



STATE OF THE ART microfluidic instrumentation for all

Elveflow is an Elvesys brand. We build premium flow handling instruments since 2012. We are proud to have provided **more than 2,000 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. All our instruments can be controlled simultaneously using our **software** and **Software Development Kits** allowing for a full automation of your system.

Our instruments are **modular**, **upgradable** and come in a **standard** or **OEM** version.

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PRODUCTS



FLOW CONTROL SYSTEMS

★ BEST SELLER	OB1 MK3+ Multi Channel Pressure & Vacuum Controller	p.05
REW	MUX DISTRIB 12-WAY BIDIRECTIONAL VALVE	p.10
• NEW	MUX RECIRCULATION 6-PORT/2-POSITION VALVE	p.12
	MUX SERIES VALVES MATRICES	p.14
03335000	MUX WIRE VALVES & VALVE CONTROLLER	p.16



MEASUREMENT & DETECTION



	MFS Microfluidic flow sensor	p.19
	BFS PREMIUM FLOW SENSOR	p.22
*	MPS Low volume pressure sensor	p.26
1	MEP LUER-LOCK PRESSURE SENSOR	p.28
NEW DESIGN	MBD Microfluidic Bubble Detector	p.30
••••	MSR Sensor Reading Unit	p.32

OEM & CUSTOM



OEM & CUSTOM Original equipment manufacturer & design studio

____p.09

SOFTWARE





ESI - FREE SOFTWARE
ELVEFLOW SMART INTERFACE - ALL INSTRUMENTS

PACKS & ACCESSORIES





.p.34

ELVEFLOW OVERVIEW

Elveflow focuses on the development of high performance, **plug and play flow control systems** perfect for microfluidic research. We provide the only microfluidic flow control systems using **Piezo technology** allowing blazing fast flow changes in your microdevice.

contact@elveflow.com

MULTIDISCIPLINARY EXPERTS HERE TO HELP YOU

Our **multidisciplinary team** provides a wide range of development and services. Our management is composed of talented engineers, physicists and biologists in microfluidics totaling more than 70 peer reviewed publications, 400 citations and 10 microfluidic patents.

ELVE FLOW an ELVESYS brand

MICROFLUIDIC POETRY, an uncommon, conceptual and sensitive vision of the microfluidic field, on the blurring border between art & science. MICROFLUIDICS INNOVATION CENTER



PRODUCTS **FLOW CONTROL SYSTEMS**







OB1 MK3+ MULTI CHANNEL PRESSURE & VACUUM CONTROLLER

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/FLOW-CONTROL-SYSTEM/PRESSURE-CONTROLLER/



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



The OB1 MK3+ 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.

- ✓ MODULAR
- ✓ UPGRADABLE
- ✓ SOFTWARE INCLUDED



APPLICATIONS

- > Digital microfluidics
- > Flow chemistry & polymer synthesis
- > Cell culture: cell perfusion, sequential injection
- > Droplet-sequencing: RNA sequencing
- > Organ on chip
- > Enhanced oil recovery
- > Lab on a chip

UNIQUE PERFORMANCES

- > Pressure stability 0.005 % FS
- > Response time 9 ms
- > Pressure resolution 0.003 % FS
- > Settling time down to 35 ms





HOW IT WORKS



FEATURES & BENEFITS

_MM	• 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 10 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)	Enhanced data saving Up to 10 ms sampling rate to take out the best of your results
£	• Easy to install and use • Start out of the box and set everything up within minutes	• Customizable • Choose from any number of channels among the five pressure ranges available	Upgradable Get a one-channel today and add more channels later

PRESSURE RANGES



FOR EACH CHANNEL: 5 Pressure Ranges Available



OB1 MK3+ 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)				
				-900 to 500 mbar:	-900 to 2,000 mbar:				
- (2)	0.005 % FS	0.005 % FS 100 µbar (0.0014 psi)	0.006% FS 500 µbar (0.007 psi)	0.005 % FS 100 μbar (0.0014 psi)	0.005 % FS 350 µbar (0.05 psi)				
Pressure stability (2)	10 µbar (0.00014 psi)			500 to 1,000 mbar:	2,000 to 6,000 mbar:				
				0.007 % FS 150 µbar (0.0021 psi)	0.007 % FS 525 µbar (0.076 psi)				
Response time ⁽³⁾		down to 9 ms							
Settling time ⁽⁴⁾			down to 35 ms						
Minimum pressure increment	0.003 % FS 6.1 µbar - 0,000085 ps	0.003 % FS 56 µbar - 0,00085 psi	0.003 % FS 240 μbar - 0,0035 psi	0.0032 % FS 61 µbar - 0,00085 psi	0.003 % FS 210 µbar - 0.003 psi				
Input pressure		1.5 bar - 10 bar non corrosive, non explosive, dry and oil-free gases, e.g. air, argon, N2, CO2,							
Input vacuum ⁽⁵⁾	/ any value from 0 to -1 bar								
Liquid compatibility	no liquid should enter the OB1 any aqueous or organic solvent, oil or biological sample solution can be propelled								
				Non-contractual infor	mation, may be changed without notice				

POWER CONSUMPTION (maximum): 12 W CASE DIMENSIONS (length x width x height): 240 x 223 x 80 mm WEIGHT: 1.7 kg to 3.04 kg (3.1 Kg) TTL TRIGGER: input 5V / output 3,3V

(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 (Paroscientific MODEL 745) (3) Depending on your computer's operating system (4) Volume dependent – Measurement done on 12 mL reservoir for a set point from 100 to 200 mbar (5) The vaccum channels can be used without vacuum source if only positive pressures are desired.





