



Agilent 1290 Infinity II LC

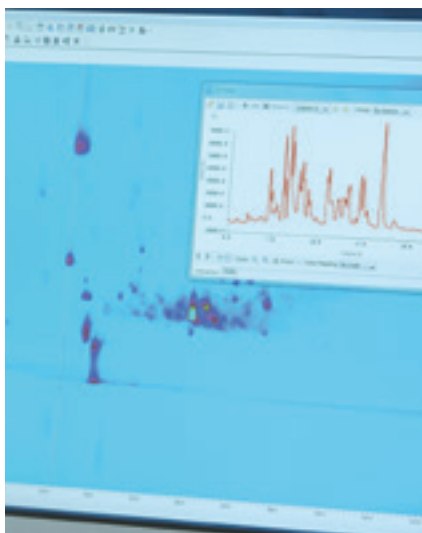
MORE EFFICIENCY MORE FREE TIME



#EfficientUHPLC

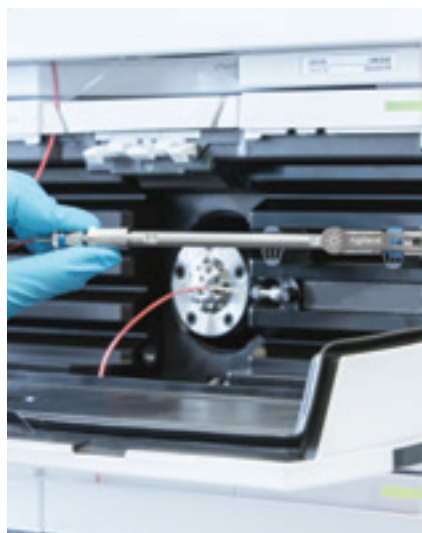
NEW BENCHMARKS IN EFFICIENCY

The new Agilent 1290 Infinity II LC System embodies the next generation of UHPLC – with the exceptional reliability and robustness you expect from Agilent, plus breakthrough technologies to maximize the efficiency of your business in three dimensions.



MAXIMIZE ANALYTICAL EFFICIENCY

Unmatched separation and detection performance deliver analysis data of the highest quality – for ultimate confidence in your results.



MAXIMIZE INSTRUMENT EFFICIENCY

Highest sample capacity and fastest injection cycles combine with new levels of usability – for highest throughput for any application.



MAXIMIZE LABORATORY EFFICIENCY

Seamless integration in current infrastructure and smooth method transfer from legacy equipment – for non-disruptive transition to highest productivity and lowest cost of ownership.



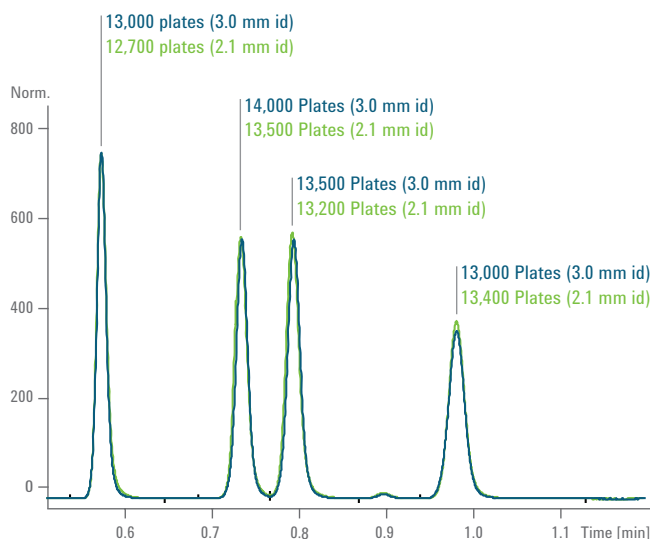
MAXIMUM ANALYTICAL EFFICIENCY

EXPERIENCE UNMATCHED PERFORMANCE FOR ULTIMATE CONFIDENCE IN YOUR RESULTS

The 1290 Infinity II LC achieves unmatched separation and detection performance, delivering data of the highest quality – for ultimate confidence in your results, and in your business decisions.

