NEWS RELEASE

Hitachi High-Technologies HITACHI

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New Scanning Electron Microscope Model S-3700N is released
- Achieved 300mm diameter large specimen accommodation -

On June 1, Hitachi High-Technologies Corporation (President: Masaaki Hayashi), releases a new scanning electron microscope model S-3700N, which features the newly developed large specimen chamber and large specimen stage to allow for the observation of specimens at diameter up to 300mm.

The scanning electron microscope (SEM) has been recognized as an invaluable tool for observing material surface and fine structure in various fields and industries such as nanotechnology, biotechnology, research, development, and quality control. In particular, Hitachi Variable Pressure SEM (VP-SEM) series have been received with high reputation from customers around the world. They feature low vacuum observation method (6 - 270Pa) which enables to observe non-conductive samples like electronic components, and water containing samples such as cultured cells in the field of regenerative medicine, without any sample preparation.

The newly developed S-3700N is designed as a new series of Tungsten-type VP-SEM to accommodate sample diameters up to 300mm using a new large specimen chamber and a large specimen stage. Moreover, simultaneous accommodations of accessory attachments for EDX, WDX and EBSP (*1) analyses are possible at optimized analytical geometry. The specimen stage has a wide traverse range for observation of sample areas up to 203mm diameter and up to 110mm height with EDX and WDX analysis.
Electron optics and operational functions follow the specification of S-3400N, which has now sold over 300 units since it is released in July, 2004. Like S-3400N, the new S-3700N features Hitachi's high imaging performance, e.g. SE & BSE, on a wide variety of specimen, prepared or unprepared. By using turbo-molecular pump (TMP) as standard, the new S-3700N reduces electricity consumption by about 34% and foot print by about 27% (*2) compared to conventional model which adopts the oil diffusion pump.

Hitachi High-Technologies will display S-3700N at Microscience 2006 in UK from June 27, the Microscopy and Microanalysis 2006 (M&M 2006) in Chicago, USA from July 31 and JAIMA Show 2006 in Makuhari Messe, Japan from August 30. Annual sale of 100 units is expected from initial shipment scheduled for the coming September.

Remark 1: EDX: Energy Dispersive X-ray Spectrometry
WDX: Wavelength Dispersive X-ray spectrometry
EBSP: Electron Backscattering Pattern
Remark 2: Comparison to S-3600N type SEM

■S-3700N Key specification

- Resolution in SE imaging (High vacuum mode) 3.0nm @ 30kV
  10nm @ 3kV
- Resolution in BSE Imaging (Low vacuum mode) 4.0nm @ 30kV
- Accelerating voltage 0.3-30kV
- Magnification 5x - 300,000x
- Specimen stage (X,Y Axis) 150mm x 110mm
- Maximum specimen size 300mm dia
- Maximum observation area 203mm dia (with R)
- Maximum specimen height 110mm (WD=10mm)
- Stage control Computer eucentric stage with 5-axes motorization
- Specimen tilt -20/+90 degrees
- 5-Segment retractable BSED
- Utilizes same GUI as S-3400N for toolset continuity

■S-3700N Key features

- Larger chamber and lager stage traverse
  Specimen size: 300mm in diameter
  Specimen Height: 110mm at analytical WD=10mm
  Specimen stage control: Computer eucentric stage with 5-axes motorization
  Stage traverse X, Y: 150mm x 110mm
  Specimen tilt: -20/+90 degrees
- Versatile port layout for analytical capability
  2 ports for EDX, 1 port for WDX and 1 port for EBSP
- Low vacuum mode in standard for non-conductive sample imaging without preparation
- Economical and ecological design with TMP in standard
  34% less electric power consumption than conventional model
  No cooling water required
  27% smaller foot-print than conventional model

S-3700N

■For further information contact:

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