They trust Elveflow's performances and quality:



INSTRUMENT DESCRIPTION

OB1 MK3+



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 generator		•
Reservoirs Gas tight reservoirs with ergonomic fluidic connection		•
Flow sensors A line of sensors to monitor very low liquid flow rates		•
Compressor A safe & secure pressure source for the OB1 pressure controller		•
Service The Elveflow expertise & support to offer you individually tailored solutions	•	

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





National Instrument is our technological partner for embedded electronics

More information:



ESI - FREE SOFTWARE ELVEFLOW SMART INTERFACE - ALL INSTRUMENTS OEM - ORIGINAL EQUIPMENT MANUFACTURER

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/OEM-CUSTOM-FLUIDIC-SYSTEMS/



A CUSTOM SOLUTION THAT FITS YOUR PROJECT PERFECTLY

Elveflow provides a **comprehensive line of OEM fluidic components** that can be integrated into your products. Our OEM components allow a seamless integration thanks to their **small footprint** and **easy interfacing**. A **simple serial USB connection** allows interfacing through our API, the native in/out triggers provide optimum interactions and we use standard fittings for pneumatic and fluidic connections.

We provide a dedicated software with all fluidic OEM products, as well as libraries for a **customized software development** (C++, Python, MATLAB[®] and LabVIEW[®] libraries).

SERVICES

- Personalized expert advice for our clients and partners
- > Creation of technical specifications
- > Risk management and analysis
- Development and production of mechanics, electronics and software
- > Prototyping
- Beta testing, troubleshooting and continuous improvement
- > Production, from limited series to large scale
- > Maintenance, support and training
- > Upgrades of your systems

WHY CHOOSE US AS YOUR OEM PARTNER?

- > A receptive and efficient partner We are well aware of the importance of keeping up with your fastchanging market.
- > A soft intellectual property policy We believe that intellectual property should never be an obstacle to innovation.
- > A trusted manufacturer High profile companies already trust us for their scientific instruments. Why not you?
- > A proven track record Our team carried out successfully several projects taking into account challenging constraints to end up with the best solutions for our partners.

MUX DISTRIB 12-WAY BIDIRECTIONAL VALVE

ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-CONTROL-SYSTEMS/MUX-DISTRIB/

Included in our
SEQUENTIAL FLUID INJECTION PACK

ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-APPLICATION-PACKS/ SEQUENTIAL-FLUID-INJECTION-PACK/



A ROTARY VALVE DESIGNED TO EASILY EXECUTE FAST MEDIUM SWITCHES



The Sequential Injection Valve is a **bidirectional 13-port/12 way** which can be used as a selector to inject sequentially one liquid sample into **twelve different lines** or twelve liquid samples into one line.

✓ INJECTION OF UP TO 12 LIQUIDS

✓ NO CROSS CONTAMINATION

APPLICATIONS

- > Cell culture on chip
- > Cell response to medium change
- > Drug screening
- > Toxicity tests
- > Sensor testing & calibration
- > Reagent switch for flow chemistry

UNIQUE PERFORMANCES

- Typical mechanical response time for port-to-port movement 156 ms
- > Easy setup: standard 1/4-28 fluidic fittings
- > Lowest internal volume: 3.5 µL
- > High chemical compatibility (wetted materials: PCTFE, PTFE)
- > Possibility to chose the sense of rotation





MUX DISTRIB		SPECIFICATIONS		
	Port to port switching time (ms)	156 ms		
Performances	Max. supported pressure	7 bar		
	Internal diameter	0.5 mm		
	Input voltage range, AC	100 V to 240 V		
Power supply	AC supply frequency	50 Hz to 60 Hz		
	Max current consumption	2A peak		
	Power consumption (max)	36 W		
	Power supply voltage	18-24V DC		
	Valve type	12 positions / 13 ports rotative valve		
	Fluidic connectors	Standard 1/4-28 UNF, flat-bottom		
Machanical specifications	Operating temperature	5 °C to 40 °C		
Mechanical specifications	Operating humidity	20-70% non condensing		
	Wetted materials	PCTFE and PTFE		
	Dead volume ⁽¹⁾	None		
	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.		
Software	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 DISTRIB DIMENSIONS without connectors (length x width x height): 133 x 156 x 133 mm

Non-contractual information, may be changed without notice.

MUX RECIRCULATION 6-PORT/2-POSITION VALVE

ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-FLOW-CONTROL-SYSTEMS/MUX-RECIRCULATION/

Included in our
RECIRCULATION PACK

ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-APPLICATION-PACKS/ ONE-WAY-RECIRCULATION/



MAKE LONG-TERM EXPERIMENTS EASIER AND MORE RELIABLE



The Recirculation Valve is a **6-port/2 position** microfluidic valve allowing to perform switches between two setup configurations. Applications are: **stable unidirectional fluid recirculation** and **sample injection**.

