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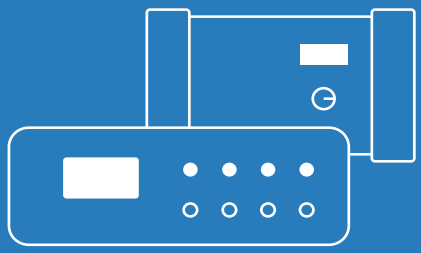
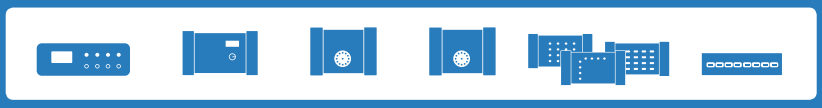
ELVE FLOW
PLUG & PLAY MICROFLUIDICS



MUX SERIES



PRODUCTS

FLOW CONTROL SYSTEMS

MUX DISTRIB

10-WAY BIDIRECTIONAL VALVE

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

A ROTATIVE VALVE DESIGNED TO EASILY EXECUTE FAST MEDIUM SWITCHES

The Sequential Injection Valve is a **bidirectional 11-port/10 way** which can be used as a selector to inject sequentially one liquid sample into **ten different lines** or ten liquid samples into one line.

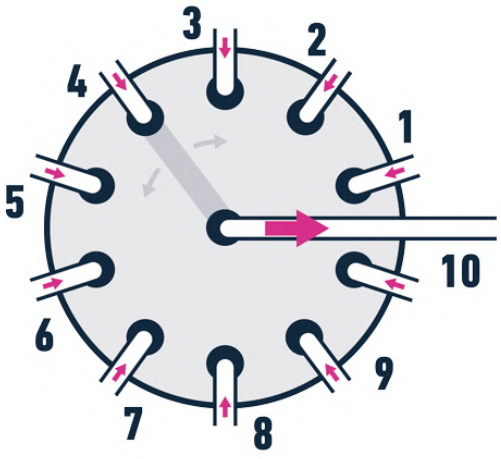
- ✔ **INJECTION OF UP TO 10 LIQUIDS**
- ✔ **NO CROSS CONTAMINATION**

UNIQUE PERFORMANCES

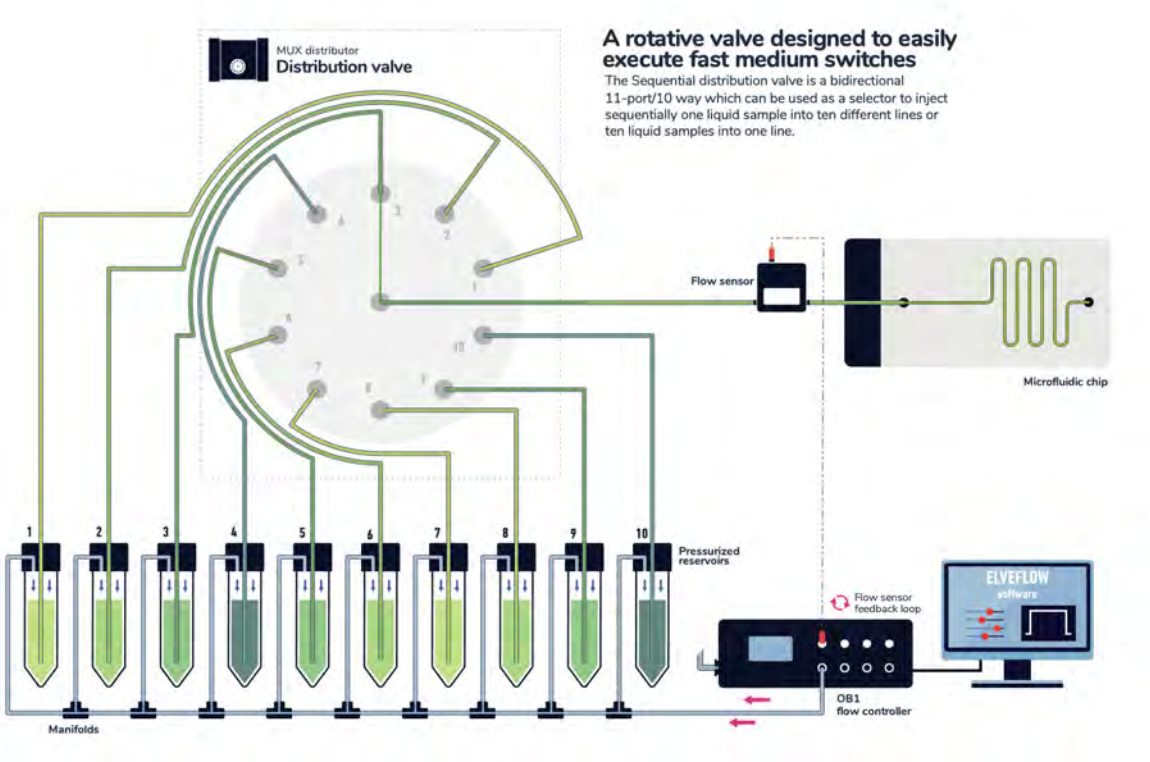
- > Typical mechanical response time for port-to-port movement **280 ms**
- > Stands up to **9 bar**
- > Low total internal volume: **11.6 µL**
- > **High chemical compatibility** (wetted materials: PCTFE and UHWMPE)

