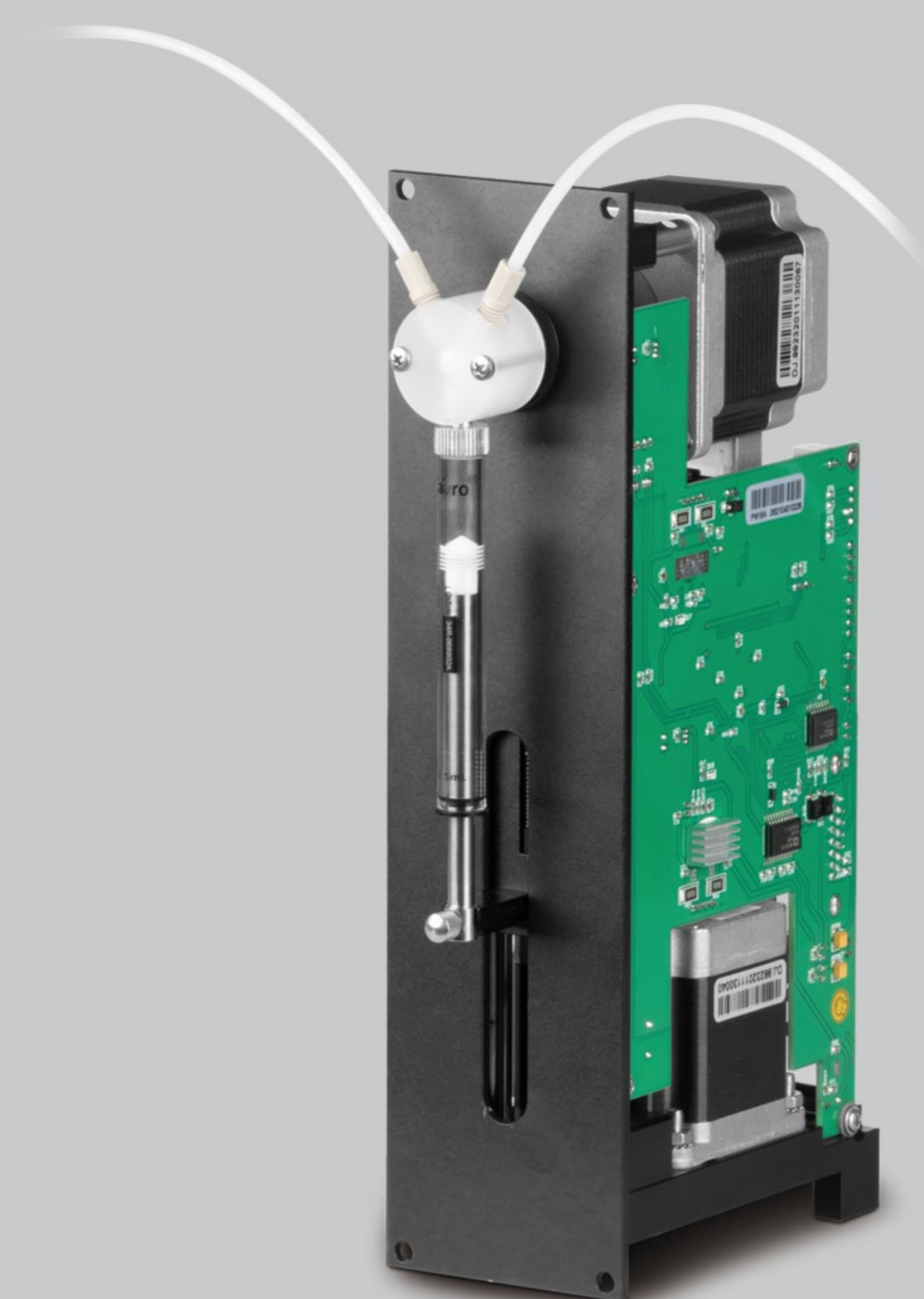


DK
INFUSETEK



SYRINGE PUMP

- ◆ Laboratory syringe pump
- ◆ Industrial syringe pump



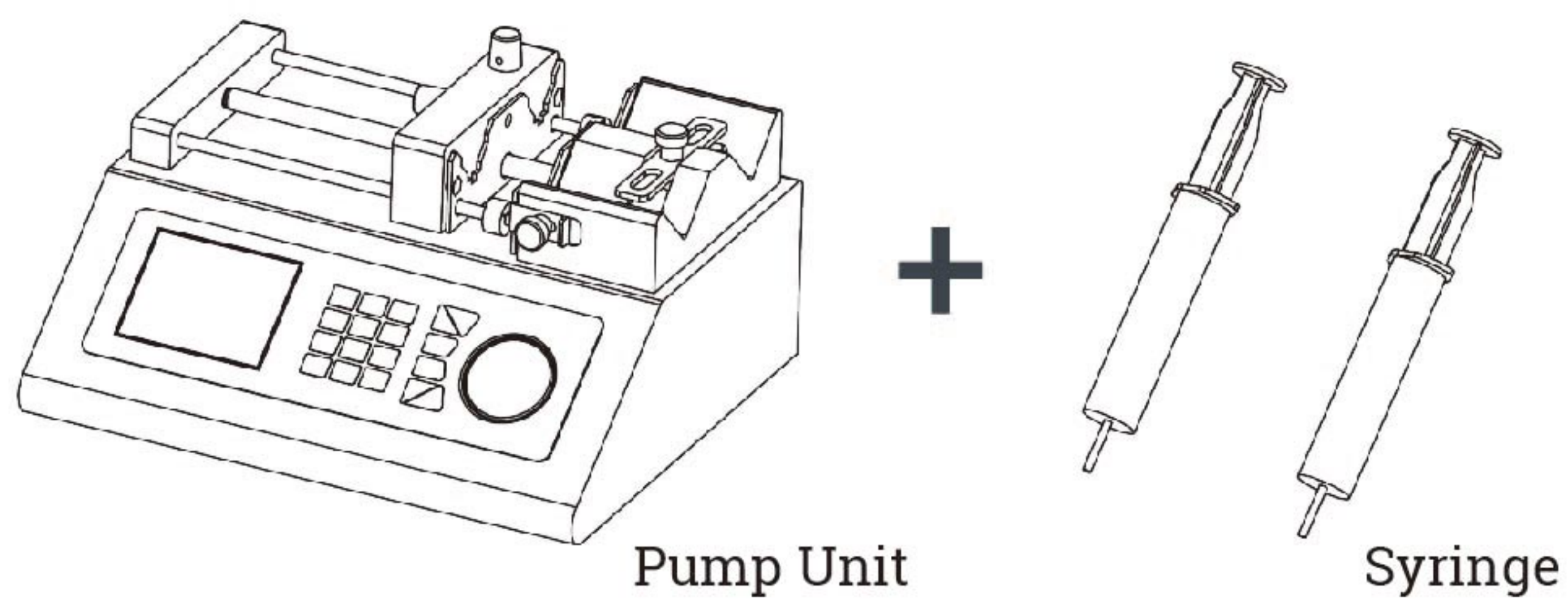


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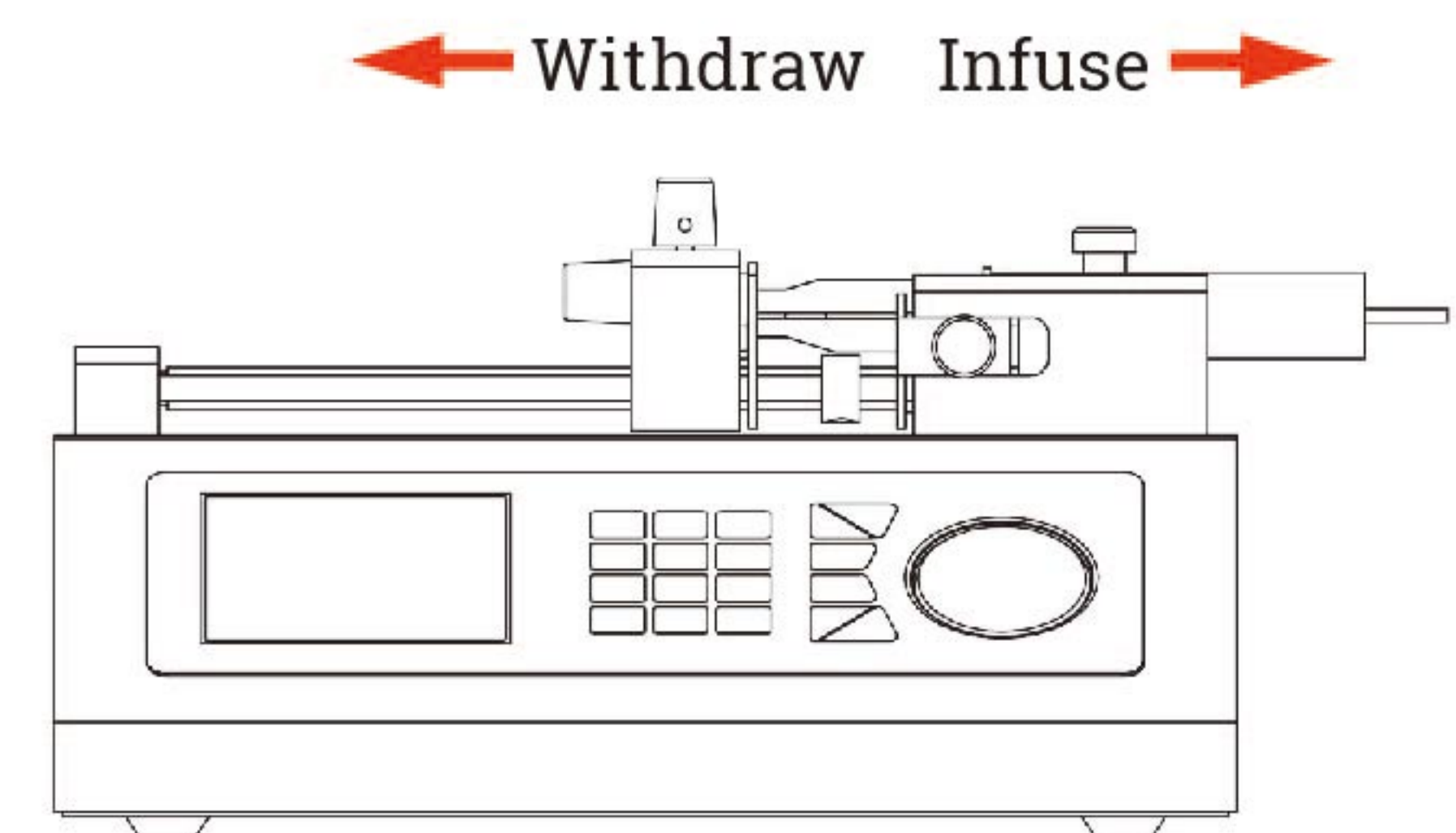
Company Profile

DK Infusetek is a global supplier of laboratory syringe pumps and industrial syringe pumps, providing professional micro-flow control solutions.

