

REDEFINING LC VERSATILITY

MAXIMIZING LAB PRODUCTIVITY



LC 300 HPLC and UHPLC Systems

VERSATILITY REDEFINED, TRUST AMPLIFIED

For laboratories looking to achieve the highest levels of versatility without compromising on productivity, PerkinElmer LC 300™ HPLC and UHPLC systems deliver the flexibility, performance, and efficiency you need for even the most challenging analytical demands. With fully customizable configurations and accessories, each LC 300 HPLC and UHPLC system is intuitive and designed to meet high-throughput lab requirements, with no additional burden on lab staff. PerkinElmer SimplicityChrom™ CDS Software manages the complete workflow and with the LC 300 HPLC and UHPLC system delivers an innovative user experience with intuitive functions and automated processes.



LC 300 Analytical Pump
Standard Reciprocating Pump

LC 300 Autosampler
LC 300 Peltier Column Oven

LC 300 Photodiode Array (PDA) Detector
LC 300 Multiwavelength Detector (MWD)
LC 300 UV/Vis Detector
LC 300 Fluorescence Detector
LC 300 Refractive Index Detector

Customized Experiences
End-to-End Control
Intuitive Design
Efficient Compliance

From Food Labels To Adulterants
Quality Control of Personal Care Products
Analysis for a Healthier World

Chromatography Essentials
Quasar™ LC Columns
Vials

RELIABLE SEPARATIONS TO THE POWER OF THREE

Tailored for laboratories looking for scalable, dependable, streamlined operations, the LC 300 HPLC and UHPLC systems help you unlock the full potential of every user, regardless of their expertise level. Whether your lab needs HPLC or UHPLC, these systems help ensure that you meet and exceed your analytical goals.



LC 300 ANALYTICAL HPLC

BOOST VERSATILITY AND EFFICIENCY

The **LC 300 Analytical HPLC** system delivers new levels of usability, enabling operational efficiency and versatility for a variety of applications.

LC 300 HPLC

ACHIEVE FAST ROI

Our **LC 300 HPLC** system provides consistent everyday results and maximum reliability, without compromising flexibility.

LC 300 UHPLC

ACCELERATED PRODUCTIVITY

The **LC 300 UHPLC** system delivers fast separation with best-in-class performance to accelerate your lab productivity.

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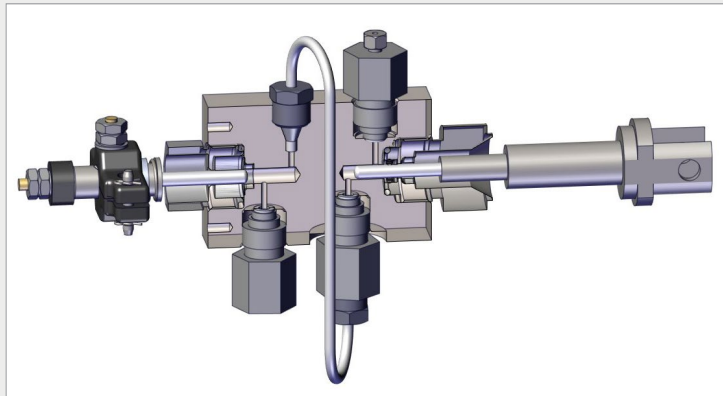
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UNLOCK YOUR LAB POTENTIAL

The HPLC pump plays a pivotal role in delivering accuracy, repeatability, and versatility to your chromatographic processes. Explore the capabilities, features, and benefits of the HPLC pumps, designed to elevate your laboratory's analytical capabilities to new heights.

LC 300 Analytical Pump

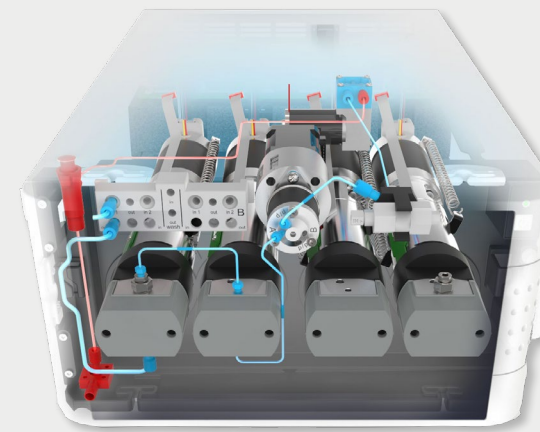
- Patented unidirectional pump mechanism provides the ultimate versatility and robustness
- Confidently and quickly change between reverse phase and normal phase chromatography
- Reliable solvent transfer at positive pressure, effectively eliminating vacuum bubbles and cavitation for seamless operations
- Double-ball check valves setup prevents solvent backflush, ensuring optimal performance



