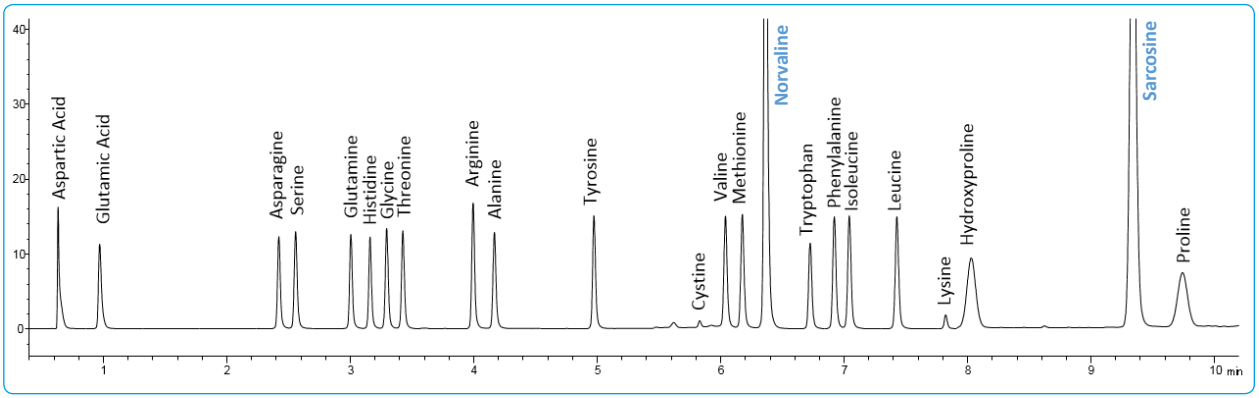
1260 Infinity II

Технические характеристики

NEXT GENERATION OF AMINO ACID ANALYSIS

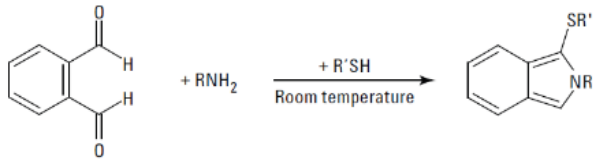
Maximize your LC workflow efficiency

The 1260 Infinity II Amino Acid Analysis Solution combines the advantages of the latest developments in LC instrumentation and column technology with proven precolumn derivatization chemistry. Ready-to-use reagents and standards, combined with the application support from Agilent, makes this solution the perfect tool for the amino acid analysis in the food and pharmaceutical industry.

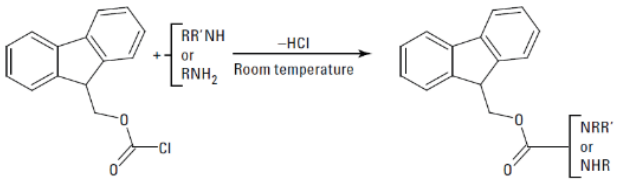


Fast separation of 21 amino acids (90 pmol/µL) and internal standards (norvaline and sacrosine) on the Agilent InfinityLab Poroshell HPH-C18 4.6 x 100 mm, 2.7 µm. Detection with 1260 Infinity II Fluorescence Detector Spectra.

Automated Precolumn Derivatization



Ortho-phthalaldehyde (OPA) for primary amino acids

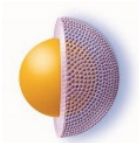


9-fluorenylmethyl chloroformate (FMOC) for secondary amino acids

Automated derivatization in the 1260 Infinity II Vialsampler delivers reproducible reaction results and eliminates tedious manual procedures.

Amino Acid	RT Average [min]	RT RSD [%]	Area RSD [%] (DAD/MWD)	Area RSD [%] (FLD)	Amino Acid	RT Average [min]	RT RSD [%]	Area RSD [%] (DAD/MWD)	Area RSD [%] (FLD)
Aspartic acid	0,63	0,57	0,83	0,28	**Valine**	6,03	0,02	0,35	0,70
Glutamic Acid	0,96	0,88	0,44	0,46	**Methionine**	6,17	0,02	0,21	0,48
Asparagine	2,41	0,22	0,39	0,42	**Norvaline**	6,35	0,02	IS	IS
Serine	2,55	0,17	0,32	0,93	**Tryptophan**	6,71	0,02	0,30	0,92
Glutamine	3,00	0,09	0,56	0,69	**Phenylalanine**	6,91	0,03	0,89	0,39
Histidine	3,15	0,07	1,57	1,56	**Isoleucine**	7,03	0,02	1,05	0,32
Glycine	3,28	0,06	0,44	0,20	**Leucine**	7,42	0,02	0,41	0,35
Threonine	3,42	0,04	0,65	0,74	**Lysine**	7,81	0,02	2,88	2,94
Arginine	3,99	0,02	0,48	0,81	**Hydroxyproline**	8,02	0,01	4,12	1,62
Alanine	4,16	0,03	0,46	0,96	**Sarcosine**	9,32	0,04	IS	IS
Tyrosine	4,96	0,03	0,40	0,60	**Proline**	9,72	0,08	2,67	1,59
Cystine	5,82	0,01	1,14	2,79					

Application performance data for 6 replicates 90 pmol/µL with internal standard calibration.
Detection: 1260 Infinity II Multiple Wavelength Detector, 1260 Infinity II Diode Array Detector WR and 1260 Infinity II Fluorescence Detector Spectra



Unique-chemically modified for high pH stability

Fast and rugged amino acid separation

- The InfinityLab Poroshell 120 columns provide the speed and resolution like a sub-2-micron column with up to 50% less backpressure
- More forgiving for dirty samples, due to 2 µm frits
- Unique chemically modified for high pH stability and column life time
- Guard-column options that reduce your operating costs by extending the life of InfinityLab Poroshell 120 columns

Everyday efficiency with confidence

- Higher speed and higher resolution thanks to the power range up to 600 bar and 5 mL/min
- Injector programming for automated online derivatization
- High-sensitive UV detection based on diode array technology for uncompromised sensitivity for simultaneous multiwavelength detection
- More confidence with optional full spectral detection for identification and peak purity analysis.
- For even higher sensitive and selectivity the 1260 Infinity II Fluorescence Detector delivers limit of detection in the femto-mol range
- Wide flexiblity for other LC or UHPLC applications with 100 % HPLC compatibility

The 1260 Infinity II Amino Acid Analysis Solution (Level 5) comprises the following:

- Complete hardware and software set up including installation and familiarization (Agilent 1260 Infinity II LC and Agilent OpenLab CDS)
- InfinityLab Poroshell HPH-C18, amino acids standards and derivatization reagents (details see ordering list)
- Standard operating procedure (SOP) with detailed descriptions of the analysis
- Method of analysis (USB stick containing sample analysis methods)
- On-site training and support at customer site covering qualitative and quantitative LC analysis

Ordering columns and chemicals:	
695975-702	InfinityLab Poroshell HPH-C18, 4.6x100mm, 2.7um
820750-928	InfinityLab Poroshell Fast Guard for UHPLC, HPH-C18, 4.6 mm, LC guard column, 3/pk
5061-3339	Borate Buffer: 0.4 M in water, pH 10.2, 100 mL
5061-3337	FMOC Reagent, 2.5 mg/mL in ACN, 10 × 1 mL ampoules
5061-3335	OPA Reagent, 10 mg/mL in 0.4M borate buffer and 3-mercaptoproprionic acid, 6 × 1 mL ampoules
5062-2479	Dithiodipropionic Acid (DTDPA) reagent, 5 g
5181-1270	250 µL Inserts with Polymer Feet,100/pk
5182-0716	Vial, screw top, amber with write-on spot, certified, 2 mL, 100/pk
5182-0721	Cap, screw, green, PTFE/white silicone septum, 100/pk
9301-1377	Vial, screw top, clear, certified, flat bottom, 6 mL, for LC, 100/pk
9301-1379	Cap, screw, for 6 mL vials, 100/pk
9301-1378	Septum for 6 mL vials, 100/pk
5061-3330	AA standard, 1 nmol/µL, 10 x 1 mL
5061-3331	AA, standard 250 pmol, 10/PK
5061-3332	AA standard, 100 pmol/µL, 10 x 1 mL
5061-3333	AA standard, 25 pmol/µL, 10 x 1 mL
5061-3334	AA standard, 10 pmol/µL, 10 x 1 mL
5062-2478	Amino acids supplement kit

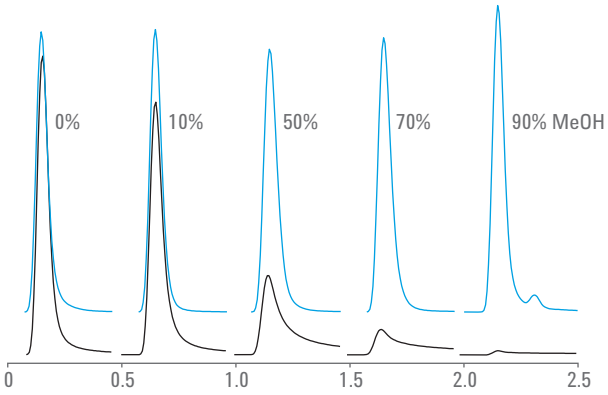
Additonal Chemicals for Mobile Phase and Injection Diluent Components Mfg Sigma:	
Sigma S 7907	Na_2HPO_4, Sodium Phosphate, Dibasic
Sigma S 9640	$Na_2B_4O_7 \cdot 10H_2O$, Sodium Tetraborate Decahydrate
Sigma 79617	H_3PO_4, ortho Phosphoric Acid

INFINITELY BETTER FOR BIO-MOLECULE ANALYSIS

The Agilent 1260 Infinity Bio-inert Quaternary LC sets new standards in performance, reliability and robustness for analysis of bio-molecules. Based on the proven technology of the 1200 Infinity Series liquid chromatography platform, the 1260 Infinity Bio-inert LC handles with ease the challenging solvent conditions commonly used for analysis of proteins and bio-therapeutics as well as minimizing problems associated with these molecules' non-specific tendencies to bind to surfaces.

100 percent bio-inert

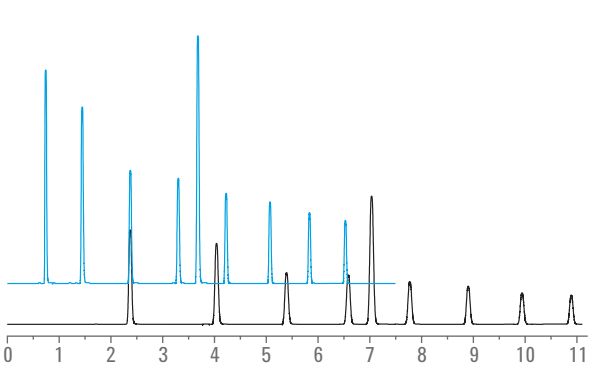
Secondary interactions of proteins and peptides with metallic surfaces can cause peak tailing, low recovery and decrease column lifetime. To minimize these effects the entire flow path of the 1260 Infinity Bio-inert LC is biologically inert. All capillaries and fittings throughout the autosampler, column compartment and detectors are completely metal-free so that the bio-molecules in your sample come in contact only with ceramics or PEEK.



