

## LabSmith uProcess System For Microfluidic Automation

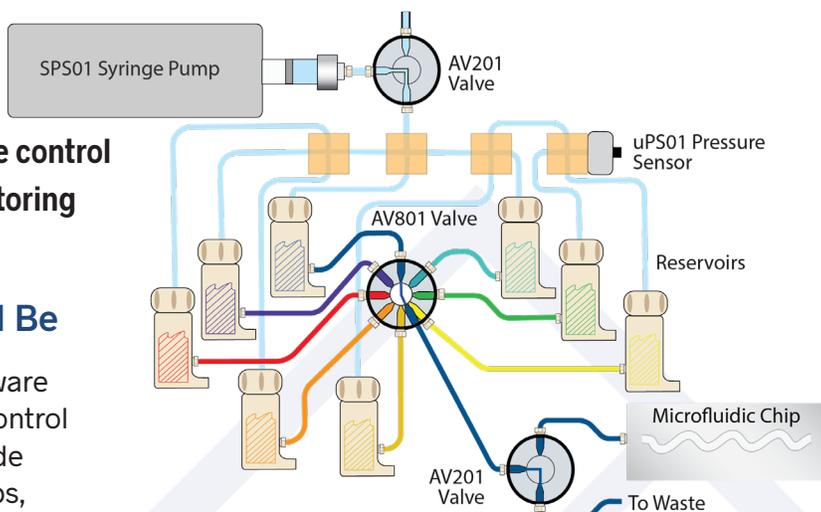
- ▶ Automated fluid delivery and routing
- ▶ Fast, simple automation construction
- ▶ Accurate temperature, pressure and voltage control
- ▶ Innovative software for coordination, monitoring and feedback

### Microfluidic Automation As It Should Be

LabSmith's uProcess™ system is a suite of hardware and software that simplifies construction and control of microfluidic systems. uProcess devices include automated valves, programmable syringe pumps, pressure and temperature sensors, thermal control modules, high voltage control modules, prototyping breadboards and more.

### Coordinated, Automated Fluid Control

uProcess devices connect to tubing and capillary using LabSmith CapTite™ microfluidic interconnect products. The CapTite system makes it easy to build and rebuild micro- and nano-fluidic circuits with zero dead-volumes. Compatible, quick-to-assemble fluid interfaces take the hassle out of fluid routing. All components are available for connection to 360 μm, 1/32" or 1/16" tubing.



# uProcess Components

**SPS01 Programmable Syringe Pumps** can be configured for total fluids volumes of 5 to 100  $\mu\text{l}$ , with step sizes as low as 8 nl. The compact pump design (100 mm long x 25 mm wide) enables close packing of components to minimize tubing length.

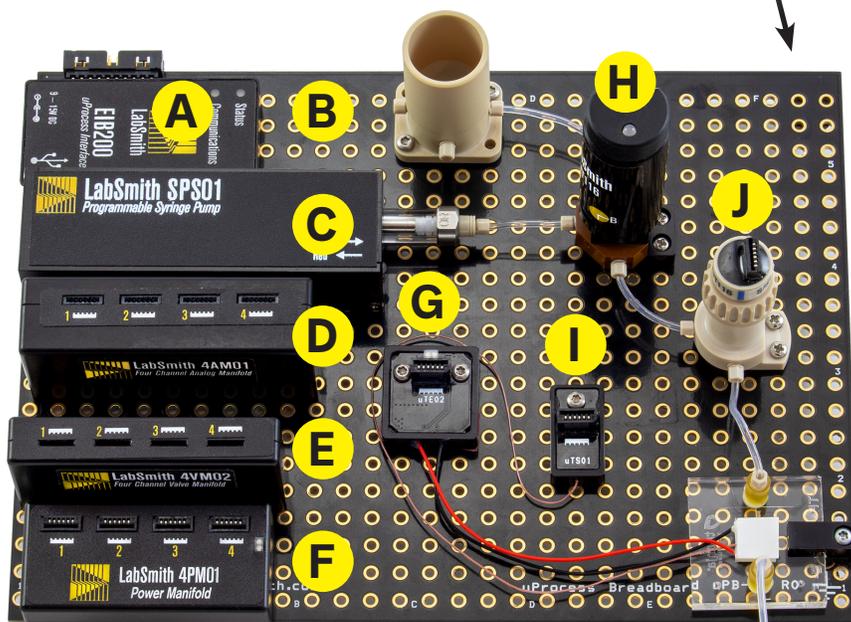
**AV Series Automated Selector and Injector Valves** feature small footprint, zero dead-volume, reliable gear-driven switching and low swept volume, in 3, 4, 6, and 9 port configurations.