✓ PRECISE VOLUME INJECTION

✓ LONG RUN RECIRCULATION

APPLICATIONS

- > Cell culture on chip
- > Drug screening
- > Toxicity tests
- > Stem cells assays
- > Organ on chip
- > SPR or TIR imaging coupled with microfluidics
- > Heat sink experiment

UNIQUE PERFORMANCES

- > Recirculate a fluid in a closed loop
- > Port-to-port switching time: **180 ms**
- > High chemical compatibility (wetted materials: PCTFE and PTFE)
- > No sample cross-contamination & no backflow





MUX RECIRCULATION		SPECIFICATIONS
	Port to port switching time (ms)	180 ms
Performances	Max. recommended pressure	7 bar
	Internal diameter	0.5 mm
	Input voltage range, AC	100 V to 240 V
Power supply	AC supply frequency	50 Hz to 60 Hz
	Max current consumption	2A peak
	Power consumption (max)	36 W
	Power supply voltage	18-24V DC
	Valve type	6 ports / 2 positions rotative valve
	Fluidic connector	Standard 1/4-28 UNF, flat-bottom
Machanical enocifications	Operating temperature	5 °C to 40 °C
Mechanical Specifications	Operating humidity	20 to 70 % condensing
	Wetted materials	PCTFE and PTFE
	Dead volume ⁽¹⁾	None
	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.
Software	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): $133 \times 156 \times 133$ mm



Non-contractual information, may be changed without notice.

MUX SERIES **FLOW SWITCH MATRICES**

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/FLOW-CONTROL-SYSTEM/FLOW-MULTIPLEXER

3 UNIQUE FLOW SWITCH MATRICES TO AUTOMATE FLOW HANDLING

CONTROL UP TO 16 VALVES INDEPENDENTLY SMALL FOOTPRINT

outputs

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MUX CROSS CHIP

Stop the flow in microfluidic devices

- > Rocker peek valves
- > Plug & play programmable flow stop
- > Complete equilibrium, stops flow in 100ms
- Ultra low volume injection >
- Internal/external trigger >
- Fluidic connector: 10-32 UNF >

APPLICATIONS: Instantaneous stop flow, small sample injection & sample premixing WETTED MATERIAL: POM, Viton, PEEK, FKM



MUX FLOW SWITCH

Drug switch into microdevices

- Rocker peek valves & PEEK manifold >
- > Plug & play usb software
- No samples cross-contamination & no > backflow
- Flexible: from 4 to 256 valves >
- Internal/external trigger >
- Fluidic connector: 1/4-28 UNF >



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4 inputs

APPLICATIONS: Drug, reagent & cell medium switch for cell biology and flow chemistry WETTED MATERIAL: PEEK, FKM



MUX QUAKE VALVE

Open & close bilayer PDMS valves

- Plug & play programmable valve >
- sequence
- Fast valve switch >
- Fine valve position tuning >
- Flexible: from 16 to 256 peek valves >
- Internal/external trigger >
- Fluidic connector: 10-32 UNF >



common entrances

*hasic mample

MUX SERIES		CROSS CHIP	FLOW SWITCH MATRIX	QUAKE VALVE			
5.4	Valves actuation time	20 ms					
Performances	Max. supported pressure	2 bar (29 PSI)					
Power supply	Input voltage range, AC		100 V to 240 V				
	AC supply frequency		50 Hz to 60 Hz				
	Input current, AC		1 A				
	Power consumption	35 W					
	Safety	IEC/EN 61010-1: 2001					
	Shutting down power supply	disconnect AC/DC adapter					
	Valve type	2/2-way sol	3/2-way solenoid valve				
	Input/output connectors	10-32 UNF 1/4-28 UNF		10-32 UNF			
Mechanical specifications	Wetted materials	POM, Viton, PEEK, FKM	PEEK, FKM	POM, Viton, PEEK, FKM			
	Operating temperature		10 °C to 40 °C				
	Operating humidity	20 to 80 %					
	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.					
Software	Connection type	USB					
	Provided elements	C++, Python, MATLAB* and LabVIEW* libraries					

 $\textbf{MUX SERIES DIMENSIONS} \text{ without connectors (length x width x height): } 220 \times 130 \times 130 \text{ mm} \quad \textbf{TTL TRIGGER: input/output 5 V}$

Non-contractual information, may be changed without notice.

MUX WIRE VALVES & VALVE CONTROLLER

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/FLOW-CONTROL-SYSTEM/MMW-MICROFLUIDIC-MUX-WIRE/

PLUG YOUR VALVES ANYWHERE IN YOUR MICROFLUIDIC SETUP

✓ MIX ALL KINDS OF VALVES

✓ PLUG FROM 1 TO 8 VALVES

✓ EASILY STACK THEM



LOW PRESSURE VALVE 2-WAY OR 3-WAY

2-WAY: Pick default setting: open or closed

- > Compatible with gas or liquid
- > ROCKER[®] valve technology (flow displacement < 10 nL)
- > Low internal volume: 20 μ L & orifice diameter 1.4 mm
- > Wide pressure range: -0.75 bar to 2.5 bar (-11 psi to 37 psi)
- High chemical resistance. Wetted materials: PEEK + FKM + PVDF and on-demand options: (PEEK or PFA) + (EPDM or FKM or Kalrez) + (PFA or PVDF)

HIGH PRESSURE VALVE 2-WAY OR 3-WAY

2-WAY: Pick default setting: open or closed

- > Compatible with gas or liquid
- > ROCKER® valve technology (flow displacement < 10 nL)
- > Low internal volume: 50 µL & orifice diameter: 1.6 mm
- > Wide pressure range: 0 bar to 4.5 bar (0 psi to 65 psi)
- High chemical resistance. Wetted materials: PEEK + FKM + PVDF and on demand options: (PEEK or PFA) + (EPDM or FKM or Kalrez) + (PFA or PVDF)



CUSTOM MANIFOLD

On-demand design

- > We design on demand any fluidic manifold compatible with our valves to meet your requirements.
- For instance, we can provide you with 4/1 valves with 20 ms closing time.



