

## Smartline

### ► Pump 100



## Ultra-compact high pressure pump

This isocratic dual piston pump was developed for eluent delivery up to 400 bars and for flow rates up to 50 ml/min in HPLC and other applications where a compact easy-to-integrate pump is required.

The **Smartline Pump 100** is available in two versions:

**with pressure sensor**, ideal for

- isocratic solvent delivery in HPLC
- postcolumn derivatization with pressure monitoring
- dosing against a high back pressure

**without pressure sensor**, for

- automated column conditioning or washing
- direct injection of large sample volumes onto an HPLC column
- general eluent delivery against a back pressure

**Wide flow rate range, versatile** – Easy to exchange pump heads available in sizes of 10 ml/min or 50 ml/min and with inlays in stainless steel as well as biocompatible ceramic or titanium allow for many fields of application.

**Powerful, precise drive, with low pulsation** – With optimized mechanics, a robust motor, and high-quality materials, this pump offers excellent flow rate accuracy and precision.

**Compact dimensions** – With only 113 x 135 x 225 mm, it fits almost anywhere – either stand-alone or within your system.

**Flexible control** – Possible through either its touch pad on the front panel, via RS-232 using a PC with HPLC software such as ChromGate® or ClarityChrom®, or by analog signals.

### Technical data

<b>Delivery system</b>	dual piston pump with one working piston, one auxiliary
<b>Piston washing</b>	available
<b>Pump heads</b>	10 and 50 ml/min with stainless steel, ceramic or titanium inlays
<b>Flow rate range</b>	10 ml/min pump head: 0.001 – 10 ml/min (adjustable); 0.1 – 10 ml/min (recommended) 50 ml/min pump head: 0.01 – 50 ml/min (adjustable); 0.5 – 50 ml/min (recommended)
<b>Max. delivery pressure</b>	10 ml/min pump head: 400 bar (40 MPa); 50 ml/min pump head: 150 bar (15 MPa)
<b>Flow rate accuracy</b>	deviation ≤ 1.0 % (1 ml/min, 12 MPa)
<b>Flow rate precision</b>	RSD ≤ 0.5 % (1 ml/min, 12 MPa)
<b>System protection</b>	$P_{\min}$ und $P_{\max}$ programmable (with pressure sensor); $I_{\min}$ und $I_{\max}$ programmable (without pressure sensor)
<b>Control</b>	digital: RS-232, LAN; analog: remote control strip, touch pad
<b>Gradient</b>	upgradeable to a high pressure gradient system (HPG) for up to 4 eluents (only when using ChromGate® or ClarityChrom® software)
<b>GLP function</b>	detailed report
<b>Display</b>	LCD, 2 lines, 8 characters each
<b>Power supply</b>	(external) 90–260 V, 47–63 Hz, 50 VA max.
<b>Dimensions</b>	113 x 135 x 225 mm (W x H x D)
<b>Weight</b>	2.4 kg (with pressure sensor); 2.3 kg (without pressure sensor)
<b>Available accessories</b>	pump heads, pump head cooling/heating option

### Ordering information

Order no. without pressure sensor	Order no. with pressure sensor	<b>Smartline Pump 100</b>
A50101	A50201	incl. 10 ml/min pump head with titanium inlays
*	A50202	incl. 10 ml/min pump head with ceramic inlays
A50103	A50203	incl. 10 ml/min pump head with stainless steel inlays
A50111	A50211	incl. 50 ml/min pump head with titanium inlays
*	A50212	incl. 50 ml/min pump head with ceramic inlays
A50113	A50213	incl. 50 ml/min pump head with stainless steel inlays
10 ml/min	50 ml/min	<b>Pump head**</b>
A54101	A54111	with titanium inlays
A54102	A54112	with ceramic inlays
A54103	A54113	with stainless steel inlays

\* upon request

\*\* other versions for special applications available upon request.

Technical data are subject to change without notice.

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