The Agilent 1260 Infinity Bio-inert LC prevents retention of ATP samples, resulting in excellent peak shapes without substantial tailing or area reduction.

True UHPLC performance

Shorter analysis times and better resolution can be achieved by deploying columns with smaller particles. The 1260 Infinity Bio-inert LC handles with ease the resulting higher pressures up to 600 bar, making this system a perfect match for all of your current SEC and IEX columns with particle sizes down to 1.7 µm. The 1260 Infinity Bio-inert LC is the only truly bio-inert LC with UHPLC capability.



The Agilent 1260 Infinity Bio-inert LC gives you true UHPLC performance, increasing chromatographic resolution and sample throughput.

Agilent 1260 Infinity
Bio-inert LC Solution

Robust – even under harshest conditions

Buffers with high salt concentrations such as 2 M NaCl or 8 M urea and extreme pH values of 1-13 are commonly used in the analysis of bio-molecules, posing a significant challenge for LC equipment. The dedicated design of the 1260 Infinity Bio-inert LC handles these harsh solvent conditions with ease. Corrosion-resistant titanium in the solvent delivery system and metal-free materials in the sample flow path create an extremely robust instrument – protecting not only your samples but also your investment.

Flexible and modular for bio-analysis and bio-purification

The modularity of the 1260 Infinity Bio-inert LC gives you a high degree of flexibility.

- Quaternary solvent capability for online buffer mixing from up to four solvents
- Bio-compatible valves for even more options such as solvent selection or column switching – making method development an easy task
- Bio-inert flow cells for your choice of detector
- Flow rates up to 10 mL/min in gradient operation and bio-inert fraction collection for automated bio-purification and semi-prep work with larger column dimensions
- Mix-and-match compatibility with existing Agilent systems for full flexibility to meet future requirements

MORE CONFIDENCE IN BIO-MOLECULE ANALYSIS

More resolution per time

The 1260 Infinity Bio-inert Quaternary Pump provides true UHPLC performance up to 600 bar, allowing you to run any current bio-molecule application at high or low pressures. All solvent lines are titanium, making them completely corrosion resistant. Quaternary solvent mixing with integrated degassing and seal washing gives you superior functionality, robustness and performance.

1260 Infinity Bio-inert Quaternary Pump.

More confidence in sample handling

The 1260 Infinity Bio-inert Autosampler handles vials and microtiter plates and enables you to inject volumes from 0.1 µL to 100 µL – extendable to 1.5 mL. The ceramic needle, PEEK needle seat and wash, and stainless-steel-clad PEEK capillaries ensure highest injection accuracy and precision with minimum carryover. To protect labile compounds from degradation during analysis or storage, the autosampler is cold-room compatible or you can add a cooling module. The 1260 Infinity Bio-inert Manual Injector is available for single injections or larger injection volumes.

1260 Infinity Bio-inert Autosampler.

More flexibility to optimize your chromatography

Proteins are sensitive molecules that require stable temperatures during analysis. Bio-inert heating elements in the 1290 Infinity Thermostatted Column Compartment pre-heat the solvent before it reaches the column. Parallel workflows in bio-chromatography can help increase sample throughput. The column compartment houses either four short columns or two columns up to 30 cm in length. Agilent Quick-Change valves are available for more complex workflows such as column switching, column screening or method development.

1290 Infinity Column Compartment
with bio-inert solvent heating elements.

More sensitivity – wider dynamic range

To address the requirements of protein research applications or assays to assess the integrity of bio-therapeutic compounds, Agilent offers a variety of detection options.
Bio-inert flow cells are available for our multiple wavelength and diode array UV-absorbance detectors, as well as for our viscometer and special detection techniques such as fluorescence, and static and dynamic light scattering.

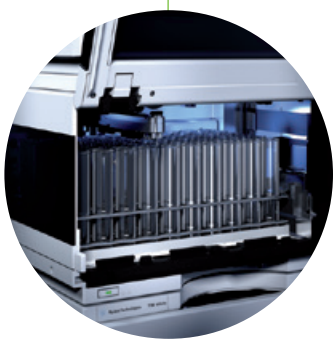
1260 Infinity Diode Array Detector
with bio-inert flow cell.

1260 Infinity Bio-inert Multi-detector Suite.

More advanced detection capabilities

The 1260 Infinity Bio-inert Multi-detector Suite offers advanced light scattering detection options, significantly increasing the performance of biomolecule analysis. Using both static and dynamic light scattering, critical information about size variation and molar mass as well as sensitive aggregation detection are provided. This makes this detector an indispensable tool for determination of protein purity and stability.

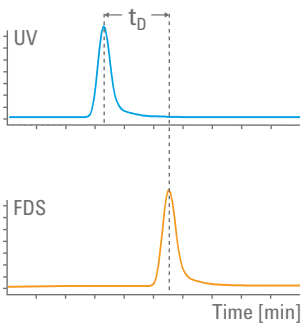
1260 Infinity Bio-inert Fraction Collector.

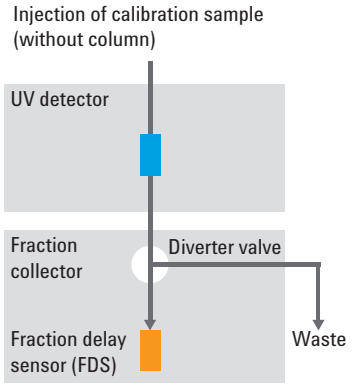


Extend your system with the 1260 Infinity Bio-inert Fraction Collector for protein purification or enrichment.

More flexibility in fraction collection

When you need to investigate separated compounds further, the 1260 Infinity Bio-inert Fraction Collector is the ideal extension to your 1260 Infinity Bio-inert LC system and does not require extra bench space. Automated peak-triggered fraction collection facilitates superior recovery and purity. With flow rates up to 10 mL/min possible, you can use columns with larger inside diameters. Like the autosampler, a cooling module is available to prevent degradation of thermally-labile bio-molecules.





MULTIPLY YOUR CAPABILITIES WITH BIO-INERT VALVES

Sample enrichment

In protein analysis sometimes only small amounts of sample are available. Enrichment of the analyte prior to separation is often required to achieve highest sensitivity. A 2-position/6-port valve can be used to automate sample enrichment. While the matrix is flushed to waste, the analytes are retained and enriched on a precolumn. A second pump then flushes the analytes out of the precolumn and onto the separation column.

2-position/6-port valve

Sample cleanup

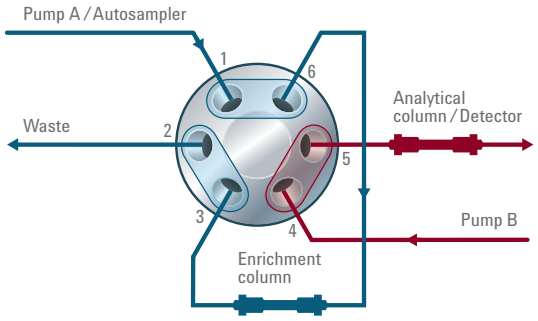
Sample cleanup is essential for samples with complex matrices, such as biological fluids, food extracts or wastewater. Before injection into an LC or LC/MS system, the analytes of interest must be separated from the sample matrix. Stripping methods for sample cleanup deal with analytes and matrices in the opposite way to enrichment methods – while the matrix is retained on a precolumn, the analytes are flushed through to the separation column.

2-position/6-port valve

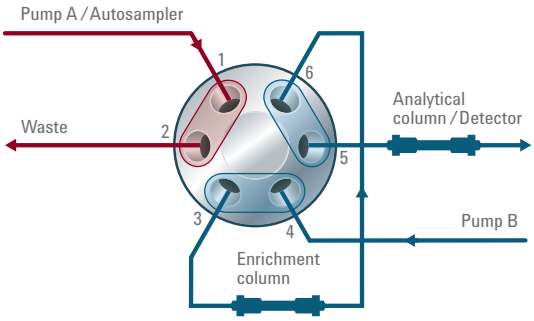
Automated column regeneration

Optimizing analysis times through automated column regeneration can increase sample throughput significantly – up to two-fold! Two identical columns are connected through a 2-position/10-port valve – while an analysis is running on one column, the second column is flushed and equilibrated by an additional regeneration pump.

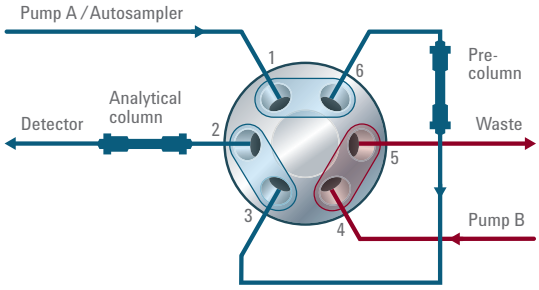
2-position/10-port valve



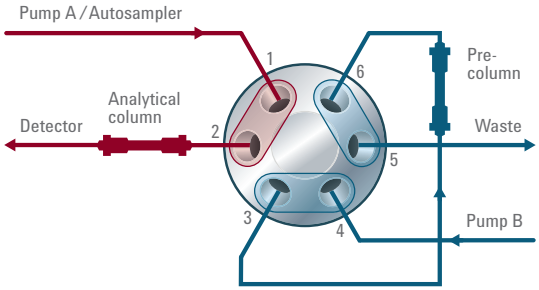
The analyte is retained and concentrated on an enrichment column while the sample matrix flows to waste.



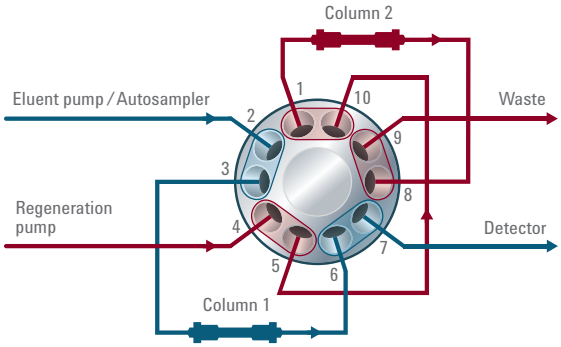
For analysis, the concentrated sample is flushed out of the enrichment column to the analytical column.



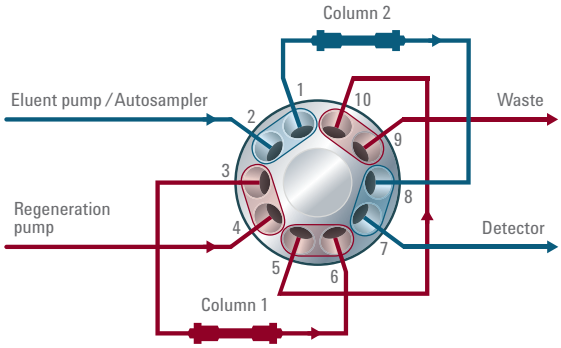
Matrix components are retained on a precolumn while the analytes pass through to the analytical column for separation.



After sample cleanup or matrix stripping, the precolumn is flushed in reversed flow direction by the second pump.



While the analysis is running on column 1, column 2 is regenerated using the flow from a second pump.



