

PRODUCT
CATALOG

www.elveflow.com/microfluidic-products/



CATALOG 2026

STATE OF THE ART

microfluidic instrumentation for all

Elveflow is an Elvsys brand. We have been building premium flow handling instruments since 2012. We are proud to have provided **numerous systems** so far to both academics and industrial users.

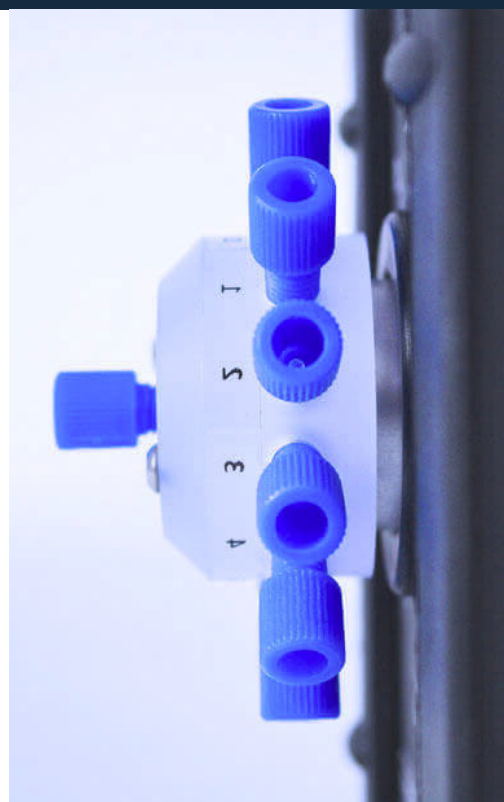
Our product line is built around **the best seller OB1 flow controller** and includes everything for accurate liquid handling. To complete our **Essential range**, an **Advanced range** was created in 2024. All our instruments can be controlled simultaneously using our **software** and **Software Development Kits** or **UART communication** allowing for a full automation of your system.

Our instruments are **modular, upgradable** and we can provide **renting** and **training services** to ease your work. Since 2022, we have also been providing **microfabrication stations** to complete our offering and position ourselves as a **one-stop-shop in the microfluidics field.**

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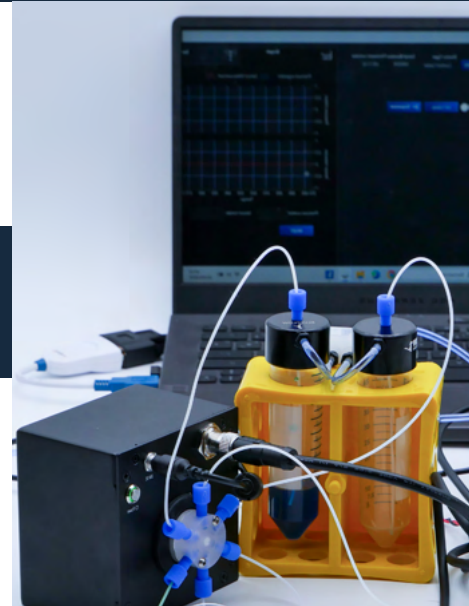


ADVANCED RANGE

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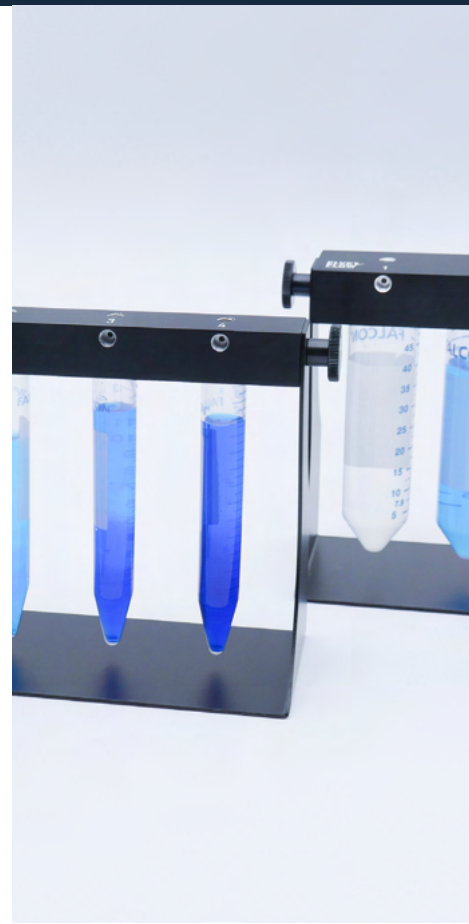
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ELVEFLOW OVERVIEW

Elveflow develops high-performance, flow control systems ideal for microfluidic based applications. We provide the only microfluidic flow control using piezo technology that guarantees fast flow changes in your microdevice. Elveflow also provides microfabrication stations. No need for cleanroom or experience in microfabrication to become autonomous in customizing your own microfluidic devices in no time.

CONTACT@ELVEFLOW.COM

A TEAM OF MULTIDISCIPLINARY EXPERTS

Our assistance team comprises microfluidic experts from different fields - engineers, physicists, and biologists - to provide you with specialized assistance. As a result, our technology generated more than 1000 peer-reviewed publications in chemistry, physics, and biology, with more than 500 citations and ten microfluidic patents.

PRODUCTS

FLOW CONTROL SYSTEMS



OB1 MK4

MULTI CHANNEL PRESSURE & VACUUM CONTROLLER




<https://elveflow.com/microfluidic-products/microfluidics-flow-control-systems/ob1-pressure-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**
-  **FREE SOFTWARE INCLUDED**



**DON'T LET YOUR PUMP
LIMIT YOUR RESEARCH**
BEST RESPONSIVENESS
AND ACCURACY ON THE
MARKET

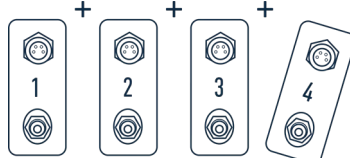


UNIQUE PERFORMANCES

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

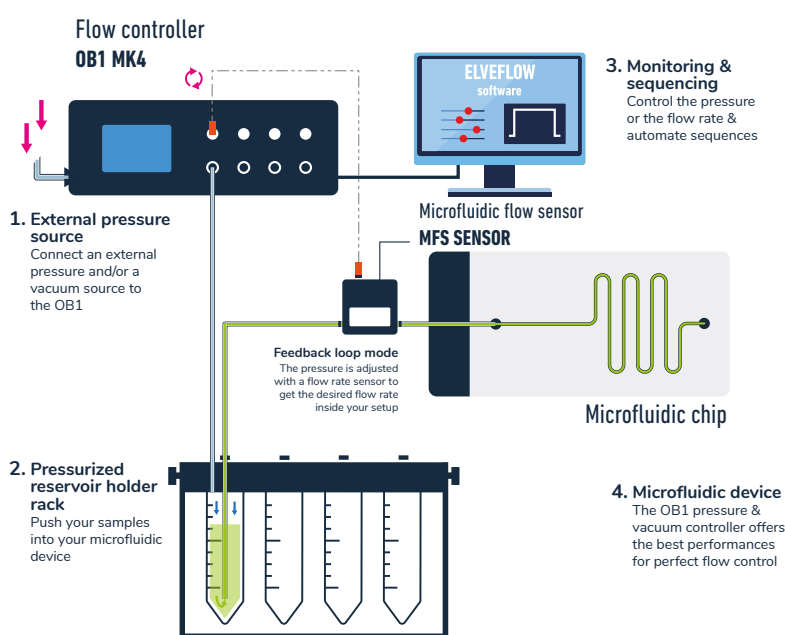


**CUTTING EDGE
PIEZO CONTROL
FOR MICROFLUIDICS**






**CHOOSE FROM 1 TO 4
CHANNELS, AND MORE...**
Get a one-channel today and
add more channels later

*FS: FULL SCALE



- 1 External pressure source**
 Connect a pressure and/or a vacuum source to your OB1 (required).
 Example: Lab pressure line, compressor
- 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.

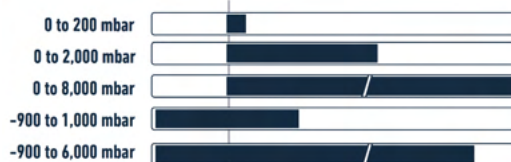
FEATURES & BENEFITS

 <p>Short settling time</p> <p>Operate blazing fast changes in any microdevice with our Piezo technology</p>	<p>Highest flow stability</p> <p>Ensure superior flow performance over a large flow range, with pressure stability down to 30 μbar</p>	<p>Accurate flow control</p> <p>Input a flow value into the software. Flow regulation down to 7.5 nL/min</p>
 <p>Software automation</p> <p>Control all instruments through a single dashboard. Powerful script module to automate control and injection over days</p>	<p>Create your own program</p> <p>Software Development Kits (C++, Python, MATLAB® and LabVIEW® libraries) and UART communication protocols available</p>	<p>Enhanced data saving</p> <p>Up to 10 ms sampling rate to take out the best of your results</p>
 <p>Easy to install and use</p> <p>Start out of the box and set up your system easily. Take advantage of our training courses with our experts if necessary.</p>	<p>Customizable</p> <p>Choose from any number of channels among the five pressure ranges available</p>	<p>Upgradable</p> <p>Get a one-channel today and add more channels later</p>

PRESSURE RANGES



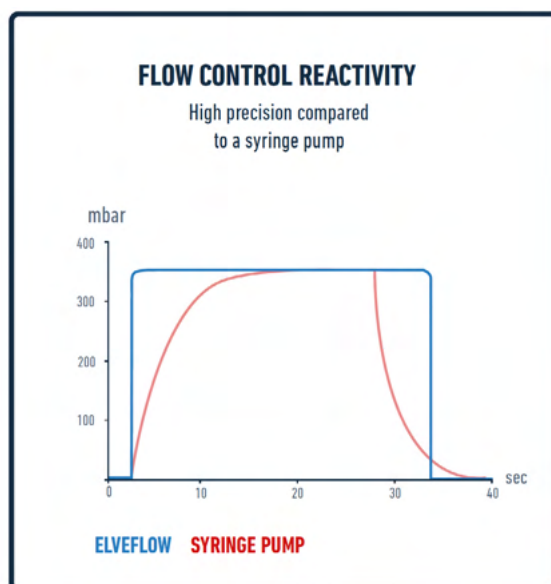
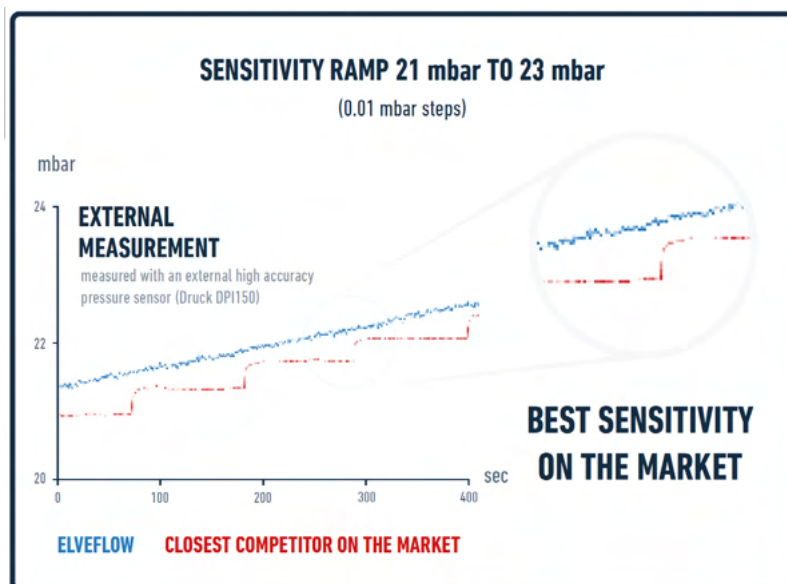
**FOR EACH CHANNEL:
5 PRESSURE RANGES AVAILABLE**



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 (0.005 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 (0.0076 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 psi	0.006 % FS 120 µbar - 0.0017 psi	0.006 % FS 480 µbar - 0.007 psi	0.0064 % FS 120 µbar - 0.0017 psi	0.0064 % 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	

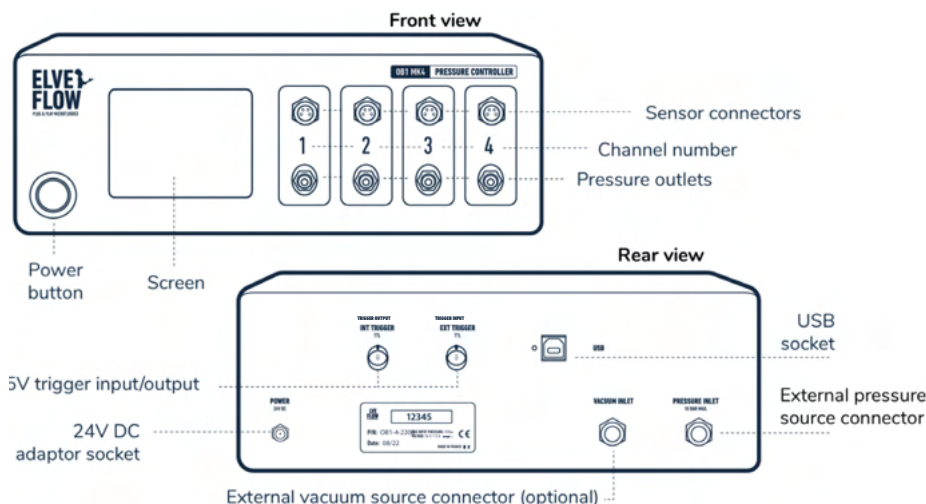
TYPICAL POWER (maximum): 12 W **DIMENSIONS** (length x width x height): 240 x 223 x 83 mm **WEIGHT**: 1.4 kg to 2.9 kg **TTL TRIGGER**: Input and Output TTL signal 0V or 5V

(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:





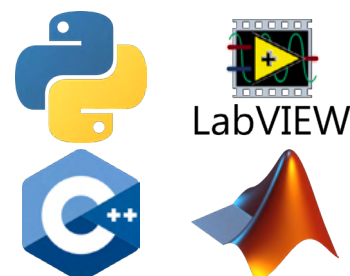
PRODUCTS & SERVICES

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		•

PRODUCTS & SERVICES <https://elveflow.com/microfluidic-products/microfluidics-software/elveflow-software-sdk/>

- > Pressure & flow rate **visualization** and recording
- > **Pre defined profiles** available (pulsatile, ramp...) and custom profiles possible
- > **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

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MUX DISTRIBUTION

13 PORTS-12 POSITIONS VALVE

<https://elveflow.com/microfluidic-products/microfluidics-flow-control-systems/mux-distrib/>



A ROTARY VALVE DESIGNED TO EASILY EXECUTE FAST MEDIUM SWITCHES



The Distribution Valve is a **13 ports / 12 positions bidirectional rotary valve**, which can control the sequential injection of one solution into twelve different lines or twelve solutions into one line.