LC 300 Analytical Pump

LC 300 HPLC and UHPLC Pumps

- Standard reciprocating LC 300 pump utilizes an advanced implementation of a rugged linear drive to deliver ultraprecise gradient flows
- Four individually motor-driven and -controlled pump heads, generating maximum freedom for precise flow control and pulsation reduction
- Self-cleaning, active-seal wash system ensuring you achieve maximum life of the piston seals
- Efficient software-controlled prime and purge completed in just minutes



Rapid, automated priming and purging

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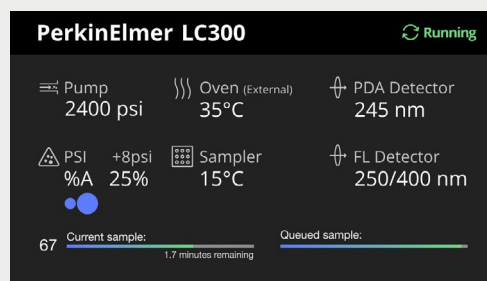
THE FLEXIBILITY TO CHANGE WITH YOU

Every component in our LC 300 HPLC and UHPLC systems comes together seamlessly to deliver the dependability, power, and efficiency you need to achieve your goals. Whether analyzing food samples for label-claim accuracy or pharmaceuticals and consumer goods for potential impurities, the LC 300 HPLC and UHPLC System with SimplicityChrom CDS software delivers all the flexibility you need to keep pace as your lab changes and grows.

LC 300 Autosampler

A robust, precise autosampler is necessary to achieve optimal efficiency and accuracy.

- Advanced fluidics technology featuring a patented injection valve* that facilitates accurate and highly reproducible injections ([read our Tech note on the ILD™ injection valve for more information](#))
- Integrated column oven offered standard on all LC 300 autosamplers
- Onboard, automated dilution and derivatization, without the use of additional hardware or software
- High-visibility color LCD screen for quick and efficient review of pump pressure, oven and sample tray temperature, and sample queue status without having to log into your CDS software



High-visibility LCD display on LC 300 autosampler

LC 300 Column Oven

When performing workflows that require column switching, wider temperature ranges, or longer columns, the LC 300 Peltier Column Oven is a must.

- Ultimate flexibility to achieve your analytical goals with a large column compartment that can accommodate columns measuring up to 30 cm in length
- Precise and consistent temperature control from 5 °C to 90 °C, ensuring accurate and repeatable analyses
- Pairing SimplicityChrom with an optional internal column selection valve for automated column switching of up to six columns, saving time and increasing efficiency



Column Selection Valve

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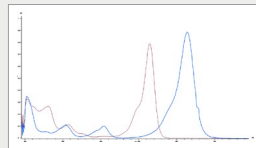
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*U.S. Patent No. 8,322,197 B2, European Patent No. 2196801

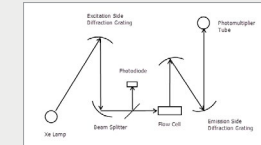
DETECTION JUST GOT EASIER

High-sensitivity detection is essential for most LC applications. LC 300 HPLC and UHPLC systems can be configured with one or more detectors to meet the needs of your laboratory. And with upgrade options available, your investment is future-proofed as your analytical needs grow or change. Each LC 300 HPLC and UHPLC system detectors features an integrated solvent and waste-tubing management system, and the PDA and two UV/Vis detectors also feature a built-in solvent organizer to reduce the number of modules in the LC stack while simplifying asset-management.

Ideal for laboratories balancing high-sample throughput requirements with methods that require high levels of sensitivity – all with the added certainty of component confirmation via spectral data processing tools.



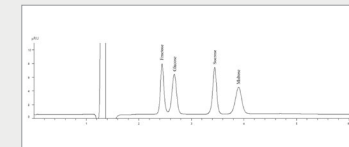
Achieve selective detection of fluorescing compounds with sensitivity that can be up to 1,000 times greater than standard UV detection.