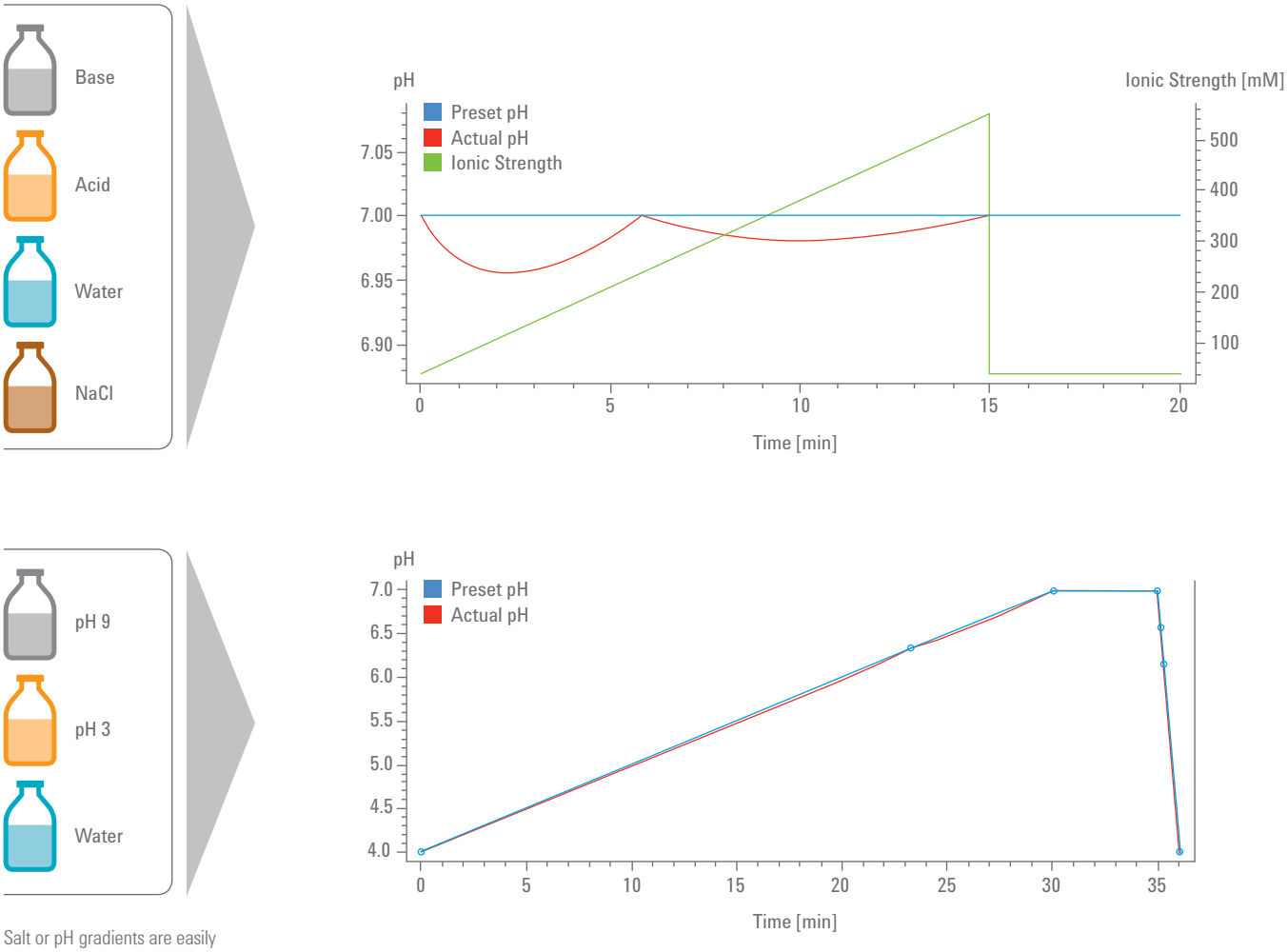
After the analysis on column 1, the flow switches to column 2 for analysis while column 1 is regenerated.

SIMPLIFY YOUR BIO-ANALYSIS WORKFLOW

Straightforward buffer blending and pH scouting

Agilent Buffer Advisor software eliminates the tedious and error-prone method-development steps of buffer preparation, buffer blending and pH scouting by providing a fast and simple way to create salt and pH gradients. Utilizing the mixing principle of the 1260 Infinity Bio-inert Quaternary Pump, the Buffer Advisor software facilitates dynamic mixing of solvents from only four stock solutions, simplifying your bio-analysis workflow and significantly reducing the time required for buffer preparation.

First, theoretical modeling helps you to find the best salt or pH conditions for your protein separation. The optimized gradient conditions are saved in an XML-format file for later import in Agilent OpenLAB CDS. This file sets the solvent blending in the timetable of the 1260 Infinity Bio-inert Quaternary Pump. Four stock solutions are all you need to prepare; acidic buffer, basic buffer, water, salt. To create a salt gradient, an increasing amount of salt solution from channel D is mixed with the acidic and basic buffer components from channels A and B, and with water for dilution from channel C.



Salt or pH gradients are easily created from stock solutions.

Give your bio-analysis workflow a performance boost!

Step 1: Select anion or cation exchange, and the buffer system according to the pKa.

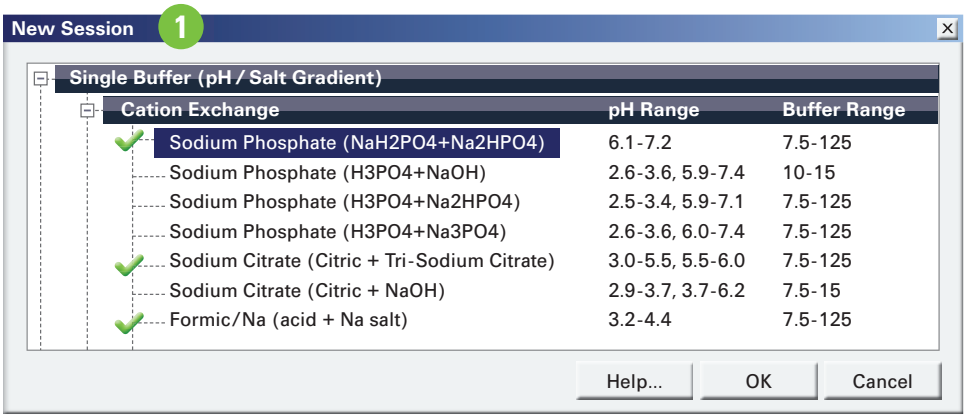
Step 2: Enter desired starting conditions for gradient table.

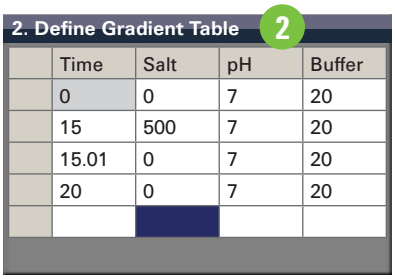
Step 3: Take recommended concentrations for stock solutions or enter own values.

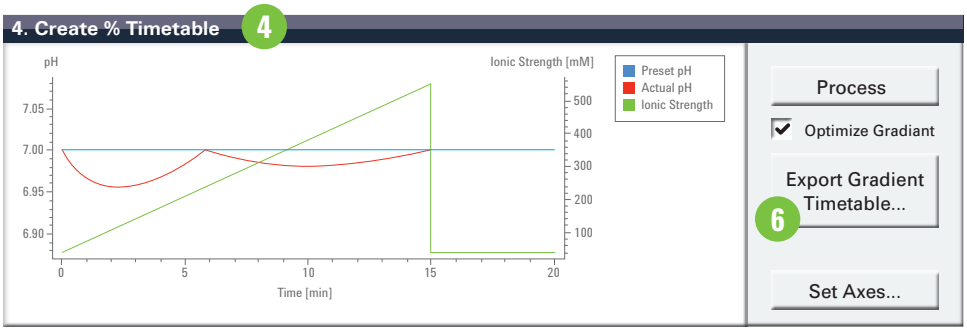
Step 4: Process data with optimized conditions and review resulting gradient pump time table.

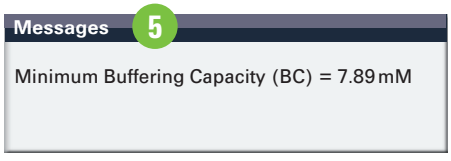
Step 5: Messages give you hints on how to optimize conditions.

Step 6: Save optimized gradient table for later import in bio-inert pump driver software or copy optimized timetable for later use.









A COMPLETE SOLUTION FOR NBE ANALYSIS

Superior resolution and higher productivity for charge variants and deamidation

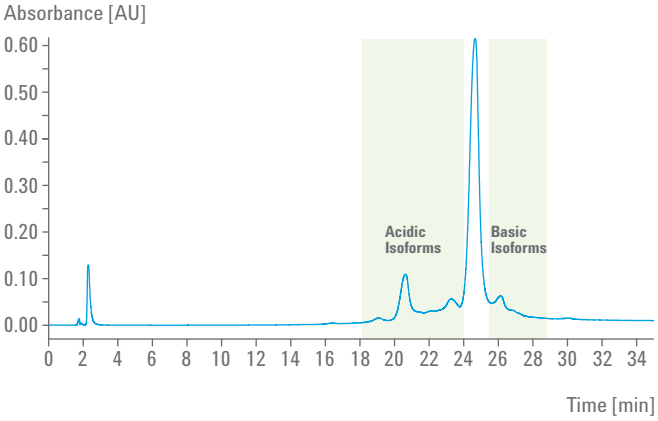
An essential part of monoclonal antibody characterization is the identification of acidic and basic isoforms. The unique design of Agilent Bio MAb non-porous PS/DVB particles – with a stable and uniform weak cation exchange layer – provides charged-based separations with increasing efficiency and recovery.

- Agilent Bio MAb HPLC Columns for high-resolution monoclonal antibody charge isoform separations.
- Agilent Bio IEX HPLC Columns for charged-based analytical separations of proteins and peptides – these columns come with strong and weak anion and cation functionalities for analysis of cationic and anionic bio-molecules.

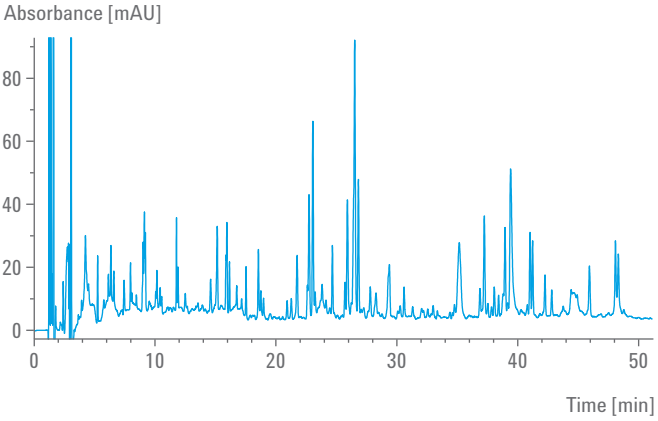
Accelerate your peptide mapping without losing resolution

Conventional peptide mapping with fully porous HPLC columns can take 60 minutes or longer to complete. Agilent AdvanceBio Peptide Mapping columns let you quickly resolve and identify amino acid modifications in primary structure.

These advanced superficially porous columns feature a 120 Å pore size with 2.7 µm particles and are designed to deliver highest resolution and shortest analysis times. Peak capacities of over 300 can be achieved, making these columns ideal for separating large numbers of compounds within short periods of time – without losing resolution.



