

PRODUCTS

FLOW CONTROL SYSTEMS



OB1 MK4

MULTI CHANNEL PRESSURE & VACUUM CONTROLLER



★ **BEST SELLER**

The OB1 MK4 is a **high performance** microfluidic pressure and flow controller. Customize your unit: pick the number of channels you like and **choose for each of them the pressure and vacuum ranges** among the 5 options available.

✓ **AVAILABLE IN OEM VERSION**
CONTACT OUR EXPERTS

✓ **MODULAR**

✓ **UPGRADABLE**

✓ **SOFTWARE INCLUDED**

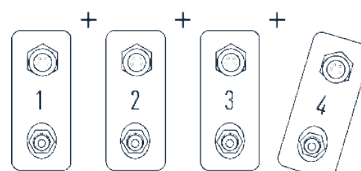


UNIQUE PERFORMANCES

- > Pressure stability down to **0.005 % FS***
- > Response time down to **10 ms**
- > Pressure resolution **0.006 % FS***
- > Settling time **down to 50 ms**


PIEZOELECTRIC
TECHNOLOGY

**CUTTING EDGE
PIEZO CONTROL
FOR MICROFLUIDICS**



**CHOOSE FROM 1 TO 4
CHANNELS, AND MORE...**

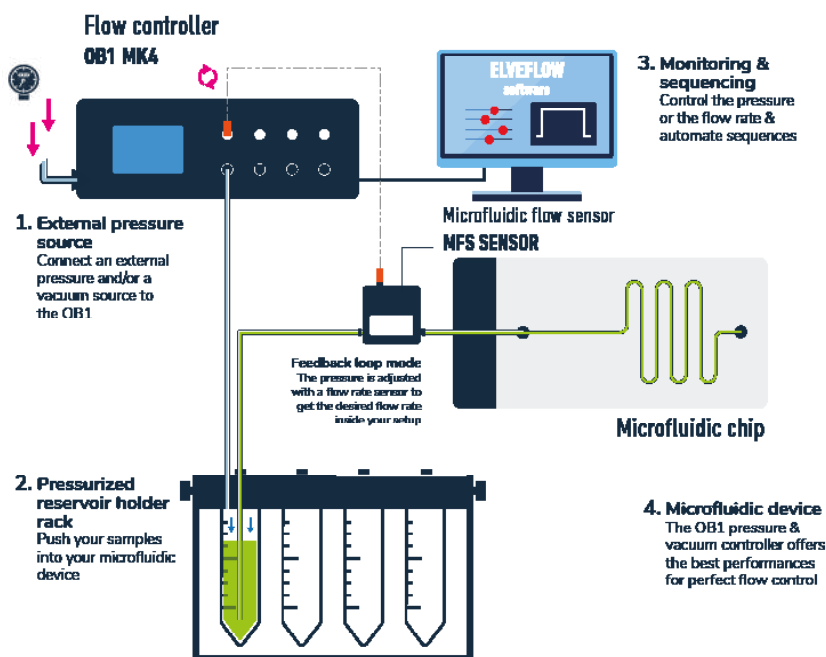
Get a one-channel today and
add more channels later



* FS : FULL SCALE

www.elveflow.com

Elveflow, an Elveflow brand / ©2019. All rights reserved. Information is subject to change without notice



1

External pressure source

Connect a pressure and/or a vacuum source to your OB1 (required).

Example: Gas cylinder, lab pressure line, compressor ([see more](#))

2

Sample

Depending on your choice, the liquids can be pulled into the reservoir or be pushed from there since the OB1 can use pressure or vacuum within the same channel.

3

Monitoring & sequencing

Automate pressure and flow control using the Elveflow software on your computer.

4

Microfluidic device

The OB1's pressure & vacuum features offer precise sample handling, and provide full control over the injection.

FEATURES & BENEFITS



- **Short settling time**

Operate blazing fast changes in any microdevice with our Piezo technology

- **Highest flow stability**

Ensure superior flow performance over a large flow range, with pressure stability down to 30 µbar

- **Accurate flow control**

Input a flow value into the software. Flow regulation down to 7.5 nL/min



- **Software automation**

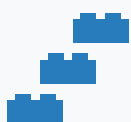
Control all instruments through a single dashboard. Powerful script module to automate control and injection over days

- **Create your own program**

Software Development Kits (C++, Python, MATLAB® and LabVIEW® libraries) and UART communication protocols available