**uPS Pressure Sensors** are ideal for monitoring and controlling pressure in microfluidic circuits. These 13 mm diameter sensors can be threaded into any CapTite port, for easy integration into a microfluidic circuit via microfluidic chips, tees, or reservoirs to minimize dead-volume and form factor.

**uTS Temperature Sensors** and **uTE Thermal-Electric Modules** enable precision thermal monitoring and control in micro-applications.

**uEP300 Power Modules** provide precise voltage, current or power control, ideal for electrophoresis.

**uPB or iBB Breadboards** offer optional, simplified component mounting.



## uProcess Components

- A. EIB200 Automation Interface
- B. uPB05 Breadboard
- C. SPS01 Programmable Syringe Pump
- D. 4AM01 Analog Manifold
- E. 4VM02 Valve Manifold
- F. 4PM01 Sensor Manifold
- G. uTE02 Thermal-Electric Module
- H. AV201 Automated Valve
- I. uTS01 Temperature Sensor
- J. uPS01 Pressure Sensor

# uProcess Software and Platform

## uProcess Automation Interface (EIB200)

Required to control uProcess devices via uProcess software;  
Controls up to 128 devices

**Interface** Micro-USB

**Power** 12 volt external power supply included

Includes uProcess software, LabVIEW™ drivers, and SDK

## Electronics Manifolds

**4VM02** Controls up to 4 AV Series automated valves

**4AM01** Controls up to 4 uPS pressure or uTS temperature sensors

**4PM01** Controls up to 4 powered devices (such as uTE01)

## uProcess Breadboards

Include integrated connectors for uProcess devices; 1/4" hole spacing for mounting devices and CapTite microfluidic connector products

**uPB-05** 185 x 132 mm (7.3" x 5.2"); connections for 5 devices

**uPB-08** 254 x 229 mm (10 x 9"); connections for 8 devices

**uPB-12** 305 x 305 mm (12 x 12"); connections for 12 devices

**iBB** 254 x 229 mm (10" x 9"); connections for up to 8 devices; 25 x 76 mm (1 x 3") cutout for viewing microsystems on LabSmith's SVM340 Synchronous Video Microscope

## Automation Interfaces, Manifolds and Breadboards

LabSmith's uProcess™ system is a groundbreaking platform for automating microfluidic flows. Coordinate valves, pumps, sensors, voltage supplies and other components for fast, straightforward automation—at a small fraction of the cost of custom, single-use components.

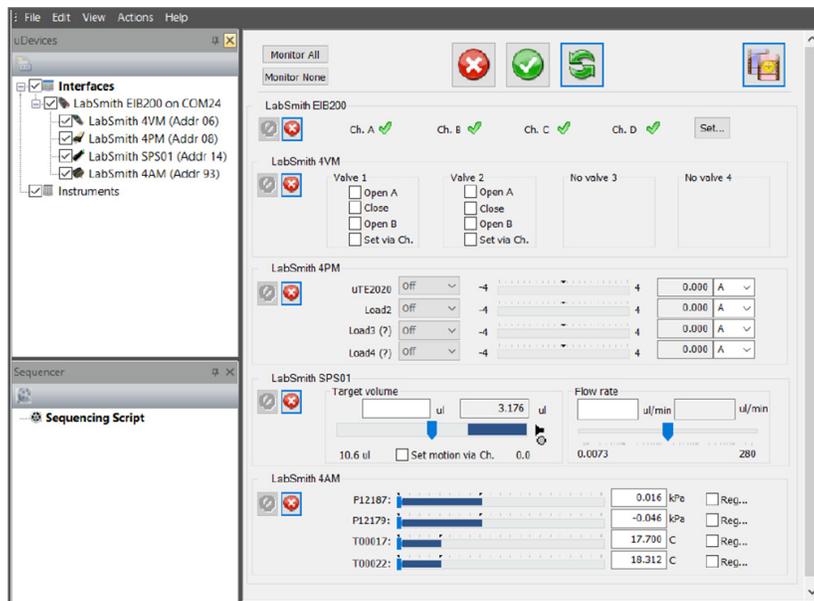
The uProcess platform begins with the EIB automation interface, which can coordinate up to 128 uProcess devices. Small-footprint manifolds provide power and coordination for valves, sensors and thermal control products. Several prototyping breadboards make it easy to construct automated circuits, with built-in electrical connectivity as well as mounting points for automated and fluid routing components.

