VP (FE)
SEM Family

HITACHI
Inspire the Next

SU3800 /
SU3800SE

SU3900 /
SU3900SE

Configure
your ideal
SEM

Air Protection

Thermal Tungsten Emitters

Schottky Emitter

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SU3800 / SU3900 Family

Modular VP-SEM platform | 2 sample chambers | 2 types of electron optics

SU3800

SU3800SE

SU3900

SU3900SE

The SU3800/3900 VP-SEM family focusses on productivity. These tools automate repetitive tasks, so you can achieve reproducible results in a short time with little manual effort.

Two different sample chambers with either tungsten or Schottky field emission optics are available. Both SU3800 and SU3900 feature common software, electronics, and detector platform.

+ Optional Accessories

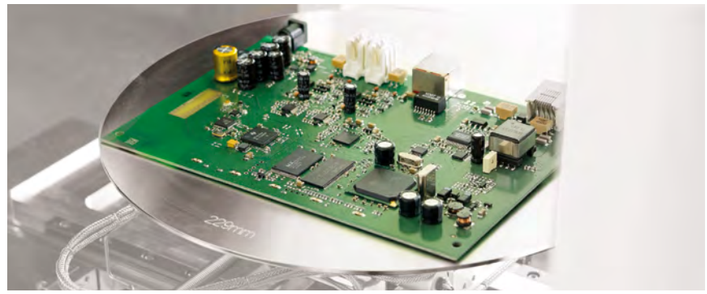
Analysis accessories (EDX, EBSD, µ-XRF, CL, ...)

Specialised multiple sample and filter holders

Flexible and effective automation of routine tasks via EM Flow Creator

Sample airlocks, also for inert gas transfer

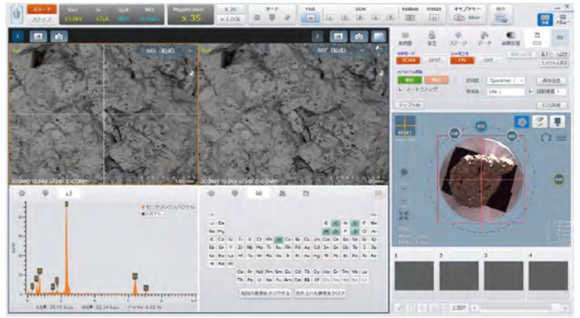
Hitachi Map 3D packages for additional functions such as 3D reconstruction, roughness measurement, particle and pore analysis, image processing, colour segmentation, etc



Samples up to 229mm diameter can be fully inspected (SU3900)

Holder for 11 x 47mm Ø filters (SU3900)

Multiple sample holder for 33 x 15mm Ø stubs



GUI with integrated EDX operation

✓ Product Features

Highly efficient Hitachi detectors.
- Secondary electron detector for high vacuum.
- 5-segment semiconductor backscattered electron detector for high and low vacuum, selection of different signal modes such as material contrast, surface topography, 3D.
- Optional multifunction detector “UVD”: Secondary electrons in a low vacuum, cathode luminescence signal, transmission (STEM, in conjunction with special sample holder).

Field-free, modern electron optics optionally with Schottky field emitter or with robust, inexpensive and, thanks to intelligent control, long-lasting tungsten hairpin cathodes

Easy handling even of non-electrically conductive samples with the integrated effective low-vacuum operating mode, which can be switched to at the click of a mouse if required

For the perfect overview: Colour navigation images of the sample plates cover the entire sample area observable by SEM

Carefree operation - collisions between the stage and SEM components are virtually eliminated by automatically applied, dynamic range travel limitation

Configure your ideal SEM

Thermal Tungsten Emitters

Schottky Emitter

Two Specimen Chambers / Eucentric Stages:

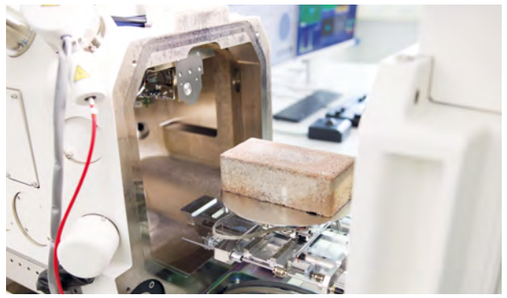
Up to 200mm Ø, 80mm (H), 2kg sample weight on 5 axes

SU3800 / SU3800SE

The SU3800/SU3800SE is the versatile, standard version of the product family. It features a large analytical sample chamber with a eucentric sample stage, which can be fully pulled out for quick sample changes. The chamber can accommodate samples with a diameter of up to 200mm and a height of 80mm (at the analytical working distance).

