

[BREEZE 2 HPLC SYSTEM]

HPLC MADE EASY



Waters

THE SCIENCE OF WHAT'S POSSIBLE.™

RELIABLE, PRECISE RESULTS.
SIMPLE HPLC AT ITS BEST.

The Waters® Breeze™ 2 HPLC System delivers routine analyses and robust performance day after day, providing the confidence you need to get the job done. Used in laboratories worldwide, chromatographers know that they'll get reliable data in an easy-to-use platform.

With a choice of multiple components to build your own liquid chromatography system, and software that allows you to simplify the complete management of your chromatographic data, the Breeze 2 HPLC System delivers world-class performance – affordably.



From teaching purposes to daily analytical work, the Breeze 2 HPLC System integrates simplicity, sensitivity, accuracy, and reliability. It's ideal for any organization seeking a quality HPLC platform with a limited budget and minimal chromatography experience.

SAVE ON TRAINING, DOWNTIME, AND THE BOTTOM LINE

The Waters Breeze 2 HPLC System is the next generation in a series of systems designed for routine chromatographic applications. Affordable and easy-to-use, the Breeze 2 System delivers world-class technology and performance that Waters is known for.

The Breeze 2 System comes complete with software, and user selected pump, injector, and detectors. The intuitive software interface requires minimal training, is easy to set up, learn, and operate. From teaching purposes to daily analytical work, the Breeze 2 System's robust features strike a balance of simplicity, performance, and reliability that make it the perfect system solution for any organization with a limited budget and chromatography experience.

As with all Waters products, Breeze 2 HPLC Systems are backed by the same renowned Global Services that have helped Waters achieve its status as the industry leader for service and support.

HELP YOUR LABORATORY OPERATE MORE EFFICIENTLY

Increase productivity and decrease training costs with easy-to-use Breeze 2 HPLC Software

Breeze 2 Software offers user-friendly technology allowing you to acquire, process, and report LC analyses, converting high-quality and accurate results into the answers you require. It simplifies the complete management of your chromatographic process and data, providing reliable information so you can make informed and accurate decisions efficiently – all while offering a high level of success with a low cost of ownership.

Using a single window, Breeze 2 Software provides simplified tools for:

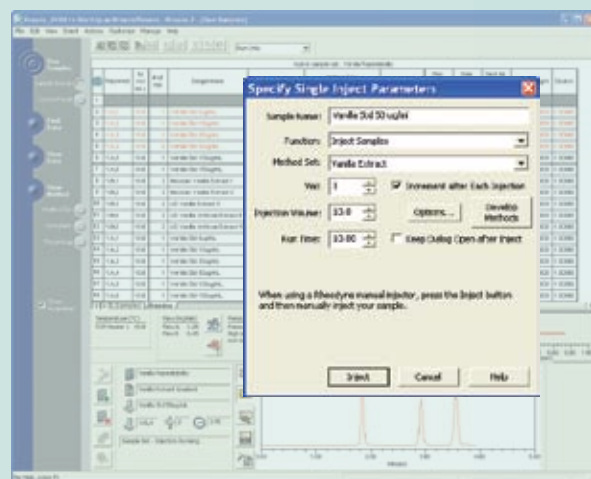
- Control of your chromatographic instrumentation
- Acquisition of chromatographic data
- Interaction with and processing of your data
- Comprehensive reporting
- Management of your data and chromatography system

Streamline chromatographic workflow

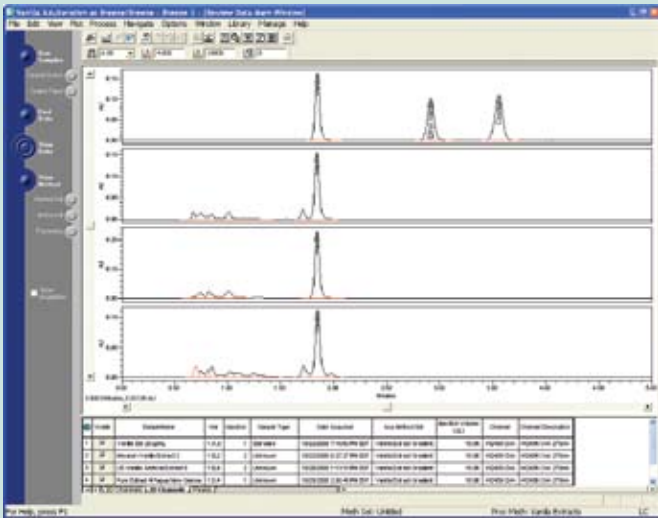
From acquisition to real-time monitoring, and total results management, you'll never be more than a few clicks away from the answers that you are looking for.



