



INSTRUMENT USAGE SHEET

LC-MS ORBITRAP EXPLORIS 120

General Information

Instrument: LC-MS Orbitrap Exploris 120

Manufacturer: Thermo Fisher Scientific

Location:

- CRIETT – Cubo Building
- Via Valleggio 9, Como, Italy
- Floor: 0

Contact:

- Prof. Silvia GAZZOLA
Email: s.gazzola@uninsubria.it
Phone: +39 031 238 6441
- Prof. Damiano MONTICELLI
Email: damiano.monticelli@uninsubria.it
Phone: +39 031 238 6427
- Prof. Elisa TERZAGHI
Email: elisa.terzaghi@uninsubria.it
Phone: +39 031 238 6223

Authorized Users

- Prof. Antonio Di Guardo
- Prof. Silvia Gazzola
- Dr. Camilla Loro

- Prof. Damiano Monticelli
- Prof. Elisa Terzaghi

Training Requirements: Yes*

* Independent operation of the instrument is permitted. Practical training consists of individual instruction (lasting several days or weeks, as determined by the instrument)



manager). For the theoretical component, the manager will provide training materials covering the instrument's 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

Acknowledgment of CRIETT Services in Scientific Publications (See CRIETT Regulations, Article 11): Any scientific publication resulting from the use of CRIETT equipment must acknowledge the instrument according to the following statement:

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

Instrument Code: MAC15

Access Procedures

1. Direct Access (Self-Service)

Who: Only authorized users who regularly operate the instrument and have completed the required training.

Procedure: Trained users may independently access and operate the instrument after booking it through the designated Google Calendar.

2. Occasional/Temporary Users

Occasional users may access the instrument only under the supervision of the Instrument Manager or an Authorized User.

Description and Functions

The system is a high-resolution mass spectrometer coupled with an HPLC liquid chromatograph. It can perform mass analyses in both positive and negative ionization modes using various acquisition methods, including:

- Full-scan mass spectrum acquisition
- Selective monitoring of one or more ions
- Data acquisition based on user-defined parameters

The instrument can also perform **MS/MS (MS²)** analyses through collision-induced fragmentation.

Technical Specifications

- Sample introduction via HPLC with a quaternary pump (see available mobile phases below)
- Sample introduction by direct infusion
- Resolution up to 120,000
- Accurate mass measurement with an error of approximately 1 ppm
- Temperature-controlled autosampler
- Targeted and untargeted analyses (supported by Compound Discoverer software)

Safety Warnings

- Do not touch the ESI source while it is powered on.
 - Contact the technician or instrument manager if any doubts, issues, or abnormalities arise.
-

Operating Notes

- Instrument booking through the Google Calendar is mandatory. Access is granted only after successful completion of the required training.
- Self-service use is permitted only for trained and registered users.
- Any malfunction must be promptly reported to CRIETT staff.
- Before performing analyses, discuss and evaluate the analytical method (both HPLC and direct infusion) with an instrument manager.

Materials and Consumables Provided by CRIETT

- LC-MS mobile phases:
 - Ultrapure water + 0.1% formic acid
 - Acetonitrile
 - Methanol
 - Ultrapure water + 10 mM ammonium acetate
- Reversed-phase HPLC columns (C18 and C8)
- Gloves available in the instrument room

Materials and Consumables to Be Provided by the User

- Syringe for direct infusion (available for purchase through Rossella Perna)
- Sample vials
- Any mobile phases/solvents other than those listed above