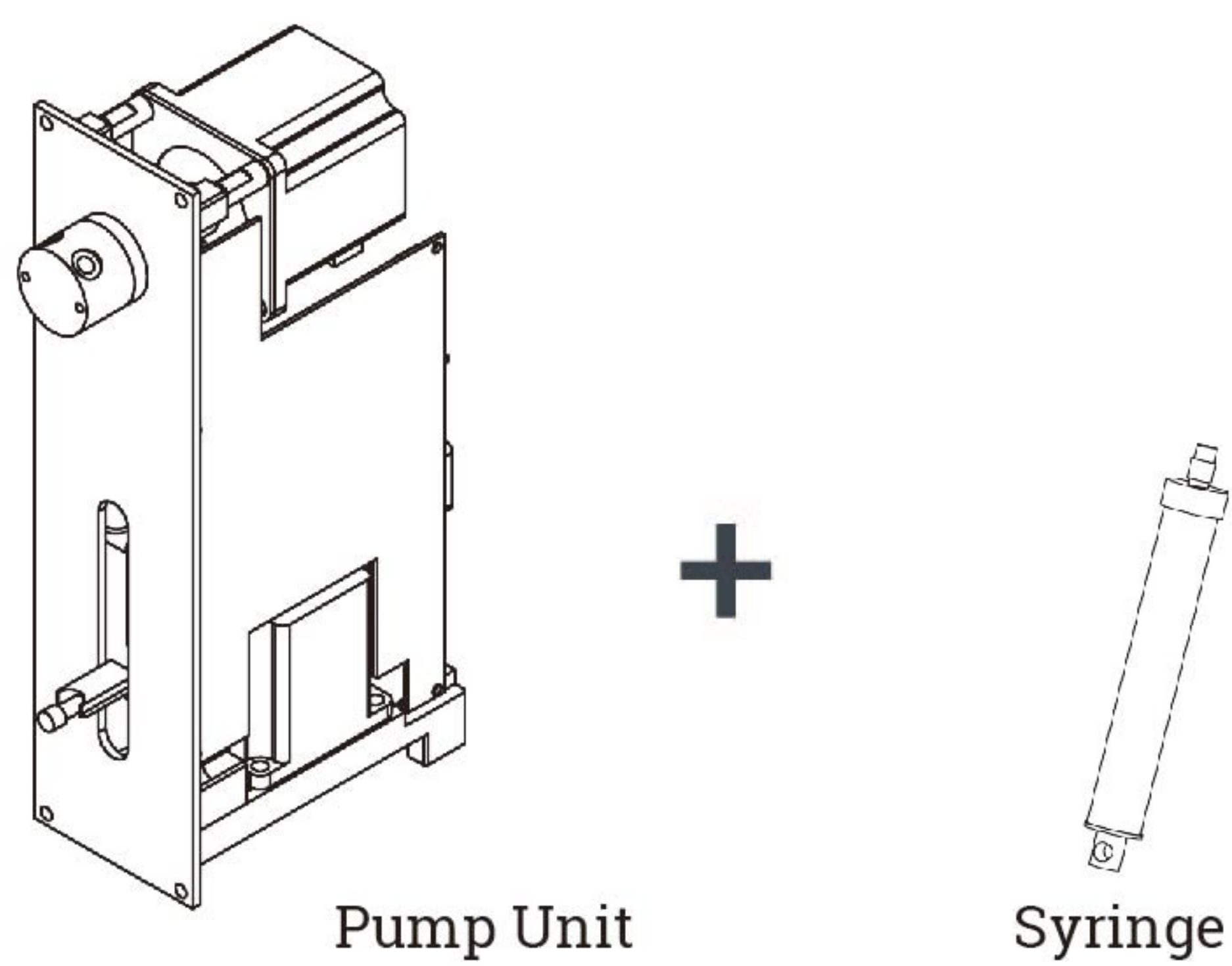
Laboratory Syringe Pump Composition



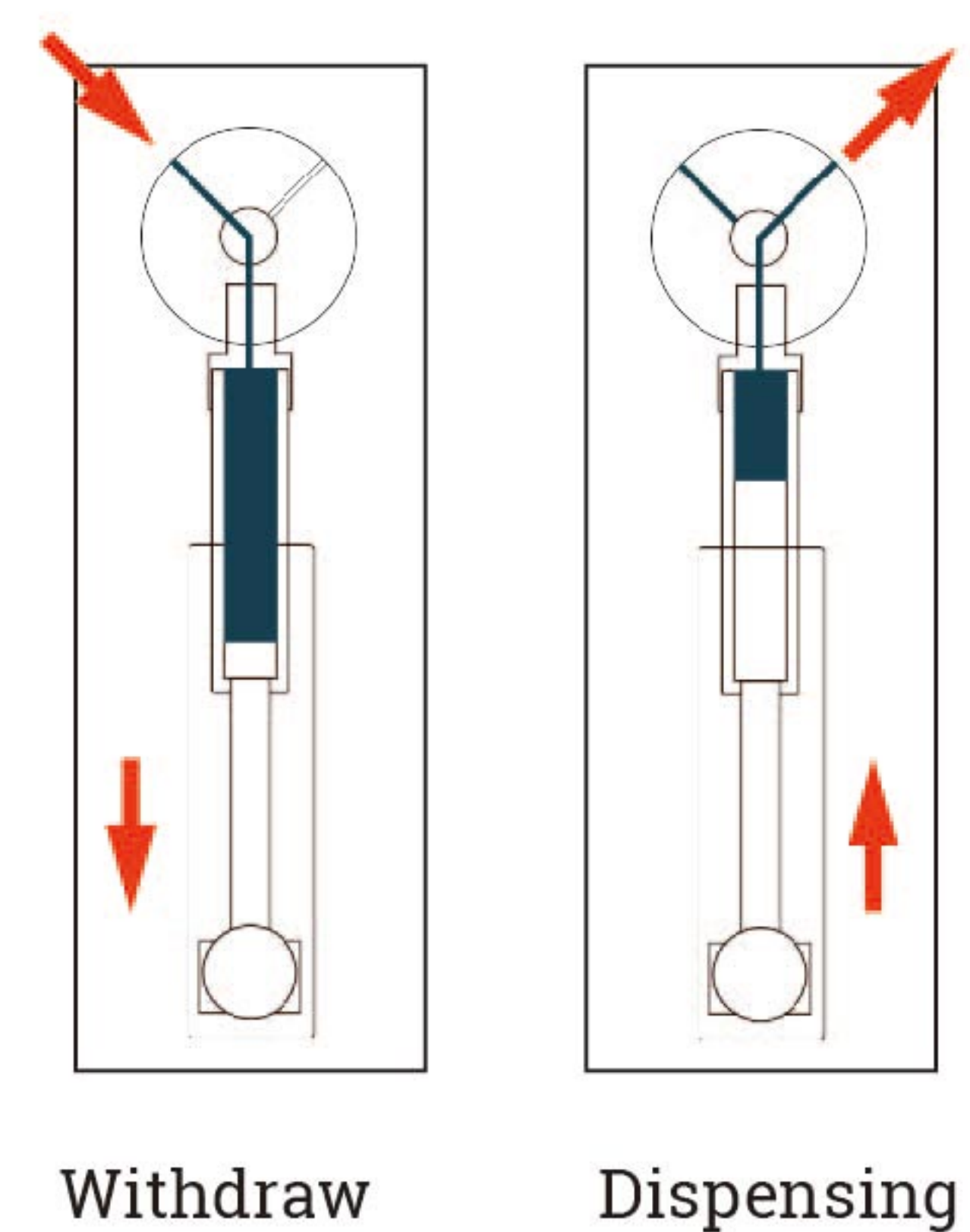
Laboratory Syringe Pump Working Principle



Industrial Syringe Pump Composition



Industrial Syringe Pump Working Principle



Catalog



■ Laboratory Syringe Pump

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◀◀◀ Laboratory Syringe Pump

Intelligent Syringe Pump

ISPLab Series



Model No.

