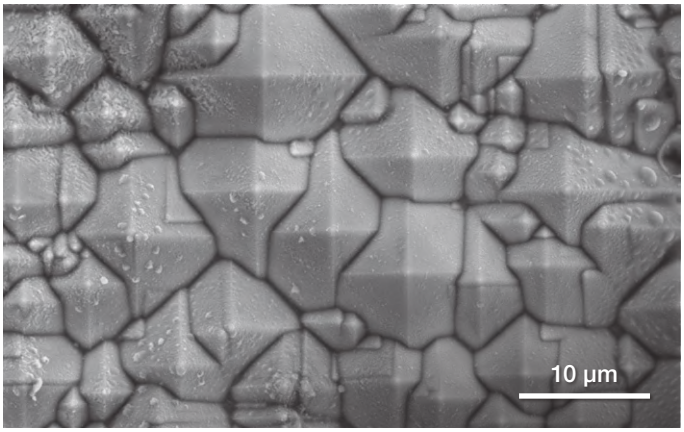
DATASHEET

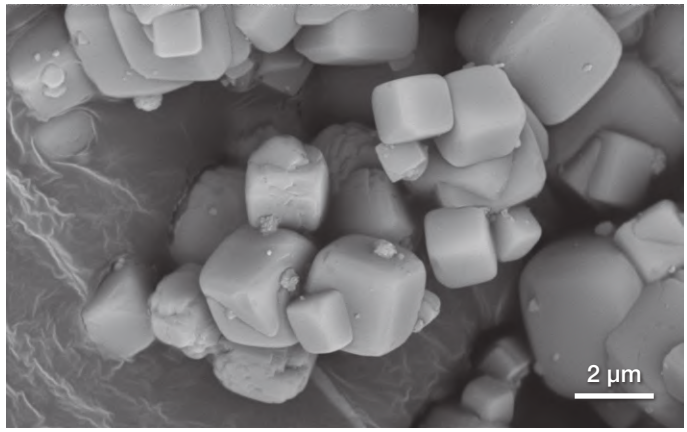
Phenom Pure G6 Desktop SEM

Economical desktop SEM with advanced, easy to use features

ThermoFisher
SCIENTIFIC



SED image from the surface of a solar cell.



BSD image from zeolite particles.

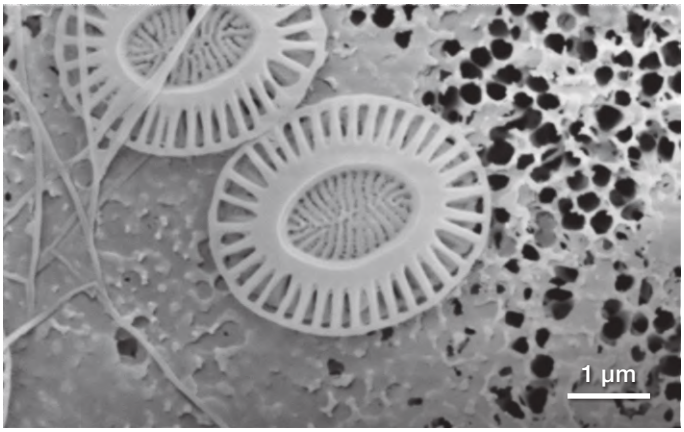
The Thermo Scientific™ Phenom™ Pure™ G6 Desktop SEM (scanning electron microscope) is an ideal tool for the transition from light optical to electron microscopy. It is the most economical solution for high-resolution imaging, providing the best imaging results in its class.

Phenom Pure G6 Desktop SEM

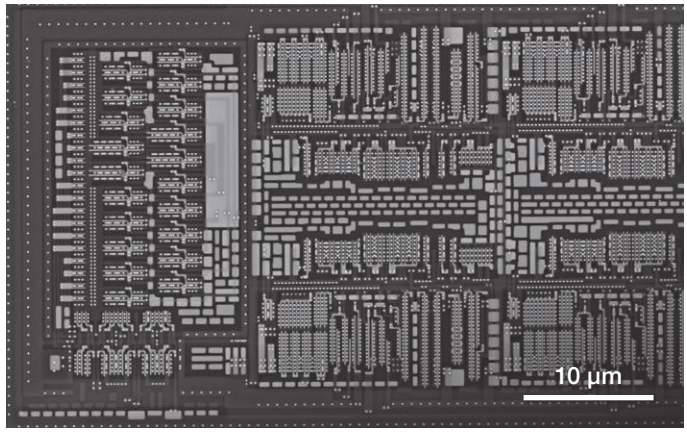
The Phenom Pure G6 Desktop SEM is equipped with the basic components to meet high-resolution imaging needs. It provides high-quality images while using basic features, and it offers the market's fastest loading and imaging time. The very reliable autofocus and automated source alignments make it the most user friendly system on the market.