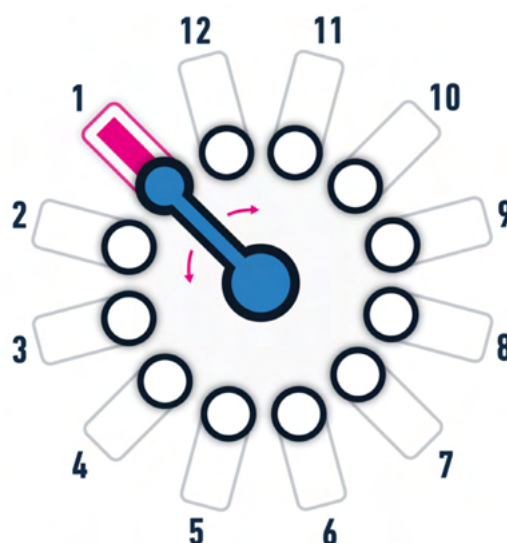
UNIQUE PERFORMANCES

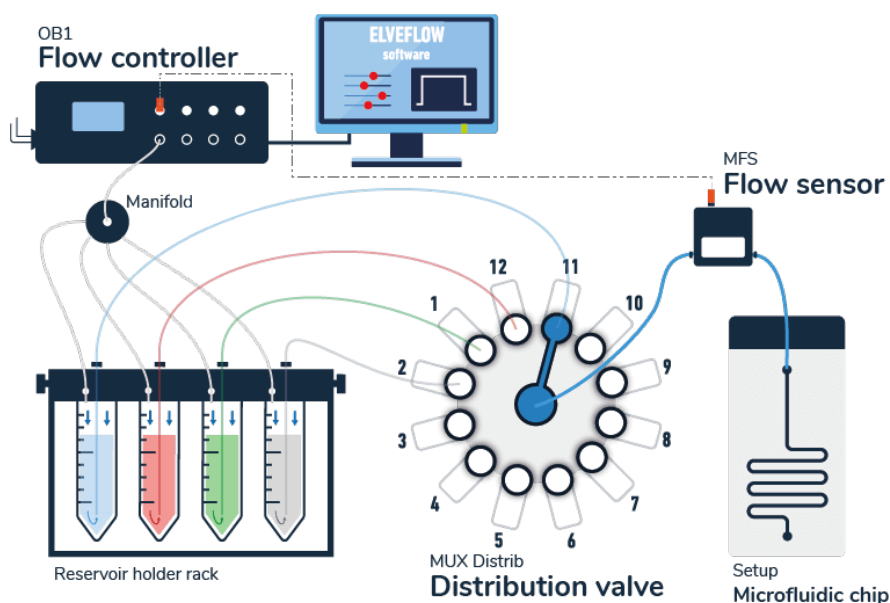
- > Fast port to port switching time: **160 ms**
- > Easy setup: standard **¼-28 fluidic fittings**
- > Low internal volume: **3.5 µL**
- > **High chemical compatibility** (wetted materials: PCTFE, PTFE)
- > Possibility to choose the **sense of rotation**

✓ **INJECTION OF UP TO 12 LIQUIDS**

✓ **SAMPLING OF UP TO 12 SOLUTIONS**

✓ **BIDIRECTIONAL VALVE**





TECHNICAL SPECIFICATIONS

MUX DISTRIBUTION		SPECIFICATIONS
Fluidic Specifications	Valve type	12 positions / 13 ports rotative valve
	Fluidic connectors	Standard 1/4-28 UNF, flat-bottom
	Internal volume	3.5 µL
	Dead volume(1)	None
	Internal diameter	0.5 MM
	Wetted materials	PCTFE and PTFE
	Max. supported pressure	7 bar
	Port to port switching time	160 ms
Control & monitoring	Maximum valve update rate	2 Hz
	Software control	Elveflow Smart Interface – Windows 10, 11, both 32 and 64 bit versions supported
	Software Development Kit	Libraries available: Matlab, Python, LabView, C++ – Windows 10, 11, both 32 & 64 bit versions supported Serial/UART communication protocol on request
Electrical specifications	Voltage	24 V
	Maximum power consumption	36 W
	Interface	USB type B
	Communication Type	Serial
	Provided Power Supply Specifications	Supply Voltage Range (V): 100 to 240 VAC Supply AC Frequency (Hz): 50 to 60 Hz Maximum Output Current (A): 1.67 A Maximum Output Power (W): 40 W
Mechanical specifications	Dimensions (length x width x height)	157 x 126.5 x 134 mm
	Operating temperature	15°C to 40°C
	Operating humidity	20-80% non condensing

Non-contractual information, may be changed without notice. (1) Volume that is stuck in the system (dead end), which is not clearly swept and relies on diffusion to clear out

MUX RECIRCULATION

6 PORTS - 2 POSITIONS VALVE

<https://elveflow.com/microfluidic-products/microfluidics-flow-control-systems/mux-recirculation/>



IMPROVE EFFICIENCY BY REUSING YOUR SOLUTIONS



The Recirculation Valve is a **6 ports /2 positions** microfluidic valve allowing switching between two configurations. It can be used in any application that needs **stable unidirectional fluid recirculation**.

UNIQUE PERFORMANCES

- > Recirculate a fluid in a **closed loop**
- > Port-to-port switching time: **180 ms**
- > **High chemical compatibility**
(wetted materials: PCTFE and PTFE)

✓ **LONG RUN RECIRCULATION**

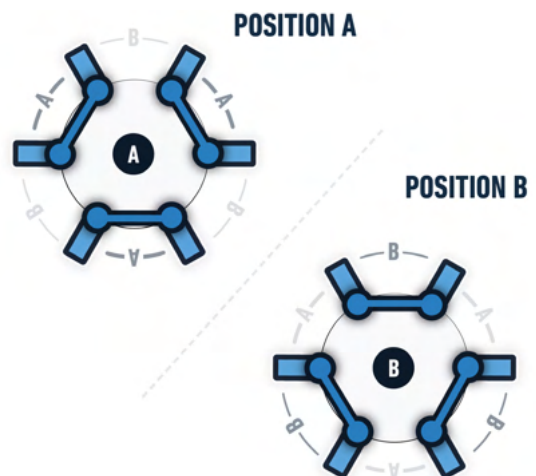
✓ **UNIDIRECTIONAL LIQUID RECIRCULATION**

✓ **INCREASE EXTRACTION RATE**

✓ **PURIFICATION EXPERIMENT**

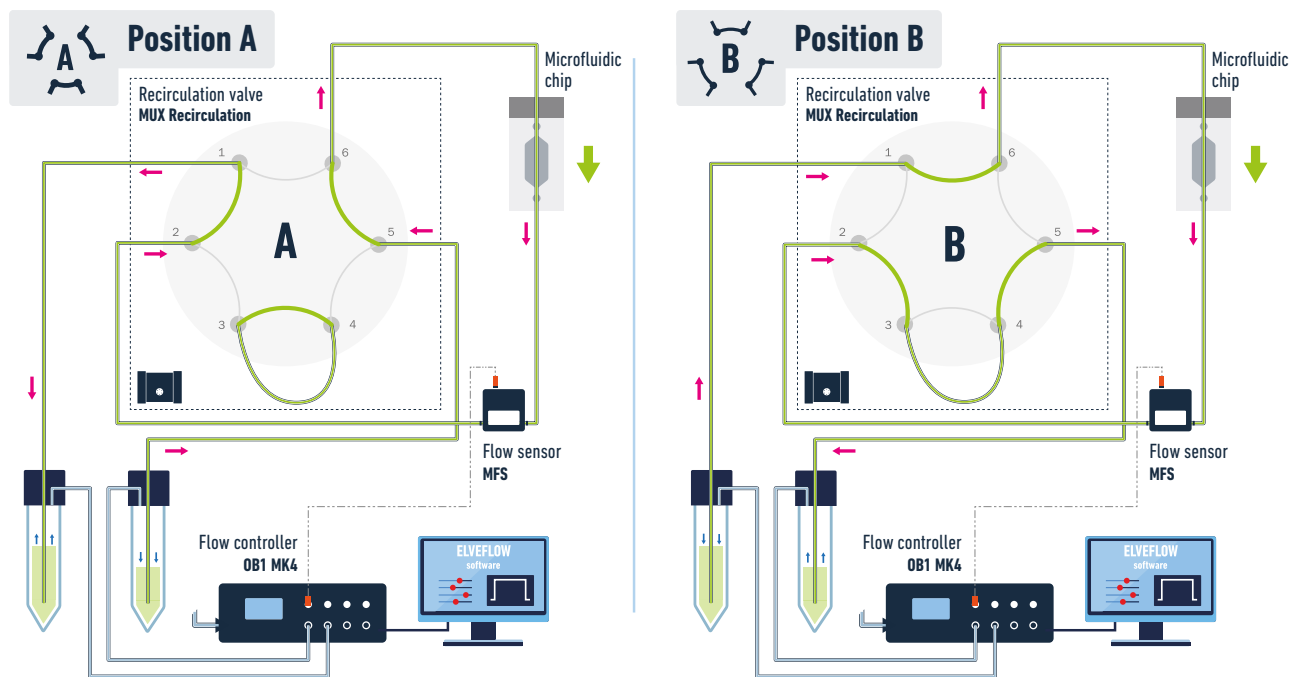


**SOFTWARE
INCLUDED**



HOW IT WORKS

MUX RECIRCULATION



TECHNICAL SPECIFICATIONS

MUX RECIRCULATION	SPECIFICATIONS	
Fluidic Specifications	Valve type	2 positions / 6 ports
	Fluidic connectors	Standard 1/4-28 UNF, flat-bottom
	Internal volume	2.5 µL
	Dead volume(1)	None
	Internal diameter	0.5 mm
	Wetted materials	PCTFE and PTFE
	Max. supported pressure	7 bar
	Port to port switching time	180 ms
Control & monitoring	Maximum valve update rate	2 Hz
	Software control	Elveflow Smart Interface – Windows 10, 11, both 32 and 64 bit versions supported
	Software Development Kit	Libraries available: Matlab, Python, LabView, C++ – Windows 10, 11, both 32 & 64 bit versions supported Serial/UART communication protocol on request
Electrical specifications	Voltage	24 V
	Maximum power consumption	36 W
	Interface	USB type B
	Communication Type	Serial
	Provided Power Supply Specifications	Supply Voltage Range (V): 100 to 240 VAC Supply AC Frequency (Hz): 50 to 60 Hz Maximum Output Current (A): 1.67 A Maximum Output Power (W): 40 W
Mechanical specifications	Dimensions (length x width x height)	145 x 126.5 x 134 mm
	Operating temperature	15°C to 40°C
	Operating humidity	20-80% non condensing

Non-contractual information, may be changed without notice. (1) Volume that is stuck in the system (dead end), which is not clearly swept and relies on diffusion to clear out

MUX SERIES MUX CROSS CHIP

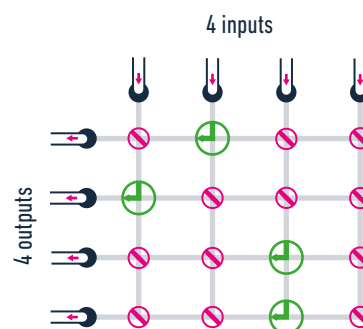
<https://elveflow.com/microfluidic-products/microfluidics-flow-control-systems/multiplex-flow-matrice/>



SOFTWARE INCLUDED



POWERFUL 4X4 MATRIX TO MULTIPLEX SOLUTIONS EFFICIENTLY



The MUX Cross Chip is a compact and efficient **4x4 microfluidic valve system**, with 4 inputs and 4 outputs, designed to ease your complex microfluidic experiments. This device integrates efficiently **16 2-way NC valves** for setup optimization

UNIQUE PERFORMANCES

- > Easy setup: standard **10-32 connectors**
- > Individual control of each one of the **16 valves**
- > Reach stop flow conditions in less than **100 ms**
- > **Easy automation** using the sequencer of the ESI software

✓ **STOP FLOW OPTIMIZATION**

✓ **SEQUENTIAL INJECTION**

✓ **COMPLEX PARALLELISATION**

✓ **RECIRCULATION**

MUX CROSS CHIP		SPECIFICATIONS
General Specifications	Valve type	2-way NC solenoid valve
	Number of valves	16 valves
	Connection type	USB B
Fluidic specifications	Inlet / outlet connectors	10-32 UNF
	Number of inlets / outlets	4 inlets and 4 outlets
	Response time of a valve	15 ms (using SDK) - 185 ms (using ESI)
	Max. supported pressure	2.5 bar (36 psi)
	Wetted materials	PEEK / FKM / POM C / Viton
Control monitoring	Software control	ESI, C++, Python, LabVIEW, Matlab librairies
	Trigger	One trigger IN and one Trigger OUT TTL output 5V

MUX CROSS CHIP DIMENSIONS without connectors (length x width x height): 220 x 130 x 130 mm. Non-contractual information, may be changed without notice.

MUX SERIES MUX FLOW SWITCH

<https://elveflow.com/microfluidic-products/microfluidics-flow-control-systems/flow-switch-matrice/>



COMPACT MATRIX TO EASILY RUN AND STOP SOLUTIONS



The MUX Flow Switch is designed to master **parallelization** or the **injection** of samples in a chip with **multiple inlets**. It is a matrix of **16 2-way NC valves**, with its **16 inputs and 16 outputs**, it enables easy and quick switch of the upstream flow in our microfluidic device.

✓ **FLUID HANDLING AUTOMATION**

✓ **OPTIMIZED SAMPLE SWITCH**

UNIQUE PERFORMANCES

- > Easy setup: standard **1/4-28 connectors**
- > Compactness: all valves and electronics embedded in a **compact design**
- > **Versatile configuration**: choose the number of valves you need
- > **Easy automation** using the sequencer of the ESI software

MUX CROSS CHIP		SPECIFICATIONS
General Specifications	Valve type	2-way NC solenoid valve
	Number of valves	up to 16 valves
	Connection type	USB B
Fluidic specifications	Inlet / outlet connectors	1/4-28 UNF
	Number of inlets / outlets	16 inlets and 16 outlets
	Response time of a valve	15 ms (using SDK) - 185 ms (using ESI)
	Max. supported pressure	2.5 bar (36 psi)
	Wetted materials	PEEK / FKM
Control monitoring	Software control	ESI, C++, Python, LabVIEW, Matlab librairies
	Trigger	One trigger IN and one Trigger OUT TTL output 5V

MUX CROSS CHIP DIMENSIONS without connectors (length x width x height): 220 x 130 x 130 mm. Non-contractual information, may be changed without notice.

MUX SERIES

MUX QUAKE VALVE

<https://elveflow.com/microfluidic-products/microfluidics-flow-control-systems/quake-valve-controller/>



MATRIX TO MULTIPLEX SOLUTIONS EFFICIENTLY



The MUX Quake Valve is a matrix of **16 3-way valves**. It has **2 inputs and 16 outputs** and is perfect to run up to **16 experiments independently**. This device enables **easy actuation** of bilayer binary valves.

