



ACQUITY Arc

CONTROL YOUR RISK

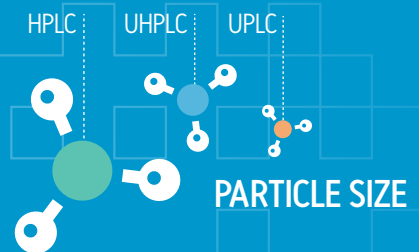
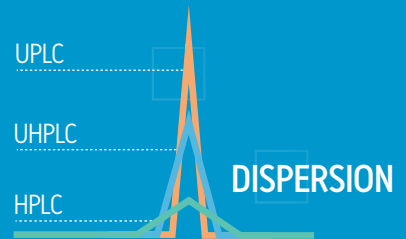
BUILT UPON A FOUNDATION OF RELIABILITY

The method development process is changing. New regulations, software and analytical technologies are rapidly changing how methods are designed, transferred, and monitored over their lifecycle. An all-in-one platform for HPLC and UHPLC separations, the ACQUITY™ Arc™ System is designed to meet the spectrum of challenges you face from robust method development to seamless transfer between any modern LC systems.

With the ACQUITY Arc System, you can experience true plug-and-play method compatibility for HPLC and UHPLC separations. Significant productivity gains can be realized by deploying a single LC platform that allows for the efficient transfer, adjustment, and improvement of methods from any LC platform without compromise in method integrity.

Laboratory-driven organizations have relied on Waters for over 60 years to deliver reliable, robust, and reproducible solutions to ensure confidence in their analytical results. With over 100,000 LC systems installed, we understand the significant impact the right technology has on your business, and the implications it has on characterizing the quality and safety of your products.

Methods with greater agility, robustness, and capacity for change can help you reduce regulatory burden, risk of failure and costs. Visit www.methods.waters.com to learn more about how method life cycle management (MLCM) connects your method today to your method tomorrow.



DESIGNED FOR DISCOVERY TO ROUTINE QC APPLICATIONS

The ACQUITY Arc System is the only available LC system with regulatory compliant-ready hardware and software for both HPLC and UHPLC separations in one instrument. With **unrivalled column capacity** and **Arc Multi-flow path™ technology**, the ACQUITY Arc System allows you to generate new methods and modernize legacy HPLC methods faster than ever before.

Comprehensive detector portfolio

High-performance analytical detectors designed to maximize HPLC and UHPLC performance, delivering exceptional sensitivity and linearity for your assays.

Photodiode array, UV/Vis, fluorescence, refractive index, evaporative light scattering, and mass detection, including the ACQUITY QDa™ Detector.

Gradient SmartStart

Automatically manage gradient start time and pre-injection steps to maximize sample throughput. Automatically counteract differences in system dwell volume without the need to alter gradient table inputs.

Quaternary solvent management

Precise and accurate blending of up to four solvents with automated solvent compressibility compensation. Increase solvent flexibility with an optional, integrated solvent select valve, providing access to six additional solvents.

Column Technology

Industry leading selectivity choices to meet the needs of virtually every LC application.

Negligible carryover

Advanced flow-through needle design minimizes carryover by continuously cleansing the needle during run. User configurable wash settings provide flexibility to address even the most complex sample matrices.

Thermal management options

Column manager options available for up to 15 columns ranging in length from 50 mm to 300 mm, with a temperature range of 4 °C to 90 °C. Integrated column selection valve options provide unattended, fast column changeover.

Auto-Blend™ Plus Technology

Program gradients directly in terms of pH and ionic strength to minimize manual mobile phase preparation, reduce potential for human error, and accelerate method robustness testing for chromatographic methods.

Arc Multi-flow path technology

Delivers plug-and-play method compatibility with HPLC or UHPLC methods with the flip of a switch. Easily replicate or improve established methods by simply selecting between Path 1 (HPLC) or Path 2 (UHPLC) without any manual user intervention.

Laboratory Informatics

Software control within your existing Empower™ or MassLynx™ infrastructure.

