ELVE FLOW

PLUG & PLAY MICROFLUIDICS

PRODUCT CATALOG 2025

WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/

MICROFLUIDIC POETRY JULIEN RIBOUARD

ELVEFLOW PRODUCT CATALOG 2025 REF: PC25-0606

ELVE FLOW

PLUG & PLAY MICROFLUIDICS

CATALOG 2025

STATE OF THE ART

microfluidic instrumentation for all

Elveflow is an Elvesys 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.

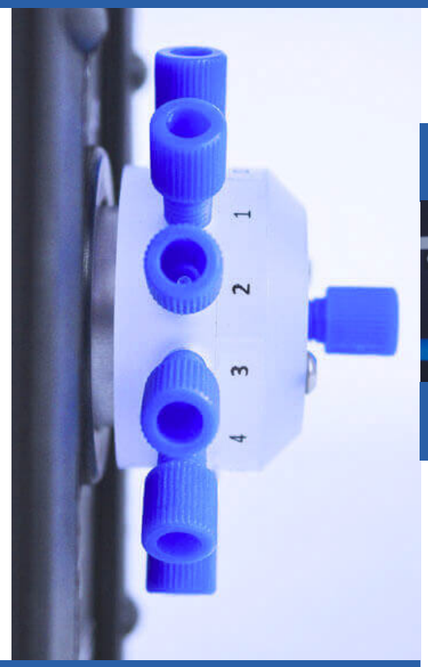
Our product line is built around the **best seller OB1 flow controller** and includes everything for accurate liquid handling. To complete our **Essential range**, an **Advanced range** was created in 2024. All our instruments can be controlled simultaneously using our **software** and **Software Development 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**.

CONTACT: +33(0).184.163.807 - contact@elveflow.com - www.elveflow.com **ADDRESS:** 172 Rue de Charonne, 75011 Paris, France

PRODUCTS

FLOW CONTROL SYSTEMS



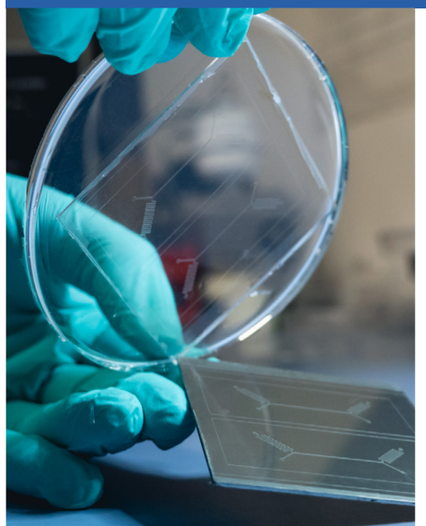
MEASUREMENT & DETECTION

ADVANCED RANGE

SOFTWARE

ACCESSORIES AND AIR SUPPLY

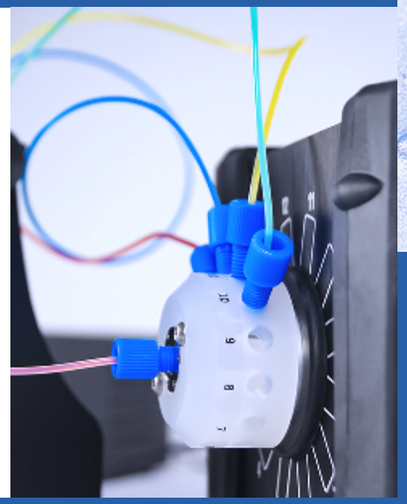
MICROFABRICATION



DISCOVER OUR MICROFABRICATION STATIONS

No need for cleanroom or experience in microfabrication. Become autonomous in customizing your own microfluidic devices in a short time.

APPLICATION PACKS



SERVICES

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 a short time.

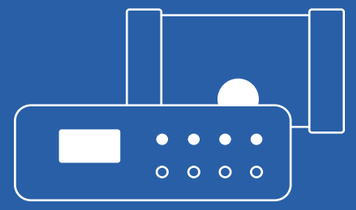
contact@elveflow.com

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.

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/

ART DIRECTOR: JULIEN RODRIGUEZ



PRODUCTS

FLOW CONTROL SYSTEMS

OB1 MK4

MULTI CHANNEL PRESSURE & VACUUM CONTROLLER

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-CONTROL-SYSTEMS/OB1-PRESSURE-CONTROLLER/

DON'T LET YOUR PUMP LIMIT YOUR RESEARCH

BEST RESPONSIVENESS AND ACCURACY ON THE MARKET

WARRANTY 2 YEARS WARRANTY

★ **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

OB1 is now on µManager

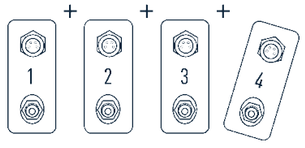
SOFTWARE INCLUDED

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

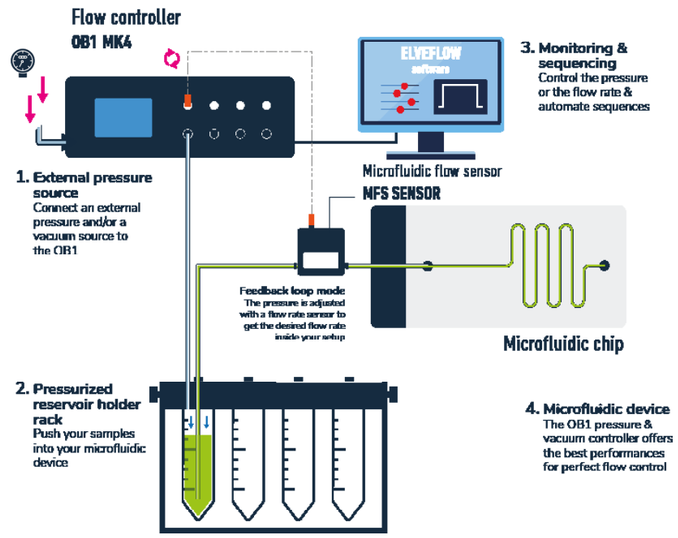


CHOOSE FROM 1 TO 4 CHANNELS, AND MORE...

Get a one-channel today and add more channels later

* FS : FULL SCALE

HOW IT WORKS



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**

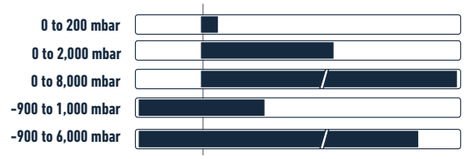
  Choose from any number of channels among the five pressure ranges available

- **Upgradable**

  Get a one-channel today and add more channels later

PRESSURE RANGES

FOR EACH CHANNEL: 5 PRESSURE RANGES AVAILABLE



TECHNICAL SPECIFICATIONS

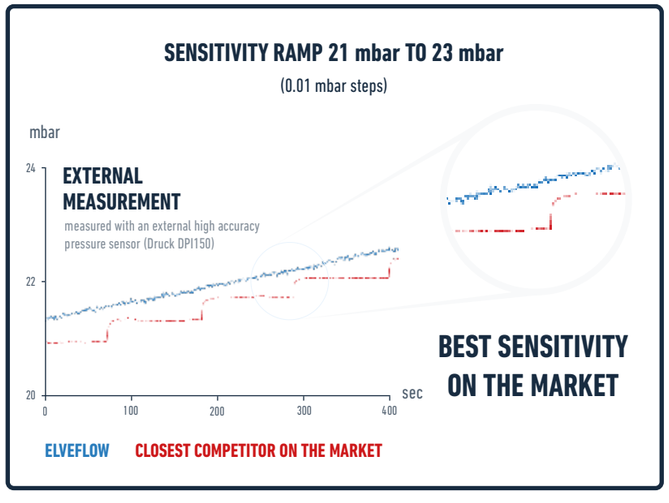
OB1 MK4

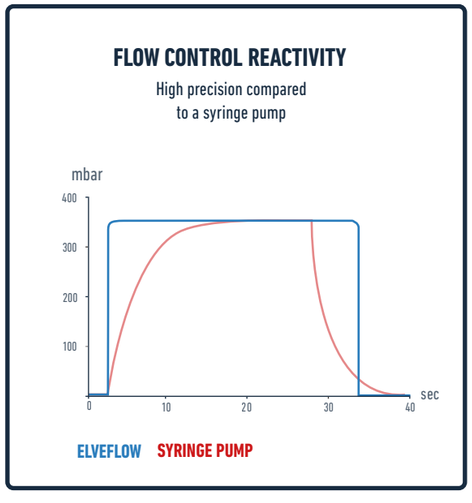
OB1 MK4 CHANNEL PRESSURE RANGE	0 to 200 mbar[1] (0 to 2.9 psi)	0 to 2,000 mbar[1] (0 to 29 psi)	0 to 8,000 mbar[1] (0 to 116 psi)	-900 to 1,000 mbar[1] (-13 to 14.5 psi)	-900 to 6,000 mbar[1] (-13 to 87 psi)
Pressure stability [2]	**0.015 % FS** 30 µbar (0.0004 psi)	**0.005 % FS** 100 µbar (0.0014 psi)	**0.006% FS** 500 µbar (0.007 psi)	-900 to 500 mbar: **0.005 % FS** 100 µbar (0.0014 psi) 500 to 1,000 mbar: **0.007 % FS** 150 µbar (0.0021 psi)	-900 to 2,000 mbar: **0.005 % FS** 350 µbar (0.05 psi) 2,000 to 6,000 mbar: **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.



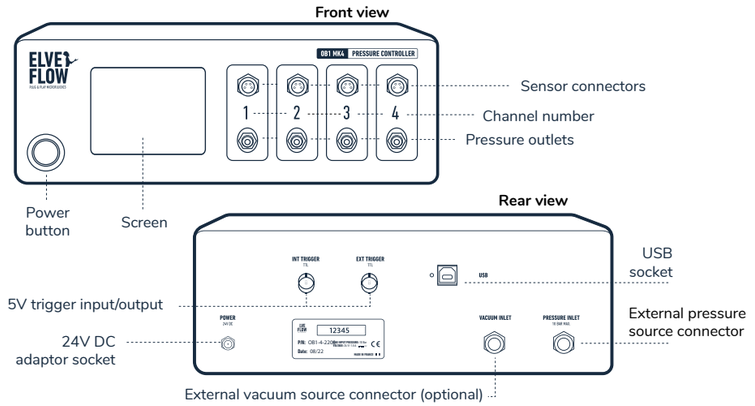


They trust Elveflow's **performances** and **quality**:

Alphabet · BIO-RAD · GE HealthCare · gsk · illumina · Medtronic · NASA · SANOFI · TotalEnergies · Griffith University · KAIST · Massachusetts Institute of Technology · PRINCETON UNIVERSITY · Stanford University · UCL Université catholique de Louvain

INSTRUMENT DESCRIPTION

OB1 MK4



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/

- 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:

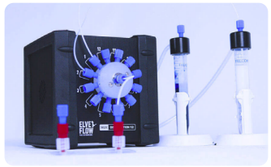
ESI - FREE SOFTWARE
ELVEFLOW SMART INTERFACE - ALL INSTRUMENTS P.47

MUX DISTRIBUTION

13 PORTS-12 POSITIONS VALVE

HTTPS://WWW.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.