UNIQUE PERFORMANCES

- > Easy setup: standard **10-32 connectors**
- > **Individual control** of each one of the 16 valves
- > Run 16 experiments **in parallel and independently**
- > **Easy automation** using the sequencer of the ESI software

✓ **POWERFUL PARALLELISATION**

✓ **COMPATIBLE WITH AIR AND LIQUIDS**

MUX QUAKE VALVE		SPECIFICATIONS
General Specifications	Valve type	3-way solenoid valve
	Number of valves	16 valves
	Connection type	USB B
Fluidic specifications	Inlet / outlet connectors	10-32 UNF
	Number of inlets / outlets	2 inlets and 16 outlets
	Response time of a valve	15 ms (using SDK) - 185 ms (using ESI)
	Max. supported pressure	2.5 bar (36 psi)
	Wetted materials	PEEK / FKM / POM C / Viton
Control monitoring	Software control	ESI, C++, Python, LabVIEW, Matlab librairies
	Trigger	One trigger IN and one Trigger OUT TTL output 5V

MUX QUAKE VALVE DIMENSIONS without connectors (length x width x height): 220 x 130 x 130 mm. Non-contractual information, may be changed without notice.

VALVES RANGE & MUX WIRE

VALVES & VALVE CONTROLLER

<https://elveflow.com/microfluidic-products/microfluidics-flow-control-systems/valve-controller/>

PLUG YOUR VALVES ANYWHERE IN YOUR MICROFLUIDIC SETUP

✓ MIX ALL KINDS OF VALVES

✓ CONTROL FROM 1 TO 8 VALVES

✓ AUTOMATE OR CONTROL MANUALLY YOUR SMART VALVES



SMART LOW PRESSURE VALVE 2-WAY OR 3-WAY

2-WAY: Pick default setting: open or closed

- > Compatible with gas or liquid
- > ROCKER® valve technology
- > Internal volume (25 or 32µL)
- > Maximum recommended pressure: 3 bar (44 psi)
- > Wetted Materials: PEEK, FKM



SMART HIGH PRESSURE VALVE 2-WAY OR 3-WAY

2-WAY: Pick default setting: open or closed

- > Compatible with gas or liquid
- > ROCKER® valve technology
- > Internal volume (55,5 or 58,3 µL)
- > Maximum recommended pressure: 6 bar (87 psi)
- > Wetted Materials: PEEK, FKM



SMART LOW VOLUME VALVE 2-WAY

- > Compatible with gas or liquid
- > Low internal volume: 14.7 µL
- > Maximum recommended pressure: 5 bar (73 psi)
- > Wetted Materials: PEEK, FFKM



MUX WIRE V3 VALVE CONTROLLER

Easily control your microfluidic valves

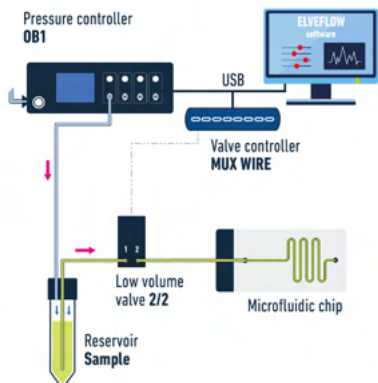
- > Fast liquid switching
- > Detect automatically all smart valves
- > Complex sequences of injection including flushing, rinsing, and sequential injection of several liquids
- > Allow to control other custom valves



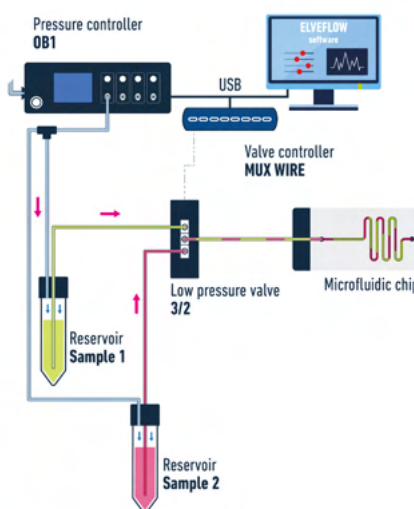
HOW IT WORKS

VALVES RANGE & VALVE CONTROLLER

MICROFLUIDIC 2-WAY VALVE



MICROFLUIDIC 3-WAY VALVE



TECHNICAL SPECIFICATIONS

VALVES RANGE	VALVES TYPE		
Low pressure valve -0.90 bar to 3 bar (-13 psi to 44 psi) Fittings: Standard 1/4-28" Switching time: <10 ms (+ communication time*)	2-way Normally open Internal volume: 25 µL	2-way Normally closed Internal volume: 25 µL	3-way Internal volume: 32 µL
High pressure valve -0.75 bar to 6 bar (-11 psi to 87 psi) Fittings: 10-32 Switching time: <15 ms (+ communication time*)	2-way Normally open Internal volume: 55.5 µL	2-way Normally closed Internal volume: 55.5 µL	3-way Internal volume: 58.25 µL
Low volume valve 0 bar to 5 bar (0 psi to 73 psi) Fittings: 10-32 Switching time: <20 ms (+ communication time*)	2-way Normally closed Internal volume: 14.7 µL		

VALVES DIMENSIONS without connectors (length x width x height): **LOW PRESSURE:**60,5 x 34 x 80,5 mm **HIGH PRESSURE:**53 x 34 x 80,5 mm **LOW VOLUME:** 56,4 x 34 x 51,4 mm

VALVE CONTROLLER	SPECIFICATIONS
Number of controlled valves	8
Valves connectors	USB-C
Device connection type	USB type B
Device input voltage	24 V
Typical Power	12 W
Provided power supply specifications	Supply - Voltage range: 100 to 240 VAC / Supply - AC Frequency: 50 Hz to 60 Hz Output - Maximum current output: 1.67 A peak / Output - Maximum power: 40 W

VALVE CONTROLLER DIMENSIONS without connectors (length x width x height): 96 x 140 x 38.5 mm **WEIGHT:** 374g **TTL TRIGGER:** Input and Output TTL signal 0V or 5V

PRODUCTS MEASUREMENT & DETECTION



MFS MICROFLUIDIC FLOW SENSOR

<https://elveflow.com/microfluidic-products/microfluidics-flow-measurement-sensors/microfluidic-liquid-mass-flow-sensor/>



HIGH-ACCURACY FLOW MONITORING AND CONTROL



High-accuracy volumetric flow sensors for **wide flow rate monitoring** of liquids. The thermal-based flow sensor comes with an M8 4-pin electrical connection and can be directly controlled through the Elveflow software.

UNIQUE PERFORMANCES

- > Flow rates from 0.007 $\mu\text{L}/\text{min}$ to 40 mL/min
- > IP54 certification
- > Bidirectional flow rate measurement

✓ 6 FLOW RATE RANGES

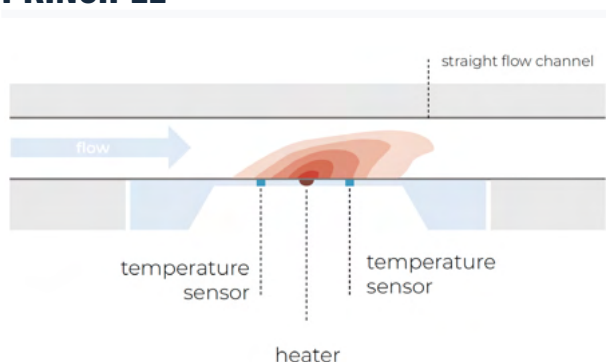
✓ HIGH CHEMICAL COMPATIBILITY

✓ WATER RESISTANT AND INCUBATOR COMPATIBLE

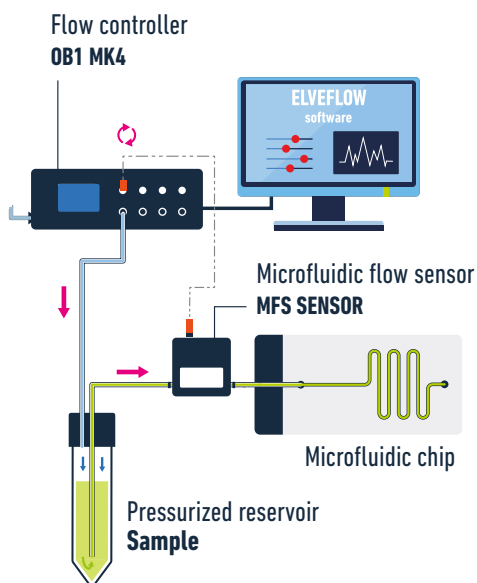
✓ WIDE AND ACCURATE FLOW RATE MONITORING



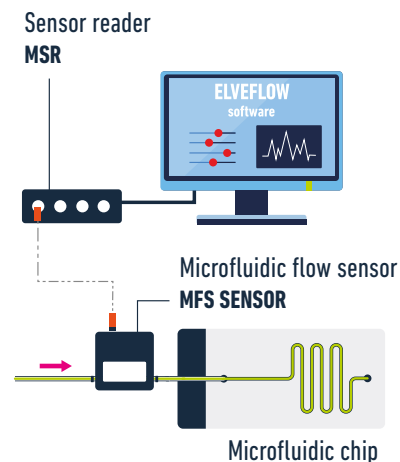
PRINCIPLE



WITH ELVEFLOW FLOW CONTROLLERS: MONITORING + CONTROL

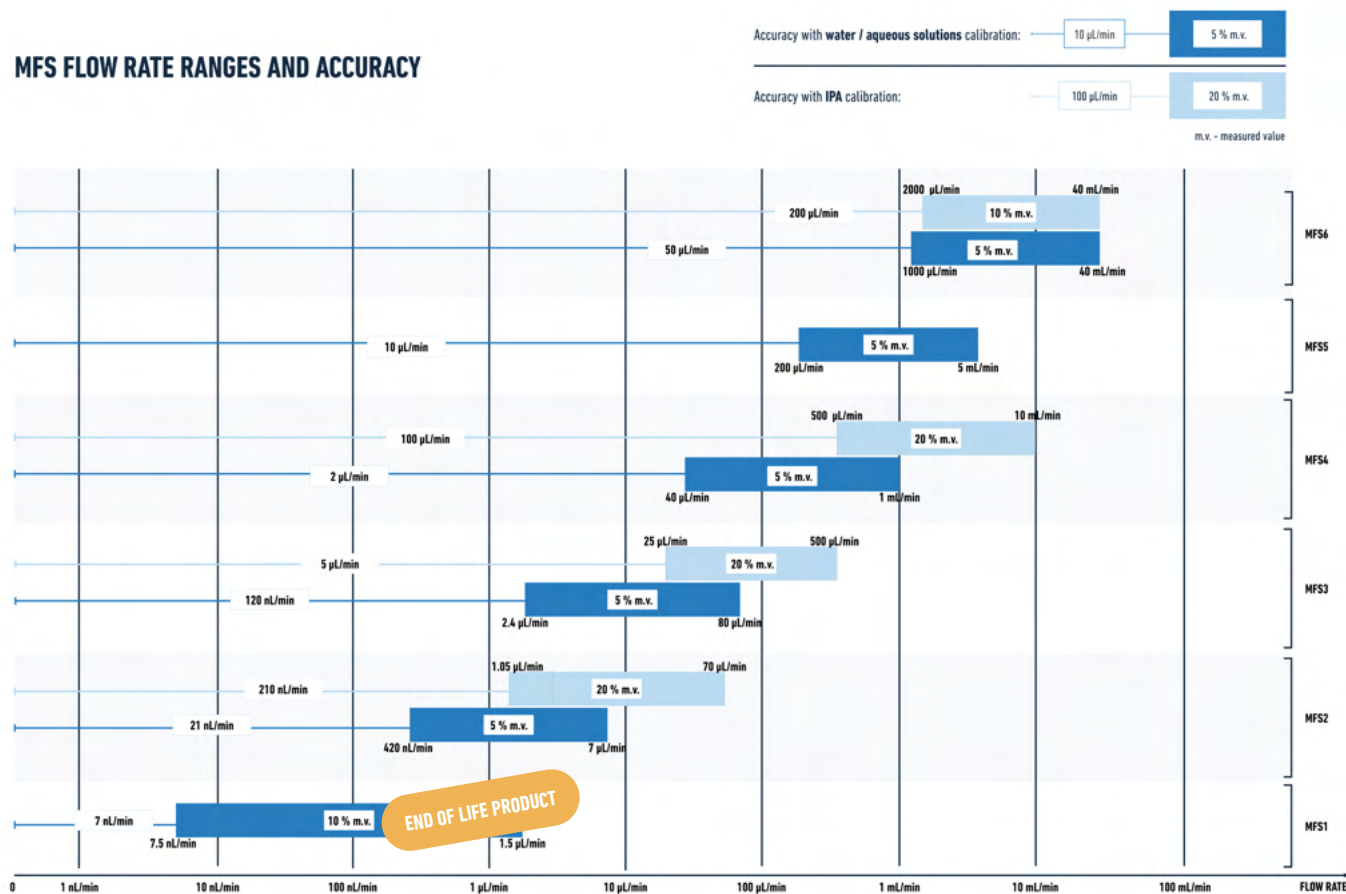


WITH SENSOR READER: MONITORING



TECHNICAL SPECIFICATIONS

MFS FLOW RATE RANGES AND ACCURACY



MFS FLOW SENSORS	MFS 1+	MFS 2+	MFS 3+	MFS 4+	MFS 5+	MFS6+
	END OF LIFE PRODUCT					
Ingress protection	IP54	IP54	IP54	IP54	IP54	IP54
Media calibration	Water	Water, IPA	Water, IPA	Water, IPA	Water	Water, IPA
Flow rate range (for aqueous solutions)	0 to ±1.5 µL/min	0 to ±7 µL/min	0 to ±80 µL/min	0 to ±1 mL/min	0 to ±5 mL/min	0 to ±40 mL/min
Accuracy	±10 % of measured value	±5 % of measured value	±5 % of measured value	±5 % of measured value	±5 % of measured value	±5 % of measured value
Repeatability	<1 % of measured value or 0.0009 µL/min	±0.5 % of measured value or 0.0035 µL/min	±0.5 % of measured value or 0.008 µL/min	±0.5 % of measured value or 0.2 µL/min	±0.5 % of measured value or 1 µL/min	±0.5 % of measured value or 10 µL/min
Sensor inner diameter	25 µm	150 µm	430 µm	1.0 mm	1.8 mm	1.4 mm
Sensor internal volume	1 µL	1.5 µL	5 µL	25 µL	80 µL	58 µL
Microfluidic fitting type	UNF ¼-28 flat bottom using 6-40 to ¼-28 connectors	UNF ¼-28 flat bottom using 6-40 to ¼-28 connectors	UNF ¼-28 flat bottom using 6-40 to ¼-28 connectors	UNF ¼-28 flat bottom	UNF ¼-28 flat bottom	UNF ¼-28 flat bottom
Pressure drop at full scale flow rate, 23°C	1 bar	3 mbar	1 mbar	< 1 mbar	< 1 mbar	<4 mbar
Wetted materials	Quartz Glass (Fused Silica) / PEEK	Quartz Glass (Fused Silica) / PEEK	Quartz Glass (Fused Silica) / PEEK	Borosilicate Glass 3.3 / PEEK / FEP	Borosilicate Glass 3.3 / PEEK / FEP	Polyphenylene sulfide (PPS) / stainless steel 316L / epoxy-based adhesive
Maximum recommended operating pressure	200 bar	200 bar	100 bar	15 bar	15 bar	12 bar
Burst pressure	400 bar	400 bar	200 bar	30 bar	30 bar	25 bar
Supply voltage	5 V	5 V	5 V	5 V	5 V	3.3 V
Supply current	6.8 mA	6.8 mA	6.8 mA	6.8 mA	6.8 mA	6 mA