Designed for laboratories that require more than one single wavelength to be monitored, processed, and stored per analysis.



Detector of choice for the analysis of carbohydrate, polymer, and other non-UV chromophoric compounds.



A simple, yet highly sensitive UV/Vis detector.



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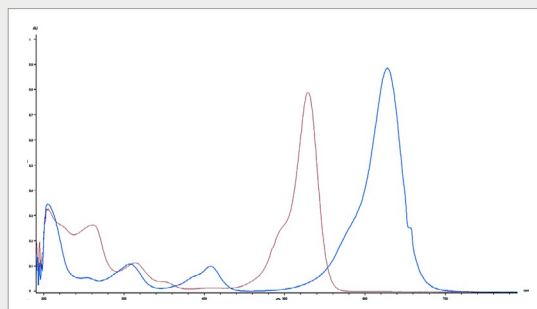
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LC 300 Photodiode Array (PDA) Detector

Ideal for laboratories balancing high-sample throughput requirements with methods that require high levels of sensitivity – all with the added certainty of component confirmation via spectral data processing tools.

- Low baseline noise and high linear dynamic range provide ultimate analyte concentration tolerance
- To further increase sensitivity, an interchangeable, self-aligning 50-mm flow cell is available
- The combination of sampling rates up to 200 Hz, low optical dispersion, and spectral identification ensure accurate results for any application
- Outstanding spectral capabilities and functions, such as wavelength maximum, peak purity, and peak library search for confident method development and peak confirmation



Overlay of UV/VIS spectra from FD&C
Red #3 and Blue #2

LC 300 Multiwavelength Detector (MWD)

Designed for laboratories that require more than one single wavelength to be monitored, processed, and stored per analysis.

- Simultaneous collection of up to eight channels at any wavelength or sampling rate
- A wide linear dynamic range, low baseline noise, and sampling rates up to 200 Hz for ultralow and high concentrations, without sample dilution
- Upgrade options to accommodate a full-featured photodiode array detector with spectral capabilities, allowing the system to grow with your needs
- Additional options include a fiber-optic, self-aligning 50-mm flow cell for greater sensitivity and flexibility



50-mm flow cell

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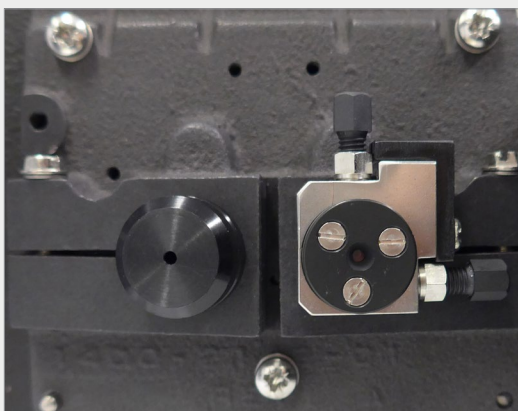
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LC 300 UV/Vis Detector

A simple, yet highly sensitive UV/Vis detector.

- An industry-leading dual-beam optical design for ultimate stability and sensitivity of your analyses
- Choice of either a deuterium or tungsten light source provides flexibility and allows for optimal sensitivity at any wavelength
- Sampling rates up to 100 Hz for UHPLC application needs

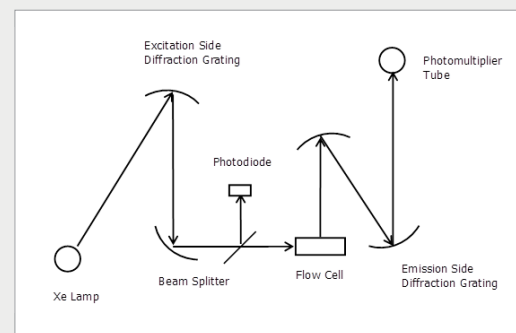


Dual-beam optical design with reference cell (left) and flow cell (right)

LC 300 Fluorescence Detector

Achieve selective detection of fluorescing compounds with sensitivity that can be up to 1,000 times greater than standard UV detection.