ISPLab01, ISPLab02, ISPLab04, ISPLab06, ISPLab08, ISPLab10, ISPLab12

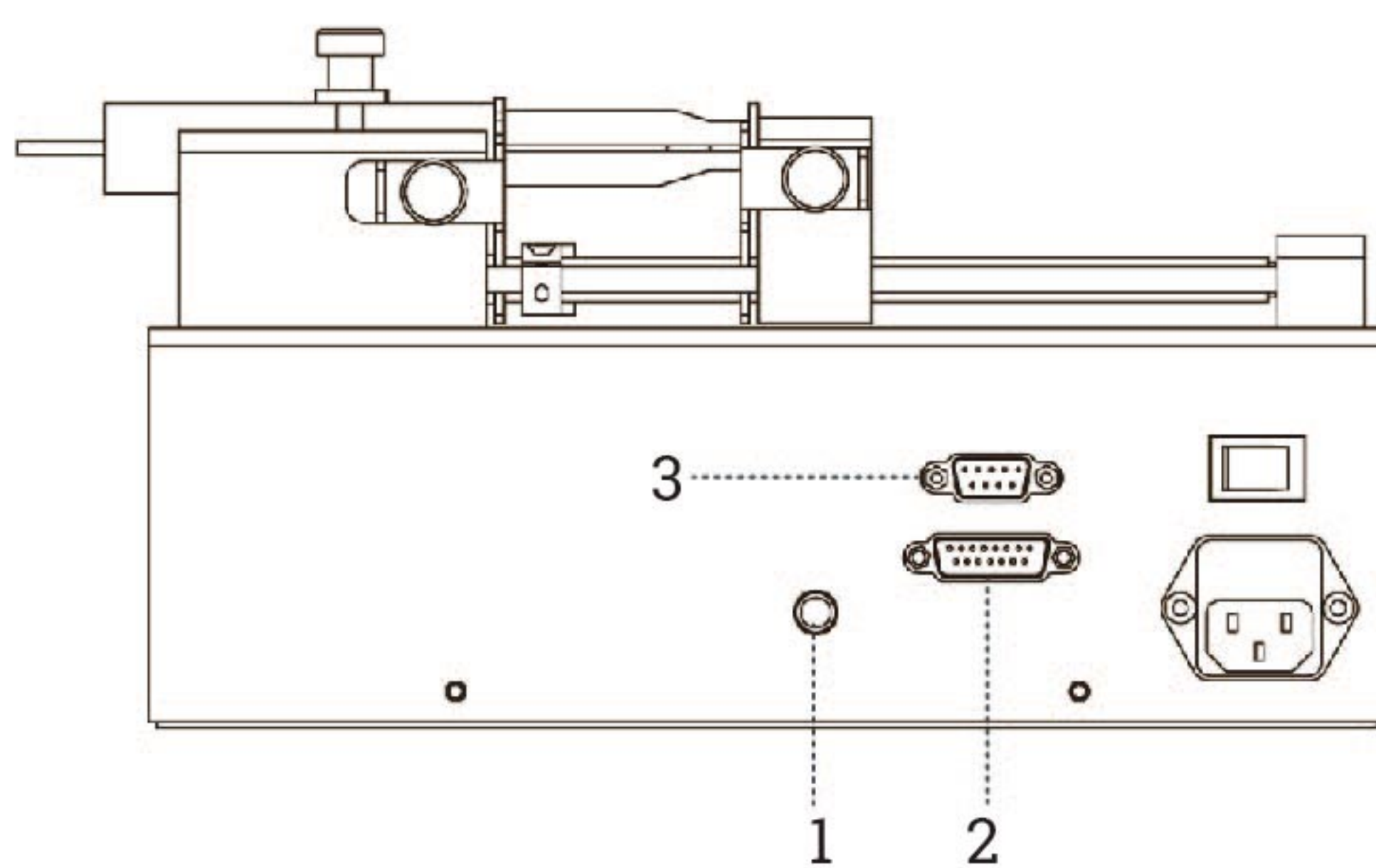
Introduction

The intelligent syringe pump with infusion/withdrawal 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 in the same time, and it is suitable for transferring micro flow rates with high precision (non-medical).

Features

- | **Online flow rate modification function:**
The pump is running, without stopping, adjust the flow rate at any time to meet complex application.
- | Colorful LCD display:
Friendly interface, 4.3 inch LCD display every technical parameter in real time.
- | Input syringe inner diameter function:
Can choose the injector from the list or input the injector inner diameter directly.
- | Two measurement mode for selection:
Infusion volume --- Infusion flow rate, Infusion volume --- Infusion time.
- | 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.
- | Alarm function:
The pump will stall and give an alarm when the drive structure of the pump is blocked.

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

Interface display

Real-time display flow rate Display area for setting parameter

Display area for dynamic working

Display area for running parameter

Function setting area changeable by touching

◀◀◀ Laboratory Syringe Pump

Technical Specifications

Working mode	Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion						
Channel number	1	2	4	6	8	10	12
Syringe size	10 μ L-150mL			10 μ L-10mL			
Syringe selection	Syringe size and customized diameter						
Linear speed range	1 μ m/min-132mm/min(Flow rate=Linear speed* syringe inner cut area)						
Min. linear rate	1 μ m/min						
Linear force	8-20kgf, online adjust						
Max. stroke	140mm						
Stoke resolution	0.078 μ m/ μ 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/64W						
Condition temperature	0-40						
Relative humidity	<80%						
IP rate	IP31						
Dimension(mm)	282*215*165	282*242*157	280*209*175		280*235*175	282*280*175	282*325*175
Weight	4.44kg	4.62kg	4.56kg	4.78kg	4.96kg	5.18kg	5.38kg

Syringe	Inside Diameter (mm)	Flow Rate(μ L/min-mL/min)	
		ISPLab01/SPLab02	ISPLab04-SPLab12
1mL	4.70	0.0174-2.29	0.0174-2.29
2mL	9.70	0.0739-9.755	0.0739-9.755
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	————



◀◀◀ Laboratory Syringe Pump

Programmable Syringe Pump



Model No.

SPM/ZU-I

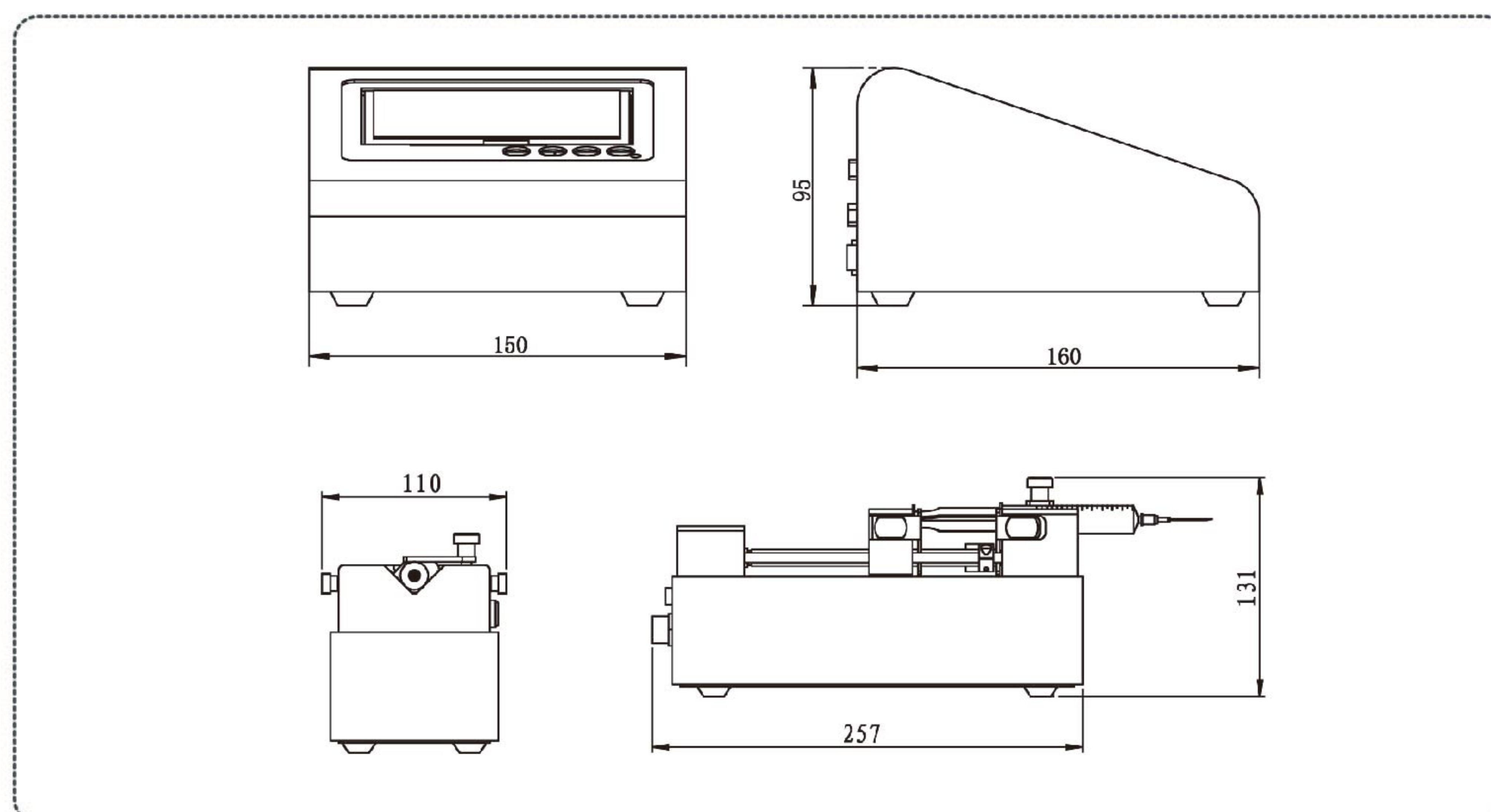
Introduction

4.3 inch touch screen control, compact design. Display 8 pump units working parameters and working state in same screen. Friendly interface, easy operation. Split design, mainly for laboratory.

Features

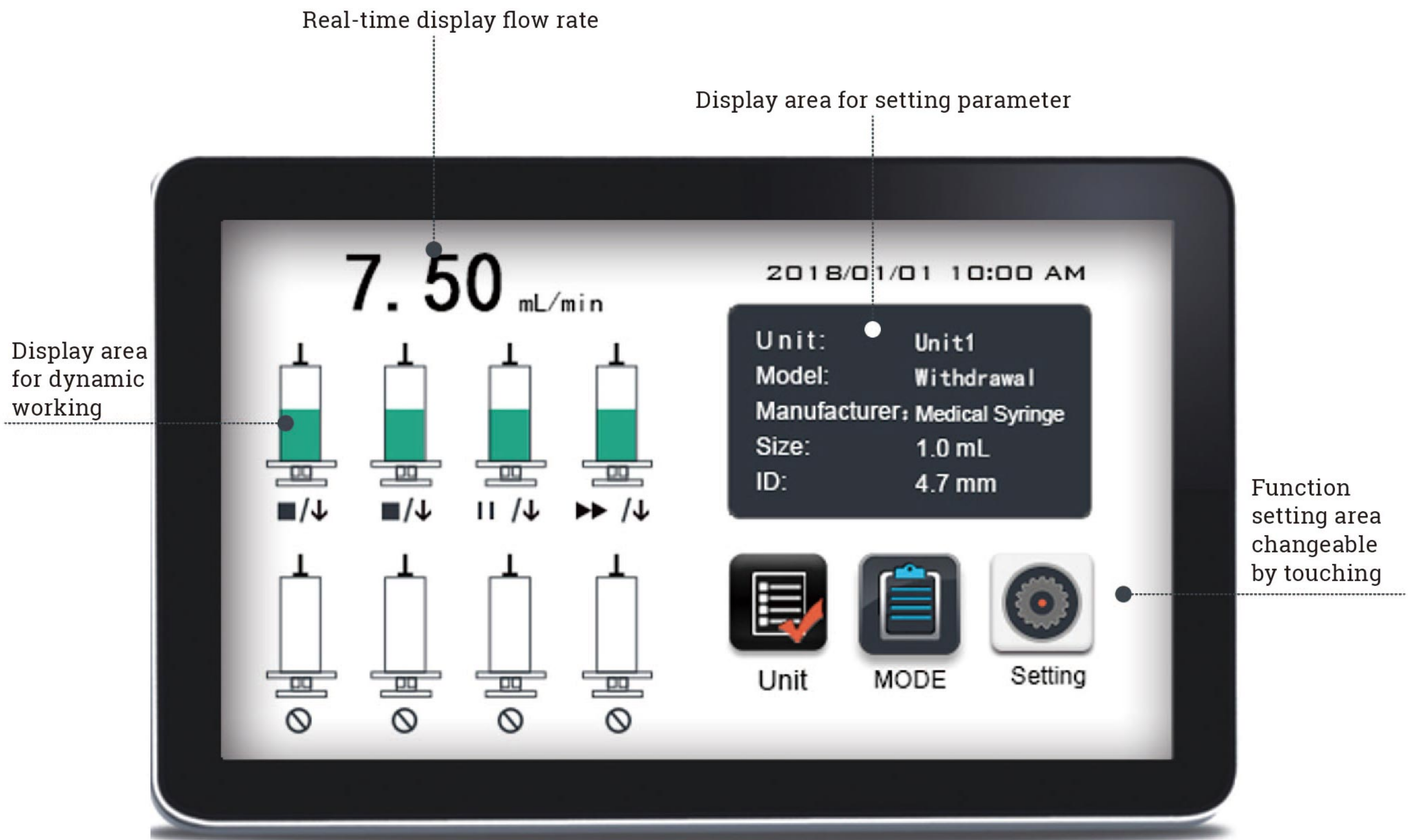
- | Each unit working independently, can set one or some units freely.
- | Each unit can infuse or withdraw different volume in same time or different time.
- | Intelligent calibration, ensure infuse volume accuracy. Online micro adjusting function, convenient to adjust the volume of one units, decrease volume error.
- | Real time monitor, animate display monitor result. Controller can receive traffic alarm of each unit.
- | Back distance setting, can exclude bubbles inside syringe, improve volume accuracy.
- | Fast forward and backward function used for loading syringe, washing and unlock traffic protection.

