

VCT 100
High Vacuum Cryo Transfer System



Vacuum cryo preparation for fast
and reproducible results in SEM analysis

KEY FEATURES INCLUDE:

- contamination free transfer between preparation and analysis
- vibration free, minimum load on analysis tool
- independent preparation and analysis
- repeated preparation of same specimen
- full availability of SEM during preparation

VCT 100

High-Vacuum Cryo Transfer System



Your solution for vacuum cryo
specimen preparation



Sample preparation: freeze fracturing and coating in MED 020



Sample transfer: sample is transferred into the shuttle and transported cold and under high vacuum.



Sample analysis: shuttle is attached to the SEM and the sample is transferred into the SEM cold stage. The shuttle can be removed for analysis.

VCT 100 HIGH VACUUM CRYO TRANSFER SYSTEM

To achieve best resolution on the SEM it is important to have an absolute vibration free analysis. Most available cryo systems are directly attached to the microscope. This can cause vibration and instability on the SEM.

BAL-TEC has developed a solution that combines highest analysis resolution with maximum flexibility for preparation.

The VCT 100 system allows autonomous preparation and analysis. Both processes are linked through a high vacuum cryo shuttle. A simple light weight airlock is the only attachment on the microscope.

The shuttle transports the specimen between the preparation systems and analysis tools. During transport, high vacuum and cryo conditions remain stable for 10 to 20 minutes.

Features:

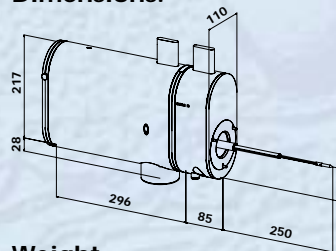
- Contamination free transfer between preparation and analysis

- Minimal mechanical and electrical interference with SEM for highest possible resolution
- Independent preparation and analysis
- Repeated preparation of same specimen
- Availability of SEM and preparation system
- Adaptable to most SEM's and preparation systems
- Use of VCT 100 system with freeze fracture device, high vacuum coater, SEM, cryo-AFM, SIMS and others
- easy to operate

TECHNICAL DATA

The shuttle and airlock are made of highest quality materials. The system works without any mechanical feed through for the manipulation and specimen transfer.

Dimensions:



Weight:

- Shuttle: 4kg
- Airlock: 2kg

Shuttle vacuum:

- 2×10^{-7} for 10 Min.
- 5×10^{-7} for more than 20 Min.

Shuttle temperature:

- -170°C
- Dewar holds LN₂ for approx. 20 Min.

VCT 100 control:

Touch screen controlled operation of airlock. Pneumatically controlled air lock without magnetic or electrical fields on SEM.



Integrated communication between VCT 100 and SEM.

Accessories:

SEM cooling stages and various preparation tools are available

A new area in cryo preparation transfer and analysis

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