

## Agilent G6410B Triple Quadrupole Mass Spectrometer

With Agilent 6410B Triple Quadrupole LC/MS combinations (HPLC 1200 1260 ) to quantitate trace organic compounds in complex matrices:

- Food safety studies
- Environmental studies
- Drug discovery
- Toxicology
- Forensics
- Bioanalysis



This Agilent G6410B is a Liquid chromatograph triple quadrupole mass spectrometer that performs MS/MS using three sets of parallel rods (in this case, quadrupole, hexapole, quadrupole). The first quadrupole separates ions into precursor ions that are fragmented in the hexapole into product ions, which are separated by the second quadrupole. Often, two or more precursor ions and their product ions are monitored in sequence in MRM (multiple reaction monitoring) mode. You can monitor up to 4000 MRM transitions by using Dynamic MRM.

### General System Specifications of the Agilent 6410 Triple Quadrupole LC/MS

Parameter	Measure
Single point of control	Single-point data system method capability with full control of Agilent 1100 and 1200 Series HPLC systems and 6410 Triple Quadrupole LC/MS
Time programming	<ul style="list-style-type: none"> <li>• Positive/negative polarity switching in a time segment</li> <li>• Scan and SIM or MRM (plus other modes of data collection)</li> <li>• Solvent divert through calibrant delivery system valve</li> <li>• Possible 99-time segments with potential 99 MRMs per-time window</li> </ul>
Wide range of ionization sources	<ul style="list-style-type: none"> <li>• Electrospray (ESI)</li> <li>• Nanospray with HPLC-Chip Cube MS interface</li> <li>• Atmospheric pressure chemical ionization (APCI)</li> <li>• Multimode source (simultaneous ESI and APCI)</li> </ul>
Autotune	Automated optimization of ion optics and mass axis calibration
Solvent declustering	Countercurrent gas
Detector	High-energy conversion dynode and removable electron multiplier horn
Vacuum system	One triple-stage turbomolecular pump with one mechanical pump
Warranty	First year expanded warranty to include all labor, parts, and travel expenses. Includes preventive maintenance and certain consumables.

Parameter	Measure	Specification
MS/MS sensitivity and repeatability	0.5 pg of reserpine injected on column, ESI source, three concurrent MRM acquisitions, quantifying on the transition <i>m/z</i> 609 to 195.	Signal-to-noise ratio >20:1, where noise = 5x RMS
Mass resolution		Three settings (FWHM) Unit: 0.7 u; Wide: 1.2 u; Widest: 2.5 u
Mass accuracy		0.1 u across the mass range
Mass stability		<0.1 u in 24 h
Dynamic range		>6.5 × 10 <sup>6</sup>
Mass range		<i>m/z</i> 15–1,650
Scan rate		5,200 u/sec
Scan modes		MS scan, MS/MS product ion scan, MRM, MS/MS neutral loss/gain scan and precursor ion scan, SIM
Minimum MRM dwell time		5 ms with 10 MRMs
MRM transitions		99 per time segment, thousands possible with multiple segments
Positive/negative polarity switching	Time segment dependent	Inter-segment delay of 1.5 sec
Collision cell		High-pressure, hexapole with linear acceleration
Cross-talk		None detectable

### Agilent Triple Quad LC/MS comes with Agilent MassHunter Workstation

Software that includes three major programs:

- Data Acquisition – From one screen you can tune the mass spectrometer, control and monitor instrument parameters, set up acquisition methods and worklists containing multiple samples and monitor real-time run plots.
- Quantitative Analysis – From one screen you can set up a batch of data files and quantify, evaluate and requantify the results. From this screen you have access to the Method Editor for setting up and editing the quantitation methods.
- Qualitative Analysis – From one screen you can extract and integrate chromatograms, subtract background, extract peak spectra, and compare data from different types of data fil