

WATERS

Acquity

The Waters ACQUITY UPLC is a pioneering Ultra-Performance Liquid Chromatography (UPLC) system designed to deliver superior resolution, sensitivity, and speed compared to traditional HPLC. Utilizing sub-2-micron particle columns and capable of operating at up to 15,000 psi, the system includes modules such as the Binary Solvent Manager (BSM) and Sample Manager (SM). It is widely used in pharmaceutical, chemical, and biological laboratories for complex mixture analysis.

SPECIFICATIONS

System General Specifications

System Type	Ultra-Performance Liquid Chromatography (UPLC)
Maximum Operating Pressure	15,000 psi (1034 bar)
Operating Flow Rate Range	0.010 to 2.000 mL/min
pH Range	2 to 12
System Delay Volume	< 120 µL (standard configuration)

Solvent Management (Pump)

Number of Solvents	Up to 4 (A1/A2, B1/B2 selection)
Solvent Blending/Mixing Type	High-pressure binary mixing
Integrated Vacuum Degassing	Yes
Flow Rate Precision	0.075% RSD or 0.02 min SD (whichever is greater)
Composition Accuracy	± 0.5% absolute (from 5% to 95%)
Compressibility Compensation	Automatic, continuous
Plunger Seal Wash	Integral, active, programmable
Gradient Profiles	11 (including linear, step, concave, convex)
Wet Priming	Automated

Sample Management (Autosampler)

Injection Volume Range	0.1 to 50.0 µL standard
Vial/Plate Formats Supported	96-well and 384-well plates, 48-position 2-mL vial trays
Sample Temperature Range	4.0 to 40.0 °C
Sample Carryover	< 0.005% (with standard wash configurations)
Needle Wash System	Strong and weak solvent dual wash

Column Management

Column Temperature Range	20.0 to 90.0 °C (with High Temperature Column Heater)
Column Tracking Technology	eCord Technology

Detector Compatibility & Integration

Supported Optical Detectors	Tunable UV (TUV), Photodiode Array (PDA), Fluorescence (FLR), Refractive Index (RI), Evaporative Light Scattering (ELS)
Supported Mass Spectrometry Detectors	SQD, TQD, QDa, Xevo series, SYNAPT series

Software and Control

Chromatography Data System (CDS) Compatibility	Empower, MassLynx
--	-------------------

Sample Management

Base Sample Capacity	2 microtiter plates (96 or 384-well) or up to 96 vials (2 mL)
Expanded Sample Capacity	Up to 22 microtiter plates with optional Sample Organizer
Injection Modes	Full loop, partial loop, and partial loop with needle overfill
Injection Linearity	> 0.999 coefficient of deviation

TECHNOLOGY

Ultra-Performance Liquid Chromatography (UPLC)

APPLICATIONS

Analytical Chemistry, Chromatography

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.