Whether you are using microfluidic circuits in your research or developing analytical instruments, uProcess and CapTite products offer the most flexible, affordable option to get you to science, fast.

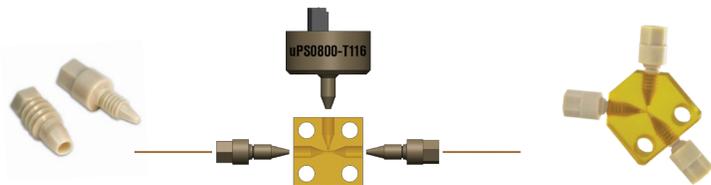
## Simple, Powerful Coordination

uProcess scripting software coordinates and automates microfluidic systems. Use the easy uProcess scripting environment to integrate dozens of devices into simple or complex microfluidic systems—without laboring over custom code.

uProcess is the only system that coordinates all aspects of your experiment, including flow, pressure, temperature and voltage. You can even integrate LabSmith's SVM microscopes to trigger video capture of events based on live circuit parameters.



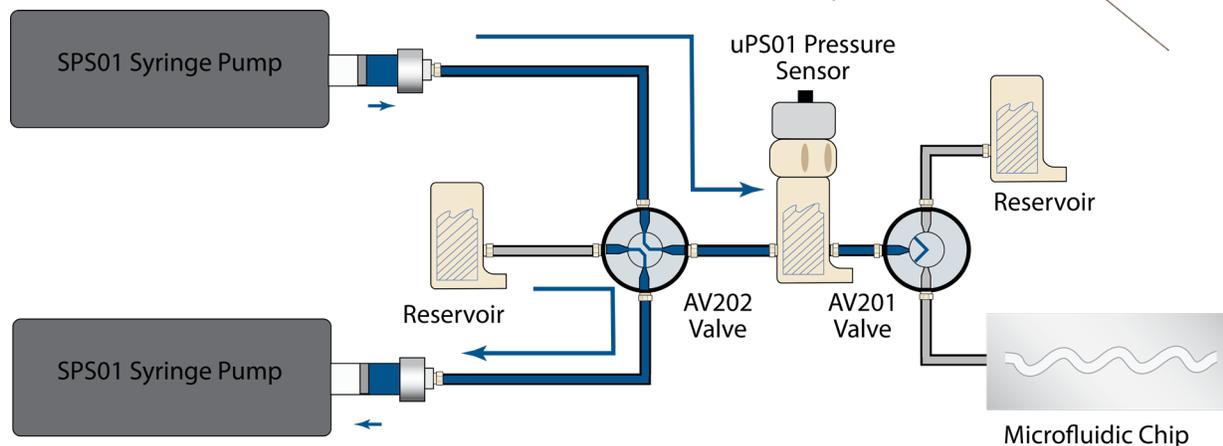
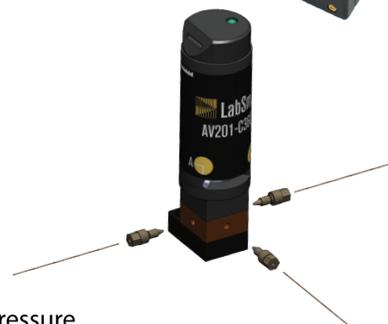
# Complete Microfluidic Systems



LabSmith's uProcess automation and CapTite microfluidic routing products integrate all aspects of your experiments, including routing, pressure, temperature, and voltage control.

Integrate our SVM340 Inverted Fluorescence Video microscope into your system to capture events based on real-time events. This unique, highly versatile microscope excels precisely where it counts: acquiring high-quality experimental data and images, quickly.

Whether your automation and routing needs are simple or highly complex, LabSmith products and software will help you every step of the way, from concept to prototype to full OEM systems.



**LabSmith has been at the vanguard of microfluidics for 20 years. We back our products with accessible support, regular updates, and new features based on our customers' needs. To view prices and place orders, create an account at [labsmith.com](http://labsmith.com) or email [sales@labsmith.com](mailto:sales@labsmith.com).**

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