

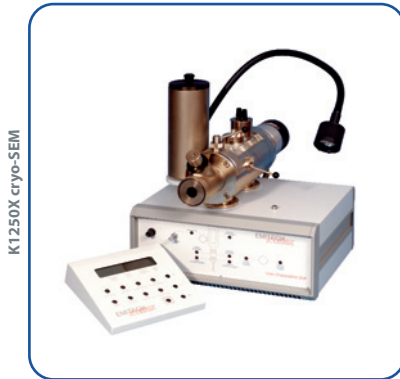


K1250X 'Off Column' Turbo Cryo-SEM

cryo-SEM (turbomolecular pumped) with preparation chamber remote from the SEM



space saving, simple operation



K1250X cryo-SEM

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A self contained (independent) preparation system, with high vacuum turbomolecular pumping. The K1250X includes facilities for rapid specimen freezing, preparation (cold fracturing, ice sublimation and sputter coating), transfer and subsequent examination of frozen hydrated specimens in an SEM or FE-SEM - without the need to utilise the SEM vacuum system. In addition to the cryo preparation system the K1250X comes with a conduction cooled liquid nitrogen SEM stage and cold trap

Key Features & Benefits

- Remote control user interface - easy to use
- Independent preparation chamber
- Cooled knife and specimen probe - efficient freeze fracturing
- Turbomolecular pumping as standard
- Low voltage 'cool' sputtering - high resolution coating
- Carbon fibre 'flash' evaporation head - carbon and gold can be run together
- Transfer device with gate valve

See: www.quorumtech.com for full technical specification and additional details.

Options

- Binocular microscope (mounted on the preparation unit)
- The K1250X is supplied bench mounted, but a trolley (EK4155) is an available option
- Film thickness monitor
- Chromium and other sputtering target assemblies

PRODUCT SPECIFICATIONS

Consisting of:
Preparation unit: with freezing chamber, preparation chamber and turbo pumping unit
Control Unit: with sputter coating module, carbon coating module, vacuum sequence module, turbo control unit, temperature monitoring unit and controls for optional film thickness monitor
Transfer Unit: with transfer device with integral gate valve and specimen stub
SEM components: cold stage and anticontaminator with conducting braid cooling from a liquid nitrogen dewar (mounted on a suitable SEM port). Access gate valve
Accessories: accessory pack including consumable items, sufficient for an initial operating period. Gas tubing and fittings
Technical specification
Preparation chamber stage and SEM stage, controllable temperature range: -170°C to +50°C
Freezing chamber: sub-cooled (slushy) nitrogen at -210°C
Preparation chamber: vacuum better than 1 x 10 ⁻⁷ mbar, copper conduction maintaining stage temperature colder than -170°C, fitted with full cold shield contamination protection. Vacuum pumped LN2 dewar. Low energy sputter head and power supply fitted with a gold target (0.1mm thick x 20mm). Carbon evaporation module with power supply for carbon 'flash' evaporation. 50L/sec turbo pump plus controller with high vacuum indication. A 50L/min rotary pump with oil mist filter is included for roughing, "backing" and nitrogen slushing functions. Temperature monitoring units for preparation chamber cold stage and SEM cold stage, set point control in the range +50°C to -170°C, control of input stage heaters with adjustable timing 0-20 minutes
Transfer unit: includes high thermal mass copper specimen stub - warm up less than 10°C/minute during transfer
SEM Components: liquid nitrogen dewar with interface to SEM port - used for SEM cold stage and anti-contamination shield cooling. 1 litre capacity double walled vacuum pumped LN2 dewar. Cold stage with conductive braid cooling - designed to fit existing SEM stage and including thermal insulation. Cooling of the SEM cold stage and anticontaminator by conductive copper braid linked to the liquid nitrogen dewar. Sublimation and timer control included. Approximate cool down from ambient (20°C) to -160°C is typically 30 minutes
Electrical supply: single phase 230V 50Hz (8A max including pump), 115V 60Hz (16A max including pump)
Gas and liquid nitrogen requirements
Nitrogen gas: regulated nitrogen gas supply, 5psi (for venting)
Argon: regulated argon gas supply, 5psi (for sputter coating)
Liquid nitrogen: 15 litres per day in normal usage