VALVE CONTROLLER

Easily control your microfluidic valves

- > Fast liquid switching
- > Liquid sampling
- > Stop and go flows
- Complex sequences of injection including flushing, rinsing, and sequential injection of several liquids

MICROFLUIDIC 2-WAY VALVE





TECHNICAL SPECIFICATIONS

VALVES		VALVES DESIGN	
Low pressure valve -0.75 bar to 2.5 bar (-11 psi to 37 psi) With casing - Fittings: 1/4-28"2 20ms actuation time	2-way Normally open	2-way Normally closed	3-way
High pressure valve 0 bar to 4.5 bar (0 psi to 65 psi) Without casing - Fittings: 10-32" 20ms actuation time	2-way Normally open	2-way Normally closed	3-way
Wetted materials (all valves)	on demand options:	PEEK + FKM + PVDF (PEEK or PFA) + (EPDM or FKM or Ka	lrez) + (PFA or PVDF)

VALVES 2/2 & 3/2 DIMENSIONS without connectors (length x width x height): 19 x 30 x 115 mm BASE: 62 x 62 mm

VALVE CONTROLLER	SPECIFICATIONS
Number of controlled valves	8
Bus interface	USB 2.0
Power supply	24 VDC, 1.5 A
Max total power (sum of the power of all connected valves)	35 W
Max valve power	10 W
Valve connectors	MICRO USB

Non-contractual information, may be changed without notice. VALVE CONTROLLER DIMENSIONS without connectors (length x width x height): 128 x 81.5 x 31 mm WEIGHT: 251 g TTL TRIGGER: input/output 5 V







PRODUCTS MEASUREMENT & DETECTION



MFS THERMAL BASED FLOW SENSOR

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/MICROFLUIDIC-FLOW-CONTROL-MODULE/MICROFLUIDIC-LIQUID-MASS-FLOW-SENSORS/



HIGH-ACCURACY FLOW MONITORING AND CONTROL



High accuracy liquid volumetric flow sensors for **ultra low flow rate monitoring**. The thermal based flow sensor comes with an M8 4 pin electrical connection, it can be controlled directly through the Elveflow software.

✓ 5 FLOW RATE RANGES

✓ HIGH CHEMICAL COMPATIBILITY

UNIQUE PERFORMANCES

- Calibrated flows from 0.07 µL/min to 5,000 µL/min
- > Sensor response time: 40 ms
- > Resolution down to 1.5 pL/s
- > Wetted materials: glass or quartz

PRINCIPLE



- Couple with an OB1 flow controller for direct flow rate control
- > Bi-directional flow rate measurement (positive & negative)



WITH ELVEFLOW FLOW CONTROLLERS: MONITORING + CONTROL

Microfluidic pump Flow controller **AF1 SERIES** OB1 MK3+ ∿″\∿/ Microfluidic flow sensor Microfluidic flow sensor MFS SENSOR 1 MFS SENSOR Microfluidic chip Microfluidic chip 1 Pressurized reservoir Pressurized reservoir Sample Sample

WITH SENSOR READER: MONITORING



TECHNICAL SPECIFICATIONS



MFS FLOW SENSORS	MFS 1	MFS 2 MFS 3		MFS 4		MFS 5		
Media calibration	water / aqueous solutions	water / aqueous solutions	IPA	water / aqueous solutions	IPA	water / aqueous solutions	IPA	water / aqueous solutions
Flow rate range	0 to ± 1.5 μL/min	0 to ± 7 μL/min	0 to ± 70 μL/min	0 to ± 80 μL/min	0 to ± 500 μL/min	0 to ± 1 mL/min	0 to ± 10 mL/min	0 to ± 5 mL/min
Accuracy m.v measured value	7 nL/min between [0 to 75] nL/min	20 nL/min between [0 to 0.42] μL/min	210 nL/ min between [0 to 4.2] µL/min	120 nL/ min between [0 to 2.4] μL/min	5 μL/min between [0 to 25] μL/min	2 μL/min between [0 to 0.04] mL/min	100 μL/ min between [0 to 0.5] mL/min	10 μL/min between [0 to 200] μL/min
(bi-directional)	10 % m.v. between [75 to 1,500] nL/min	5 % m.v. between [0.42 to 7] μL/min	20 % m.v. between [4.2 to 70] μL/min	5 % m.v. between [2.4 to 80] μL/min	20 % m.v. between [25 to 500] μL/min	5 % m.v. between [0.04 to 1] mL/min	20 % m.v. between [0.5 to 10] mL/min	5 % m.v. between [0.2 to 5] mL/min
Repeatability	0.9 nL/min between [0 to 80] nL/min	3.5 nL/ min between [0 to 0.7] μL/min	7 nL/min between [0 to 0.7] μL/min	8 nL/min between [0 to 1.4] μL/min	0.25 μL/ min between [0 to 25] μL/min	0.2 μL/ min between [0 to 0.04] mL/min	5 µL/min between [0 to 0.5] mL/min	1 µL/min between [0 to 0.2] mL/min
applies to negative values (bi-directional)	<1% m.v. between [80 to 1,500] nL/min	0.5 % m.v. between [0.7 to 7] μL/min	1 % m.v. between [0.7 to 70] μL/min	0.5 % m.v. between [1.4 to 80] μL/min	1 % m.v. between [25 to 500] µL/min	0.5 % m.v. between [0.04 to 1] mL/min	1 % m.v. between [0.5 to 10] mL/min	0.5 % m.v. between [0.2 to 5] mL/min
Pressure drop at full scale flow rate, 23 °C	1 bar	3 mbar	60 mbar	1 mbar	7 mbar	< 1 mbar	5 mbar	< 1 mbar
Total internal volume	1 µL	1.5	μL	5	μL	25	μL	80 µL
Sensor inner diameter	25 µm	150	μm	430) µm	1.0	mm	1.8 mm
Tubing inner length				29	mm			
Operating pressure	20	0 bar		100 bar		15 bar		15 bar
Burst pressure	400 bar 200 bar			bar	30	bar	30 bar	
Microfluidic fitting type	UNF 1/4-28							
Wetted material	PEEK							
Internal sensor capillary material	Quartz Borosilicate glass				ate glass			

