QUAKELOGIC

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GAS CHROMATOGRAPHY–MASS SPECTROMETRY SYSTEM

QL-SpectraTrace Elite X

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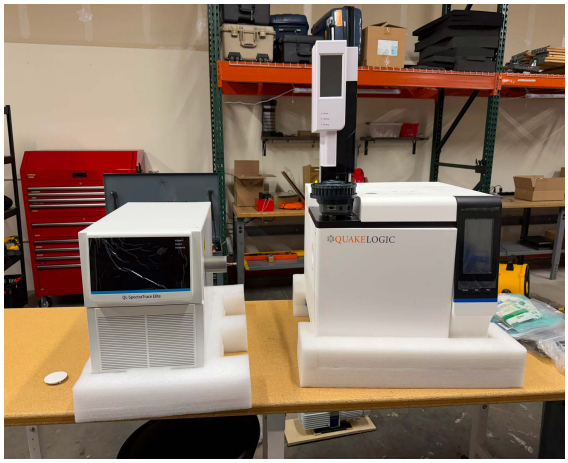
Gas Chromatography–Mass Spectrometry System



ADVANCED GC-MS ANALYSIS AND COMPOUND IDENTIFICATION

The QL-SpectraTrace Elite X is a high-performance GC-MS system for qualitative and quantitative chemical analysis, compound identification, and routine screening. It pairs a programmable gas chromatograph with a single-quadrupole mass spectrometer covering 1.6–1,050 amu at scan speeds up to 20,000 amu/s, and adds a 150-position liquid autosampler with integrated control and data-analysis software for forensic, environmental, and research laboratories.

- Single-quadrupole analyzer spanning 1.6–1,050 amu at 20,000 amu/s captures fast-eluting peaks and broad mass ranges without sacrificing spectral resolution.
- 150-position free-standing autosampler with sample overlap and syringe rinsing sustains high-throughput unattended runs and reduces carryover between injections.
- Integrated software performs offline analysis while acquisition continues, keeping the instrument productive and shortening turnaround for high-volume laboratories.
- Ferrule-free self-configuring flow-path fittings with usage monitoring and automatic leak-checking cut maintenance downtime and simplify column changeover for operators.

STANDARD FEATURES »

- Single-Quadrupole Analyzer
- Split/Splitless Inlet
- 150-Position Autosampler
- Turbomolecular Pump
- Mechanical Backing Pump
- Single-Click Tuning
- Automatic Leak-Checking
- Ferrule-Free Fittings
- Gas-Saver Sleep Mode
- Inert Flow Path
- Column Protection Architecture
- Negative Temperature Ramping
- Integrated Spectral Library
- Offline Data Analysis
- Real-Time Run Monitoring
- Injection Counter Alarm
- Computer Workstation
- Ion Gauge Monitoring
- One-Year Warranty
- Installation Support

Key Features

- Single-quadrupole mass spectrometer covers 1.6–1,050 amu at scan speeds up to 20,000 amu/s for confident compound identification across broad analyte sets.
- Independently heated quadrupole analyzer with user-selectable temperatures maintains resolution across the full mass range and reduces contamination-driven drift.
- Programmable GC oven reaches 450 °C with ramps to 250 °C/min and cools 450 °C to 50 °C in about 3.5 minutes, maximizing sample throughput.
- High-capacity 150-position liquid autosampler with next-sample overlap and dual rinse solvents enables extended unattended operation and consistent injection quality.
- Ferrule-free self-configuring flow-path fittings with usage monitoring and automatic leak-checking streamline maintenance and preserve inert flow-path integrity.
- Integrated software supports offline data analysis during active acquisition, real-time spectrum extraction, and library searching without interrupting the running batch.
- Total Ion Chromatogram peak-based analysis with integrated spectral library searching produces printable search reports directly from acquired data.
- Gas-saver functionality with an energy-reduction sleep mode and automatic wake lowers carrier-gas consumption during idle periods.
- Single-click system tuning and software-controlled pump-down and vent simplify daily startup and reduce operator training burden.