Dimension Drawing (Unit: mm)



◀◀◀ Laboratory Syringe Pump

Interface Display



Technical Specifications

Working mode(Five)	Infusion,withdrawal,infusion/ withdrawal,withdrawal/infusion	Display	Industrial grade 4.3"LCD color display
		Control method	Touch screen and Mechanical keypad
Pump unit	1-8 optional	Power-off memory	Display the previous data parameter after power on again
Syringe size	10μL-60mL		
Syringe selection	Syringe size and customized diameter	External control signal	Start/stop signal,active switch signal:(5-24V)
Linear speed range	1μm/min-132mm/min(Flow rate=Linear speed* syringe inner cut area)	Communication interface	RS232/RS485 (Modbus protocol, RTU mode)
		Controller power supply	DC5V/10W
Min. linear rate	1μm/min	Pump unit power supply	DC24V/24W
Linear force	≥16Kgf	Condition temperature	0-40°C
Max.stroke	90mm	Relative humidity	<80%
Stoke resolution	0.078μm/μStep	IP rate	IP31
Accuracy	Stroke≥30% maximum stroke,Error≤ ±0.5%	Controller dimension	160×150×95 (mm)
Back distance	0.01--5mm	Controller weight	1kg
Working mode	Independent working mode	Pump unit dimension	257×110×131 (mm)
Stored modes	Can save 10 group working modes	Pump unit weight	2.6kg

◀◀◀ Laboratory Syringe Pump

Programmable Syringe Pump



Model Number

SPC/ZU-I

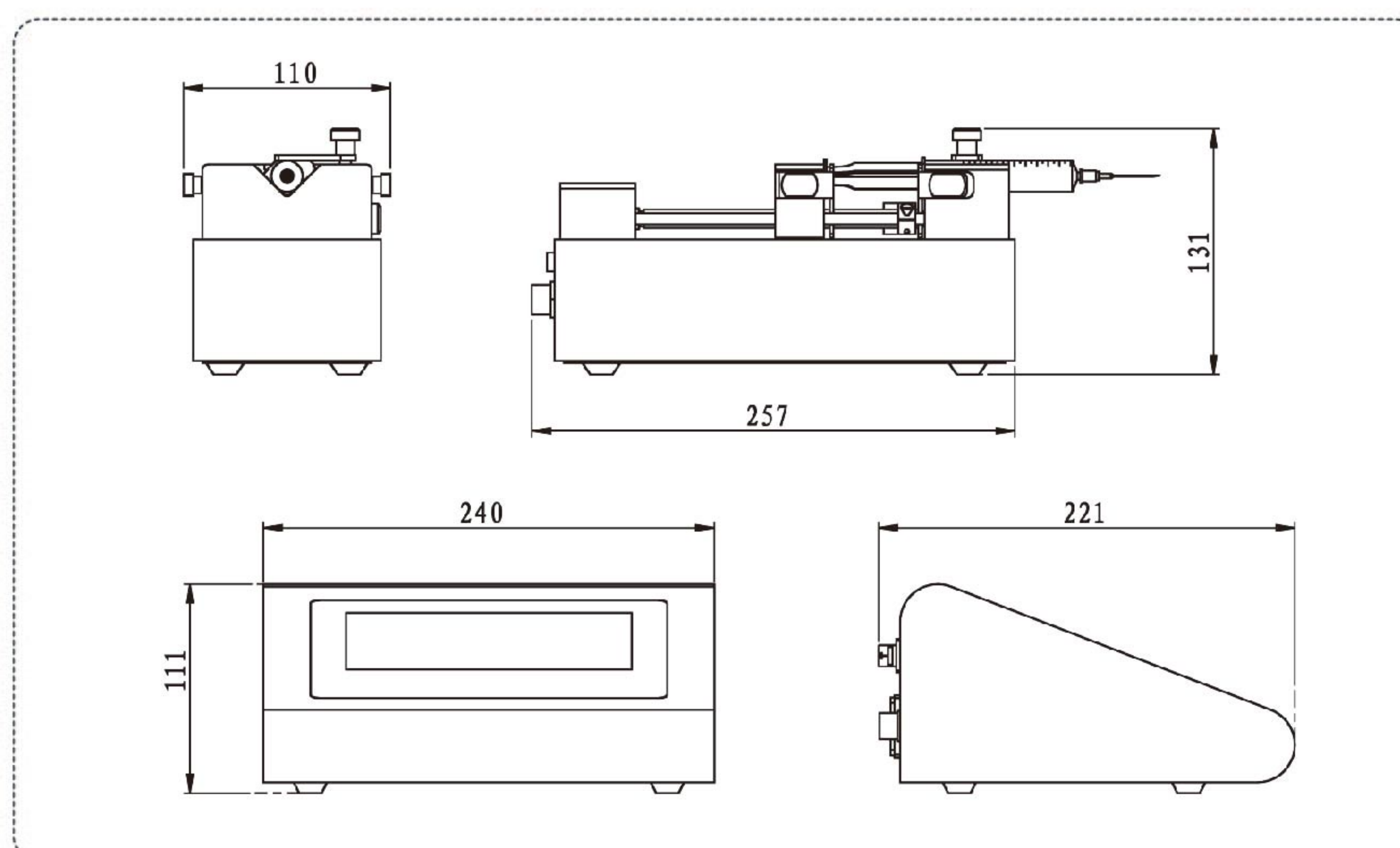
Introduction

7 inch touch screen control, display 8 pump units working parameters and working state. Friendly interface, easy operation. Split type design, mainly for laboratory.

Features

- | Two working mode: Independent working mode, each unit working independently, can infuse or withdraw with different speed in same time or different time. Logic working mode, each unit working with time relationship, with different proportion infuse or withdraw. Users can choose each unit to be independent or logic working mode.
- | Intelligent calibration, ensure infuse volume accuracy. Online micro adjusting function, convenient to adjust the volume of one units, decrease volume error.
- | Real time monitor, animate display monitor result. Controller can receive traffic alarm of each unit.
- | Back distance setting, can exclude bubbles inside syringe, improve volume accuracy.
- | Fast forward and backward function used for loading syringe, washing and unlock traffic protection.

Dimension Drawing (Unit: mm)



◀◀◀ Laboratory Syringe Pump

Interface Display



Technical Specifications

Working mode(Five)	Infusion,withdrawal,infusion/ withdrawal,withdrawal/infusion	Stored modes	5 group data of each running mode
		Display	Industrial grade 7"LCD color display
Pump unit	1-8 for option	Control method	Touch screen
Syringe size	10μL-60mL	Power-off memory	Display the previous data parameter after power supply again
Syringe selection	Syringe size and customized diameter		
Linear speed range	1μm/min-132mm/min (Flow rate=Linear speed* syringe inner cut area)	External control signal	Start/stop signal,active switch signal: 5V, 12V, and 24V
		Communication interface	RS232/RS485, Modbus protocol(RTU mode)
Min. linear rate	1μm/min	Controller power supply	AC100-240V/15W
Linear force	≥16Kgf	Pump unit power supply	DC24V/24W
Max. stroke	90mm	Condition temperature	0-40°C
Stoke resolution	0.078μm/μStep	Relative humidity	<80%
Accuracy	Stroke≥30% maximum stroke, Error≤ ±0.5%	IP rate	IP31
		Controller dimension	240×221×111 (mm)
Back distance	0.01--5mm	Controller weight	2.1kg
		Pump unit dimension	257×110×131 (mm)
Working mode	Independent running mode and Logic running mode	Pump unit weight	2.6kg