FLOW SENSOR SIZE MFS 1+ TO 5+: (length x width x height): 52 x 58 x 29 mm **FLOW SENSOR SIZE MFS 6+:** 47 x 58 x 29 mm Non-contractual information, may be changed without notice.
WEIGHT MFS 1+ TO 5+: 145 g **MFS 6+:** 130 g

Excellent chemical resistance and bio-compatibility are ensured
 The product comes fully calibrated for water
 Flow calibration for methanol or other media is available on request (all data for medium H2O, 20°C, 1 bar unless otherwise noted)
 The recommended storage temperature ranges from -10°C to +60°C
 Liquid Flow Sensor enables fast, and non invasive measurements of very low liquid flow rate below 40 mL/min
 The operating temperature is +10°C to +50°C
 The flow sensor shows bi-directional and linear transfer character

BFS PREMIUM FLOW SENSOR

<https://elveflow.com/microfluidic-products/microfluidics-flow-measurement-sensors/microfluidic-flow-sensor-coriolis/>



COMPATIBLE WITH ALL LIQUIDS*: WATER, OIL, ALCOHOL, MIXTURE, AND MORE. NO CALIBRATION REQUIRED



In partnership with **Bronkhorst**, we have developed a unique Coriolis flow sensor suited to microfluidics. It offers various benefits: **precision, wide range, straightforward compatibility with all liquids.**

✓ **COMPATIBLE WITH A WIDE RANGE OF LIQUIDS & GAS***

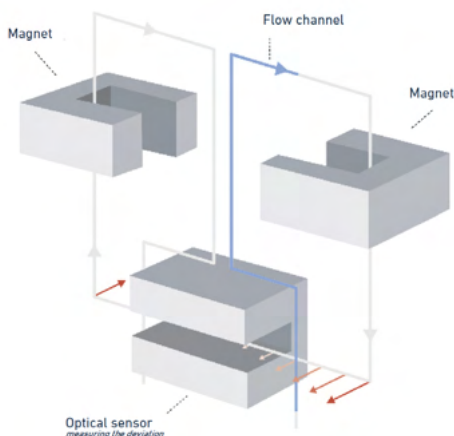
✓ **NO CALIBRATION NEEDED**

UNIQUE PERFORMANCES

- > Large flow range from **1.6 μ L/min to 500 mL/min** (for water)
- > Maximum flow rate: **500 mL/min** (for water)
- > Sensor response time: **35 ms**
- > Mass flow accuracy: **down to 2 % of measured value** (down to 0.2 % of mv on request)

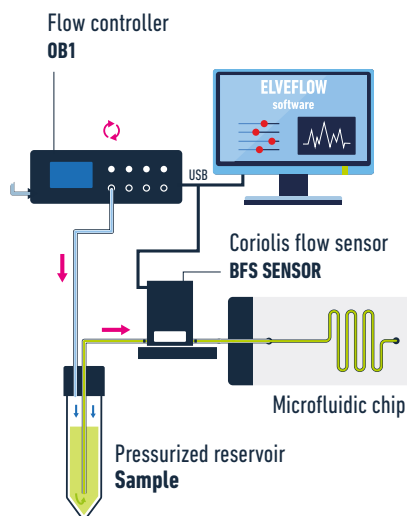


PRINCIPLE

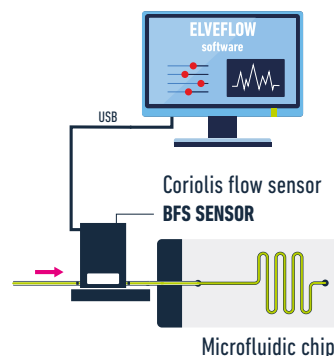


* AS LONG AS THEY ARE COMPATIBLE WITH STAINLESS STEEL 316L OR COMPARABLE MATERIALS

WITH ELVEFLOW FLOW CONTROLLERS: MONITORING + CONTROL



WITH EXTERNAL EQUIPMENT: MONITORING



TECHNICAL SPECIFICATIONS

CORIOLIS FLOW SENSOR	BFS 1	BFS 1+	BFS 2	BFS 3
Flow range	0.1 g/h to 200 g/h		1 g/h to 2000 g/h	30 g/h to 30000 g/h
Minimum flow rate (water)	1.6 µL/min		16.6 µL/min	500 µL/min
Maximum flow rate (water)	3.3 mL/min		33.3 mL/min	500 mL/min
PERFORMANCE				
Mass flow accuracy liquids	down to ± 2 % of measured value	down to ± 0.2 % of measured value		
Mass flow accuracy gases	up to ± 0.5 % of measured value			
Repeatability	± 0.05 % of rate ± 1/2 (ZS* x 100/flow) % based on digital output			
Zero stability (ZS) ⁽¹⁾	< ± 0.01 g/h	< ± 0.2 g/h	< ± 6 g/h	
Density accuracy	< ± 5 kg/m ³			
Temperature accuracy	± 0.5 °C			
Temperature effect ⁽²⁾	Zero drift: ± 0.01 g/h/°C		Zero drift: ± 0.02 g/h/°C	Zero drift: ± 0.5 g/h/°C
Mounting ⁽³⁾	Any position, attitude sensitivity negligible			
Device temperature	0...70 °C			
Response time (t 98 %)	0.2 s to fill the tubing then 35 ms			
MECHANICAL PARTS				
Wetted material	Stainless steel 316 L or comparable		Stainless steel 316 L or comparable	
Pressure rating	200 bar		200 bar	
Sensor inner diameter	250 µm		0.5 mm	1.3 mm
Suitable tubings	1/16"		1/8" with adapters to 1/16"	
Internal volume	13 µL		0.45 mL	0.82 mL
Calibration	/		Individual calibration certificate	

FLOW SENSOR SIZE (LENGTH X WIDTH X HEIGHT): 65 x 32 x 144 mm **WEIGHT:** 3 kg

(1) Guaranteed at constant temperature and for unchanging process and environment conditions. (2) Depends on flow rate, heat capacity fluid, T amb., T fluid and cooling capacity.

(3) To be rigidly bolted to a stiff and heavy mass or construction for guaranteed stability. External shocks or vibrations should be avoided.

Non-contractual information, may be changed without notice.

FLOW SENSORS COMPARISON MFS VS BFS

FLOW SENSORS COMPARISON	BFS (1 & 1+)		MFS (1+, 2+, 3+, 4+, 5+)		BFS 2		MFS 6+	
								
Accuracy ⁽¹⁾ (for water)	2% of measured value (BFS1) 0,2% of measured value (BFS1+)		10% of measured value (MFS1) 5% of measured value (MFS2 to 5)		0.2 % of measured value		5 % of measured value	
Range (for water)	One sensor from 0 to 3.3 mL/min		Five sensors from 0 to 5 mL/min		One sensor from 0 to 33.3 mL/min		One sensor from 0 to 40 mL/min 10 nL/min to 5 mL/min	
Negative flow measurement	Yes		Yes		Yes		Yes	
Supported fluid types	All without calibration ⁽²⁾		All with calibration ⁽²⁾		All without calibration ⁽²⁾		All with calibration ⁽²⁾	
Response time	35 ms ⁽³⁾		Down to 1 ms ⁽⁴⁾		35 ms ⁽³⁾		Down to 0.5 ms ⁽⁴⁾	
Flow sensor size	240 x 40 x 167 mm ⁽⁵⁾		52 x 58 x 29 mm		240 x 40 x 175 mm ⁽⁹⁾		47 x 58 x 29 mm	
Internal diameter	250 µm		From 25 µm to 1.8 mm ⁽⁶⁾		0.5 mm		1.4 mm	
Internal volume	13 µL		From 1 µL to 80 µL ⁽⁶⁾		450 µL		58 µL	
Weight	2800 g ⁽⁷⁾		145 g		3100 g ⁽¹⁰⁾		130 g	
Connectors	Swagelok		UNF ¼-28 flat bottom		Swagelok		UNF ¼-28 flat bottom	
Suitable tubings	1/16"OD		1/16"OD		1/8" OD ⁽¹¹⁾		1/16" OD	
Ingress protection	IP40		IP54		IP65		IP54	
Wetted material	Stainless steel 316L or comparable		Glass / PEEK / FEP		Stainless steel 316L or comparable		Polyphenylene sulfide (PPS) / stainless steel 316L / epoxy-based adhesive	
Technology	Coriolis		Thermal		Coriolis		Thermal	
Computer connection	Directly via USB to the computer		No direct connection to the computer ⁽⁸⁾		Directly via USB to the computer		No direct connection to the computer ⁽⁸⁾	
Additional features	Temperature and density measurement				Temperature and density measurement			

Non contractual information, may be changed without notice

(1) Accuracy depends on the value in the range

(2) While respecting wetted material compatibility constraints

(3) 0.2 s at 98% to fill the tubing then 35 ms with temperature measurement

(4) Depending on chosen digital resolution

(5) Dimensions with mass block. Without mass block, the dimensions are: 130 x 32 x 155 mm

(6) Depending on the sensor range

(7) Weight with mass block. The weight without mass block is 800 g

(8) Connection to the OB1, the pressure controller or to the MSR or Sensor Hub via M8 cable.

(9) Dimensions with mass block. Without mass block, the dimensions are: 118 x 32 x 144 mm

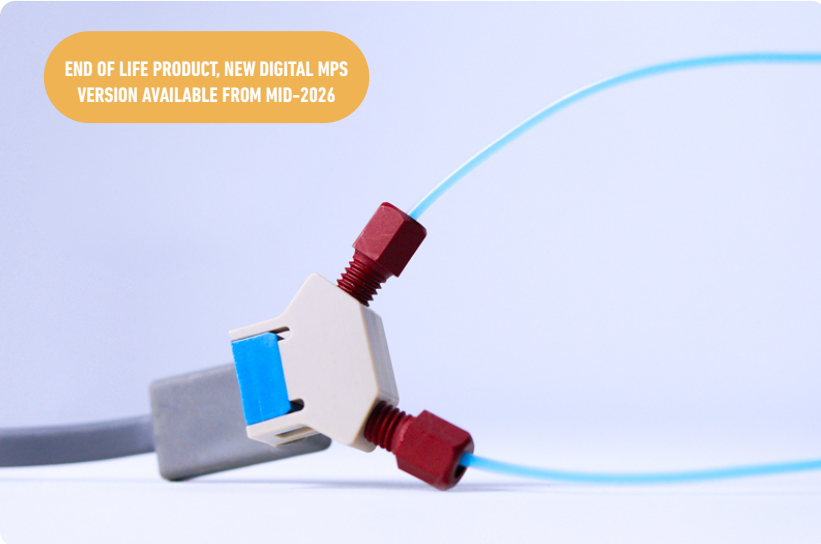
(10) Weight with mass block. The weight without mass block is 1100 g

(11) Adapters for 1/16"OD

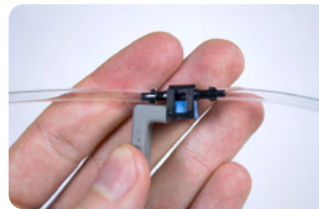
MPS PRESSURE SENSOR

<https://elveflow.com/microfluidic-products/microfluidics-flow-measurement-sensors/pressure-sensor/>

END OF LIFE PRODUCT, NEW DIGITAL MPS
VERSION AVAILABLE FROM MID-2026



**IDEAL FOR
MONITORING
THE PRESSURE AT
ANY POINT** IN YOUR
MICROFLUIDIC SETUP



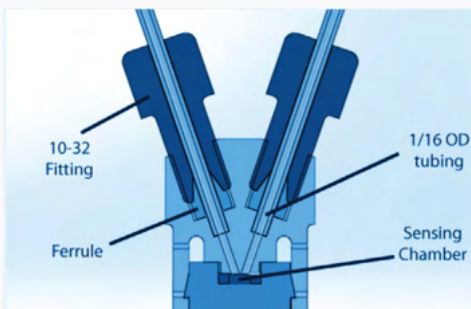
High accuracy pressure sensor adapted to liquid and gas and compatible with 3/32" ID tubing or 10-32 fittings for 1/16" OD tubing. Ideal for monitoring **low pressure flow rate** in your microfluidic setup.

UNIQUE PERFORMANCES

- > Accuracy down to **0.2 % FS**
- > 5 ranges from **70 mbar to 7,000 mbar**
- > Minimum internal volume: **7.5 µL**
- > Works with both **liquid & gas**

✓ **PRESSURE FEEDBACK OPTION**

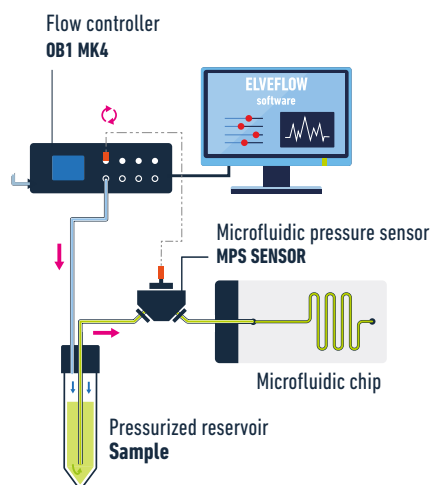
✓ **MEASUREMENT & DETECTION**



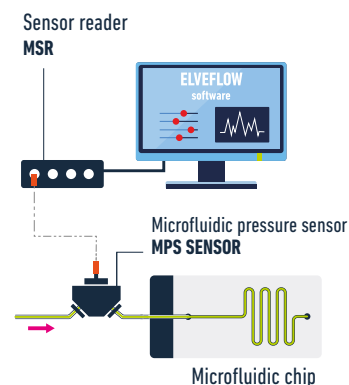
OUR PRESSURE SENSORS WORK AS GAUGE PRESSURE SENSORS,

measuring positive and negative pressure relatively to atmospheric pressure.