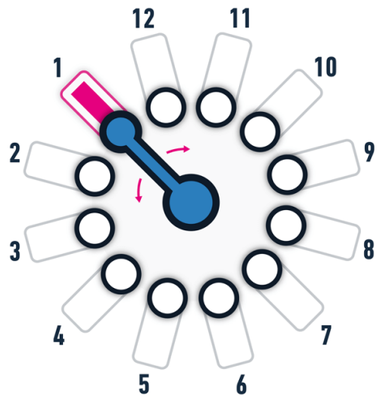
- ✔ INJECTION OF UP TO 12 LIQUIDS
- ✔ SAMPLING OF UP TO 12 SOLUTIONS
- ✔ BIDIRECTIONAL VALVE

OB1 is now on **µManager**

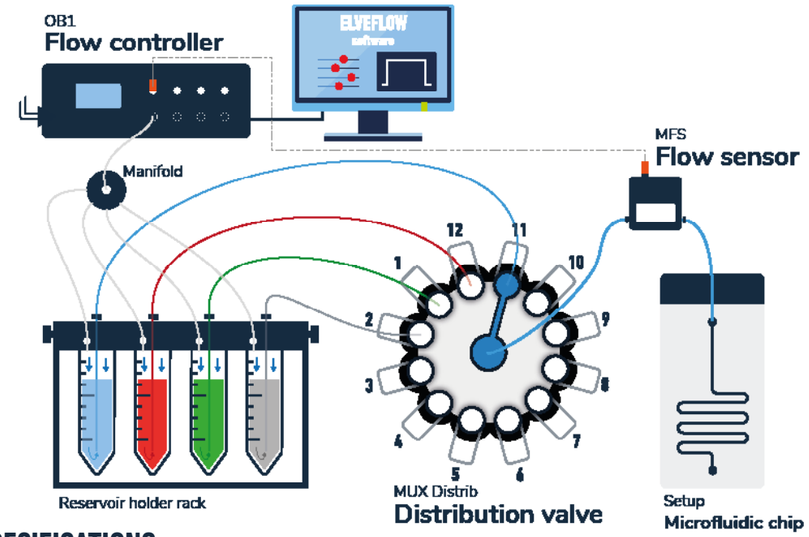
SOFTWARE IN-CLUDED

UNIQUE PERFORMANCES

- > Fastest 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**



HOW IT WORKS



TECHNICAL SPECIFICATIONS

MUX DISTRIBUTION		SPECIFICATIONS
Performances	Port to port switching time (ms)	160 ms
	Max. supported pressure	7 bar
	Internal diameter	0.5 mm
	Maximum valve update rate	2 Hz
Power supply	Input voltage range, AC	100 V to 240 V
	AC supply frequency	50 Hz to 60 Hz
	Max current consumption	2A peak
	Power consumption (max)	36 W
	Power supply voltage	18-24V DC
Mechanical specifications	Valve type	12 positions / 13 ports rotative valve
	Fluidic connectors	Standard 1/4-28 UNF, flat-bottom
	Operating temperature	5 °C to 40 °C
	Operating humidity	20-70% non condensing
	Wetted materials	PCTFE and PTFE
	Internal volume	3.5 µL
	Dead volume(1)	None
Software	Computer specifications	USB 2.0 port, Intel Pentium II 500 MHz, 1 Go Hard Disk space, 2 Go RAM Windows XP and newer, 32/64 bit. LabVIEW® 2011 is required when using LabVIEW® libraries.
	Connection type	USB
	Provided elements	C++, Python, MATLAB® and LabVIEW® libraries

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 DISTRIB DIMENSIONS without connectors (length x width x height): 133 x 156 x 133 mm

MUX RECIRCULATION

6 PORTS - 2 POSITIONS VALVE

HTTPS://WWW.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.**

- ✔ **LONG RUN RECIRCULATION**
- ✔ **UNIDIRECTIONAL LIQUID RECIRCULATION**
- ✔ **INCREASE EXTRACTION RATE**
- ✔ **PURIFICATION EXPERIMENT**

SOFTWARE INCLUDED

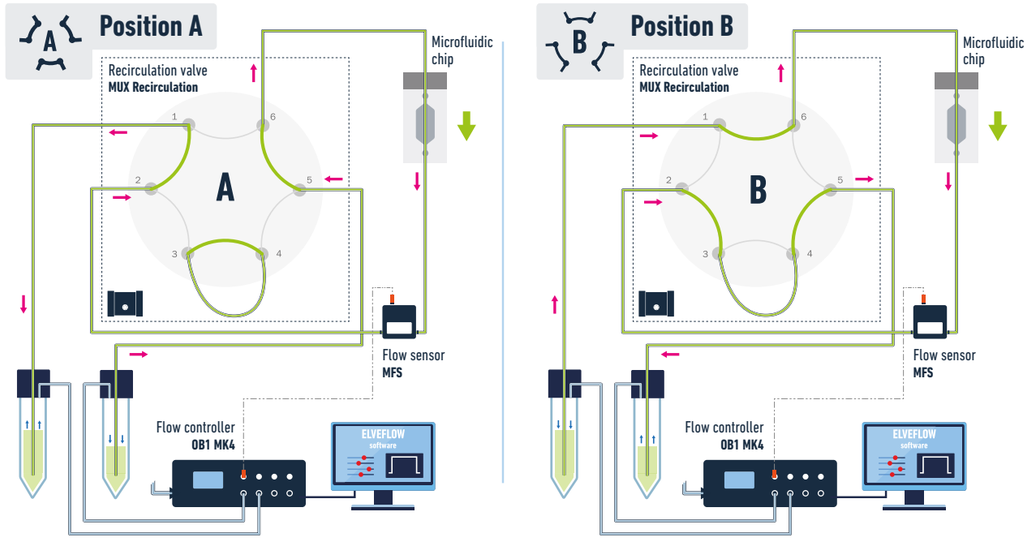
UNIQUE PERFORMANCES

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

POSITION A

POSITION B

HOW IT WORKS



TECHNICAL SPECIFICATIONS

MUX RECIRCULATION		SPECIFICATIONS
Performances	Port to port switching time (ms)	180 ms
	Max. recommended pressure	7 bar
	Internal diameter	0.5 mm
Power supply	Input voltage range, AC	100 V to 240 V
	AC supply frequency	50 Hz to 60 Hz
	Max current consumption	2A peak
	Power consumption (max)	36 W
	Power supply voltage	18-24V DC
Mechanical specifications	Valve type	6 ports / 2 positions rotative valve
	Fluidic connector	Standard 1/4-28 UNF, flat-bottom
	Operating temperature	5 °C to 40 °C
	Operating humidity	20 to 70 % condensing
	Wetted materials	PCTFE and PTFE
	Internal volume	2.5 µL
	Dead volume(1)	None
Software	Computer specifications	USB 2.0 port, Intel Pentium II 500 MHz, 1 Go Hard Disk space, 2 Go RAM Windows XP and newer, 32/64 bit. LabVIEW® 2011 is required when using LabVIEW® libraries.
	Connection type	USB
	Provided elements	C++, Python, MATLAB® and LabVIEW® libraries

(1) Volume that is stuck in the system (dead end), which is not clearly swept and relies on diffusion to clear out

MUX RECIRCULATION DIMENSIONS without connectors (length x width x height): 133 x 156 x 133 mm

Non-contractual information, may be changed without notice.

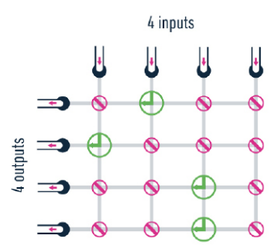
MUX SERIES

MUX CROSS CHIP

HTTPS://WWW.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

- ✓ **STOP FLOW OPTIMIZATION**
- ✓ **COMPLEX PARALLELISATION**
- ✓ **SEQUENTIAL INJECTION**
- ✓ **RECIRCULATION**

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

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)
	Maximum supported pressure	2.5 bar (36 psi)
	Wetted materials	PEEK / FKM / POM C / Viton
Control and 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://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-CONTROL-SYSTEMS/FLOW-SWITCH-MATRICE/

SOFTWARE INCLUDED

COMPACT MATRIX TO EASILY RUN AND STOP SOLUTIONS

ON / OFF VALVES

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 your 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

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)
	Maximum supported pressure	2.5 bar (36 psi)
	Wetted materials	PEEK / FKM
Control and monitoring	Software control	ESI, C++, Python, LabVIEW, Matlab librairies
	Trigger	One trigger IN and one Trigger OUT TTL output 5V

MUX FLOW SWITCH DIMENSIONS without connectors (length x width x height): 220 x 130 x 130 mm

Non-contractual information, may be changed without notice.

MUX SERIES

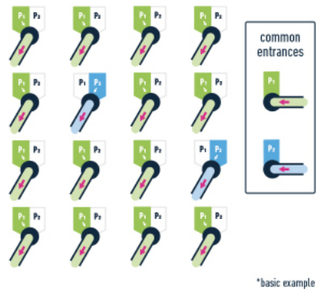
MUX QUAKE VALVE

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-CONTROL-SYSTEMS/QUAKE-VALVE-CONTROLLER/

SOFTWARE INCLUDED

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.