◀◀◀ Laboratory Syringe Pump

Programmable Syringe Pump



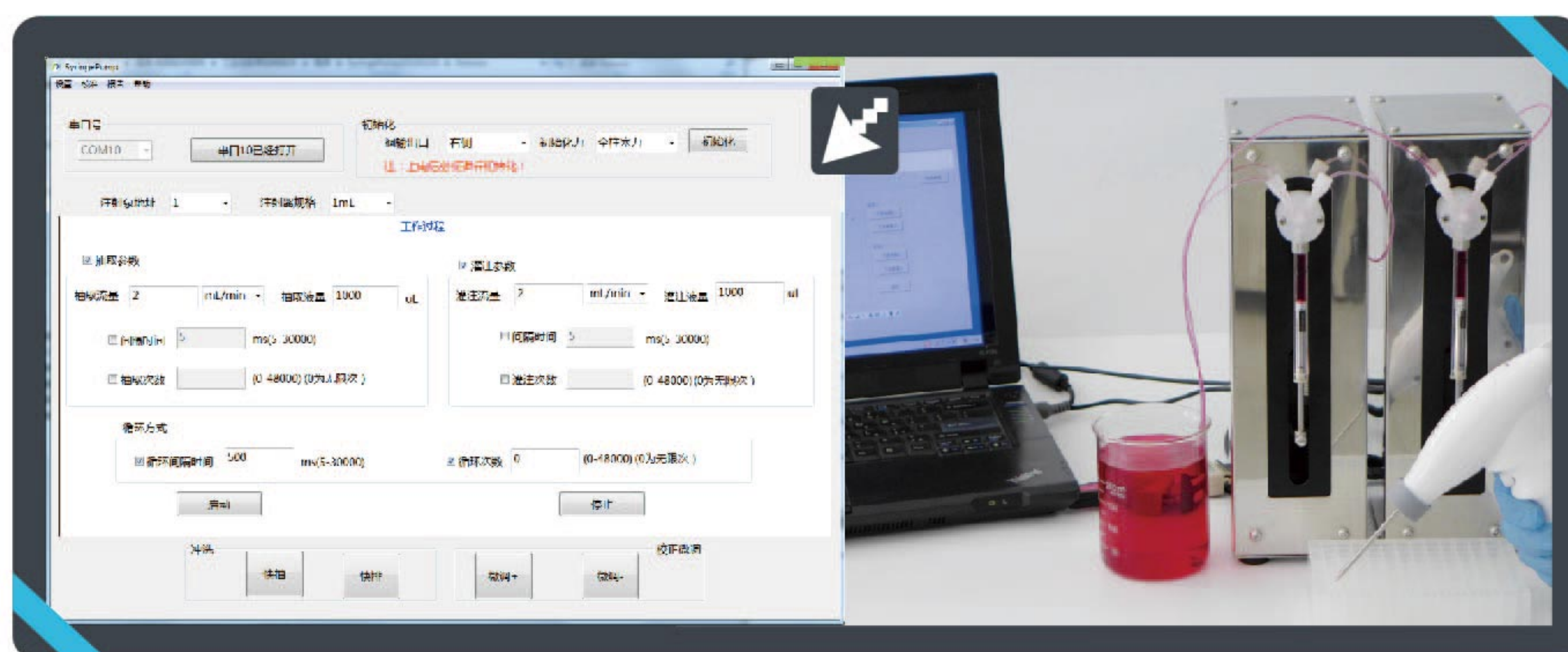
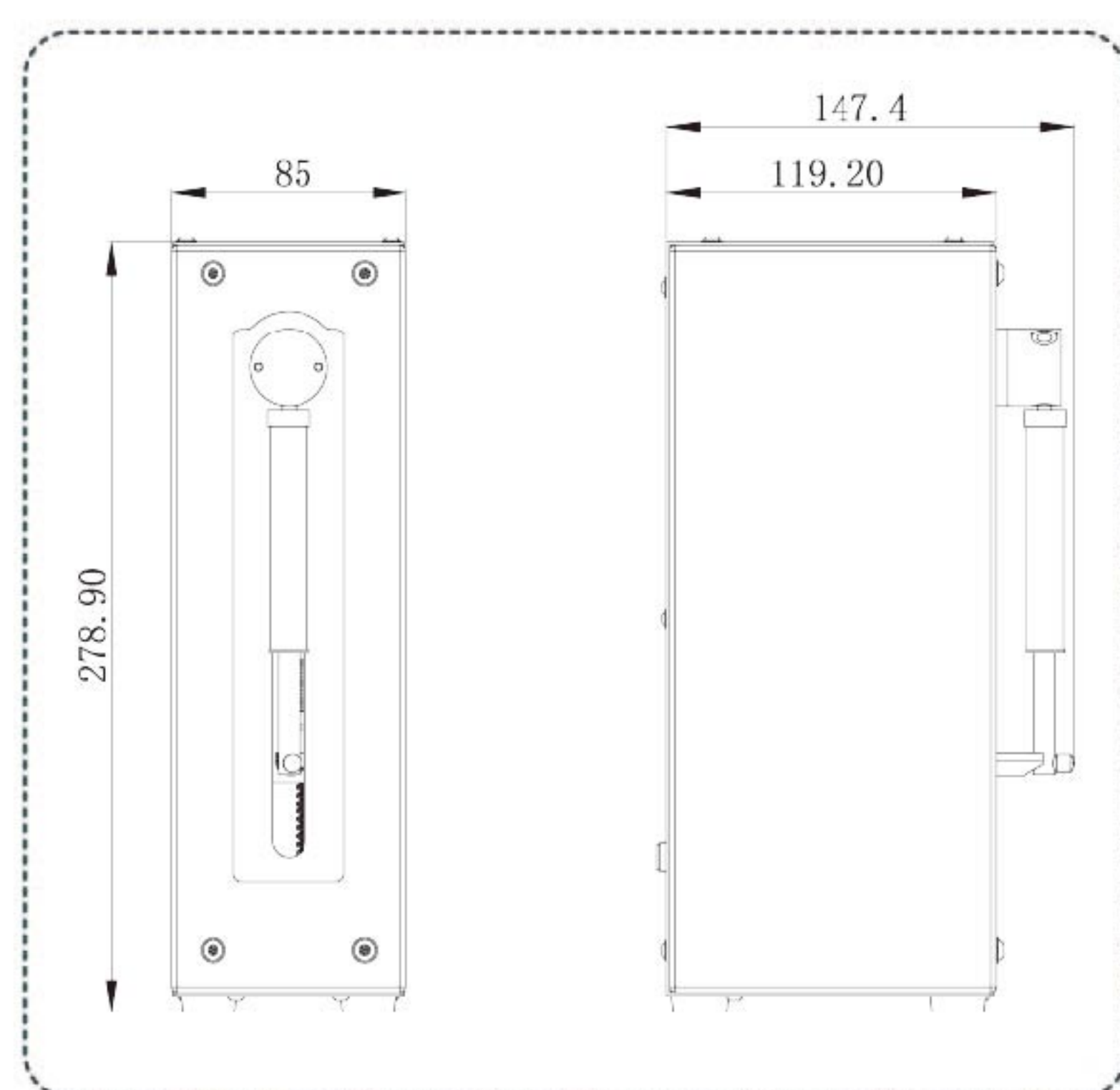
Model No.

ASD60

Introduction

ASD60 syringe pump is a programmable precision liquid handling device. Linear speed range: 0.01mm/s-60mm/s. Controlled by computer or microcontroller, replace the traditional operation of diluting and dispensing. Widely used in blood, chemistry, food and environment analysis.

Dimension Drawing (Unit: mm)



Technical Specifications

Accuracy	Error $\leq \pm 0.1\%$ (stroke $\geq 30\%$ maximum stroke)	Syringe material	Barrel material: Borosilicate glass
Max. stroke(Steps)	60mm (6000 steps or 48000 steps)		Plunger rod material: Stainless steel
Linear speed range	0.01mm/s-60mm/s		Plunger seal material: PTFE
Run time per stroke	1.25s-100min	Power supply	DC24V $\pm 10\%$ /2.0A(Peak value)
Speed resolution	0.01mm/s	Communication interface	RS232/RS485
Stroke resolution	0.01mm or 0.00125mm	Baud rate	9600 or 38400
Valve switch time	≤ 250 ms between adjacent ports	Addressing	UP to 15 individual addresses available(BCD switch)
Valves type	3-port 120°(Standard)	Input	Two TTL level signal inputs, for restart the paused instruct
Tubing fittings	1/4"-28 or M6	Output	Three TTL level signal outputs, for synchronous external devices
Syringe fittings	1/4"-28		Condition temperature
Syringes	50 μ L, 100 μ L, 250 μ L, 500 μ L, 1.0mL, 2.5mL, 5.0m, 10mL, 25mL	Storage temperature	-20°C -65°C
Max. pressure	0.4Mpa	Dimension(mm)	147.4*85*278.9mm
Weight	3.25kg		

