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Part Number: APG20FI  
Base Pump: AZURA\*\* P 4.1S

## Compact pump with pressure sensor and 50 ml/min ceramic pump head, for water dosing

For HPLC and dosing applications

With its small footprint, the compact dual-piston pump AZURA P 4.1S can be used for many different laboratory tasks. A pressure rating of up to 400 bar and chemical resistance to a wide range of eluents make it the perfect choice for LC and dosing applications. Pump heads with maximum flow rates of 10 and 50 ml/min are available.

Moreover – the exchangeable pump head allows adaptation of the pump for delivery of aggressive media and bioinert applications. The pump head can also be heated or cooled with optional accessories.



*AZURA P 4.1S pump with pressure sensor*

## ACCESSORIES & SPARE PARTS



**Pump head 10 ml**  
Pump head 10 ml,  
stainless steel  
Article No.: AHB40



**Accessory kit AZURA  
P 2.1S and P 4.1S**  
included in shipkit  
Article No.: FPG



**Accessory kit AZURA  
small devices**  
cable kit for all devices  
with footprint "S"  
included in shipkit  
Article No.: FZA01



**Pump head cooling and  
heating device**  
for 10 and 50 ml pump  
heads  
Article No.: A2035-1

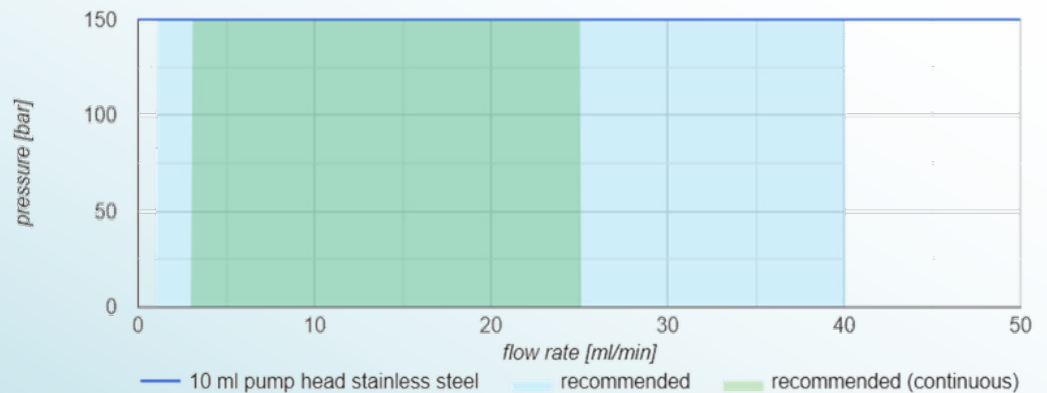
**\*\*AZURA® is a Registered Trademark of KNAUER Wissenschaftliche Geräte GmbH**

## TECHNICAL DATA

### General Information

Max. flow rate:	50 ml/min
Flow rate range:	0.01-50 ml/min
Flow rate increment:	0.01
Maximum delivery pressure [psi]:	2180 psi
Maximum delivery pressure [bar]:	150 bar
Maximum delivery pressure [MPa]:	15 MPa

### Pressure range:



Pump head materials:	Stainless steel
Maximum viscosity:	100 cp
Liquid temperature range:	4-60 °C (39.2-140 °F)
Gradient:	Isocratic
Leak management:	No
Wetted materials:	GFP (graphite fiber-reinforced PTFE), ruby, sapphire, PEEK, ceramic, stainless steel
Note:	Pressure sensor membrane made of stainless steel; limited wetting in fluidic path

## Detailed information

Best working conditions:	1.0-40.0 ml/min
Continuous working conditions:	3-25 ml/min
Flow rate accuracy:	±1%
Flow rate accuracy conditions:	5-50% of flow range using ethanol/water 10:90
Flow rate precision:	< 0.5% RSD
Flow rate precision conditions:	Measured at 1 ml/min using ethanol/water 10:90
Pulsation compensation:	No
Pump type:	Ultra-compact high pressure pump
Active Piston seal wash:	No
Piston seal washing:	Yes
System protection:	$P_{min}$ and $P_{max}$ adjustable; $I_{min}$ and $I_{max}$ adjustable
Pump head inlet (standard):	1/4"-28 UNF (flat bottom)
Pump head outlet (standard):	10-32 UNF (coned)

## Communication

Interfaces:	Display
Control:	RS-232; analog; button on device
Analog inputs:	0-10V

## General

Power supply:	100-240 V; 50-60 Hz
Dimensions:	121 x 129 x 220 mm
Weight:	2.3 kg
Leak sensor:	No
Ambient conditions:	Temperature range: 10-40 °C; 50-104 °F air humidity: <90 % (non condensing)