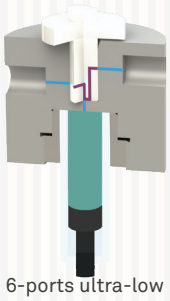
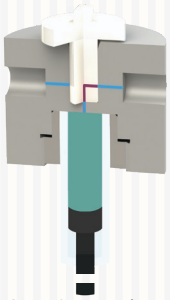
The all-in-ONE laboratory pump



6-ports ultra-low carryover volume



6- or 8-ports low carryover volume

Valves Specifications

REF.	CONFIGURATION	WETTED MATERIALS	INTERNAL VOLUME	CARRYOVER VOLUME	FLUID PATH DIAMETER	MAX. PRESSURE
VD2-6-050	6-ports ultra-low carryover volume	PCTFE, PTFE	5.2 µL	1.5 µL	0.5 mm	5 bars
VD1-6-050	6-ports low carryover volume	PCTFE, PTFE	3.5 µL	2.6 µL	0.5 mm	5 bars
VD1-8-050	8-ports low carryover volume	PCTFE, PTFE	3.5 µL	2.6 µL	0.5 mm	5 bars
VD1-8-100	8-ports low carryover volume	PCTFE, PTFE	14.1 µL	10.2 µL	1 mm	5 bars

Other configurations are available upon request.

Syringes Specifications

REFERENCE	VOLUME	PLUNGER MATERIAL	MIN. FLOW RATE	MAX. FLOW RATE	MIN. DOSING VOLUME
S25-P	25 µL	PTFE	0.25 µL/min	750 µL/min	0.05 µL
S50-P	50 µL	PTFE	0.5 µL/min	1 500 µL/min	0.1 µL
S100-P or S100-U	100 µL	PTFE or UHMW-PE	1 µL/min	3 000 µL/min	0.2 µL
S250-P or S250-U	250 µL	PTFE or UHMW-PE	2.5 µL/min	8 000 µL/min	0.5 µL
S500-P or S500-U	500 µL	PTFE or UHMW-PE	5 µL/min	15 000 µL/min	1 µL
S1000-P or S1000-U	1000 µL	PTFE or UHMW-PE	10 µL/min	30 000 µL/min	2 µL

Chemical compatibility The wetted materials being PTFE, PCTFE and borosilicate glass, the pump offers an exceptional compatibility to most chemicals and biological samples.

The adjacent tables give the technical specifications, which allow you to assess compatibility with your application.

Pump Specifications

Operating temperature	5-40°C (41-104°F)
Operating humidity	20-80%, non condensing
Max. pressure	5 bars (72 psi)
Wetted materials	PTFE, PCTFE and borosilicate glass
Dead volume	None
Carryover volume	1.5 - 10.2 µL
Plunger travel	30 mm with 96'000 micro-steps for nearly pulseless flow
Plunger resolution	Selectable 3'000 steps (standard) / 24'000 steps (high)
Plunger drive	Screw drive with linear encoder for step loss detection
Valves configuration	Zero dead-volume multi-port distribution with angular encoder
Tube port fittings	Standard 1/4-28 UNF, flat-bottom
Cross-contamination	Typically from 1/100 to 1/1000 per cleaning cycle
Accuracy	< 1% deviation from expected value at full stroke
Interface	USB mini, RS-232, RS-485
Communication type	Serial, I2C (other upon request)
Power	18 - 24 VDC, 2.2 A peak, 40 W / 18 VDC optimised for battery use
Time for full stroke	2 to 3'000 seconds
Dimensions	245 x 143 x 85 mm
Weight	2.2kg
Graphical user interface	MS Windows 7 and later vers., MAC OSX
Certifications	CE and CB certified