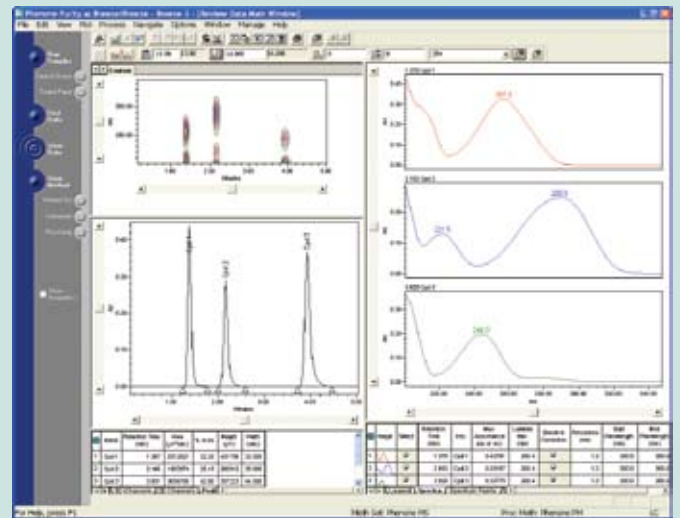
Monitor the current state of your chromatographic system, interact with the system, and set instrument parameters for data acquisition.



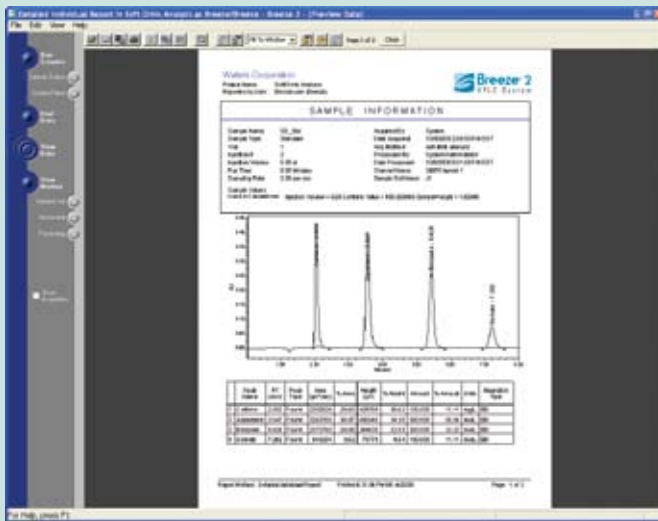
A simple dialog allows you to make single injections with ease.



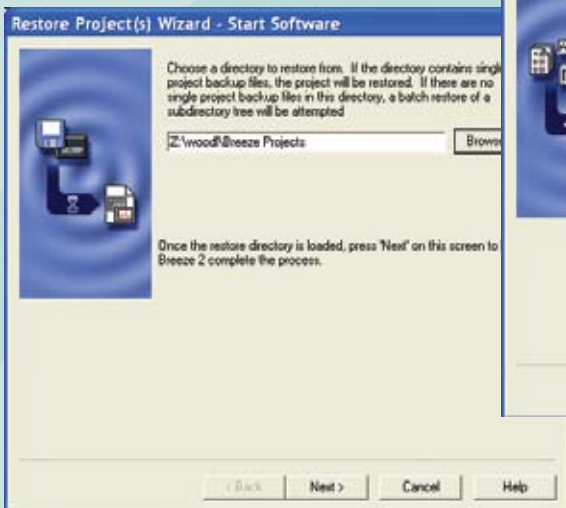
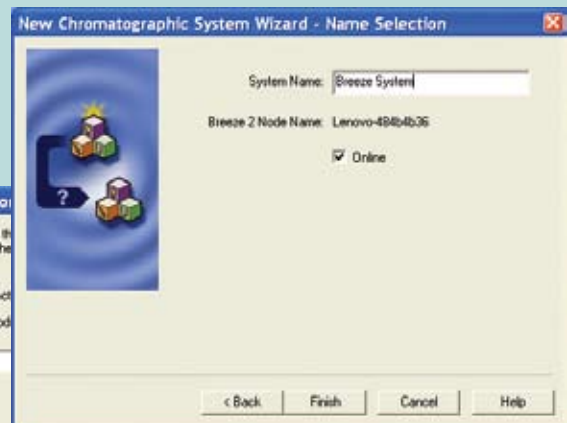
Automatically determine accurate processing parameters that are specific to your data. Peak integration is straightforward, with accurate answers right at your fingertips.



