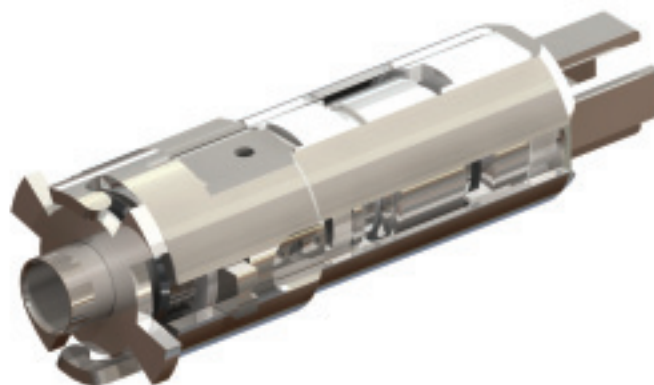


Thermo Scientific ISQ GC-Single Quadrupole Mass Spectrometer

Advanced GC-MS system designed for continuous high throughput operation.

The Thermo Scientific ISQ Gas Chromatograph/Single Quadrupole Mass Spectrometer system with ExtractaBrite™ ion source offers unstoppable productivity and performance. The ISQ™ can be configured with either the Thermo Scientific FOCUS GC or the fully configurable Thermo Scientific TRACE GC Ultra. The system can be paired with autosamplers including the AI/AS 3000 II series or the Thermo Scientific TriPlus platform for expanded versatility and capacity.



Thermo Scientific ISQ Single Quadrupole Mass Spectrometer

Mode (Standard)	Electron Ionization (EI), with full scan, SIM, and sequential full scan/SIM
Modes (Optional)	Chemical ionization, including PCI, NCI, PPINICI™ and EI/CI Combination
Ion Source Type	ExtractaBrite EI source, with repeller, source lenses, RF lens and dual filaments in all ionization modes
Source Access	Vacuum probe interlock to remove entire source or change ionization modes without venting
Mass Filter	Dual-stage mass filter with off-axis ion guide for noise reduction and solid, homogeneous non-coated quadrupole rods
Detector	DynaMax XR detection system, with off-axis dynode, discrete dynode electron multiplier and electrometer, linear from 0-68 μ A
Mass Range	1.2-1100 u with unit mass resolution
Scan Rate	Up to 11,111 u/sec
Scan Cycles	65 scans/sec to disc when scanning across 125 u
Pumping Systems	Standard capacity (>60 L/s He) or high-capacity (>230 L/s He) turbomolecular pump with 3.3 m ³ /h mechanical pump. Optional oil-free scroll pump
Reagent Gas Capabilities	Software-switchable dual reagent gas with digital flow control. Ammonia, methane, isobutane and carbon dioxide presets
Electron Energy	Adjustable from 0 eV to 150 eV
Emission Current	Up to 350 μ A, with improved regulation at low current



Gas Chromatograph (Thermo Scientific FOCUS GC or TRACE GC Ultra)

Please refer to GC and autosampler specification sheets for additional details

Injector	TRACE GC Ultra™: Split/Splitless (standard), Multi-mode PTV, cold-on column FOCUS GC™: Split/Splitless
Autosampler	AI/AS 3000 Series II, TriPlus, and more
Oven Temperature	TRACE GC Ultra: Near-ambient to 450 °C, with sub-ambient cooling available FOCUS GC: Near-ambient to 350 °C
Oven Ramps/Plateaus Cool down	Multiple ramps and plateaus, settable from 0.1-120 °C/min TRACE GC Ultra: 450 °C to 50 °C in under 250 seconds FOCUS GC: 350 °C to 50 °C in under 270 seconds
Digital Carrier Control (DCC or DPFC)	250 kPa or 1000 kPa digitally controlled carrier gas control with gas saver and septum purge
Carrier Gas Modes	TRACE GC Ultra: Constant flow and pressure, programmable flow and pressure FOCUS GC: Constant flow and pressure
Hydrogen Sensor Option	Optional hydrogen sensor required for use with hydrogen carrier gas on both TRACE GC Ultra and FOCUS GC with the ISQ MS

Data System Software and Options

- Thermo Scientific Xcalibur Data system, common platform for all Thermo Scientific MS systems
- Thermo Scientific QuanLab Forms Software, for routine GC-MS quantification
- Thermo Scientific EnviroLab Forms Software option, for regulated environmental laboratories
- Thermo Scientific ToxLab Forms Software option, for clinical research or forensic toxicology laboratories
- Commercial mass spectral library options, including the following:
 - NIST libraries
 - Wiley libraries
 - Mass Spectral and GC Data of Drugs, Poisons, Pesticides, Pollutants and Their Metabolites (Maurer-Pfleger-Weber library)

Direct Sample Probe System Option

- Switch to probe in under three minutes with GC interface undisturbed
- Available in two styles: rapid heating filament Direct-Exposure Probe (DEP) or slower volatilization Direct-Insertion Probe (DIP)

Standard Installation Specifications*

Electron Ionization

1 µL of 1 pg/µL octafluoronaphthalene (OFN) will produce the following minimum signal to noise for m/z 272 when scanning from 50 – 300 u:

450:1 using helium as carrier gas

Positive Chemical Ionization

1 µL of 100 pg/µL benzophenone will produce the following minimum signal to noise for m/z 183 when scanning from 80 – 230 u using methane reagent gas:

300:1 using helium as carrier gas

Negative Chemical Ionization

2 µL of 100 fg/µL of OFN will produce the following minimum signal to noise for m/z 272 when scanning from 50 – 300 u using methane reagent gas:

600:1 using helium as carrier gas

System Dimensions/Weights

Complete GC-MS system requires 2 m (6') of linear workbench space. Allow 16 cm (6") of clearance behind the instrument (32 cm if using autosampler). Additional space should be allotted for data system and printer.

Mass Spectrometer

(height x width x depth)
44 x 33 x 63 cm (17.5 x 13 x 24.5 in)
Weight: 43 kg (94 lbs)

TRACE GC Ultra

44 x 61 x 65 cm (17.5 x 24 x 25.5 in)
Weight: 55 kg (120 lbs)

FOCUS GC

44 x 35 x 51 cm (17.5 x 14 x 20 in)
Weight: 30 kg (66 lbs)

* Helium standard specifications are performed using a 15 x 0.25mm ID x 0.25mm System Qualification Column (SQC).

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Africa-Other +27 11 570 1840
Australia +61 2 8844 9500
Austria +43 1 333 50 34 0
Belgium +32 53 73 42 41
Canada +1 800 530 8447
China +86 10 8419 3588

Denmark +45 70 23 62 60
Europe-Other +43 1 333 50 34 0
Finland/Norway/Sweden +46 8 556 468 00
France +33 1 60 92 48 00
Germany +49 6103 408 1014

India +91 22 6742 9434
Italy +39 02 950 591
Japan +81 45 453 9100
Latin America +1 608 276 5659
Middle East +43 1 333 50 34 0
Netherlands +31 76 579 55 55

South Africa +27 11 570 1840
Spain +34 914 845 965
Switzerland +41 61 716 77 00
UK +44 1442 233555
USA +1 800 532 4752
www.thermo.com



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PS51872_E 03/10C

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