

Advion



AVANT

HPLC & UHPLC CHROMATOGRAPHY SYSTEMS

Providing simple, high-performance, LC/CMS
with the expression CMS



Advion.com/AVANT · info@advion.com · 1-877-5-ADVION

The AVANT™ (U)HPLC Series

Advion's range of AVANT, high performance, liquid chromatography systems can be used standalone with a UV/Vis detector or with the *expression*® compact mass spectrometer to provide seamlessly integrated LC/CMS under the full control of Advion's simple, intuitive LC Express and Mass Express software suites.

The Advion **AVANT** series offers:

- HPLC and UHPLC binary pumps
- Automated solvent selection of 4 solvents
- 6-way column switching
- Divert valve
- UV-Vis DAD
- Column oven
- Autosamplers with optional cooling
- Modular and stackable design
- High-pressure mixing with optional degassing

Modular, stackable design with many options, AVANT provides custom solutions for both HPLC and UHPLC needs. From the simplest manual injection HPLC to a fully automated and streamlined UHPLC system and everything in-between, the AVANT series can be configured to fit your analytical requirements and your budget.

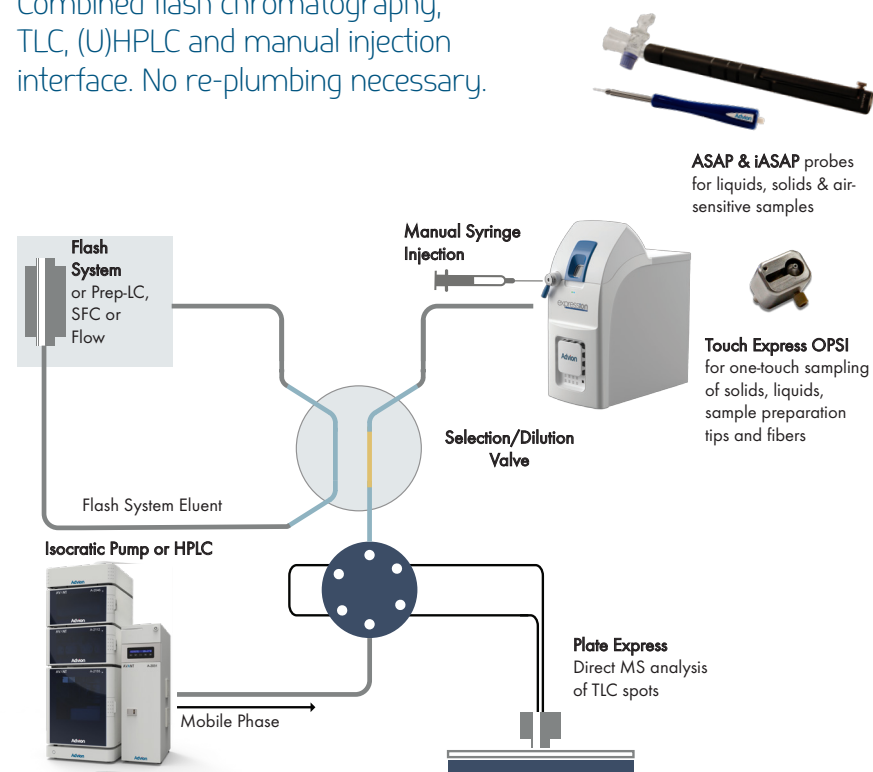
The AVANT (U)HPLC series is the latest in Advion's innovative line of sample inlet devices for the *expression* CMS which include:

- Plate Express™ TLC Plate Reader for automated mass assays from TLC plates
- The Atmospheric Solids Analysis Probe (ASAP®) for direct analysis of solids, liquids, and even air-sensitive samples
- Touch Express™ OPSI Open Port Sampling Interface for one-touch sampling of solids, liquids, sample preparation tips and fibers
- Volatile APCI (vAPCI) for analysis of volatile organic compounds (VOCs) from head spaces, breath, and other gas samples
- Flow chemistry interfaces

All these techniques can be simply, simultaneously, interfaced with the CMS so that the chemist can move quickly and effortlessly between workflows.