- **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

- **Customizable**

Choose from any number of channels among the five pressure ranges available

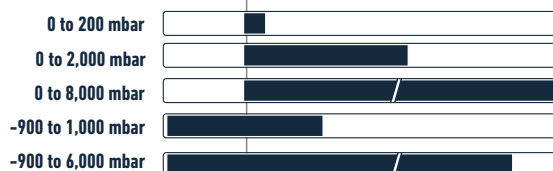
- **Upgradable**

Get a one-channel today and add more channels later

PRESSURE RANGES



**FOR EACH CHANNEL:
5 PRESSURE RANGES AVAILABLE**

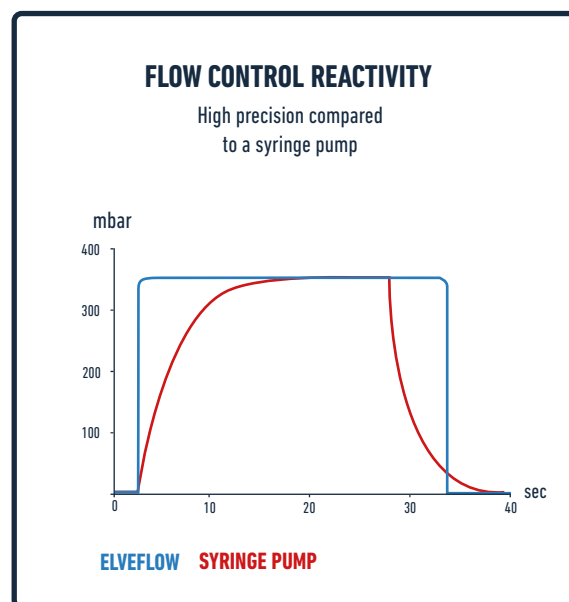
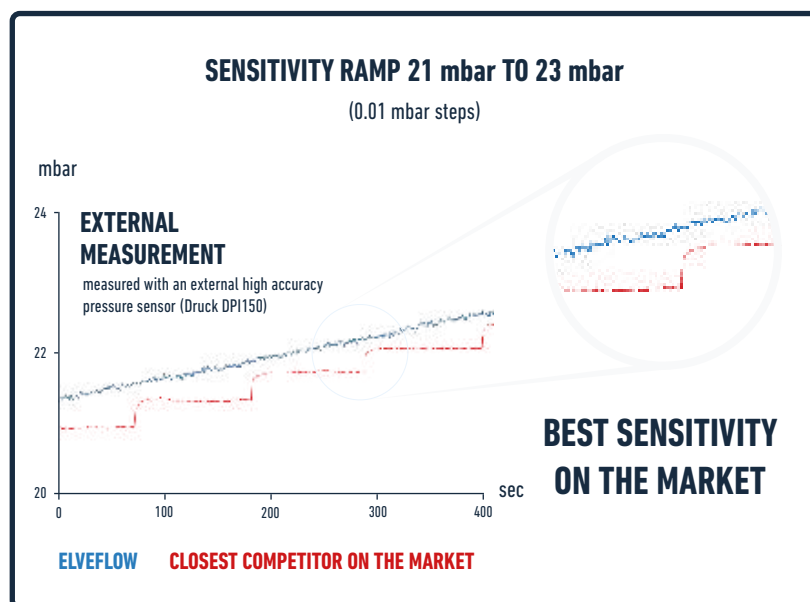


OB1 MK4 CHANNEL PRESSURE RANGE	0 to 200 mbar ⁽¹⁾ (0 to 2.9 psi)	0 to 2,000 mbar ⁽¹⁾ (0 to 29 psi)	0 to 8,000 mbar ⁽¹⁾ (0 to 116 psi)	-900 to 1,000 mbar ⁽¹⁾ (-13 to 14.5 psi)	-900 to 6,000 mbar ⁽¹⁾ (-13 to 87 psi)
Pressure stability ⁽²⁾	0.015 % FS 30 µbar (0.0004 psi)	0.005 % FS 100 µbar (0.0014 psi)	0.006% FS 500 µbar (0.007 psi)	-900 to 500 mbar:	-900 to 2,000 mbar:
				0.005 % FS 100 µbar (0.0014 psi)	0.005 % FS 350 µbar (0.05 psi)
				500 to 1,000 mbar:	2,000 to 6,000 mbar:
				0.007 % FS 150 µbar (0.0021 psi)	0.007 % FS 525 µbar (0.076 psi)
Response time ⁽³⁾	down to 10 ms				
Settling time ⁽⁴⁾	down to 50 ms				
Minimum pressure increment	0.006 % FS 12 µbar - 0.00017 ps	0.006 % FS 120 µbar - 0.0017 psi	0.006 % FS 480 µbar - 0.007 psi	0.0064 % FS 120 µbar - 0.0017 psi	0.0061 % FS 420 µbar -0.006 psi
Pressure supply	1.5 bar (or Max pressure + 0.5 bar) to 10 bar Non corrosive, non explosive, dry and oil-free gases, e.g. air, argon, N2, CO2, ...				
Input vacuum ⁽⁵⁾	/			Any value from -0.7 to -1 bar Compatible with vacuum pump or vacuum line	
Liquid compatibility	Non contact pump Any aqueous, oil, or biological sample solution.				

