

News Release

FOR IMMEDIATE RELEASE

Hitachi High-Technologies Launches the SU7000: A Transformative Schottky Field Emission Scanning Electron Microscope

— High Throughput, Large Chamber, Enhanced Versatility —

Tokyo, Japan, July 31, 2018—Hitachi High-Technologies Corporation (TSE: 8036, Hitachi High-Tech) announced today that it will launch the SU7000, a Schottky field emission scanning electron microscope (FE-SEM) that incorporates a large specimen chamber, enhanced versatility, and high throughput with simultaneous acquisition as well as analysis of various signal types.



The SU7000 Schottky FE-SEM

Scanning electron microscopes (SEMs) are used to perform a diverse array of structural observations and compositional analyses based on their ability to obtain information through signals including secondary electrons, back-scattered electrons, photons, transmitted electrons, X-rays, and more. SEMs are thus implemented in a wide variety of fields such as nanotechnology, semiconductors, electronics, biology, and material science. In stride with expanding growth in these fields, there has been an immediate need for high-throughput SEMs capable of reducing observation times while rapidly obtaining large amounts of information.

The newly launched SU7000 provides improved signal separation of secondary electrons and back-scattered electrons through innovative technologies including a brand-new detector specifically designed to enhance precision as well as increase throughput. Previously, users had to individually optimize observation and analysis conditions, such as the working distance from lens to specimen, according to the type of signal chosen for acquisition. With the SU7000, the specimen chamber, detectors, and other elements feature a new design that enables users to simultaneously acquire several different signals without changing the working distance. Through these advances, the SU7000 effectively streamlines observation and analysis whereby reducing time input.

Moreover, the SU7000 incorporates an interface capable of simultaneously acquiring up to six different types of signals (conventional models can acquire only four different signal types), along with providing higher signal-acquisition speed through upgrades to the SEM control system. As a result, the SU7000 successfully delivers a very high-throughput platform for specimen observations. Additionally, the SU7000 is equipped with a large specimen chamber and 18 accessory ports, allowing for high performance with even greater versatility.

Hitachi High-Technologies forecasts the sales of the SU7000 at 150 units annually. The SU7000 will be showcased at Microscopy & Microanalysis 2018, which will take place from Sunday, August 5, 2018 to Thursday, August 9, 2018 at the Baltimore Convention Center in Baltimore, Maryland, USA, and at the JASIS 2018 exposition, due to be held from Wednesday, September 5, 2018 to Friday, September 7, 2018 at Makuhari Messe in Chiba-shi, Chiba Prefecture, Japan.

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

【Product Features】

1. Capable of simultaneous observation of secondary electrons, back-scattered electrons, and X-ray analysis under one working distance setting.
2. Detects and displays up to six different types of signals at the same time.
3. Acquires image data at a maximum pixel resolution of 10,240 x 7,680.
4. Features 18 accessory ports, the largest number in its class*.
5. Available with variable-pressure mode down to 300 Pa (optional).

* Class of SEMs with a SE resolution of 1 nm or less at 1 kV.

【Main Specifications】

Item	SU7000
Electron beam source	ZrO/W Schottky type emitter
Secondary electron resolution	0.8 nm (accelerating voltage 15 kV) 0.9 nm (accelerating voltage 1 kV)
Accelerating voltage	0.1 to 30 kV
Magnification	20 to 2,000,000 X
Irradiation current	Up to 200 nA
Specimen stage	X/Y/Z : 135 x 100 x 40 (mm)

◆ Product website

<https://www.hitachi-hightech.com/global/science/products/microscopes/electron-microscope/fe-sem/su7000.html>

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