MATRIX TO **MULTIPLEX** SOLUTIONS EFFICIENTLY



- ✓ POWERFUL PARALLELISATION
- ✓ COMPATIBLE WITH AIR AND LIQUIDS

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

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)
	Maximum supported pressure	2.5 bar (36 psi)
	Wetted materials	PEEK / FKM / POM C / VITON
Control and 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://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-CONTROL-SYSTEMS/VALVE-CONTROLLER/

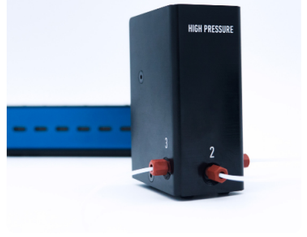
PLUG YOUR VALVES **ANYWHERE** IN YOUR MICROFLUIDIC SETUP

- ✓ 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

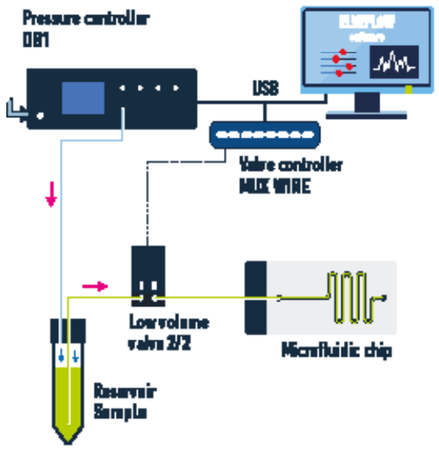
MUX Wire is now on µManager

SOFTWARE INCLUDED

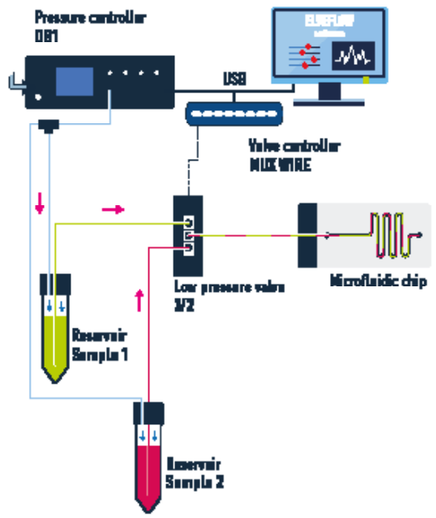
> Fast liquid switching
> Detect automatically all smart valves
> Complex sequences of injection including flushing, rinsing, and sequential injection of several liquids
> Allow to control other custom valves, ask us for more information...

HOW IT WORKS

MICROFLUIDIC 2-WAY VALVE



MICROFLUIDIC 3-WAY VALVE



TECHNICAL SPECIFICATIONS

VALVES RANGE	VALVES TYPE		
Low pressure valve -0.90 bar to 3 bar (-14 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 & HIGH PRESSURE:** 52 x 34 x 80 mm **LOW VOLUME:** 57 x 34 x 51 mm

Non-contractual information, may be changed without notice.

VALVE CONTROLLER	SPECIFICATIONS
Number of controlled valves	8
Valves connectors	USB-C
Device connection type	USB
Device input voltage	24 V
Max valve power	10 W
Provided power supply specifications	**Supply - Voltage range:** 100 to 240 VAC / **Supply - AC Frequency:** 50 Hz to 60 Hz **Output - Maximum current output:** 1.5A peak / **Output - Maximum power:** 36W

Non-contractual information, may be changed without notice.

VALVE CONTROLLER DIMENSIONS without connectors (length x width x height): 140 x 96 x 35 mm **WEIGHT:** 374 g **TTL TRIGGER:** input/output 5 V

***** : using ESI: 175 ms / using SDK: 5 ms

PRODUCTS

MEASUREMENT & DETECTION

MFS

MICROFLUIDIC FLOW SENSOR

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-MEASUREMENT-SENSORS/MICROFLUIDIC-LIQUID-MASS-FLOW-SENSOR/

HIGH-ACCURACY
FLOW MONITORING
AND CONTROL

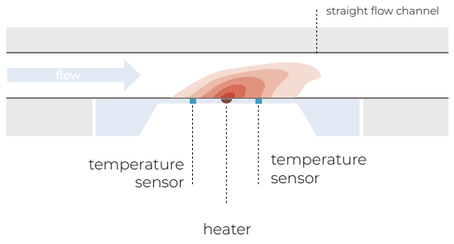
High-accuracy volumetric flow sensors for **wide flow rate monitoring** of liquids. The thermal-based flow sensor comes with an M8 4-pin electrical connection and can be directly controlled through the Elveflow software.

- ✔ 6 FLOW RATE RANGES
- ✔ HIGH CHEMICAL COMPATIBILITY
- ✔ WATER RESISTANT AND INCUBATOR COMPATIBLE
- ✔ WIDE AND ACCURATE FLOW RATE MONITORING

UNIQUE PERFORMANCES

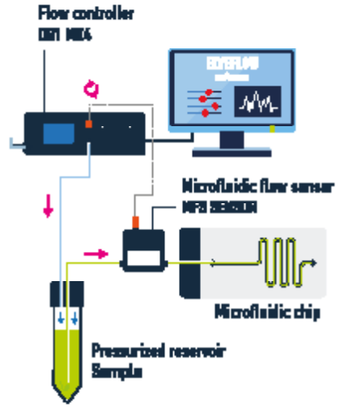
- > Flow rates **from 0.007 µL/min to 40 mL/min**
- > **IP54 certification**
- > **Bidirectional** flow rate measurement

PRINCIPLE

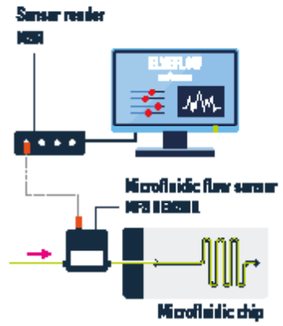


HOW IT WORKS

WITH ELVEFLOW FLOW CONTROLLERS: MONITORING + CONTROL

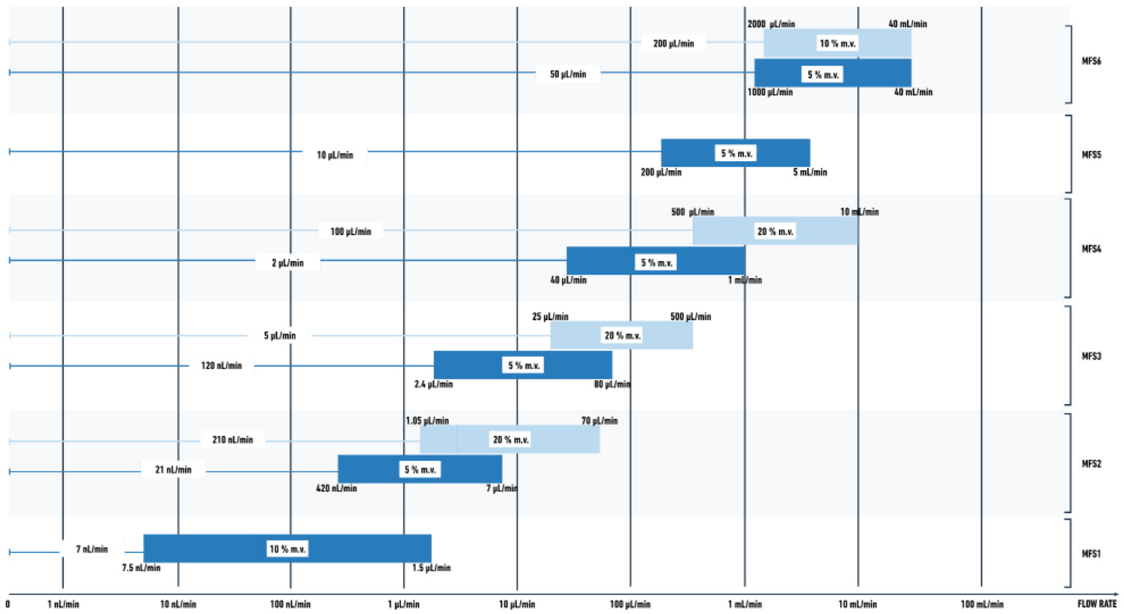


WITH SENSOR READER: MONITORING



TECHNICAL SPECIFICATIONS

MFS FLOW RATE RANGES AND ACCURACY



TECHNICAL SPECIFICATIONS

MFS

MFS FLOW SENSORS	MFS 1+	MFS 2+	MFS 3+	MFS 4+	MFS 5+	MFS6+
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

Non-contractual information, may be changed without notice.

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

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 characteristics

BFS

PREMIUM FLOW SENSOR

HTTPS://WWW.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***

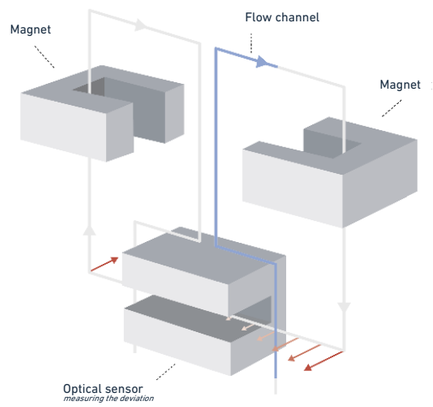
✔ **NO CALIBRATION NEEDED**

SOFTWARE INCLUDED

UNIQUE PERFORMANCES

- Large flow range **from 1.6 µL/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)

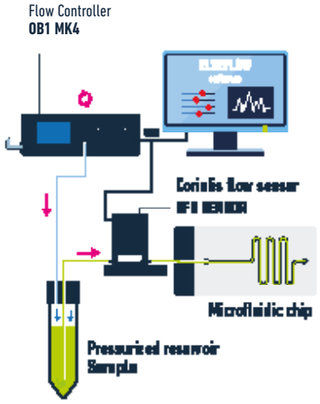
PRINCIPLE



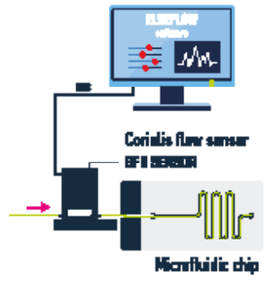
* AS LONG AS THEY ARE COMPATIBLE WITH STAINLESS STEEL 316L OR COMPARABLE MATERIALS

HOW IT WORKS

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 % o 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"		1/16" (1/8" on request)	
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

Non-contractual information, may be changed without notice.

(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.