Lowest dispersion for highest resolution

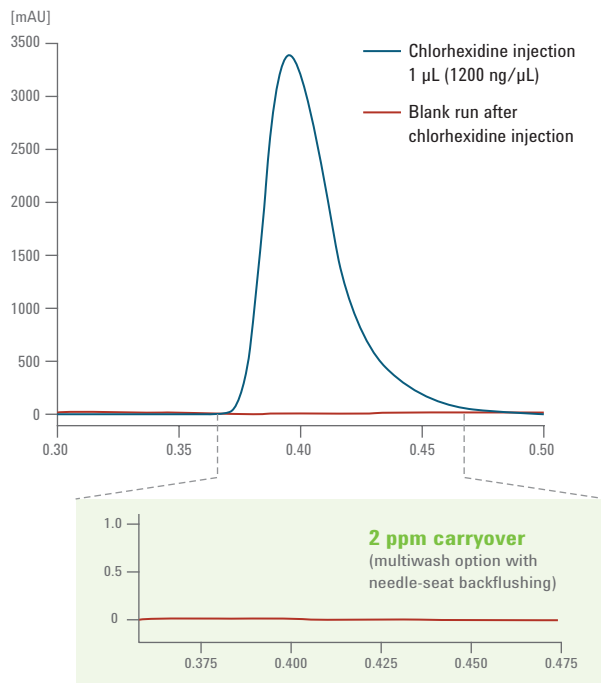
The entire flow path of the 1290 Infinity II LC is optimized for lowest extra-column band broadening. Specially designed components such as needle seats, heat exchangers, column fittings and flow cells allow you to fully exploit the power range of 1300 bar at 2 mL/min. Data rates up to 240 Hz deliver uncompromised chromatographic resolution – even for your fastest separations.



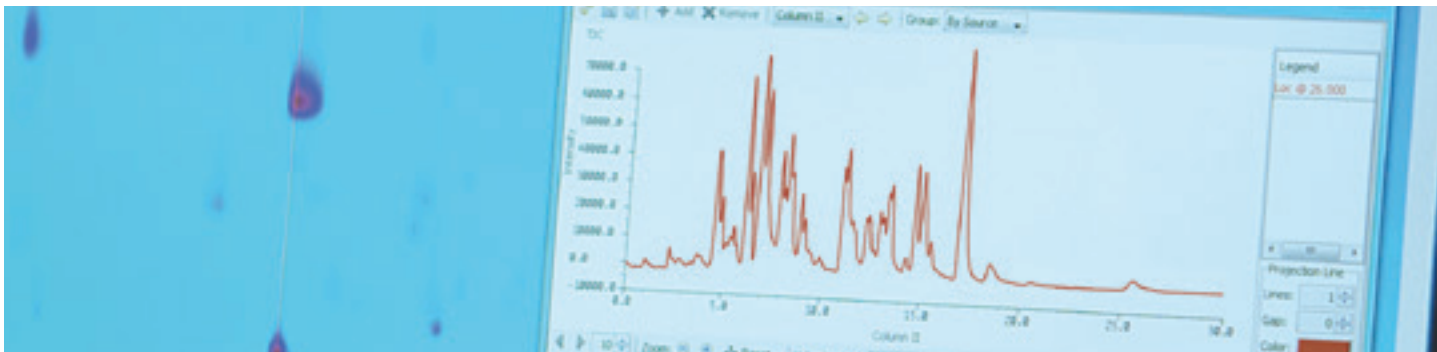
Thanks to lowest extra-column volume the 1290 Infinity II LC achieves highest chromatographic efficiency in terms of plate numbers for both 2.1 mm and larger inside diameter columns.

Lowest carryover for highest data quality

The 1290 Infinity II Multisampler reduces carryover to less than 9 ppm. Using the multi-wash feature you can flush the inside and outside surfaces of the injection needle with up to three different solvents, as well as backflush the needle seat.



Even with problematic samples the 1290 Infinity II Multisampler can keep carryover down to less than 9 ppm.



Highest peak capacity for challenging separations

The 1290 Infinity II 2D-LC Solution allows you to match separation performance with sample complexity. What's more, Agilent's solution takes 2D-LC to a new dimension of ease-of-use for fast access to orthogonal data from heart-cutting, multiple heart-cutting or comprehensive 2D-LC analyses.

1D-LC



2D-LC

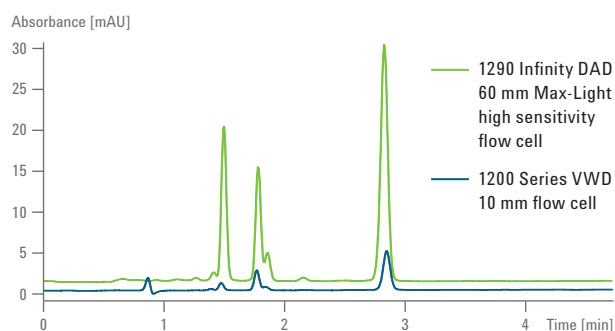
Select your separation performance – match system power with sample complexity at the flip of a switch between single-dimension UHPLC and the ultimate chromatographic power of 2D-LC.

Unique detection capabilities reveal more

The 60 mm path length of the Agilent Max-Light flow cell enables the 1290 Infinity II Diode Array Detector to achieve typical noise levels of less than $\pm 0.6 \mu\text{AU}/\text{cm}$ for highest detection sensitivity and lowest detection limits.

