

Agilent 218 Purification System

Purify your way



218



Agilent Technologies

PURIFY YOUR WAY WITH A FLEXIBLE SYSTEM WITHIN REACH OF YOUR BUDGET

The Agilent 218 Purification System has the flexibility to adapt to your purification needs as they change over time. Delivering isocratic flow or gradients with excellent precision and reproducibility, this system is a true workhorse for routine LC purification work. What's more, it's within reach of your budget.

Flexibility to Purify Your Way

The Agilent 218 Purification System gives you the flexibility to meet all your purification needs – now and in the future. Easy-to-change pump heads allow you to span a broad flow range from as little as 0.01 mL/min to as much as 200 mL per minute. A unique dual-path detector cell expands your dynamic detection range from 0.005 mAU up to 80 absorbance units. Ideal for a huge number of laboratory-scale purification applications, the Agilent 218 Purification System can also handle your biological samples – safely and securely.

As purification needs change, it's easy to extend the capabilities of the 218 system. Simply interchange the pump heads, tubing, mixers or other accessories to meet the new challenge. It's easy to upgrade to binary, ternary or quaternary gradient capability by adding additional pumps.

Excellent flow precision and gradient accuracy for reproducible separations every time

Extended dynamic range for sensitive detection of high and low concentrations

Automated sample introduction for high-throughput purification of a large number of diverse samples

Automated fraction collection for accurate, reliable and reproducible collection of your valuable samples

Intelligent real-time data processing for instantaneous and precise fraction collection



Precise and Reproducible Solvent Delivery

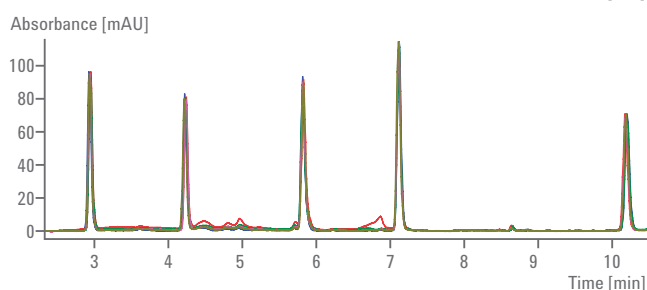
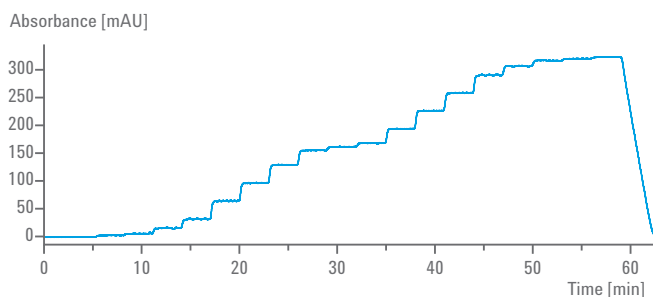
Precise and reproducible solvent delivery is key to successful compound purification. The Agilent 218 Purification System has rugged and reliable solvent delivery modules, designed and manufactured to deliver highest flow precision and composition accuracy. The single-piston, rapid-fill design is capable of delivering solvent flow from 0.01 mL/min up to 200 mL/min, making the system versatile enough to meet all of your semi-preparative purification needs. Choose from isocratic or gradient solvent delivery modules that include pump heads and purge valves.

- Exceptional flow precision and compositional accuracy for reproducible separations every time
- Flow rate range from 0.01–200 mL/min for maximum purification flexibility
- Pressures up to 600 bar at 10 mL/min or 230 bar at 200 mL/min for semi-preparative separations using 1- or 2-inch inside diameter columns