When using the 2998 PDA Detector, spectral information is obtained at the time(s) you desire for simple qualitative interpretation.



Create comprehensive reports using one of the many pre-formatted templates that can be printed, exported, or saved in a variety of e-formats, including ASCII, AIA, EMF, and PDF.



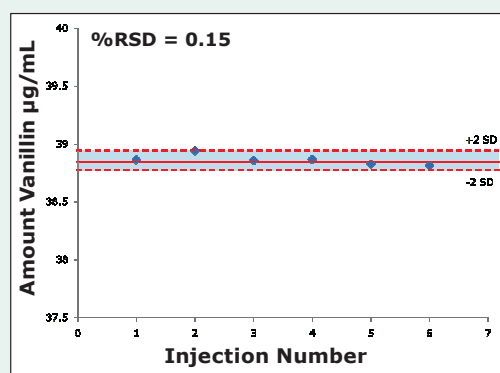
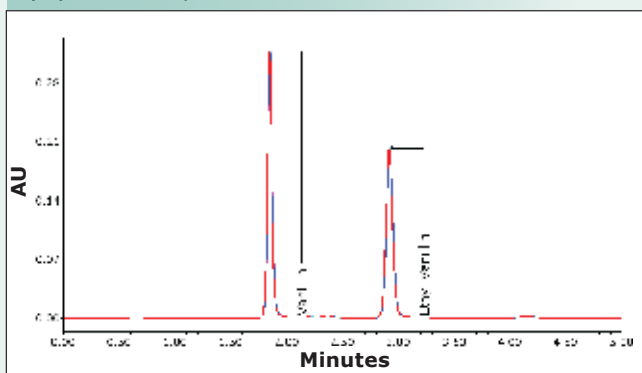
Wizards walk you through the steps of creating and managing user accounts, chromatographic systems, and projects for storing your chromatographic data.

PERFORMANCE AND RELIABILITY FOR ROUTINE ANALYSES

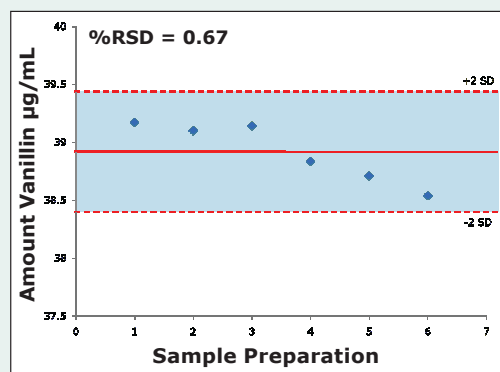
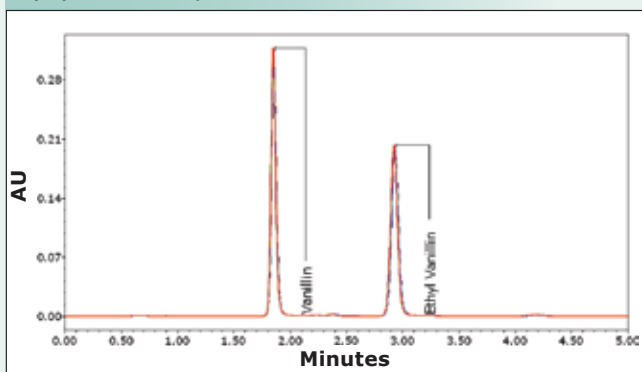
Reliable precision

Obtain consistent results in one day, or over an extended period of time with the same confidence.