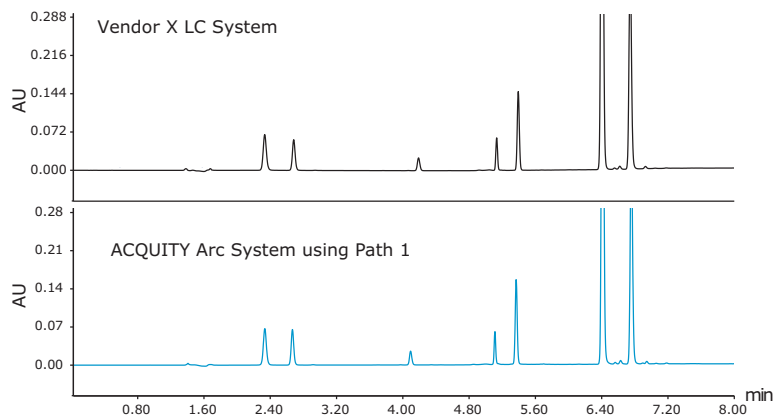


REPLICATE YOUR ESTABLISHED METHODS

The ACQUITY Arc System, enabled by unique Arc Multi-flow path technology, easily accepts and replicates methods from any HPLC platform, without compromise.

Whether you are trying to replicate an out-of-date HPLC method or are transferring methods across the organization, or to contract partners, the ACQUITY Arc System gives you ultimate flexibility to reproduce, modernize and transfer existing methods with ease and greater cost efficiency, while preserving the integrity of your methods.

Upgrade your laboratory with a versatile, modern LC system that delivers HPLC and UHPLC method compatibility at the flip of a switch.

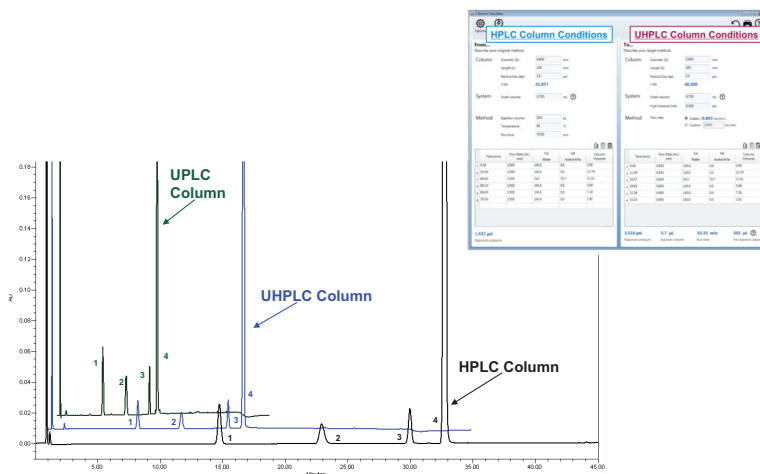


Analysis run on a Vendor X LC system and replicated on the ACQUITY Arc System. Conditions: 15 to 35% B in 3 min, 35 to 95% B in 2 min; Mobile phase A: 0.1% HCOOH in H₂O, mobile phase B: 0.1% HCOOH in ACN; Flow rate = 2.0 mL/min; Column: XSelect™ CSH C₁₈, 4.6 x 150 mm, 5 μm; Temp. = 30 °C; UV@ 260 nm; 10.0 μL injection volume.

MODERNIZE YOUR METHODS

The United States Pharmacopeia (USP) is championing pharmacopeial harmonization and modernization efforts, and international organizations are following suit. As a result, the USP is encouraging the modernization of older compendial methods to ensure they are fit for purpose.

Revisions to these guidelines give you more flexibility to modify your existing pharmacopeial methods with modern techniques and technologies, and in some cases avoid revalidation. The ACQUITY Arc System, featuring the Waters Columns Calculator, allows you to confidently scale your gradient methods from a 3.5 μm to a 2.5 μm particle, decreasing run times, lowering solvent consumption, and increasing sample throughput.



