■Specifications

Item	Description
Resolution *1	4.0 nm at 20 kV (SE: High vacuum mode) 15.0 nm at 1 kV (SE: High vacuum mode) 5.0 nm at 20 kV (BSE: Low vacuum mode)
Magnification	6x to 300,000x (on photo*2) 16x to 800,000x (on display*3)
Accelerating voltage	0.3 to 20 kV
Variable pressure range	6 to 100 Pa
Specimen stage	3-Axis Motorized stage X: 0 to 40 mm, Y: 0 to 50 mm, Z: 5 to15 mm, R: 360°, T: -15° to +90°
Electron gun	Pre-centered cartridge filamemnt
Detectors	Everhart Thornley secondary electron detector High sensivity semiconductor BSE detector
Automatic image adjustment	Auto brightness & contrast control Auto focus control / Auto stigmation & focus Auto filament saturation / Auto beam alignment Auto Start Auto beam alignment Auto optical axis alignment
Image data saving	640 x 480 pixels, 1,280 x 960 pixels, 2,560 x 1,920 pixels, 5,120 x 3,840 pixels
Image format	BMP, TIFF, JPEG
Evacuation system	Operation: Fully automated vacuum sequence Turbo molecular pump: 61 L/s x 1 unit Rotary pump: 100 L/min (120 L/min with 60 Hz) x 1 unit
Auxiliary functions	Raster rotation, Dynamic focus/tilt compensation, Image enhancement function, SEM Map (Stage navigation), Beam marking

*1 applicable when Main unit and Power Supply unit are connected.
*2 at 127 mm x 95 mm (4" x 5" Picture size) *3 at 509.8 mm x 286.7 mm (1,920 x 1,080 pixels)

■PC Requirements

Items	Specification
OS	Windows® 10 Pro(64bit)*
CPU	Intel® Processor, Number of cores: 4 , Clock Speed: 3.0GHz (equivalent or higher)
Memory	4 GB minimum
Display resolution	1,920 x 1,080 pixels
Memory device	with HDD, DVD-ROM Drive

*4 Windows® is a resistered trademark of U.S.Microsoft Corp. in U.S.A. and other countries.
*5 Intel® is a registered trademark of Intel Corp. or its affiliated companies in the United States and/or other countries.

■Dimensions & Weight

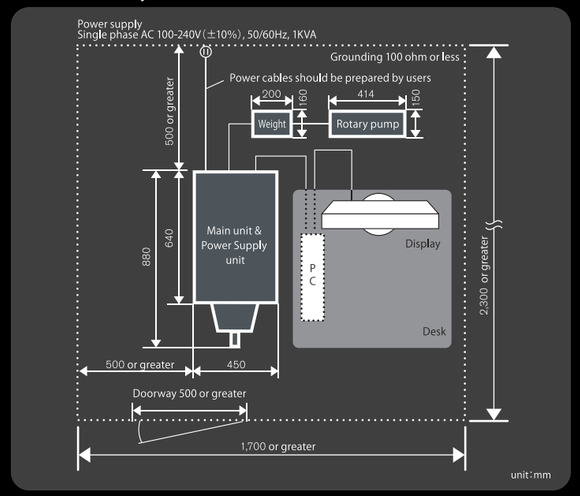
Main unit	450 (W) x 640 (D) x 670 (H) mm, 107 kg
Power Supply unit	450 (W) x 640 (D) x 450 (H) mm, 58 kg
Rotary pump	150 (W) x 414 (D) x 315 (H) mm, 22 kg
Weight	160 (W) x 200 (D) x 134 (H) mm, 26 kg

Rotary pump may not be included with main unit depending on its destination.

■Optional accessories

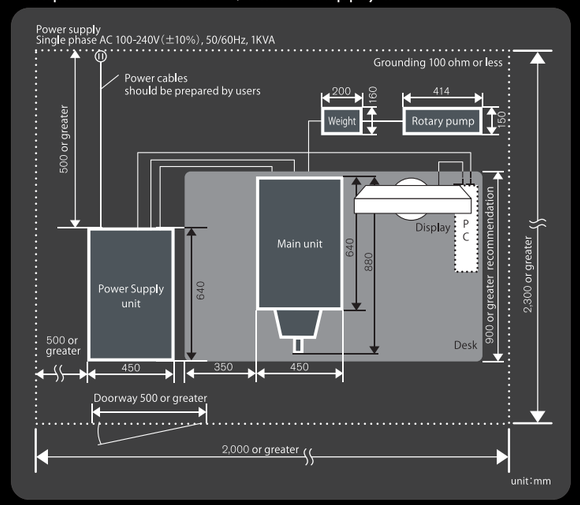
EDS (Energy dispersive X-ray spectoroscopy)
UVD (Ultra Variable-Pressure Detector)
Camera navigation system
Chamberscope
Track ball
Operation panel
SEM data manager
Communication interface

■Installation layout



*1: PC, desk, and display to be prepared by the customer.