◀◀◀ Laboratory Syringe Pump

Programmable Syringe Pump



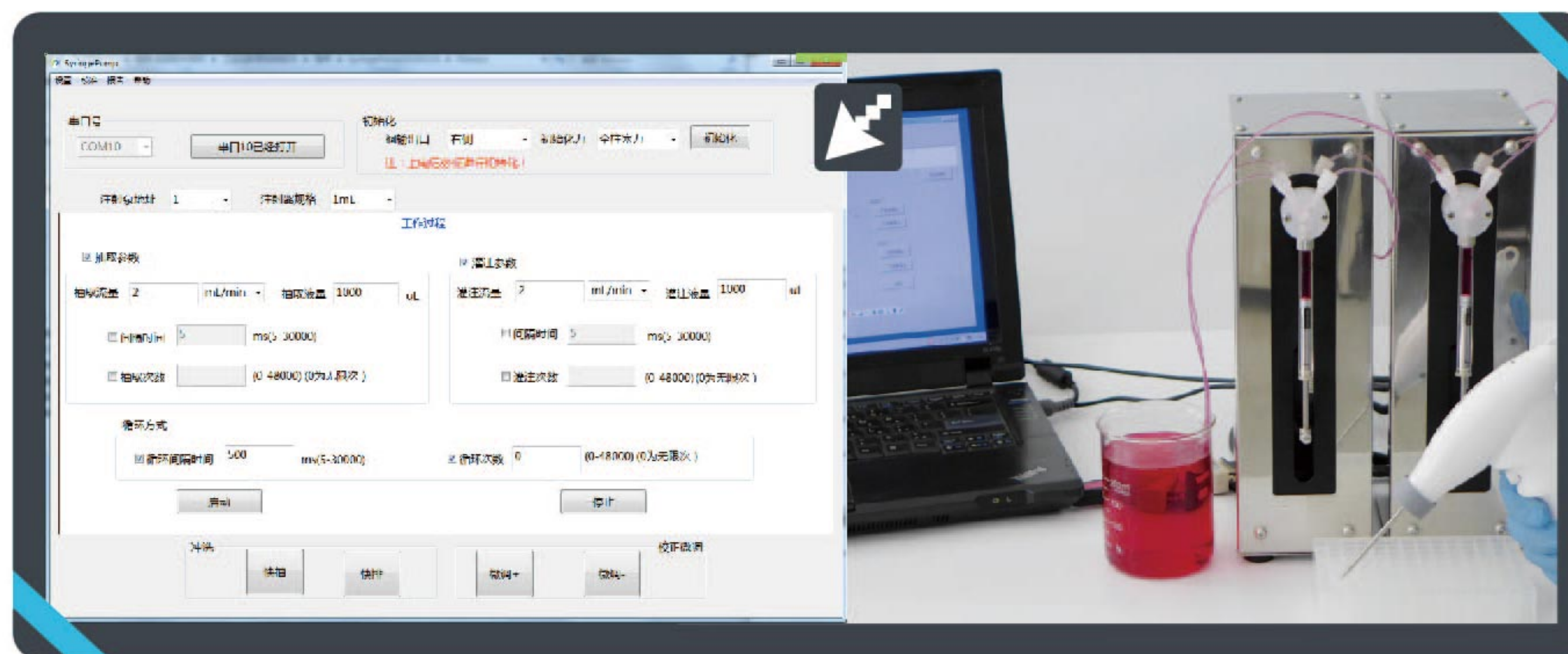
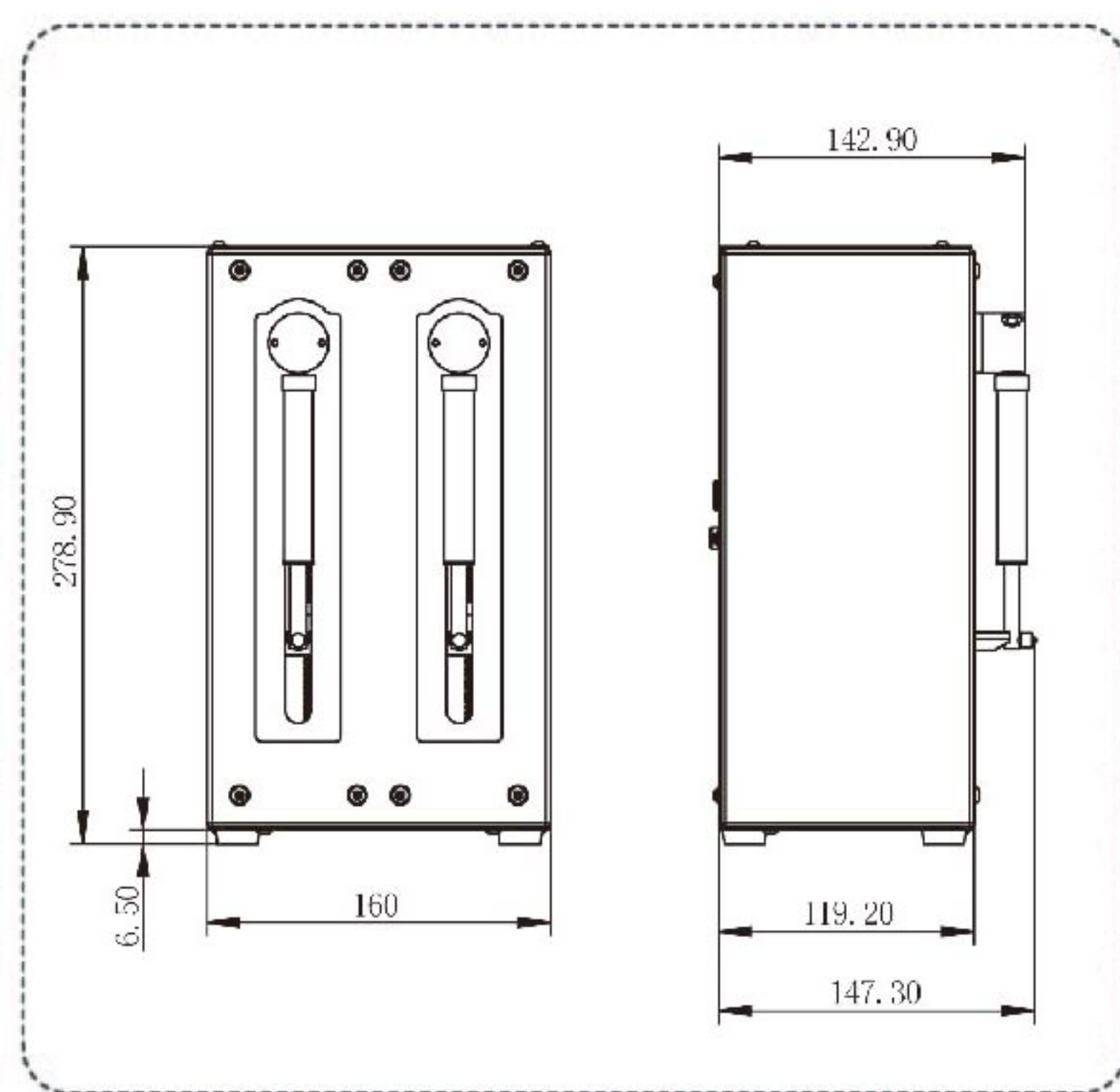
Model No.

ASD60-II

Introduction

ASD60-II syringe pump is a programmable precision liquid handling device. Linear speed range: 0.01mm/s-60mm/s. Controlled by computer or microcontroller, replace the traditional operation of diluting and dispensing. Widely used in blood, chemistry, food and environment analysis.

Dimension Drawing (Unit: mm)



Technical Specifications

Accuracy	Error $\leq \pm 0.1\%$ (stroke $\geq 30\%$ maximum stroke)	Syringe material	Barrel material: Borosilicate glass
Max. stroke(Steps)	60mm (6000 steps or 48000 steps)		Plunger rod material: Stainless steel
Linear speed range	0.01mm/s-60mm/s		Plunger seal material: PTFE
Run time per stroke	1.25s-100min	Power supply	DC24V $\pm 10\%$ /2.0A(Peak value)
Speed resolution	0.01mm/s	Communication interface	RS232/RS485
Stroke resolution	0.01mm or 0.00125mm	Baud rate	9600 or 38400
Valve switch time	≤ 250 ms between adjacent ports	Addressing	UP to 15 individual addresses available(BCD switch)
Valves type	3-port 120°(Standard)	Input	Two TTL level signal inputs, for restart the paused instruct
Tubing fittings	1/4"-28 or M6		Output
Syringe fittings	1/4"-28	Condition temperature	
Syringes	50 μ L, 100 μ L, 250 μ L, 500 μ L, 1.0mL, 2.5mL, 5.0m, 10mL, 25mL	Storage temperature	-20°C -65°C
Max. pressure	0.4Mpa	Dimension(mm)	147.4*85*278.9mm
Weight	3.25kg		

◀◀◀ Laboratory Syringe Pump

Basic Syringe Pump

Model No.

SPLab01, SPLab02, SPLab04, SPLab06, SPLab08, SPLab10, SPLab12

Introduction

The syringe pump with infusion/withdrawal mode. **Online flow rate modification function: the pump is running, without stopping, adjust the flow rate at any time to meet complex application.** 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).

SPLab Series



Technical Specifications

Working mode(Six)	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	10μL-150mL			10μL-10mL			
Syringe selection	Syringe size and customized diameter						
Linear speed range	5μm/min-132um/min(Flow rate=Linear speed* syringe inner cut area)						
Min. linear rate	5μm/min						
Linear force	≥16kgf						
Max. stroke	140mm						
Stoke resolution	0.078μm/μstep						
Accuracy	Error≤ ±0.5%, Stroke≥30% of maximum stroke						
Display mode	320×240TFT-LCD						
Control method	Rotary encoded switch and imported membrane keypad						
Power-off memory	Display the previous data parameter after power supply again						
External control	Active switch signal: 5V						
Communication interface	RS485, Modbus protocol(RTU mode)						
Power supply	AC 220V±10%(standard), AC 110V±10%(option)						
Condition temperature	0-40						
Relative humidity	<80%						
IP rate	IP31						
Dimension(mm)	282*213*150	282*241*157	282*241*157		282*241*157	282*241*157	282*241*157
Weight	5.26kg	5.40kg	5.40kg	5.66kg	5.78kg	5.96kg	6.16kg

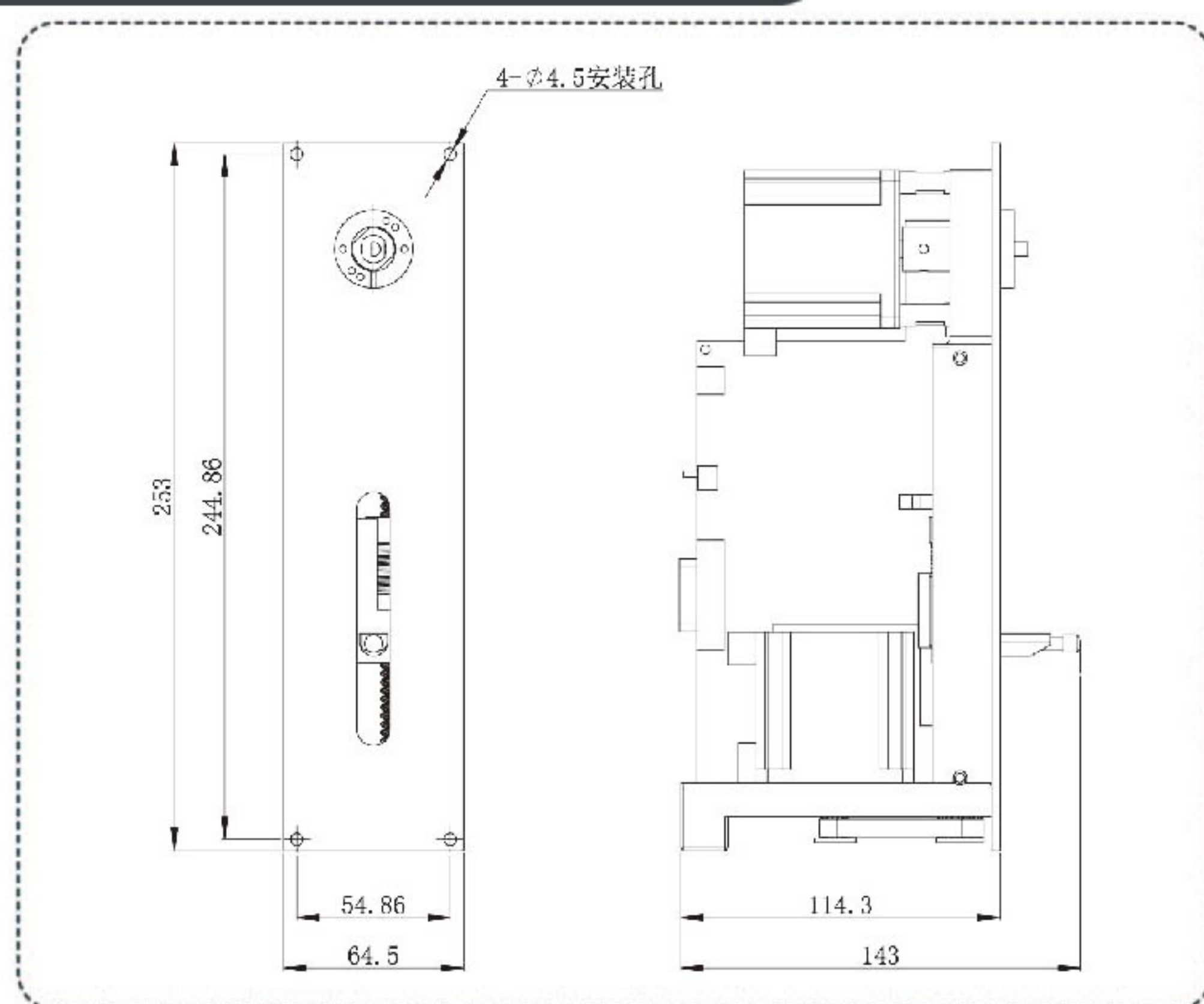
Syringe	Inside Diameter (mm)	Flow Rate(uL/min-mL/min)	
		ISPLab01/SPLab02	ISPLab04-SPLab12
1mL	4.70	0.087~2.290	0.087~2.290
2.5mL	9.70	0.370~9.755	0.370~9.755
5mL	12.48	0.612~16.147	0.612~16.147
10mL	15.89	0.992~26.177	0.992~26.177
20mL	20.00	1.571~41.469	————
30mL	22.50	1.988~52.484	————
50mL	28.90	3.280~86.588	————
100mL	32.00	4.021-106.154	————
150mL	40.00	6.283-165.871	————

Industrial Syringe Pump

SP60-1A



Dimension Drawing (Unit: mm)



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.