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Advanced
MicroFluidics

LSPone

THE PUMP THAT KILLED THE DEAD VOLUME

The all-in-ONE laboratory pump

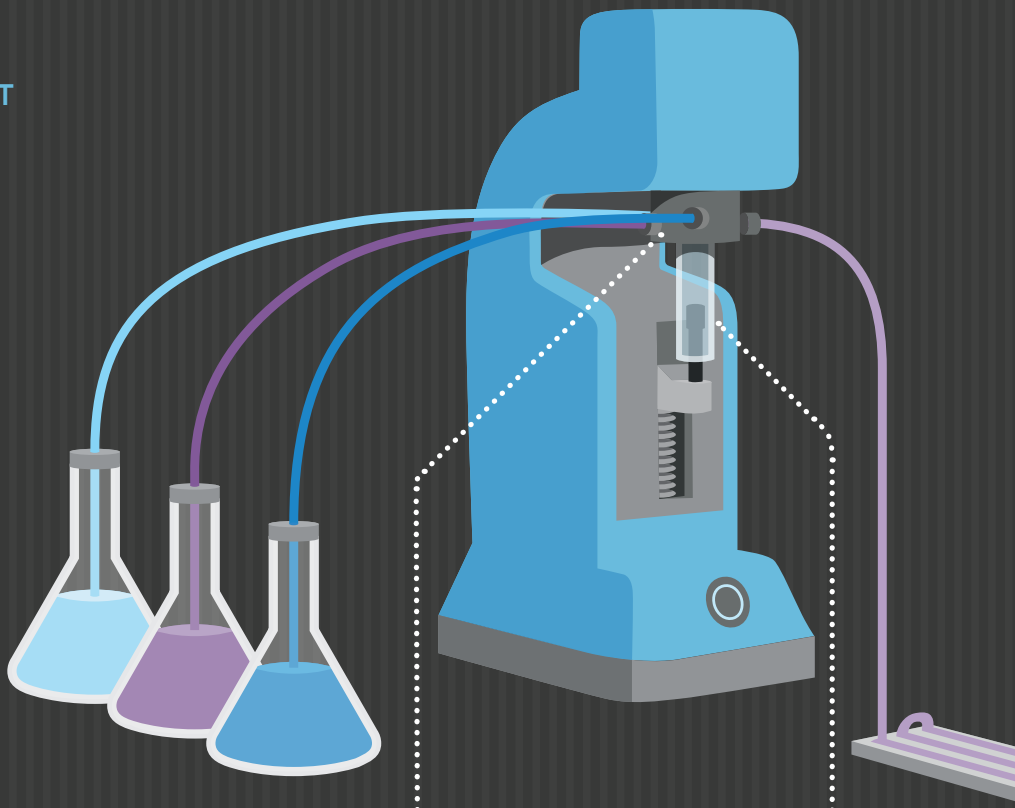
Spend more time
on your microfluidic
experiment and less
on the hardware setup

THE LSPone LABORATORY SYRINGE PUMP IS A HIGH-PRECISION DOSING DEVICE FOR MICROFLUIDIC APPLICATIONS. THE HIGH-ACCURACY DOSING AND NEARLY-PULSELESS FLOW STREAM CAPABILITIES MAKE IT THE PERFECT TOOL FOR MULTIPLE LIQUID HANDLING IN THE RANGE OF MILLILITER DOWN TO NANOLITER.

THE INTEGRATED ZERO DEAD VOLUME SELECTION VALVE ALLOWS YOU TO HANDLE MULTIPLE FLUIDS WITH ONE SYRINGE PUMP THANKS TO THE HIGH CLEANING EFFICIENCY AND LOW CARRYOVER. COUPLED WITH ITS EASE OF USE, THE LSPone IS THUS THE IDEAL COMPANION FOR YOUR LABORATORY EXPERIMENTS AT A REDUCED INVESTMENT COST.

BENEFITS

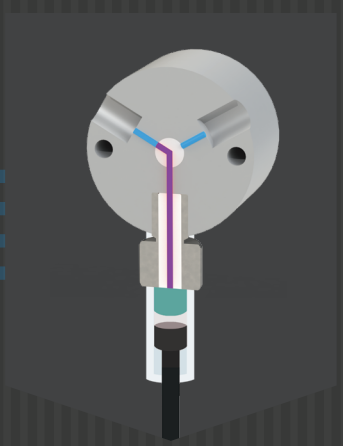
- Plug & play, installed in minutes
- Bubble free priming
- Small footprint
- Integrated 6-port distribution valve
- Software on Windows and OSX
- Easy custom software integration



Dead, internal and carryover volumes

Our unique valve geometry limits the carryover volume to 1.5 µL (purple) whereas standard products exhibit up to 50 µL. The exceptionally small channel diameter of 0.5 mm reduces the internal volume to only 4 µL (blue + purple). There is no dead volume.

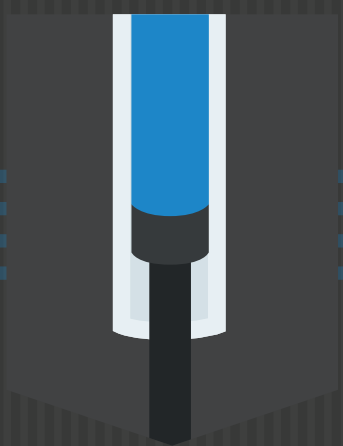
AMF TECHNOLOGY



STANDARD PRODUCTS

Bubble free priming

Our unique valve design expels the air from the syringe and valve immediately, eliminating the traditional cumbersome priming procedure.