High resolution separation of acidic and basic charge variants using the Agilent Bio Mab NP10 column.



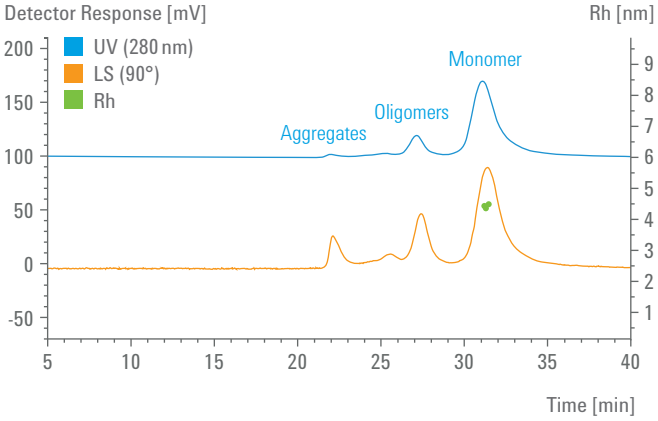
Chromatogram of an IgG1 digest separation on an Agilent 1260 Infinity Bio-inert LC using an Agilent Poroshell 120 SB-C18 4.6 × 150 mm, 2.7 µm column (p/n 683975-902).

Advanced bio-SEC analysis made reproducible

Aggregation and size variation of monomers change the biological activity and efficacy of a drug or cause undesirable side effects. The performance of size-exclusion chromatography (SEC) in the determination of these factors is significantly increased with the addition of advanced light-scattering (LS) detection.

- Static LS determines accurate molar masses, independent of column calibrations and is highly sensitive to aggregation.
- Dynamic LS complements by determining molecular size in solution.

The industry-leading, low dead-volume of the Agilent 1260 Infinity Multi-Detector Bio-SEC Solution attains this advanced information without sacrificing chromatographic performance. Unlocking the potential of light scattering is made easy through this complete, easy-to-use optimized solution.



High performance aggregation analysis of a monoclonal antibody using an Agilent Bio SEC-3 300Å, 7.8 x 300 mm, 3 µm column (p/n 5190-2511). Increased sensitivity of the aggregates was obtained from the 1260 Infinity Bio-inert Multi-Detector Suite with static and dynamic light scattering, and UV detection. These advanced detectors provide accurate molar mass and size determination.

New capillary and fitting technology for robust and secure operation – day in, day out

With the 1260 Infinity Bio-inert LC, Agilent introduces new capillary and fitting technology that facilitates the unique combination of metal-free bio-inertness and high pressure operation. Three different types of capillaries are deployed:

- Highly corrosion resistant titanium capillaries for the solvent delivery lines
- Metal-clad PEEK capillaries in the autosampler and column compartment
- PEEK capillaries in the low pressure parts of the system downstream of the separation column

The metal-clad PEEK capillaries feature a unique connection system for complete bio-inertness at every connection. The mechanically interlocked PEEK tip is highly resistant to lateral or rotational tension, eliminating torque at the capillary while tightening the fitting.

Application Specific HPLC Systems

1260 Infinity II Bio-SEC Multi-Detector System RUO

The 1260 Infinity Multi-Detector Bio-SEC System is completely metal-free and comprises light scattering and dynamic light scattering to allow determination of protein shape and size without the need for SEC column calibration. Size exclusion chromatography (SEC) is the standard method to determine and quantitate monomers, dimers, aggregates, and potential degradants and is a common requirement for regulatory approval. The detector has a simple low dead volume interface to the 1260 Infinity II Bio-inert LC.

For Research Use Only. Not for use in diagnostic procedures.

Features

- Light scattering detection provides reproducible and accurate molecular weight information independent of a column calibration created using narrow distribution polymer standards
- Possible to identify and characterize oligomers, and at the same time view information regarding aggregation and folding effects
- Market-leading, low-dead-volume, light scattering detection minimizes any peak band broadening to ensure absolute molecular weights
- Same flow cell used to also perform dynamic light scattering measurements (e.g., details regarding size in solution, known as hydrodynamic radius (or Rh))
- Precise detail possible because globular proteins are assymetric scatterers

Application Specific HPLC Systems

1260 Infinity II Prime Bio LC System

The 1260 Infinity II Prime Bio LC System is a versatile HPLC for bioseparations and offers outstanding functionality and operational convenience for bioanalytical HPLC and entry-level quaternary bio UHPLC at pressures up to 800 bar and flow rates up to 5 mL/min.

The 1260 Infinity II Prime Bio LC System, consisting of biocompatible material for use in biopharma (e.g., critical quality attributes) and other applications utilizing high-salt and extreme-pH conditions, ensures the integrity of your biomolecules and robustness of the system.

Features

- Biocompatible solvent and sample flow path ensure integrity of biomolecules and minimize unwanted surface interaction
- High salt tolerance and wide pH range offer enhanced flexibility and robustness for increased instrument uptime
- Power range combines high pressure up to 800 bar and high analytical flow rates up to 5 mL/min for maximum UHPLC performance
- Based on the proven 1290 Infinity II technology for easy method transfer, also from legacy instrumentation, and reduced training effort
- Shallow microplate drawers take a maximum load of 6,144 samples for unmatched sample capacity
- Agilent Buffer Advisor Software provides a fast and simple way to create salt and pH gradients, eliminating the tedious and error-prone method development steps of buffer preparation, buffer blending, and pH scouting
- Different bio accessories include a range of bio heat exchangers, bio capillary kits, bio loops, and analytical heads to cover all the different application needs for instrument versatility and efficiency
- A wide range of sensitive optical detection capabilities with various flow cells for VWD, DAD, FLD, Bio MDS, or LC/MS detection for exceptional adaptability

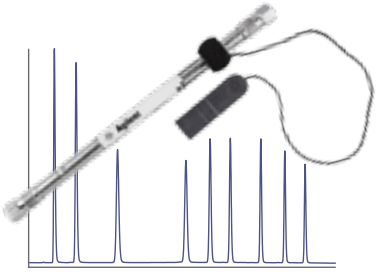
Specifications

Biocompatible	Yes	
Column Capacity	4	
Column ID Reader Option	Optional	
Depth	468 mm	
Flow Range	up to 5 mL/min	
Injection Range	0.1-100 µL	0.1 to 1500 µL with Multi Draw Kit
Intelligent System Emulation Technology	Optional	
Line Voltage	100-240 VAC	
Maximum Number of Solvents	4	Internal 4-solvent gradient formation valve included.
Maximum Number of Temperature Zones	2	
Pump Type	Flexible	
Special Features	Blend Assist	Buffer Advisor Software
System Pressure Operating Range	up to 800 bar	
System Type	Bio-Analytical Gradient	
Width	435 mm	

AGILENT 1260 INFINITY II PRIME LC

ACHIEVE CONVENIENCE AND EFFICIENCY – EVERY DAY IN EVERY WAY

The Agilent 1260 Infinity II Prime LC is the most capable and convenient LC within the 1260 Infinity II LC portfolio. Equipped with superior Agilent 1290 Infinity II technology it offers the highest ease-of-use and functionality for everyday analysis.



EVERYDAY ANALYTICAL EFFICIENCY

Low delay volume, extended pressure range up to 800 bar, and superior quaternary mixing with perfectly matching columns take you one step further in your everyday work enabling higher precision and accuracy.

EVERYDAY INSTRUMENT EFFICIENCY

Access and control your instrument from any location. Automated instrument features combined with easy column handling and superior sample logistics, let you achieve a new level of confidence in your daily work.

ISET

EVERYDAY LABORATORY EFFICIENCY

Intelligent System Emulation Technology (ISET) ensures seamless method transfer from any other LC system. One system configuration can replace many old instruments, while offering a standardized, future-proof platform.

AGILENT INFINITYLAB –

A PERFECT **MATCH**

The Agilent InfinityLab family of instruments, columns, and supplies are matched to work seamlessly together, alongside Agilent OpenLAB software and Agilent CrossLab services, to provide highest efficiency in your laboratory workflows. Agilent InfinityLab columns and supplies provide the links to the Agilent InfinityLab LC Series to optimize performance for the highest efficiency and laboratory safety.

TECHNOLOGY

EXPERIENCE THE HIGHEST CONVENIENCE AND ACCURACY IN YOUR EVERYDAY ANALYSIS

The Agilent 1260 Infinity II Prime LC offers you latest instrumentation, columns, and supplies allowing you to achieve the highest separation performance for the utmost confidence in your results. Instrument automation capabilities reduce the need for manual interaction giving you a new level of convenience in your everyday work.

SUPERIOR PRECISION AND ACCURACY

The 1260 Infinity II Flexible Pump delivers ultimate performance for flow rates up to 5 mL/min within a pressure range of up to 800 bar. It also facilitates seamless method transfer and automated buffer blending.

ISET

BLEND ASSIST

AUTOMATED SOLVENT PURGING AND MORE

The built-in InfinityLab Multipurpose valve enables automatic software-embedded functionalities such as switching the optional mixer in and out or automatic purging.

SIMPLIFIED ROUTINE PROCEDURES

Agilent's InfinityLab Anti-Drain fitting provides easy control of solvent drainage, allowing you to perform routine maintenance procedures without spilling solvent or introducing unwanted air into the system.

GAIN CONFIDENCE IN YOUR SEPARATIONS

InfinityLab Poroshell 120 columns provide exceptional separation efficiency and reliability, while preprogrammed InfinityLab column ID tags provide detailed column and use information for enhanced traceability. What's more easy-to-use InfinityLab Quick Connect fittings ensure a leak free connection, from every user, every time.

HIGH SAMPLE CAPACITY

The 1260 Infinity II Multisampler is designed to handle both, vials and microtiter plates with ease, possessing the capacity to house up to 6,144 samples.

HANDLE SOLVENTS WITH EASE

Simplify mobile phase handling with ergonomic, easy-grip solvent bottles and impede solvent vapors from escaping into the air with InfinityLab Stay Safe caps.

TOTAL CONTROL OF YOUR LC

The Agilent InfinityLab LC Companion facilitates complete control of your LC system and is accessible on a local device, remote, or via mobile.

PERFORM ANY APPLICATION

Benefit from a broad range of detection options, including UV-visible, fluorescence, refractive index, evaporative light scattering, or mass selective detection with the new Agilent Ultivo Triple Quadrupole LC/MS or LC/MSD.

EFFICIENT COLUMN HANDLING AND SWITCHING

The 1260 Infinity II Multicolumn Thermostat holds up to four 30 cm columns and an optional InfinityLab Quick Change switching valve enables direct access to each column.

ADAPT YOUR SYSTEM TO SUIT THE WAY YOU WORK

The InfinityLab Benchtop allows you to easily configure your instrument to suit the way you work, for maximum productivity.

SOFTWARE

MAKE YOUR LAB MORE PRODUCTIVE WITH DEDICATED SOFTWARE

Agilent offers software and informatics solutions to obtain all the benefits of the 1260 Infinity II Prime LC. What's more? Seamless method transfer and stepwise upgrade paths facilitate risk-free integration in your laboratory's current infrastructure – for nondisruptive transition to highest performance within the confines of your budget.