For your samples with widely different concentration levels, the 1290 Infinity II High Dynamic Range DAD Solution offers a 30x wider linear range and up to 30x higher sensitivity, allowing you to detect and quantify all components within a single run.

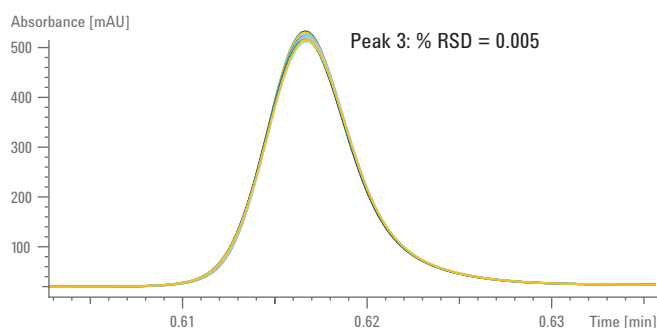
The 1290 Infinity II Evaporative Light Scattering Detector is the only detector of its kind that provides a 90x wider dynamic range. Further, this ELSD facilitates sub-ambient operation for unrivalled detection of thermally-labile analytes.



The 1290 Infinity II DAD achieves 10x higher sensitivity than earlier 1200 Series diode array or variable wavelength detectors.

Highest retention time precision for reliable peak identification

The 1290 Infinity II High Speed Pump and the 1290 Infinity II Flexible Pump deliver unmatched flow and composition precision for reproducible and robust results. The 1290 Infinity II Flexible Pump is the only low-pressure mixing pump that combines the ultimate performance of a high-pressure mixing UHPLC pump with the flexibility of a quaternary pump. This pump delivers superior gradient performance over the entire composition range from 1 to 99 %.



This overlay of 10 chromatograms shows superior retention time precision of the 1290 Infinity II High Speed Pump of 0.005 %RSD, even for ultrafast separations.

MAXIMUM INSTRUMENT EFFICIENCY

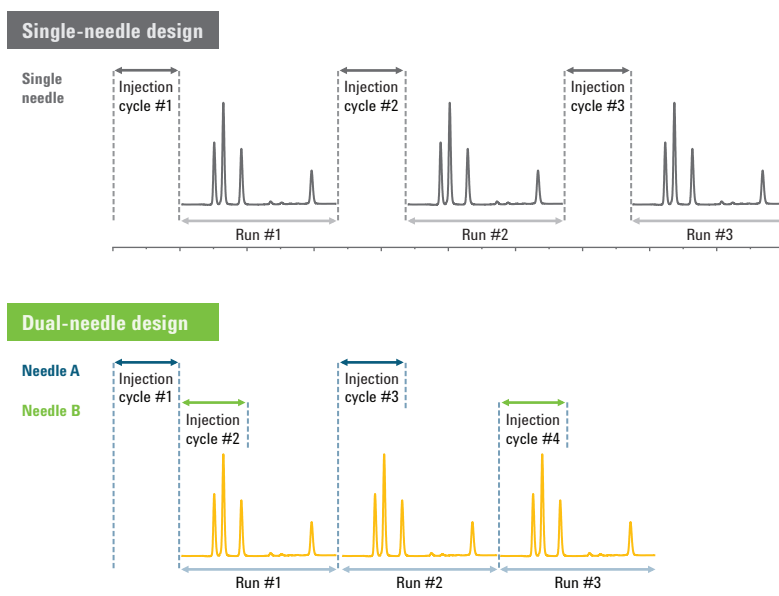
EXPERIENCE UNLIMITED CAPACITY AND FASTEST TURNAROUND FOR HIGHEST THROUGHPUT



The 1290 Infinity II LC provides the capacity and speed you require to get your work done as effectively and efficiently as possible. Highest sample capacity and fastest injection cycles combine with new levels of usability – for highest throughput for any application.

Fast injection cycles with dual-needle injection

The high power range and small delay volume of the 1290 Infinity II LC allow you to run extremely fast UHPLC separations. So fast that the total run time is determined by the duration of the injection cycle and not the separation itself! By fitting the 1290 Infinity II Multisampler with a second injection needle, you can reduce cycle times to mere seconds – virtually eliminating wait times for conventional injections and even for large-volume loading or flushing procedures.



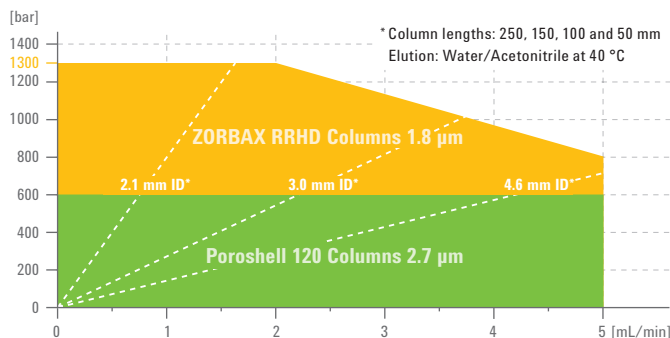
The dual-needle design of the 1290 Infinity II Multisampler eliminates wait times by overlapping injection cycles without compromising data quality by carryover or sample discrimination.



