



EVOLUTION
Triple Quadrupole
GC-MS/MS
System

Data Sheet



Triple Quadrupole GC-MS/MS System

The CHROMTECH EVOLUTION GC-MS/MS system is built upon the most popular GC-MS system, the AGILENT 5973/5975 series MSD.

It offers both outstanding performance and ruggedness due to the inert MSD ion source, true hyperbolic quadrupole design as well as a highly sensitive detector with HED.

Completed by our proprietary IonRail collision cell and another high-precision quadrupole Q3, the AGILENT MSD is easily upgraded to a true state-of-the-art triple quadrupole GC-MS/MS system.

Using Single Reaction Monitoring (SRM) is the most sensitive and selective technique to quantitate low levels of target compounds in the presence of complex matrices.

Typical application areas are multi-pesticide methods, doping analysis, forensic science, etc.

EVOLUTION GC-MS/MS Specifications

Mode (standard)	EI
Mode (optional)	PCI and NCI
Ion source type	Noncoated inert EI source for turbomolecular pump systems (optional for diffusion pump systems) Stainless steel EI source for diffusion pump system
Ion source temperature	106-350°C
Filaments	Dual filaments for EI
Maximum mass	800 u
Resolution	0.4 to 5 Da
Scan rate (electronic)	up to 6250 u/s
MRM speed	200 transitions/250 ms
Minimum MRM dwell	1 ms
Mass filters	Q1: Agilent proprietary monolithic hyperbolic gold-coated quadrupole, Q3: Ultra-high precision quadrupole
Collision cell	90° square quadrupole patented IonRail; low pressure design
Collision cell gas	Argon, manual CID gas pressure regulator (Nitrogen and/or EPC control optional)
Collision Energy (eV)	up to 65
Detector	Triple-Axis HED-EM with extended-life EM
Tuning	Autotune, Quick Tune and TuneEvaluation
Pumping system	65 L/s diffusion pump, 70 L/s or 262 L/s turbomolecular pump with 2.5 m ³ /h mechanical pump
Acquisition control	Agilent MSD Chemstation
Data Analysis and reporting	Agilent MSD Chemstation, Agilent MassHunter Data Analysis
Simultaneous MS and GC	Can collect 2 GC detector signals while acquiring MS data

Gas Chromatograph (6850, 6890N, 7820A or 7890A GC)

For more specifications on GCs refer to the GCs data sheet

For more information

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Injector	Split/splitless (standard), PTV and others available
Autosampler	CombiPAL, GC PAL, 7683, 7693, or G1888A (and more)
Oven temperature	Ambient +4 °C - 450 °C (6890/7890A) or +5 °C - 350 °C (6850), 8°C above ambient to 425°C (7820A)
Oven ramps/plateaus	7820A: 5; 6850 and 6890: 6/7; 7890A: 20/21. Negative ramps are allowed.
Electronic pneumatic control (EPC)	Auto pressure regulation for split/splitless, septum purge
Carrier gas control modes	Constant pressure and flow modes; pressure and flow programmable
Pneumatic splitter	Capillary Flow Technology devices for effluent splitting, backflushing and column switching

Installation Checkout Specifications

EI MS/MS sensitivity	Injection of 100 fg of octafluoronaphthalene (OFN) will produce a >750:1 RMS S/N for the transition of m/z 272 to the fragment ion at m/z 222 using autotune parameters (Diffusion pump systems: 1 pg OFN will produce a >500:1 RMS S/N)
EI scan sensitivity	1 pg OFN scanning from 90-300 u will give at nominal m/z 272 ion >300:1 S/N (Diffusion pump systems: 1 pg OFN will produce a >200:1 S/N)
PCI scan sensitivity	100 pg BZP will give at nominal m/z 183 ion >100:1 S/N (using methane) (Diffusion pump systems: n/a)
NCI scan sensitivity	200 fg OFN will give at nominal m/z 272 ion >500:1 S/N (using methane) (Diffusion pump systems: n/a)

Physical Requirements

Dimensions (Triple Quad MS)	30 cm (w) x 71,5 cm (d) x 41 cm (h, front); 80 cm (h, back) Additional space should be added for the data system and printer.
Weight (Triple Quad MS)	70 kg or 154 pounds

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CHROMTECH GmbH, 2011

EVO-DS-03/2011