ELECTRICAL INPUT: 8V = - - 7 mA ANALOG OUTPUT: 0 - 5 V FLOW SENSOR SIZE (length x width x height): 58 x 52 x 23 mm WEIGHT: 102 g

Non-contractual information, may be changed without notice.

 Excellent chemical resistance and bio-compatibility are ensured
 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 5mL/min
 The operating temperature is +10°C to +50°C

 The product comes fully calibrated for water
 The flow sensor shows bi-directional and linear transfer characteristics

 Flow calibration for methanol or other media is available on request (all data for medium H2O, 20°C, 1 bar unless otherwise noted)
 The flow sensor shows bi-directional and linear transfer characteristics

BFS **CORIOLIS BASED FLOW SENSOR**

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/MICROFLUIDIC-FLOW-CONTROL-MODULE/MICROFLUIDIC-FLOW-SENSOR-CORIOLIS/



COMPATIBLE WITH ALL LIQUIDS: WATER, OIL, ALCOHOL, MIXTURE... WITH 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 (no calibration needed).

COMPATIBLE WITH ALL LIQUIDS & GAS

✓ NO CALIBRATION NEEDED

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)

APPLICATIONS

- Coumpound semiconductor processing >
- Solar cell and FDP technology >
- Food and pharmaceutical industries >
- Medical microchemical or analytical > installations
- Calibration laboratories >



PRINCIPLE

WITH ELVEFLOW FLOW CONTROLLERS: MONITORING + CONTROL



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			I	I	
Mass flow accuracy liquids	down to \pm 2 % of measured value		down to \pm 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⁾	< ± 0.0	1 g/h	< ± 0.2 g/h	< ± 6 g/h	
Density accuracy		< ± 5	kg/m³		
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		07	0 °C		
Response time (t 98 %)	0.2 s to fill the tubing then 35 ms				
MECHANICAL PARTS					
			Stainless steel 31	6 L or comparable	
Wetted material	Stainless steel 316	5 L or comparable	Optional: Hastelloy-C22	Optional: Hastelloy-C23	
Pressure rating	200	bar	200 bar; higher on request		
Sensor inner diameter	250	μm	0.5 mm	1.3 mm	
Suitable tubings	1/1	6"	1/16" (1/8"	on request)	
Internal volume	13	μ	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.

WITH EXTERNAL EQUIPMENT: MONITORING

TOTAL ERROR = ACCURACY READING ± [(ZERO STABILITY / FLOW) X 100] [% READING] m.v. - measured value











FLOW SENSORS Comparison	BFS (1 & 1+)	, MFS
Accuracy	0.2 % of measured value ⁽¹⁾	5 % of measured value
Range	One sensor for 1.6 µL/min to 3 mL/min	Five sensors from 10 nL/min to 5 mL/min
Negative flow measurement	Yes	Yes
Supported fluid types	All without calibration	All with calibration
Response time	35 ms ⁽²⁾	From 1 to 70 ms ⁽³⁾
Flow sensor size	65 x 32 x 144 mm	58 x 53 x 23 mm
Internal diameter	250 µm	From 25 µm to 1.8 mm (4)
Weight	3 kg	100 g
Connectors	1/16" OD tubing	1/16" OD tubing
Internal volume	13 µL	From 1 μL to 80 μL ⁽⁴⁾
Wetted material	Stainless steel 316L or comparable	Glass or Quartz
Principle	Coriolis	Thermal
Computer connection	Directly via USB to the computer	Directly on the OB1 and the AF1 or with the Sensor reader MSR
Additional features	Temperature and density measurement	

Non-contractual information, may be changed without notice. (1) Available upon request. 2 % accuracy for the regular model

(2) 0.2 s at 98 % (spec) to fill the tubing then 35 ms with temperature measurement

(3) Depending on chosen digital resolution

(4) Depending of the sensor range

MPS LOW VOLUME PRESSURE SENSOR

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/MICROFLUIDIC-FLOW-CONTROL-MODULE/MICROFLUIDIC-LIQUID-FLOW-THROUGH-PRESSURE-SENSOR/



MEASURE AND CONTROL PRESSURE ANYWHERE IN YOUR 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. Monitor **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
- > Internal volume: 7 µL
- > Settling time: 20 ms
- > Works with both liquid & gas

APPLICATIONS

> You can plug our pressure sensor anywhere within your microfluidic setup, record the pressure on your computer and adjust it accordingly using our pressure pumps.



OUR PRESSURE SENSORS WORK AS GAUGE PRESSURE SENSORS,

measuring positive and negative pressure relatively to atmospheric pressure.

