

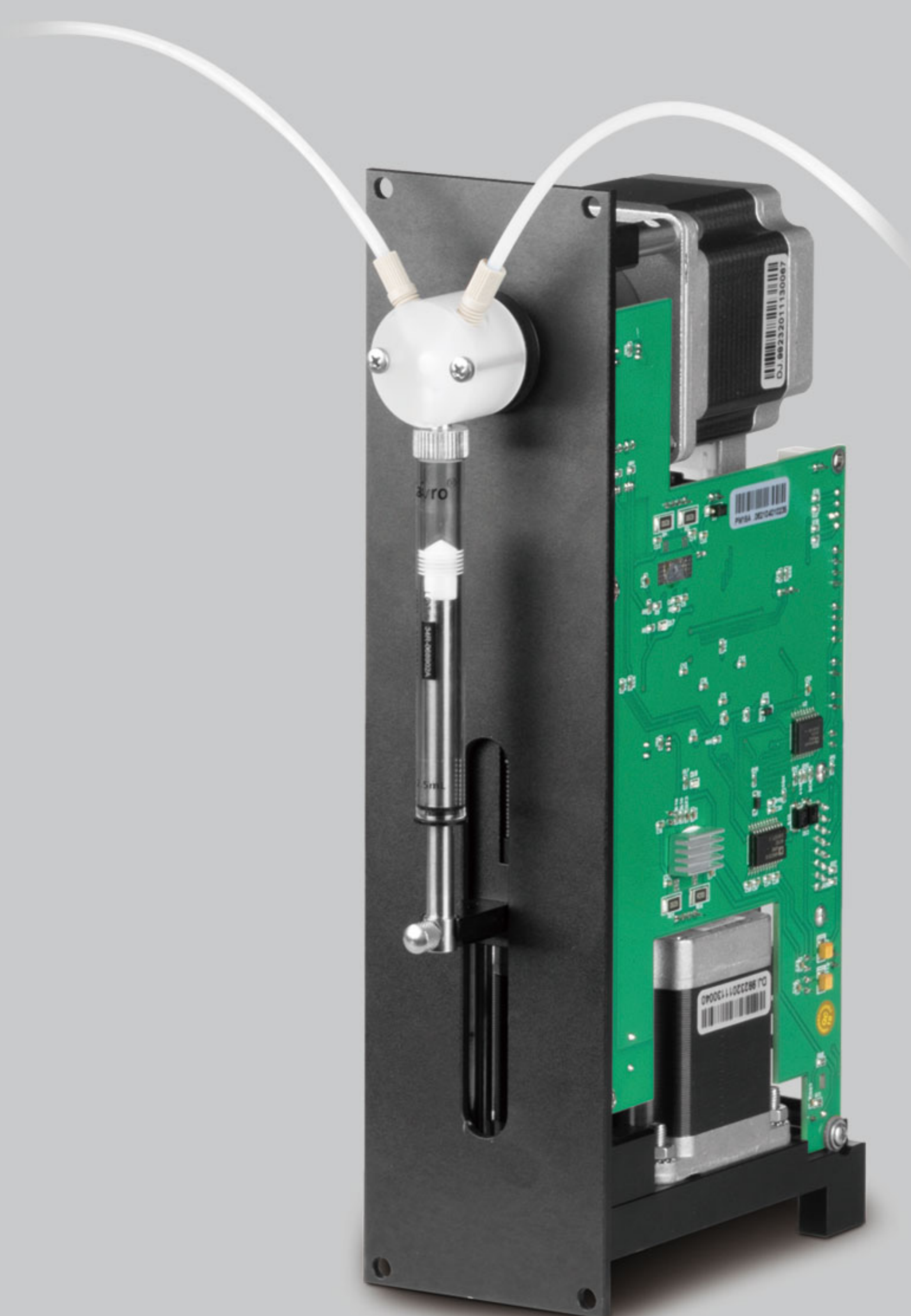
2023

DK
INFUSETEK



SYRINGE PUMP

- ◆ Constant flow syringe pump
- ◆ Laboratory syringe pump
- ◆ Industrial syringe pump