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 8 to 333 mL/min	Five sensors from 0 to 5 mL/min	One sensor from 0 to 333 mL/min	One sensor from 0 to 40 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 (5)	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	1/16" 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	

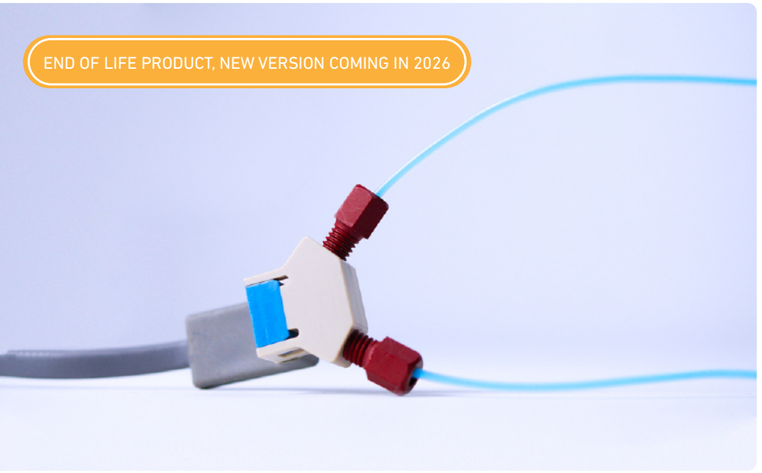
Non contractual information, may be changed without notice

(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) 1/8" OD on request

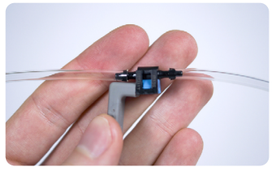
MPS

PRESSURE SENSOR

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-MEASUREMENT-SENSORS/PRESSURE-SENSOR/



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



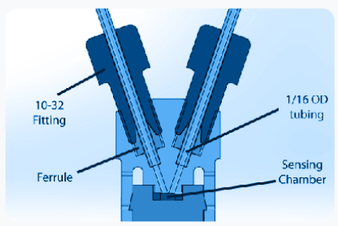
High accuracy pressure sensor adapted to liquid and gas and compatible with 3/32" ID tubing or 10-32 fittings for 1/16" OD tubing. Ideal for monitoring **low pressure flow rate** in your microfluidic setup.

✔ PRESSURE FEEDBACK OPTION

✔ MEASUREMENT & DETECTION

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**



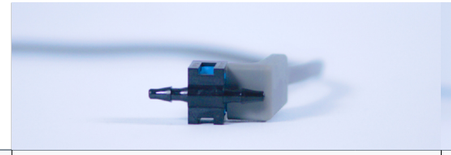
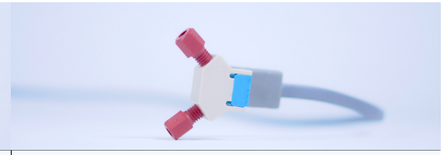
OUR PRESSURE SENSORS WORK AS GAUGE PRESSURE SENSORS,

measuring positive and negative pressure relatively to atmospheric pressure.

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	0.4
	Max.	0.5	0.5	0.5	0.2	0.6
Repeatability & hysteresis %span		± 3.0	± 0.4	± 0.2		
Operating temperature		-40 °C to +85 °C				
Specified temperature range		0 °C to +50 °C				

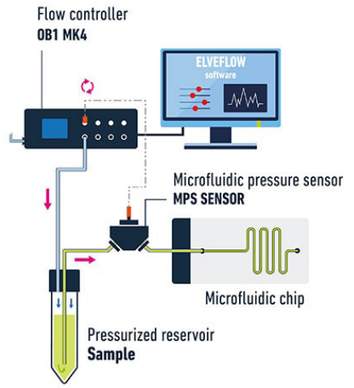
Non-contractual information, may be changed without notice.

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	

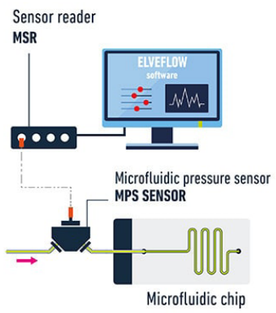
Non-contractual information, may be changed without notice.

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

WITH ELVEFLOW FLOW CONTROLLERS: MONITORING + CONTROL



WITH SENSOR READER: MONITORING



MFP

HIGH RANGE PRESSURE SENSOR

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-MEASUREMENT-SENSORS/LUER-LOCK-PRESSURE-SENSOR/

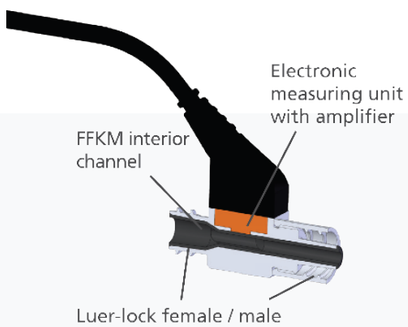
MEASURE AND CONTROL PRESSURE OVER A LARGE RANGE

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

- ✔ HIGH CHEMICAL COMPATIBILITY
- ✔ UP TO 16 BAR
- ✔ LUER-LOCK CONNECTORS

UNIQUE PERFORMANCES

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



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

TECHNICAL SPECIFICATIONS

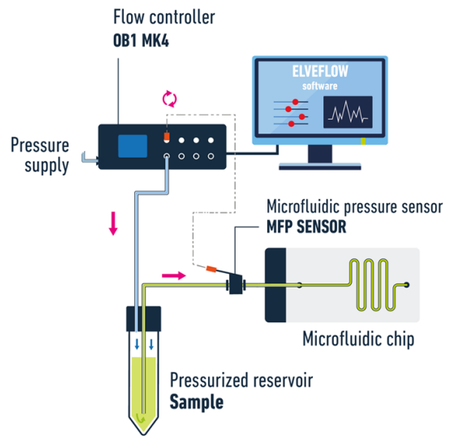
LUER-LOCK PRESSURE SENSOR	SPECIFICATIONS
Accuracy	Up to 2% FS
Pressure range	0 to 16 bar
Power supply	24V +- 10%
Wetted materials	interior flow channel: FFKM
Housing	coated aluminum
Output signal	0.1 to 10 V
Electrical connection	"push-pull" connector / M8 sensor plug
Mechanical connection	LUER-LOCK 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.

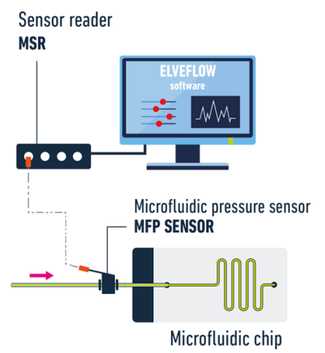
OUR PRESSURE SENSORS WORK AS GAUGE PRESSURE SENSORS,

measuring pressure relatively to atmospheric pressure.

WITH FLOW CONTROLLER: MONITORING + CONTROL



WITH SENSOR READER: MONITORING

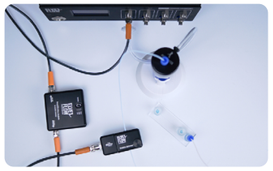


MBD

MICROFLUIDIC BUBBLE DETECTOR

HTTPS://WWW.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 mm	
Electrical connection	M8 4 pin connector	
Sensitivity	Low / Medium / High	

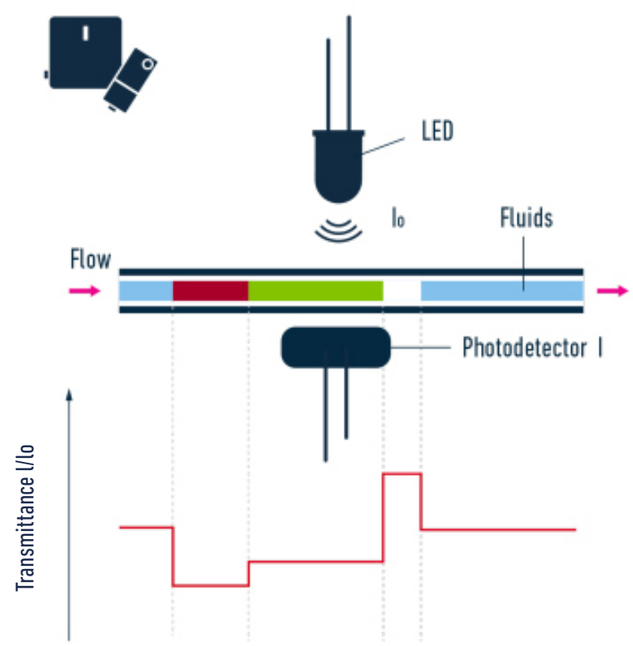
Non-contractual information, may be changed without notice.

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

HOW IT WORKS

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://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-MEASUREMENT-SENSORS/MICROFLUIDIC-SENSOR-READER/

SOFTWARE INCLUDED

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.

- ✔ **MONITOR UP TO 4 SENSORS**
- ✔ **REAL-TIME CONTROL & FEEDBACK**

UNIQUE PERFORMANCES

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

TECHNICAL SPECIFICATIONS

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

SENSOR READER SIZE without connectors (length x width x height): 91 x 69 x 29 mm **WEIGHT:** 320 g

Non-contractual information, may be changed without notice.

PRODUCTS

ADVANCED RANGE

PRODUCT

ADVANCED RANGE

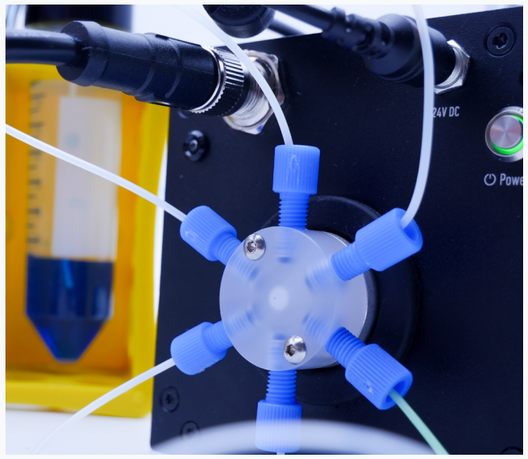
HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-ADVANCED-FLUIDIC-SYSTEMS/

SIX MODULES DESIGNED

TO FINE-TUNE FLUIDIC CONTROL AND AUTOMATION

IDEAL TOOL FOR UNIVERSITIES, STARTUPS, AND SMALL-SCALE INDUSTRIES

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.



WHY CHOOSE THE ADVANCED RANGE?