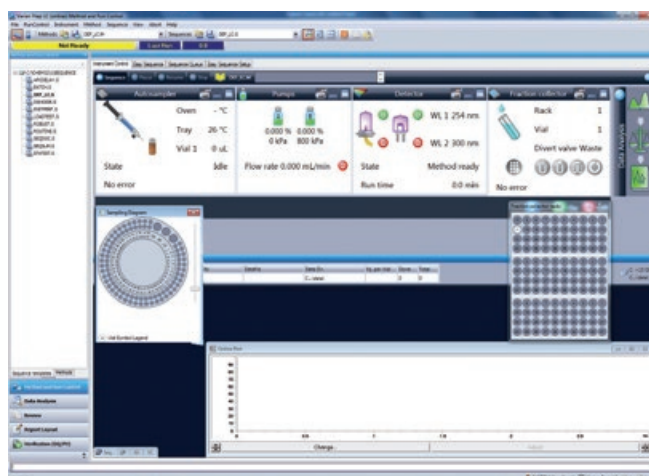
OpenLAB CDS for Complete Control

Agilent's OpenLAB Chromatography Data System (CDS) is powerful yet easy-to-use software that puts you in complete control of your processes. The software's intuitive interface simplifies method development as well as scale-up from analytical to preparative purification. The fraction preview function provides a simple graphical tool to transfer collection parameters from a test run to a preparative separation. Time, peak and mass-based fraction collection – or any combination of these – are available and can be triggered by any detector signal. Intelligent real-time data processing facilitates instantaneous and precise fraction collection.

- Full system control for standard purification functionality
- Peak-trigger options
- Graphical fraction analysis for data review
- Full support for 21 CFR Part 11 compliance



Step gradient (upper trace) and overlay of five injections demonstrate the precision and reproducibility of the Agilent 218 Purification System's solvent delivery while running at 10 mL/min and equipped with 100 mL pump head.



Agilent laboratory-scale purification systems are controlled through Agilent OpenLAB CDS – a single software for analytical and preparative work.

CHOOSE A SYSTEM CONFIGURATION TO PURIFY YOUR WAY

Whether you require instrumentation for general analytical purposes with occasional purification tasks, for automatic scale-up from method development using analytical and semi-preparative columns, or for dedicated semi-preparative work using 1- or 2-inch id columns, you can configure an Agilent 218 Purification System to meet your needs. And, whatever configuration you select, you can be confident the system will provide outstanding performance and reliability day-in, day-out.

Isocratic System for Simple Separations

For purifying samples by separation on normal phase, reversed-phase or chiral columns where gradient elution is not required, an isocratic configuration is a perfect solution. A wide range of interchangeable pump heads is available, giving you the flexibility to deliver flow rates from 0.01 up to 200 mL per minute. A typical isocratic configuration comprises:

- Agilent 218 Solvent Delivery Module
- Agilent 325 Dual Wavelength UV-Visible Detector
- Agilent 440 Fraction Collector
- Agilent OpenLAB CDS



Isocratic system comprising pump, manual injection valve, detector and fraction collector.

Gradient System for Complex Separations

For purification challenges requiring precise and reliable high-pressure gradients, configure an Agilent 218 Purification System with two solvent pumps. Addition of an autosampler facilitates automatic sample introduction for higher throughput. A typical gradient system comprises:

- Agilent 218 Solvent Delivery Modules
- Agilent 410 Autosampler
- Agilent 325 Dual Wavelength UV-Visible Detector
- Agilent 440 Fraction Collector
- Agilent OpenLAB CDS



Gradient system comprising two pumps, autosampler, detector and fraction collector.

EXTENDED PURIFICATION CAPABILITIES

Agilent offers a range of purification modules with extended flow capabilities. For advanced sample handling, detection or fraction collection, Agilent has high performance modules to meet any purification challenge.

Agilent 410 Autosampler

- 1 μ L to 5 mL injection volumes (up to 10 mL with preparative option)
- Pressure-assisted sample aspiration eliminates gas bubbles for excellent reproducibility
- Full-loop filling, partial-loop filling and μ L pick-up injection modes for highest flexibility



For automated purification of multiple samples, the Agilent 410 Autosampler can be added to any Agilent purification solution.



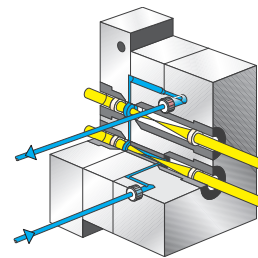
The Agilent 440 Fraction Collector is a random access, single probe fraction collector that can accommodate a variety of different sized vessels for full collection flexibility.

Agilent 440 Fraction Collector

- Real-time peak detection by Agilent OpenLAB CDS for accurate and reproducible fraction collection
- Fraction triggering by any combination of slope, threshold or time-slice
- Fast X, Z, theta-axis movement for minimal sample loss between collection vessels



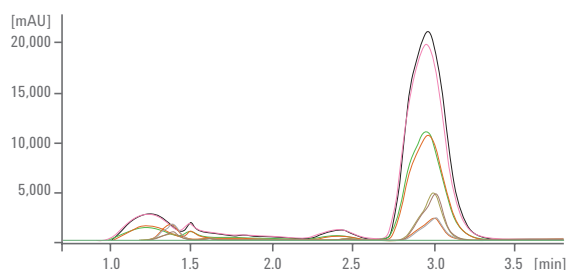
The Agilent 325 Dual Wavelength UV-Visible Detector has the unique capability to detect up to 80 AU on-scale without sacrificing sensitivity for smaller peaks.