DK DK INFUSETEK CO., LTD

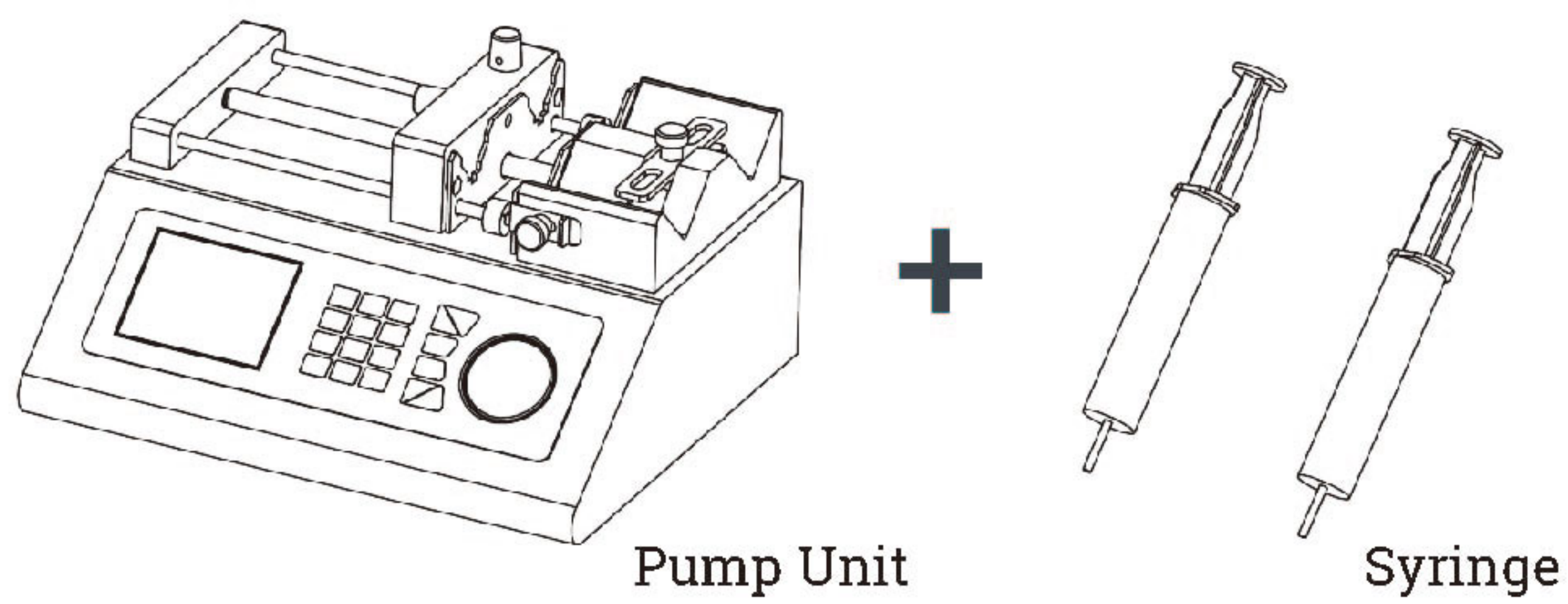