- Features dual channel data acquisition, wavelength programming, and low-noise electronics
- UHPLC compatible with optional 4 µL flow cell
- Exceptional sensitivity and stability for an ideal balance of accuracy and reproducibility
- Scanning capability for efficient method development



Schematic of fluorescence operating principle

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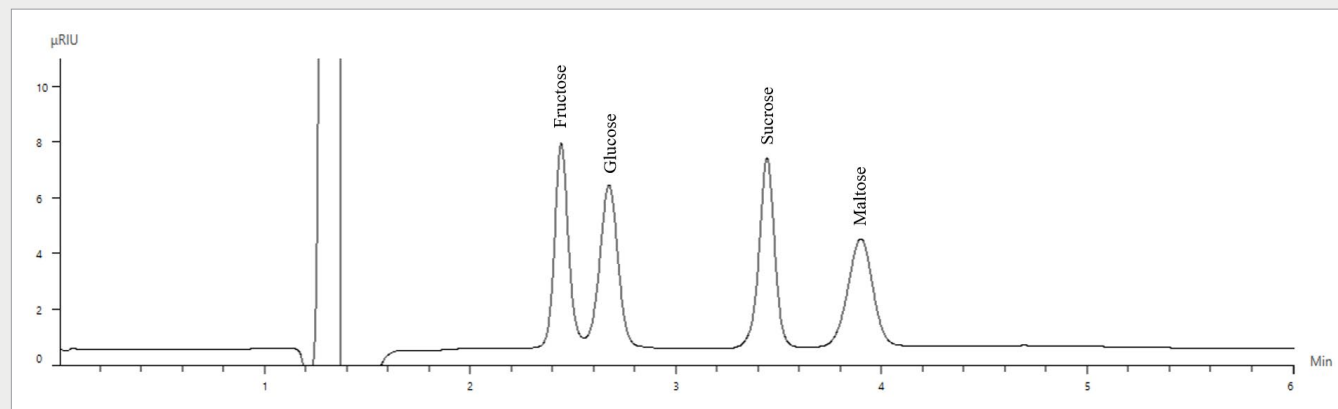
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LC 300 Refractive Index Detector

Detector of choice for the analysis of carbohydrate, polymer, and other non-UV chromophoric compounds.

- Designed to achieve outstanding stability through an optical system mounted within a precise temperature-controlled housing, minimizing the impact of subtle changes in ambient temperature
- Long-life LED light source for the ultimate in uptime and productivity
- Programmable polarity switching
- Programmable purge of reference cell



Chromatogram showing the separation of four sugars detected with RI detection.

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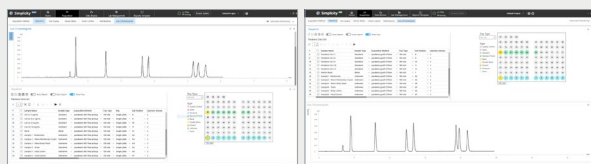
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CHROMATOGRAPHY SIMPLIFIED BY CDS SOFTWARE

Analytical labs face demands for increased throughput, improved operations, and more efficient processes. Software plays a crucial role, helping automate chromatographic workflows through integrated data collection, analysis, and reporting. The PerkinElmer SimplicityChrom Chromatography Data System (CDS) Software is an easy-to-learn, modern, intuitive CDS Software that enables efficient control of PerkinElmer HPLC, UHPLC, GC, and GC/MS solutions while integrating the overall chromatographic workflow. For labs requiring compliance, SimplicityChrom CDS Software supports 21 CFR Part 11.

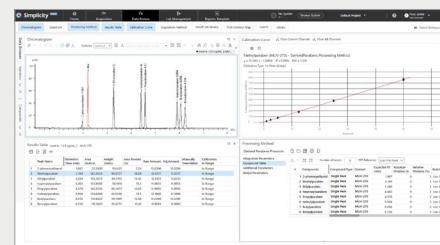
Customized Experiences

Customized layouts and workflows allow you to quickly and easily rearrange and save workspaces in the Acquisition and Data Review environments.



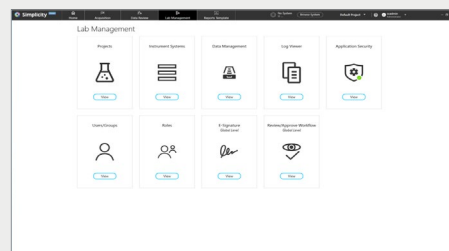
Intuitive Design

On a single screen, SimplicityChrom CDS software allows you to view data tables and chromatograms for a given analyte across multiple samples to identify trends, save time, and perform better data analysis.



