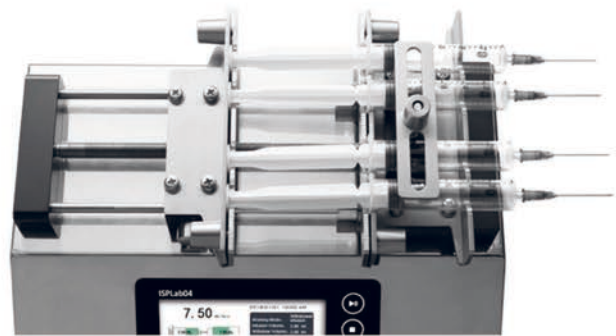


Intelligent syringe pump

ISPLab04

Flow Rate: 0.2nL-26.177mL/min



Introduction

The intelligent syringe pump with infusion/withdrawl mode, stainless steel body, and 4.3" color LCD screen is easy to operate. It can install and fix different types of injectors or syringes , and it is suitable for transferring micro flow rates with high precision (non-medical).

Features

1. **Online flow rate modification function:** The pump is running, without stopping, adjust the flow rate at any time to meet complex application.
2. Colorful LCD display: Friendly interface, 4.3 inch LCD display every technical parameter in real time.
3. Input syringe inner diameter function: Can choose the injector from the list or input the injector inner diameter directly.
4. Two measurement mode for selection: Infusion volume --- Infusion flow rate, Infusion volume --- Infusion time.
5. 4 different working modes: Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion. The parameters of each working mode saving separately. Each working mode can be changed to continuous mode by setting repeat parameters.
6. Alarm function: The pump will stall and give an alarm when the drive structure of the pump is blocked.

Interface Display

The screenshot shows the following interface elements:

- Real-time display flow rate:** 7.50 mL/min
- Display area for setting parameter:** Includes date/time (2018/01/01 10:00 AM), Working Mode (Withdrawal/infusion), Infusion Volume (2.00 ml), Withdraw Volume (2.00 ml), syringe size (2.5 ml), and syringe ID (9.7 mm).
- Display area for dynamic working:** Shows a syringe with 0.94 mL in green and 1.06 mL in red.
- Display area for running parameter:** Working State (withdrawal state), Set Time (16.00 s), Remaining Time (8.50 s), Repeat Times (0000/0001).
- Function setting area changeable by touching:** Includes Setting, Calibration, and MODE icons.

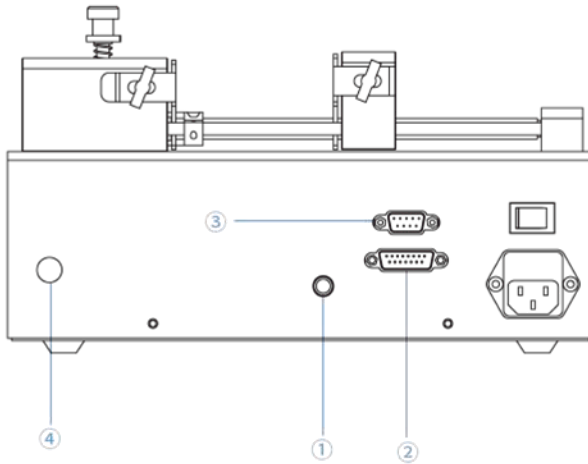
Technical Specifications

Plastic syringe	Inside Diameter(mm)	Flow Rate($\mu\text{L}/\text{min}$ - mL/min)	
		ISPLab01/ISPLab02	ISPLab04/ISPLab12
1mL	4.70	0.0174-2.29	0.0174-2.29
2.0mL	9.12	0.0653-8.623	0.0653-8.623
5mL	12.48	0.1223-16.147	0.1223-16.147
10mL	15.89	0.1983-26.177	0.1983-26.177
20mL	20.00	0.3142-41.469	————
30mL	22.50	0.3976-52.484	————
50mL	28.90	0.6560-86.588	————
100mL	32.00	0.8042-106.154	————
150mL	40.00	1.2566-165.871	————

Technical Specifications

Working mode	Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion
Channel number	4
Syringe size	10 μL -10mL
Syringe selection	Syringe size and customized diameter
Linear speed range	1 $\mu\text{m}/\text{min}$ -132mm/min(Flow rate=Linear speed* syringe inner cut area)
Min. linear rate	1 $\mu\text{m}/\text{min}$
Linear force	$\leq 25\text{kgf}$
Max. stroke	140mm
Stoke resolution	0.078 $\mu\text{m}/\mu\text{step}$
Accuracy	Error $\leq \pm 0.3\%$ (Stoke $\geq 30\%$ of maximum stroke)
Back distance	0.01-10mm
Stored modes	Can save at most 60 common modes
Display	Industrial grade 4.3"LCD color display
Control method	Touch screen and Mechanical keypad
Power-off memory	Display the previous data parameter after power supply again
Output	OC gate signal output,used to indicate running status and direction
External control	Start/stop signal, withdrawal and infusion signal, active switch signal: (5-24V)
	Start/stop signal, passive switch signal, such as foot pedal switch
Communication interface	RS232/RS485, Modbus protocol(RTU mode)
Power supply	AC90-264V/65W
Condition temperature	0-40 $^{\circ}\text{C}$
Relative humidity	<80%
IP rate	IP31
Dimension(mm)	280*209*175
Weight	4.62kg

Syringe Pump External Control Schematic



- ① Foot pedal connector:
Connect with foot pedal switch
- ② 15 Pin connector:
External input and output
- ③ 9 pin connector:
RS232 and RS485
- ④ Ground pole

Dimension Drawing (Unit:mm)