Features

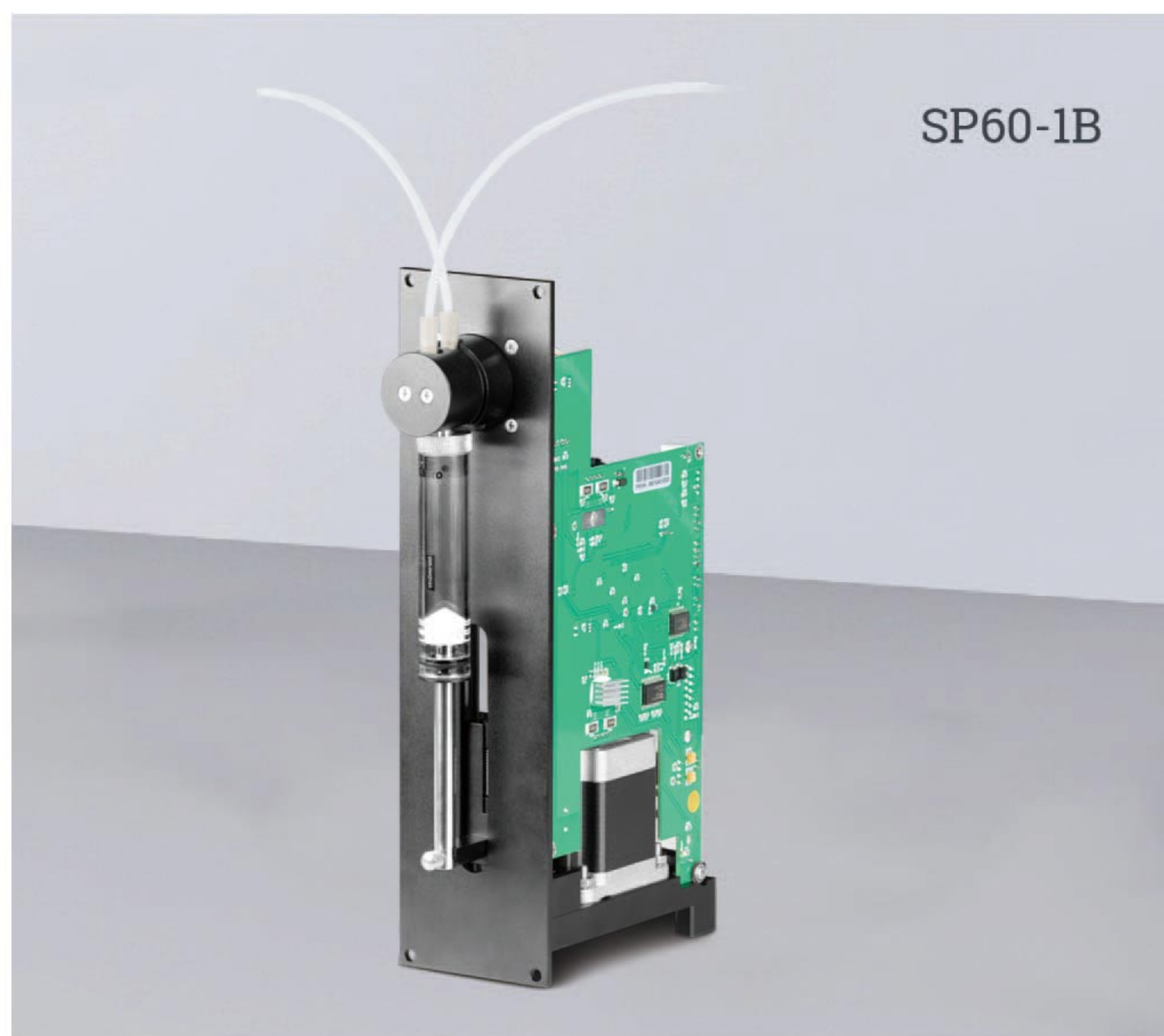
- | Unmatched application flexibility:
 - Fully programmable;
 - Can be controlled by an external computer or microprocessor; Available with a range of syringe sizes and valve configurations.
- | Faster product development:
 - Can speed up and simplify validation of your instruments;
- | Robust performance: optical encoder for step loss detection; full control of start speed, top speed and cut-off speeds; Programmable ramp-up and ramp-down rates;
- | 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.Planned maintenance replacement of valves and syringes.

Technical Specifications

Accuracy	Error $\leq \pm 0.1\%$ (stroke $\geq 30\%$ maximum stroke)	Syringe material	Barrel material: Borosilicate glass
Max. stroke(Steps)	60mm(6000 steps or 48000 steps)		Plunger rod material: Stainless steel
Linear speed range	0.01mm/s-60mm/s		Plunger seal material: PTFE
Run time per stroke	1.25s-100min	Power supply	DC24V $\pm 10\%$ /1.0A(Peak value)
Speed resolution	0.01mm/s	Communication interface	RS232/RS485
Stroke resolution	0.01mm or 0.00125mm	Baud rate	9600 or 38400
Valve switch time	≤ 250 ms between adjacent ports	Addressing	UP to 15 individual addresses available(BCD switch)
Valves type	3-port 120°(Standard)	Input	Two TTL level signal inputs, for restart the paused instruct
Valve material	Valve body: PCTFE Valve element: PTFE		Output
Tubing fittings	1/4"-28 thread	Condition temperature	
Syringe fittings	1/4"-28 thread	Storage temperature	-20°C -65°C
Syringes	50 μ L, 100 μ L, 250 μ L, 500 μ L, 1.0mL, 2.5mL, 5.0m, 10mL, 25mL	Max. pressure	0.68Mpa
Weight	2.20kg	Dimension(mm)	143*64.5*253 (mm)

Industrial Syringe Pump

SP60-1B



SP60-1B

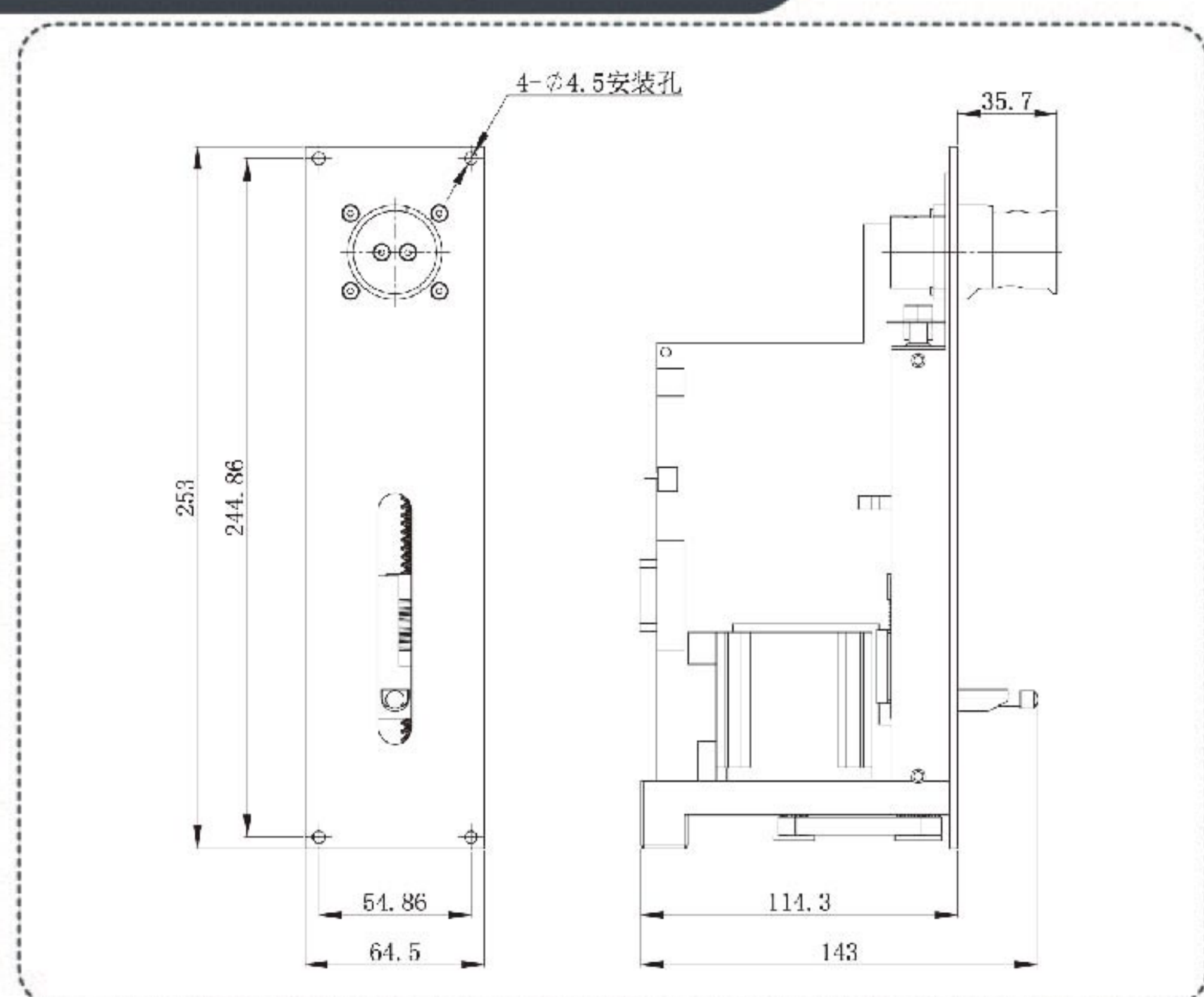
Introduction

The SP60-1B 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.