WITH ELVEFLOW PRESSURE CONTROLLERS: MONITORING + CONTROL



WITH SENSOR READER: MONITORING

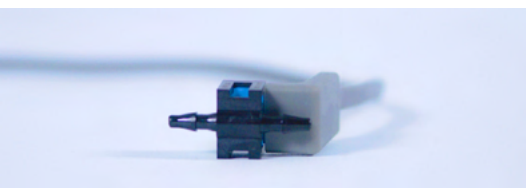
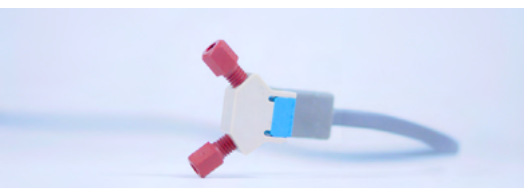


NEW DIGITAL PRESSURE SENSOR AVAILABLE FROM MID-2026.
CONTACT US FOR ACCESS TO THE NEW SPECIFICATIONS.

TECHNICAL SPECIFICATIONS

MICROFLUIDIC PRESSURE SENSOR	MPS 0	MPS 1	MPS 2	MPS 3	MPS 4
Pressure range	-70 to 70 mbar (-1 to 1 psi)	-340 to 340 mbar (-5 to 5 psi)	-1 to 1 bar (-15 to 15 psi)	-1 to 2 bar (-15 to 30 psi)	-1 to 7 bar (-15 to 100 psi)
Maximum overpressure	1.4 bar (20 psi)	1.4 bar (20 psi)	3 bar (45 psi)	3 bar (60 psi)	14 bar (200 psi)
Pressure accuracy liquids	up to ± 0.5 % of max range	up to ± 2 % of max range	up to ± 0.2 % of max range		
Linearity %span	Typical	0.25	0.4	0.25	0.1
	Max.	0.5	0.5	0.5	0.2
Repeatability & hysteresis %span	± 3.0	± 0.4	± 0.2		
Operating temperature	-40 °C to +85 °C				
Specified temperature range	0 °C to +50 °C				

Non-contractual information, may be changed without notice.

PACKAGE MODEL	LARGE	SMALL
Sensor design		
Connection type	3/32 barb	10-32 thread with ferrule
Internal volume	70 µL	7.5 µL
Recommended tubing diameter (inch)	3/32" ID	1/16" OD
Wetted materials	polyetherimide, silicon and fluorosilicone seal	PEEK, silicon and fluorosilicone seal
Electrical connection	4 point measurement M8 connector compatible with Elveflow Sensor Reader and a Sensor Reader	

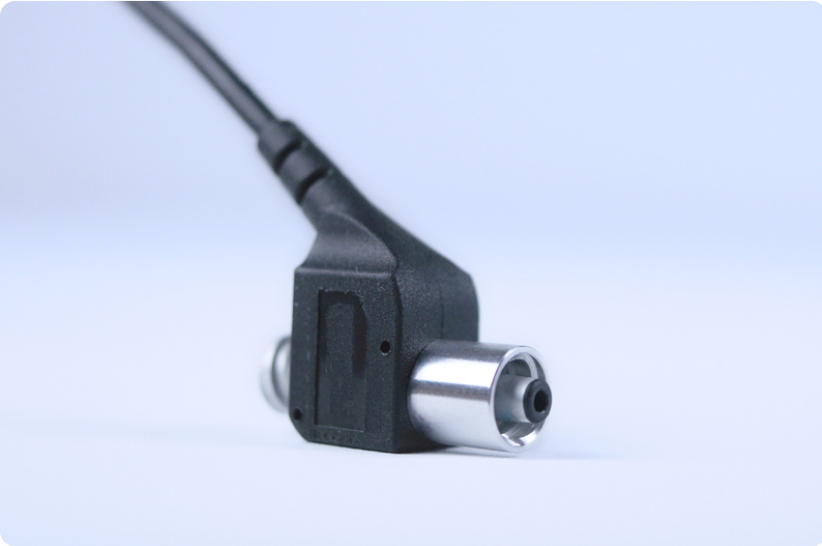
Non-contractual information, may be changed without notice.

SENSOR SIZE (length x width x height): **LARGE:** 29 x 13 x 27 mm **SMALL:** 40 x 33 x 19 mm **AMPLIFICATION MODULE SIZE:** 52 x 24 x 24 mm

MFP

HIGHT RANGE PRESSURE SENSOR

<https://elveflow.com/microfluidic-products/microfluidics-flow-measurement-sensors/luer-lock-pressure-sensor/>



MEASURE AND CONTROL PRESSURE OVER A LARGE RANGE



Flow-through pressure sensors adapted to gases or liquids, and compatible with the Luerlock standard. The MFP fluid sensor is intended to **measure the pressure** of fluid media flowing through the sensor.

UNIQUE PERFORMANCES

- > Accuracy up to 2 % FS
- > Range from 0 to 16 bar
- > **No dead volume**
- > Versatile: works with gas & liquid

✓ **PRESSURE FEEDBACK OPTION**

✓ **MEASUREMENT & DETECTION**

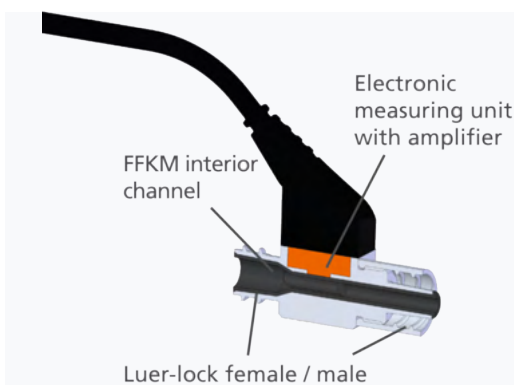
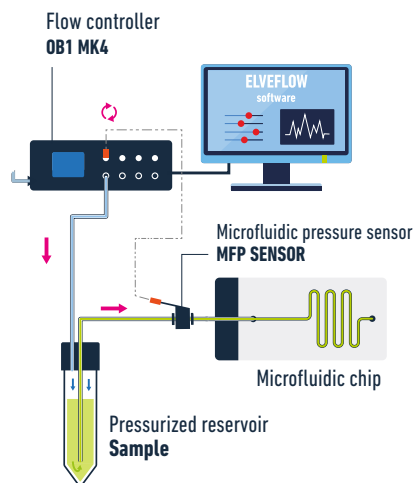


Figure sectional view: 1:1

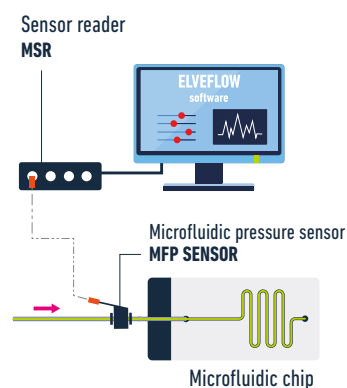
WIDE MEDIA COMPATIBILITY

The wetted material of the sensor is FFKM which is a FDA-certified material and suitable for use in the food industry

WITH ELVEFLOW FLOW CONTROLLERS: MONITORING + CONTROL



WITH SENSOR READER: MONITORING



OUR PRESSURE SENSORS WORK AS GAUGE PRESSURE SENSORS,
measuring positive and negative pressure relatively to atmospheric pressure.

TECHNICAL SPECIFICATIONS

LUER-LOCK PRESSURE SENSOR	SPECIFICATIONS
Accuracy	Up to 2% FS
Pressure range	0 to 16 bar
Power supply	24V +- 10%
Wetted materials	interior flow channel: FFKM
Housing	coated aluminum
Output signal	0.1 to 10 V
Electrical connection	"push-pull" connector / M8 sensor plug
Mechanical connection	LUER-LOCK DIN EN 1707
Temperature range	15 to 45 °C
Internal volume	205 µL
Dimensions	inner diameter: between 4 mm and 1.8 mm length: 31.2 mm
Overload pressure	25 bar

Non-contractual information, may be changed without notice.

MDB MICROFLUIDIC BUBBLE DETECTOR

<https://elveflow.com/microfluidic-products/microfluidics-flow-measurement-sensors/microfluidic-bubble-detector-inline-liquid-sensor/>



CHECK IF LIQUID IS PRESENT IN CLEAR TUBING



This sensor measures the transmittance of a fluid through a clear tubing. It can then detect the presence of liquid, of air and even detect modification in liquid property. This sensor is non invasive and can be used to monitor or control your experiment.

✓ **BUBBLE DETECTION**

✓ **LIQUID INTERFACE DETECTION**

UNIQUE PERFORMANCES

- > Two models available: small and large to fit **1/16" or 1/8" tubings**
- > **Adjustable** base line and **sensitivity** for high versatility
- > Sensor can be **placed in line** everywhere in a system
- > **Non invasive** optical measurement

TECHNICAL SPECIFICATIONS

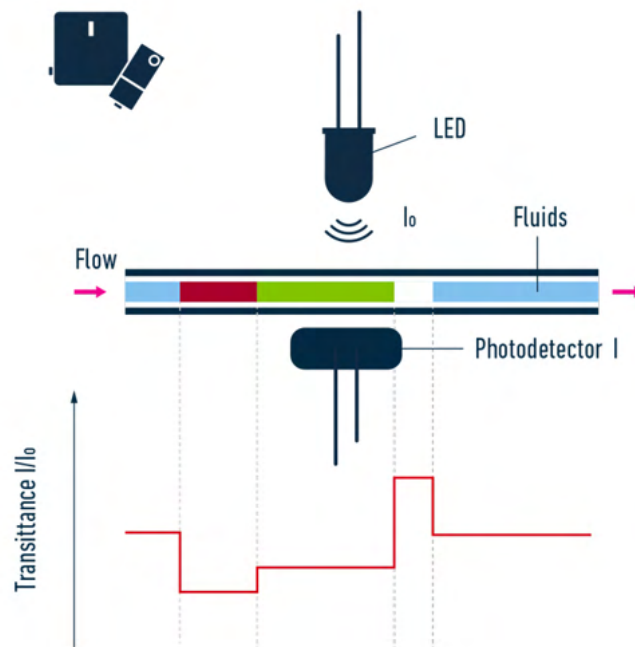
Sensor type	Analog	
Sensor model	Small	Large
Tube compatibility	1/16"OD	1/8"OD
Wavelength	890 nm	
Electrical connection	M8 4 pin connector	
Sensitivity	Low / Medium / High	

MICROFLUIDIC BUBBLE DETECTOR DIMENSIONS (LENGTH X WIDTH X HEIGHT): **DETECTION MODULE:** 67.8 x 29 x 32.5 mm / **AMPLIFICATION MODULE:** 69.4 x 59 x 21 mm

Non-contractual information, may be changed without notice.

A light beam is emitted by a LED at known power. This light beam goes through the capillary and the fluid passing through. It is then collected by an NPN silicon phototransistor. This phototransistor converts the light power into an electrical power. When a fluid changes, the optical index and the light absorption coefficient change accordingly. It induces a change in the electrical power and allows to detect changes in the fluid.

WAVELENGTH = 890 nm



MSR SENSOR READING UNIT

<https://elveflow.com/microfluidic-products/microfluidics-flow-measurement-sensors/microfluidic-sensor-reader/>



AN ACQUISITION INTERFACE FOR A LARGE RANGE OF SENSORS



The sensor reader is an interface allowing the acquisition of many kinds of **analog & digital** sensors, including Elveflow pressure sensors and flow sensors.

UNIQUE PERFORMANCES

- > Fast acquisition frequency **200Hz**
- > From **9 to 16 bits** resolution
- > **Real-time** control & **feedback loops**
- > Read simultaneously up to **4 sensors**

✓ **MONITOR UP TO 4 SENSORS**

✓ **REAL-TIME CONTROL & FEEDBACK**



**SOFTWARE
INCLUDED**

SENSOR READER UNIT	SPECIFICATIONS
Number of sensors	4
Sensor connectors	M8 female (4 pins)
USB reading current min - max	200 mA - 800 mA
Sensor power supplies voltage (2 power supplies tunable independently each of which feeding 2 sensors)	5 - 24 V
Total power on the 4 channels	0.9 W
SENSOR INPUTS	
Impedance	1 MΩ
Acquisition frequency	200 Hz
Acquisition resolution	from 9 to 16 bits
Input range	0 - 10 V
Resolution (1 bit)	5 mV
Noise (full band)	5 mV rms
Compatible sensors	MFS flow sensor, MPS pressure sensor, MFP pressure sensor, MBD bubble detector Custom sensors: 5 to 24V supply voltage, 0 to 10V readout voltage

Non-contractual information, may be changed without notice.



PRODUCTS
**ADVANCED
RANGE**



PRODUCT

ADVANCED RANGE

<https://elveflow.com/microfluidic-advanced-fluidic-systems/>



 **AVAILABLE IN OEM VERSION**
CONTACT OUR EXPERTS

SIX MODULES DESIGNED TO FINE-TUNE FLUIDIC CONTROL AND AUTOMATION



The Advanced range simplifies system management by handling up to 25 modules with a single serial connection. It can be integrated with any control system featuring a serial port and enables straightforward communication to the control center, ensuring maximum scalability and compatibility. A software is available for an easy start. However, above all, the ability to control the system without a computer ensures the greatest autonomy.



- ✓ **TAILORED FOR INNOVATION**
- ✓ **ADVANCED AUTOMATION & SEAMLESS INTEGRATION**
- ✓ **SCALABLE & EFFICIENT PROTOTYPING**
- ✓ **TIME & COST EFFICIENCY**
- ✓ **AUTONOMOUS SYSTEM**

PRODUCTS

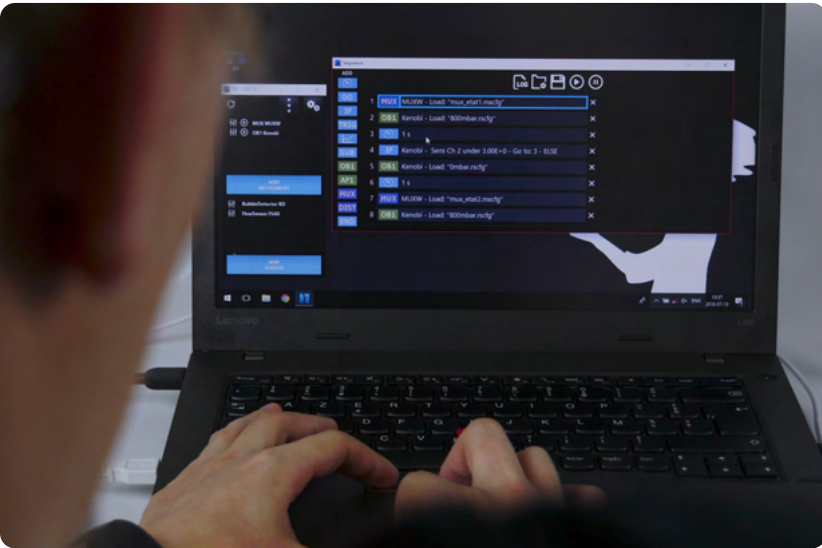
ESI

FREE SOFTWARE



ESI ELVEFLOW SOFTWARE

<https://elveflow.com/microfluidic-products/microfluidics-software/elveflow-software-sdk/>



ESI - ELVEFLOW SMART INTERFACE A UNIQUE SOFTWARE FOR ALL INSTRUMENTS

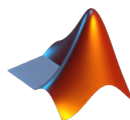


The **Elveflow Smart Interface** allows intuitive control of our microfluidic instruments with just a few clicks. It is designed both for basic control and complex tasks thanks to the use of the sequencer. The ESI microfluidic software makes many applications easy, such as: generation of continuous fluid streams, dosing of volumes, generation of dynamic flow profiles, and many more...