Fitted with eight shallow drawers, the 1290 Infinity II Multisampler can hold 16 microtiter plates – for a total capacity of 6144 samples.

High capacity within small footprint

Within the footprint of an Agilent LC stack, the 1290 Infinity II Multisampler takes a maximum load of 16 microtiter plates for a total capacity of 6144 samples. If your applications require vials, you can load the 1290 Infinity II Multisampler with up to eight vial trays for total sample capacities of 432 with 2 mL vials and 384 with 1 mL vials. For temperature-sensitive or thermally-labile samples, a highly efficient and integrated cooling system is optionally available.



The power range of the 1290 Infinity II LC gives you the flexibility to meet virtually any separation challenge.

Flexibility for all applications

The 1290 Infinity II LC gives you the full flexibility you need for any analytical task.

- Wide power range for optimum use of most analytical columns independent of inner-diameter or particle technology
- Gradient options for higher speed or higher flexibility
- Wide column temperature range from 20 degrees below ambient to 110 °C to tune selectivity or speed
- Intelligent System Emulation Technology to run legacy methods – even from other vendors LCs
- Dual-needle injection for automated scalable injection volumes from less than 1 µL up to 900 µL

A new level of usability

With the 1290 Infinity II LC, running an UHPLC system has never been so easy.

- Revolutionary Agilent A-Line Quick Connect UHPLC column fittings for dead-volume-free fluidic connections
- New multicolumn thermostat with simplified access and space for up to 8 columns
- Easy-to-install precolumn heat exchangers with volumes of 1.0, 1.6 or 3.0 µL
- Graphical sample entry for easy and fast sequence setup
- Quick-Change valves for straightforward reconfiguration of your switching schemes



New precolumn heat exchangers are easy to install.

More automation capabilities

The 1290 Infinity II LC is packed with productivity tools – helping your lab to be more efficient.

- BlendAssist software for convenient, accurate and precise additive or buffer blending
- Injector programming for simple sample preparation steps such as dilution, mixing or derivatization
- Quick-Change valves for column and solvent selection, column regeneration, or sample clean-up and enrichment



Agilent Quick-Change valves allow you to automate a wide variety of applications – the valves' unique design gives you the flexibility to choose switching configurations that match your lab's individual requirements.

MAXIMUM LABORATORY EFFICIENCY

DRIVE NON-DISRUPTIVE TRANSITION TO HIGHER PRODUCTIVITY AND LOWER COSTS

The 1290 Infinity II LC integrates seamlessly in your laboratory's current infrastructure and facilitates smooth method transfer from legacy equipment – for non-disruptive transition to highest productivity and lowest cost of ownership.

Transfer methods seamlessly between LCs, regardless of brand

With Intelligent System Emulation Technology (ISET) from Agilent you can execute any legacy HPLC or latest UHPLC method while delivering the same chromatographic results – all through a single mouse click. ISET eliminates deviations in resolution and retention times when your laboratory deploys methods developed originally on other HPLC or UHPLC systems.