The Phenom Pure G6 Desktop SEM is the most economical and efficient solution for high-resolution SEM imaging. The worry-free maintenance and remote assistance are unique in its product category, and they maximize system uptime. With more than 30 times the magnification of a conventional light microscope and a large depth of focus, the Phenom Pure G6 Desktop SEM combines high-resolution imaging with extreme ease of use.

Imaging specifications	
Imaging modes	
Light optical	Magnification range: 27x
Electron optical	• Magnification range: 160–175,000x • Digital zoom max. 12x
Illumination	
Light optical	Bright field / dark field modes
Electron optical	Long lifetime thermionic source (CeB_6)
Acceleration voltages	5 kV and 10 kV
Resolution	<15 nm
Digital image detection	
Light optical	Color navigation camera
Electron optical (standard)	Backscattered electron detector
Electron optical (optional)	• Secondary electron detector (enabled for live mixing with BSE) • Energy dispersive spectroscopy detector
Image formats	
JPEG, TIFF, BMP	
Image resolution options	
960 x 600, 1920 x 1200, 3840 x 2400 and 7680 x 4800 pixels	
Data storage	
Network, workstation with SSD	
Sample stage	
Computer-controlled motorized X and Y	
Sample size	
• 25 mm diameter (up to 32 mm as option) • 35 mm height (up to 100 mm as option)	
Sample loading time	
Light optical	<5 s
Electron optical	<30 s



SED image from diatoms.



BSD image from a semiconductor device.

Never Lost Navigation and ease of use

The navigation camera in the Phenom Pure G6 Desktop SEM provides information that helps the operator to make a link between the optical and electron-optical images. Users are ready to take images after only 10 minutes of basic training. A large variety of sample holders is available to accommodate a large range of samples. Sample loading is fast and safe due to our patented sample vacuum loading technology.

The optical camera, motorized stage and intuitive user interface work together to help navigate swiftly to any region of interest. After you click on the position of the optical image to investigate, the stage automatically centers the region of interest. Switching to electron imaging mode is fully automated and fast at the touch of just one button. A high-resolution image is available within 30 seconds of loading the sample. Saving images is practical and easy on the workstation SSD or network storage location for offline analysis and distribution.

You always know your position on the sample with the unique Never Lost Navigation. Overviews of both the optical and electron-optical images provide clear reference point at all times. The sample or feature will be centered on screen with just one mouse click; the integrated motorized stage will instantly move to the desired position.

System specifications	
Dimensions and 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 (24”)	531,5 (w) x 250 (d) x 515,4 (h) mm; 6,7 kg
Workstation	• Lenovo workstation, including SSD storage and 4 USB slots • 92.5 (w) x 305.6 (d) x 343.5 (h) mm, 8 kg
Requirements	
Ambient conditions	
Temperature	15°C ~ 30°C (59°F ~ 86°F)
Humidity	10% < RH < 80%
Power	Single phase AC 100–240 Volt, 50/60 Hz, 300 W (max.)
Recommended table dimensions	
150 x 75 cm, load rating of 100 kg	

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Customize your SEM

The Phenom Pure G6 Desktop SEM can be equipped with two optional detector systems. The first one is a fully integrated energy dispersive spectroscopy (EDS) system. EDS allows you to analyze the chemical composition of your samples. Detailed chemical composition can be obtained from a micro volume via a spot analysis.

The second is a Secondary Electron Detector (SED) for applications that require surface and topography sensitive imaging.

ProSuite Software specifications

System

- Automated collection of images
- Real-time remote control
- Intuitive single page user interface
- Standard applications included: Automated Image Mapping and Remote User Interface

Optional

3D Roughness Reconstruction	• Based on “shape from shading” technology, no stage tilt required • Fast reconstruction
FiberMetric	• Fast and automated collection of all statistical data • Large range of fibers and pores can be measured
ParticleMetric	Morphology and particle size data for submicron particle applications
PoroMetric	Fully automated visualization and analysis of pores

SED specifications (optional)	
Detector type	Everhart Thornley
EDS specifications (optional)	
Detector type	• Silicon Drift Detector (SDD) • Thermoelectrically cooled (LN_2 free)
Detector active area	25 mm^2
X-ray window	Ultra thin silicon nitride (Si_3N_4) window allowing detection of elements B to Cf (please mind that for EDS analysis, 10 kV limits the element range and accuracy)
Energy resolution	Mn Kα ≤132 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 Software
- Integrated column and stage control
- Auto-peak ID
- Iterative strip peak deconvolution
- Confidence of analysis indicator
- Export functions: CSV, JPG, TIFF, ELID, EMSA

Report

Docx format

Find out more at **thermofisher.com/phenom-pure**

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