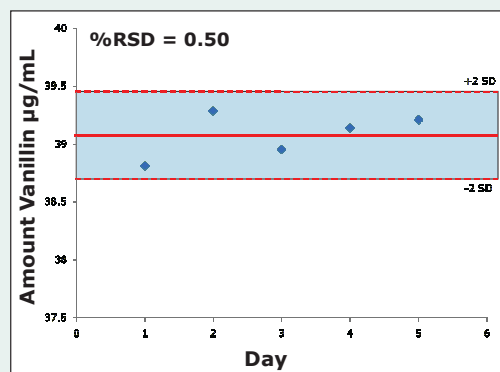
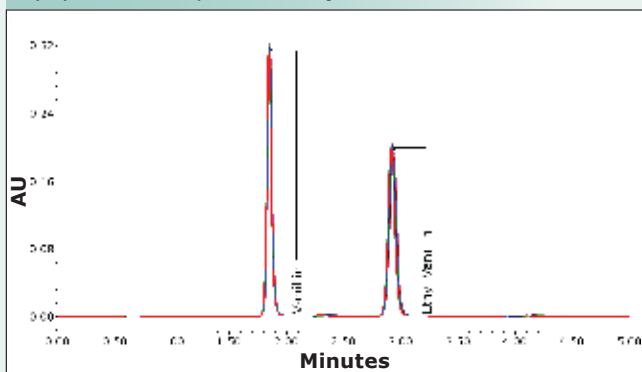
Injection Repeatability
1 preparation x 6 injections



Intra-Day Precision
6 preparations x 3 injections



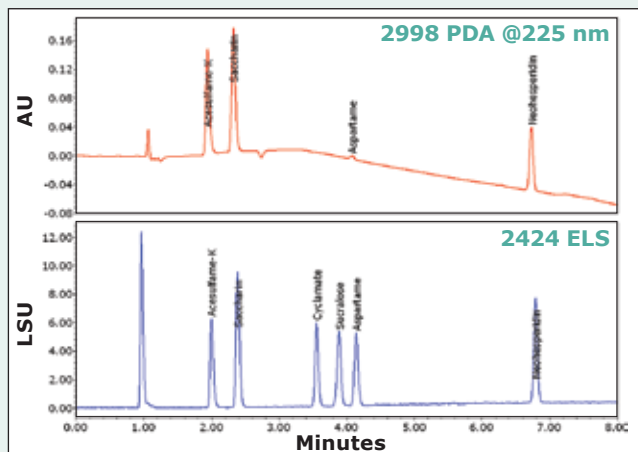
Inter-Day Precision
2 preparations x 3 injections x 5 days



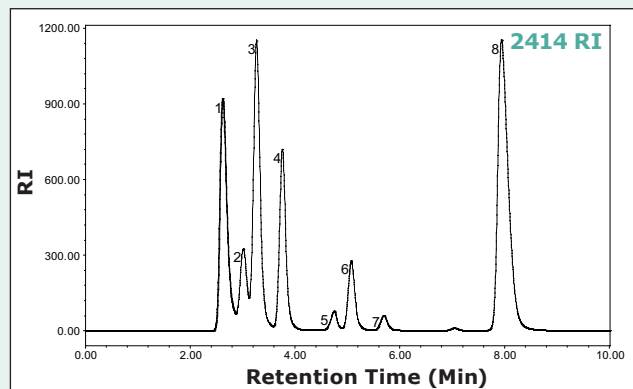
A method for screening artificial vanilla extract demonstrates various measures of precision. The injection repeatability on a single sample demonstrates the excellent precision of the 2707 autosampler. The intra-day precision (multiple sample preparations in a single day) and inter-day precision (multiple sample preparations over multiple days) is well below typical acceptance criteria of 2% RSD as a result of the small contribution of the system variances to overall precision.

Detector versatility

Regardless of your application or method requirements, Waters offers several detector options to suit your needs for optimal sensitivity and compound selectivity.