Efficient control, acquisition, and reporting

Agilent OpenLAB CDS software gives you the most comprehensive and fully traceable management of your 1260 Infinity II Prime LC system, including instrument control, result generation, data management, and advanced reporting. For more demanding LC/MS applications, Agilent MassHunter software gives you combined control of your Agilent LC and Triple Quadrupole or Quadrupole Time-of-Flight LC/MS, as well as powerful tools for comprehensive data analysis.

Peak Explorer helps you uncover and resolve problems faster. Find anomalies at a glance – even among hundreds of chromatograms and peaks.

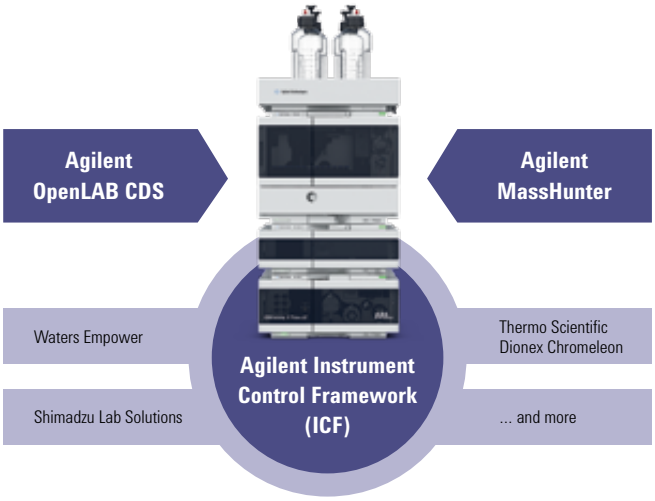
Automated buffer blending

Use the Agilent BlendAssist software to vary buffer or additive concentrations accurately during method development or in automated method changes in unattended consecutive sample runs.

BLEND ASSIST

Full instrument control

With a strong commitment to open systems, Agilent offers Instrument Control Framework (ICF), a free-of-charge software component that makes it faster and easier for third-party providers to enable and control Agilent LCs through their CDS or workstations. Integrate the 1260 Infinity II Prime LC in your current CDS, seamlessly and with access to most of the advanced capabilities and features.



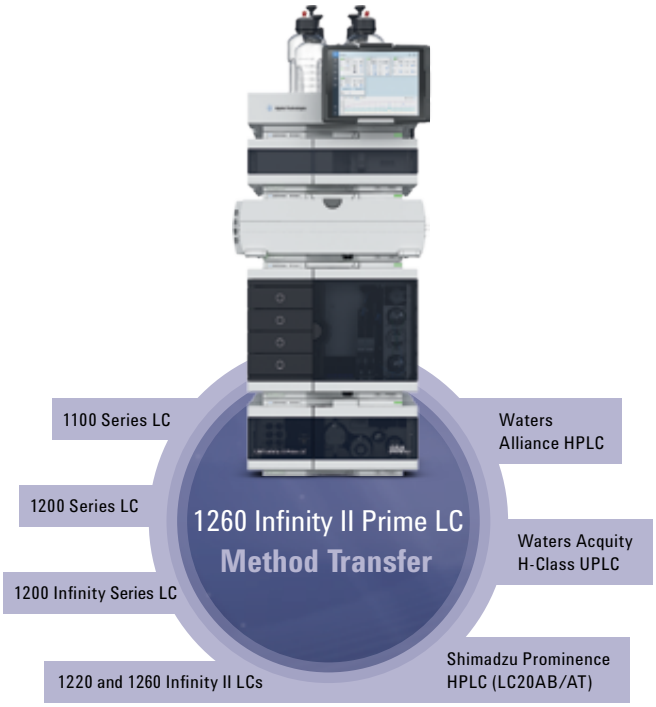
The 1260 Infinity II Prime LC runs best when controlled through OpenLAB CDS or MassHunter software. Agilent ICF technology gives third-party CDS providers an easy route to support the 1260 Infinity II Prime LC.

Seamless method transfer

Previously only available with the Agilent 1290 Infinity II LC the 1260 Infinity II Prime LC incorporates Intelligent System Emulation Technology (ISET). With ISET, you can execute any legacy HPLC or latest UHPLC method while delivering the same chromatographic results, all through a few mouse clicks. ISET eliminates deviations in resolution and retention times when your laboratory deploys methods developed originally on other HPLC or UHPLC systems.

Achieve higher productivity for method development

Speed up your method development with UHPLC performance and then fine-tune your method by emulating the target system.



With Agilent's Intelligent System Emulation Technology, you can run legacy methods while taking full advantage of the UHPLC speed, resolution, and sensitivity of the 1260 Infinity II Prime LC.

Agilent 1260 Infinity GPC/SEC System

Precise and reproducible polymer characterization

Data Sheet

Introduction

Gel permeation chromatography (GPC), also referred to as size exclusion chromatography (SEC), is the technique of choice to characterize polymers. Molecular weight averages and molecular weight distributions are calculated based on the polymer elution behavior. The Agilent 1260 Infinity GPC/SEC System offers excellent retention time precision for reproducible, precise molecular weights.

The 1260 Infinity GPC/SEC System is designed for cost-effective, routine polymer characterization with refractive index, UV-visible or evaporative light scattering detectors. It is based on the reliable Agilent 1200 Infinity Series LC modules. Instrument control, data acquisition and analysis can be performed with the easy-to-use Agilent GPC/SEC software.

New level of molecular weight data precision

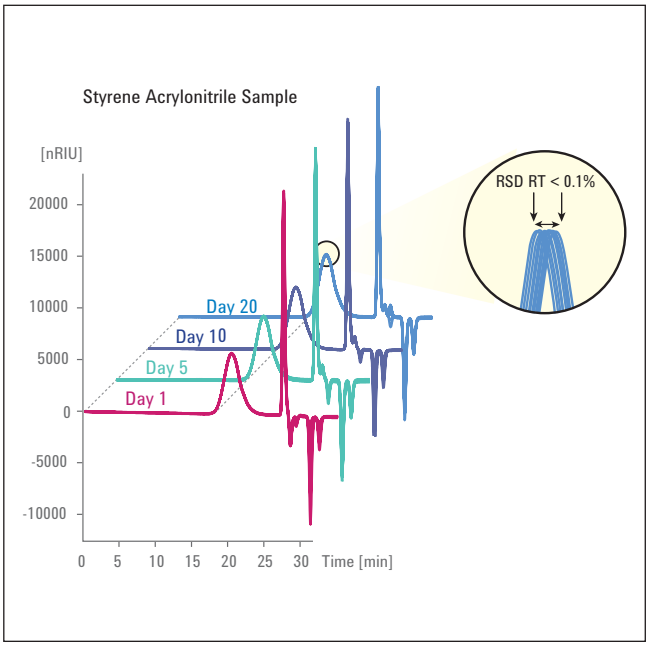
The excellent flow precision of the Agilent 1260 Infinity Series pump and the superior column thermostat stability from 10 degrees below ambient to 80 °C ensure retention time precision below 0.1% RSD. Moreover, intraday and interday repeatability is outstanding.

Extreme robustness

For any modern laboratory, a dependable and reliable system is essential to ensure high sample throughput and lab efficiency. The Agilent 1260 Infinity LC has a proven robust design for long instrument uptime. Reduced operating and maintenance costs mean a low total cost of ownership. And because it's from Agilent, you get everything you expect from a chromatography leader with over 35 years of innovative contributions to GPC/SEC technology.

Excellent performance

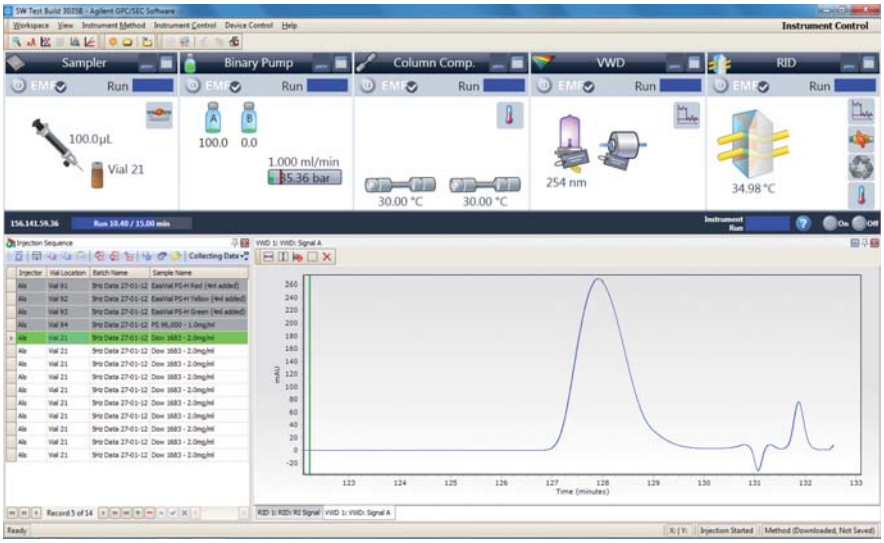
The Agilent 1260 Infinity LC modules provide fast and sensitive detection of your polymer analyte. The Agilent 1260 Infinity Refractive Index Detector (RID) is the perfect partner for GPC/SEC. It combines exceptional baseline stability with a built-in solvent recycle valve for reduced waste. The Agilent 1260 Infinity Standard Autosampler provides reliable injections from 0.1 µL to 100 µL. The system is easily adaptable to increase injection volumes up to 1500 µL for semi-preparative GPC/SEC.



This overlay of 10 consecutive runs per day over 20 days shows the remarkable daily and day-to-day precision of retention times. The average RSD for retention times is 0.035%.

Agilent GPC/SEC software

The 1260 Infinity GPC/SEC System is fully controlled with the new Agilent GPC/SEC software – a dedicated solution software package, capable of controlling all of the 1200 Infinity Series LC modules – with a simple and intuitive interface.

