

AVANT™ (U)HPLC



AVANT™

AVANT™, high-performance, liquid chromatography systems can be used standalone with a UV/Vis detector or with the Advion Interchim Scientific **expression®** Compact Mass Spectrometer (CMS) to provide seamlessly integrated LC/CMS under full control of Advion Interchim Scientific's simple, intuitive Mass Express software suite. 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.

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 µL), and a flow rate range from 1 to 4,000 µL/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 ± 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 µL pick-up injection modes depending on sample size, injection accuracy, and reproducibility required. Solvent organizer and solvent waste trays are also available.

Designation	P/N
Pump AVANT™ HPLC Binary Gradient 1 - 4,000 µL/min at 10,000 psi.	
Degasser Automated solvent selection valves to select a binary gradient from 4 solvent streams Solvent waste module	A-2012
AVANT™ UHPLC Binary Gradient 1 - 4,000 µL/min at 18,850 psi.	
Degasser Automated solvent selection valves to select a binary gradient from 4 solvent streams Solvent waste module	A-2112
Column oven Column oven, 10°C above ambient to 90°C, < 0.1°C accuracy and stability Takes up to 6 x 30 cm columns No column selection valve	A-2031
Column oven, 10°C above ambient to 90°C, < 0.1°C accuracy and stability up to 6 columns 30 cm length Divert valve	A-2031-D



Designation	P/N
Column oven Column oven, 10°C above ambient to 90°C, < 0.1°C accuracy and stability up to 6 columns 30 cm length Column selection valve	A-2033
Column oven, 10°C above ambient to 90°C, < 0.1°C accuracy and stability up to 6 columns 30 cm length Column selection valve Divert valve	A-2033-D
UV/Vis-DAD UV/Vis-DAD diode array detector. 8 programmable wavelength channels. Full spectrum scanning at up to 20 Hz, 190 - 800 nm WL range.	A-2046
Injection	
Autosampler - AVANT™ HPLC	A-2054
Autosampler - AVANT™ HPLC with cooling	A-2055
Autosampler - AVANT™ UHPLC	A-2154
Autosampler - AVANT™ UHPLC with cooling	A-2155
Manual injector valve, 8,700 psi max pressure limit	ACC416
Solvent organizer, up to 4 x 1 L bottles	A-2063
Starter kit for AVANT™ system	ACC415
UHPLC & HPLC interface accessory kit containing required tubing, fittings, and cables.	ACC371





Solvent degasser

Gas molecules can form bubbles when pressure or temperature changes. This will affect the accuracy, precision and performance of the equipment.

With a degasser set up in the fluid path, machines for semi-conductor manufacturing or assembly, instruments for immunology, hematology and in-vitro diagnostics will also typically deliver more consistent results.

Online degassing is performed by pumping liquid through a gas-permeable tubular membrane set up in a vacuum degassing chamber. Optimum vacuum degassing performance is achieved thanks to a membrane having high gas-permeability. This ensures efficient and continuous gas removal, even if the liquids are carried through the degassing chamber at high flow rates.

Get the best performance of your instrumentation for a wide range of application areas like - Chromatography - HPLC/UHPLC - GPC - Preparative - Flash

Classics degassers for analytical systems

The Classic model is the first choice for most applications in analytical instrumentation and liquid chromatography. This state-of-the-art, self-contained degasser will provide you with trouble-free vacuum degassing, day after day, with perfect degassing up to 3 mL/min.

The GPC is the best vacuum degasser model when working with 100% organic solvents. Examples of application areas where this degasser excels are gel permeation chromatography (GPC) and normal phase chromatography.

The COMPACT model is a stand-alone degasser that combines advanced technology with a very small footprint at an affordable cost. An efficient degassing up to 2 mL/min can be expected from this model.

Low volume degasser

The MICRO model is the ideal choice when you are working at very small flows and want to minimize the (dead) volumes in your system.

With only 100 μ L of internal volume, this model of degasser will still even perform excellent degassing up to about 0.5 mL/min.



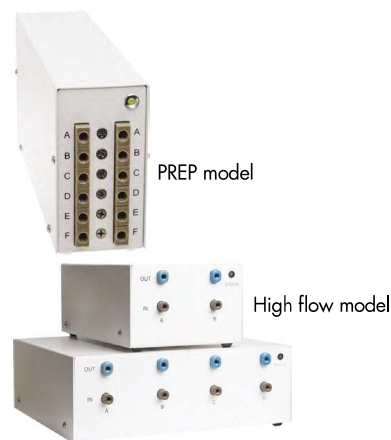


High flow degasser

When working at higher flow rates, up to 6 mL/min, we recommend the SEMI-PREP vacuum degasser.

The PREP+ is a unique vacuum degasser designed for the most demanding applications. It can handle higher flow rates of mixed aqueous-organic solvents than any other degasser available today could support.

The HIGH FLOW model provides an efficient degassing process for liquid flow rates up to 500 mL/min. Based on silicone membrane technology, this degasser is designed for aqueous liquids.