- ✓ **DIRECTLY INPUT FLOW RATE**
- ✓ **CUSTOM FLOW PROFILE**
- ✓ **ADVANCED WORKFLOW AUTOMATION**

FEATURES THAT MATTER

- > Pressure & flow rate visualization and recording
- > Pre defined profiles available (pulsatile, ramp...) and custom profiles possible
- > 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
- > OS compatibility: Windows 11





PRODUCTS

ACCESSORIES & AIR SUPPLY



ACCESSORIES

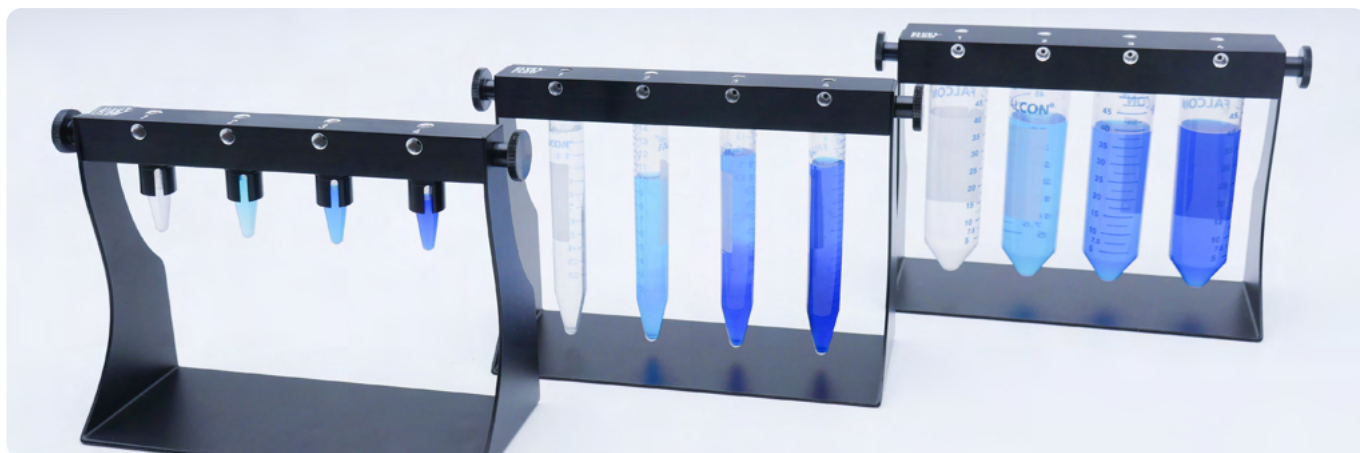
ELVEFLOW ACCESSORIES

<https://darwin-microfluidics.com/fr/elveflow/>



Only a limited selection of accessories is presented in this catalog. For information on the complete range, please contact us or visit our website. The Elveflow team is always available to ensure a fast and seamless experience. You may also explore and order the full **Elveflow Accessories** product line online via **Darwin Microfluidics**.

Darwin Microfluidics is the official online reseller of Elveflow, offering reliable access to the Elveflow portfolio. For all **Elveflow accessories**, including fittings, tubing, reservoirs, and related components, please visit the Darwin Microfluidics webshop to order directly online for a faster and more streamlined experience.



TUBE HOLDERS



A WIDE RANGE OF TUBINGS :
 Size : 1/32", 1/16", 1/8" OD
 Materials : PTFE, Tygon, PEEK



A WIDE RANGE OF CONNECTORS :
 Union, Thread 1/4-28, Mini-luer, Luer, Barb, etc.

ACCESSORIES

13-PORT MANIFOLD

<https://elveflow.com/microfluidic-products/microfluidics-accessories/manifold-13-ports/>



This device allows a single pressure line to be divided into 12. It enables to pressurize up to 12 microfluidic reservoirs from a single pressure source, facilitating parallel or sequential injection using the MUX Distribution

✓ **SPLIT/MERGE UP TO 12 LINES**

✓ **COMPATIBLE WITH LIQUID AND GAS**

ACCESSORIES

BUBBLE TRAP

<https://elveflow.com/microfluidic-products/microfluidics-accessories/bubble-remover/>

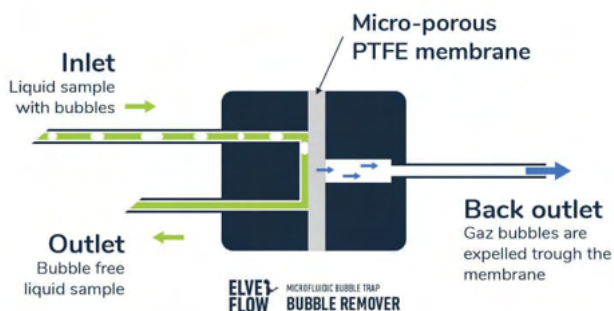


This bubble trap uses a micro-porous PTFE membrane. When an aqueous solution containing gas bubbles flows through the trap, the bubbles are expelled through the hydrophobic membrane that allows absolutely no aqueous liquid to leak. The device is autoclavable, thanks to the use of PEEK. On top of this, the body remains biocompatible. Different internal volume versions suited to your needs

✓ **AUTOCLAVABLE**

✓ **IN-LINE REMOVAL OF BUBBLES**

✓ **REPLACEABLE MEMBRANE**



RESERVOIRS

MICROFLUIDIC RESERVOIRS

<https://elveflow.com/microfluidic-products/microfluidics-accessories/reservoirs/>



✓ **AUTOCLAVABLE: REUSABLE**

✓ **NUMEROUS RESERVOIRS OF DIFFERENT VOLUMES**

RESERVOIRS TECHNICAL SPECIFICATIONS

RESERVOIRS	Volume	2 ports	4 ports	Compatible tubing sizes
XXS	800 µL	NA	NA	No tube
XS	1.5 - 2 mL	available	not available	1/32"OD and 1/16"OD
S	15 mL	available	available	1/32"OD and 1/16"OD
M	50 mL	available	available	1/32" OD and 1/16"OD
L	100 mL	available	available	1/32"OD, 1/16"OD and 1/8"OD
HP	150 mL	available	not available	1/32"OD, 1/16"OD and 1/8"OD
HP	350 mL	available	not available	1/32"OD, 1/16"OD and 1/8"OD

Non-contractual information, may be changed without notice.

RESERVOIRS SPECIFICATIONS DEDICATED TO THE OB1 PRESSURE CONTROLLER

PRESSURIZED TANK VERSION	OB1 PRESSURE CHANNEL RANGES				
	0 to 200 mbar (0 to 2.9 psi)	0 to 2,000 mbar (0 to 29 psi)	0 to 8,000 mbar (0 to 116 psi)	-900 to 1,000 mbar (-13 to 14.5 psi)	-900 to 6,000 mbar (-13 to 87 psi)
XXS	✓	*	*	*	*
XS	✓	✓	✓	✓	✓
S	✓	✓	✓	✓	✓
M	✓	✓	✓	✓	✓
L	✓	✓	**	✓	**
HP	✓	✓	✓	✓	✓

*not tested in these conditions

** The reservoir passed the pressure resistance tests in these conditions; nevertheless, Elveflow doesn't recommend using it as they are sensitive to mechanical damage

AIR COMPRESSORS

PRESSURIZED AIR SOURCES

<https://elveflow.com/microfluidic-products/microfluidics-accessories/air-pressure-generator/>



A ROBUST AND POWERFUL AIR COMPRESSOR



This oil lubricated air compressor is a powerful alternative to gas line supplies. Moreover, its low noise level makes it the perfect air source option in shared lab areas to limit noise pollution. All in one, it is the perfect device for pressure-driven control in laboratories.

ADVANTAGES

- > The in-built **5 µm oil filter** prevents microdroplets from entering into the instruments.
- > Available in two versions: **230V/50Hz or 120V/60Hz**

UNIQUE PERFORMANCES

- > Positive pressure up to **8 bar**
- > Low noise level: **<37 dB**
- > Internal tank volume: up to **25 L**

✓ **HIGH PERFORMANCES**

✓ **LOW NOISE LEVEL**

	SPECIFICATIONS	6 BAR-230V / 6 BAR-120V		8 BAR-230V / 8 BAR-120V	
Performances	Max pressure	6 bar (87 psi)		8 bar (116 psi)	
	Air flow rate (at operating pressure)	12 L/min (at 6 bar and 50 Hz)		31,7 L/min (230V/50Hz) 32,3 L/min (120V/60Hz)	
	Noise level	<37 dB		<47 dB	
Mechanical specifications	Pneumatic connection	6 mm push-in		6 mm push-in	
	Internal tank volume	4L		25 L	
Electrical specifications	Input Voltage	120 V	230V	120 V	230 V
	Frequency	60 Hz	50 Hz	60 Hz	50 Hz
	Maximum Output Current	2.4 A	0.9 A	6.2 A	2.9 A
	Maximum power	288 W	207 W	744 W	667 W
	Typical power	150 W	130 W	400 W	340 W

DIMENSIONS WITHOUT CONNECTORS (length x width x height): 384 x 333 x 342 mm (6 bar-230V / 6 bar-120V) and 380 x 380 x 550 mm (8 bar-230V / 8 bar-120V)
WEIGHT: 18 kg (6 bar-230V / 6 bar-120V) 29kg (8 bar-230V / 8 bar-120V)

OTHER PRESSURE GENERATOR: ELVEFLOW PRESSURE SOURCE (EPS)



<https://elveflow.com/microfluidic-products/microfluidics-accessories/laboratory-pressure-source/>

UNIQUE PERFORMANCES

- > Light and portable equipment
- > Oil-free

A CLEAN PRESSURIZED AIR SOURCE

We designed an oil-free pressure source to ease the integration in a laboratory environment thanks to its small footprint and integrated tank. This pressurized air source is ideal to supply compressed air to a pressure regulator.

✓ **COMPACT PRESSURE SOURCE**

✓ **IDEAL TO SUPPLY PRESSURE TO OB1 WITH 2 BAR-CHANNEL**

TECHNICAL SPECIFICATIONS

	PRESSURE SOURCE (EPS)	SPECIFICATIONS
Performances	Delivered Pressure (Min-Max)	2.5 bar (36 psi) - 2.8 bar (40 psi)
	Air flow rate (at operating pressure)	1.5 L/min (at 2 bar)
	Noise level	<54 dB
Mechanical specifications	Pneumatic connection	6 mm push-in
	Internal tank volume	350 mL
Electrical specifications	Input Voltage	24 V
	Typical power	19.2 W
Provided power supply specifications	Supply voltage range	100 to 240 VAC
	Supply AC frequency	50 to 60 Hz
	Maximum Output Current	1.67 A
	Maximum output power	40 W

DIMENSIONS WITHOUT CONNECTORS (length x width x height) 18.8 x 19.4 x 16.0 cm **WEIGHT:** 2 kg

Non-contractual information, may be changed without notice.

VACUUM PUMP VACUUM GENERATOR

<https://elveflow.com/microfluidic-products/microfluidics-accessories/vacuum-generator/>



A HIGH EFFICIENCY AND LONG LIFESPAN VACUUM PUMP



This high accuracy vacuum source generates a controlled vacuum level adapted for long-term and continuous use.

✓ **OIL-FREE**

✓ **LOW NOISE & VIBRATION**

✓ **ADJUSTABLE VACUUM LEVEL**

UNIQUE PERFORMANCES

- > Negative pressure **-980 mbar**
- > Low noise level **<42 dB**
- > Pumping speed: **18 L/min**

ADVANTAGES

	VACUUM GENERATOR (KVP)	SPECIFICATIONS
Performances	Vacuum pressure (relative)	-980 mbar (-15 psi)
	Vacuum pressure (absolute)	20 mbar (0.1 psi)
	Pumping speed	18 L/min
	Noise level	<42 dB
Mechanical specifications	Pneumatic connection	6 mm push-in
Electrical specifications	Input Voltage	120 or 230 V
	Frequency	60 or 50 Hz
	Typical power	140 W

DIMENSIONS WITHOUT CONNECTORS (length x width x height) 31.5 x 18 x 24 cm **WEIGHT:** 7 kg

OTHER VACUUM SOURCE: ELVEFLOW VACUUM SOURCE (EVS)



<https://elveflow.com/microfluidic-products/microfluidics-accessories/light-vacuum-source/>

A COMPACT & LIGHT VACUUM SOURCE

We designed a compact vacuum source to ease the integration in a laboratory environment thanks to its small footprint and integrated tank.