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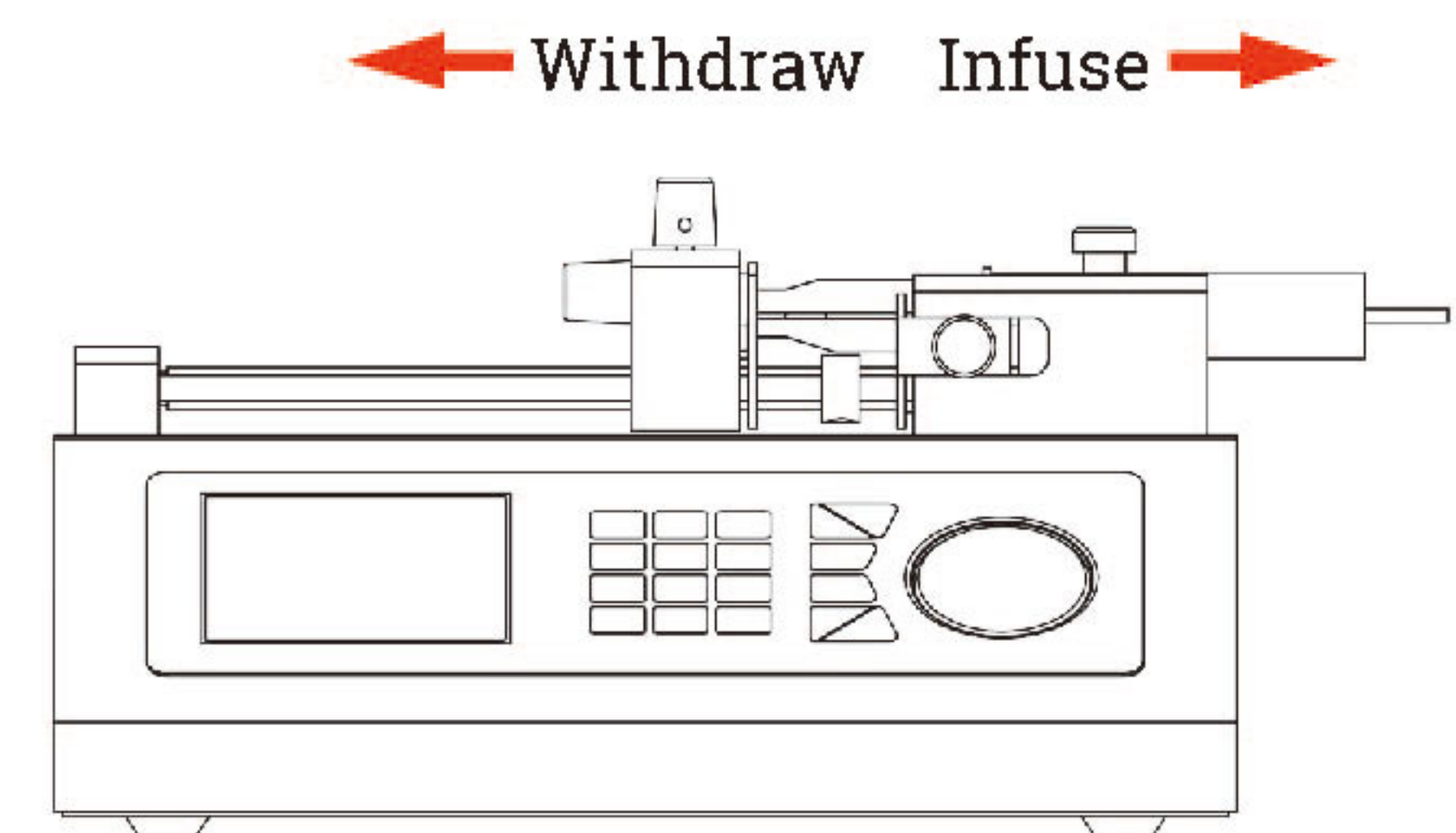
Company Profile