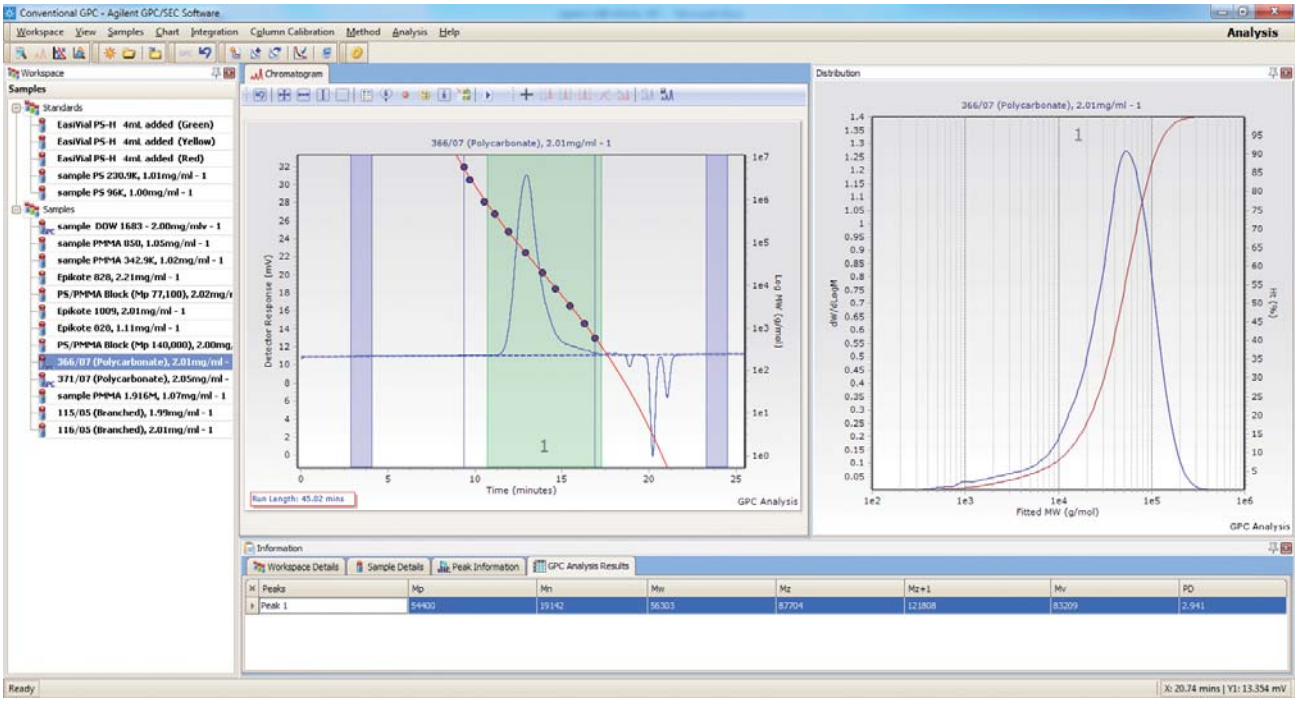


The Agilent GPC/SEC software has exactly the same look-and-feel as the Agilent OpenLAB CDS ChemStation Edition software for HPLC. That means it's easy for you to move from one system to another when you deploy both techniques in your laboratory.

Versatile and flexible

The graphical interface can be customized to suit any user, from a simple uncluttered display to a complete, accessible view of all of the available information. This makes the software easy to use for both beginners as well as experts.

With quick system set up and control, easy data collection and intuitive analysis, Agilent's GPC/SEC software simplifies and facilitates the workflow.



Raw data chromatogram and molecular weight distribution from analysis of a polycarbonate sample .

System details

A complete Agilent 1260 Infinity GPC/SEC System includes:

- Agilent 1260 Infinity Degasser reduces baseline noise due to high degassing capacity.
- Agilent1260 Infinity Isocratic Pump for flow precision < 0.1% RSD
- Agilent 1260 Infinity Autosampler with single valve design
- Agilent 1260 Infinity Thermostatted Column Compartment for temperatures from 10 degrees below ambient up to 80 °C and temperature precision of ± 0.15 °C; for up to three full-length, 30 cm columns.
- Agilent 1260 Infinity Refractive Index Detector with an automatic recycle valve
- Agilent GPC/SEC software for fast and easy control and analysis
- A variety of GPC/SEC columns for organic and aqueous eluents are available, with a complementary range of standards
- A variety of 1200 Infinity detectors available to suit application
- Reference primers and application compendiums
- Upgradable to advanced GPC using the Agilent 1260 Infinity GPC/SEC Multi-Detector Suite

Specifications

Agilent 1260 Infinity Standard Degasser	
Maximum flow rate	10 mL/min per channel
Number of channels	4
Internal volume	12 mL/channel
Agilent 1260 Infinity Isocratic Pump	
Flow precision	≤ 0.07 % RSD or ≤ 0.02 min SD, whatever is greater; based on retention time at constant room temperature
Flow accuracy	± 1 % or 10 µL/min whatever is greater, pumping degassed H_2O at 10 MPa (100 bar)
Pressure operating range	Operating range up to 60 MPa (600 bar, 8700 psi) up to 5 mL/min
	Operating range up to 20 MPa (200 bar, 2950 psi) up to 10 mL/min
Pressure pulsation	< 2 % amplitude (typically < 1.3 %) or < 0.3 MPa (3 bar), whatever is greater, at 1 mL/min isopropanol, at all pressures > 1 MPa (10 bar, 147 psi)
Agilent 1260 Infinity Standard Autosampler Valid with standard 100 µL metering head installed	
Injection range	0.1 - 100 µL in 0.1-µL increments Up to 1500 µL with multiple draw (hardware modification required)
Precision	< 0.25 % RSD from 5 - 100 µL, < 1 % from 1 - 5 µL, variable volume
Sample viscosity range	0.2 - 5 cp
Sample capacity	100 x 2-mL vials in 1 tray 40 x 2-mL vials in 1/2 tray 15 x 6-mL vials in 1/2 tray (Agilent vials only)
Injection cycle time	Typically 50 s depending on draw speed and injection volume
Carryover	Typically < 0.1 %, < 0.05 % with external needle cleaning
Pressure operating range	Up to 600 bar (60 MPa or 8702 psi)
Agilent 1260 Infinity Thermostatted Column Compartment	
Temperature range	10 degrees below ambient to 80 °C
Temperature stability	± 0.15 °C
Temperature accuracy	± 0.8 °C with calibration ± 0.5 °C
Column capacity	Three 30 cm columns
Heat-up/cool-down time	5 min from ambient to 40 °C 10 min from 40 °C to 20 °C
Internal volume	3 µL left heat exchanger 6 µL right heat exchanger
GLP	Column identification module for GLP documentation of column type

Agilent 1260 Infinity Refractive Index Detector	
Detection type	Deflection method
Short-term noise	± 2.5 x 10^{-9} RIU
Drift	< 200 x 10^{-9} RIU/h
Refractive index range	1.00 - 1.75, calibrated
Flow cell	8 µL, 5 bar pressure maximum
Temperature control	Ambient +5 °C to 55 °C
pH range	2.3 - 9.5
Time programmable	Polarity, peak width
Zero adjustment	Automatic zero
Valves	Automatic purge and automatic solvent recycle
Data rate	Up to 37 Hz
Analog output	Recorder/integrator: 100 mV or 1 V, with offset adjustment, RIU range selectable
Communications	Local Area Network (LAN), Control Area Network (CAN), RS-232, APG remote, remote ready, start and shutdown signals
Safety and maintenance	Extensive diagnostics, error detection and display leak detection, safe leak handling, leak output signal for shutdown of pumping system, low voltage in major maintenance areas
GLP	Early maintenance feedback (EMF) for continuous tracking of instrument usage with user-settable limits (purge interval) and feedback messages. Electronic records of maintenance and errors, automated OQ/PV procedures

Ordering Information

Part Number	Description
G1310B	1260 Infinity Isocratic Pump
G1322A	1260 Infinity Standard Degasser
G1362A	1260 Infinity Refractive Index Detector
G1314F	1260 Infinity Variable Wavelength Detector
G1316A	1260 Infinity Thermostatted Column Compartment
G1328C	1260 Infinity Manual Injector
G1329B	1260 Infinity Standard Autosampler
G7850AA	Agilent GPC/SEC Software
G7854AA	Agilent GPC/SEC Instrument Control

Application Specific HPLC Systems

1260 Infinity II High-Temperature GPC System

The 1260 Infinity II High-Temperature GPC System can provide information about all of today's engineering polymers such as polyolefins, which are one of the most popular polymers with numerous applications. This level of detail helps with development and to predict how a given batch will process and perform in the final product.

Traditionally challenging materials such as polyethylene and polyamides can be analyzed routinely regardless of detection technique. High-temperature light scattering, viscometry, and concentration detectors (RID and HTELSD) all deliver a wealth of information, whatever your polymer of interest.

Features

- Characterize polyolefins and other polymers that require high temperatures for dissolution up to as high as 220 °C
- Complete sample solubility - no precipitation and all sample-carrying components are carefully thermostatted at the selected operating temperature
- Agilent PL-SP 260VS Sample Preparation System provides effective filtration (using glass-fiber or stainless-steel membranes), which can be used to remove any insoluble gels, which may block the GPC column. Samples are dispensed through a uniquely designed pipettor to minimize sample handling

Application Specific HPLC Systems

1260 Infinity II Method Development System

The 1260 Infinity II Method Development System provides robust and reliable technology for everyday automated HPLC method development challenges. An increased performance and flexibility are provided by the 1260 Infinity II Prime LC instrumentation. Make use of this method development instrument to screen more than 100 different sets of LC separation conditions without the need for manual interaction. Automatically access 15 different mobile phases and 4 columns with 2 independent temperature zones.

With the 1260 Infinity II Flexible pump, the use of intelligent system emulation technology (ISET) is enabled and allows emulation of other selected LC systems for straightforward and seamless transfer of your optimized methods.

1260 Infinity II Method Development System

Features

- Well-balanced performance for method development challenges - reliable instrument technology and pressure up to 800 bar using the 1260 Infinity II Flexible Pump
- Automated switching between up to 4 different columns and typically 15 mobile phases to determine the optimal combination between selectivity, resolution, and speed
- Increased performance and flexibility with the 1260 Infinity II Prime LC - pressure up to 800 bar and on-the-fly target system emulation with intelligent system emulation technology (ISET)
- Get a complete one-vendor solution by combining it with the Agilent Method Scouting Wizard for automated and time-saving set-up of screening campaigns - find optimum separation conditions even faster
- Fully compatible with ChromSwordAuto (ChromSword) and Fusion QbD (S-Matrix) for advanced QbD workflows (third-party software)

Specifications

Biocompatible	No		
Bioinert	Optional		
Column Capacity	4		
Column ID Reader Option	Yes		
Depth	468 mm		
Flow Range	up to 5 mL/min with G7104C, G7112B	0.2 to 10 mL/min with G7110B, G7111A, G7111B	
Injection Range	0.1-100 µL	0.1 to 1500 µL with Multi Draw Kit	
Intelligent System Emulation Technology	No		
Line Voltage	100-240 VAC		
Maximum Number of Solvents	up to 15 with external solvent selection valve (recommended)		
Maximum Number of Temperature Zones	2		
Pump Type	Binary	Quaternary	Flexible
Special Features	Blend Assist with G7104C		
System Pressure Operating Range	up to 800 bar		
Width	435 mm		

Agilent 1260 Infinity Multi-Detector GPC/SEC System

Accurate, information-rich polymer characterization

Data Sheet

Introduction

Gel permeation chromatography (GPC), also referred to as size exclusion chromatography (SEC), is the technique of choice to characterize polymers. In conventional GPC/SEC, average molecular weights are calculated relative to the standards used to calibrate the column set. The Agilent 1260 Infinity Multi-Detector GPC/SEC System is a high-end multiple detector platform, which provides not only accurate molecular weight data independent of the chemistry of the standards, but also gives insight into the behavior of the polymer in solution.

High performance GPC/SEC as standard

The system is based on the reliable Agilent 1260 Infinity LC modules, enhanced with the 1260 Infinity GPC/SEC Multi-Detector Suite. This addition allows any combination of up to three detector modules, in series, making this the premium solution for GPC.

