



# ACQUITY Arc

VERSATILITY WITHOUT COMPROMISE

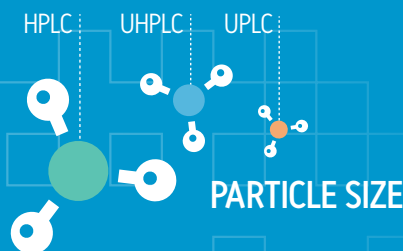
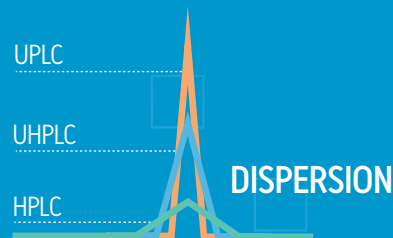
## BUILT UPON A FOUNDATION OF RELIABILITY

With the ACQUITY® Arc™ System, analytical scientists 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 the efficient transfer, adjustment, or improvement of methods from any LC platform without compromise in method integrity.

Scientists working with established methods have been challenged to adopt modern LC technology with the versatility and robustness required to bridge the gap between HPLC and UPLC® while continuing to support validated assays. The ACQUITY Arc System is another tool provided by Waters to help answer this challenge.

Laboratory-driven organizations have relied on Waters for over 50 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.

The continued development of the Waters LC portfolio is a direct result of the evolution of our customers' needs, enabling a broader range of scientists to benefit from improved scientific characterization, lower cost of ownership and accelerated return on investment inherent of assays using higher performance separation technologies.



## CHOOSE YOUR PATH

The ACQUITY Arc System minimizes downtime and inefficiencies, allowing the seamless adoption of new technology into regulated environments. Enabled by **Arc Multi-flow path<sup>™</sup> technology**, the ACQUITY Arc System can easily replicate methods developed on previous generations of LC instrumentation without alteration to the method.

### 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<sup>®</sup> Detector.

### Negligible carryover

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

### Thermal management options

30-cm Column Heater and Column Heater/Cooler options provide stable, uniform temperature management to ensure method repeatability from lab to lab. Integrated column selection valve options provide unattended, fast column changeover.

### Gradient SmartStart

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

### AutoBlend Plus<sup>™</sup> Technology

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

### 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.

### 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.



## 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.

You can't afford to use anything but the most reliable and robust equipment to ensure product consistency and compliance with regulatory guidelines.

Analytical laboratories must commonly transfer methods across the organization, or to contract partners, while preserving the integrity of a method.

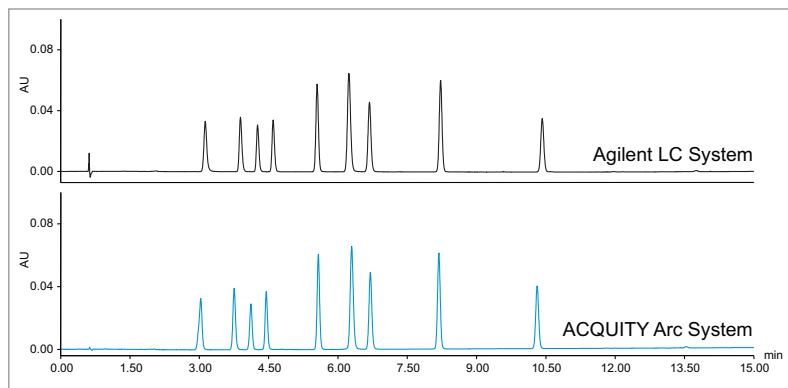
Upgrade your laboratory with a versatile, modern LC system that delivers HPLC and UHPLC method compatibility at the flip of a switch.

## STREAMLINE YOUR WORKFLOW

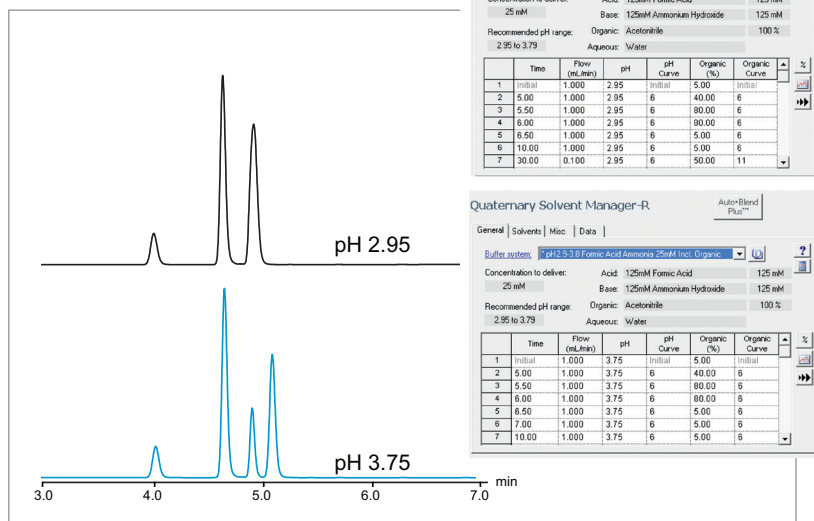
Auto•Blend Plus Technology is a novel software tool that extends traditional quaternary solvent blending to permit gradient programming directly in units of pH and ionic strength, providing the ability to vary composition in even the smallest increments of pH (even those differing by 0.1 pH units or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

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?