Combined flash chromatography, TLC, (U)HPLC and manual injection interface. No re-plumbing necessary.



Your Custom (U)HPLC Solution

Pumps:

The AVANT binary gradient pumps are available as 10,000 psi (689 bar) HPLC and 18,850 (1,300 bar) UHPLC options with high-pressure mixing, low delay volume (50 μ L), and a flow rate range from 1 to 4,000 μ L/min. Both systems have full dual piston capability with automated solvent selection from 4 solvents to form a binary gradient.

Detector:

High-performance UV/Vis with 20 Hz full spectrum scanning speed over 190 to 800 nm, and up to 8 programmable wavelengths

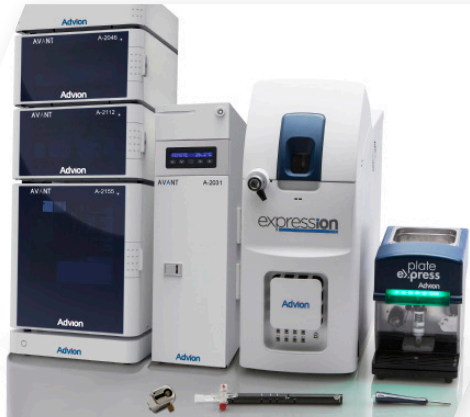
Column Oven:

The column oven comes with integrated solvent preheater and has optional automated column selection for up to 6 columns and optional divert valve. It provides accurate, stable temperatures from 10 °C above ambient to 90 °C (75 °C if the column selection valve is installed) at \pm 0.1 °C stability and accuracy.

Autosamplers:

Autosamplers are available for the HPLC (10,000 psi) pressure range and UHPLC (18,850 psi) pressure range. Both are available with optional cooling (ambient - 3 °C to 4 °C). They accept two 96 or 384-well plates or two 48 position trays of 2 mL sample vials. They can be operated in full loop, partial loop and μ L-pick-up injection modes depending on sample size, injection accuracy, and reproducibility required.

Solvent organizer and solvent waste trays are also available.



A Complete Benchtop Solution

The **expression** CMS with the AVANT HPLC, the Plate Express TLC plate reader, the ASAP and iASAP probes for liquids, solids and even inert compounds, the OPSI for one-touch sampling, plus a direct injection interface - all at the bench.

Specifications:

Binary gradient pumps:

A-2012 HPLC pumping system	maximum 10,000 psi (689 bar, 68,900 kPa)
A-2112 UHPLC pump system	maximum 18,850 psi (1,300 bar, 130,000 kPa)

Includes automatic solvent selection (2 solvents per pump module), high pressure mixing, low volume mixer, vacuum degassers, and automated purge valves.

Flow Rate Range	1.0 to 4,000 $\mu\text{L}/\text{min}$ (each pump)
Flow Accuracy	Better than $\pm 1\%$ or $\pm 10 \mu\text{L}$ whichever is greater
Flow Precision	0.075% RSD
Delay Volume	50 μL
Dimensions (WxDxH)	330 x 540 x 110 mm
Weight	21 kg

Autosamplers:

A-2054 HPLC (10,000 psi) • A-2055 HPLC (10,000 psi) with cooling
 A-2154 UHPLC (18,850 psi) • A-2155 UHPLC (18,850 psi) with cooling

Capacity	2 x 96 or 384 well microtiter plates Or 2 x 48 position 2 mL vials Optional: 2 x 12 position 10 mL vials
Injection modes	Full loop Partial loop μL -pick-up
Injection volume	Programmable from 0 - 9999 μL in 1 μL increments
Injection precision	Full loop injection <0.3% RSD Partial loop fill <0.5% RSD μL -pick-up <1.0% RSD
Sample viscosity	0.1 to 5 cP
Standard syringe volume	HPLC 500 μL UHPLC 250 μL (other options possible)
Standard injection loop	HPLC 100 μL UHPLC 50 μL
Injection cycle time	Typically <5 s
Valve switching time	60 ms
Carry-over	<0.05% with standard wash <0.01% with additional wash
Sample cooling option	Minimum: 4 °C \pm 2 °C Maximum: ambient - 3 °C
Dimensions (WxDxH)	330 x 510 x 360 mm 330 x 575 x 360 mm with cooling
Weight	19 kg 21 kg with cooling