1260 Infinity MDS Refractive Index Detector

A highly stable differential refracive index detector measures the concentration of polymer molecules as they elute from the column. The RID is employed in series and provides:

- Distribution of polymer chain lengths
- Molecular weights relative to the standards used to calibrate the columns set

1260 Infinity MDS Light Scattering Detector

A powerful dual-angle light scattering detector measures the scattering of light by polymer molecules at a high and a low angle. In combination with a concentration detector, light scattering provides:

- Absolute molecular weights without the need for a column calibration
- Accurate assesment of molecular size, radius of hydration (Rg) and hydrodynamic radius (Rh)
- Direct determination of long chain branching

1260 Infinity MDS Viscometer

A robust and sensitive viscometer measures the viscosity of the polymer molecules in solution. In combination with a concentration detector, the viscometer provides:

- Accurate molecular weights regardless of the standards used to generate the column calibration
- Accurate assessment of intrinsic viscosity
- Conformation
  - Mark-Houwink paramters
  - Accurate branching measurements across a broad range of molecular weights

The complete system – triple detection

By combining the viscometer, refractive index and light scattering detector, the most advanced form of GPC is attained. Triple detection provides:

- Absolute molecular weights without the need for a column calibration
- Accurate assesment of molecular size and dimensions
- Accurate measurement of intrinsic viscosity
- Complete information regarding polymer conformation and branching

Ultra low dispersion

Building on the UHPLC capabilities of the Agilent 1260 Infinity Series, the 1260 Infinity GPC/SEC MDS is minimizing dispersion in GPC. The dual angle light scattering flow cell has a market-leading cell volume of just 10 µL. The high back-pressure RI cell is just 6 µL. The viscometer is based on the latest advances in silica technology to create the ultimate balanced bridge.

Excellent baseline stability

Each detector can be individually heated to 60 °C to ensure stable baselines and excellent signal-to noise performance. Advanced optical design drastically reduces baseline spiking in LS traces commonly seen at low angles.

Agilent GPC/SEC software

The 1260 Infinity Multi-Detector GPC/SEC System is fully controlled with the new Agilent GPC/SEC software – a standalone dedicated software package, capable of controlling all of the 1200 Infinity Series LC modules – with a simple and customizable interface. The comprehensive range of calculations provide a wide range of molecular weight parameters defining size and shape. All the data can be overlaid, giving an at-a-glance view of a library of results.

Modular cabinet design

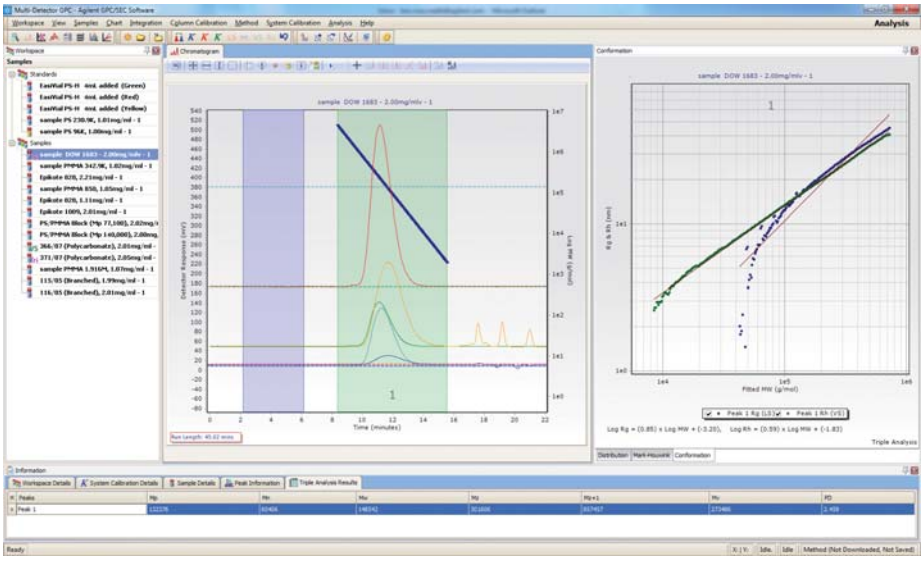
The 1260 Infinity GPC/SEC MDS is configured with dual or quad detector cabinets depending on choice of detectors. Storage areas in the cabinet doors hold documentation, essential instrument accessories, and tools. If a detector cabinet has an empty detector bay, a tidy drawer system is supplied, providing a convenient location for storing columns and larger accessories.

Upgradability

The system is fully upgradable at any time, allowing your system capabilities to expand as budget allows.

Control unit

The control unit with touch sensitive keypad is mounted on top of the cabinets for quick operation or visual inspection of status summary. The keypad allows full control of all aspects of the detectors.



Collection of multi-detector chromatogram and advanced calculations from analysis of a polystyrene sample.

Minimal downtime

The menu system service options are password protected to safeguard the system from accidental changes. Each detector can be independently removed and replaced so that the instrument remains in operation maximising sample throughput and productivity.

Safety first

The 1260 Infinity Multi-Detector GPC/SEC System contains multiple sensors to detect solvent leaks. On sensing a leak, heating of the detector cells is immediately stopped and the pump flow is halted. The control unit ensures the continual performance of the instrument safety features by internally checking the heating elements and leak sensors at regular intervals.

System details

A complete Agilent 1260 Infinity Multi-Detector GPC/SEC System includes:

- Agilent 1260 Infinity LC System to provide precise and reproducible solvent delivery
- Agilent 1260 Infinity MDS Refractive Index Detector, installed in series to provide accurate concentration information for all of the analyte
- Agilent 1260 Infinity MDS Viscometer with the widest dynamic range to suit any chemistry or molecular weight
- Agilent 1260 Infinity MDS Light Scattering Detector, simultaneously using a high, 90° angle for precision, and a low 15° angle for accuracy

Specifications - 1260 Infinity GPC/SEC Multi-Detector Suite

Agilent 1260 Infinity MDS Refractive Index Detector	
Cell volume	6 µL
Pressure rating	350 kPa (50 psi)
Wavelength	660 nm
Temperature range	30 - 60 °C
Temperature stability	± 0.2 °C
Agilent 1260 Infinity MDS Viscometer	
Shear rate (typical)	3000 s^{-1}
Sensitivity ηsp	1 x 10^{-5} Pa. s
Temperature range	30 - 60 °C
Temperature stability	± 0.2 °C
Agilent 1260 Infinity MDS Light Scattering Detector	
Sample cell volume	10 µL
Light scattering volume	0.01 µL
Laser wavelength/power	660 nm/50 mW
Rayleigh scattering angles	15 ° and 90 °
Temperature range	30 - 60 °C
Temperature stability	± 0.2 °C

Ordering Information

Part Number	Description
G7800A	1260 Infinity Multi-Detector GPC/SEC
G7801A	1260 Infinity MDS RID
G7802A	1260 Infinity MDS Viscometer
G7803A	1260 Infinity MDS Light Scattering
G1310B	1260 Infinity Isocratic Pump
G1322A	1260 Infinity Standard Degasser
G1314F	1260 Infinity Variable Wavelength Detector
G1316A	1260 Infinity Thermostatted Column Compartment
G1328C	1260 Infinity Manual Injector
G1329B	1260 Infinity Standard Autosampler
G7850AA	Agilent GPC/SEC Software
G7854AA	Agilent GPC/SEC Instrument Control
G7852AA	Agilent GPC/SEC Multi-Detector Upgrade

Application Specific HPLC Systems

1260 Infinity II Multi-Method System

The 1260 Infinity II Multi-Method Solution offers maximum system utilization with minimum manual interaction. Give multiple users HPLC access – all on one system.

This HPLC multi-method system hosts the different everyday HPLC methods of multiple scientists and provides automated switching to run the personalized methods without the need of manually changing column or solvent.

Features

- Reduce manual system interaction to a minimum - automatically switch between up to 4 columns and up to 15 modifiers and run your system unattended
- All your methods on one system - give multiple users access to their personal everyday methods
- Combine the best from walk-up systems and expert LCs - profit from highest flexibility and analytical performance while improving instrument uptime by serving multiple users
- Connect multiple methods with the 1260 Infinity II Prime LC - run your everyday methods at up to 800 bar and use Blend Assist software to mix solvents and buffers dynamically from stock solutions within a run
- Reduce the number of your LC systems - conveniently transfer methods using the new Agilent 1260 Infinity II Prime LC with ISET capability
- Configure your Agilent 1260 Infinity II Multisampler with the dual-needle option - switch between applications using independent injection paths, for example, when sequentially measuring challenging matrices or when requiring sample clean-up

Specifications

Biocompatible	No		
Bioinert	Optional		
Column Capacity	4		
Column ID Reader Option	Yes		
Depth	468 mm		
Flow Range	up to 5 mL/min with G7104C, G7112B	0.2 to 10 mL/min with G7110B, G7111A, G7111B	
Injection Range	0.1-100 µL	0.1 to 1500 µL with Multi Draw Kit	
Intelligent System Emulation Technology	No		
Line Voltage	100-240 VAC		
Maximum Number of Solvents	up to 15 with external solvent selection valve (recommended)		
Maximum Number of Temperature Zones	2		
Pump Type	Binary	Quaternary	Flexible
Special Features	Blend Assist with G7104C		
System Pressure Operating Range	up to 800 bar		
Width	435 mm		

Application Specific HPLC Systems

1260 Infinity II Prime Online LC System

The 1260 Infinity II Prime Online LC System is a process analysis system enabling automated process monitoring, providing real-time data for greater control and faster understanding of processes.

The system supports direct injections for fast process monitoring. It also features retain-sample functionality for dilutions or automated sample preparation steps, multimethod analysis, or sample archiving purposes for offline quality control.

Features

- Dedicated process analytical technology (PAT) tool for online and at-line process analysis via LC applications
- Enables fast process monitoring of critical process parameters (CPPs) and critical quality attributes (CQAs) via direct injections, providing real-time data for greater control and faster understanding of processes
- Features retain-sample functionality for dilutions (including reaction quenching), multimethod analysis, automated sample preparation, additional offline quality control, or sample archiving purposes
- Brings hybrid injection technology to the LC world: Both classical flow-through injection and Agilent Feed Injection are supported, guaranteeing seamless method transfer and the capability to mediate strong sample diluent effects via Agilent Feed Injection
- Enables utmost control over the process sample and facilitates method development
- Coordinates sampling and sample analysis via Agilent Online LC Monitoring Software, compatible with OpenLab CDS 2 and designed for process applications
- Online LC Monitoring Software allows for intuitive sample scheduling to quickly set up sampling events, and provides data visualization tools such as trending plots to easily monitor the process
- Supports flow rates up to 5 mL/min within a pressure range up to 800 bar for maximum application flexibility

Specifications

Column Capacity	4	
Depth	468 mm	
Flow Range	up to 5 mL/min with G7104C	
Injection Range	Default 0.1–100 µL increments (0.1–40 µL with Agilent Feed Injection)	
Intelligent System Emulation Technology	Optional	
Line Voltage	100-240 VAC	
Maximum Number of Solvents	4	up to 15 with additional Solvent Selection Valve
Maximum Number of Temperature Zones	2 with G7116A/B	
Pump Type	Flexible	
Special Features	Blend Assist	
System Pressure Operating Range	up to 800 bar	
Width	496 mm	

Application Specific HPLC Systems

1260 Infinity II SFC/UHPLC Hybrid System

The 1260 Infinity II SFC/UHPLC Hybrid System allows you to perform supercritical fluid chromatography (SFC) and ultrahigh-performance liquid chromatography (UHPLC) on a single instrument. The system supports pressures up to 600 bar in SFC mode and up to 800 bar in UHPLC mode. Switching between the two modes is easy and can be fully automated.

