

Specification Sheet

LCMS-8030

Triple Quadrupole Mass Spectrometer



Triple Quadrupole Mass Spectrometry is the method of choice for definitive identification and reproducible quantification of trace level analytes in complex samples. Shimadzu understands these requirements. That is why we have combined our experience from different fields for building a mass spectrometer that can keep pace with the chromatographic resolving power of our world leading UHPLC systems. The LCMS-8030 couples the power of TQ-MS with unparalleled speed to provide the ideal compliment to both UHPLC and conventional HPLC systems. With high speed MRM transitions, ultra high speed polarity switching and unique UFsweeper™ technology, the LCMS-8030 is truly a universal detector for liquid chromatography.

Instrument

Model	LCMS-8030
Mass range	<i>m/z</i> 10 to 2000
Sensitivity	ESI positive: 1 pg reserpine, S/N>3,000:1 (RMS)
Resolution	R < 0.7 FWHM
Mass stability	0.05 μ / 12 hr
Cross talk	<0.003%
Minimum pause time	1 msec
Minimum dwell time	0.8 msec
Scan speed	Max 15,000 μ /sec (0.1 μ step: 150,000 data points/sec)
Polarity switching time	15 msec
Interface	ESI (Standard) APCI (Option) DUIS (Option)
Applicable flow rate	ESI 1 μ L/min to 2 mL/min
MRM transition speed	Max 555 channels / sec
DL maximum temperature	300°C
Block heater maximum temperature	500°C

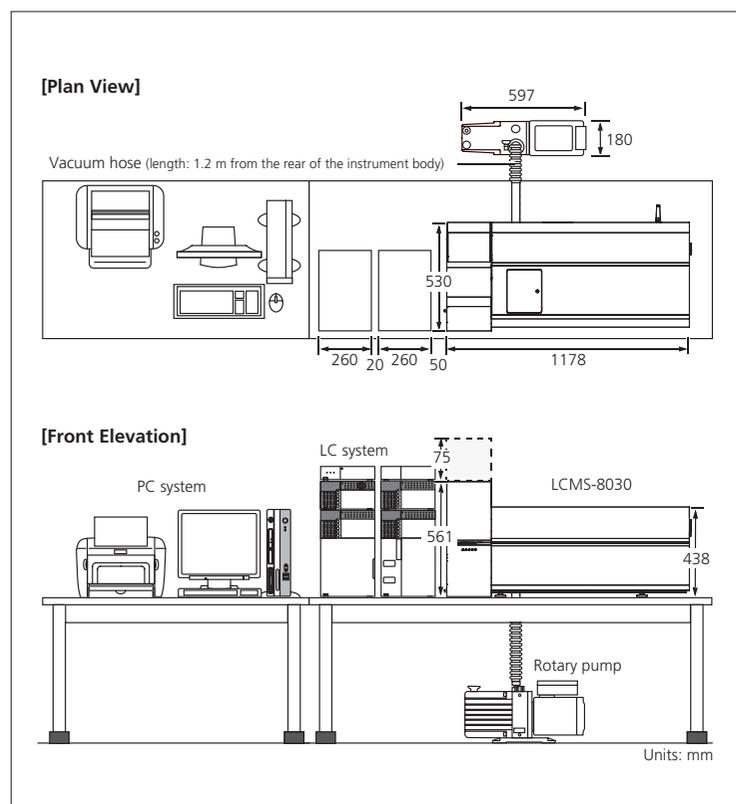
Measurement mode	Q1 Scan/SIM Q3 Scan/SIM MRM Precursor ion scan Product ion scan Neutral loss scan
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Mass Analyzer and Detector

Mass analyzer	Molybdenum hyperbolic mass filter with pre-rod
Collision cell	Octopole type ultra-fast collision cell (UFsweeper™ collision cell)
Detector	Secondary electron multiplier with conversion dynode
Detection system	Pulse counting
Detection ion	Positive / Negative ion switching

Software

Workstation	LabSolutions LCMS Version 5.4 for LCMS-8030
Operation system	Windows 7
Instrument control	HPLC (Prominence and Nexera™ series) LCMS-8030 and interface
MS acquisition mode	Scan (Max. 512 events), SIM (Max. 512 events × 32 channels)
MS/MS acquisition mode	MRM (Max. 512 events × 32 channels) Product ion scan (Max. 512 events) Precursor ion scan (Max. 512 events) Neutral loss scan (Max. 512 events)
Auto-tuning	Possible to optimize sensitivity and resolution in both positive and negative ionization mode as well as mass calibration



Installation Example

Temperature	18 to 28 °C
Humidity	20 to 70 % (No condensation)
Size	1180 mm (W) × 530 mm (D) × 560 mm (H)
Weight	130 kg
Power supply	MS unit: AC 230 V 15 A (50/60 Hz) Single-phase
Gas	Nitrogen gas: Purity greater than 97 %, Maximum consumption 25 L/min Argon: Purity greater than 99.99 % as CID gas

The above are not standard installation specification. All LCMS-8030 instruments will be installed and tested in accordance with standard performance tests as detailed in the Shimadzu document ZEBN-5913, Shimadzu High-Performance Liquid Chromatograph Mass Spectrometer LCMS-8030 Installation Procedures.



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