Minimize your instrument-related costs

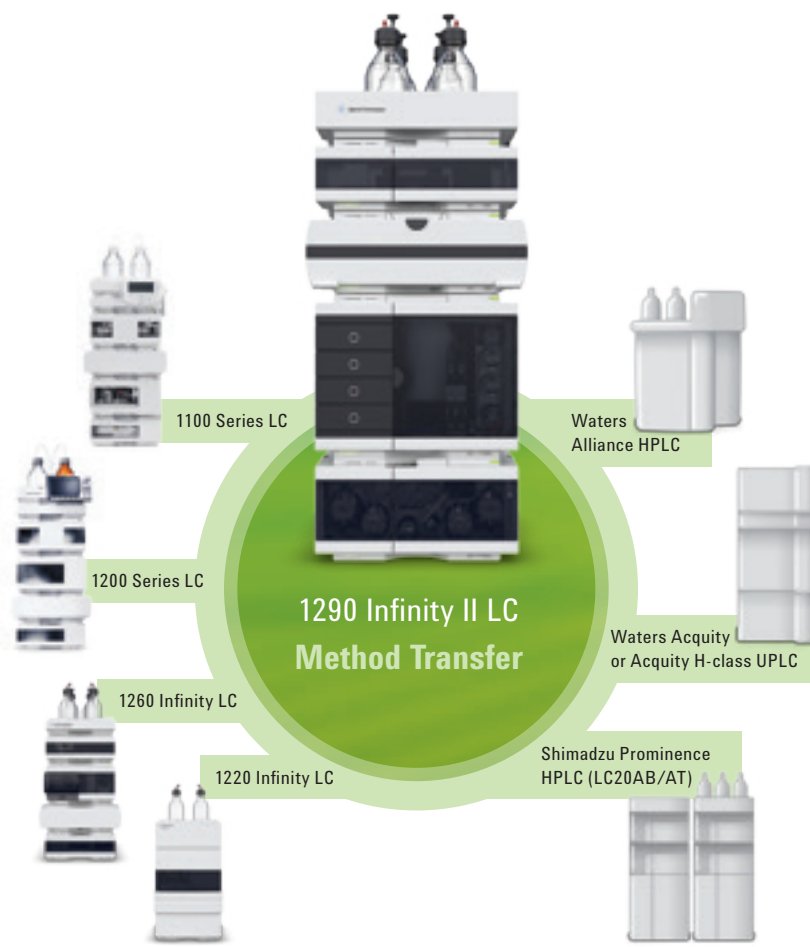
Run your legacy methods with ISET while taking full advantage of the UHPLC speed, resolution and sensitivity of the 1290 Infinity II LC. You no longer need to maintain your old legacy LC systems!

Achieve higher productivity for method development

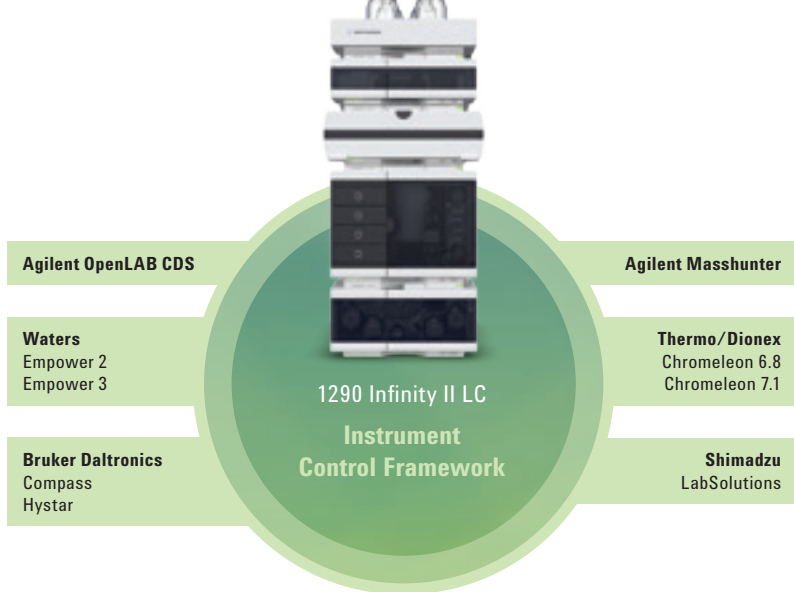
Speed up your method development with UHPLC performance and then fine-tune your method by emulating the target system – and be confident that the method will run as intended.

Accelerate your instrument-to-instrument method transfer

No more method transfer problems! Simply emulate the LC system on which the original method was developed – with a single mouse click.



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 1290 Infinity II LC.



Seamless integration in your chromatography data system

In the past, laboratories using non-Agilent chromatography data systems were unable to benefit from the advanced capabilities and features of Agilent 1290 Infinity LCs. Now, Agilent’s Instrument Control Framework (ICF) gives you access to the advanced capabilities and features of the 1290 Infinity II LC and ensures your Agilent LC instrumentation runs smoother than ever before when controlled through third-party chromatography data systems such as Waters Empower or Thermo Scientific Dionex Chromeleon.

Using ICF, Agilent instrument features are easily available through a user interface that is integrated in your third-party CDS such as Waters Empower.

Lower your total cost of ownership

The optimization of the lifecycle costs of capital assets is an important aspect in increasing the efficiency of your laboratory. Agilent can help you to lower your total cost of ownership.

- Portfolio of 1290 Infinity II LC solutions to match your application or budget
- UHPLC productivity at maintenance costs comparable to HPLC equipment
- Agilent Maintenance Wizard for self-maintaining your LC with easy to follow maintenance procedures
- Accurate instrument monitoring with early maintenance feedback (EMF), and progress bars in Agilent Lab Advisor provide instant visual indication of preventive maintenance need
- Best utilization of your valuable lab space with highest sample capacity per bench space
- Agilent Value Promise protects your investment with at least 10 years of instrument use



Agilent Maintenance Wizard is the ideal tool for labs wanting to perform their own maintenance.

