

June 1, 2006

Hitachi High-Tech to launch a new Ultra-High Resolution Analytical SEM Model SU-70, new-concept SEM

On June 1, Hitachi High-Technologies Corporation (President: Masaaki Hayashi), will debut its newest scanning electron microscope (SEM) in the market. This new SEM can perform ultra-high resolution imaging together with various analytical functions.

SEM as an apparatus to observe fine structures on material surfaces, has been used widely in various fields of research and industries, from research and development to quality assurance, for such applications as electronic devices and leading edge nano-technology materials. As a new market trend, there is increasing demand to perform image observation at ultra-high resolution and wide variety of analytical work on one SEM.

The newly developed Model SU-70 is a new-concept SEM, incorporating Hitachi's field proven semi-in-lens technology for ultra-high resolution with a Schottky electron gun. It features not only ultra-high resolution (1.0nm/15kV, 1.6nm/Kv (*)) but also reduced charge-up imaging, compositional-contrast imaging, and ultra-low voltage imaging (*) derived from Hitachi's highly reputed Super ExB filter technology. The Schottky electron gun enables a wide variety of analytical capabilities due to its high probe current (100nA).

The newly designed sample chamber to cope with analytical work allows to mount various detectors (EDX, WDX, EBSP, STEM, BSE, CL) or cryogenic sample stage. Especially in semi-in-lens mode, EBSP analysis has encountered difficulties due to magnetic flux. Now, with the new optics system (Field-Free Mode) of the SU-70, both ultra-high resolution observation and EBSP analysis are possible, together.

Hitachi High-Technologies plans to exhibit a working model of the SU-70 at the Microscopy and Microanalysis 2006 in Chicago (M&M 2006) slated from July 30, 2006. Shipment is scheduled to start in October, 2006 and annual sales of 80 units are expected.

(*) Deceleration mode (option)

Major specification of SU-70 Ultra-High Resolution Analytical SEM

Secondary electron image resolution	1.0nm/15kV
	1.6nm/1kV (*)
Magnification	20x - 800,000x
Probe current	1pA - 100nA
Sample stage (5 axis motor drive)	X,Y: 0 - 110mm, Z: 1.5 - 40mm T: -5 /+70 degrees, R: 360 degrees
Sample size (maximum)	150mm dia. (standard), 200mm dia. (option)
Power	Single phase AC 100V, 4kVA
Mountable accessories	EDX, WDX, EBSP, STEM, BSE, CL, cryogenic stage

Major features of SU-70 Ultra-High Resolution Analytical SEM

- . Ultra-high resolution: 1.0nm/15kV, 1.6nm/1 kV (*)
- . SE• BSE signal control by Super ExB
- . Ultra-low accelerating voltage for shallow surface observation
- . 100nA probe current
- . EBSP analysis by Field-Free Mode
- . Sample chamber designed for a wide range of analytical accessories



SU-70

For further information contact:
Hitachi High-Technologies Corporation
Public Relations & Investor Relations Group
Tel: +81-3-3504-5637