The maximum sample mass of 2 kg can be moved with all 5 table axes. A specimen exchange chamber, also for handling airtight encapsulated samples (“Air Protection”), can be attached as an option.

Up to 300mm Ø, 130mm (H), 5kg sample weight on 5 axes



SU3900 / SU3900SE

With the 150mm x 150mm movable eucentric sample stage, the SU3900/SU3900SE is the best solution for industrial applications. It allows for the analysis of large and heavy workpieces in one piece or the automatic analysis of large numbers of samples on multiple sample/ filter holders. The stage can move samples weighing up to 5kg using all five platform axes.

The maximum sample area that can be observed with SEM and navigation camera is 229 mm in diameter. A sample airlock, also with “air protection” equipment, is optionally available.

Two Electron Optics:

Tungsten Hairpin Cathode

SU3800 / SU3900

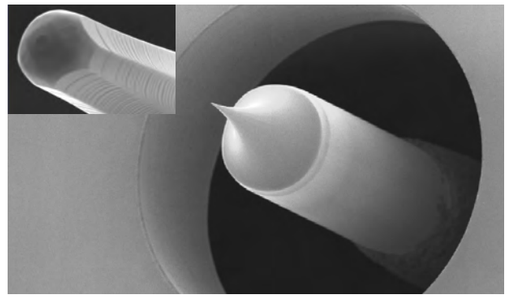
SE Resolution (high vacuum):
@30kV: 3.0nm | @3kV: 8nm | @1kV: 15nm

The SU3800 and SU3900 are equipped with robust and cost-efficient tungsten hairpin cathodes. These tools are designed for applications requiring magnifications of up to several 10,000x or automatic analyses of filters and workpieces. Hitachi’s “Intelligent Filament Technology” (IFT) continuously optimises cathode heating and ensures stable sample currents and long cathode life.

Cathode changes are carried out by the user within 15 minutes.

A sample chamber pressure adjustable between 6Pa and 650Pa is available as standard.

Schottky Field Emitter



SU3800SE / SU3900SE

SE Resolution (high vacuum):
@30kV: 0.9nm | @1kV: 2.5nm
Option: @1kV decel: 1.6nm

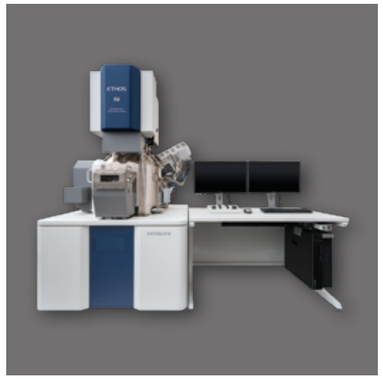
The brilliant, low-noise SEM image offers high working comfort. It also enables the imaging of small structures in the range of a few tens of nm. Automatic adjustment of the optics makes imaging even easier. The sample current is very stable and can be adjusted up to 150nA, supporting any type of analysis technique, from EDX to WDX, EBSD to cathode luminescence.

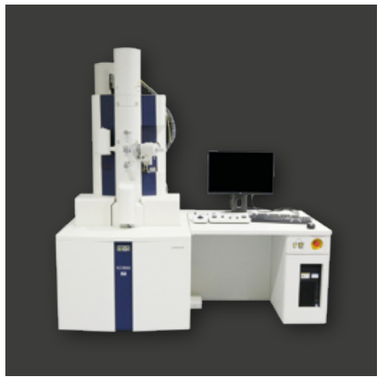
An optional beam deceleration mode, in combination with an inlens detector, enables high-resolution imaging at very low voltages. Variable chamber pressure between 6Pa and 150Pa is available as standard.

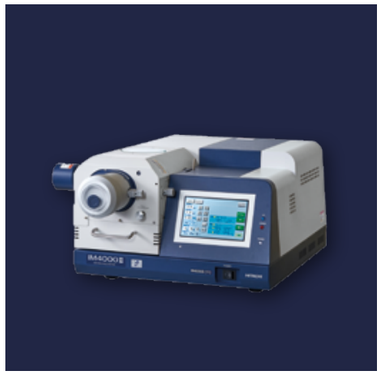




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Not sure which product aligns with your needs?

Our experts are here to provide guidance and help you make the best choice.

Speak with an expert

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

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