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

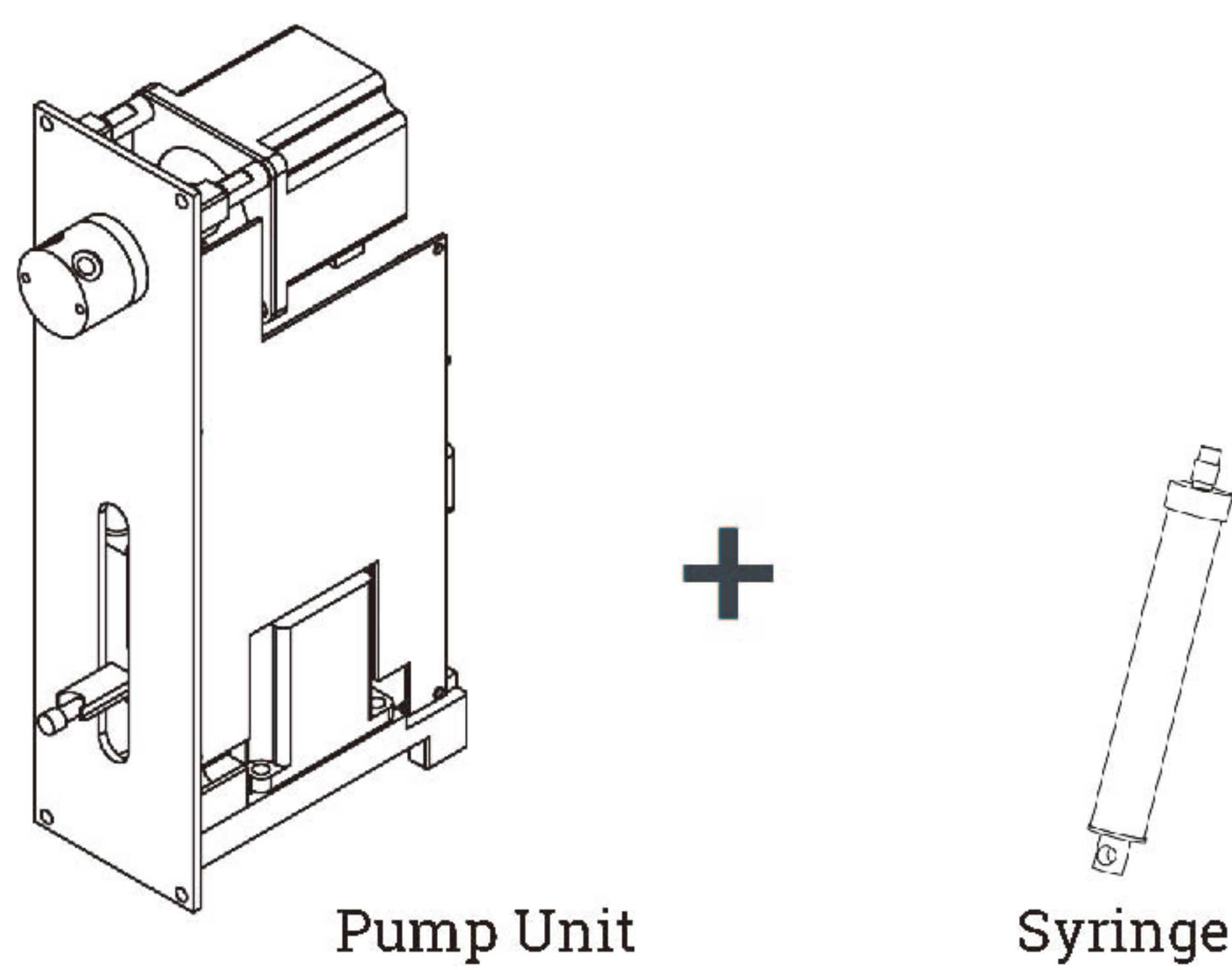
Laboratory Syringe Pump Composition



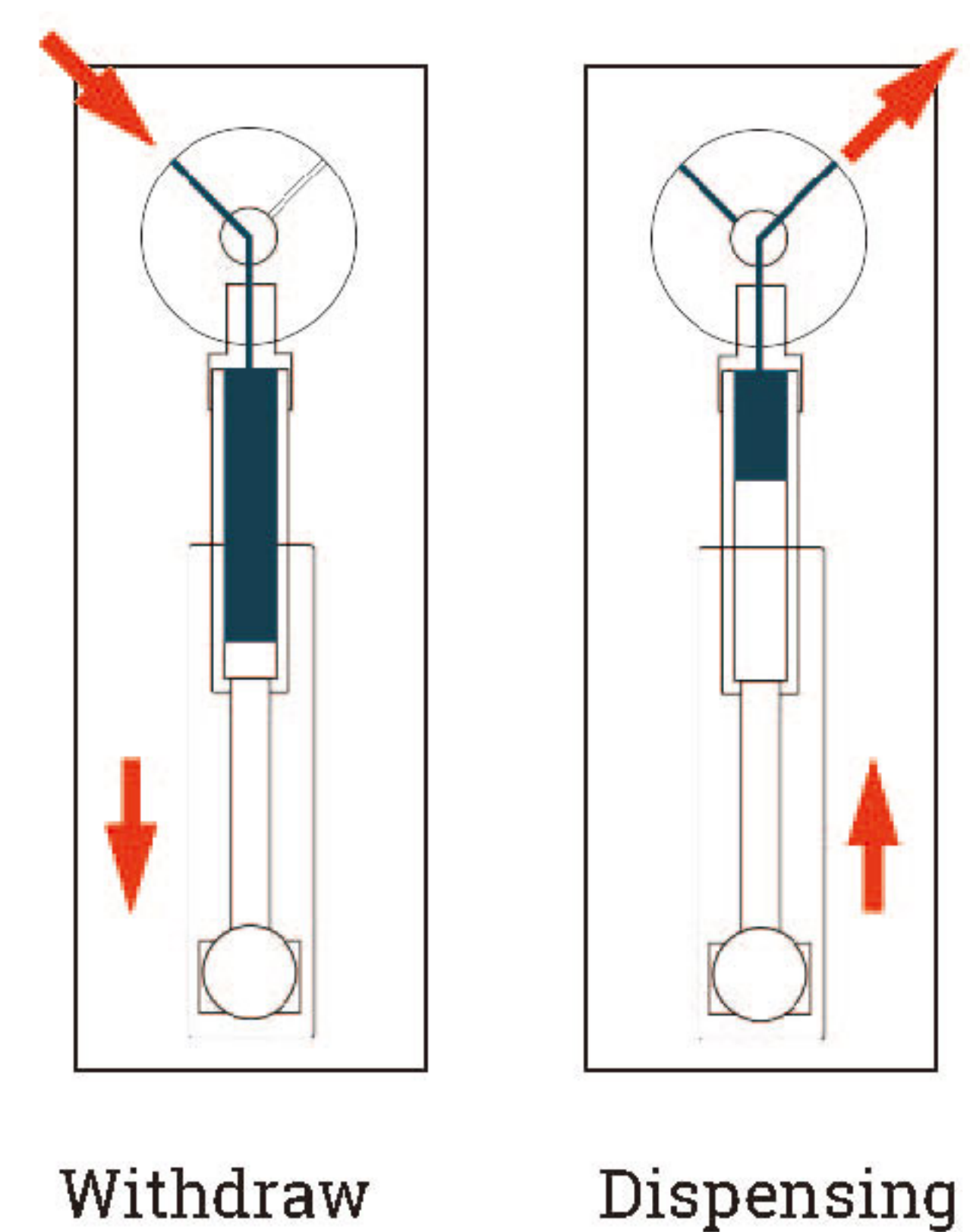
Laboratory Syringe Pump Working Principle



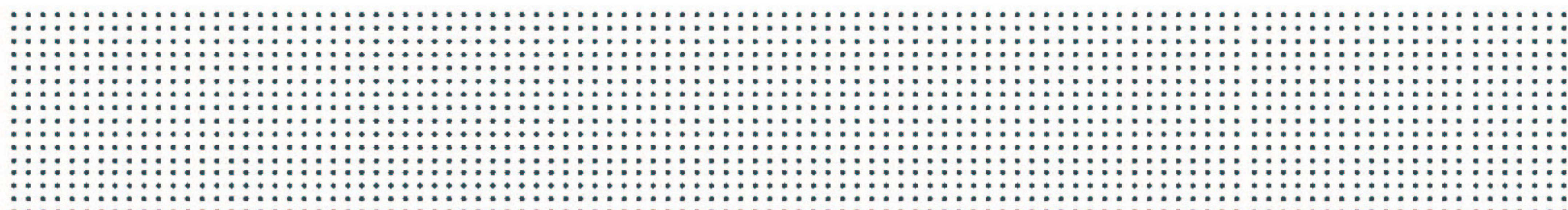
Industrial Syringe Pump Composition



Industrial Syringe Pump Working Principle



Catalog



- **Constant Flow Syringe Pump** 01
 - CFSP-I..... 01

- **Industrial Syringe Pump**.....03
 - SP60-8B03
 - SP60-1A04
 - SP60-1B05
 - SP30-1A06
 - ASD60.....07
 - ASD60-II08
 - ASD60-III.....09

- **Laboratory Syringe Pump**..... 10
 - ISPLab Series..... 10
 - SPLab Series..... 12

- **Split Type Syringe Pump**13
 - SPC13
 - SPM.....15

Continuous Flow Syringe Pump

Constinfuse- continuous flow syringe pump



Model No.

