

News Release

FOR IMMEDIATE RELEASE

Hitachi High-Technologies Launches the SU3800 and SU3900 Scanning Electron Microscopes —Featuring a large specimen chamber and advanced functionalities—

Tokyo, Japan, April 3, 2019—Hitachi High-Technologies Corporation (TSE: 8036, Hitachi High-Tech) announced today that it will commence sales of the SU3800 and the oversized SU3900 scanning electron microscopes (SEMs) featuring the ability to accommodate large, heavy specimens, along with advanced functionalities for automated measurement and wide-angle camera navigation.



SEMs are utilized to perform a diverse array of structural observations and compositional analyses in a wide variety of fields including nanotechnology and biotechnology. SEM applications are expanding more rapidly than ever, requiring analysis of specimens of greater size and weight, such as materials from mining or automotive-related industries. Specimens of this nature push stage limits beyond previous capacity, making it necessary to cut or further process before imaging. This restriction has given rise to demand for the ability to observe samples without reducing their size. Furthermore, SEMs are increasingly a key component for quality assurance and production control, in addition to their conventional applications in research and development. As a result, modern SEMs must be highly versatile and easy to use for all experience levels.

To address these needs and more, Hitachi High-Technologies provides a novel solution with the SU3800/SU3900. Advanced automation functions including auto start, wide-angle camera navigation with stitching, and auto algorithms enable high-throughput, easy-to-use systems for both new and experienced operators.

The oversized SU3900 features a class-leading specimen chamber/stage configuration with ability to accommodate a 300-mm sample diameter and loading capacity up to 5 kg. This allows for easy observation of very large samples without the need to cut or process prior to imaging.

Hitachi High-Technologies plans to show this new SEM series at the Ceramics Expo, from Monday, April 29, 2019 to Wednesday, May 1, 2019, in Cleveland, Ohio, U.S.; at the 33rd Control, from Tuesday, May 7, 2019 to Friday, May 10, 2019 in Stuttgart, Baden-Württemberg, Germany; and at an exhibition in Makuhari Messe, from Wednesday, September 4, 2019 to Friday, September 6, 2019, in Chiba, Japan.

Hitachi High-Technologies will continue to promote development as well as sales expansion of highly sophisticated solutions and technologies by responding swiftly to the needs of customers and markets.

【Main Features】

(1) Handles large, heavy specimens

- The SU3800 can accommodate a specimen up to a 200-mm diameter with maximum height of 80 mm and weight of 2 kg.
- The SU3900 can accommodate a specimen up to a 300-mm diameter with maximum height of 130 mm and weight of 5 kg.

(2) Support for wide-area observations

- SEM MAP with camera navigation supports quick ROI targeting from wide-angle optical image.
- Multi Zigzag function allows for multi-frame stitch acquisition at user-selectable regions of interest, even from SEM MAP optical image.

(3) Improved operation through automation

- The automatic function for image adjustment reduces waiting time from start to acquisition.
- Intelligent Filament Technology (IFT) software automatically monitors and controls filament conditions as well as indicates the remaining filament life. This is advantageous for continuous observation over a long period of time or wide-area particle analysis.

【Main Specifications】

| | SU3800 | SU3900 |
|---|--|--|
| Secondary Electron Image Resolution | 3.0 nm (Accelerating Voltage: 30 kV, high vacuum mode) 15.0 nm (Accelerating Voltage: 1 kV, high vacuum mode) | |
| Backscattered Electron Image Resolution | 4.0 nm (Accelerating Voltage: 30kV, low vacuum mode) | |
| Accelerating Voltage | 0.3 to 30 kV | |
| Magnification | ×5 to ×300,000 (photo magnification) ×7 to ×800,000 (actual display magnification) | |
| Specimen Stage | X: 0 to 100 mm Y: 0 to 50 mm Z: 5 to 65 mm T: -20° to 90° R: 360° | X: 0 to 150 mm Y: 0 to 150 mm Z: 5 to 85 mm T: -20° to 90° R: 360° |
| Maximum Loadable Specimen Size | 200 mm diameter | 300 mm diameter |
| Maximum Observable Range | 130 mm diameter (with rotation) | 200 mm diameter (with rotation) |
| Maximum specimen height | 80 mm (WD = 10 mm) | 130mm (WD = 10 mm) |

◆ Product website

<https://www.hitachi-hightech.com/global/science/products/microscopes/electron-microscope/sem/su3800.html>

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