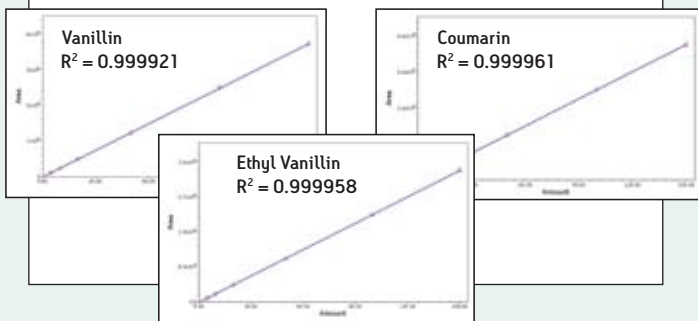
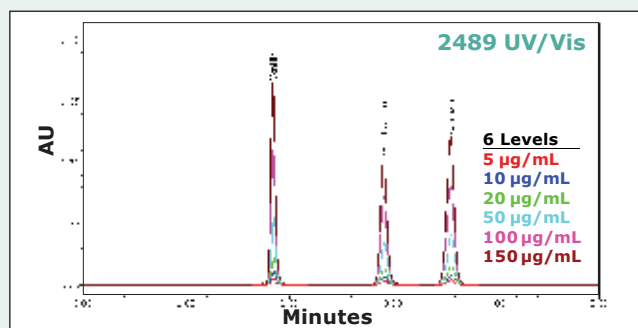
Separation of 6 sweeteners on the Breeze 2 System configured with the 2998 PDA and 2424 ELS detectors. ELS detection is an excellent complementary detection method when not all of the components in a sample have a chromophore for UV/Vis detection. This can be seen with cyclamate and sucralose that respond only to ELS detection.



HPLC separation of eight major fermenting mash components utilizing the 2414 RI as a universal detector: 1) dextrin, 2) maltotriose, 3) maltose, 4) glucose, 5) lactic acid, 6) glycerol, 7) acetic acid, and 8) ethanol.

Superior linearity

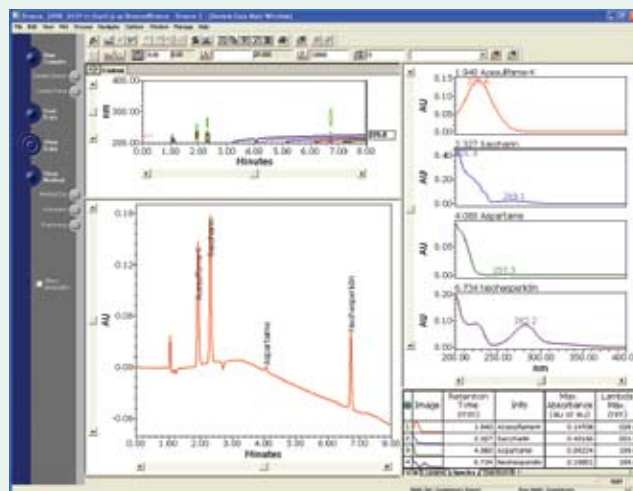
Wide linear dynamic range allows for simultaneous quantification of high- and low-level components within a single chromatographic separation as well as the ability to quantify over multiple orders of magnitude.



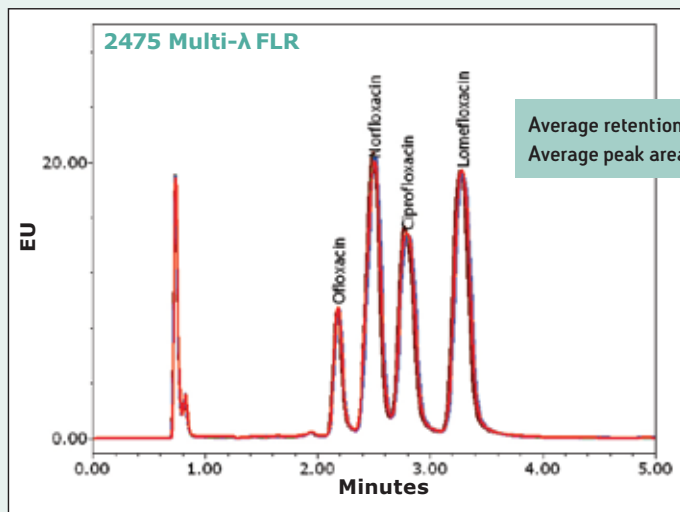
The calibration curves for the screening of commercial vanilla extracts demonstrates the excellent linearity of the Breeze 2 System which results from the large linear dynamic range of the 2489 UV/Vis Detector as well as the precision of the 2707 Autosampler.

