



Materials Testing

Substages

Transfer Module for the SEM and Glove Boxes

Suitable for Humid, Corrosive, and Aggressive Environment,
VP and ESEM Scanning Electron Microscopes



Subject to be changed without notification

Brief Description

The "Transfer Module" is a special device for use with an SEM. It is made for the purpose of carrying delicate and sensible specimens in a capsule from the SEM into a glove box, so that these specimens will be protected from air or moisture at all times. This device will mount on the specimen stage just like a microscope sample. It takes a few moments to install it in the SEM, or in the glove box.

The shipment volume contains the module, two vacuum tight flanges, cable bundles, and controller for the opening/closing process.

The stage door of the SEM must be opened to mount it on the specimen holder seat, just like exchanging an ordinary SEM specimen. A cable bundle leads from the module to the vacuum flange at the door surface or at the side wall of the specimen chamber. The whole assembly will not exceed 40 mm height.

A small platform is mounted inside a "capsule"-like structure, equipped with a "lid". This lid can be opened and closed by a small DC motor at air or in vacuum. Specimens for this module may be as tall as 6 mm, and we recommend to provide small "Cambridge" specimen stubs. Eight of them will fit inside the module. Alternatively, two larger disk (25mm dia) may be used to mount the specimens there.

When closed, a fine polished O-ring seat will hermetically seal the inside of the capsule.

The capsule may be prepared with all specimens under the protective gas atmosphere of a glove box. To run the opening/closing in the glove box, a battery buffered miniaturized controller is part of the shipment.

Heating / Cooling (Option)

An optional heating or heating / cooling platform can be integrated either right away, or at some later time as a retrofit. With or without heater, this module can be tilted a certain amount (depends upon type of SEM – usually around 30°).

Specifications

Transfer Module

Attaching the Module to the SEM Stage

The heating module is mounted like a “large specimen” on the SEM stage. Together with the stage, the whole module will move in the specimen chamber. Most SEM are suitable for the transfer module. The vacuum feedthrough for the SEM chamber, desktop controller and glove box controller are part of the shipment volume.

The Module

Dimensions approx. 120 mm × 80 mm × 40 mm.

Various specimen holder are adaptable e.g. LEICA cryo-transfer, HITACHI IM4000 etc.

Related Products

Heating Modules with temperature range: RT to 300°, 500°, 800°, 1050 C, depending upon the required version.

Cryo stages (Liquid Nitrogen or Helium), Cryo modules as a substage (liquid Nitrogen), Peltier heating/cooling module.

Summary of Technical Specification

Heating Module

Dimensions (L × W × H)	120 × 80 × 40 mm ³
Weight	appr. 1 kg (2.2 lb)
Specimen Size	8 × 12mm Ø 6mm hoch or 2 × 25mm Ø 6mm high

Desktop Controller

Dimensions	200 × 145 × 70 mm ³
Weight	1 kg (2.2 lb)
Input Voltage	115 V/230 V/AC 50-60Hz

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Kammrath & Weiss is proudly represented in
Australia & New Zealand by
AXT Pty. Ltd.
1/3 Vuko Pl., Warriewood
NSW 2102 Australia
T. +61 (0)2 9450 1359 F. +61 (0)2 9450 1365
W. www.axt.com.au E. info@axt.com.au