MICROFLUIDIC Sensor	PRESSURE	MPS 0	MPS 1	MPS 2	MPS 3	MPS 4
Pressure rang	le	-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 ove	rpressure	20 psi	20 psi	45 psi	60 psi	200 psi
Pressure accu	ıracy liquids	up to ± 0.5 % of max range	up to ± 2 % of max range		up to ± 0.2 % of max range	
Linearity	Typical	0.25	0.4	0.25	0.1	0.4
%span	Max.	0.5	0.5	0.5	0.2	0.6
Repeatability & hysteresis± 3.0± 0.%span± 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.



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 PRESSURE CONTROLLERS: MONITORING + CONTROL



WITH SENSOR READER: MONITORING



www.elveflow.com contact@elveflow.com +33(0).184.163.807

MFP LUER-LOCK PRESSURE SENSOR

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/MICROFLUIDIC-FLOW-CONTROL-MODULE/MFP-MICROFLUIDIC-INLINE-PRESSURE-SENSOR/



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

✓ HIGH CHEMICAL COMPATIBILITY

✓ UP TO 16 BAR

UNIQUE PERFORMANCES

- > Accuracy up to 2 % FS
- > 1 ranges 0 16 bar Overlay 25 bar
- > No dead volume
- > Flow rate up to 100 mL/min
- > Versatile: works with gas & liquid

APPLICATIONS

> You can plug our pressure sensor anywhere within your microfluidic setup, record the pressure on your computer and adjust the pressure or flow accordingly using our pressure pumps.



WIDE MEDIA COMPATIBILITY

(material in contact: FFKM) FDA-certified and therefore, suitable for food industry use.

LUER-LOCK PRESSURE SENSOR	SPECIFICATIONS
Maximum flowrate ⁽¹⁾	100 mL/min
Pressure range	0 to 16 bar
Power supply	12 to 30 VDC
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

(1) Depends on the viscosity and primary pressure of the medium

SENSOR SIZE (length): 31.2 mm

Non-contractual information, may be changed without notice.

OUR PRESSURE SENSORS WORK AS GAUGE PRESSURE SENSORS,

measuring pressure relatively to atmospheric pressure.

WITH ELVEFLOW FLOW CONTROLLERS: MONITORING + CONTROL



WITH SENSOR READER: MONITORING



MBD MICROFLUIDIC BUBBLE DETECTOR

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/MICROFLUIDIC-FLOW-CONTROL-MODULE/MICROFLUIDIC-LIQUID-SENSOR/



The sensor is able to **detect the presence of fluids inside clear tubing**, **trigger a signal to another instrument** and act accordingly - such as stop, wait a certain amount of time, allow enough flow to clear the tubing, or reset the sensor.

✓ BUBBLE MONITORING

✓ LIQUID INTERFACES DETECTION

APPLICATIONS

- > Bubble detection
- > Liquid level sensing
- > Blood processing equipment
- > Patient connected medical devices
- > Perform bilateral recirculation based on air detection

UNIQUE PERFORMANCES

- > Cost-effective compared to camera
- > Based on true/false logic
- > Reliable non invasive technique
- Prevents damage in cells with bubble bursts
- > The microfluidic bubble detector comes in two different casings suited to the use with 1/16" or 1/4" outside diameter tubes

DETECTION MODULE SIZE (length x width x height): 68 x 29 x 33 mm AMPLIFICATION MODULE SIZE: 69 x 59 x 22 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

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/MICROFLUIDIC-FLOW-CONTROL-MODULE/MSR-MICROFLUIDIC-SENSOR-READER-V2/



AN ACQUISITION INTERFACE FOR ALL 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 1 kHz
- > From 9 to 16 bits resolution
- > Real-time control & feedback loops
- > Read simultaneously up to 4 sensors

APPLICATIONS

- > The Sensor Reader can be used to monitor flow rate, pressure, or other physical parameters on any type of flow control instrument (syringe pump, peristaltic pump, perfusion, pressure controller)
- It embeds two independent power supplies which allows the use of a wide variety of sensors simultaneousy, functionning with different voltages for their power supply

SENSOR READER UNIT		SPECIFICATIONS		
Number of sensors		4		
Sensor connectors		M8 female (4 pins)		
USB reading current min - max		100 mA - 500 mA		
Sensor power supplies voltage (2 power supplies tunable independently each of which feeding 2 sensors)		5 - 25 V		
Total power on the 4 channels		0.9 W		
SENSOR INPUTS				
Impedance		1 ΜΩ		
Acquisition frequency	1 Khz			
Acquisition resolution	from 9 to 16 bits			
Input range	0 - 10 V	0 - 5 V	0 - 1 V	
Resolution (1 bit)	5 mV	2.5 mV	0.5 mV	
Noise (full band)	5 mV rms	2.5 mV rms	0.5 mV rms	
ANALOG LOW-PASS FILTER FUNCTION CHARACTERISTICS				
Cutoff frequency	60 Hz			
Filter order	3			

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.

ESI ELVEFLOW SOFTWARE

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/FLOW-CONTROL-SYSTEM/ELVEFLOW-SOFTWARE/

ESI – ELVEFLOW SMART INTERFACE A UNIQUE SOFTWARE FOR ALL INSTRUMENTS

DIRECTLY INPUT FLOW RATE CUSTOM FLOW PROFILE ADVANCED WORKFLOW AUTOMATION



The **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 scheduler.

The ESI microfluidic software makes many applications easy, such as: generation of continuous fluid streams, dosing of volumes, generation of dynamic flow profiles, Optomicrofluidic control, and many more...