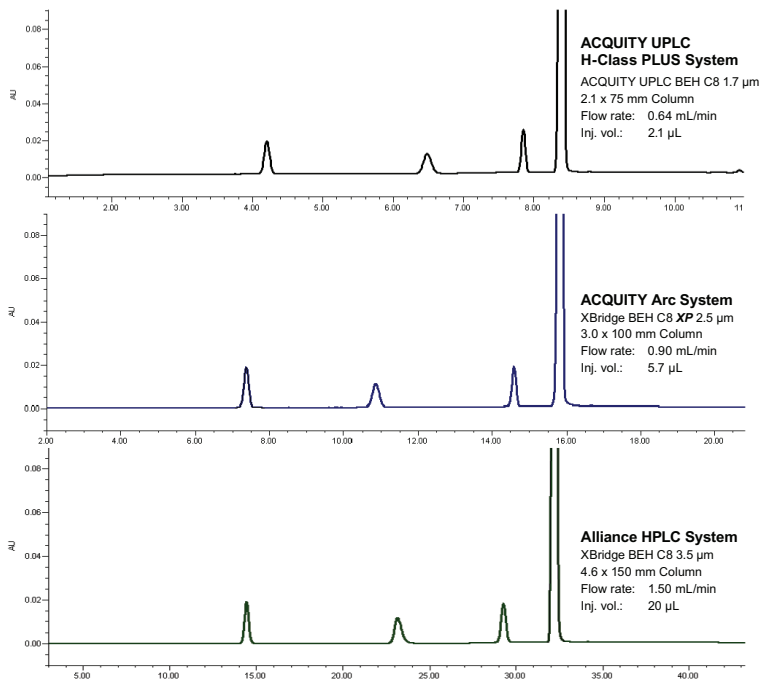
Quetiapine fumarate system suitability solution analyzed on the ACQUITY Arc System using HPLC, UHPLC, and UPLC™ column/method conditions for the quetiapine impurity method. Peak identification: (1) quetiapine related compound G, (2) quetiapine related compound B, (3) quetiapine desethoxy, and (4) quetiapine.

SAVE TIME. REDUCE COST.

With the right column, the ACQUITY Arc System is the ideal solution to accommodate methods from any LC platform.

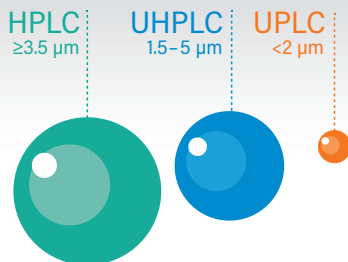
From concept to production, the transition your product takes through the product development cycle often requires rigorous LC assays to properly characterize and assess its readiness to advance to the next stage. These LC assays are often adapted to accommodate the technology available from one stage to the next, in some cases requiring an adjustment from a smaller particle size (sub-2- μm) to a larger particle size (2.5 μm –5 μm).

The ACQUITY Arc System provides the flexibility to maximize productivity through efficient and rapid 2.5 μm –2.7 μm UHPLC separations, or to accommodate larger 3.0 μm –5 μm HPLC particles.

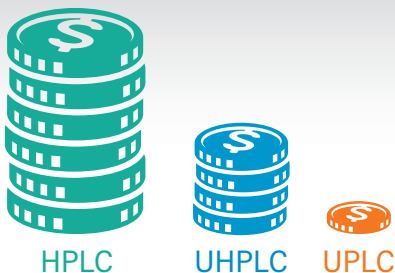


The ACQUITY Arc System enables the support of HPLC and UHPLC methods on a single platform.

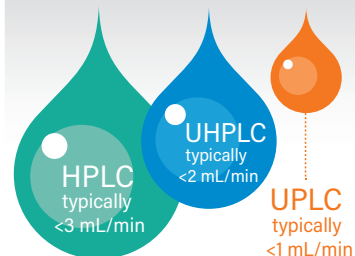
OPTIMAL PARTICLE SIZE



COST PER SAMPLE



FLOW RATE



MITIGATE YOUR RISK

With an expanded range of column manager options enabling up to 15-column switching from 4 °C to 90 °C, the ACQUITY Arc System will help you significantly reduce the time spent generating robust methods. Equipped with the plug-and-play ACQUITY QDa Mass Detector, the ACQUITY Arc System tracks peaks in your method and reveals hidden coelutions of similar analytes, ensuring you have complete confidence in the reliability and reproducibility of your method now and far into the future.



Thermal management options

Active and passive pre-heating options available, with up to 15-column switching from 4 °C to 90 °C. Automated monitoring and tracking of column usage with eCord™ technology available with active pre-heating options.

Quaternary solvent management

Accelerate your method development with precise and accurate blending of up to four solvents. Increase solvent flexibility with an optional solvent select valve, providing access to six additional solvents.

Auto-Blend Plus Technology

Reduce human error and accelerate method robustness testing for chromatographic methods by programming gradients to control mobile phase pH and ionic strength.

