

Smartline

► Pneumatic Pump 1950



Powerful and reliable

The Pneumatic Pump 1950, powered by compressed air, has been designed for solvent delivery in process chemistry, column packing or preparative chromatography.

Benefits of the pump

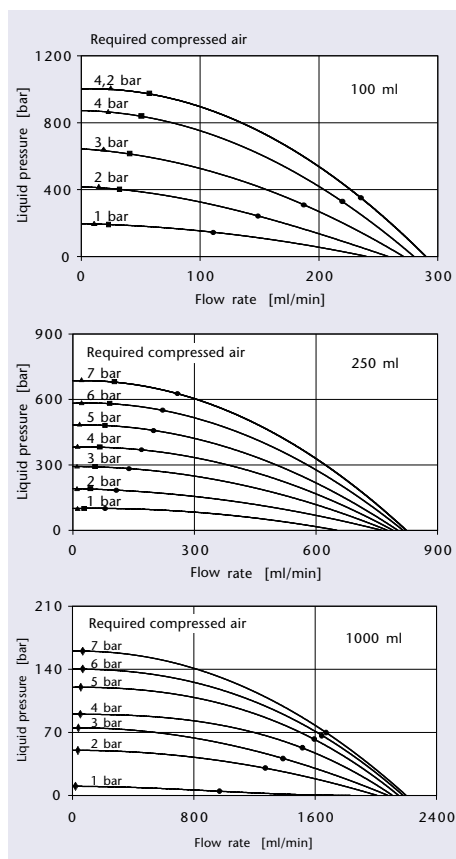
- Since no electrical connection is required, the Pneumatic Pump 1950 is suitable for operation in hazardous environments
- The Pneumatic Pump 1950 can be configured with four different pump heads (double piston design) to fulfil a wide range of pressure and flow rate requirements
- The pump heads are very easy to exchange and can optionally be equipped with an eluent cooling or heating device
- The pump drive is maintenance free

Application areas

- Packing of HPLC columns at pressures up to 1 000 bar
- Delivery of supercritical fluids such as CO₂ (with mounted pump head cooling)
- Metering against constant pressure

The delivery flow rate depends on the compressed air supply and the back pressure of the column or system. Maximum delivery flow rate can be reached at minimum liquid pressure (below 1 bar). The minimum liquid flow rate (approx. 5 ml/min) is achieved at highest back pressure.

Technical data



The diagram on the left illustrates the delivery flow rate as a function of the liquid pressure (back pressure) for the 100, 250 and 1000 ml pump heads. In addition, the achievable flow rates or liquid pressures for HPLC columns with different hydraulic resistance (marked by symbols ▲, ■ and ●) are shown.

The obtainable liquid pressures and flow rates for each pump head are shown below, as well as the maximum allowed air pressure. At constant air pressure the flow rate will increase, if the back pressure decreases.

Pneumatic Pump 1950

Required compressed air pressure
Dimensions
Weight

Minimum 1 bar, maximum* 7 bar
220 x 185 x 340 mm (W x H x D)
10.2 kg

Pump head characteristics

Pump head type	100 ml	250 ml	500 ml	1000 ml
Maximum flow rate (ml/min) at minimum back pressure	300	500	1000	2000
Maximum back pressure (bar) for solvent delivery	1000	670	250	160
Maximum allowed air pressure (bar)	4.2*	7	7	7
Piston stroke (mm)	9.5	9.5	9.5	9.5
Piston diameter (mm)	6.35	9.525	14.29	19.05
Piston stroke volume per cycle (ml)	0.6	1.35	3.05	5.4
Pneumatic transformation ratio	1:250	1:96	1:47	1:23

* Using the 100 ml pump head, the external air pressure should not exceed 4.2 bar in order not to damage the pump head or pump mechanics.

Ordering information

Order no.	Pneumatic Pump 1950
A50751	with 100 ml pump head, stainless steel
A50761	with 250 ml pump head, stainless steel
A50771	with 500 ml pump head, stainless steel
A50781	with 1000 ml pump head, stainless steel

Order no.	Pump heads
A4023-1	100 ml pump head, stainless steel, up to 1000 bar, including accessory kit
A4021-1	250 ml pump head, stainless steel, including accessory kit
A4038-1	500 ml pump head, stainless steel, including accessory kit
A4022-1	1000 ml pump head, stainless steel, including accessory kit
A2034-1	Eluent cooling or heating device, suitable for all pump heads

Technical data are subject to change without notice.

Visit www.knauer.net for details on complete HPLC systems, HPLC columns, and osmometers.

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