National Instrument is our technological partner for embedded electronics

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



APPLICATION PACKS **ELVEFLOW PACKS**

ELVEFLOW.COM/MICROFLUIDIC-FLOW-CONTROL-PRODUCTS/MICROFLUIDIC-APPLICATION-PACKS/



ELVEFLOW APPLICATION PACKS

Our Applications Packs are **all-in-one solutions** which include everything you need to perform your microfluidic experiments successfully. Our **many configurations available** ensure that you get a microfluidic setup perfectly fitted to your needs.

https://www.elveflow.com/microfluidics-application-packs

DROPLET GENERATION PACK

Flow control and chip for droplet generation straight out of the box



All the required parts for researchers' needs to start making droplets and emulsions out of the box. It brings the many benefits of microfluidics, such as excellent **monodispersity**, **reproducibility** and **scalability** to your daily work in order to achieve great science. https://www.elveflow.com/microfluidics-application-packs/microfluidics-packs/easy-droplet-generation/

ALGINATE BEADS GENERATION PACK

All you need to know to perform monodisperse hydrogel particle production (PDI < 5 %)



This pack contains one pumping channel to flow the aqueous alginate phase and another pumping channel to push the continuous oil phase through our droplet generation chip, enabling the generation of **alginate droplets in oil.** https://www.elveflow.com/microfluidics-application-packs/nanoparticles-packs/easy-microfluidic-alginate-beads-generation-pack/

CELL & BIOLOGY PACK

Liquid handling for cell-based experimentations



All the necessary elements to create a **continuous flow** and monitor flow rate applied on the cells. Ideal for experiments requiring switches between different cell culture mediums. A computer-controlled valve allows sequential injections (up to 10 different solutions, more on demand). https://www.elveflow.com/microfluidics-application-packs/biology-packs/perfusion-for-cells-and-biology/

ORGAN-ON-A-CHIP PACK

Flow control and chip solution for organ-on-chip experiments



A full microfluidic system for Organ-On-Chip experiments. This fully integrated solution contains all the required microfluidic parts for researchers to reproduce numerous characteristics of the in vivo environment of cells and tissues. https://www.elveflow.com/microfluidic-products/microfluidics-application-packs/organ-on-a-chip-pack/

MICROFLUIDIC STARTER PACK

All-in-one solution to discover microfluidics



All necessary elements for you to start your own microfluidic experiments. This **easy-to-use system** covers the majority of microfluidics researchers' needs. It is fully compatible with the whole Elveflow product range, enabling you to upgrade your system as your needs grow. https://www.elveflow.com/microfluidic-products/microfluidics-application-packs/starter-pack/

MICROFLUIDIC RECIRCULATION PACK

Full system for continuous unidirectional recirculation experiments



A complete system which enables automatic re-use and unidirectional recirculation of liquids in microfluidic experiments. It brings the many benefits such as **pulseless smooth flow, reproducibility, accurate and precise flow rate control.** It enables full automation of week-long experiments with limited media volumes or more advanced applications such as the modeling of complex biological flow patterns.

SEQUENTIAL FLUID INJECTION PACK

Quickly switch between up to 12 fluids at a controlled flow rate



This pack is dedicated to any system that requires to **quickly swap between several solutions while maintaining a precise flow rate**. This makes it a perfect fit for **biosensors**, **biochemical sensors or electrochemical sensors test rigs**, flow chemistry, Seq-Fish, drug testing applications, and many more...

https://www.elveflow.com/microfluidic-products/microfluidics-application-packs/sequential-fluid-injection-pack/

LIPID NANOPARTICLE SYNTHESIS PACK

All you need to generate liposome and lipid nanoparticles



All the parts needed to easily synthesize your lipid nanoparticles with high monodispersity, production rate and reproducibility for the optimal encapsulation of your mRNA or siRNA molecules.

ACCESSORIES ELVEFLOW ACCESSORIES

ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-ACCESSORIES/



To order Elveflow Accessories, you can contact us directly for any quote or tech support request, or to place a purchase order, because the Elveflow accessories team is always ready to make your experience with us a pleasure. Alternatively, you can browse the Elveflow Accessories product line on Darwin Microfluidics and order online. Darwin Microfluidics is our new online reseller, so go check it out!

MICROFLUIDIC ACCESSORIES

MICROFLUIDIC RESERVOIRS BUBBLE REMOVER RESERVOIR XXS ON CHIP 4 TUBES HOLDER PRESSURIZED AIR SOURCE VACUUM GENERATOR KIT FITTINGS STARTER PACK LUER KIT FITTINGS STARTER PACK LUER KIT FITTINGS STARTER PACK PUSH IN MANIFOLD 9 PORTS PTFE TUBING 1/16" OD X 1/32" ID, 50M REMOTE FLOW CONTROL PRESSURE SOURCE VACUUM SOURCE



NEW AND IMPROVED PEEK BUBBLE TRAP



✓ AUTOCLAVABLE & LEAK-RESISTANT
 ✓ EASILY REPLACEABLE MEMBRANE

This improved version of Elveflow's bubble trap is now autoclavable, thanks to the use of PEEK (Polyetheretherketone). Three internal volume versions are available: 23 μ L (S), 95 μ L (M), 362 μ L (L).