End-to-End Control

SimplicityChrom CDS software enables you to complete all your data-processing and instrument-control needs in one easy-to-use application. Bold, intuitive iconography makes learning and designing workflows easy for both novice and expert users.



Efficient Compliance

SimplicityChrom CDS software streamlines compliance and supports 21 CFR Part 11 requirements. Administrators can manage user access directly in the CDS application, mitigating many IT challenges.

Title	Document Type	Status	Date of Last Action	Last Modified By	Action
Avenanthryphenol	Acquisition Method	Approved	20 Aug 2020	Samir Dey	View
Diphenhydramine	Report Template	In Review	20 Aug 2020	Li Qiang	View
Codeine	Acquisition Method	Approved	20 Aug 2020	Steph Stankovic	View
Apixin	Processing Method	Pending Review	20 Aug 2020	Ashley Smith	View

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SEPARATING WHAT MATTERS

Labs face growing demands for increased throughput, improved operations, and more efficient processes. LC 300 HPLC and UHPLC systems with SimplicityChrom CDS software can support your chromatographic workflows with new levels of ease of use, plus applications that can bring more productivity to your HPLC lab.

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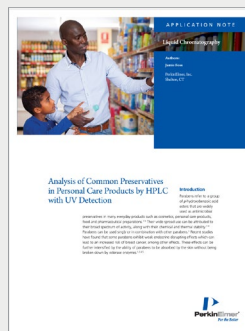
Ensuring consistent product composition requires analyses that are not only accurate, but also reproducible, to allow you to confidently produce and sell your product.



Read our application note highlighting a method with exceptional repeatability for the analysis of four sugars in a complex maple syrup matrix, utilizing the LC 300 HPLC and RI detector.

Quality Control of Personal Care Products

Although parabens increase the safety of personal care products, they may exhibit weak endocrine-disrupting effects on users that can be intensified by absorption by the skin.



Read our application note describing a fast, robust, and sensitive method using a PerkinElmer LC 300 HPLC System multiwavelength UV/Vis detector to analyze 2-phenoxyethanol and seven commonly used parabens.

Analysis for a Healthier World

Protecting consumer safety and verifying label-claim accuracy are essential for any food manufacturing operation, and these activities rely heavily on the accuracy and breadth of LC analyses.



Read our application note detailing a fast and accurate method for the quantification of isoflavones in nutraceutical samples in support of label-claim activities.

GET THE MOST OUT OF YOUR INSTRUMENTS AND YOUR ANALYSIS

You take your analysis seriously – and so do we. Our carefully crafted consumables promise reliable performance, control of operating costs, and maximized uptime of your instruments. Choose the right consumables for your analysis.

Chromatography Essentials

Ensuring all of the components of your LC instrument are running smoothly is paramount to ensuring accurate and precise analyses. Whether you need spare lamps or flowcells for your detectors, or pistons for your pumps, or autosampler trays – we have you covered



[READ MORE](#)

LC Columns

Achieve rugged and reproducible results – batch to batch and column to column – with an all-encompassing, flexible solution that meets the diverse, changing needs of your analyses. From a variety of sizes to a scalable design, our LC columns are flexible for all your separation needs.



[READ MORE](#)

Vials

Not all vials are created equal. Contamination from sub-standard glass or poor-quality septa can lead to interferences, inaccuracies, and failures that can affect lab productivity. Our high-quality vials and caps facilitate consistent results day after day.



[READ MORE](#)

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LABORATORY SOLUTIONS

A true analytical workflow depends on knowledgeable, dedicated support, every step of the way. Maximize your analytical workflow – from beginning to end – with the One Source portfolio of services.

Trust in Our Expertise

Instrument Services

- Optimize for uptime
- Enhance productivity
- Routine and scheduled maintenance
- Compliance with regulatory standards

Compliance Services

- Instrument qualification
- Data integrity
- Computerized system validation (CSV)

Education Services

- Classroom and online training
- Basic on-site training
- Advanced on-site training

OneSource[®]
Laboratory Services

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