Varian 910–MS Fourier Transform Mass Spectrometer (LC/ESI–FTMS)



Performance Specifications

910-MS Triple Quadrupole Only Mode

- Mass range: *m/z* from 50 to 2000
- Ion detector: off axis electron multiplier
- Scan modes, infusion and chromatographic, include:
 - Precursor scan
 - Neutral loss scan
 - Product scan
 - Selected Ion Monitoring (SIM)
 - Multiple Reaction Monitoring (MRM)
 - Fragmentation tools: CID

910-MS Triple Quadrupole/FTMS mode*

- Mass accuracy: Average of <1.5 ppm at *m/z* 403 using external calibration
- Resolution: >400,000 at *m/z* 403
- Signal-to-Noise ratio: >50:1 at *m/z* 609 for 5 fmol consumed Reserpine
- Analysis modes: MS, MSⁿ, LC/MS
- Detection modes include both broadband and narrowband
- Fragmentation tools: SORI-CID, IRMPD[^], ECD
- Precursor ion selection in both triple quadruple and ICR Cell
- * Performance specifications are based on 7 T magnetic field strength. 9.4, 12, and 15 T magnets are also available
- ^ Optional IRMPD Module Required.

Varian FTMS instruments are versatile, customizable, high performance mass spectrometers providing extremely high mass accuracy, mass resolving power and sensitivity. Varian FTMS instruments are equipped with a wide variety of fragmentation techniques and analysis tools to enable scientists to solve the most challenging analytical problems in their laboratories.

The Varian 910–MS TQ–FT Mass Spectrometer is a true hybrid FTMS system for ESI and LC applications. The 910–MS combines the capabilities of a traditional triplequadrupole mass spectrometer with the performance features of an FTMS. The 910–MS can act as a stand-alone triple quadrupole using an off-axis electron multiplier detector or as an FTMS system with all of its additional capabilities.

Electrospray Interface (ESI)

- Flow range: from 0.01 µL/min to 7.9 mL/min
- Spray needle: Wide range of adjustments for the x/y positioning; independent flow adjustment of the inner liquid capillary needle to the outlet of the nebulizer gas.
- Sample cone gas: Adjustable sample cone gas flow regulator.
- \bullet Built-in syringe pump accommodates syringe volumes from 10 μL to 10 mL
- Additional available sources include nanospray APCI, and APPI.

Magnet System

- Choice of 7, 9.4, 12 and 15 T superconducting magnets in both low-loss and Zero Boil-off cryostats.
- Zero Boil-off option includes a 4.2 K refrigerator, eliminating the need for routine helium and nitrogen refills.
- Magnetic field homogeneity and stability are optimized to provide the best operating environment for the FTMS sample cell.
- Active shielding technology minimizes the magnetic footprint of the system. Low ceiling requirement gives an easy-to-site magnet system.
- Cryogen level monitoring and emergency discharge unit included as standard.

NOTICE: This document contains references to Varian. Please note that Varian, Inc. is now part of Agilent Technologies. For more information, go to www.agilent.com/chem.

Data Acquisition and Processing Hardware

- Transient digitizer/accumulator with 14-bit, 16 MHz ADC and dual 8 M point acquisition memory
- Arbitrary waveform generator for ion isolation and MS/MS experiments: 16 MHz DAC and 4 M point memory
- User programmable pulses and DACs for easy customization with third-party hardware
- High performance Intel-based PC

Data Acquisition and Processing Software

- Includes Varian MS Workstation software and Varian Omega FTMS software for data analysis and instrument control
- FTDocViewer for annotating data, performing elemental composition searches and exporting data to database search engines including MASCOT and ProteinProspector.

Optional Equipment

- IRMPD module: Includes a CO₂ laser for performing IRMPD experiments.
- Offline data analysis stations: Multiple offline data analysis stations can be added to increase the flexibility for data analysis.
- A RAID data storage system is available for projects with large-scale data storage needs.



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