

UHPLC-MS/MS 8000

Description

The UHPLC-MS/MS 8000 is a high-throughput LC-MS/MS preprocessing and analysis system designed for applications in environmental monitoring, food safety, forensic science, drug development, and metabolomics.

Features

Enhanced Sensitivity & Range: Provides higher sensitivity and a wider quantification range in complex matrices.

High-Throughput Analysis: Fast and stable polarity switching and MRM scanning speed enhance throughput and analytical efficiency.

Robust Design: Maintains excellent anti-interference capabilities and durability in complex matrices.

All-in-One Ion Source Technology:

Proprietary High-Efficiency APCI and ESI ion sources.

Modular installation for easy maintenance.

Unique heating mode enhances matrix tolerance and improves ionization efficiency.

High-Performance Vacuum System:

Integrated vacuum system with turbomolecular pump + dry pump combination.

Achieves ultimate vacuum of better than 5×10^{-7} mbar.

High Sensitivity Detection:

High-sensitivity detector and high-speed data acquisition card.

Ensures the accuracy and reproducibility of trace substance detection.

Advanced Mass Analyzer:

Proprietary RF segmented quadrupole control technology and high-precision ceramic gold-plated quadrupole interaction.

Wider mass range and more stable operation.

Mass range configurable up to 3000 m/z based on customer needs)

User-Friendly Software:

Proprietary Expert workstation for method development, instrument control, data acquisition and processing, report generation, and secure audit trails.

Offers comprehensive data source and compliance management (compliant with FDA 21 CFR Part 11).

Quality & Reliability:

100% of core components are independently designed and manufactured. Sensitivity & Range: Provides enhanced sensitivity and a wider quantification range in complex matrices.



Throughput: Achieves high throughput via fast and stable polarity switching and MRM scanning.

Robustness: Features a robust design with excellent anti-interference capabilities and durability.

Hardware & Performance:

Ion Sources: Incorporates proprietary High-Efficiency APCI and ESI ion sources. Ion sources are modular for maintenance and utilize a unique heating mode to enhance matrix tolerance and ionization efficiency.

Vacuum System: Integrated turbomolecular pump + dry pump combination, achieving an ultimate vacuum of better than 5×10^{-7} mbar.

Detection: High-sensitivity detector paired with a high-speed data acquisition card ensures accuracy and reproducibility for trace substance detection.

Mass Analyzer: Features proprietary RF segmented quadrupole control technology and high-precision ceramic gold-plated quadrupole interaction, offering a wider mass range and stable operation.

Quadrupole Scanning Speed: Up to 40,000 amu/sec.

Ion Switching: Positive and negative ion switching in 10ms.

Sensitivity:

ESI+ MRM mode: 1pg reserpine, on-column injection, S/N \geq 800,000:1.

ESI- MRM mode: 1pg chloramphenicol, on-column injection, S/N \geq 800,000:1.

APCI+ MRM mode: 1pg reserpine, on-column injection, S/N \geq 500,000:1.

UHPLC System :

Pump: UHPLC Binary Gradient Pump with 4-channel configuration; maximum pressure tolerance 16000psi. Pump flow rate range: 1 ul/min - 10 ml/min with $\pm 0.2\%$ accuracy.

Autosampler: Refrigerated autosampler, capable of holding 3 x 96-well microplates or 3 standard 48-position vial racks. Injection accuracy: $\leq 0.5\%$ RSD (1-10ul).

Column Oven: Temperature range: Room temperature +5°C to 70.0°C (0.1°C increments), accuracy $\pm 1.0^\circ\text{C}$. Capacity: 6 x 100mm columns.

