

AF1 SERIES

SINGLE CHANNEL AUTONOMOUS PUMP

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/FLOW-CONTROL-SYSTEM/HIGH-ACCURACY-PRESSURE-PUMPS/



AN AUTONOMOUS PUMP DESIGNED TO MATCH THE NEEDS OF ALL MOBILE SCIENTISTS



The AF1 is a high performance **autonomous pressure and flow controller**. It comes in **three different ranges** and embeds pressure and vacuum sources. It is compatible with Elveflow software.

✓ **STANDALONE UNIT**

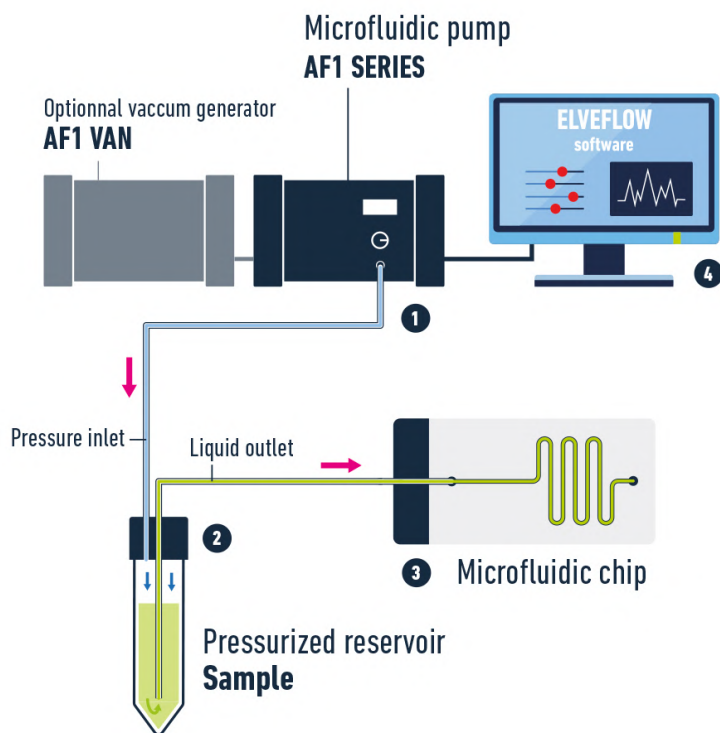
✓ **NO COMPUTER NEEDED**

UNIQUE PERFORMANCES

- > Pressure resolution **100 μ bar**
- > Pressure stability **100 μ bar**
- > Response time **50 ms**
- > Settling time **down to 100 ms**

APPLICATIONS

- > Digital microfluidics: micro-droplets, anisotropic articles, double emulsions generation & handling
- > Beads and particles manipulation
- > Fast liquid sample switching
- > Cell culture experiments under medium perfusion



- 1 AF1 Pressure and vacuum generator**
Fast and accurate pressure and vacuum control for your system.
- 2 Sample**
Push and pull liquid from the reservoir to your microfluidic chip
- 3 Microfluidic device**
The liquid is smoothly and precisely injected into the microfluidic
- 4 Monitoring**
Control pressure and vacuum using your computer or the instrument's front panel dial.

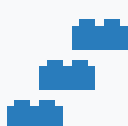
FEATURES & BENEFITS



- Short settling time**
Piezo technology allowing a blazing fast flow change in any microdevice
- High flow stability**
Pressure stability down to 100 μ bar ensuring a superior flow performance over a large flow range
- Accurate flow control**
Input a flow value into the software. Flow regulation down to 7.5 nL/min



- Software automation**
Control all instruments through a single panel. Powerful script module to automate control and injection over days
- Create your own program**
Software Development Kits (C++, Python, MATLAB® and LabVIEW® libraries)
- Enhanced data saving**
Up to 10 ms sampling rate to take out the best of your results



- Easy to install and use**
Start out of the box and set everything up within minutes
- Several pressure range**
Choose among the three pressure ranges available
- Knob pressure control**
Monitor and control pressure using the front panel knob and screen

AF1 PREMIUM	AF1 200	AF1 1,600	AF1 DUAL
Pressure range	0 to 200 mbar (0 to 2.9 psi)	0 to 1,600 mbar (0 to 23 psi)	-700 to 1,000 mbar (-10 to 14 psi)
Type of pressure	positive	positive	negative & positive
Pressure sensor resolution	0.006 % FS 12.2 µbar (0.0007 psi)	0.006 % FS 122 µbar (0.007 psi)	0.006 % FS 122 µbar (0.007 psi)
Pressure stability ⁽¹⁾	100 µbar 0.05 % FS (0.0014 psi)	1 mbar 0.05 % FS (0.014 psi)	0.006 % FS 122 µbar (0.007 psi)
Response time ⁽²⁾	50 ms		
Settling time ⁽³⁾	down to 100 ms		
Supply pressure (min - max)	integrated pump no pressure source needed		integrated pressure & vacuum source no pressure & vacuum source needed
Liquid compatibility	any aqueous or organic solvent, oil, or biological sample solution can be propelled		
Output connectors	stainless steel female luer lock		

Non-contractual information, may be changed without notice.

POWER CONSUMPTION: 15 W (100 V to 240 V - 50 Hz to 60 Hz) **CASE DIMENSIONS** (length x width x height): 220 x 130 x 130 mm **WEIGHT:** 1.7 kg **TTL TRIGGER:** input/output 5 V

⁽¹⁾ Output stability measured at 150 mBar with an external High accuracy pressure sensor (Druck DPI150) ⁽²⁾ Depending on user computer operating system ⁽³⁾ Volume dependent – Measurement done on 12 mL tank for a set point from 0 to 200 mbar

PRODUCTS & SERVICES

ELEMENTS PROVIDED BY ELVEFLOW	INCLUDED	OPTIONAL
Software & libraries Control all Elveflow Instruments with the same smart interface	•	
AF1 connection kit A complete set of accessories fitted for the AF1 pressure generator		•
Reservoirs Gas tight reservoirs with ergonomic fluidic connection		•
Flow sensors A line of sensors to monitor very low liquid flow rates		•
Service The Elveflow expertise & support to offer you individually tailored solutions	•	

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