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

ADVANCED
CONTROL CENTER

HTTPS://WWW.ELVEFLOW.COM/ADVANCED-RANGE/ADVANCED-CONTROL-CENTER/

SOFTWARE INCLUDED

SEAMLESS AUTOMATION FOR COMPLEX SYSTEMS

Powerful module with advanced control and communication capabilities for up to 25 modules of the Advanced range. It is a dedicated PLC (programmable logic controller) for microfluidic engineering.

- ✔ ADVANCED AUTOMATION
- ✔ OPTIMIZED COMMUNICATION
- ✔ AUTONOMOUS MODULE

DIMENSIONAL DRAWING: IN MILLIMETERS

WEIGHT: 350 g

SPECIFICATIONS

Interface	RS232
Communication type	Universal Asynchronous Receiver-Transmitter (UART)
Computer connection	RS232 - DB-9
Number of module connections	5
Number of controlled valves	4
Type of valves	2 wires 24 V
ESI compatibility	Yes
Number of channels available	5, up to 25 using Advanced Hubs
Internal sequencer	Autonomous from PC
	Internal sequence storage

Non-contractual information, may be changed without notice.

ADVANCED
PRESSURE CONTROLLER

HTTPS://WWW.ELVEFLOW.COM/ADVANCED-RANGE/ADVANCED-PRESSURE-CONTROLLER/

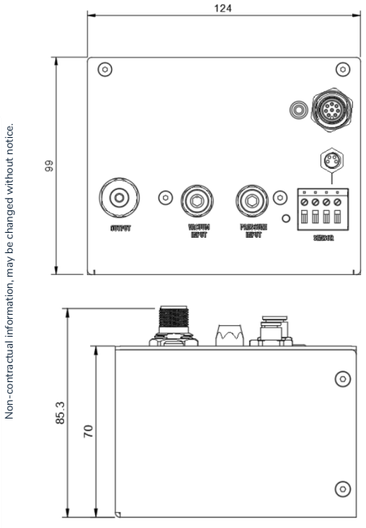
PRECISION CONTROL FOR OPTIMIZED PERFORMANCE

The Advanced Pressure Controller is a single channel pressure controller module with 5 different ranges available (positive and negative pressure from -900 mbar to 8 bar). With the same pneumatic performances as the OB1 pressure controller, run experiments requesting complex pressure profiles and optimum flow control easily.

- ✔ VERSATILE DESIGN
- ✔ OPTIMAL PRESSURE MANAGEMENT
- ✔ OPTIMIZED AUTOMATION CAPABILITIES

SPECIFICATIONS

Interface	M12 8 pins
Communication type	Universal Asynchronous Receiver-Transmitter (UART)
Sensor communication	I2C, analog
Sensor compatibility	Elveflow sensors (MFS, MPS, bubble detector and MFP), Analog sensors with 0/10 V input signal and with up to 24V supply
Number of sensor connections	1
Digital sensor supply voltage (V)	5 V
Analog sensor supply voltage (V)	5 to 24 V
Software control	ESI via a Advanced Control Center only



Non-contractual information, may be changed without notice.

DIMENSIONAL DRAWING: IN MILLIMETERS

WEIGHT: 750g to 1000g

Channel pressure range	**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)
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, ...				
Vacuum supply	/			Any value from -0.7 to -1 bar Compatible with vacuum pump or vacuum line	

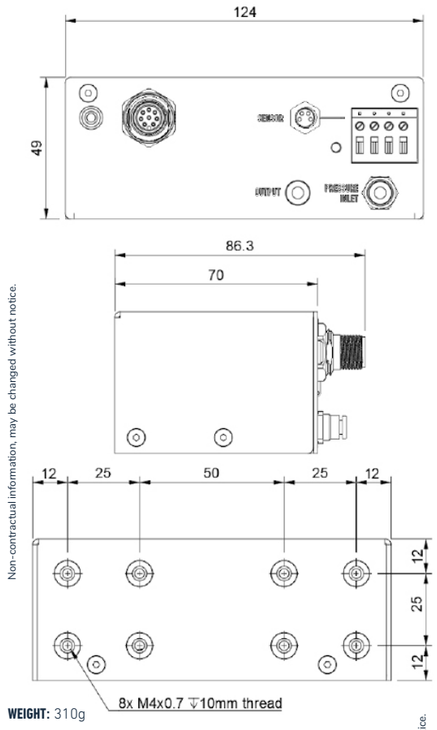
ADVANCED
PRESSURE CONTROLLER LITE

HTTPS://WWW.ELVEFLOW.COM/ADVANCED-RANGE/ADVANCED-PRESSURE-CONTROLLER-LITE/

The Advanced Pressure Controller Lite is a single and compact channel pressure controller module with a range from 0 to 5 bar. It is the perfect tool if you perform long term and stable experiments in a limited space.

ROBUST AND **RELIABLE** PRESSURE CONTROL WITH LOW AIR CONSUMPTION

- ✔ **COMPACT DESIGN**
- ✔ **VERSATILE PRESSURE MANAGEMENT**
- ✔ **LOW AIR CONSUMPTION**



DIMENSIONAL DRAWING: IN MILLIMETERS

Non-contractual information, may be changed without notice.

WEIGHT: 310g

SPECIFICATIONS

Interface	M12 8 pins
Communication type	Universal Asynchronous Receiver-Transmitter (UART)
Sensor communication	I2C, analog
Sensor compatibility	Elveflow sensors (MFS, MPS, bubble detector and MFP), Analog sensors with 0/10 V input signal and with up to 24V supply
Number of sensor connections	1
Digital sensor supply voltage (V)	5 V
Analog sensor supply voltage (V)	5 to 24 V
Software control	ESI via a Advanced Control Center only

Channel pressure range	**0 to 5000 mbar (0 to 72.5 psi)**
Pressure supply	5.5 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,...
Pressure stability	0.2% FS
Response time	6s
Settling time	10 s
Air consumption at rest	<0.05 L/min

Non-contractual information, may be changed without notice.

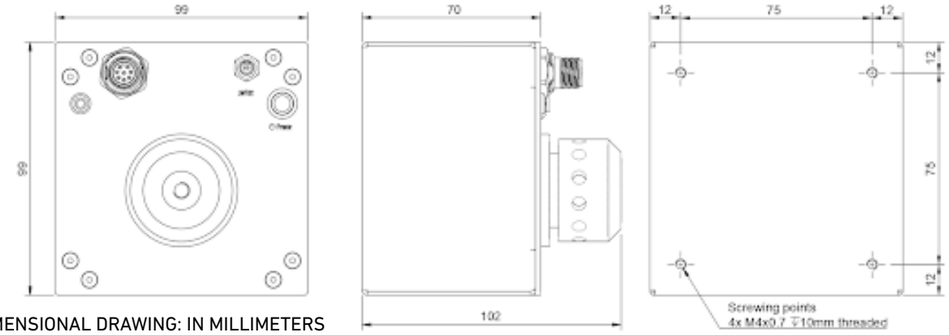
ADVANCED
ROTAVALVE DISTRIBUTION

HTTPS://WWW.ELVEFLOW.COM/ADVANCED-RANGE/ADVANCED-ROTAVALVE-DISTRIBUTION/

The Rotavalve Distribution is a bidirectional valve with 13 ports (12 to 1), built for switching flow direction. Ideal for the distribution or collection of up to 12 samples.

A ROTARY VALVE FOR **QUICK MEDIUM SWITCHES**

- ✔ **POWERFUL DESIGN**
- ✔ **COMPLEX WORKFLOW AUTOMATION**
- ✔ **OPTIMIZED MICROFLUIDIC LIQUID INJECTION**



DIMENSIONAL DRAWING: IN MILLIMETERS

WEIGHT: 780g

SPECIFICATIONS

Interface	M12 8 pins
Communication type	Universal Asynchronous Receiver-Transmitter (UART)
Valve type	12 positions / 13 ports rotative valve
Maximum supported pressure (bar)	7 bar
Fluidic connectors	Standard 1/4-28 UNF, flat-bottom
Wetted materials	PCTFE and PTFE
Dead volume [1]	None
Internal diameter (mm)	0.5 mm
Software control	ESI via a Advanced Control Center only

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.

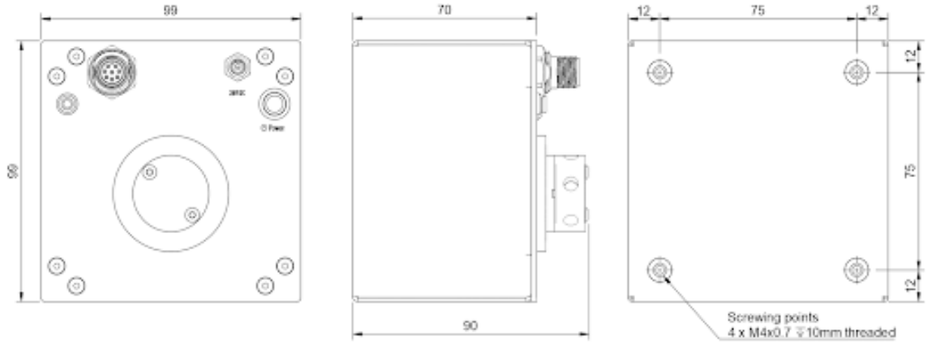
ADVANCED
ROTAVALVE RECIRCULATION

HTTPS://WWW.ELVEFLOW.COM/ADVANCED-RANGE/ADVANCED-ROTAVALVE-RECIRCULATION/

A ROTARY VALVE FOR **FLUID RECIRCULATION**

- **UNIDIRECTIONAL MEDIUM RECIRCULATION**
- **LONG-TERM EXPERIMENTS AUTOMATION**
- **EASY AND QUICK CONNECTIONS**

The Rotavalve Recirculation is a microfluidic 6 ports/2 positions valve. It allows the recirculation of fluid in a closed loop. Ideal for medium recirculation and long-term cell culture experiments.



WEIGHT: 730g

DIMENSIONAL DRAWING: IN MILLIMETERS

SPECIFICATIONS

Interface	M12 8 pins
Communication type	Universal Asynchronous Receiver-Transmitter (UART)
Valve type	6 ports / 2 positions
Maximum supported pressure (bar)	7 bar
Fluidic connectors	Standard 1/4-28 UNF, flat-bottom
Wetted materials	PCTFE and PTFE
Dead volume [1]	None
Internal diameter (mm)	0.5 mm
Software control	ESI via a Advanced Control Center only

Non-contractual information, may be changed without notice.

