

Accela High Speed Pump

The Thermo Scientific Accela™ High Speed Pump provides rapid and reproducible transfer of even the most complex and aggressive gradients. This quaternary pump is capable of handling pressures up to 15,000 psi with a delay volume of only 65 μ L, enabling high speed chromatographic separations.

- Extremely low 65 μ L delay volume ensures high speed separations
- Integrated, self-adjusting vacuum degasser assures reproducibility
- Two LC systems in one, spanning from standard LC pressures up to 15,000 psi
- Optimizes the performance of sub-two micron particle columns

High Speed Solvent Delivery

The Accela Pump is designed for high speed chromatographic separations. With a delay volume of only 65 μ L, the pump ensures rapid transfer of complex gradients to the column. The Accela Pump provides the flexibility of quaternary solvent delivery with better performance than a binary pump.

Specialized cams provide excellent flow reproducibility over the expansive pressure range, from conventional analytical LC pressures up to 15,000 psi for long-column separations.

The Accela pump optimizes the performance of sub-two micron particle columns with the ability to pump precise gradient profiles over the entire pressure range.

Integrated Dynamic Mixer

Complex and aggressive ternary and quaternary gradients are delivered with enhanced accuracy and reproducibility using the integrated dynamic mixer in the Accela Pump. Integrated dynamic mixing ensures that complex or relatively incompatible solvents are thoroughly mixed before reaching the column. The 35 μ L dynamic mixer can be bypassed if additional mixing is not required.

Integrated Vacuum Degassing

The Accela Pump has an integrated, self-adjusting constant vacuum level, membrane degasser that effectively removes dissolved oxygen from the mobile phase. This results in more stable flow rates, accurate gradient composition, low pulsation, and stable baselines.

Ease of Use

Regular preventive maintenance is simplified with self-aligning piston chambers that ensure a perfect fit every time.



Software Control

The Accela Pump can be controlled as a component of the Accela High Speed LC by either the Thermo Scientific ChromQuest™ Chromatography Data System or the Xcalibur™ Mass Spectrometry Data System. Both software solutions provide computer control of the pump to ensure automated data handling of the high speed system.

Xcalibur Data System

Xcalibur is a very versatile, easy-to-use mass spectrometry data system with 21 CFR Part 11 compliance. Whether the user is a lab manager or a technician, Xcalibur's Home Page offers easy navigation through the process of instrument setup, sequence setup, and data acquisition. Data analysis is simplified using any of the three browser environments: Qual Browser, Quan Browser, and Library Browser. Reporting is straightforward and effortless with the intuitive XReport software. LCQUAN™ quantitation software provides the customer with a structured and secure workflow. When operating the Accela High Speed LC system as part of an LC/MS solution, use Xcalibur for the complete instrument control and mass spectrometer data handling.

ChromQuest Chromatography Data System

ChromQuest offers maximum flexibility and efficiency in setting up and maintaining the performance of Accela as a high speed LC system. ChromQuest protects your results by ensuring data traceability and integrity with enhanced security features and electronic documentation. Sophisticated analytical tools facilitate high sample throughput and powerful data processing for liquid chromatography.

ChromQuest maximizes laboratory efficiency with project management for information storage and transfer. Along with accelerating data analysis and results generation, ChromQuest uses robust integration, flexible calibration routines, and advanced spectral analysis tools that help avoid the unexpected. When operating the Accela High Speed LC system as a stand alone LC solution, use ChromQuest for complete instrument control and liquid chromatography data handling.

Certification and Qualification Services

Every pump is tested at the factory prior to shipment to ensure that it meets or exceeds performance specifications. A Declaration of Conformity (DC) accompanies each pump and documents test results. On-site field testing (optional) qualifies system performance.

Specifications

Minimum Flow Rate

1.0 µL/min for isocratic, 50 µL/min for gradients

Maximum Flow Rate

1000 µL/min

Flow Rate Resolution

0.1 µL/min

Pressure Range

0 to 15,000 psi (0 to 1000 bar)

Pressure Resolution

0.15 psi (0.01 bar)

Solvent Capacity

Quaternary valve system

Delay Volume

65 µL without mixer
100 µL with mixer

Compositional Accuracy

± 1% at a flow rate of 50–500 µL/min

Primary Piston Volume

24 µL

Degasser Type

Integral, self-adjusting, 4 channel vacuum membrane (Teflon® AF)

Degasser Hold Volume

< 500 µL per channel

Pulse Dampener

3 µL, dynamic

Gradient Precision

≤ 0.2% at a flow rate of 200 µL/min

Gradient Accuracy

± 1% at a flow rate of 400 µL/min

Flow Precision

≤ 0.2% at a flow rate of 200 µL/min

Flow Accuracy

± 1% operating at a pressure of 500 bar

Wetted Parts

316SS, titanium, PEEK™, sapphire, TZP-ceramic, FEP, GFP, ruby

Remote Controls

Start, USB interface for software control

Ambient Environment

10–40 °C, 40–80% relative humidity (non-condensing)

Operating Temperature

10–40 °C

Dimensions

18 × 36 × 47 cm (H × W × D)

Weight

12 kg

Power Requirements

100/120 VAC, 220/240 VAC nominal; 500 VA max, 50 to 60 Hz

Product Certification

EMC
CE
TUV CUS
FCC (EMI)

Ordering Information

Part Number	Description
60057-60030	Accela LC System
60057-60040	Accela PDA with 1 cm LightPipe™ flow cell
60057-60050	Accela PDA with 5 cm LightPipe flow cell
60057-60060	Accela System Kit
60057-60070	Hypersil GOLD™, 50 × 2.1 mm, 1.9 µm column

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