



ISQ EC Single Quadrupole Mass Spectrometer

Routine IC-MS and LC-MS analysis for small molecules

Benefits

- Reliable routine analysis of low molecular weight ions using IC and LC
- Exceptionally consistent response, even with challenging sample matrices
- Unique software translates physical properties of the analyte into optimal source parameters
- Built-in software productivity tools for both experts and those new to mass spectrometry

Keywords

Mass Spectrometry, Single Quadrupole, IC-MS, LC-MS, Integriion, ICS-6000, Vanquish, UHPLC

The Thermo Scientific™ ISQ™ EC single quadrupole mass spectrometer seamlessly integrates mass spectrometry (MS) with your ion chromatography (IC) or liquid chromatography (LC) systems. It is robust and easy-to-use, offering all users the opportunity to run routine MS assays. Its dual-role design provides exceptional low-molecular-weight performance for detection and quantitation of ions using IC-MS in addition to reliable, everyday operation for routine LC-MS. The ISQ EC mass spectrometer offers:

- Durable atmospheric pressure ionization (API) source for use with the most challenging sample matrices and an innovative vacuum interlock designed for reliable operation
- High performing heated electrospray ionization (HESI) probe in an optimized position to boost ionization efficiency and spray stability across a wide range of flow rates
- Built-in reference standard for automated instrument calibration
- Ultra-fast scanning for simultaneous analyses of positive and negative ions
- Easy method development and optimization using new ion source technology
- Full integration with the Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) software
- Support for open-access multi-user applications with Thermo Scientific™ Chromeleon™ XPS software

Specification	ISQ EC Mass Spectrometer
Mass range	m/z 10–1250 with unit mass resolution
Ionization technique	Heated Electrospray Ionization (HESI)
Source type	Atmospheric Pressure Ionization (API) source featuring orthogonal spray design with optimized probe position and adjustable source voltage
Source access and gas capabilities	Vacuum interlock to perform routine source maintenance without venting; Adjustable sheath, auxiliary, and sweep gas flow controls
HESI flow rate range	Up to 2.0 mL/min
Supported modes	Full Scan, SIM and simultaneous Full Scan/SIM
Scan rate	Up to 20,000 Da/s
SIM sensitivity HESI positive mode	10 pg Reserpine, S/N \geq 400:1 (RMS) ¹ at 400 μ L/min Selected ion monitoring of m/z 609.3
SIM sensitivity HESI negative mode	20 pg <i>p</i> -Nitrophenol, S/N \geq 500:1 (RMS) ¹ at 400 μ L/min Selected ion monitoring of m/z 138.0
Polarity switching	Yes, 25 ms
Mass accuracy	$\leq \pm 0.1$ Da
Mass stability	Better than 0.1 Da over 48 hours with $\Delta T \leq 2$ K
Detector	DynaMax XR detection system, with off-axis dynode, discrete dynode electron multiplier and electrometer; Digital dynamic range $\geq 10^7$
Roughing pump	External, oil-based mechanical pump (up to 10 m ³ /h)
Operating conditions	Temperature range: 15–35 °C (59–95 °F) Relative humidity: 20–80% non-condensing
Power	100–240 VAC, 50/60 Hz
Dimensions (height \times width \times depth)	52 \times 42 \times 91 cm
Data system software	Chromeleon 7 CDS software under Microsoft® Windows® 7 and 10
Weight	70.8 kg (156 lbs.)
Number of SIM scans / method	Unlimited
Number of SIM scans / sec, max	218
Nitrogen gas requirements	Purity: \geq 99% Input gas pressure: 95–110 psig Flow demand: Up to 30 L/min

¹ Reference specifications are typical performance specifications and not confirmed at install.

Find out more at thermofisher.com/ISQEC

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