Agilent 6460 Triple Quadrupole LC/MS with Agilent Jet Stream Technology

Data Sheet

The Agilent 6460 Triple Quadrupole LC/MS delivers superior sensitivity for trace level analysis with performance specifications in Signal-to-Noise ratio (S/N) and Instrument Detection Limit (IDL). IDL is a rigorous, statistically based metric that indicates practical sensitivity performance of your quantitative assays. The Agilent 6460 Triple Quadrupole LC/MS achieves sensitivity and resolution specifications with autotune.

Parameter	Measure	Specification
MRM sensitivity Signal-to-Noise ratio (S/N) ESI positive	1 pg of reserpine injected on column, quantifying on the transition *m/z* 609 to 195	S/N > 30,000:1 Noise 1 × RMS
MRM sensitivity Signal-to-Noise ratio (S/N) ESI negative	1 pg of chloramphenicol injected on column, quantifying on the transition *m/z* 321 to 152	S/N > 10,000:1 Noise 1 × RMS
MRM sensitivity Instrument Detection Limit (IDL) ESI positive	20 fg of reserpine injected on column, quantifying on the transition *m/z* 609 to 195	IDL < 12.5 fg
MRM sensitivity Instrument Detection Limit (IDL) ESI negative	20 fg of chloramphenicol injected on column, quantifying on the transition *m/z* 321 to 152	IDL < 12.5 fg
Mass range		*m/z* 5 – 3,000
Polarity switching		30 ms
Mass resolution (autotune) Mass resolution (manual tune)	Full width at half maximum Full width at half maximum	0.7 Da 0.5 Da
Mass accuracy		0.1 Da from 5 – 1,000 *m/z* 0.01% from 1,000 – 2,000 *m/z* 0.02% from 2,000 – 3,000 *m/z*
Mass stability		< 0.1 Da in 24 h
Dynamic range		> 6.0×10^6
Scan modes		MS scan, MS/MS product ion scan, MRM, MS/MS neutral loss/gain scan and precursor ion scan, SIM
Maximum scan rate		12,500 Da/s
Minimum MRM dwell time		1 ms
MRM transitions		450 per time segment > 40,000 ion transactions per method
Dynamic MRM transitions		4,000 ion transitions per method
Triggered MRM transitions		Up to 10 MRM transitions (primary and secondary) for library search and compound confirmation
Collision cell ion clearance		< 1 ms

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General system specifications

Parameter	Specification
Single point of control	Single-point data system method capability with full control of Agilent 1200 Series HPLC systems and 6460C Triple Quadrupole LC/MS System
Time programming	• Polarity change in time segment • Scan and SIM or MRM (plus other modes of data collection) • Dynamic and triggered MRM aligns MRMs with compound retention time • Solvent divert through calibrant delivery system valve
Wide range of ionization sources	• Electrospray (ESI) • Nanospray with HPLC-Chip Cube MS interface • APCI source (Atmospheric Pressure Chemical Ionization) • Multimode source (simultaneous ESI and APCI) • APPI source (Atmospheric Pressure Photo Ionization)
Autotune	Automated optimization of ion optics and mass axis calibration in positive and negative ion modes using a proprietary tune solution
Solvent declustering	Countercurrent gas
Detector	High-energy conversion dynode and high-gain electron multiplier horn
Vacuum system	Two turbomolecular pumps with one mechanical pump

Ordering information

G6460CA: 6460 Triple Quadrupole LC/MS System
Includes the 6460 Triple Quadrupole Mass Spectrometer, MassHunter Workstation Software with both compliance and method optimization software, a PC, a monitor and printer, and service installation of the system

The above are not standard installation specifications for the 6460 Triple Quad. Performance specifications in this document are reviewed for accuracy, but they do not represent the tests and procedures performed at installation, which are described in the Agilent 6400 Series Triple Quad LC/MS System Installation Manual, document G3335-90170 or subsequent version number. See Site Preparation Guide and Service Notes for additional product and specification information.

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