Operating in two orthogonal separation modes enables intelligent screening for the best-suitable method. This capability delivers comprehensive information on complex mixtures for higher productivity and more confidence in your results. Benefits include efficient instrument utilization, fast return on investment, and utmost application flexibility.

Features

- Single system for SFC and UHPLC for utmost application flexibility and investment protection
- Broad power range supports pressures up to 600 bar in SFC mode and up to 800 bar in UHPLC mode
- Wide range of injection volumes from 0.1 to 90 µL enables flexible injection without changing sample loops
- Patented Feed Injection technology guarantees outstanding injection precision and LC-like reproducibility
- Multisampler handles up to 6,144 samples for high-throughput applications
- Compatibility with wide range of Agilent mass spectrometers adds SFC/MS capability
- Upgrade options for existing 1100, 1200, or 1260 LC equipment provides for maximum convenience and effective budgeting
- Low solvent consumption and less waste gives you true green chemistry
- Use of beverage-grade CO_2 achieves 10- to 15-times lower operating costs

Preparative HPLC Systems

1220 Infinity II Analytical-Scale LC Purification System

The 1220 Infinity II Analytical-Scale Purification System is an affordable, entry level, high-quality system based on proven technology. Four integrated, all-in-one configurations are available to get you on the fast track to efficiency and maximum return-on-investment.

Proven quality and performance you expect from the industry leader. You can choose from four integrated, 'all-in-one' configurations and various upgrade paths to allow you to increase instrument efficiency.

Features

- Single stack analytical-scale purification LC system offers purification on with the smallest footprint to reduce bench space
- Highly reliable and robust LC system improves your ability to manage ever-increasing workload demand
- Dynamic flow range up to 5 mL/min at maximum 420 bar allows versatile application within a wide range of analytical-scale purification workflows
- Future-proof investment through upgrade with additional modules such as Infinity II refractive index, fluorescence, or evaporative light scattering detectors, or single quadrupole LC/MSD
- Low-dispersion fraction collection for precise isolation of compounds of interest from your analytical run
- Collection of up to 4 x 96 fractions in microtiter plates, or up to 216 fractions in glass tubes with 4 outer diameters of tubes available collector
- Integrated and automated fraction delay sensor technology for increased purity and recovery of collected fractions
- Upgradeable fraction capacity based on your demand: improved lab efficiency through orthogonal analytical information only available from isolated compounds
- Clean software infrastructure through Agilent OpenLab CDS ChemStation for familiar and reliable operation
- Integrated leak sensor in each module shuts down the whole system providing additional safety when detecting a leak

Specifications

Column Capacity	1	
Column ID Reader Option	No	
Flow Range	0.2-10 mL/min	
Injection Range	0.1-100 µL	
Intelligent System Emulation Technology	No	
Line Voltage	100-240 VAC	
Maximum Number of Fractions	384	
Maximum Number of Solvents	4 (with SSV)	
Maximum Number of Temperature Zones	1 (with column oven)	
Pump Type	Quaternary	
Special Features	Delay Sensor	Automated Delay Volume Calibration
Width	915 mm	

Preparative HPLC Systems

1260 Infinity II Analytical-Scale LC Purification System

The 1260 Infinity II Analytical-Scale LC Purification System is the most flexible and versatile solution for compound isolation within the InfinityLab LC purification portfolio. Ideal for purification of multi-milligram quantities of materials, the standard configuration handles flow rates between 0.1 and 10 mL/min with 2.1 and 10.0 mm id columns.

Easy-to-install upgrades are available for higher flow rates or lower dispersion. To meet diverse purification needs, UV or MS detection is possible as well as clustering of multiple fraction collectors.

Features

- Analytical-scale purification LC system ideal for purification of multi-milligram quantities of materials
- Highly reliable and robust LC system improve your ability to manage ever-increasing workload demand
- Dynamic flow range up to 10 mL/min at maximum 600 bar allows versatile application within a wide range of analytical-scale purification workflows
- Future-proof investment through upgrade with additional modules such as Infinity II refractive index, fluorescence, or evaporative light scattering detectors, or single quadrupole LC/MSD
- Low-dispersion fraction collection for precise isolation of compounds of interest from your analytical run
- Collection of up to 4 x 96 fractions in microtiter plates, or up to 216 fractions in glass tubes with 4 outer diameters of tubes available collector
- Integrated and automated fraction delay sensor technology for increased purity and recovery of collected fractions
- Upgradeable fraction capacity based on your demand: improved lab efficiency through orthogonal analytical information only available from isolated compounds
- Fully upgradable to enhance the system's capabilities and functionality based on your demand
- Clean software infrastructure through Agilent OpenLab CDS ChemStation for familiar and reliable operation

Specifications

Column Capacity	4		
Column ID Reader Option	Optional		
Depth	468 mm		
Flow Range	0.05 to 5 mL/min with G7112B	0.2 to 10 mL/min with G7110B, G7111A, G7111B	
Injection Range	0.1-100 µL	0.1-900 µL with Extended Injection Range Option	0.1 to 1800 µL with Multi Draw Kit
Intelligent System Emulation Technology	No		
Line Voltage	100-240 VAC		
Maximum Number of Fractions	384		
Maximum Number of Solvents	4	up to 15 with additional Solvent Selection Valve	
Maximum Number of Temperature Zones	2 with G7116A/B	1 with Vial Sampler with Integrated Column Compartment	
Pump Type	Binary		
Special Features	Delay Sensor	Automated Delay Volume Calibration	
System Pressure Operating Range	up to 600 bar		
Width	980 mm		

Preparative HPLC Systems

1260 Infinity II Manual Preparative LC System

The 1260 Infinity II Manual Preparative LC System is an easy-to-use, entry-level solution for LC purification with upgrade possibilities to do routine purification of milligram up to gram scale quanities of materials. This binary gradient system delivers dynamic flow rates up to 50 mL/min, equipped with a manual injection valve. The system achieves outstanding performance and reliability day-in and day-out, and is the most cost-effective way to do routine purification.

Features

- Single-stack preparative LC system offers purification with the smallest footprint to reduce bench space
- Highly reliable and robust LC system improve your ability to manage ever-increasing workload demand
- Dynamic flow range up to 50 mL/min allows versatile application within a wide range of semipreparative workflows
- Flexible, compact design of the column organizer allows application of a manual injector (supporting up to 20 mL injections) and columns from 4.6 to 50 mm inner diameter for support of any purification workflow
- Lowest delay volume to minimize peak dispersion and carry over for the highest sample recovery and purity
- Fully upgradable to enhance the system's capabilities and functionality based on your demand
- Clean software infrastructure through Agilent OpenLab CDS ChemStation for familiar and reliable operation
- Integrated leak sensor in each module shuts down the whole system, providing additional safety when detecting a leak

Specifications

Column Capacity	4	
Column ID Reader Option	No	
Depth	462 mm	
Flow Range	4-50 mL/min	
Injection Range	1–20000 µL	
Intelligent System Emulation Technology	No	
Line Voltage	100-240 VAC	
Maximum Number of Fractions	215	
Maximum Number of Solvents	2	
Pump Type	Binary	
Special Features	Delay Sensor	Automated Delay Volume Calibration
Width	581 mm	

Preparative HPLC Systems

1260 Infinity II Preparative LC System

The 1260 Infinity II Preparative LC System is an easy-to-use workhorse for automated sample injection when gradient elution is required for sample purification. The binary gradient pump deliver flow rates up to 50 mL/min for purification up to 30.0 mm id columns. This system is tailor-made for routine, high-throughput, laboratory-scale purification when milligrams to grams of starting material are available.

Features

- Preparative LC system with fully automated sample injection and a capacity of 132 samples to increase your daily throughput, and maximize purity
- Highly reliable and robust LC system improves your ability to manage ever-increasing workload demand
- Dynamic flow range up to 50 mL/min at maximum 420 bar allows versatile application within a wide range of semipreparative workflows
- Fully automated vial sampler supporting 2 and 6 mL sample vials with a maximum capacity up to 132 vials - injection of sample volumes from 0.1 µL to 3.6 mL is the ideal injector for routine sample purification without user interaction
- Lowest delay volume to minimize peak dispersion and carry-over for the highest sample recovery and purity
- Fully upgradable to enhance the system's capabilities and functionality based on your demand - up to 648 fractions within the same footprint
- Clean software infrastructure through Agilent OpenLab CDS ChemStation for familiar and reliable operation
- Integrated leak sensor in each module shuts down the whole system, providing additional safety when detecting a leak

Specifications

Column Capacity	4	
Column ID Reader Option	No	
Depth	462 mm	
Flow Range	4-50 mL/min	
Injection Range	0.1–3600 µL	
Intelligent System Emulation Technology	No	
Line Voltage	100-240 VAC	
Maximum Number of Fractions	215	
Maximum Number of Solvents	2	
Pump Type	Binary	
Special Features	Delay Sensor	Automated Delay Volume Calibration
System Pressure Operating Range	20-420 bar	
Width	941 mm	

Preparative HPLC Systems

1260 Infinity II Preparative LC/MSD System

The 1260 Infinity II Preparative LC/MSD System can be configured with UV and MS detectors as well as multiple fraction collectors to meet your purification needs. Automated sample injection increases daily sample throughput and mass-based fraction collection maximizes purity and minimizes re-analysis.

Maximize your flexibility in fraction size while focusing solely on your target compounds, reducing the number of collected fractions to optimize fraction collection capacity utilization.

Features

- Preparative LC/MSD system with fully automated sample injection with a capacity of 132 samples to increase your daily throughput, maximize purity, and minimize reanalysis time by mass-based purification
- Keep the maximum flexibiliity in fraction size while focusing solely on your target compounds to minimize reanalysis time
- Highly reliable and robust LC system improve your ability to manage ever-increasing workload demand
- Dynamic flow range up to 50 mL/min at maximum 420 bar allows versatile application within a wide range of semipreparative workflows
- Fully automated vial sampler supporting 2 mL and 6 mL sample vials with a maximum capacity up to 132 vials - injection of sample volumes from 0.1 µL to 3.6 mL is the ideal injector for routine sample purification without user interaction
- Lowest delay volume to minimize peak dispersion and carry-over for the highest sample recovery and purity
- Fully upgradable to enhance the system's capabilities and functionality based on your demand, with up to 648 fractions within the same footprint
- Clean software infrastructure through Agilent OpenLab CDS ChemStation for familiar and reliable operation
- Integrated leak sensor in each module shuts down the whole system, providing additional safety when detecting a leak

Specifications

Column Capacity	4	
Column ID Reader Option	No	
Depth	462 mm	
Flow Range	4-50 mL/min	
Injection Range	0.1–3600 µL	
Intelligent System Emulation Technology	No	
Line Voltage	100-240 VAC	
Maximum Number of Fractions	215	
Maximum Number of Solvents	2	
Pump Type	Binary	
Special Features	Delay Sensor	Automated Delay Volume Calibration
System Pressure Operating Range	20-420 bar	
Width	1537 mm	

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