GC-MS/MS Triple Quadrupole 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.

CHROMTECH EVOLUTION GC-MS/MS Triple Quadrupole System

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  Unit mass adjustable by tune, 0.5 to 3 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, EPC control (Nitrogen and/or manual CID gas pressure regulator optional)
Collision Energy (eV)  up to 65
Detector  Triple-Axis HED-EM with extended-life EM
Tuning  Autotune, Quick Tune or manual
Pumping system  65 L/s diffusion pump, 70 L/s or 262 L/s turbomolecular pump with 2.5 m³/h mechanical pump
Acquisition control  Agilent MSD Chemstation software
Data Analysis and reporting  Agilent MSD Chemstation software
Simultaneous MS and GC  Can collect 2 GC detector signals while acquiring MS data
Gas Chromatograph (6850, 6890N, or 7890A GC)

For more specifications on GCs refer to the GCs data sheet

For more information on our products and services, visit our Website at www.chromtech.de

Injector
Split/splitless (standard),
PTV and others available

Autosampler
CombiPAL, GC PAL, 7683, or G1888A (and more ...)

Oven temperature
Ambient +4 °C – 450 °C (6890/7890A)
or +5 °C – 350 °C (6850)

Oven ramps/plateaus
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
(%.ms systems: 100 fg 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
(%.ms 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)
N/A for %.ms systems

NCI scan sensitivity
200 fg OFN will give at nominal m/z 272 ion
>500:1 S/N (using methane)
N/A for %.ms systems

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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