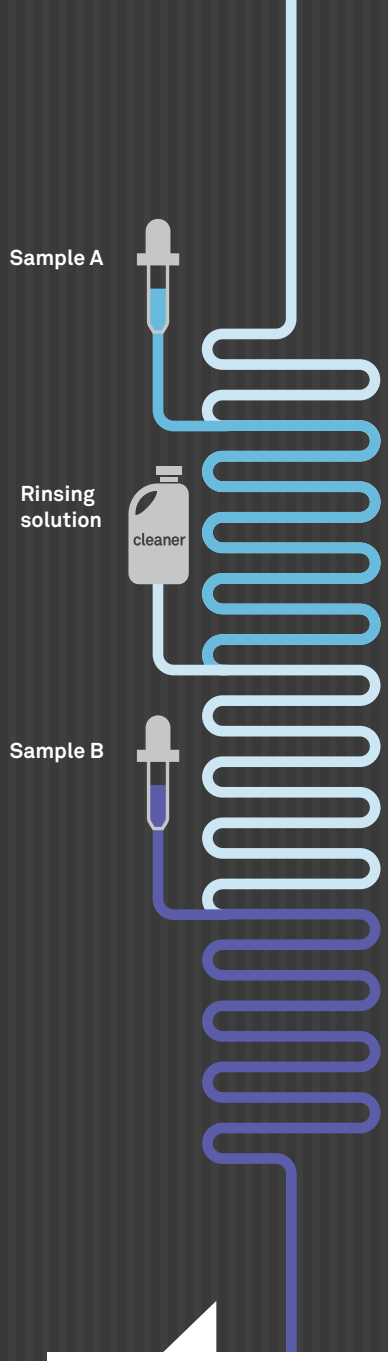
AMF TECHNOLOGY

APPLICATIONS

- Lab-on-chip
- High-precision sampling and dosing
- Accurate flow streams of fluids
- Biological sample handling
- Industry
- Research & Education

FUNCTIONS

- Aspirate liquids
- Dispense liquids
- Control the flow rate
- Prepare complex mixes
- Dilute samples or reagents



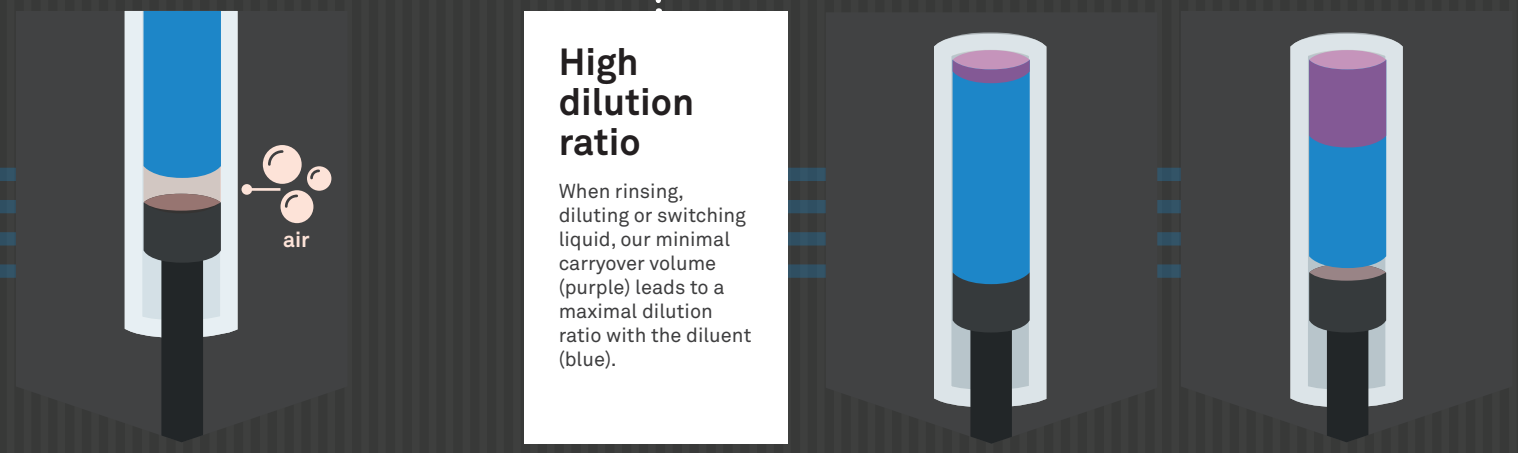
LSPoneQuick GUI (MS Windows or Mac OSX)

An intuitive graphical interface was designed for easy and swift use. The macro recording allows you to create your automated sequence step-by-step and come back to it anytime.

Your experiment

Fast liquid switching

The zero dead volume selection valve allows to rapidly switch liquid with an ultra low carryover.



High dilution ratio

When rinsing, diluting or switching liquid, our minimal carryover volume (purple) leads to a maximal dilution ratio with the diluent (blue).

STANDARD PRODUCTS

AMF TECHNOLOGY

STANDARD PRODUCTS