UV/Vis Detector:

A-2046 UV-DAD diode array detector

Wavelength range	190 - 800 nm
Light source	Deuterium discharge lamp, halogen lamp
Scanning speed	20 Hz
Programmable wavelengths	8 maximum
Noise level	3×10^{-6} AU
Spectral half-width	6 nm
Accuracy adjustment	± 1 nm
Reproducibility	± 0.5 nm
Dimensions (WxDxH)	330 x 510 x 150 mm
Weight	9 kg

Column Oven:

A-2031 (-D) and A-2033 (-D) column oven options

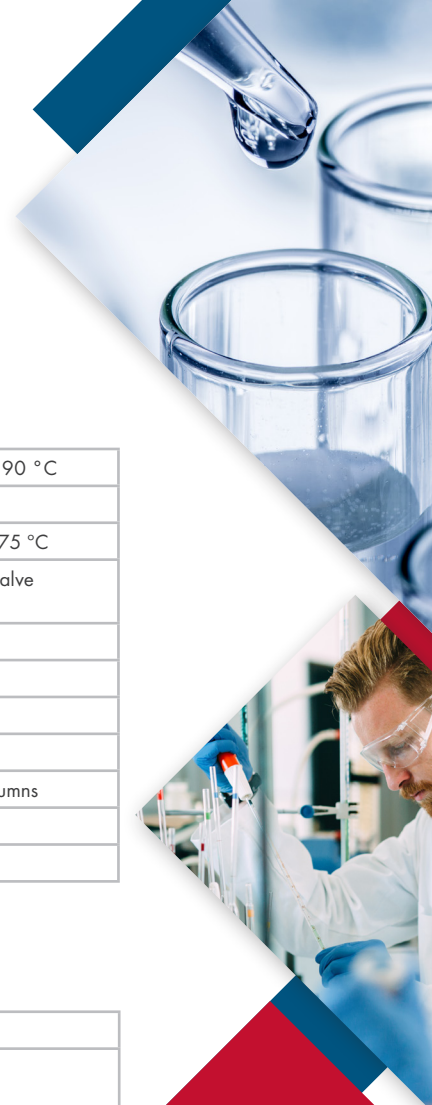
A-2031 - Operating Range	10 °C above ambient to 90 °C
- Column Switching	Not included
A-2033 - Operating Range	10 °C above ambient to 75 °C
- Column Switching	6-way column selection valve 15,000 psi max
A-203X-D	Diverter valve included
Accuracy	± 1 °C
Repeatability	± 1 °C
Stability	± 1 °C
Column capacity	Maximum 6 x 30 cm columns
Dimensions (WxDxH)	170 x 600 x 345 mm
Weight	16 kg

Solvent Organizer:

A-2063 solvent organizer

A-2064 solvent waste module

Dimensions (WxDxH) - A-2063	330 x 510 x 80 mm
Dimensions (WxDxH) - A-2064	330 x 510 x 50 mm



Experience the full expression CMS suite

The expression family of compact mass spectrometers was developed with maximum versatility in mind. They allow users to switch rapidly between the many different sample introduction techniques required throughout the chemist's workflow; from simple direct probe analysis to ultra-high performance liquid chromatography and prep-scale purification.



Contact:

North America • Advion, Inc.
61 Brown Road, Suite 100, Ithaca, NY
14850
+1 877 5 ADVION • info@advion.com

Advion Europe • Advion, Ltd.
Harlow Enterprise Hub, Kao Hockham
Building
Edinburgh Way, Harlow
CM20 2NQ United Kingdom
+44 (0)1279 311432 • info@advion.com

Advion Central Europe
+49 175 596 3572 • central-europe@advion.com

Advion China
+86 800 8101294 • info@advion.com

Visit www.advion.com for a complete list of global distributors.