Support

Empower eLearning modules to help train your lab on Empower 3 and Method Validation. Applications support that's customized based on your method development needs.

Consumables

Industry leading selectivity choices to meet the needs of virtually every LC application. Quality Control (QC) Reference Material benchmarks your ACQUITY Arc System and enables perfect resolution. Certified clean vials.

Comprehensive detector portfolio

Diverse portfolio of detectors for method development, method transfer, and routine use.

ACQUITY QDa Detector

Mass detection built around the needs of analytical scientists for chromatographic analysis. Robust, reliable and requiring no adjustments, it easily integrates with your ACQUITY Arc System.

Laboratory Informatics

Software control within your existing Empower or MassLynx infrastructure. Empower 3 Method Validation Manager allows you to perform chromatographic method validation in one application. Optional S-Matrix Fusion Software automates your method development according to AQbD guidelines.

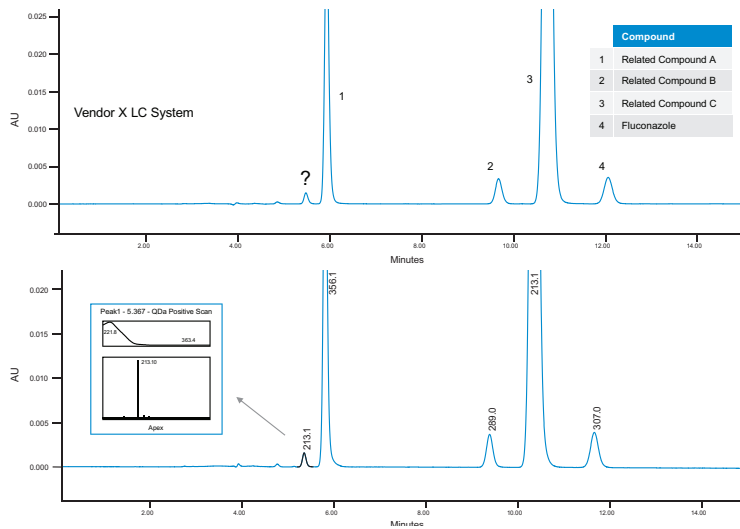
DEVELOP METHODS THAT STAND THE TEST OF TIME

Need an orthogonal detection approach to UV in your method development? Streamline your method development with an LC-MS solution that's as easy to use as photodiode array detection.

The ACQUITY Arc System is fully compatible with the ACQUITY QDa Detector, supporting efficient and robust method development by expanding the information you can get from your system using the same Empower Software. The system automatically pairs qualitative mass spectral data to the peaks in your chromatogram leaving nothing to chance.

- Confirm the identity of peaks in a separation without injecting standards
- Identify new peaks in a separation with molecular weight information
- Detect unresolved peaks and determine if a peak is homogeneously pure
- Easily track peaks as method conditions are changed

Using Empower 3 Software and its Custom Calculations and Custom Reporting functions enables you to quickly and automatically evaluate chromatographic data. Configurable reports allow you to choose optimal conditions based on metrics rather than judgment, ensuring a comprehensive assessment of data and best method conditions.



Method transfer of USP Assay for Fluconazole using the ACQUITY Arc System. Here the peak has same m/z of a related compound. Conditions: Mobile phase: 20:80 acetonitrile/water; Flow rate = 0.5 mL/min; Column: XSelect HSS T3, 4.6 x 150 mm, 3.5 μ m; UV@ 260 nm; 20.0 μ L injection volume.

STREAMLINE YOUR WORKFLOW

How would you benefit from increased assay consistency between analysts and from lab to lab? What would you gain by accelerating your robustness testing prior to transferring methods to QA/QC?

Auto-Blend Plus Technology is a novel software tool that extends traditional quaternary solvent blending to permit gradient programming directly in units of pH and ionic strength, providing the ability to vary composition in even the smallest increments of pH (even those differing by 0.1 pH units or less).

With Auto-Blend Plus, the cumbersome and error-prone approach of manually preparing several pre-mixed mobile phases can now be eliminated with on-demand mobile phase creation, providing significant time savings and improved productivity to the laboratory.

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www.methods.waters.com

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Waters

THE SCIENCE OF WHAT'S POSSIBLE.™

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