RESERVOIRS TECHNICAL SPECIFICATIONS



Volume	2 ports	4 ports	
800 µL	NA	NA	
1.5 - 2 mL	available	not available	
15 mL	available	available	
50 mL	available	available	
100 mL	available	available	
150 mL	available	not available	
	Volume 800 μL 1.5 - 2 mL 15 mL 50 mL 100 mL 150 mL	Volume2 ports800 µLNA1.5 - 2 mLavailable15 mLavailable50 mLavailable100 mLavailable150 mLavailable	

Non-contractual information, may be changed without notice.

RESERVOIRS SPECIFICATIONS DEDICATED TO THE OB1 PRESSURE CONTROLLER

PRESSURIZED	OB1 PRESSURE CHANNEL RANGES					
TANK VERSION	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	~	~	~	~	~	
М	✓	~	~	~	~	
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

EPS PRESSURE SOURCE

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



A **COMPACT** AND **LIGHT** PRESSURE SOURCE



An **oil-free** pressure source to ease the integration in a laboratory environment thanks to its small footprint and integrated tank.

\checkmark	PORTABLE	
	EASY-TO-USE	

UNIQUE PERFORMANCES

- > Positive pressure 2 bar
- > Low noise level <53 dB
- > Small footprint 2kg

APPLICATIONS

- > This pressurized air source is ideal to supply compressed air to a pressure regulator such as the OB1.
- > The steady pressure over 2000 mbar makes it the perfect complementary pressure supply for up to 2 channels 2 bar or 200 mbar OB1 pressure regulators.



OTHER PRESSURE GENERATOR: PRESSURIZED AIR SOURCE (KCP-230/120)



ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-ACCESSORIES/AIR-PRESSURE-GENERATOR/

A CLEAN PRESSURIZED AIR SOURCE

This **lubricated air compressor** is a powerful alternative to laboratory gas line supplies. The in-built 5 μ m oil filter prevents microdroplets from entering into the instruments. In addition, anticorrosion treatments of the receiver and long-life synthetic oil utilization makes this pressurized air source the most robust companion for **pressure-driven control** in laboratories.

TECHNICAL SPECIFICATIONS COMPARISON

KCP & EPS

		KCP-230 / KCP-120	PRESSURE SOURCE (EPS)	
	Max pressure	8 bar (120 psi)	3 bar (44 psi)	
Performances	Air flow rate (at operating pressure)	11 L/min	1.5 L/min (at 2 bar)	
	Noise level	<35 dB	<53 dB	
	Dimensions (without connectors, cm)	38.4 x 33.3 x 34.2	16.1 x 19.4 x 19.5	
	Weight	18 Kg	2 Kg	
Machanical enocifications	Pneumatic connection	6mm push-in		
Mechanical specifications	Internal receiver volume	4 L	350 mL	
	Operating temperature	-	5-40 °C	
	Operating humidity	-	Up to 80%	
	Input voltage range	-	24 V	
	AC supply frequency	50-60 Hz		
Electrical specifications	Power supply voltage	100-240 VAC		
	Max current consumption	0.9 A	1.5 A (typical: 0.8 A)	
	Max power consumption	-	36 W	

Non-contractual information, may be changed without notice.

EVS VACUUM SOURCE

ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-ACCESSORIES/NOISELESS-VACUUM-SOURCE/



A **COMPACT** AND **LIGHT** VACUUM SOURCE



An **oil-free** vacuum source to ease the integration in a laboratory environment thanks to its small footprint and integrated tank.

PLUG&PLAY	
SMALL FOOTPRINT	

UNIQUE PERFORMANCES

- > Negative pressure -850 mbar
- > Low noise level <51 dB
- > Small footprint 1.4 Kg

APPLICATIONS

- This pressurized air source is ideal to supply vacuum to a pressure regulator such as the OB1.
- > The steady pressure of 2000 mbar makes it the perfect completementary vacuum supply for 0-200 mbar or 0-2000 mbar OB1 pressure regulators.







ELVEFLOW.COM/MICROFLUIDIC-PRODUCTS/MICROFLUIDICS-ACCESSORIES/VACUUM-GENERATOR/

A **HIGH EFFICIENCY** VACUUM PUMP

This **high accuracy** microfluidic vacuum source generates negative pressure for microfluidic flow control without installation/connection of any instrument. The **anticorrosive coating** of the receiver ensures a long lifespan of the instruments.

TECHNICAL SPECIFICATIONS COMPARISON

KVP & EVS

		KVP-230 / KVP-110	VACUUM SOURCE (EVS)	
	Vacuum pressure (relative)	-980 mbar (-15 psi)	-850 mbar (-13 psi)	
Desfermences	Vacuum pressure (absolute)	20 mbar (0.1 psi)	150 mbar (2.3 psi)	
Performances	Pumping speed	18 L/min	8 L/min at 0 bar	
	Noise level	<42 dB	<53 dB	
	Dimensions (without connectors, cm)	30 x 17 x 24	14 x 18 x 14	
	Weight	3 Kg	1.4 Kg	
Machanical charifications	Pneumatic connection	6mm push-in		
Mechanical specifications	Internal receiver volume	-	250 mL	
	Operating temperature	-	5-40 °C	
	Operating humidity	-	Up to 80%	
	Input voltage range	-	24 V	
	AC supply frequency	-	50-60 Hz	
Electrical specifications	Power supply voltage	100-240 vac		
	Max current consumption	-	1.5 A (typical: 0.8 A)	
	Max power consumption	140 W	36 W	

Non-contractual information, may be changed without notice.

PLUG & PLAY MICROFLUIDICS

GENERAL INFORMATION contact@elveflow.com +33(0).184.163.807

www.elveflow.com

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