CFSP-I

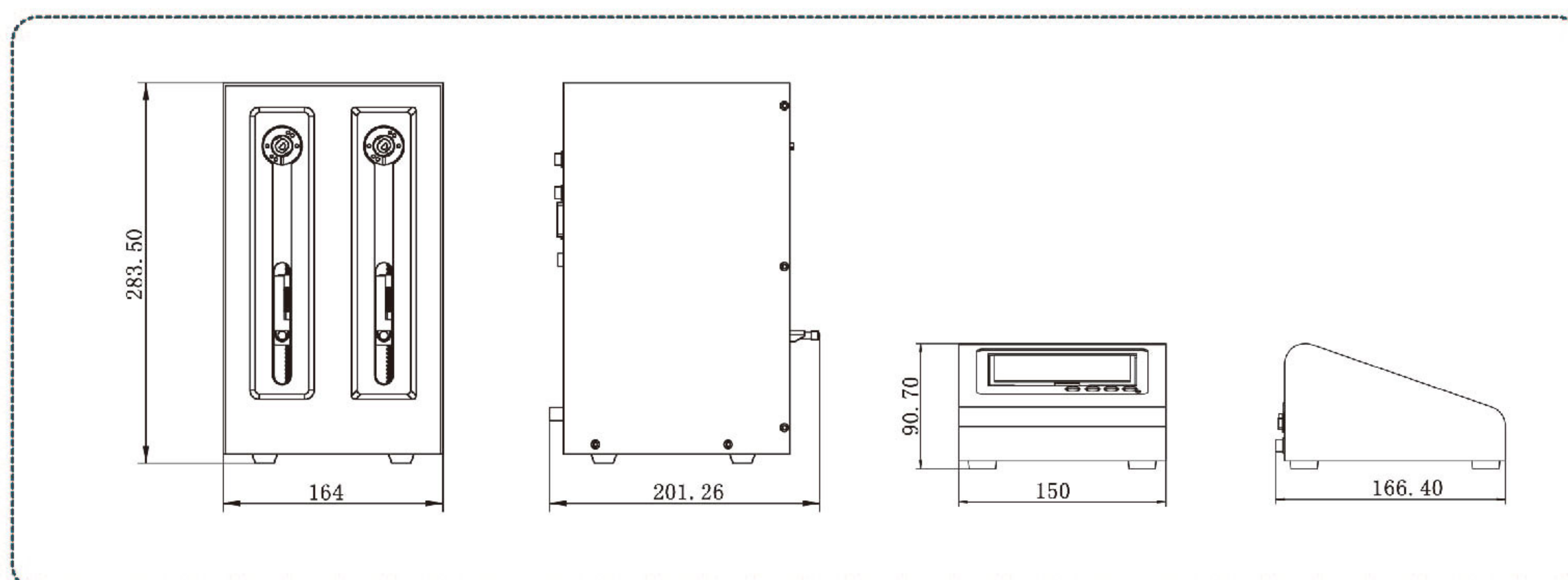
Introduction

Constinfuse- continuous flow syringe pump , focusing on the transferring and dispensing of "micro-liter" liquids. By controlling a group of alternate "withdrawal-infusion" pump units, cooperating with reversing valve, the "constant infusion" function is realized. Which not only retains the transferring accuracy of the micro volume syringe pump, but also realizes the "uninterrupted transferring" of the liquid.