WEIGHT: 730 g

[1] Volume that is stuck in the system (dead end), which is not clearly swept and relies on diffusion to clear out.

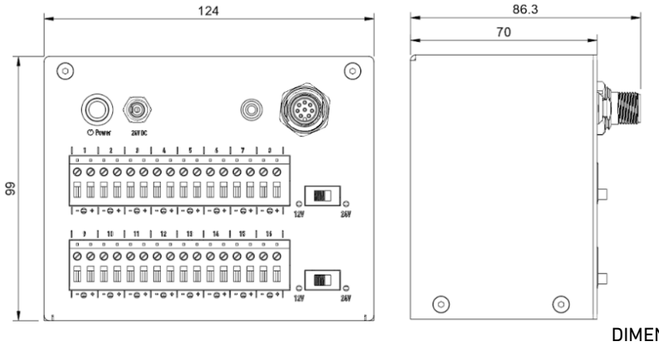
ADVANCED
VALVE HUB

HTTPS://WWW.ELVEFLOW.COM/ADVANCED-RANGE/ADVANCED-VALVE-HUB/

SIMPLIFY CONTROL OVER **UP TO 16 VALVES**

The Valve Hub is a device that can control up to 16 valves. You can configure each group of 8 valves to either be supplied by 24V signals or by 12V signals.

- **OPTIMIZED DESIGN FOR UP TO 16 VALVES**
- **LARGE VALVE COMPATIBILITY**
- **VERSATILE VALVE MANAGEMENT AND AUTOMATION**



DIMENSIONAL DRAWING: IN MILLIMETERS

WEIGHT: 470g

SPECIFICATIONS

Interface	M12 8 pins
Communication type	Universal Asynchronous Receiver-Transmitter (UART)
Number of controlled valves	16
Type of valves	2 wires 24 or 12V (switchable by line of 8 valves)
Maximum valve power / valve channel (W)	4.8 W for 24 V 2.4 W for 12 V
Software control	ESI via a Advanced Control Center only

Non-contractual information, may be changed without notice.

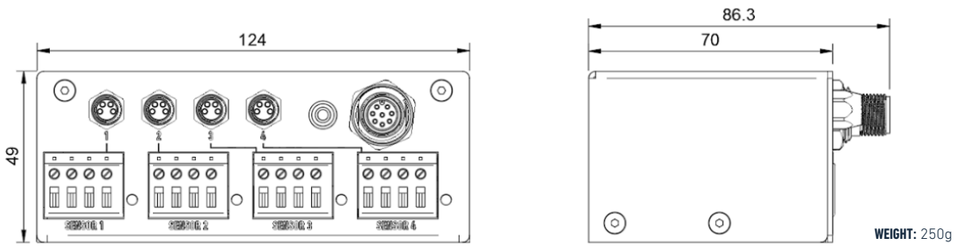
ADVANCED
SENSOR HUB

HTTPS://WWW.ELVEFLOW.COM/ADVANCED-RANGE/ADVANCED-SENSOR-HUB/

PRECISE DATA COLLECTION FOR MONITORING ACCURACY

The Sensor Hub is a sensor reader module for up to 4 sensors. It can read all digital sensors from the Elveflow range as well as any 0/10V analog sensors. It is the perfect device for precision monitoring.

- ✓ COMPACT AND POWERFUL DESIGN
- ✓ WIDE SENSORS COMPATIBILITY
- ✓ OPTIMIZED AUTOMATION CAPABILITIES



WEIGHT: 250g

DIMENSIONAL DRAWING: IN MILLIMETERS

SPECIFICATIONS

Interface	M12 8 pins
Communication type	Universal Asynchronous Receiver-Transmitter (UART)
Sensor communication	I2C, Analog
Sensor compatibility	Elveflow sensors (MFS, MPS, bubble detector and MFP) Analog sensors with 0/10 V input signal and with up to 24 V supply
Number of sensor connections	4
Input range (analog)	0 - 10 V
Sensor supply voltage (analog)	5 to 24 V

Non-contractual information, may be changed without notice.

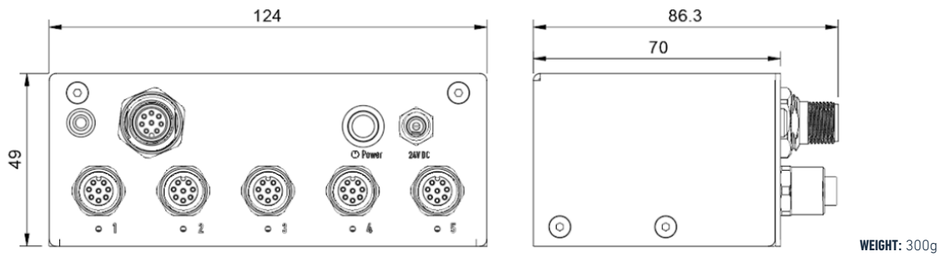
ADVANCED
HUB

HTTPS://WWW.ELVEFLOW.COM/ADVANCED-RANGE/ADVANCED-HUB/

CONTROL FIVE ADDITIONAL MODULES ON A SINGLE CHANNEL

The Hub is a multiplexer module acting as a relay. It is used to expand the system management and the capabilities of your Control Center by enabling control of five additional modules on a single channel. It's a game-changer for operational efficiency.

- ✓ OPTIMAL FOR SYSTEM MANAGEMENT EXPANSION
- ✓ EASY INTEGRATION



WEIGHT: 300g

DIMENSIONAL DRAWING: IN MILLIMETERS

SPECIFICATIONS

Interface	M12 8 pins
Communication type	Universal Asynchronous Receiver-Transmitter (UART)
Number of module connections	5
Software control	ESI via a Advanced Control Center only
Number of channels available	5

Non-contractual information, may be changed without notice.

ADVANCED
ACCESSORIES

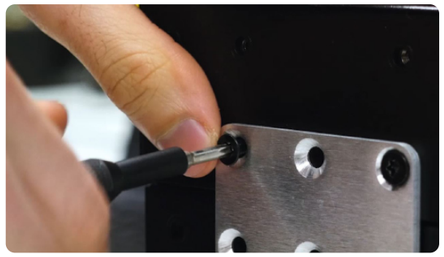
HTTPS://WWW.ELVEFLOW.COM/ADVANCED-ACCESSORIES/

ADAPTER

Elveflow Advanced range adapter M12 to USB connects any Advanced module to a computer without the Advanced Control Center.

- ✔ EASY PROTOTYPING
- ✔ COMPACT AND POWERFUL

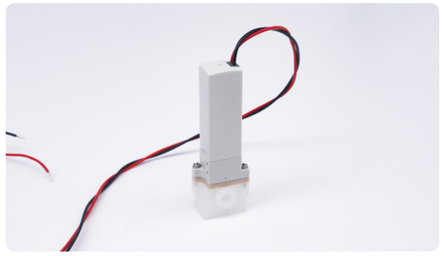
ASSEMBLY KIT



Elveflow Advanced range is easy to integrate thanks to the mechanical integration kit. It enables to assemble the modules rapidly to create space-saving systems.

- ✔ VERSATILE CONFIGURATIONS
- ✔ EASE OF USE

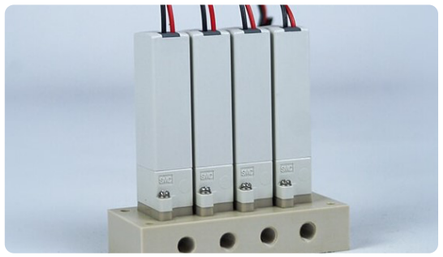
VALVES



Elveflow provides meticulously chosen microfluidic valves, ideal for diverse applications. They support pressures up to 6 bar, are available in diverse configurations and with <15 ms switching time and high chemical compatibility, they ensure top performance.

- ✔ NUMEROUS VALVE TYPES AVAILABLE

VALVE MANIFOLD



Two types of PEEK manifolds are available to split or merge up liquid and gas: a 3 to 1 model for 3 valves and a 4 to 1 model for 4 valves. Compatible with 2/2 NC low pressure valve.

- ✔ WORKFLOW OPTIMIZATION

ESI - FREE SOFTWARE

ELVEFLOW SMART INTERFACE

ESI

ELVEFLOW SOFTWARE

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-SOFTWARE/

ESI – ELVEFLOW SMART INTERFACE
A UNIQUE SOFTWARE FOR ALL INSTRUMENTS

- ✔ DIRECTLY INPUT FLOW RATE
- ✔ CUSTOM FLOW PROFILE
- ✔ ADVANCED WORKFLOW AUTOMATION

Elveflow Smart Interface allows an intuitive control of our microfluidic instruments in 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...

FEATURES THAT MATTER

> Pressure & flow rate **visualization** and **recording**

> **Programming** & **automation** of complex sequences

> Easy alternative instrument control through the provided **C++, Python, MATLAB®** and **LabVIEW® libraries**

PRODUCTS

ACCESSORIES – AIR SUPPLY

ACCESSORIES

ELVEFLOW ACCESSORIES

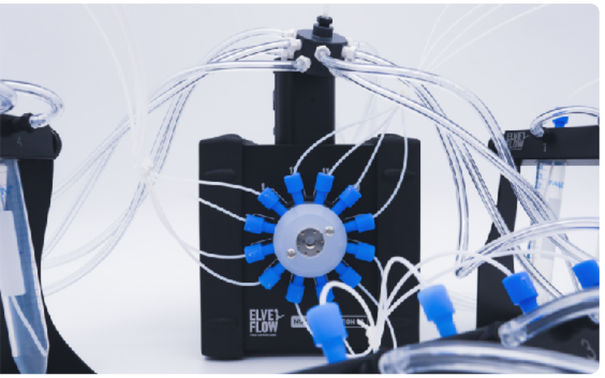
HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-ACCESSORIES/

MICROFLUIDIC ACCESSORIES

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.

We have chosen to present only a few accessories in this catalog. For more information on our **range of accessories,** please contact us directly or visit our website. The Elveflow team is always ready to **make your experience fast and easy.** Alternatively, you can browse the Elveflow Accessories product line on Darwin Microfluidics and order online. Darwin Microfluidics is our official online reseller. Check it out!



13-PORT MANIFOLD
SPLITTER FOR MICROFLUIDICS

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

BUBBLE TRAP
PEEK 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.