DRIVE NON-DISRUPTIVE TRANSITION TO HIGHER PRODUCTIVITY AND LOWER COSTS



With an installed base of nearly one million LC modules, Agilent LC technology is renowned for its reliability around the world. The Agilent 1290 Infinity II LC represents the next generation of UHPLC, designed for even greater robustness and reliability together with enhanced performance.

Agilent – the reliable partner for LC

As proof of continuous commitment to the development and manufacture of high quality products, Agilent has been selected in several independent surveys as the instrument vendor with the most reliable LC instrumentation.

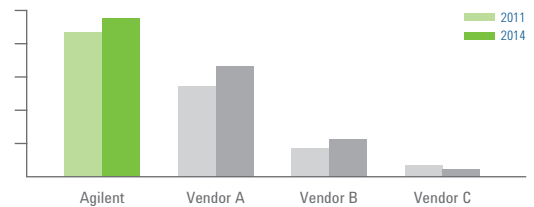
Give your 1100/1200 Series or 1260 Infinity LC a performance boost

Agilent offers nearly unlimited module and system compatibility between the new 1290 Infinity II LC and previous 1100 or 1200 Series. This unique capability of Agilent's LC solutions facilitates flexible, stepwise upgrade for any Agilent LC – now or in the future.

- Upgrade your detector for 10x higher sensitivity
- Upgrade your column compartment for better usability and higher temperature
- Upgrade your autosampler for higher sample capacity, speed and lower carry over

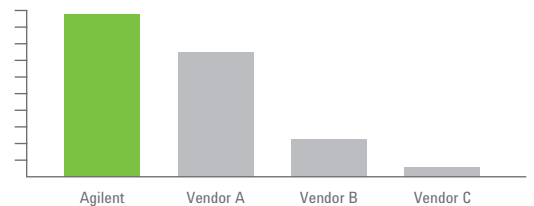


#1 in Reliability



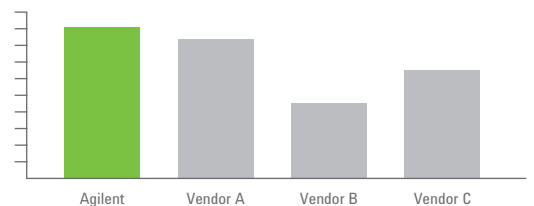
Agilent selected as vendor with most reliable LC instrumentation – Surveys on “Liquid Phase Separation Instruments & Trends” commissioned by Agilent, conducted by LCGC in January 2011 and 2014”.

#1 in System quality and innovation



Agilent selected as vendor with highest system quality and innovation ratings – Survey conducted by Strategic Directions International, Inc. (SDI) and published in Market Analysis and Perspectives Report HPLC, 2012.

#1 in Instrument quality



Agilent selected as vendor with highest instrument quality – Survey conducted by Credit Suisse Research Institute published in Analytical Instruments, 2011.

MORE PRODUCTIVITY THROUGH OPENLAB SOFTWARE

Agilent offers software and informatics solutions to obtain all the benefits of the 1200 Infinity Series' performance levels. Agilent OpenLAB CDS gives you the most comprehensive and fully traceable management of any 1200 Infinity Series System. This chromatography data system is fully scalable, and gives you instrument control, result generation, data management and advanced reporting.

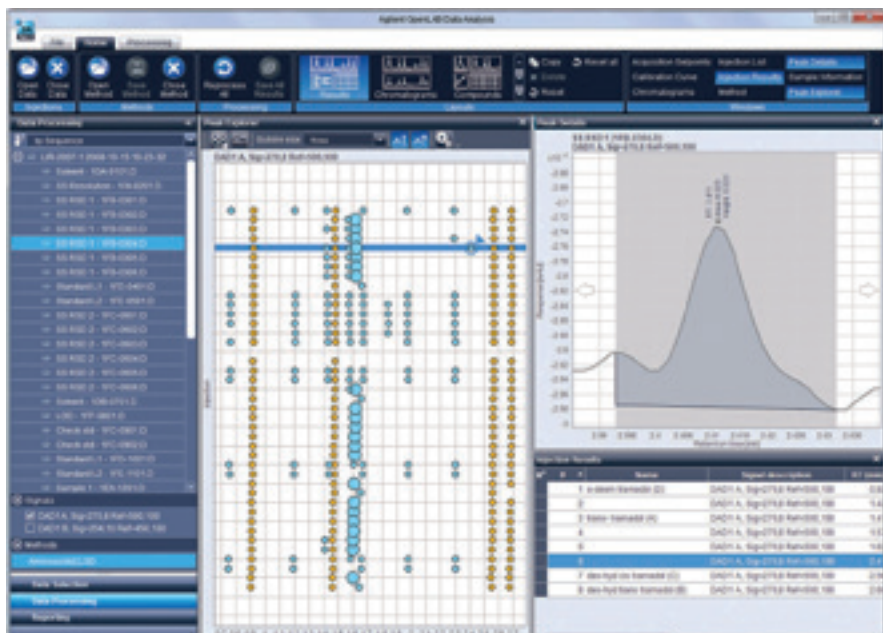
Make your lab more productive with OpenLAB CDS

OpenLAB CDS software makes your lab more efficient by reducing the time spent on data processing, review, and reporting.

