

2-PORT SYRINGE PUMP

We offer an ultra high resolution syringe pump delivering exceptional precision across a wide range of flow rates to meet the most demanding pumping applications.



2-Port Syringe Pump

VSP5002



**Ultra High
Resolution**



**Long-lasting
Solenoid Valve**



**Daisy Chain
Capability**

ABOUT OUR PRODUCT

Featuring unmatched resolution and built-to-last durability, this next-generation single-syringe pump redefines liquid handling performance. Engineered for exceptional precision and consistency, this pump ensures reliable and repeatable results for your most critical applications. Incorporating a long-lasting solenoid valve minimizes downtime and ensures uninterrupted operation, enhancing overall efficiency.

Features

- Ultra high resolution (1.5M increments) with exceptional precision
- Long-lasting solenoid valve designed to minimize downtime & service
- Supports daisy-chaining with other V-BMB modules for more optimized cable management
- Compact size, allowing for easy integration into instruments
- Easy to interface and configure using high level API and Utility Software
- Supports an extensive range of flow rates and syringes



Specifications

	VSP5002 (2-Port Syringe Pump)
Travel Distance	30mm
Speed ¹	1.2s to 427hours / full stroke
Resolution	1,536,000 increments
Life	4 million cycles
Syringe Sizes Supported	50µl, 100µl, 250µl, 500µl, 1.0ml, 2.5ml, 5.0ml
Precision (1ml syringe)	≤0.05% CV (full stroke) ≤0.5% CV (10% stroke)
Accuracy (1ml syringe)	≤1.0%
Valve Type	Solenoid Valve
Valve Material	EPDM / FKM / Kalrez
Valve Manifold Material	PEEK
Valve Response Time, ms	<10
Operational Pressure, psi	29
Allowed fluid temperature	0 to 50°C (No freezing)
Flow Rate ²	50µl syringe: 2nl/min to 42µl/s 100µl syringe: 3.9nl/min to 83µl/s 250µl syringe: 9.8nl/min to 208µl/s 500µl syringe: 19.5nl/min to 417µl/s 1000µl syringe: 39nl/min to 833µl/s 2500µl syringe: 97nl/s to 2ml/s 5000µl syringe: 195nl/s to 4.2ml/s
Power Requirement	Input Voltage: 24-48VDC, Max Input Power: 15W
Connectivity	USB / RS-485 / TTL UART
Daisy-Chain Capability	Yes
Weight, kg	0.73
Dimension, WxDxH, mm	43 x 130.5 x 114

¹ Speed depends on syringe size and tubing.

² Max flow rate depends on tubing ID, tubing length and fluid viscosity. Ensure the system pressure is within the range of Operational Pressure when a fluidics system is designed.

Part Number and Ordering Information

V S P 5 0 0 2 □

Model

Valve
Material
(A to C)

Valve Material	Part Number
EPDM	VSP5002A
FKM	VSP5002B
Kalrez	VSP5002C

