

TSQ Quantum Access QED MS/MS

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| Catalog No.: | TSQ_access |
| Model: | TSQ Quantum Access |
| Producer: | Thermo Fisher Scientific (UK) |
| Brand name: | Thermo |
| Country of origin: | USA |
| Price: | Price on request |
| (valid on 22-05-2012) | |



The TSQ Quantum Access offers unsurpassed price-to-performance capability. It sets the benchmark for versatility and sensitivity in its class, incorporating the innovative QED-MS/MS structural quantification technique.

- Mass range m/z 30-3000
- Over 300 SRMs
- QED-MS/MS
- FAIMS compatible
- Fast positive/negative switching
- Enhanced resolution

The TSQ Quantum Access triple stage quadrupole mass spectrometer is designed to meet the quantitative and qualitative challenges of a broad range of applications, including: pharmaceutical, environmental, food safety, clinical, and forensics. Based on the widely used TSQ Quantum systems, it sets the benchmark for sensitivity in its class, and provides unmatched specificity.

Product Specifications

TSQ Quantum Access™ Unsurpassed Price-to-Performance The TSQ Quantum Access offers unsurpassed price-to-performance capability. It sets the benchmark for versatility and sensitivity in its class, incorporating the innovative QED-MS/MS structural quantification technique.

Massspectrometry

Capabilities such as Highly Selective Reaction Monitoring (H-SRM) and high- Field Asymmetric Ion Mobility Spectrometry (FAIMS), previously available only on advanced tandem mass spectrometers, are available on the TSQ Quantum Access.

Innovative technology such as QED-MS/MS (Quantitation Enhanced Data- Dependent™ MS/MS) makes structural confirmation and quantitation easy, facilitating metabolite ID or multi-residue screens. Also standard is the new Reversed Energy Ramp scan, which ensures library-searchable, fragment-rich MS/MS spectra are produced routinely.

Standard Features

Ion Max API Source

- Enhanced sensitivity and ruggedness
- Sweep gas reduces chemical noise
- Optimal 60-degree spray angle for best sensitivity and ruggedness
- Interchangeable ESI and APCI ionization probes
- APPI/APCI combination probe
- Removable ion transfer tube provides vent-free maintenance
- High temperature, self-cleaning APCI heater employing state-of-the-art ceramic heater technology
- X, Y, and Z probe positioning adjustments for all ionization probes
- Automatic source recognition for ease of use and simplified data logging

Transfer Ion Optics

- Patented tube lens and noise reduction geometry
- Dual square quadrupole high efficiency transfer optics

Triple Quadrupole Mass Analyzer

- Mass range of 30-3000 daltons (Da)

VilDoma UAB

139 Zirmunu str., Vilnius
Lithuania, LT-09120
phone: +370 52 36 36 56 ; -57
e-mail: info@vildoma.lt

Doma SIA

50c Skanstes str., Riga
Latvia, LV-1013
phone: +371 67 37 62 89
e-mail: info@domagroup.lv

EstDoma OÜ

Võru str. 165/5, Tartu
Estonia, EE-50115
phone: +372 7 362 716
e-mail: tartu@estdoma.ee

TSQ Quantum Access QED MS/MS

- Patented HyperQuad™ mass analyzers provide superior and unique combination of resolution and sensitivity
- 90° high-efficiency square quadrupole collision cell
- CID gas pressure programmable through the software
- Variable peak width selection in all scan modes
- Scan rate of 2,000 Da per second

Scan Functions

- Full-scan MS in Q1 or Q3
- Selected Ion Monitoring (SIM) in Q1 or Q3
- Selected Reaction Monitoring (SRM)
- Product Ion Scanning
- Precursor Ion Scanning
- Neutral Loss Scanning

Advanced Scan Functions

- QED-MS/MS scanning
- Reversed Energy Ramp (RER) scanning
- Highly Selective Reaction Monitoring (H-SRM)

Acquisition

- Real-time high-speed digital signal processing eliminates high frequency noise
- Digital sampling rate up to 195,000 samples per second
- High-resolution centroiding

Detection System

- Patented detection system uses a fast switching (>95 ms) post-acceleration conversion dynode with ±15 kV applied voltage
- Off-axis continuous dynode electron multiplier with increased dynamic range
- System integrated electron multiplier eliminates field emission and microphonic noise

Vacuum System

- Unique close-coupled triple inlet turbo molecular pumping
- Four stages of pumping provides optimal vacuum throughout LC/MS/MS analyzer
- Single mechanical pump Other Integrated Standard Features
- Automated valve for making manual loop injections or diverting LC flow stream to waste
- Automated infusion with syringe pump
- Automated loop injection from syringe pump for analyte optimization

Data System

Instrument Control-Xcalibur™

- Xcalibur software controls all aspects of the integrated Accela™ LC system -TSQ Quantum Access LC/MS system
- Simple user interfaces for high-throughput instrument tuning and optimization
- Automated optimization of all instrument parameters including collision gas pressure and collision energy within an experiment
- Uses optimized parameters to automatically build the analytical method
- Import and export sequence lists from LIMS or external packages
- LCQUAN™ quantification software supports 21 CFR Part 11 compliance

Instrument Diagnostics

- Graphical diagnostics for all power supplies, electronic circuits and pumping system
- Remote access allows Thermo engineers to troubleshoot via modem
- Electronic logbook of diagnostic results

Data System Options

- QuickQuan-high-throughput, automated quantitation software for early drug discovery
- Mass Frontier™-spectral interpretation and classification software for the identification of unknowns
- MetWorks™-automated metabolite identification, component detection and predicted fragmentation in one intuitive workplace
- Watson LIMS™-highly specialized protocol-driven Laboratory Information Management System designed to support DMPK/Bioanalytical studies in drug development
- Galileo LIMS-fully integrated system for in vitro ADME experiments in a single client-server application

LC Connectivity

- Direct control of multiple vendor LC and autosampler configurations through Xcalibur
- Universal connectivity to LC systems or other devices by contact closure

System Specifications

MS/MS Acceptance Test

(Specifications to be run at time of installation)

- **Electrospray (ESI)** at Unit Resolution and H-SRM (0.4 FWHM) A 5 µL loop injection of a 2 pg/µL (3.250 fmol/µL) reserpine solution at a flow rate of 400 µL/min 50/50 IPA/water will produce a minimum signal-to-noise ratio of 100:1 for the transition of the protonated molecular ion at m/z 609.3 to the fragment ion at m/z 195.1 when operated in selected reaction monitoring mode (SRM) with Q1 and Q3 resolution set to 0.7 Da FWHM. If required this specification can also be performed with Q1 resolution set to 0.4 FWHM.

- **Atmospheric Pressure Chemical Ionization (APCI)** and **Atmospheric Pressure Photoionization (APPI)** at

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