

AZURA® Pump P 2.1L

AZURA® preparative HPLC pump P 2.1L covers wide flow rate range and pressure capabilities. It has been designed for purification of mg and gram samples. The pump can deliver flow in the range of 0.01 - 1000 ml/min at pressures up to 400 bar (depending on model). The integrated automatic recognition of the pump head with RFID technology allows fast adaptations of the pump for various applications.



Specifications

Solvent delivery

Pump type	Preparative HPLC pump
Delivery system	Dual Piston Pump with Al ₂ O ₃ pistons parallel
Pulsation compensation	Active Pulsation Compensation
Piston seal washing	Active Wash
Flow rate accuracy	± 2 %, measured at 5 - 50% of flow range using ethanol/water 10:90
Flow rate precision	< 0.1% RSD
System protection	Soft start, Pmin und Pmax are programmable
Gradient range	0 - 100 %
Gradient formation	LPG / HPG
Liquid temperature range	4–60 °C (39.2–140 °F)
HPG: gradient accuracy	± 2 % (5 - 95 %, measured at 5 - 50% of flow range, water/caffeine tracer)
Leak management	Yes
HPG: gradient precision	< 1 % RSD based on retention time at constant room temperature
LPG: gradient accuracy	± 3 % (5 - 95 %, measured at 5 - 50% of flow range, water/caffeine tracer)
LPG: gradient precision	2% RSD, based on retention time at constant room temperature



KNAUER offers various software control options:

www.knauer.net/softwarecontrol



For pump accessories
 see p. 36

Communication

Display	Mobile Control (optional)
Inputs	LAN, Pin header connectors (Analog IN, Start In, Error IN)
Analog inputs	Flow rate, 0 - 10 V via pin header connectors
Analog control input	Flow Rate
Level/event outputs	8 event outputs (TTL, OC, Relais) and 24 V
Control	LAN, Analog and event control, Mobile Control

Technical parameters

Leak sensor	Yes
Special features	Pump Head is detected automatically using Radio frequency identification (RFID)
Ambient conditions	10 - 40 °C (50-104 °F), Air humidity below 90%, non-condensing

General

Power supply	100 - 240 V; 50 - 60 Hz; Maximum power consumption 320 Watt
Dimensions	361 mm x 208.2 mm x 523 mm (W x H x D)
Weight	19 kg
Optional accessories	ternary low pressure gradient valve block, 10 - 220 ml/min, binary low pressure gradient valve block, 10 - 800 ml/min, pump head heating and cooling device

AZURA® Pump P 2.1L with 100 ml pump head

Pump specifications

Pump head	100 ml
Flow rate range	0.01 - 100 ml/min
Maximum delivery pressure	5800 psi / 400 bar / 40 MPa
Wetted materials	aluminium oxide (Al ₂ O ₃), FKM, graphite fiber reinforced PTFE, PEEK, sapphire, stainless steel, titanium
Flow rate increment	0.01 ml/min
Best working conditions	1 - 80 ml/min
Continuous working conditions	1 - 40 ml/min
Pumphead material	stainless steel / titanium

Ordering details:

APE20KA	AZURA® Pump P 2.1L with 100 ml pump head (stainless steel)
APE20KB	AZURA® Pump P 2.1L with 100 ml pump head (titanium)

AZURA® Pump P 2.1L with 250 ml pump head

Pump specifications

Pump head	250 ml
Flow rate range	0.01 - 250 ml/min
Maximum delivery pressure	3260 psi / 225 bar / 22.5 MPa up to 100 ml/min, 2900 psi / 200 bar / 20 MPa up to 250 ml/min
Wetted materials	aluminium oxide (Al ₂ O ₃), FKM, graphite fiber reinforced PTFE, PEEK, sapphire, stainless steel, titanium
Flow rate increment	0.01 ml/min
Best working conditions	2.5 - 200 ml/min
Continuous working conditions	2.5 - 100 ml/min
Pumphead material	stainless steel / titanium

Ordering details:

APE20LA	AZURA® Pump P 2.1L with 250 ml pump head (stainless steel)
APE20LC	AZURA® Pump P 2.1L with 250 ml pump head (titanium)

AZURA® Pump P 2.1L with 500 ml pump head

Pump specifications

Pump head	500 ml
Flow rate range	0.01 - 500 ml/min
Maximum delivery pressure	1450 psi / 100 bar / 10 MPa
Wetted materials	aluminium oxide (Al ₂ O ₃), FKM, graphite fiber reinforced PTFE, PEEK, sapphire, stainless steel, titanium
Flow rate increment	0.1 ml/min
Best working conditions	5 - 400 ml/min
Continuous working conditions	5 - 200 ml/min
Pumphead material	stainless steel / titanium

Ordering details:

APE20MA	AZURA® Pump P 2.1L with 500 ml pump head (stainless steel)
APE20MC	AZURA® Pump P 2.1L with 500 ml pump head (titanium)

AZURA® Pump P 2.1L with 1000 ml pump head

Pump specifications

Pump head	1000 ml
Flow rate range	1 - 1000 ml/min
Maximum delivery pressure	1080 psi / 75 bar / 7.5 MPa up to 350 ml/min, 720 psi / 50 bar / 5 MPa up to 1000 ml/min,
Wetted materials	aluminium oxide (Al ₂ O ₃), FKM, graphite fiber reinforced PTFE, PEEK, sapphire, stainless steel, titanium
Flow rate increment	0.1 ml/min
Best working conditions	10 - 800 ml/min
Continuous working conditions	10 - 400 ml/min
Pumphead material	stainless steel / titanium

Ordering details:

APE20NA	AZURA® Pump P 2.1L with 1000 ml pump head (stainless steel)
APE20NB	AZURA® Pump P 2.1L with 1000 ml pump head (titanium)

LPG modules

Ordering details:

AZZ00AA	LPG module for Pump P 2.1L binary up to 800 ml/min (stainless steel)
AZZ00AB	LPG module for Pump P 2.1L ternary up to 220 ml/min (stainless steel)
AZZ10AB	LPG module for Pump P 2.1L ternary up to 220 ml/min (PEEK)