APPLICATIONS

- > Cell culture on chip
- > Cell response to medium change
- > Drug screening
- > Toxicity tests
- > Stem cells assays
- > Reagent switch for flow chemistry



HOW IT WORKS



TECHNICAL SPECIFICATIONS

MUX DISTRIB		SPECIFICATIONS
Performances	Valves actuation time	280 ms
	Max. supported pressure	9 bar (125 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
Mechanical specifications	Valve type	10 positions / 11 ports rotative valve
	Input/output connectors	1/16 or 1/8 fitting-less tubing connection system
	Operating temperature	10 °C to 40 °C
	Operating humidity	20 to 80 %
	Wetted materials	PCTFE and UHWMPE
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

MUX DISTRIB DIMENSIONS without connectors (length x width x height): 160 x 76 x 117 mm

Non-contractual information, may be changed without notice.

MUX INJ

6-PORT/2-POSITION BIDIRECTIONAL VALVE

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

MAKE LONG TERM **EXPERIMENTS** EASIER AND MORE RELIABLE

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

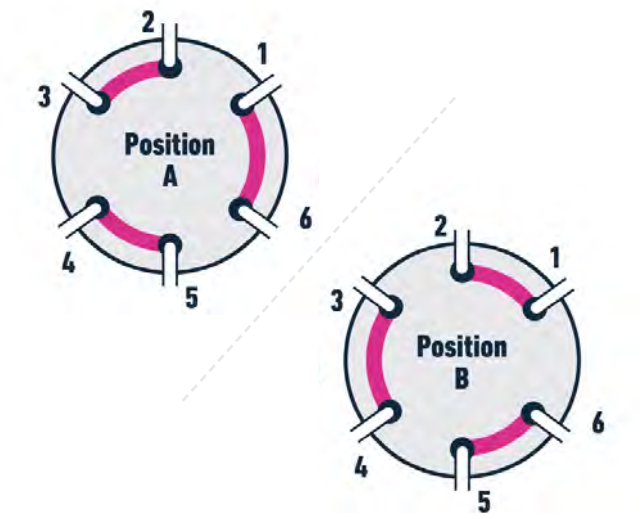
- ✔ **PRECISE VOLUME INJECTION**
- ✔ **LONG RUN RECIRCULATION**

UNIQUE PERFORMANCES

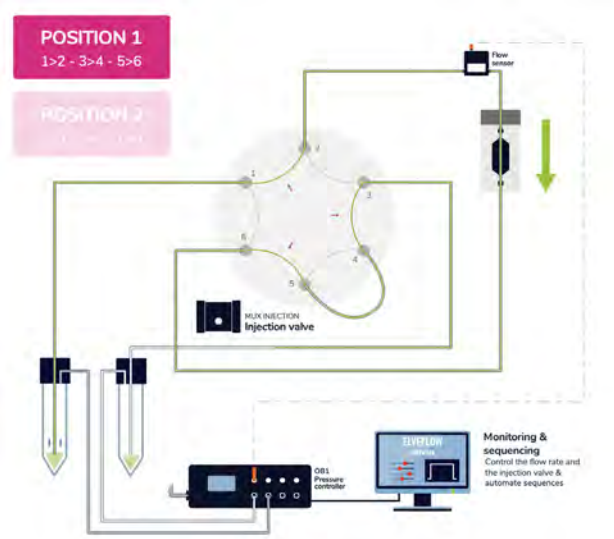
- Low port-to-port volume: **660 nL**
- Port-to-port switching time: **100 ms**
- **High chemical compatibility** (wetted materials: PCTFE and UHWMPE)
- No sample **cross-contamination** & **no backflow**

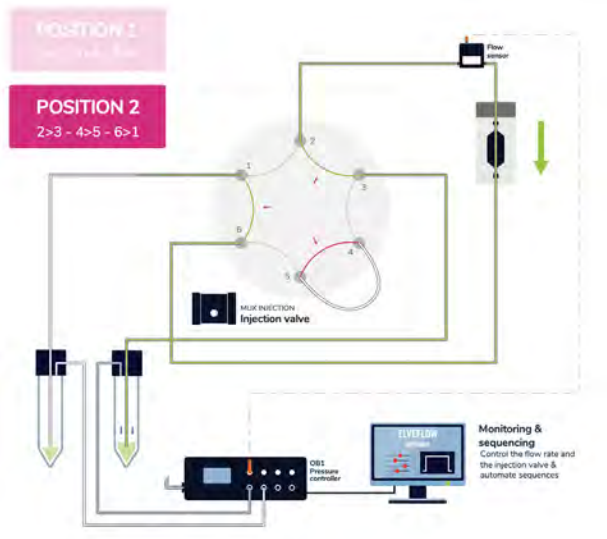
APPLICATIONS

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



HOW IT WORKS





TECHNICAL SPECIFICATIONS

MUX INJ		SPECIFICATIONS
Performances	Valves actuation time	100 ms
	Max. supported pressure	9 bar (125 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
Mechanical specifications	Valve type	6 positions / 7ports or 10 positions / 11 ports rotative valve
	Input/output connectors	1/16 or 1/8 fitting-less tubing connection system
	Operating temperature	10 °C to 40 °C
	Operating humidity	20 to 80 %
	Wetted materials	PCTFE and UHWMPE
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.