The dual path-length flow cell in the Agilent 325 Dual Wavelength UV-Visible Detector maximizes sensitivity for analytical applications while preventing detector overload during preparative runs.

Agilent 325 Dual Wavelength UV-Visible Detector

- Detection in UV and visible light ranges from 190 to 900 nm
- Dual path-length flow cell for dynamic absorbance range 40 times greater than conventional detectors
- Simultaneously handling of two wavelengths for peak-purity assessment



Achieve up to 80 AU with the 4 x 0.15 mm flow cell when moving from analytical to preparative operation, without changing the flow cell, as shown by the dynamic range from 2 to 21 AU for a 5-hydroxytryptophan sample.

HIGHEST SAMPLE LOADING FOR RELIABLE PURIFICATION OF LARGE AMOUNTS AT LOWER COST

Whether you are scaling up a routine analytical method, or maintaining precise separations throughout every phase of production, our wide array of preparative and process columns and bulk media are designed for high loadability in a range of particle sizes and phases.

Semiprep and Prep Columns

- Agilent Prep LC columns are a cost-effective solution for high loadability to purify milligram to gram quantities with C18 and unbonded silica
- Agilent ZORBAX Prep HT columns are for rapid scale-up within the ZORBAX family, with optimized resolution and loadability under any conditions, up to 2,000 mg
- Agilent Pursuit and Pursuit XRs Prep columns offer high loadability with a high surface area, with C18, C8, Diphenyl, and Si, plus fluorinated PFP and PAH polymeric for shape selectivity
- Agilent PLRP-S Prep columns span $\mu\text{g}/\text{mg}$ discovery to multiple-gram cGMP applications with a polymeric material that provides excellent chemical stability, up to 1 M NaOH, for column sanitation and regeneration
- Agilent PL-SAX and PL-SCX Prep columns have strong ion-exchange functionalities covalently linked to a chemically stable polymer for high-capacity purifications, or large biomolecules with high-speed, high-resolution purifications
- Bulk materials are available for most phases and can be ordered through Agilent's Custom Ordering Process: www.agilent.com/chem/customlc



Agilent Prep LC columns provide the highest sample loading (by mass) in the industry – so you can purify more sample in less time.

Load & Lock Columns for Flexibility

- Available as 50 cm length column tubes with 1, 2 or 3 inch id
- Easy-to-use packing station allows you to pack any commercially-available media using dynamic axial compression (DAC) or static axial compression (SAC)
- Unique fluid and sample distribution technology for increased sample loading, minimized peak broadening and reduced back pressure

Proprietary fluid and sample distribution plates at the inlet and outlet of the column diffuse the sample more efficiently across the full bed surface, providing exceptional separation efficiency, and a 20 % increase in load minimizes back pressure and peak broadening.



A complete range of Agilent Load & Lock columns delivers versatile solutions for high performance, high throughput and high yield preparative and process purifications.

PURIFY YOUR WAY WITH PURELY BETTER SOLUTIONS FOR COMPOUND ISOLATION

Agilent offers the most comprehensive portfolio of flexible and reliable solutions for purification by liquid chromatography. No matter what scale you are working at, Agilent has high-performance instrumentation, columns, software and services that ensure highest purity and maximum recovery.

	Analytical		Semi-preparative		Preparative		Pilot
Productivity Range	Micrograms	Milligrams		Grams			
Agilent 1260 Infinity Analytical Scale	0.1–10 mL/min						
Agilent 1260 Infinity Preparative Scale*	1–100 mL/min						
Agilent 218	1–25 mL/min		5–100 mL/min		20–200 mL/min		
Agilent SD-1	1–200 mL/min						500 mL/min
Column Inside Diameter	4.6 mm	½ inch (10 mm)	1 inch (21–25 mm)	(30 mm)	2 inch (50 mm)	3 inch (75 mm)	
Flow Rate (mL/min)	1	4.7	20–25	42	118	265	

 Flow range extensions made possible by exchangeable pump heads

*Optional software available for automated analytical-to-preparative scale-up

Download brochures



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Agilent SD-1 Purification Systems
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