



INSTRUMENT USAGE SHEET

ULTRAMICROTOME – LEICA ULTRACUT ULTRATOME CT

General Information

Instrument: Ultramicrotome – Leica Ultracut Ultratome CT

Manufacturer: Leica

Location:

- CRIETT – Bassani Building
- Via J.H. Dunant No. 5, Varese, Italy
- Floor: -1 (VA.BASSANI PS.012.0)

Instrument Manager

Dr. Daniele BRUNO

Email: daniele.bruno@uninsubria.it

Phone: +39 0332 42 1307

Dr. Aurora MONTALI

Email: aurora.montali@uninsubria.it

Phone: +39 0332 39 7192

Authorized Users

- Dr. Daniele Bruno
- Dr. Imam Hasan
- Dr. Martina Marzari
- Dr. Aurora Montali
- Dr. Anna Romanò



Training Requirements: Yes*

* Independent use of the instrument is permitted. Practical training consists of individual instruction (minimum three-day training period). For the theoretical component, the instrument manager will provide educational material covering operating principles.

Internal tickets can be viewed on the intranet page (access with university credentials): <https://intranet.uninsubria.it/areadocumenti/ticket-strumenti-criett-utenti-interni>

The fee schedule for external users can be viewed on the website:
www.uninsubria.it/criett

CRIETT Acknowledgment in Scientific Publications (see CRIETT Regulations, Article 11): Users must acknowledge the CRIETT major equipment used in scientific publications according to the following wording:

“The scientific support from CRIETT centre of University of Insubria (instrument code: XXX) is greatly acknowledged”.

Instrument Code: MIC06

Access Procedures**1. Direct Access (Self-Service)**

Who: Only users who regularly use the instrument and have received specific training, authorized by the instrument manager.

Procedure: Trained users may independently access and operate the instrument after making an online reservation.

2. Access with Technical Support (Full-Service)

Who: Research groups that use the instrument occasionally, external users, or users without qualified personnel.

Procedure: Access is provided with the assistance of dedicated technical staff, who manage both booking and instrument operation.

3. Occasional/Temporary User

Occasional users may access the instrument through the Instrument Manager or an Authorized User.

Description and Applications

The **Leica Ultracut (Ultratome CT) ultramicrotome** is a high-precision instrument used for cutting ultrathin and semi-thin sections of biological and material samples for observation using transmission electron microscopy (TEM) and optical microscopy.

The instrument enables sectioning at nanometer-scale thickness with high reproducibility, mechanical stability, and precise feed control.

Technical Specifications

- **Type:** Precision ultramicrotome
- **Model:** Leica Ultracut / Ultratome CT
- **Section thickness range:**
 - Ultrathin sections: 50–100 nm
 - Semi-thin sections: 0.5–1 μm
- **Feed system:** High-precision mechanical/electronic system
- **Blade compatibility:**
 - Glass knives
 - Diamond knives
- **Main applications:**
 - Transmission electron microscopy (TEM)
 - Optical microscopy
- High-stability anti-vibration frame
- Power supply: Electric (according to model specifications)

⚠ Safety Precautions

- Do not touch cutting edges with bare hands
- Ensure that the sample and blade are properly secured before cutting
- Turn off the instrument before cleaning operations
- Use appropriate personal protective equipment (PPE) if required
- Do not modify or force mechanical components
- In case of doubts or abnormalities, contact the technician or instrument manager

Operating Notes

- Instrument reservation through the internal management system is mandatory
- Self-service operation is permitted only for trained, registered, and authorized users
- Any malfunction must be promptly reported to CRIETT personnel

Materials and Accessories Provided by CRIETT

- Cleaning materials (filter paper, compressed air canister)
- Washing solutions (distilled water, Milli-Q water)
- Pipettes
- Heating plate

Materials and Accessories Provided by the User

- Ultramicrotome blades
 - Glass blades

- Diamond blades
- Resin-embedded sample blocks ready for sectioning
- Section collection bath
- Section collection tools (loop or wire loop)
- Glass slides and cover slips
- Grids
- Staining solutions (uranyl acetate, lead citrate)
- Precision tweezers
- Semi-thin section stains (toluidine blue, basic fuchsin, gentian violet)
- Resin removal solvent for sections
- Solvents (ethanol, methanol)
- Mounting medium for cover slips
- Pipette tips
- PPE

Note:

All staining materials must be used in compliance with laboratory safety procedures and the Safety Data Sheets (SDS) of the reagents.