MUX INJ DIMENSIONS without connectors (length x width x height): 160 x 76 x 117 mm

MUX SERIES

FLOW SWITCH MATRICES

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

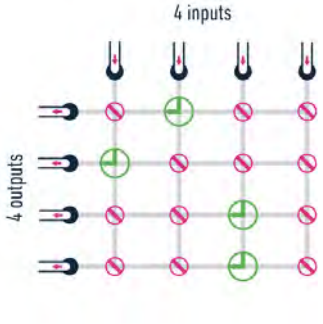
3 UNIQUE FLOW SWITCH MATRICES TO AUTOMATE FLOW HANDLING

- ✔ CONTROL UP TO 16 VALVES INDEPENDENTLY
- ✔ SMALL FOOTPRINT

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



APPLICATIONS: Instantaneous flow stop, 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

ON / OFF VALVES

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

APPLICATIONS: PDMS microvalves & micropumps and cell confinement device control
WETTED MATERIAL: POM, Viton, PEEK, FKM

TECHNICAL SPECIFICATIONS

MUX SERIES		CROSS CHIP	FLOW SWITCH MATRIX	QUAKE VALVE
Performances	Valves actuation time	20 ms		
	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		
Mechanical specifications	Valve type	2/2-way solenoid valve		3/2-way solenoid valve
	Input/output connectors	10-32 UNF	1/4-28 UNF	10-32 UNF
	Wetted materials	POM, Viton, PEEK, FKM	PEEK, FKM	POM, Viton, PEEK, FKM
	Operating temperature	10 °C to 40 °C		
	Operating humidity	20 to 80 %		
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.

MUX SERIES DIMENSIONS without connectors (length x width x height): 220 x 130 x 130 mm **TTL TRIGGER:** input/output 5 V

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 KIND 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 µL & 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

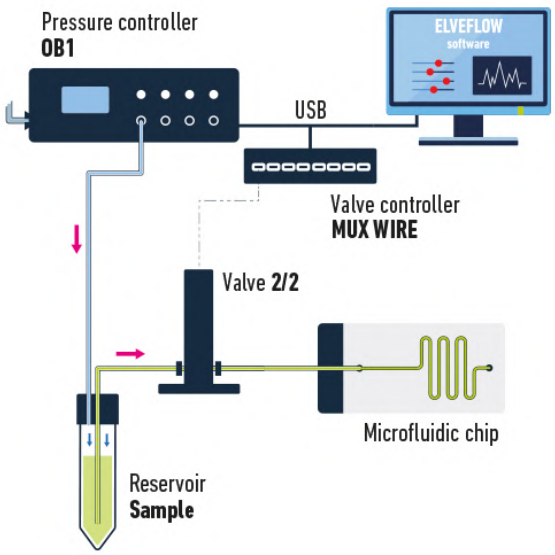
- > We design on demand any fluidic manifold compatible with our valves to meet your requirements.
- > For instance, we can provide you with 4/1 valves with 20 ms closing time.

VALVE CONTROLLER

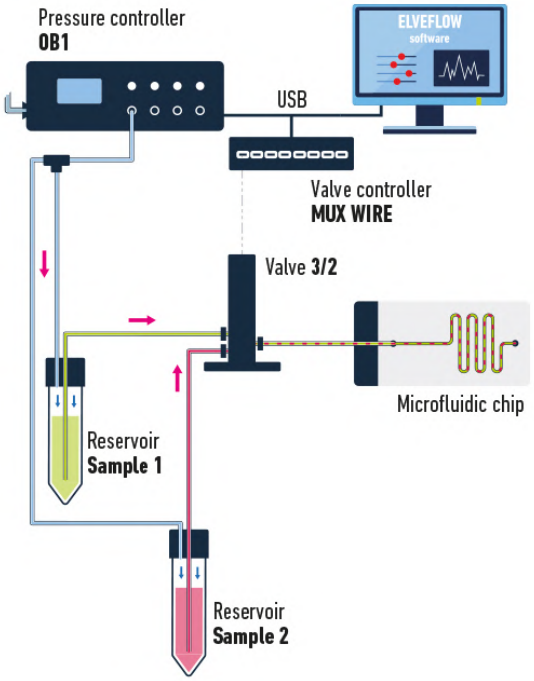
Easily control your microfluidic valves

- > 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



MICROFLUIDIC 3-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-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"	2-way Normally open	2-way Normally closed	3-way
Wetted materials (all valves)	PEEK + FKM + PVDF on demand options: (PEEK or PFA) + (EPDM or FKM or Kalrez) + (PFA or PVDF)		

Non-contractual information, may be changed without notice.

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