✔ AUTOCLAVABLE

✔ IN-LINE REMOVAL OF BUBBLES

RESERVOIRS

MICROFLUIDIC RESERVOIRS

HTTPS://WWW.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 COMPRESSOR

PRESSURIZED AIR SOURCE

HTTPS://WWW.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.

UNIQUE PERFORMANCES

> Positive pressure **up to 8 bar**
> Low noise level: **<35 dB**
> Internal tank volume: **4 L**

✔ **HIGH PERFORMANCES**

✔ **LOW NOISE LEVEL**

ADVANTAGES

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

	PRESSURIZED AIR SOURCE (KCP)	SPECIFICATIONS
Performances	Max pressure	8 bar (120 psi)
	Air flow rate (at operating pressure)	11 L/min (at 8 bar)
	Noise level	<35 dB
Mechanical specifications	Pneumatic connection	6 mm push-in
	Internal tank volume	4L
Electrical specifications	Input Voltage	120 or 230 V
	Frequency	60 or 50 Hz
	Maximum Output Current	2.4 or 0.9 A
	Maximum power	288 W
	Typical power	150 or 130 W

DIMENSIONS WITHOUT CONNECTORS (length x width x height): 38.4 x 33.3 x 34.2 cm and **WEIGHT**: 18 kg

Non-contractual information, may be changed without notice.

OTHER PRESSURE GENERATOR: ELVEFLOW PRESSURE SOURCE (EPS)

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-ACCESSORIES/LABORATORY-PRESSURE-SOURCE/

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.

UNIQUE PERFORMANCES

> **Light and portable** equipment
> **Oil-free**

✔ **COMPACT PRESSURE SOURCE**

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

TECHNICAL SPECIFICATIONS

	PRESSURE SOURCE (EPS)	SPECIFICATIONS
Performances	Max pressure	2.5 bar (36 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
	Operating temperature	5-40°C
	Operating humidity	up to 80 %
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	1.5 A
	Maximum output power	36 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://WWW.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

- > This pressurized air source is ideal to supply vacuum to a pressure regulator such as the OB1.
- > This Vacuum Pump is available in two versions: 230V/50Hz or 110V/60Hz

	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	110 or 230 V
	Frequency	60 or 50 Hz
	Typical power	140 W

Non-contractual information, may be changed without notice.

DIMENSIONS WITHOUT CONNECTORS (length x width x height) 30 x 17 x 24 cm **WEIGHT:** 3 kg

OTHER VACUUM SOURCE: ELVEFLOW VACUUM SOURCE (EVS)

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.

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-ACCESSORIES/LIGHT-VACUUM-SOURCE/

- ✓ **COMPACT VACUUM SOURCE**
- ✓ **IDEAL FOR EQUIPPING A LABORATORY**

UNIQUE PERFORMANCES

- > **Light and portable** equipment
- > **Integrated tank**

TECHNICAL SPECIFICATIONS

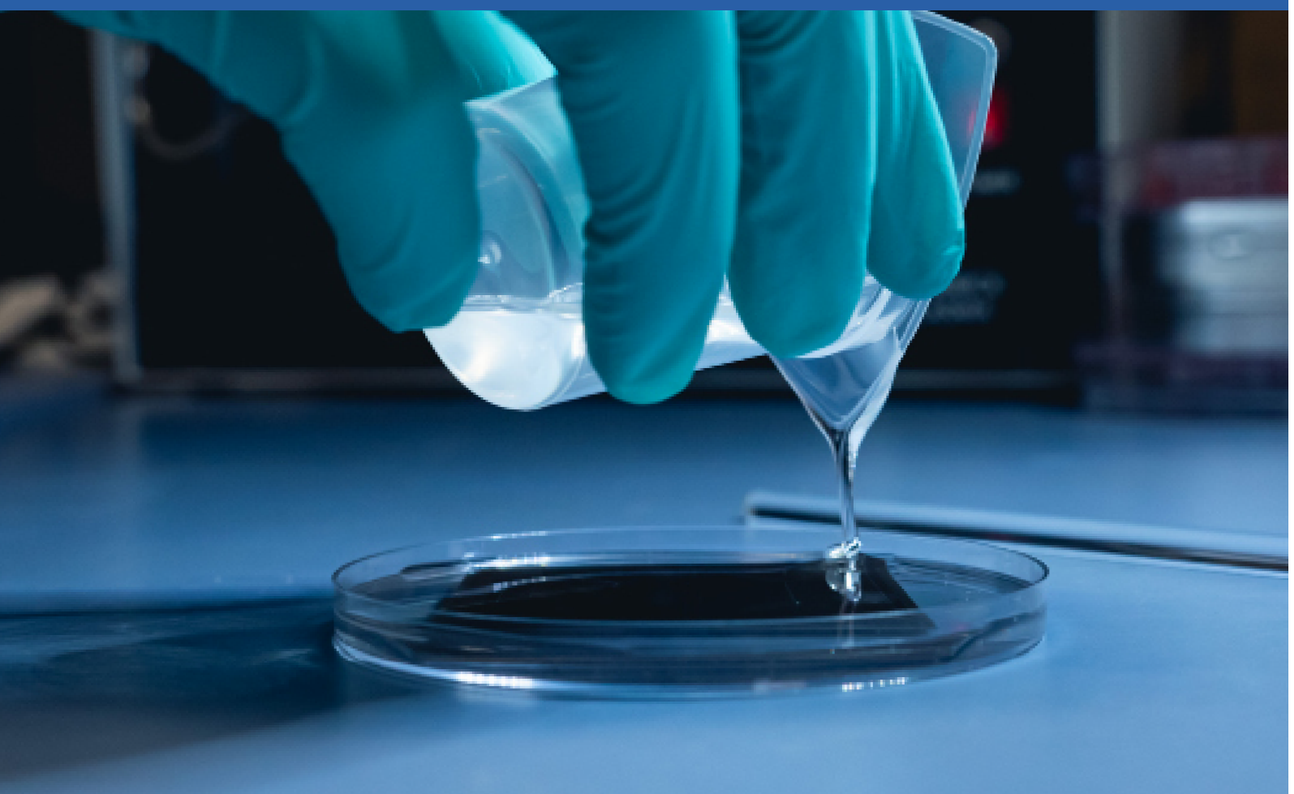
	VACUUM SOURCE (EVS)	SPECIFICATIONS
Performances	Vacuum pressure (relative)	-850 mbar (-13 psi)
	Vacuum pressure (absolute)	150 mbar (2.3 psi)
	Pumping speed	8 L/min at 0 bar
	Noise level	<54 dB
Mechanical specifications	Pneumatic connection	6 mm push-in
	Internal tank volume	250 mL
	Operating temperature	5-40°C
	Operating humidity	up to 80 %
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	1.5 A
	Maximum output power	36 W

Non-contractual information, may be changed without notice.

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

PRODUCTS

MICROFABRICATION STATIONS



STATION

SU-8 MOLD STATION

HTTPS://WWW.ELVEFLOW.COM/MICROFABRICATION/ELVEFLOW-MOLD-FABRICATION-STATION/

A COMPLETE STATION TO **FABRICATE YOUR SU-8 MOLD**

- ✓ **HIGH RESOLUTION WITHOUT CLEANROOM**
- ✓ **ACCESSIBLE WITHOUT EXPERIENCE**
- ✓ **FLEXIBLE AND UPGRADABLE PLATFORM**

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.

INCLUDED IN THE STATION

- > High-quality and robust spin-coater
- > Programmable 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 to obtain a super-fast process with mid-resolution or to produce multilayer devices with a very high-performance direct laser process.

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.

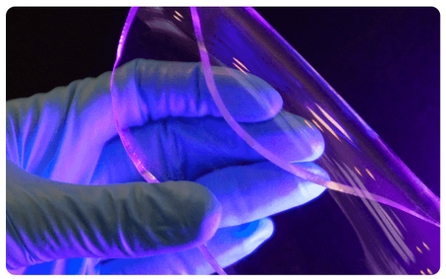
STATION

PDMS CHIPS STATION

HTTPS://WWW.ELVEFLOW.COM/MICROFABRICATION/PDMS-CHIP-STATION/

ALL YOU NEED TO **PRODUCE YOUR PDMS CHIPS**

- ✓ **ALL-IN-ONE PLATFORM**
- ✓ **REPRODUCIBLE PROCESS**
- ✓ **FAST FABRICATION PROCESS**



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.

INCLUDED IN THE STATION

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

- > 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

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://WWW.ELVEFLOW.COM/MICROFABRICATION/PLASMA-BONDING-PEN-PDMS-BONDER

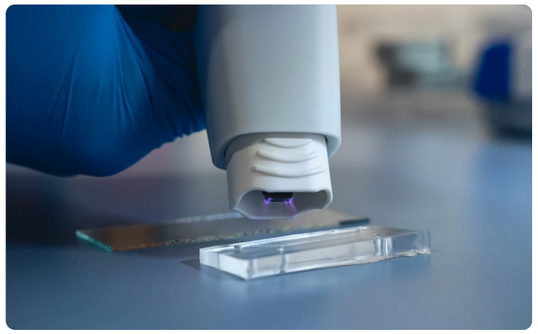
PLUG & PLAY PLASMA TREATER FOR PDMS BONDING

- ✓ **LIGHT & USER-FRIENDLY**
- ✓ **LONG LIFESPAN**
- ✓ **PLUG & PLAY**

Elveflow's 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.

UNIQUE PERFORMANCES

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



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	5×5 to 20×20 mm² large

Non-contractual information, may be changed without notice.

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

PRODUCTS

APPLICATION PACKS

MICROFLUIDICS PACK

EDUCATIONAL KIT

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDICS-APPLICATION-PACKS/MICROFLUIDICS-EDUCATIONAL-KIT/

THE MICROFLUIDIC SOLUTION FOR UNIVERSITY TEACHERS

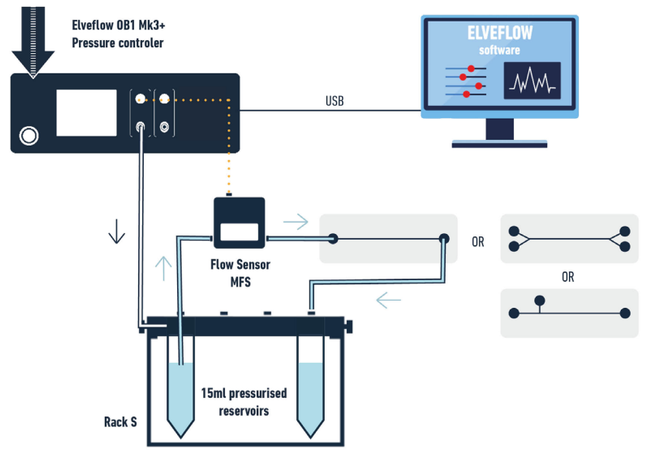
- ✓ COMPLETE PACKAGE
- ✓ CUSTOMIZABLE
- ✓ VERSATILE APPLICATIONS
- ✓ EASY UPGRADES

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.

