

## ACQUITY Arc System

The Waters® ACQUITY® Arc® System provides plug-and-play method compatibility for HPLC and UHPLC separations. Designed with unique Arc Multi-flow path™ technology, the ACQUITY Arc System provides significant productivity gains by deploying a single LC platform that allows the efficient transfer, adjustment, or improvement of methods from any LC platform without compromise.

### SYSTEM FEATURES

Total system bandspread	4σ of $\leq 30 \mu\text{L}$
Dwell volume (total system)	Path 1 $\leq 1450 \mu\text{L}$ Path 2 $\leq 1150 \mu\text{L}$
Gradient delay volume	Path 1 $\leq 1050 \mu\text{L}$ Path 2 $\leq 750 \mu\text{L}$
Integrated leak management	Leak sensors, as standard, and safe leak handling
Quantum synchronization	Injection synchronization between pump and injector enhances retention time reproducibility
Operating flow rate range	0.001 to 5.000 mL/min, in 0.001 mL increments
Maximum operating range	9,500 psi up to 5.000 mL/min
pH range	1 to 12.5
Unattended operation	Leak sensors and safe leak handling, full 96-hour diagnostic data display through console software
Cycle time	$\leq 30$ seconds inject-to-inject

### QUATERNARY SOLVENT MANAGER-R

Solvent capacity	Blend up to four solvents in any combination (standard); Total capacity of nine solvents with integrated solvent select valve (optional)
Number of fluidic paths	Three (Path 1, Path 2, and waste), with Arc Multi-flow path technology (standard)
Dwell volume selection	Automated with Arc Multi-flow path technology
Solvent conditioning	Integrated vacuum degassing, four chambers
Gradient formation	Low-pressure mixing, quaternary gradient
Gradient profiles	11 gradient curves [including linear, step (2), concave (4), and convex (4)]
Check valves	Passive check valves
Flow accuracy	$\pm 1.0\%$ at 0.5, 3.0, and 5.0 mL/min
Flow precision	$\leq 0.075\%$ RSD or $\pm 0.020$ min SD, whichever is greater, based on six replicates [60:40 water:methanol pre-mixed; 1.5 mL/min; alkylphenone mix; $24.0 \mu\text{L}$

	injection volume; CORTECS® C <sub>18</sub> 2.7 µm, 4.6 x 50 mm; 35 °C; UV @254 nm]
Composition ripple	≤0.5 mAU [mobile phase containing 0.1% TFA in water/acetonitrile; 1.5 mL/min; CORTECS C <sub>18</sub> 2.7 µm, 4.6 x 50 mm; 35 °C; UV @214 nm]
Composition accuracy	+/- 0.5% absolute (full scale) from 5 to 95%; 0.5 to 5.0 mL/min [methanol; methanol with 5.0 mg/mL caffeine step gradient; UV @273 nm]
Composition precision	+/- 0.15% RSD or 0.04 min SD, whichever is greater based on six replicate injections [60:40 water:methanol via Auto-Blend™ Technology; 0.5 mL/min; alkylphenone mix; 24.0 µL injection volume; CORTECS C <sub>18</sub> 2.7 µm, 4.6 x 50 mm; 35 °C; UV @254 nm]
Compressibility compensation	Automatic and continuous
Priming	Wet priming can run at flow rates up to 10 mL/min
Pump seal wash	Standard
Primary wetted materials	316L stainless steel, PPS, fluoropolymer, UHMWPE blend, sapphire, ruby, zirconia, DLC, PEEK and PEEK blend, titanium alloy

## SAMPLE MANAGER FTN-R

Injection volume range	0.1 to 50.0 µL as standard
	Up to 1000.0 µL with optional extension loops
Sample capacity	768 [2x 384-well plate]; or 96 [2-mL vial holders]
Any two of the following:	48 position, 2.00-mL vial holder (total capacity of 96 vials) 96-well plate 384-well plate 48 position, 0.65-mL micro-centrifuge tube plate 24 position, 1.50-mL micro-centrifuge plate
Sample compartment temperature	4.0–40.0 °C, settable in 0.1 °C increments (optional)
Temperature accuracy	+/- 0.5 °C at the sensor
Temperature stability	+/- 1.0 °C at the sensor
Injection needle wash	Integral, active and programmable
Minimum sample required	3 µL residual, using total recovery 2-mL vials
Accuracy (aspiration)	+/- 0.2 µL
Linearity	>0.999; 0.2 – 50.0 µL
Precision	<1.0% RSD from 0.5 to 0.9 µL <0.5% RSD from 1.0 to 4.9 µL <0.25% RSD from 5.0 to 1000.0 µL
Sample carryover	≤0.002% [Caffeine] under UV conditions

Advanced capabilities	Auto-dilution; auto-addition; load ahead
Primary wetted materials	316L stainless steel, gold plated stainless steel, polyimide, PEEK blend, DLC

## COLUMN HEATER (CH30-A)

Column capacity	Single column, up to 4.6 mm I.D.; up to 300 mm length with filter or guard column
Column compartment temperature	20.0 (or 5.0 °C above ambient) to 90.0 °C, settable in 0.1 °C increments
Temperature accuracy	+/- 0.5 °C at the sensor
Temperature stability	+/- 0.3 °C at the sensor
Solvent conditioning	Active pre-heating
Column tracking	eCord™ Technology tracks column usage and history

## 30-CM COLUMN HEATER AND HEATER COOLER (30-CM CH AND 30-CM CHC)

Column capacity	Single column, up to 7.8 mm I.D.; up to 300 mm length with filter or guard column; up to 3 columns with optional 3-position column selection valve
Column selection	Up to 3 with optional 3-column selection valve (8-port, 9,500 PSI)
Column compartment temperature	30-cm CHC: 4.0 (or 15.0 °C below ambient, whichever is greater) to 65.0 °C 30-cm CH: 20.0 (or 5.0 °C above ambient) to 65.0 °C
Temperature accuracy	+/- 0.5 °C at the sensor
Temperature stability	+/- 0.3 °C at the sensor
Solvent conditioning	Passive pre-heating

## INSTRUMENT CONTROL

Informatics compatibility	Empower® Chromatography Data System, MassLynx® Software
Communications	Ethernet
Event input/output	Contact closure and/or TTL input/output
Connections INSIGHT®	Provides real-time monitoring and automatic notification of instrument performance and diagnostic information

## ENVIRONMENTAL SPECIFICATIONS

Acoustic noise [total system]	≤65 dBA
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Operating temperature range	4.0 to 40.0 °C
Operating humidity range	20% to 80%, non-condensing

## ELECTRICAL SPECIFICATIONS

Power requirements	100 to 240 VAC
Line frequency	50 to 60 Hz
Power consumption	QSM: 200 VAC SM FTN-R: 400 VAC 30-cm CHC: 240 VAC 30-cm CH: 50 W CH30-A: 50 W

## PHYSICAL SPECIFICATIONS

### ACQUITY Arc System:

Quaternary Solvent Manager-R,	Width: 57.4 cm (22.6 in.)
Sample Manager FTN-R,	Height: 57.1 cm (22.5 in.)
30-cm Column Heater,	Depth: 62.8 cm (24.7 in.)
and Mounting Bracket	Weight: 59.1 kg (130.0 lbs)

# Waters

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