PRODUCT FEATURES

Mass Spectrometer
Single-quadrupole analyzer · Mass range 1.6–1,050 amu · Scan speed up to 20,000 amu/s · Independently heated, inert quadrupole

Gas Chromatograph
Split/Splitless (SSL) inlet · Oven to 450 °C, ramp to 250 °C/min · Up to two 30 m capillary columns · Constant/ramped pressure and flow modes

Flow Path
Inert analytical flow path · Ferrule-free self-configuring fittings · Automatic leak-checking · Usage monitoring and column protection

Autosampler
150-position free-standing liquid autosampler · Next-sample overlap capability · Pre- and post-injection syringe rinsing · Minimum two rinse solvents

Vacuum System
High-performance turbomolecular pump · Mechanical backing pump, ~1 L oil · Software-controlled pump-down and vent · Ion gauge pressure monitoring

Data System
Integrated instrument control and analysis · TIC peak-based spectral analysis · Library search and compound matching · Custom quantitative reporting

Workstation
Current-generation operating system · ≥16 GB RAM, ≥8 GB graphics · ≥1 TB storage, ≥20-inch display · Energy Star 5.0 qualified

For more information about the features, specifications, and available configurations of the QL-SpectraTrace Elite X, please contact QuakeLogic.

MACHINE CONFIGURATION

COMPONENT	CONFIGURATION
Analyzer	Single Quadrupole Mass Spectrometer
GC Inlet	Split/Splitless (SSL)
Carrier Gas	Hydrogen or Helium
Columns	Up to two 30 m capillary columns
Autosampler	150-position free-standing liquid autosampler
High-Vacuum Pump	High-performance turbomolecular pumping system
Backing Pump	Mechanical rough/backing pump, ~1 L oil capacity
Flow-Path Fittings	Ferrule-free, self-configuring, usage-monitored
Electrical Supply	110 V and 220 V configurations available
Instrument Control	Local keyboard or integrated data system
Data System	Integrated control and analysis software
Workstation	Current-generation OS, ≥16 GB RAM, ≥1 TB storage

CAPACITY

SPECIFICATION	VALUE
Mass Range	1.6–1,050 amu
Scan Speed	Up to 20,000 amu/s
Autosampler Positions	150 positions
Column Capacity	Up to two 30 m capillary columns
Column Internal Diameter	0.100–0.320 mm
Maximum Oven Temperature	Up to 842 °F (450 °C)
Maximum Oven Ramp Rate	Up to 482 °F/min (250 °C/min)
Oven Programming	≥20 programmable ramps with equal plateaus
Maximum Programmable Run Time	Up to 999.99 minutes

OPTIONAL FEATURES & ACCESSORIES

220 V ELECTRICAL CONFIGURATION

Configures the system for 220 V mains supply, supporting installation in international and high-voltage laboratory environments.

DUAL-COLUMN INSTALLATION

Adds a second 30 m capillary column to the oven, expanding method flexibility and enabling parallel or confirmation analyses.

EXTENDED RINSE-SOLVENT SET

Supports additional rinse solvents beyond the standard two, reducing sample carryover for demanding trace-level workflows.

OPERATOR TRAINING PACKAGE

On-site training for laboratory personnel covering operation, tuning, and method development to accelerate productive deployment.

TECHNICAL SPECIFICATIONS

SPECIFICATION	DESCRIPTION
Analyzer Type	Single Quadrupole Mass Spectrometer
Mass Range	1.6–1,050 amu
Scan Speed	Up to 20,000 amu/s
System Tuning	Single-click
Quadrupole Heating	Independent, user-selectable temperatures
Quadrupole Assembly	Inert
High-Vacuum Pump	High-performance turbomolecular
Backing Pump	Mechanical, ~1 L oil capacity
Vacuum Control	Software-controlled pump-down and vent
Pressure Monitoring	Ion gauge, source and analyzer
GC Inlet	Split/Splitless (SSL)
Carrier Gas	Hydrogen or Helium
Maximum Oven Temperature	Up to 842 °F (450 °C)
Maximum Oven Ramp Rate	Up to 482 °F/min (250 °C/min)
Oven Cooling	450 °C to 50 °C in ~3.5 min @ 22 °C ambient
Oven Programming	≥20 ramps with equal plateaus, negative ramping
Maximum Run Time	Up to 999.99 minutes