- Create reports using powerful and intuitive "drag-and-drop" capabilities
- Process large data sets up to 40 times faster and review results quickly with powerful data analysis tools
- Enable 21 CFR Part 11 and EU Annex 11 compliance
- Scale from a single instrument to a lab-wide network that centralizes system administration while allowing you to work from anywhere
- Overlay and compare hundreds of signals from both LC and GC instruments
- Work your preferred way with predefined or tailored user interface layouts

Secure centralized data storage is available through OpenLAB Data Store and OpenLAB ECM software, both of which integrate seamlessly with OpenLAB CDS.

- Scalable architecture expands from a single instrument to lab-wide implementation.
- Advanced data analysis and reporting drives greater throughput and productivity.
- A trusted upgrade path preserves your investment in workflows, data, and methods.
- Networked OpenLAB CDS allows you to get your work done from anywhere in the lab – and simplifies the administration of methods, user roles, and permissions.



Visualization tools such as Peak Explorer speed review of results.

EXPERIENCE THE ULTIMATE IN EFFICIENCY WITH TAILORED LC AND LC/MS SOLUTIONS

Automated method development

Accelerate your method development by combining superior hardware with dedicated software for smooth automation of LC & LC/MS method development.

- Access more than 1000 different sets of unique LC separation conditions from a choice of up to 26 solvents and 8 columns, and a selection of different temperature zones
- Setup new screening campaigns fast and easily with the Agilent Method Scouting Wizard
- Perform advanced automated method optimization with solutions from Agilent partners ACD/Labs, ChromSword, or S-Matrix



The 1200 Infinity Series Method Development Solution comes ready-to-run and is designed for automated access to more than 1000 sets of unique LC separation conditions.

Analysis of trace-level impurities

With a 30x wider UV dynamic range, 30x higher UV sensitivity, UHPLC resolution and speed plus universal detection capabilities, the 1290 Infinity II HDR-DAD Impurity Analyzer is an ideal solution for impurity analysis of formulations with widely different concentrations.

- Quantify the active ingredients as well as impurities in a single assay and thereby dramatically reduce sample turnaround times
- Achieve higher area precision and gain more confidence in automated peak integration
- Don't miss any compound through combination with other detection options such as the 1290 Infinity II ELSD with 90x wider dynamic range



The 1290 Infinity II HDR-DAD Impurity Analyzer quantifies sample components with widely different concentrations in a single assay.

Ultrahigh resolution for complex samples

Comprehensive 2D-LC provides the ultimate separation performance you need to analyze complex matrixes such as herbal extracts, food samples or polymer synthesis products. With the 1290 Infinity II 2D-LC Solution you gain fast access to orthogonal data from heart-cutting, multiple heart-cutting or comprehensive analyses. What's more, at the flip of a switch you can select between single-dimension UHPLC and the ultimate chromatographic power of 2D-LC, allowing you to match separation performance with sample complexity.



1290 Infinity II 2D-LC Solution – on one system you can perform single-dimension UHPLC as well as aspire to the ultimate chromatographic power of heart-cutting, multiple heart-cutting or comprehensive 2D-LC.

High-throughput screening LC/MS solutions

The 6200 Series Accurate-Mass Time-of-Flight (TOF) LC/MS acquire data at 30 spectra per second to ensure excellent data quality for fast UHPLC. Agilent proprietary technologies in all system components combine synergistically for shortest analysis times and highest throughput.

- Dual-needle injection for ultrafast injection cycles down to 5 seconds
- High sample capacity of up to 6144 samples within footprint of Agilent LC stack
- Low pump delay volumes for fast gradients
- Quick-Change valve solution for alternating column regeneration



Agilent high-throughput LC/MS solutions achieve highest analysis speeds and shortest cycle times without compromising robustness or data quality.

High-sensitivity LC/MS solutions

The 6490 Triple Quadrupole LC/MS helps you achieve highest sensitivity. Agilent's iFunnel technology dramatically increases ion sampling and transmission, enabling the lowest limits of detection and quantification for your most demanding applications. Data quality can be improved further using the multi-wash capabilities of the 1290 Infinity II Multisampler for sample carryover of less than 9 ppm.



Agilent high-sensitivity LC/MS solutions achieve lowest limits of detection and quantification.