■Separation Main unit/Power Supply unit



*1: PC, desk, and display to be prepared by the customer. *2: Load capacity of the desk: 200 kg or more.
*3: Installation, relocation, or switching between tabletop and standalone configurations must be performed by Hitachi-certified service engineer.

NOTICE: For correct operation, please follow the instruction manual when using the instrument.

Specifications in this catalog are subject to change with or without notice, as Hitachi High-Technologies Corporation continues to develop the latest technologies and products for our customers.

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Variable Pressure
Scanning Electron Microscope

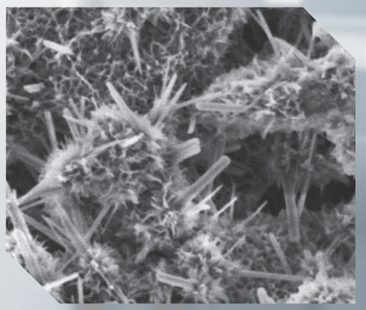
FlexSEM 1000

Expanding the Boundaries
of Electron Microscopy

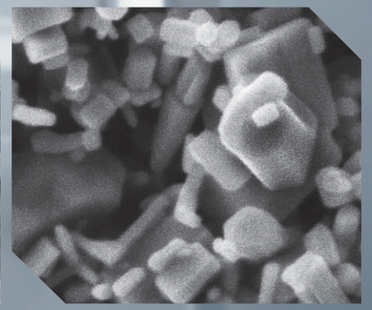
The FlexSEM 1000 is a compact variable-pressure SEM that delivers the performance of a conventional SEM in a lab-friendly footprint, and requires only a standard wall outlet for power.
The FlexSEM will change your view of electron microscopy!

Unparalleled Image Quality

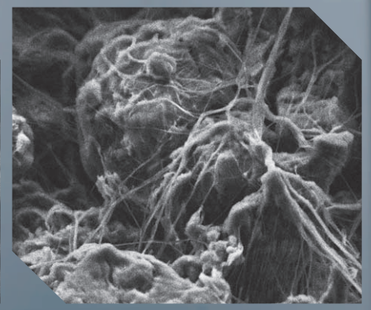
Best-in-class resolution in a compact system. Novel low-vacuum technology allows observation of non-conductive specimens without preprocessing. Accurate and fast AFC (Auto Focus Control) and ABCC (Auto Brightness and Contrast Control) algorithms, taking only 5 seconds, enable optimized imaging performance with minimal time and effort.



Sample: Cement, Accelerating Voltage: 3 kV
Magnification: 40,000x
Signal: Secondary Electron (SE)
Without metal coating



Sample: ZnO, Accelerating Voltage: 5 kV
Magnification: 150,000x
Signal: Secondary Electron (SE)
Without metal coating



Sample: Polymer Cross Section
Accelerating Voltage: 5 kV, Vacuum: 50 Pa,
Magnification: 13,000x, Signal: Ultra Variable-Pressure
Detector (UVD) Without metal coating

Variable Pressure
Scanning Electron Microscope

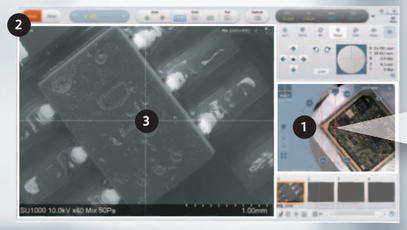
FlexSEM 1000

Expanding Boundaries

FlexSEM 1000 Expanding Boundaries

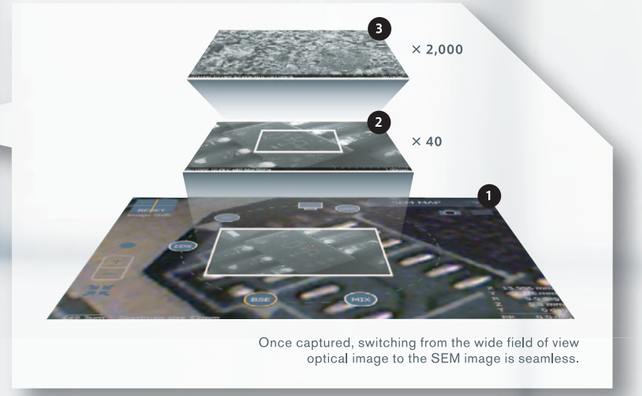
SEM MAP : Novel Navigation Function

SEM MAP is an enhanced navigation function for searching an entire field of view.
Navigate your sample with the use of an optical camera, and deliver accurate correlated optical and SEM images using only one click.
SEM images can be stacked and mapped to better reference regions of interest.



1. Built-In Optical Camera Image*1
2. Low-Magnification SEM Image
3. High-Magnification SEM Image

*1 Optional



Once captured, switching from the wide field of view optical image to the SEM image is seamless.

Compact Slim Body

A compact design (450 mm wide) minimizes system footprint. Main unit can be separated from Power Supply unit for space saving and flexible system setting. Only a single-phase, 1kVA electric power is required.