Non-contractual information, may be changed without notice.

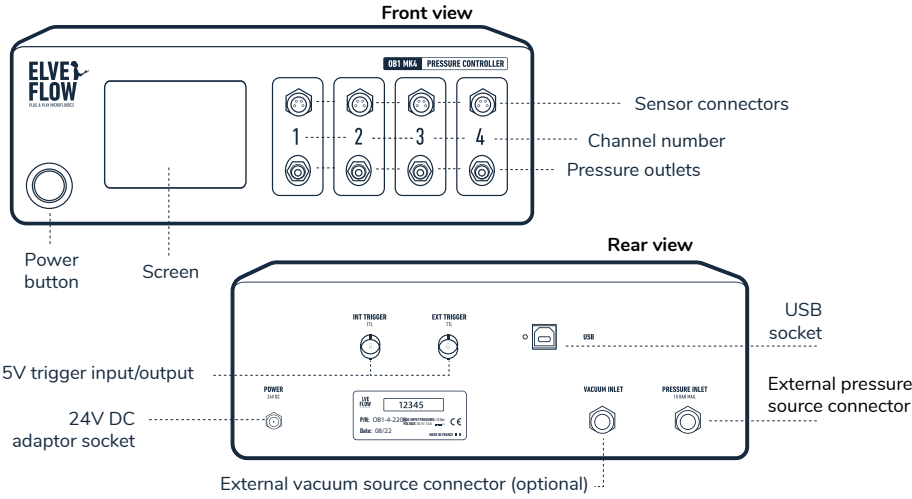
POWER CONSUMPTION (maximum): 12 W **CASE DIMENSIONS** (length x width x height): 240 x 223 x 80 mm **WEIGHT**: 1.4 kg to 2.90 kg **TTL TRIGGER**: In and out available 5V

(1) Max pressure value might vary by +/- 2.5% (2) Pressure stability (standard deviation) measured over the full pressure range with an external high accuracy pressure sensor (Druck DPI150) (3) Time required to reach 5% of the setting point. Depending on your computer's operating system (4) Time required to reach 95% of the set point. Volume dependent - Measurement was done on 12 mL reservoir for a set point from 0 to 200 mbar (5) A vacuum source is mandatory for calibration and use of dual channels even if the channels are to be used in pressure only.



They trust Elveflow's performances and quality:





PRESSURE RANGE COLOR CODE

- YELLOW**
0 to 200 mbar
- BLUE**
0 to 2,000 mbar
- PURPLE**
-900 to 1,000 mbar
- ORANGE**
-900 to 6,000 mbar
- GREY**
0 to 8,000 mbar

PRODUCTS & SERVICES

ELEMENTS PROVIDED BY ELVEFLOW	INCLUDED	OPTIONAL
Software & libraries Control all Elveflow instruments with the same smart interface	•	
Starter pack kit A complete set of accessories fitted for the OB1 flow controller		•
Reservoirs Gas tight reservoirs with ergonomic fluidic connection		•
Flow sensors A line of sensors to monitor a wide range of liquid flow rates		•
Compressor / Vacuum pump A safe & secure pressure source for the OB1 pressure controller		•
Support The Elveflow expertise & support to offer you individually tailored solutions	•	
Services Upgrading, renting and training		•

SOFTWARE FEATURES [ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/FLOW-CONTROL-SYSTEM/ELVEFLOW-SOFTWARE/](https://www.elveflow.com/microfluidic-flow-control-products/flow-control-system/elveflow-software/)

- > Pressure & flow rate **visualization** and **recording**
- > **Programming & automation** of complex sequences
- > Easy alternative instrument control through the provided **C++, Python, MATLAB®** and **LabVIEW®** libraries
- > **UART communication protocol** allowing the OB1 to communicate with most control systems, such as Mac, Linux, Arduino, PLC.



More information:



ESI - FREE SOFTWARE
ELVEFLOW SMART INTERFACE - ALL INSTRUMENTS

P.47