UNIQUE PERFORMANCES

- > Light and portable equipment
- > Integrated tank

✓ COMPACT VACUUM SOURCE

✓ IDEAL FOR EQUIPPING A LABORATORY

TECHNICAL SPECIFICATIONS

	VACUUM SOURCE (EVS)	SPECIFICATIONS
Performances	Vacuum pressure (relative)	-850 mbar (-13 psi)
	Vacuum pressure (absolute)	150 mbar (2.3 psi)
	Pumping speed	8 L/min at 0 bar
	Noise level	<54 dB
Mechanical specifications	Pneumatic connection	6 mm push-in
	Internal tank volume	250 mL
Electrical specifications	Input Voltage	24 V
	Typical power	19.2 W
Provided power supply specifications	Supply voltage range	100 to 240 VAC
	Supply AC frequency	50 to 60 Hz
	Maximum Output Current	1.67 A
	Maximum output power	40 W

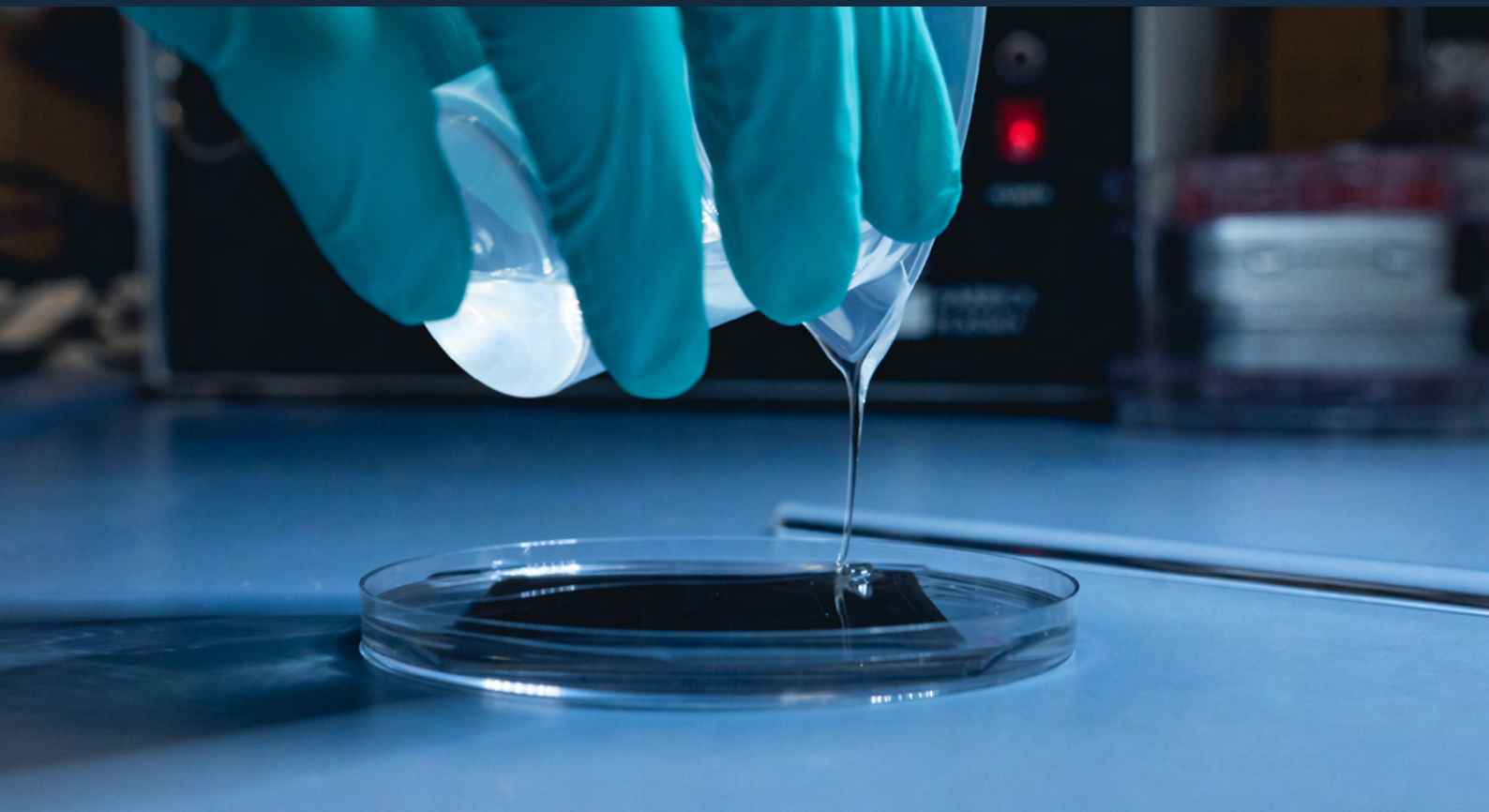
DIMENSIONS WITHOUT CONNECTORS (length x width x height) 14 x 18 x 14 cm **WEIGHT:** 1,4 kg

Non-contractual information, may be changed without notice.



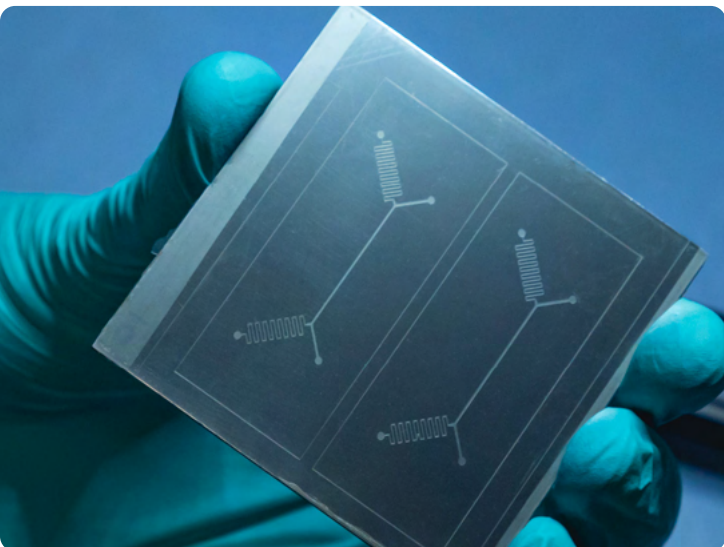
PRODUCTS

MICROFABRICATION STATIONS



STATION SU-8 MOLD STATION

<https://elveflow.com/microfabrication/soft-lithography-su8-photolithography-station-microfabrication-tool/>



A COMPLETE STATION TO FABRICATE YOUR SU-8 MOLD

The benchtop SU-8 photolithography station includes everything you need to make high-resolution master molds in a reproducible manner. Whether you are an experienced user or a beginner, our station provides robust and tabletop equipment to allow you to fabricate your mold & chip independently after only a week of training with one of our experts.

✓ **HIGH RESOLUTION WITHOUT CLEANROOM**

✓ **ACCESSIBLE WITHOUT EXPERIENCE**

✓ **FLEXIBLE AND UPGRADABLE PLATFORM**

INCLUDED IN THE STATION

- > High-quality and robust spin-coater
- > Easy to use hot plate for photoresist baking
- > High-collimated UV lamp with LEDs
- > All the accessories and chemicals needed to develop a quality process
- > One week installation and training

Each pack can be adapted to your laboratory and technical requirements.



CUSTOMIZE YOUR STATION

We offer a wide range of adaptable and upgradable alternatives:

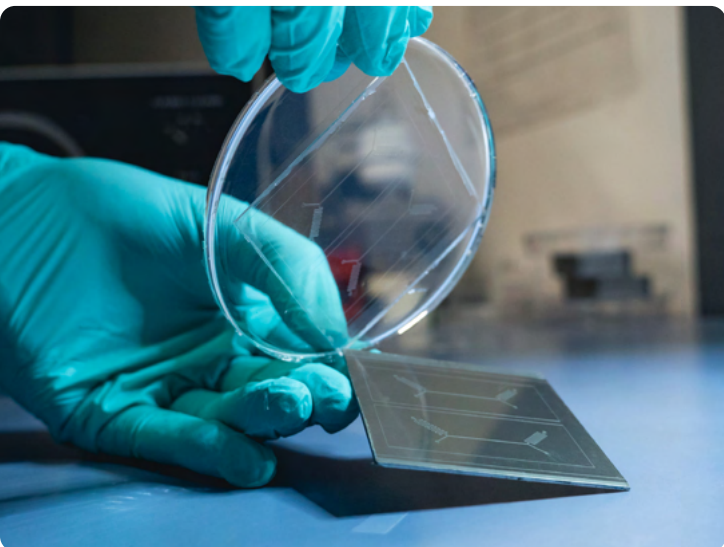
- Dry film lamination
- Mask aligner UV system
- Direct laser writing (maskless system)

Talk to our experts and find the right offer for your experimental needs and lab infrastructure.

We ensure a clean installation of the station in your lab and will train your team to fabricate your microfluidic chips straight away.

STATION PDMS CHIPS STATION

<https://elveflow.com/microfabrication/pdms-chip-station/>



ALL YOU NEED TO PRODUCE YOUR PDMS CHIPS

Our PDMS molding station comprises all the equipment needed to replicate PDMS chips from premade molds in an optimized manner. Our plug & play system, detailed tutorials, and technical support will make you skilled in the softlithography process so you can manufacture high-quality PDMS chips.

✓ **ALL-IN-ONE PLATFORM**

✓ **REPRODUCIBLE PROCESS**

✓ **FAST FABRICATION PROCESS**

INCLUDED IN THE STATION

- > Fitted desiccator to prepare your PDMS mix
- > Oven and soundwave bath for clean chips generation
- > Robust Air plasma for strong bonding
- > Fitted pump and pressure controller for an easy and reproducible process
- > All the accessories and chemicals needed to develop a quality process

Each pack can be adapted to your laboratory and technical requirements.



CUSTOMIZE YOUR STATION

Our offers are versatile and customizable. We can suggest options to fabricate more complex stacks (with PDMS membranes, for example) or ways to reduce the station footprint.

Talk to our experts and find the right offer for your experimental needs and lab infrastructure.

We provide detailed tutorials and technical support for you to fabricate your microfluidic chips straight away.

ACCESSORY

PLASMA BONDING PEN

<https://elveflow.com/microfabrication/plasma-bonding-pen-pdms-bonder/>



PLUG & PLAY PLASMA TREATER FOR PDMS BONDING

The Plasma Bonding Pen is a two-in-one handy tool for optimized surface treatment, ideal for bonding PDMS to glass and PDMS to PDMS. Additionally, it offers advanced surface modification capabilities commonly found in traditional plasma chambers but in a portable and easier-to-use way.

✓ LIGHT & USER-FRIENDLY

✓ LONG LIFESPAN

✓ PLUG & PLAY

UNIQUE PERFORMANCES

- > Tested and approved for **PDMS bonding**
- > Reliable **long-lasting** PDMS bonding pen
- > **User-friendly** device
- > **Operating** methodology



RENTING AVAILABLE
CONTACT OUR EXPERTS



SPECIFICATIONS

Diameter	27 to 38 mm
Power supply	110 V or 230 V ; 50/60 Hz
Power consumption	18 W
Plasma temperature	< 50°C
Treatment distance	2 to 10 mm
Treatment area	5x5 to 20x20 mm ² large

DIMENSIONS (length): 215 mm **WEIGHT:** 110 g

Non-contractual information, may be changed without notice.

SERVICE

MOLD ON PURPOSE

<https://elveflow.com/contact/>



PURPOSE-BUILT MICROFABRICATION

From 3D printing mold to SU8 wafer mold, we will find the best way. We can't find a solution to fit your needs? We will advise one of our numerous partners.

✓ ADAPTED TO YOUR SOLUTION

✓ EASY TO BEGIN WITH

✓ GET YOUR OWN DESIGN AT LOW COST

MICROFABRICATION PACK

STARTER PDMS PACK

<https://elveflow.com/microfabrication/pdms-chip-station/>



Perfect fit with a custom mold

BLUID YOUR PDMS LAB

INCLUDED IN THE STATION

- > Oven
- > Desiccator (+ vacuum)
- > Plasma pen
- > Accessories

✓ GET FRESH PDMS DEVICE

✓ BE AUTONOMOUS IN YOUR CHIP FABRICATION

✓ PERFECT TO BEGIN WITH

PRODUCTS
**APPLICATION
PACKS**



MICROFLUIDICS PACK EDUCATIONAL KIT

<https://elveflow.com/microfluidics-application-packs/starter-pack/>



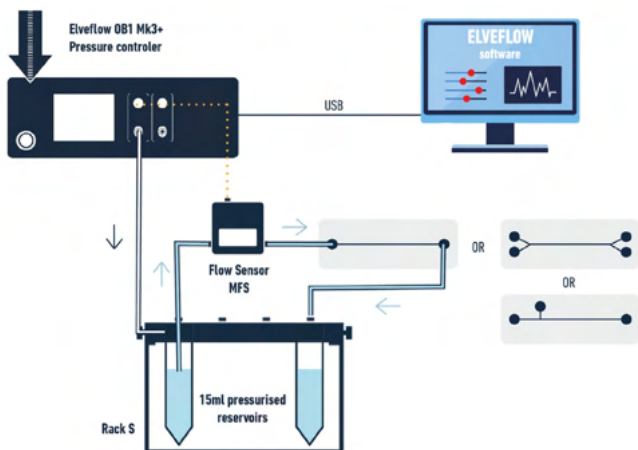
THE MICROFLUIDIC SOLUTION FOR UNIVERSITY TEACHERS

- ✓ COMPLETE PACKAGE
- ✓ CUSTOMIZABLE
- ✓ VERSATILE APPLICATIONS
- ✓ EASY UPGRADES

Explore the world of microfluidics with our all-in-one educational starter pack, designed specifically to teach microfluidics to your students. This complete kit provides all the necessary tools for quick set-up, easy operation and a wide range of microfluidic applications in microfluidics education.

CONTENT OF THE PACK

This pack is designed to adapt to different practical work sessions. It has been created to teach the basics of microfluidics, understand fluid mechanics, fluidic resistance, diffusion, and enable sorting and droplet generation. It can also be adapted to fit your needs perfectly.



- Generally included:
- > 2 x Pressure Channels [0-2000mbar]
 - > 1 x Table top pressure source
 - > 1 x Rack S (4 x 15mL pressurised reservoirs)
 - > 1 x Flow sensor
 - > 3 x chip design
 - > All necessary accessoires tubing, connectors, resistance, enough consummables to repeat the teaching sessions several times.

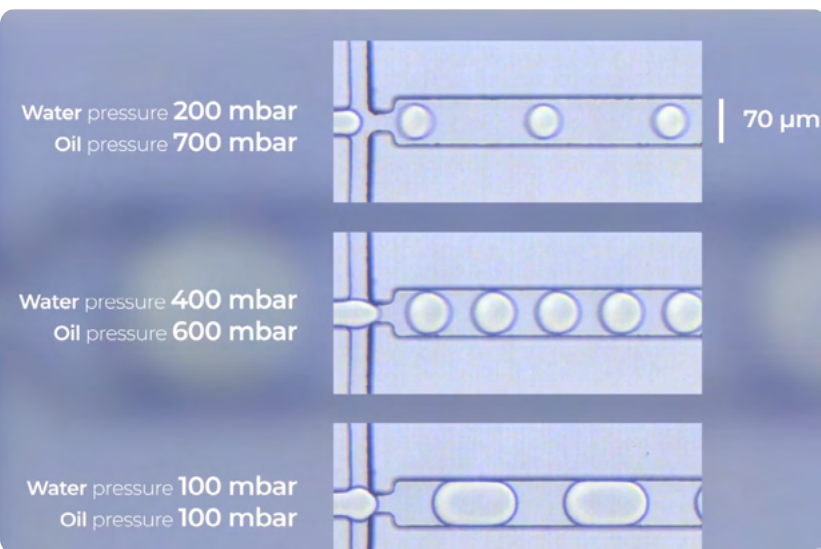
- Option:
- > 1 x Pressure sensor
 - > 1 x Additional Flow sensor

Interested in educational solutions?

Talk to our experts and build the pack perfectly fitted to your needs.