SPECIFICATION	DESCRIPTION
Column Capacity	Up to two 30 m capillary columns
Column Internal Diameter	0.100–0.320 mm
Flow Modes	Constant/ramped pressure and flow (software-controlled)
Flow-Path Fittings	Ferrule-free, self-configuring, usage-monitored
Flow Path	Inert analytical
Leak Checking	Automatic
Gas Saver	Energy/gas-reduction sleep with auto wake
Environmental Compensation	Automatic barometric pressure and temperature
Autosampler	150-position, free-standing, self-aligning
Autosampler Install	Tool-free installation and removal
Injection Features	Next-sample overlap, pre/post-injection rinsing
Rinse Solvents	Minimum two separate solvents
Electrical Configuration	110 V and 220 V available
Workstation Memory	Minimum 16 GB RAM
Workstation Graphics	Minimum 8 GB dedicated graphics
Workstation Storage / Display	≥1 TB storage, ≥20-inch monitor
Warranty	1 year, parts and labor included

INTEGRATED ANALYTICAL SOFTWARE

The bundled analytical suite provides end-to-end instrument control and data analysis: it drives GC and MS parameters, acquires and processes Total Ion Chromatograms, searches spectral libraries for compound matching, and builds quantitative reports. It supports real-time run monitoring and offline analysis concurrent with active acquisition, plus database archival and customizable reporting for high-volume laboratories.

INSTRUMENT CONTROL

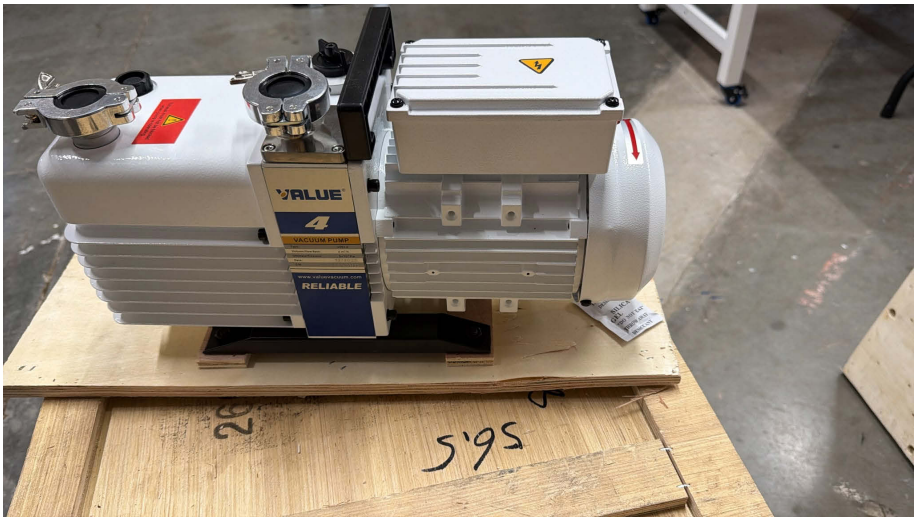
Configures and drives GC oven programming, inlet, flow modes, autosampler, and MS acquisition from a single interface. A programmable injection counter with alarms and runtime deviation logging monitors method parameters and flags drift before it affects results.

SPECTRAL ANALYSIS

Performs Total Ion Chromatogram peak-based mass spectral analysis with integrated library searching and compound matching. Real-time spectrum extraction from eluting compounds and direct generation of printable search reports support both screening and confirmatory identification workflows.

QUANTITATION & REPORTING

Builds custom quantitative reports including compound identity, retention time, ion response, and calculated results, with basic and statistical post-quantitation calculations. Offline analysis runs while the instrument continues active acquisition, and results archive to a searchable database.



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About QuakeLogic:

QuakeLogic Inc. is a California-based engineering and technology company providing innovative, reliable, high-quality solutions to customers worldwide.

Our Commitment

We are committed to quality, innovation, and customer satisfaction — building lasting partnerships through reliable solutions and dependable support.

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