

## (U)HPLC pumps

### AZURA P 6.1L binary HPG

#### Binary analytical HPLC pump

The AZURA pump P 6.1L uses 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 high pressure and low pressure mixing tasks. The pump can deliver flow in the range of 0.001 – 50 mL/min at pressures up to 700 bar.

The AZURA binary pump contains two identical high pressure pumps, a 2 × 2-channel inlet solvent selection valve and the new developed AZURA mixer, a low-volume mixing device.

The AZURA quaternary pump contains one high pressure pump (700 bar) and an integrated LPG mixing block with a 4 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.



#### Solvent delivery

Pump head	10 / 50 ml/min
Pulsation compensation	active pulsation compensation
Pump head materials	stainless steel/ceramic
Maximum delivery pressure	for 10 ml pump head: 70 MPa (700 bar, 10150 psi) up to 5 ml/min, 40 MPa (400 bar, 5800 psi) for 50 ml pump head: 30 MPa (300 bar, 4351 psi) up to 10 ml/min, 20 MPa (200 bar, 2900 psi)
Solvent selection valve	2 × 2 channels
Flow rate range	0.001 - 10 ml/min or 0.01 - 50 ml/min
Flow rate increment	0.001 ml/min or 0.01 ml/min
Flow rate accuracy	< 1%, measured at 5 - 50% of flow range using ethanol/water 10:90
Flow rate precision	< 0.1% RSD
Gradient formation	High pressure binary mixing
Gradient range	0 - 100%
HPG: minimum increment	0.1%
HPG: gradient accuracy	± 1% (5 - 95%, measured at 5 - 50% of flow range, water/ caffeine tracer)
HPG: gradient precision	1% RSD, based on retention time at constant room temperature
Piston seal washing	standard
System protection	soft start, Pmin and Pmax are programmable
Wetted materials	stainless steel, graphite fiber reinforced PTFE, FKM, PEEK, sapphire, aluminium oxide (Al2O3)

#### Degasser module

Degasser channels	2 channels, Teflon® AF
Degasser maximum flow rate	10 ml/min
Degassing method	gas permeation through Teflon® AF amorphous fluoropolymer membrane
Degassing efficiency	< 0.5 ppm dissolved O2 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

#### Communication

Control	LAN; analog and event controlled
Analog inputs	0 - 10 V
Analog control input	flow rate

#### Technical parameters

Ambient conditions	temperature range: 10 - 40 °C; 50 - 104 °F air humidity: below 90% humidity (non condensing)
Leak sensor	yes

#### General

Power supply	voltage range: 100 - 240 V, 50 - 60 Hz
Dimensions	361 x 208.2 x 523 mm (W x H x D)

#### Ordering details:

APH35EA	AZURA P 6.1L Binary analytical HPLC pump with degasser, 10 ml pump head
APH65EB	AZURA P 6.1L Binary analytical HPLC pump with degasser, metal-free, 10 ml pump head
APH35ED	AZURA P 6.1L Binary analytical HPLC pump with degasser, 10 ml pump head, optimized for NP applications
APH38FA	AZURA P 6.1L Binary analytical HPLC pump, 50 ml pump head
APH68FB	AZURA P 6.1L Binary HPLC pump, metal-free, 50 ml pump head