MICROFLUIDICS PACK DROPLET GENERATION

<https://elveflow.com/microfluidics-application-packs/starter-pack/>



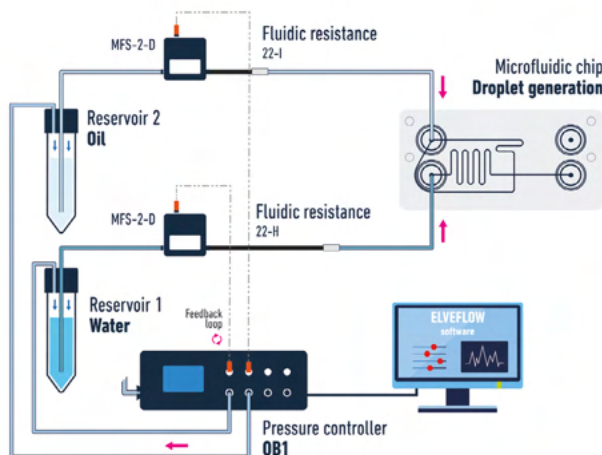
TURNKEY SYSTEM TO EASILY GENERATE DROPLETS

- ✓ REPRODUCIBLE & EASY GENERATION
- ✓ PERFECT FOR MANY APPLICATIONS
- ✓ ALL-IN-ONE SOLUTION

This Droplet Pack is based on the premium Elveflow instrument range and our best-seller - the OB1 flow controller. Thanks to the OB1's high performance and accuracy, you will be able to generate highly monodisperse droplets (CV<3%) ranging from 10 to 80 µm diameter (and more using alternative microchips).

CONTENT OF THE PACK

This pack includes all you need to understand the droplet generation process.



Generally included:

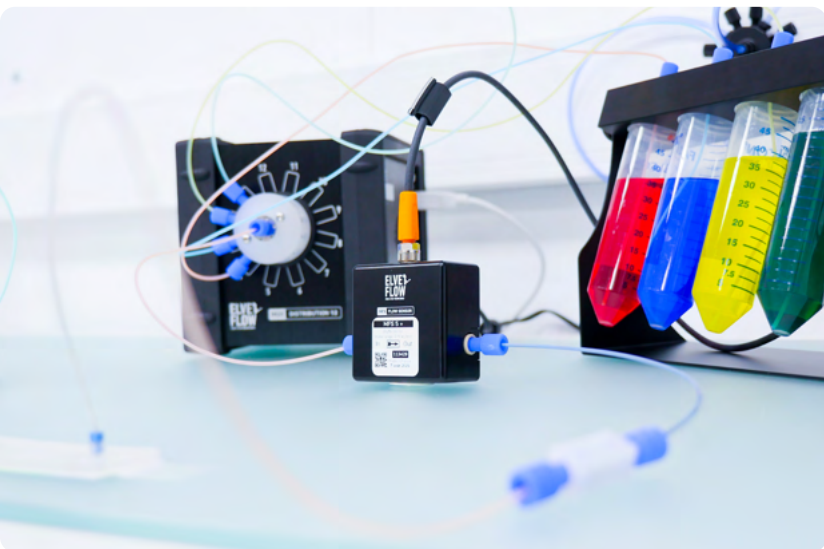
- > 2 x Pressure channels
- > 2 x Flow rate sensors
- > Fluidic resistances
- > A complete user guide
- > Microchips
- > All necessary accessories: tubing, reservoirs, etc...

Interested in droplet?

Talk to our experts and build the pack perfectly fitted to your needs.

MICROFLUIDICS PACK SEQUENTIAL INJECTION

<https://elveflow.com/microfluidics-application-packs/sequential-fluid-injection-pack/>



QUICKLY SWAP BETWEEN UP TO 12 FLUIDS (GAS OR LIQUIDS)

✓ HIGH STABILITY AND PRECISION

✓ WORKFLOW AUTOMATION

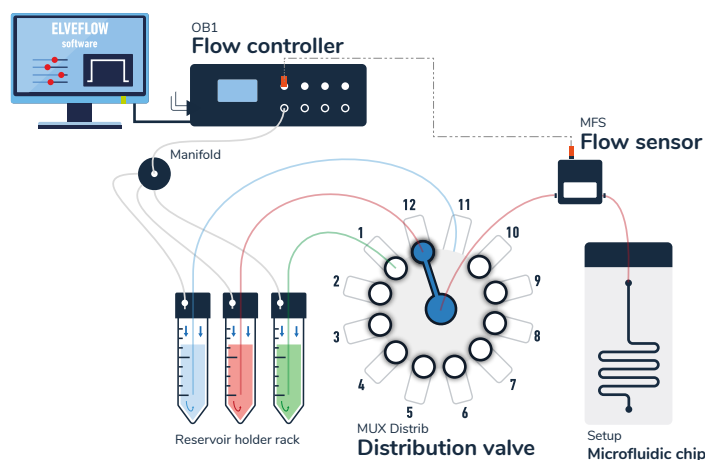
✓ HIGH VERSATILITY

The Sequential Injection Pack includes all the necessary elements to sequentially inject up to 12 (or more) solutions in a fully automated fashion using our computer-controlled 12 to 1 MUX Distribution bidirectional valve.

An extensive flow rate range (from 7 nL/min to 40 mL/min) and volumes (100 µL to up to several liters) are accessible with this system.

CONTENT OF THE PACK

This pack can be adapted for more complex and advanced experiments such as using 20 or more solutions, removing bubbles, integration into larger systems or testing multiple chip/devices simultaneously.



Generally included:

- > 1 x Pressure channel
- > 1 x Mux Distribution rotary valve
- > 1 x Flow sensor
- > 1 x Pressure splitter manifold
- > All necessary accessories: reservoirs, tubing, etc...

Interested in liquid injection?

Talk to our experts and build the pack perfectly fitted to your needs.

MICROFLUIDICS PACK

LIPID NANOPARTICLE SYNTHESIS PACK

<https://elveflow.com/microfluidics-application-packs/lipid-nanoparticle-synthesis/>



ALL YOU NEED TO FORMULATE CONTROLLED AND MONODISPERSED NANOPARTICLES

- ✓ HIGH VERSATILITY
- ✓ IMPROVED REPRODUCIBILITY
- ✓ WORKFLOW AUTOMATION

For several years, we have worked hand-in-hand with **Inside Therapeutics (InsideTx)** to deliver advanced microfluidic solutions for nanoparticles and RNA-LNP formulation. We've combined our cutting-edge microfluidic flow control capabilities and Inside Therapeutics' deep formulation expertise to bring you **TAMARA**, the most advanced microfluidic-based nanoparticle manufacturing system on the market. Depending on your needs and budget, one or both approaches could significantly enhance your process.



CONTENT OF THE PACK

Two different approaches:



Elveflow's customizable LNP Synthesis Pack. Designed for teams who need a system that evolves with their science, this LNP Synthesis Pack is built from off-the-shelf, high-precision Elveflow instruments. It is ideal for exploratory or iterative formulation as the pack is customizable, versatile and upgradeable.



TAMARA from Inside Therapeutics (Inside Tx). It offers a simplified and comprehensive option, ready to use. TAMARA is a benchtop platform featuring Elveflow flow control technology and designed for scalable and highly reproducible LNP manufacturing. Perfect for first-time microfluidic users thanks to its intuitive interface.

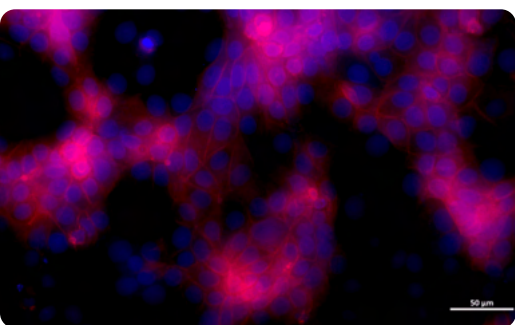
Interested in nanoparticle formulation?

Talk to our experts and build the pack perfectly fitted to your needs.

MICROFLUIDICS PACK OTHER APPLICATIONS

<https://elveflow.com/microfluidics-application-packs/>

Elveflow, thanks to the versatility and flexibility of its range, can combine its controllers, sensors and accessories to answer the needs of numerous applications. We have listed some examples of applications where our instruments are a great fit but the list is not exhaustive. We'll be happy to help you define the configuration best suited to your needs. Contact us to schedule a call with our experts. They will be happy to guide you!



RECIRCULATION LOOP

Full system for continuous unidirectional recirculation experiments.

- > Unidirectional liquid flow
- > More effective use of the medium
- > Uniform Shear Stress
- > Week-long experiments

<https://www.elveflow.com/microfluidics-application-packs/one-way-recirculation/>

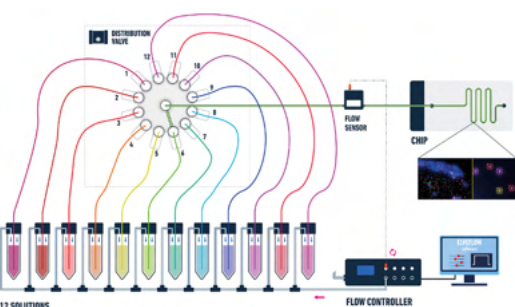


DRUG SCREENING

Experimental setup for faster and more precise drug screening.

- > Large versatility
- > Screening automation
- > Fine-scale and combinatorial experiments

<https://www.elveflow.com/use-case/drug-screening/>

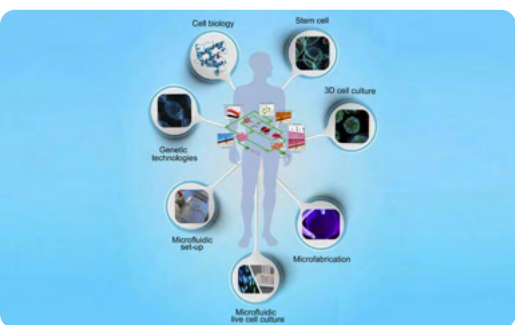


SEQFISH - MERFISH

Automated microfluidic control for spatial transcriptomics

- > Automated sequential injection control
- > Pulsation-free flow for imaging stability
- > Ready for microscope synchronization
- > Reduced reagent use and improved reproducibility
- > Flexible setup adaptable to user protocols

<https://elveflow.com/microfluidics-application-packs/seqfish-merfish/>



ORGAN ON A CHIP

Experimental set-up to optimize the control of flow and physiological parameters, working with organ-on-a-chip models.

- > Long-term experiments
- > Mimic physiological conditions
- > Reproducible and scalable

<https://www.elveflow.com/microfluidics-application-packs/organ-on-a-chip-pack/>

PRODUCTS **SERVICES**



SERVICES SUPPORT

<https://elveflow.com/microfluidic-services-elveflow/>

FOR ALL CUSTOMERS

Whether you are discovering microfluidics or already pushing its limits, we make sure you are never on your own with your Elveflow setup. Our experts support you at every step, with hands-on trainings, responsive email assistance, and extensive online resources. Whatever your challenge, we're here to help you solve it.

- > Setup optimization
- > Direct expert advice
- > Email-based ticketing system
- > Extensive online documentation
- > Long-term partnership mindset



SERVICES DEVICE MANAGEMENT

<https://elveflow.com/microfluidic-services-elveflow/>

Already using an Elveflow system? We've got your back. Our Customer Success team keeps your instruments running at peak performance with upgrades, expert maintenance, deep cleaning services, and extended warranty options. Think of it as long-term peace of mind for your microfluidic setup.

UPGRADES & ADD-ONS

- > Add new channels
- > Upgrade the latest OB1 version
- > Equip your MFS with a water-resistant casing

CALIBRATIONS & CHECK-UPS

- > Sensor calibrations
- > OB1 bench-test check
- > Microfabrication instruments check (ideal when moving labs)

MAINTENANCE & CLEANING

- > Preventive maintenance
- > MFS cleaning
- > Air compressor

WARRANTY EXTENSION

- > Tailored options to keep your system protected longer

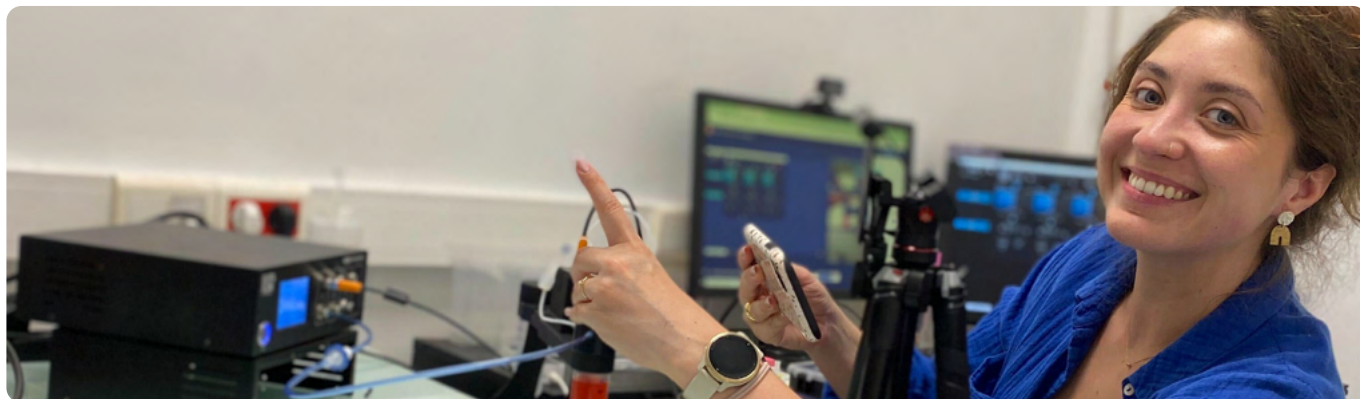


SERVICES

TRAINING

<https://elveflow.com/microfluidic-services-elveflow/>

All our trainings are available as 2-hour remote sessions or full-day on-site visits, depending on your needs.



LEVEL 1 - FUNDAMENTALS

Perfect for first-time users or anyone needing a solid refresher. Learn how to:

- > Connect and configure your setup
- > Control pressure and flow rate
- > Run feedback loops and understand microfluidic resistance
- > Navigate ESI software, build configurations and automate experiments with the Sequencer

LEVEL 2 - APPLICATION METHODS

Designed for users who already master the basics. These sessions focus on hands-on, method-driven workflows using standard fluids (water, fluorinated oils, basic solvents).

> Sequential Injection

Set up sequential injections with the MUX-Distribution module and a flow sensor. Learn to write specific sequences and precisely control dispensed volumes.

> Simple Droplet Generation

Build and tune a droplet-generation setup using fluorinated oil and a standard microfluidic chip. Control droplet size and production frequency.

> Recirculation

Learn how to configure a closed-loop medium recirculation experiment. We guide you through one optimized setup option.

LEVEL 3 - EXPERT SESSIONS

Advanced training led by two specialists (training engineer + relevant expert: electronics, firmware, applications, software...). Tailored for high-level users needing deep technical insights*

- > Custom consulting
- > Coding, scripting & SDK guidance

* An initial assessment of needs will be carried out to determine the extent to which our experts will be able to meet them.

GENERAL INFORMATION

contact@elveflow.com

+33(0).184.163.807

www.elveflow.com

ELVESYS

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**ELVE
FLOW**  an **ELVESYS** brand

MICROFLUIDIC POETRY,

an uncommon, conceptual and sensitive vision of the
microfluidic field, on the blurring border between art & science.

<https://www.elveflow.com/microfluidic-tutorials/microfluidic-reviews-and-tutorials/microfluidic-poetry-unique-imaginative-sensitive-vision-microfluidics-field/>