

Syringe Pump



SPLab02-Dual channel



SPLab10-10 channels

Model Number

- | SPLab01(1 channel)
- | SPLab02(2 channels)
- | SPLab04(4 channels)
- | SPLab06(6 channels)
- | SPLab08(8 channels)
- | SPLab10(10 channels)
- | SPLab12(12 channels)



SPLab02-LU

Features

The syringe pump with infusion/withdrawal mode, stainless steel body, and large-screen chromatic LCD is easy to operate. It can install and fix different types of injectors or syringes in the same time, and it is suitable for transferring micro flow rates with high precision (non-medical).

Technical Specifications

Working mode(6 kinds)	Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous, additional mode (infusion/withdrawal, then exclude bubble).						
Channel number	1	2	4	6	8	10	12
Syringe size	10 μ L-100mL			10 μ L-10mL			
Flow rate	0.001 μ L/min-127mL/min			0.001 μ L/min-21.997mL/min			
Infusion volume per microstep	0.078 μ m						
Min. linear rate	5 μ m/min						
Max. linear rate	132mm/min						
Min. step rate	0.035ms/Mirco step						
Max. step rate	0.937sec/Mirco step						
Max.linear force	10kgf						
Advance per microstep	0.078 μ m						
Accuracy	$\leq \pm 0.5\%$						
Operating mode	Rotary encoded switch and membrane keypad						
Display mode	320 \times 240TFT-LCD						
Power-off memory	Display the previous data parameter after power supply again						
Power supply	AC 220V $\pm 10\%$ (standard),AC 110V $\pm 10\%$ (optional)						
Operating condition	Temperature 0-40 $^{\circ}$ C, Relative humidity <80%						



Syringe Pump

SPLab01-E



32.4 KV High Voltage Test



Typical Application

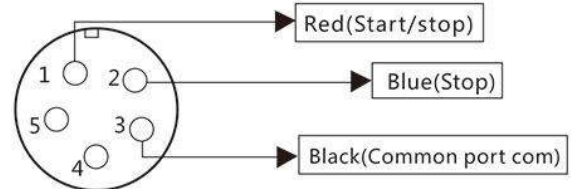
Special for high voltage electrostatic spinning

Syringe	Inside Diameter(mm)	Flow Rate($\mu\text{L}/\text{min}$ - mL/min)	
		SPLab01/SPLab02	SPLab03-SPLab10
50 μL	1.03	0.004~0.110	0.004~0.110
1mL	4.61	0.083~2.203	0.083~2.203
2.5mL	7.28	0.208~5.492	0.208~5.492
5mL	10.30	0.417~10.993	0.417~10.993
10 mL	14.57	0.834~21.997	0.834~21.997
25 mL	23.03	2.083~54.958	---
50 mL	32.57	4.166~109.921	---
60 mL	32.57	4.166~108.310	---

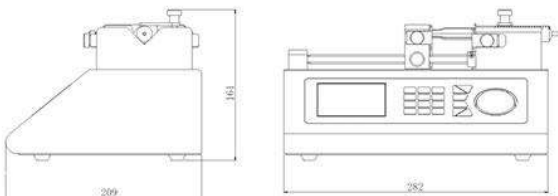
Installation Sizes Drawing (Unit: mm)