Compound confirmation

The 2998 Photodiode Array (PDA) Detector complements the Breeze 2 HPLC System by providing enhanced method development capabilities and qualitative compound identification.



The 2998 Photodiode Array Detector is used to confirm the presence of compounds by utilizing their UV spectra. This is nicely demonstrated looking at the lambda max of four artificial sweeteners and can also be very helpful in determining elution order in method development.



Average retention time %RSD – 0.3%,
Average peak area %RSD – 1.1%

Excellent selectivity is demonstrated with the 2475 Multi-λ Fluorescence Detector with four second generation fluoroquinolone antibiotics (1 ng on column) on the Breeze 2 HPLC System. Similar selectivity was not seen with UV detection.

BE ASSURED. CHOOSE WATERS GLOBAL SERVICES.

With over 90 offices in more than 50 countries, the Waters Global Services team has the most in-depth and up-to-date knowledge of the advanced science and technologies that provide the foundation for Breeze 2 HPLC Systems. Maximize system uptime, increase laboratory productivity, with the expertise and responsiveness you need.

A BREEZE COMES FROM ONE DIRECTION. YOURS.

Breeze 2 HPLC System configuration is completely flexible to suit your needs

To assemble the Breeze 2 System best suited for your specific applications, simply choose at least one item from each of the columns below. You can also enhance the functionality of your Breeze 2 System by choosing any of the items listed in the optional components column or an additional detector.

Build a Breeze 2 HPLC System to fit your application and workload

pumps	DETECTORS	INJECTORS	OPTIONAL COMPONENTS
Waters 1525 Binary Pump	Waters 2489 UV/Visible Detector	Manual Injector	1500 Series Column Heater
Waters 1515 Isocratic Pump	Waters 2998 Photodiode Array (PDA) Detector	and/or Waters 2707 Autosampler	Extended Temperature Range Column Heater
	Waters 2414 Refractive Index (RI) Detector	Waters 2707 Autosampler with sample cooling	eSAT/IN™ to add third-party detectors
	Waters 2475 Multi-λ Fluorescence Detector		1500 Series Vacuum Degassers
	Waters 2424 Evaporative Light Scattering (ELS) Detector		

WORLD-CLASS COMPONENTS DELIVER WORLD-CLASS RESULTS



2998 Photodiode Array (PDA) Detector

Offers advanced optical detection for high chromatographic and spectral sensitivity. An ideal qualitative tool when UV spectra are required for overlay comparison for peak tracking.



2489 UV/Visible Detector

The most sensitive and versatile dual-wavelength absorbance detector for HPLC. Unsurpassed sensitivity makes the 2489 Detector capable of achieving the limit of detection necessary to identify the smallest impurities. Lamp Optimization Software automatically manages detector performance to ensure consistent results over time. The result – sensitive, accurate, and reliable detection every time.



2414 Refractive Index Detector

Unsurpassed sensitivity for HPLC and GPC analysis. High efficiency heat exchanger and flow cell temperature controls ensure stable and reproducible results. Setup through Breeze 2 Software makes detector control easy. Stop struggling with poor detector sensitivity and meet your development schedules.



2424 Evaporative Light Scattering (ELS) Detector

The ideal solution for the analysis of components with limited or no UV chromophors.



2475 Multi- λ Fluorescence Detector

Designed for applications where both high sensitivity and selectivity are required. Provides simplified method development with 3D spectral capabilities.



2707 Autosampler

For either plates or vials it's the autosampler of choice when precision matters. This automated, easy-to-use instrument combines reliability, versatility, and low cost all in one innovative sampling system. Multiple samples can be programmed for productivity-boosting functionality to make automating methods easier and more efficient.



1525 Binary HPLC Pump

Integrated, high-pressure gradient pumping system, with on-board pulse dampening and efficient mixing that minimizes volume and provides the smooth, pulse-free solvent flow required by highly sensitive detectors.

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