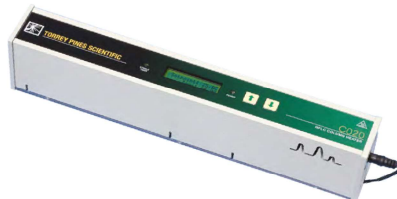
I Selection guide I

Version	Classic	GPC	Compact	Micro	Semi prep	Prep	Prep +	HighFlow
Flowrate (mL/min)	3	3	2	0.5	6	15	75-100	500
Internal volume (mL)	0.480	0.480	0.285	0.100	0.925	5.300	23.000	200.000
Nb of Chanel	1-6	1-6	2,4,6	1-6	1-6	2	2-4	1

Nb of Chanel	1	2	3	4	5	6
Classic	BVHU00	BVHUPO	CG0815	B4VPV0	B8JOD0	AYQVJ0
GPC	BVHUQ0	BVHUR0	JV2611	DZ8562	BVHUS0	AYQVK0
Compact	---	BVHUW0	---	BVHUX0	---	BVHUY0
Micro	BVHUT0	110271	110281	110291	110301	AYQVL0
Semi prep	BVHUV0	110221	110231	110241	110261	AYQVM0
Prep	---	AYQVN0	---	---	---	---
Prep+	BVHUZ0	AYQVO0	---	AYQVP0	---	---
High flow	BVHV00	---	---	---	---	---



HPLC column ovens - Control below and above room temperature



Compact column heater from 20°C to 90°C

- Digitally heating control from room temperature to 90.0°C
- Readable and settable to +/- 0.1°C
- Stable to +/- 0.1°C
- Accurate to +/- 0.2°C
- Holds 1-30 cm long by 1/4" or 3/8" diameter column
- Chamber dimension 15.0" (381 mm) long x 0.9" (22.9 mm) wide x 1.25" (31.75 mm) deep

Model	Temperature range	Capacity	Overall dimensions (cm)	Heating room dimension (cm)	P/N
Compact	20* to 90°C	1 analytical column	40 x 5.7 x 7.6	38 x 2.29 x 3.18	A2XK50

* for a room temperature of 20°C.

Chilling/Heating HPLC Column Oven from 4°C to 100°C - Peltier effect

- Fully programmable
- Stores 5 programs of up to 10 steps each for instant recall and use.
- Can control at or near room temperature regardless of changes of the room temperature
- Accuracy: ±0.2°C
- Built-in stable temperature light which illuminates when set temperature is reached and is stable

Model	Temperature range	Capacity	Overall dimensions (cm)	Heating room dimension (cm)	P/N
Chilling/Heating	4* to 100°C	1 analytical column	42.5 x 20 x 15.8	38 x 3.8 x 3.8	EO2790

* for an ambient temperature of 20°C.

Chilling/Heating High Capacity HPLC Column Ovens from 4°C* to 70°C - Peltier effect



- Accurate: +/- 0.2°C
- Stability: +/- 0.2°C
- Heat chamber uniformity: +/- 0.5°C
- Door bulkhead passthrough
- Capacity 4-30 cm by 1" columns with fittings
- Separate drains for valve and spills

Model	Temperature range	Capacity	Overall dimensions (cm)	Heating room dimension (cm)	P/N
High capacity	4* to 70 °C	up to 4 columns of 1" OD and 30 cm length	65 x 22 x 34	39 x 16 x 13	BB2810

* for an ambient temperature of 20°C.



HPLC pump - Mono piston

This single piston pump with a flow rate range of 0.02 - 10.00 mL/min and a pressure limit of 400 bar capacity is ideally suited for the washing and regeneration of HPLC columns.

This pump can also be used for classical analytical applications if residual pulsation is not important (or harmful).

Pulsation can be eliminated by external pulsation dampeners.

- Control via OLED display or remote control via PC
- Piston cleaning

P/N	BS4HNO	BS4H00
Pressure sensor	No	Yes
Flow rate	0.02 – 10,00 mL/min.	
Pumping system	mono piston dia. 1/8"	
Maximum operating pressure	400 bar (5 800 PSI)	
Accuracy of flow-rate (1 mL/min. 12MPa H ₂ O)	± 2 %	
Repeatability of flow-rate (1 mL/min. 12MPa H ₂ O)	± 0.5 %	
Accuracy of pressure measurement	n/a	± 2 %
Adjustable upper pressure limit	n/a	1 - 400 bar
Wetted materials	Inox, céramique, PEEK	
Seals	GFP (PTFE)*	
Communication	RS232, Ethernet (LAN), USB	
Display, keypad	OLED 2.4" 128 x 64 pixels, 10 boutons	
Power supply	100-240V 50/60Hz 60VA	
Dimensions (w x h x d)	200 x 136 x 230 mm	
Weight	4.68 Kg	

*Seals material: default is GFP (PTFE), recommended optimal seals material are UHMW-PE seals, ask for more information



HPLC pumps

Advion Interchim Scientific offers a wide range of reliable and robust single or double piston pumps.

Wide range of flow rates, from 5 to 100 mL/min for rinsing, sample injection, infusion sample injection, infusion for mass spectrometer, HPLC, semi-prep, solvent distribution, solvent delivery...

- Biocompatible PEEK version or stainless steel version
- Pulsation dampening option
- Pump head cleaning option

Please contact us to find the reference fitting to your needs.