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

Dimension Drawing (Unit: mm)



Technical Specifications

Accuracy	Error $\leq \pm 0.1\%$ (stroke $\geq 30\%$ maximum stroke)	Syringe material	Barrel material: Borosilicate glass
Max. stroke (Steps)	60mm (6000 steps or 48000 steps)		Plunger rod material: Stainless steel
Linear speed range	0.01mm/s - 60mm/s		Plunger seal material: PTFE
Run time per stroke	1.25s - 100min	Power supply	DC24V $\pm 10\%$ / 1.0A (Peak value)
Speed resolution	0.01mm/s	Communication interface	RS232/RS485
Stroke resolution	0.01mm or 0.00125mm	Baud rate	9600 or 38400
Valve switch time	≤ 250 ms between adjacent ports	Addressing	UP to 15 individual addresses available (BCD switch)
Valves type	Electromagnetic valve	Input	Two TTL level signal inputs, for restart the paused instruct
Valve material	Valve material touching the liquid: PFA, FFKM		Output
Tubing fittings	1/4" - 28 thread	Condition temperature	15°C - 40°C
Syringe fittings	1/4" - 28 thread	Storage temperature	-20°C - 65°C
Syringes	50 μ L, 100 μ L, 250 μ L, 500 μ L, 1.0mL,	Max. pressure	0.1Mpa
	2.5mL, 5.0m, 10mL, 25mL	Dimension (mm)	143*64.5*253 (mm)
Weight	2.20kg		

Industrial syringe pump

SP30-1A



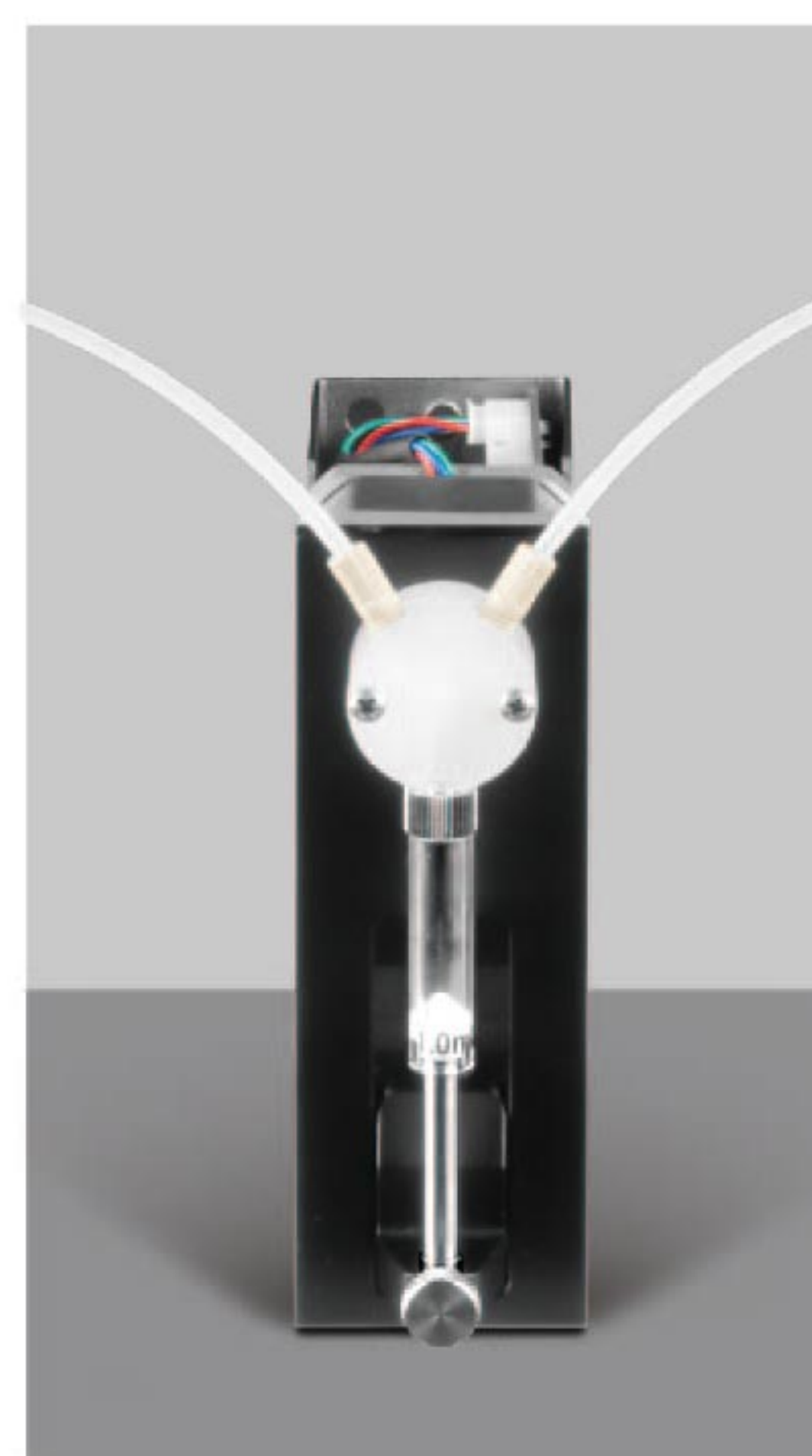
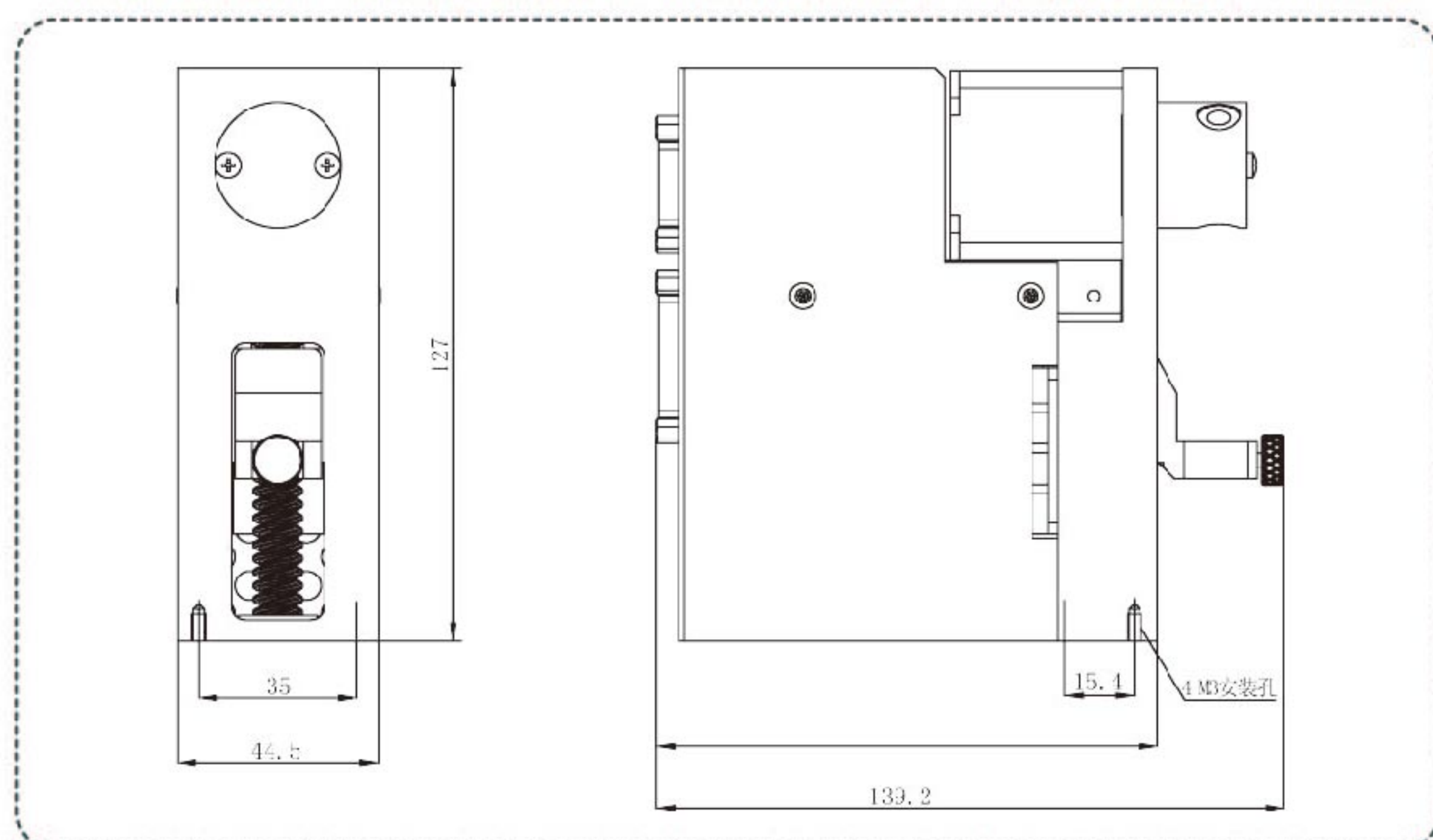
Model No.

SP30-1A

Introduction

SP30-1A is a compact OEM syringe pump, which is programmable and reliable for industrial automation application. It can be controlled through RS232/RS485 communication. It can use different size syringes for high precision fluid transferring, diluting and dispensing. Mainly used in equipment or instrument supporting.

Dimension Drawing (Unit: mm)



Technical Specifications

Accuracy	Error $\leq \pm 0.1\%$ (stroke $\geq 30\%$ maximum stroke)		Barrel material: Borosilicate glass
Plunger drive	Stepper motor driven lead screw with optical encoder for step loss detection and home flag	Syringe material	Plunger rod material: Stainless steel Plunger seal material: PTFE
Max. stroke(Steps)	30mm(3000 steps or 24000 steps)	Power supply	DC24V $\pm 10\%$ /24W
Linear speed range	0.025mm/s-25mm/s	Communication interface	RS232/RS485/CAN
Run time per stroke	1.2s-1200s	Baud rate	9600 or 38400
Speed resolution	0.01mm/s	Addressing	UP to 15 individual addresses available(BCD switch)
Stroke resolution	0.01mm or 0.00125mm	Input	Two TTL level signal inputs, for restart the paused instruct
Valve switch time	≤ 250 ms between adjacent ports	Output	Three TTL level signal outputs, for synchronous external devices
Valves type	3-port 120°(Standard)	Condition temperature	15°C-40°C
Valve material	Valve body: PCTFE Valve element: PTFE	Storage temperature	-20°C -65°C
Tubing fittings	1/4"-28 thread	Max. pressure	0.68Mpa
Syringe fittings	1/4"-28 thread	Dimension(mm)	139.2*44.5*127 (mm)
Syringes	50 μ L, 100 μ L, 250 μ L, 500 μ L, 1.0mL, 2.5mL, 5.0mL		



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