Channel No.	4	6	8	10	12
L	145	190	235	280	325

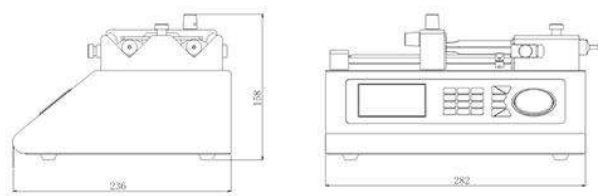
Syringe Pump External Control Schematic



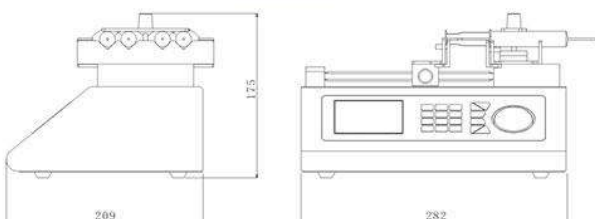
SPLab01



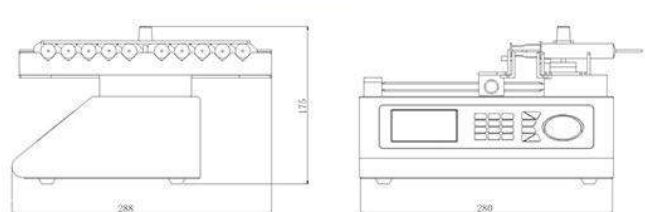
SPLab02



SPLab04



SPLab10



Industrial Syringe Pump



SP60-1A

Product Introduction

The SP60-1A Pump is a fully programmable, open frame, precision liquid handling pump module, designed for applications in the 5 μ L to 25 mL range. It is controlled by an external computer or microprocessor and automates pipetting, diluting, and dispensing functions.

Model Number

| SP60-1A

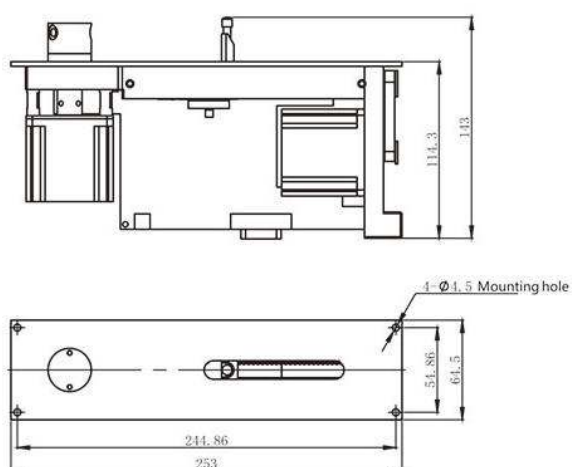
Features

Unmatched application flexibility:
Fully programmable;
Can be controlled by an external computer or microprocessor;
Available with a range of syringe sizes and valve configurations.

Faster product development:
Can speed up and simplify validation of your instruments;
Robust performance: optical encoder for step loss detection;
full control of start speed, top speed and cut-off speeds;
Programmable ramp-up and ramp-down rates;
Planned maintenance replacement of valves and syringes.

Straight forward integration:
RS-232/RS-485 communication interfaces;
Up to fifteen SP60-1A pumps can be connected together;
Two digital inputs and three outputs for TTL level signals;
Used for synchronization with external devices.

Installation Sizes Drawing (Unit: mm)



Technical Specifications

Precision	Repetition error $\leq 0.05\%$ CV at full stroke (500 μ L syringe and above), (DI water at room temperature)	Valve switch time	≤ 250 ms between adjacent ports
Accuracy	Error $\leq 0.5\%$ at full stroke (DI water at room temperature)	Valves type	3-port 120° (Standard)
Plunger drive	Stepper motor driven lead screw with optical encoder for step loss detection and home flag	Tubing fittings	$\frac{1}{4}$ - 28" or M6
Plunger travel	60 mm (6000 steps or 48000 steps)	Syringe fittings	$\frac{1}{4}$ - 28"
Plunger speed	0.00625 mm/s - 50 mm/s	Power requirements	24 VDC $\pm 10\%$ / 2.0 A (peak)
Run time per stroke	1.2 seconds - 160 minutes	Communication interface	RS-232, RS-485
Speed resolution	0.01 mm or 0.00125 mm	Baud rate	9600 or 38400 (RS-232 and RS-485)
Syringes	Sizes 50 μ L, 100 μ L, 250 μ L, 500 μ L, 1.0 ml, 2.5 ml, 5.0 ml, 10 ml, 25 ml	Addressing	Up to 15 individual addresses available (DIP switch)
Barrel material	Borosilicate glass	Input	Two inputs with 4.7k pull-ups, 5V HCMOS. For restart the paused instruct
Plunger rod material	Stainless steel	Output	Three outputs, 5V HCMOS, For synchronous external devices
Plunger seal material	PTFE or UHMWPE (most sizes)	Operating temperature	15°C - -40°C
		Operating humidity	20-80 % RH at 40°C
		Storage temperature	-20°C - -65°C