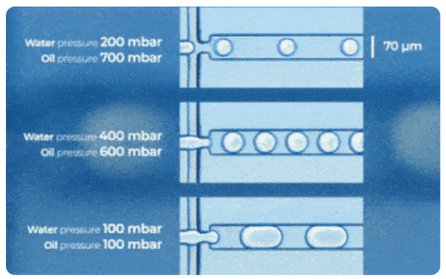
MICROFLUIDICS PACK

DROPLET GENERATION

HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDICS-APPLICATION-PACKS/EASY-DROPLET-GENERATION/

TURNKEY SYSTEM TO **EASILY GENERATE DROPLETS**

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

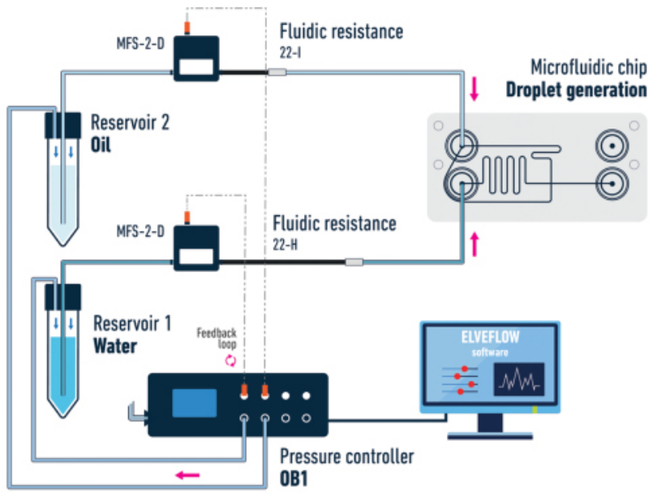


This Droplet Pack is based on the premium Elveflow instrument range and our best-seller - the OB1 flow controller.

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.

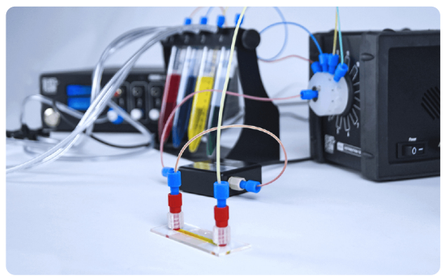
MICROFLUIDICS PACK

SEQUENTIAL INJECTION

HTTPS://WWW.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**

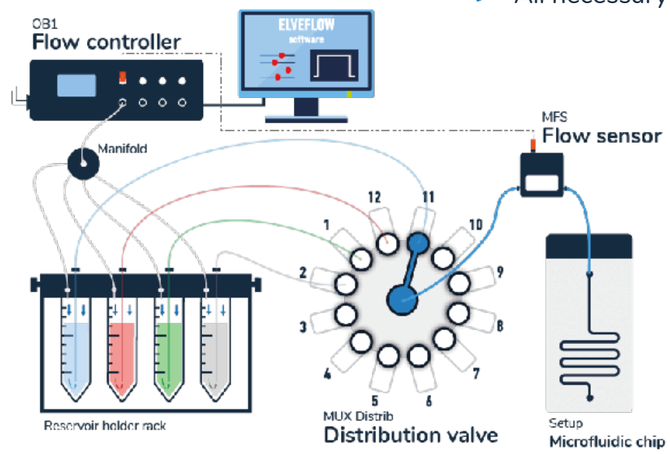


The Sequential Injection Pack includes all the necessary elements to sequentially inject up to 12 (or more) solutions in a fully automated fashion using our computer-controlled 12 to 1 MUX Distribution bidirectional valve.

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 channels
- > 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?

This is only a suggestion of what could be included in this pack

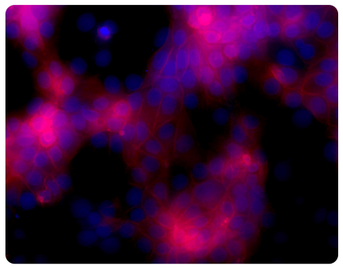
Talk to our experts and build the pack perfectly fitted to your needs.

MICROFLUIDICS PACKS

OTHER APPLICATIONS

https://www.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

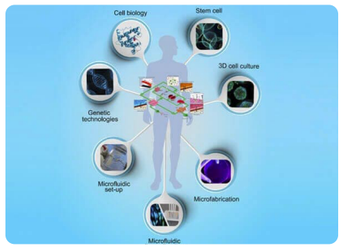
https://www.elveflow.com/use-case/drug-screening/

AUTOMATED SAMPLING

Experimental setup for automated sampling, ensuring faster and more precise results for continuous analysis.

> Optimize your process control
> Eliminate manual and time-consuming steps
> Real-time analysis

https://www.elveflow.com/use-case/automated-sampling-solution-for-continuous-analysis/



ORGAN ON A CHIP

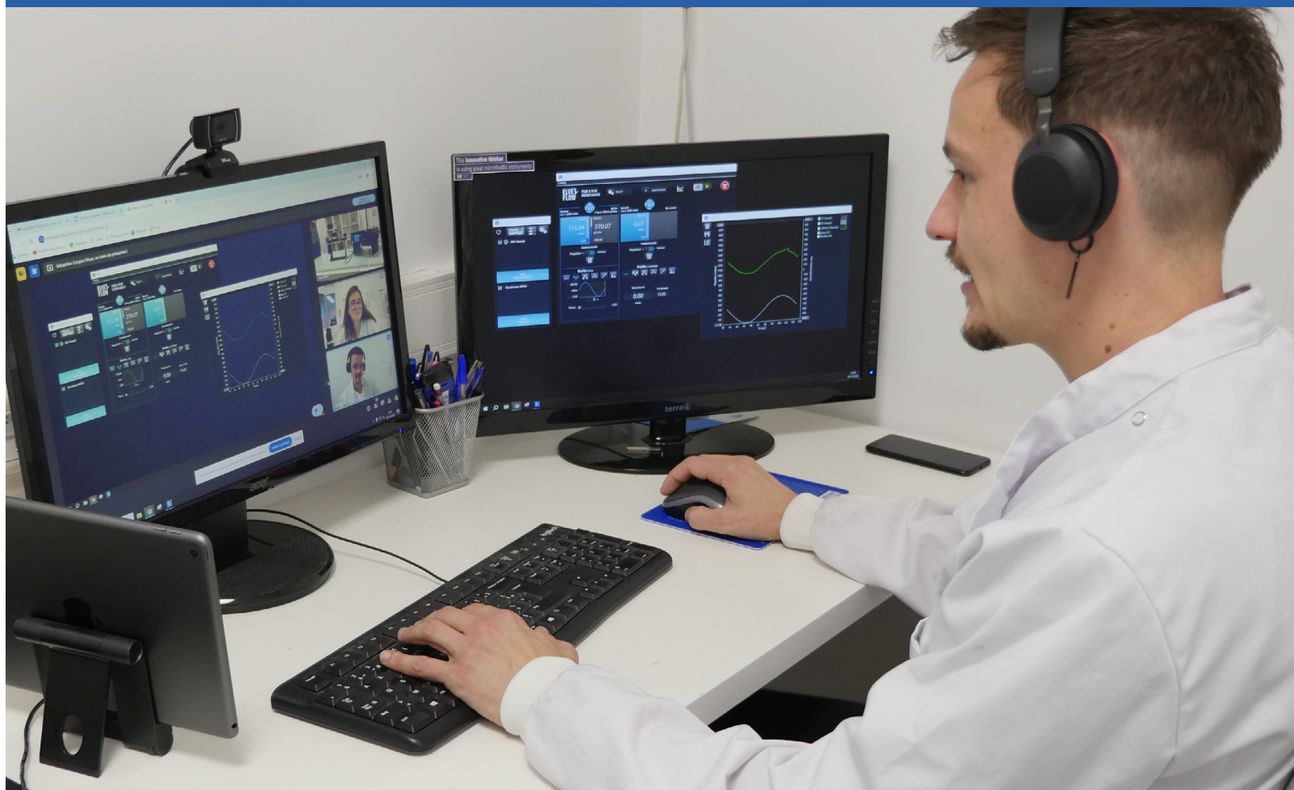
Experimental set-up to optimize the control of flow and physiological parameters, working with organ-on-a chip models.

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

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

PRODUCTS

SERVICES

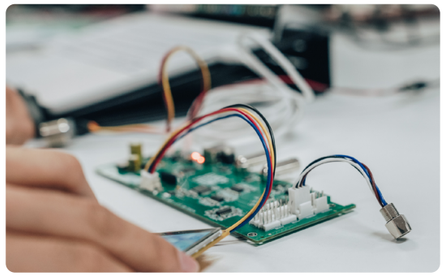


PRODUCTS
SERVICES
HTTPS://WWW.ELVEFLOW.COM/MICROFLUIDIC-SERVICES-ELVEFLOW/

ADJUST YOUR WORK TO EACH SPECIFIC CASE

- ✓ A WIDE RANGE OF SERVICES
- ✓ GET FASTER OR EASIER

UPGRADES



Upgrade your Elveflow products to optimize your scientific workflow. Access top-tier equipment and achieve accurate and consistent results.

> Upgrade your OB1 Pressure Controller
> Upgrade your MFS Flow Sensors

TRAINING

Discover the power of microfluidics training at Elveflow. Enhance your skills in this innovative field and stay ahead in the industry.

> Microfluidic training
> Consulting services

RENTING

Rent Elveflow products to check that the equipment is well adapted to your needs. With this rental offer and the advice of our experts, optimize your microfluidic system and buy the perfect system for your research.

> Test before you commit
> Costs benefits in the short term

NOTES

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ELVEFLOW an ELVESYS brand

ART DIRECTOR JULIEN RIDOUARD

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/