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.



*Impurity analysis run on Agilent LC system and replicated on the ACQUITY Arc System.  
Conditions: 5% to 60% MeOH over 15 min; Mobile phase A: 0.1% HCOOH in H<sub>2</sub>O, mobile phase B: 0.1% HCOOH in MeOH; Flow rate = 2.9 mL/min; Column: XSelect® CSH C<sub>18</sub> 4.6 x 150 mm, 5 µm; Temp. = 45 °C; UV @ 270 nm; 10.0 µL injection volume.*



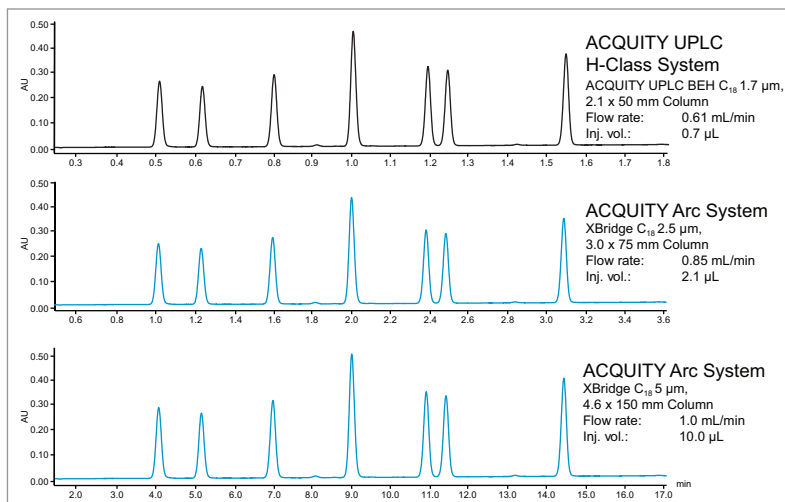
*Auto•Blend Plus was utilized to program the mobile phase at pH 2.95 or 3.75 for this related compound analysis. By automatically blending the appropriate proportions of acid and base stock solutions, using Auto•Blend Plus with the ACQUITY Arc System minimizes the potential human error and time associated with manual mobile phase preparation, as well as streamlines the analyst's workflow.*

## ADAPT METHODS TO MAXIMIZE ASSET UTILIZATION

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

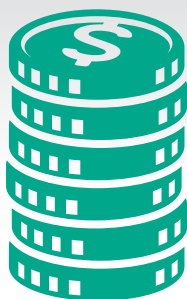
From concept to production, the transition your product takes through the product development cycle often requires rigorous LC assays to properly characterize and assess its readiness to advance to the next stage. More often than not, these LC assays are adapted to accommodate the technology available from one stage to the next, in some cases requiring an adjustment from a smaller particle size (sub-2- $\mu\text{m}$ ), to a larger particle size (2.5  $\mu\text{m}$  – 5  $\mu\text{m}$ ).

The ACQUITY Arc System provides the flexibility to maximize productivity through efficient and rapid 2.5  $\mu\text{m}$  – 2.7  $\mu\text{m}$  UHPLC separations, or to accommodate larger 3.0  $\mu\text{m}$  – 5  $\mu\text{m}$  HPLC particles.



*The ACQUITY Arc System enables the support of HPLC and UHPLC methods on a single platform.  
Conditions: 50% to 80% MeOH; Temp. = 40 °C; UV @ 254 nm.*

## COST PER SAMPLE



HPLC



UHPLC



UPLC

	Cost /Sample	Solvent Usage/Year	Cost/ Year/Assay
ACQUITY Arc System using a 5 $\mu\text{m}$ column (Run time = 45 min)	\$12.33 US	544 Liters	\$54,432 US
ACQUITY Arc System using a 2.5 $\mu\text{m}$ column (Run time = 11 min)	\$2.60 US	156 Liters	\$15,562 US
<b>ANNUAL SAVINGS</b>	<b>\$9.73 US</b>	<b>388 Liters</b>	<b>\$38,870 US</b>

*Assumptions: 1,000 samples per month. It would take three LC systems, 14 days per month to complete this sample quantity using a 5  $\mu\text{m}$ , 4.6 x 150 mm column, 45 min HPLC method (1.4 mL/min). It would take one LC system 10 days per month to complete this sample quantity using a 2.5  $\mu\text{m}$ , 3.0 x 75 mm column, 11 min UHPLC method (1.2 mL/min).*

[www.waters.com/arc](http://www.waters.com/arc)

For your local sales office, please visit [www.waters.com/contact](http://www.waters.com/contact)

# Waters

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