Flowspek ag, Efringerstrasse 32
4057 Basel
Tel. 061 695 96 96
Fax 061 695 96 97
E-mail: info@flowspek.ch

AZURA P 6.1L Analytical HPLC Pumps

The AZURA pump P 6.1L uses new technology to overcome the challenges of pumping LC solvents at high pressure and high flow rates. This pump is designed to fulfill the needs for both high pressure and low pressure mixing tasks.

The pumps can deliver flow in the range of 0.001 - 10 mL/min at pressures up to 700 bar and are available in a range of different models.

The AZURA Binary Pump, for example, contains two identical high pressure pumps (700 bar), 2 × 2-channel inlet solvent selection valve and the new developed AZURA mixer, a low-volume mixing device.

The integrated degasser and AZURA inline filter are completing the Analytical AZURA HPLC pump and turn this pump into a working horse in the lab.

For biocompatible applications or ion chromatography this pump is also available with a complete metal free design.

Key features

- Analytical HPLC pump for a wide range of flow rates (0.001-10 ml/min)
- Integrated degasser module
- Pressure sensor with integrated and replaceable AZURA inline filter
- Solvent selection valves for two solvents per channel (dependent on model)
- AZURA mixer for highest mixing efficiency with lowest delay volumes (dependent on model)
- Flexible 1/16” capillaries
- Optimized pump head for normal phase applications
- Pump version for biocompatible applications with a metal free design available
- Integrated compressibility compensation
- Integrated leak management
- Constant pressure operation mode

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Specifications

Pump	
Pump head	10 ml/min, with spring-loaded check valves
Pulsation compensation	active pressure and pulsation compensation
Pump head materials	stainless steel
Maximum pressure	70 Mpa (700 bar, 10150 psi) up to 5 ml/min, 40 MPa (400 bar, 5800 psi)
Solvent selection valve	2 x 2 channels (dependent on model)
Flow rate range	0.001 - 10 ml/min. (0.02 - 10 ml/min recommended)
Flow rate increment	0.001 ml/min
Flow rate accuracy	± 1%, measured at 5 - 80% of flow range using ethanol
Flow rate precision	< 0.1 % RSD based on retention time at constant room temperature
Pulsation	< 2 % amplitude (typically < 1.3 %) or < 0.3 MPa (3 bar), whatever is greater, at 1 mL/min ethanol, at all pressures > 1 MPa (10 bar, 147 psi).
Gradient System	
Gradient formation	high or low pressure binary mixing (dependent on model)
Gradient range	0-100%, (5-95% recommended)
HPG: minimum increment	0.1%
HPG: gradient accuracy	± 0.3 % at 1 ml/min, 150 bar (ethanol/caffeine tracer) ± 1 % (5 - 95 %, measured at 0.1 – 10 ml/min, water/caffeine tracer)
HPG: gradient precision	< 0.1 % RSD at 1 ml/min, 0.3% RSD overall, based on retention time at constant room temperature
Mixing volume	100 µl (optional 50 or 200 µl available)
Delay volume	160 µl (depending on mixer)
Piston seal washing	standard
System protection	soft start, P_{min} and P_{max} are programmable
Wetted materials	stainless steel, graphite fiber reinforced PTFE, FKM, PEEK, sapphire, zirconium oxide (ZrO_2)

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Degasser	
Degasser channels	2 channels, Teflon® AF (dependent on model)
Degasser maximum flow rate	10 ml/min
Degassing method	gas permeation through Teflon® AF amorphous fluoropolymer membrane
Degassing efficiency	< 0.5 ppm dissolved O_2 at 1 ml/min
Degassing chamber volume	480 µl volume per channel
Solvent applicability	universal, with the exception of hydrochloric acid and halogenated hydrocarbons - in particular hexafluoroisopropanol (HFIP)
Wetted materials	PEEK, Tefzel®, Teflon® AF
Vacuum chamber	polypropylene and stainless steel
Vacuum pump	low hysteresis behavior
Remote Control	
Control	LAN; analog and event controlled
Analog inputs	0-10 V
Analog control input	flow rate
Ambient	
Ambient conditions	temperature range: 10-40°C; 50-104°F humidity: below 90 % humidity (non condensing)
Leak sensor	yes
Power supply	voltage range: 100 - 240 V, 50 - 60 Hz
	Technical data are subject to change without notice.

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Product Information

APH35ED	Binary analytical HPLC pump with degasser 10 ml pump head, optimized for normal phase applications
APH35EA	Binary analytical HPLC pump with degasser, 10 ml pump head
APH65EB	Binary analytical HPLC pump with degasser, metal-free 10 ml pump head
APH68FB	Binary HPLC pump, metal-free 50 ml pump head
APH38FA	Binary semi-preparative HPLC pump, 50 ml pump head
APH30EA	Isocratic analytical HPLC pump 10 ml pump head
APH30FA	Isocratic HPLC pump 50 ml pump head
APH34EA	Quaternary analytical HPLC pump with degasser 10 ml pump head
APH64EB	Quaternary analytical HPLC pump with degasser, metal-free 10 ml pump head