Untargeted analysis LC/MS solutions

Agilent LC/MS solutions for untargeted analysis allow you to screen and quantify hundreds of compounds in a single analysis. Your laboratory can focus on running samples rather than tedious method development. The 6500 Series Accurate-Mass Quadrupole Time-of-Flight (Q-TOF) LC/MS is the ideal choice for screening applications, delivering low femtogram-level sensitivity with high resolution and accurate mass. The 6560 Ion Mobility Q-TOF LC/MS System adds an extra dimension of ion mobility separation, revealing a greater detail from complex samples.

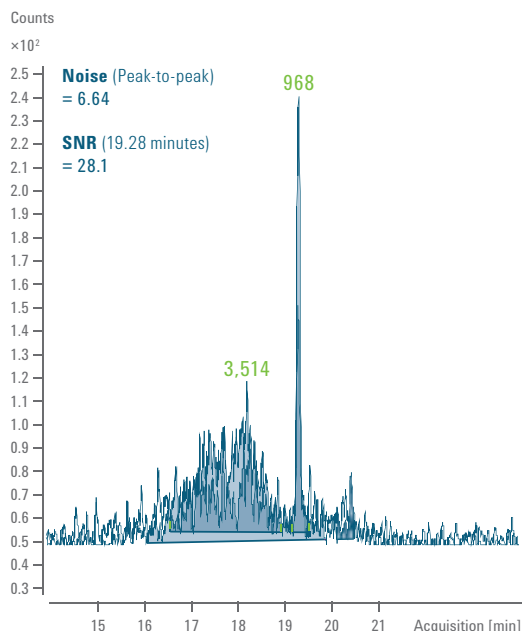


Agilent LC/MS solutions for untargeted analysis feature reduced system dispersion for highest chromatographic resolution and sensitivity.

EXPERIENCE THE ULTIMATE IN EFFICIENCY WITH TAILORED LC AND LC/MS SOLUTIONS

Trace-level water analysis

Adding an SPE enrichment step in the sample preparation workflow is a traditional way to lower the limits of detection for trace organic contaminants in water samples. This labor-intensive and time-consuming procedure can be automated for higher throughput with the 1200 Infinity Series Online SPE Solution. Combining with the 6400 Series Triple Quadrupole Mass Spectrometer takes you into a new dimension of ultralow, trace-level detection.



Estrone at a concentration of 0.05 ng/L in drinking water with online SPE injection measured with an Agilent 6490 Triple Quadrupole LC/MS System.

Simplified access for multiple users

With Agilent's walkup software you simply "walk up" to the system, input sample information and choose your analysis method or purification scheme, and the results are sent by email to your office or laboratory. Even column and solvent become simple method parameters, allowing you to run multi-methods in your multi-user LC or LC/MS environment.



Agilent's walkup software enables simplified access to the power and precision of high quality LC and LC/MS processes for multiple users.

COMPLETE SOLUTIONS FOR HIGHEST EFFICIENCY

ACHIEVE ACCURATE RESULTS QUICKLY AND CONFIDENTLY

Maximize system performance and reliability for all your separation needs by combining your 1200 Infinity Series LC System with Agilent ZORBAX and Poroshell LC columns and LC supplies. Backed by over 40 years of chromatography experience, you can count on Agilent's columns and supplies to deliver the high quality results you need and expect, time after time.

LC column choices for confidence and control

Agilent offers a broad range of analytical column chemistries for standard or ultrafast chromatography, including ZORBAX Rapid Resolution High Definition (RRHD) columns, 1.8 μm , stable to 1200 bar, and Poroshell 120 columns, 2.7 μm , stable to 600 bar, for flexibility with method transfer around the world. For help finding the best column for your application: www.agilent.com/chem/navigator



Agilent LC columns allow you to address the challenges of almost any application – and get accurate results quickly and confidently.

Agilent consumables and new Agilent A-Line products

Vials, caps and other “small” components can contribute to big problems such as injector damage, ghost peaks and analyte degradation – particularly with fast LC. Agilent supplies are designed and manufactured to deliver the same reliability and reproducibility you expect from Agilent instruments and columns. Agilent long-life deuterium lamps provide consistent light intensity throughout the life of the lamp, supporting reproducible results and less rework. New Agilent A-Line LC lab products are specially designed to support easier usability and high efficiency in the lab.



Agilent A-Line Quick Connect UHPLC column fittings make column installation an easy task.



Agilent A-Line Stay Safe solvent caps protect you from harmful vapors.

Analytical instrument services

Whether you need support for a single Agilent instrument or a multi-lab, multi-vendor operation, Agilent Advantage and CrossLab Services protect your laboratory investment and connect you with our global network of experienced service professionals. We are dedicated to helping you obtain optimal performance from every system in your lab, every day.

Learn more

EfficientUHPLC.agilent.com

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