

# Hitachi S-3000N

## Variable Pressure Scanning Electron Microscope

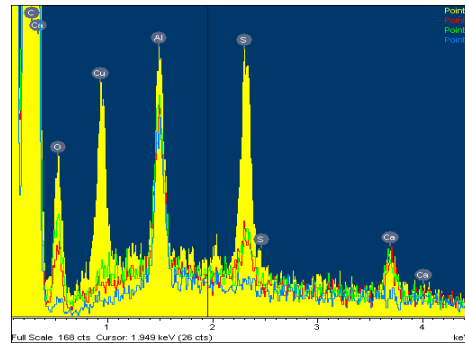
Location: Medical Sciences Building, E-5G



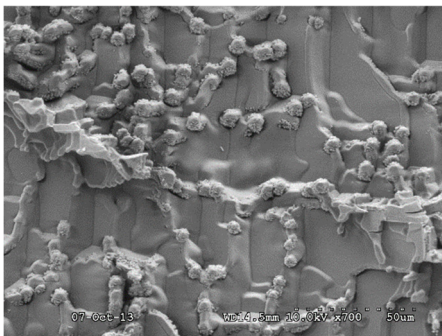
### Description

The Hitachi S-3000N is a Variable Pressure SEM with a tungsten electron source. It was installed in 2000. It is capable of imaging specimens at high vacuum and also in a variable pressure range from 1-270 Pa. This allows non-conducting specimens to be imaged without coating with a conductive film.

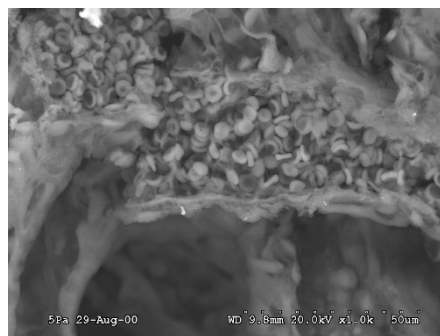
There is a standard secondary electron detector, for use in high vacuum only, and backscattered and absorbed electron detectors, which can be used in both high vacuum and variable pressure modes. The microscope has an Oxford Inca EDX system with a light element Si(Li) X-ray detector (15mm WD).



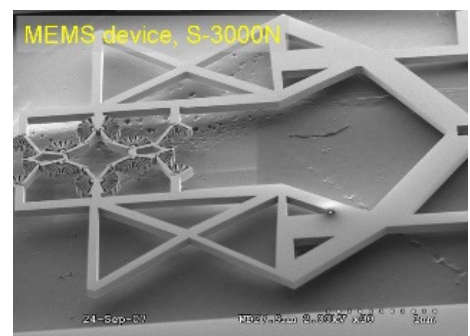
*XEDS spectra showing Cu and S segregation to cornea base membrane*



*Lung cross section, VP mode, 20kV*



*Ti sub pump filament, HV, 10kV*



*MEMS device HV, 2kV*

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## Technical Specifications

- Accelerating Voltage 0.3-30kV
- Secondary electron image Resolution: 3.5nm (25kV, HV mode).
- Backscattered electron image Resolution: 5.0nm (25kV, VP mode).
- Magnification range: 15x ~ 300,000x.
- Variable pressure range: 1-270Pa.>/li>
- Maximum Specimen size: 150mm diameter x 20mm high
- Specimen Tilt/ Rotation: 0-60 degrees, 360 degree rotation
- Specimen movement: 100mm (x), 50mm. (Y), 5~40mm (Z)
- Detectors: Secondary, Backscattered, Absorbed Current
- XEDS position: 15mm working distance, 35degree take off.