

FT-ICR MS

Real time analyzer of volatile organic compounds (VOCs).

This analyzer associates Chemical Ionization like Proton Transfer Reaction, with a new compact and competitive Fourier Transform Ion Cyclotron Resonance (FT-ICR) mass spectrometer. It is rugged and designed for field applications.



VOCs

PAC

Features:

VOCs monitoring: real time measurements (every second)

Screening: broadband detection

Accurate measurement: **high mass resolution**

Direct quantification

Transportable device



Applications of the BTRAP:

Industrial

Industrial health and safety monitoring

Process Quality Control

*Chromatotec® is specialized in VOC, Sulfur and permanent gases analysis at trace and ultra trace levels (ppm, ppb, ppt).
Please visit our website for more details.*

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FT-ICR MS



Real time analyzer of VOCs

Principle:

Soft ionization:

Use of Chemical Ionization (CI) methods such as PTR (Proton Transfer Reaction) ionization. Chemical Ionization provides less fragmentation than Electron Impact, which allows a better identification of the compounds.

The most common reactions used for VOCs detection are Proton Transfer Reaction from H_3O^+ , charge transfer reaction from O_2^+ , NO^+ .

Negative ions, for example O^- , can also be used.

Analytical capacities:

Well-suited for VOCs detection:

- Gas analysis
- Headspace analysis (liquids, solids)

Qualitative and quantitative measurement (calibration or absolute measurements)

Software:

Different access levels softwares come with the instrument.

User Software: The software is an easy-to-use tool dedicated to continuous on-site analysis, by enabling creation of sequences and automatic quantization of VOCs.

FT-ICR Software: the software is a very powerful tool dedicated to both acquisition and data process. Some facilities can be tailor-made since FT-ICR is entirely written and maintained by our software development team.

Options:

- Automatic validation and calibration with internal CALIB
- Zero air or nitrogen generators for autonomous calibration system
- Multiplexer : 2 to 32 streams
- Same system has 1 stream for water and 1 stream for air
- 1 sampling bag inlet in option
- Internal or external multipoint calibration and zero with CALIB MFC, XXXCYL MFC, airmoCAL 200 MFC
- Analog output 4-20 mA or 0-10V

Product technical specifications:

Detection:

- Mass range 4-300u
- Mass resolution 10 000
- Mass precision 0.015 u
- Separation ΔM 0.037 u
- Measurement frequency 1 Hz

Magnet:

- Structured permanent magnet 1.5 Tesla
- Low leakage field

Detection limit:

- 50 ppb per direct injection for benzene and 1.3 butadiene in ambient air
- Improvement up to 2 to 3 orders of magnitude with preconcentration (a few ppb)

Sampling Lines:

- Continuous flow, thermostated
- Preconcentration MIMS or TD Flash in option

Vacuum:

- Turbomolecular pumps 70L.s-1
- Ultra vacuum 10-9 torr

Dimensions:

- On wheels
- Weight < 150 kg
- Size (WxDxH) 65 x 72 x 104 cm

Cycle time:

- 1 to 60 seconds

Electrical:

- Power supply 100/240 V AC, 50-60 Hz
- Power consumption < 1 KW

Environmental:

- Temperature range 5° C to 45° C
- Operating humidity < 80%

To order:

Model: FT-ICR MS

Chromatotec® is continuously improving its products, therefore these specifications are subject to change without notice

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