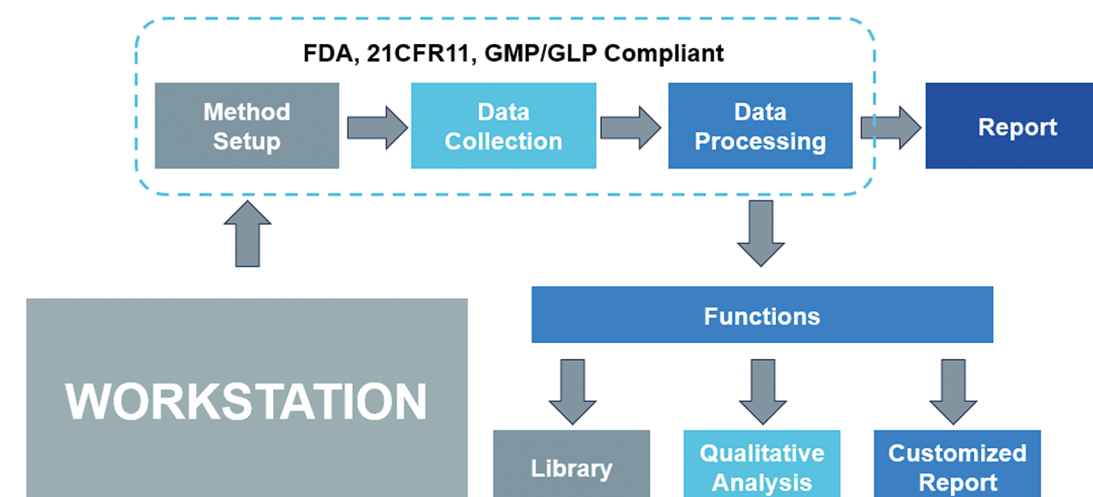
Workstation

Independently developed for instrument control and data processing.

Enables control of the 4-channel LC-MS/MS system, rapid sequence sorting, and simultaneous operation of pump systems.

Data processing functions include spectrum browsing, chromatogram/mass spectrum display, peak statistics, S/N calculation, and qualitative/quantitative analysis.

Supports automatic tuning, audit trails, database customization, and is compliant with FDA, CFR, GMP/GLP regulatory requirements.



The chromatogram displays four distinct peaks corresponding to the following compounds:

- Peak 1: 2,4-dinitrophenol (Retention Time: ~4.5 min)
- Peak 2: 2,6-dinitrophenol (Retention Time: ~5.5 min)
- Peak 3: 2,4,6-trinitrophenol (Retention Time: ~6.5 min)
- Peak 4: 2,4-dinitrophenol (Retention Time: ~7.5 min)

The chromatogram displays three distinct peaks. The first peak, labeled '标准品' (Standard), is the tallest and occurs at approximately 1.5 minutes. The second peak, labeled '对照品' (Reference), is shorter and occurs at approximately 2.5 minutes. The third peak, labeled '样品' (Sample), is the shortest and occurs at approximately 3.5 minutes. The x-axis represents time in minutes, ranging from 0 to 10. The y-axis represents intensity, ranging from 0.00E+00 to 2.00E+06.

The chromatogram displays a single, very sharp and intense peak at a retention time of 11.23 minutes. The y-axis represents intensity, ranging from 0.00e+00 to 2.00e+06. The x-axis represents time in minutes, ranging from 0.00 to 20.00. The peak is labeled with its retention time, 11.23.

Parts List

ItemCategory	PartName	KeySpecifications/ Description	Quantity
	MobilePhaseBottle	(Setassuppliedwithsystem)	Set
Software& Control	InstrumentControlSoftwareandData ProcessingSoftware	ProprietaryQExpert Workstation	1
	SupportingWorkstation	Dedicatedcomputerfor systemoperation	1
Ancillary&Tools	NitrogenGenerator		1
	UninterruptiblePowerSupply(UPS)		1
	InstallationToolkit	Essentialtoolsforsystem setupandbasicmaintenance	1

Items	Requirements
MSMainUnitPowerSupply	200VACto240VAC
MSMainUnitPower	1500w
AuxiliaryMechanicalPumpPowerSupply	200VACto240VAC
AuxiliaryMechanicalPumpPower	1500w+1500w （TwoUnits）
NitrogenGeneratorPowerSupply	200VACto240VAC
NitrogenGeneratorPower	1100w-1200w
LiquidPumpPowerSupply	100VACto240VAC
LiquidPumpPower	150w （ReferenceValue， Differentbrandshavedifferences）
LiquidInjectorPowerSupply	100VACto240VAC
LiquidInjectorPower	110w （ReferenceValue， Differentbrandshavedifferences）
ColumnOvenPowerSupply	100VACto240VAC
ColumnOvenPower	170w （ReferenceValue， Differentbrandshavedifferences）
GasConsumption	Nitrogen&ZeroAir&Air
AmbientTemperature	15°Cto30°C （59°Fto86°F）
Hourlyvariations	Cannotexceed2°C(3.6°F)perhour.
RelativeHumidityLevel	20%to80%Non-Condensing
Altitude	≤2000m （6562ft）