Features

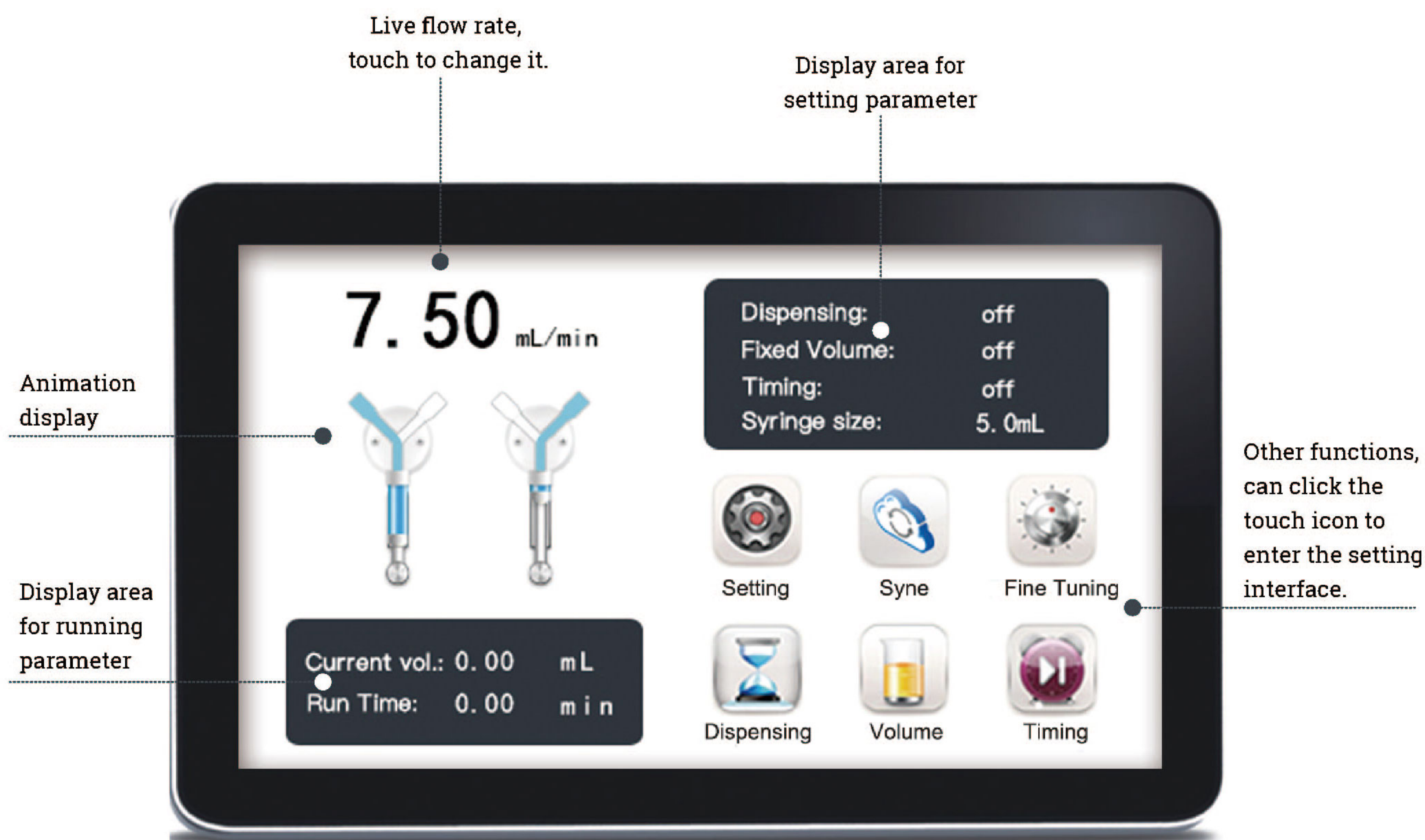
- | High precision and uninterrupted transferring of micro-liter liquids.
- | Four working modes: Continuous transferring; Fixed volume measurement; Dispensing; Timing start/stop.
- | 4.3-inch industrial-grade true color LCD screen display, friendly operation interface and synchronous simulation animation, allowing users to operate conveniently.
- | Multiple external control interfaces to meet various supporting needs.
- | Record the number of times the valve and syringe are used, which is convenient for equipment maintenance.
- | The pump unit supports "offline" operation, which enables one controller to set different parameters for pump units, which is convenient for users to use together with other equipments.
- | The controller has offline reminder and parameter synchronization function. Intelligent calibration function.
- | Closed-loop control, overload protection function, effectively protect the syringe.
- | Quiet design. 304 stainless steel spray shell.

Dimension Drawing (Unit: mm)



Continuous Flow Syringe Pump

Interface Display



Technical Specifications

Flow Rate	0.06 μ L/min-70mL/min (Pure water, and the length of the tube at the liquid inlet is less than 1 meter, and the inner diameter is 1.6mm)	
Accuracy	$\leq\pm 0.05\%$ (Maximum stroke, 500 μ L or more syringe, pure water at room temperature)	
Communication	RS232 and RS485, support Modbus protocol, RTU mode	
External Control	Passive switch signal: Start/pause function. For example: Foot pedal switch.	
	Active switch signal: Start/pause, stop, washing, initialization function. 5-24V universal.	
Output	Indicates liquid output status (Open collector output)	
Display	4.3 inch industrial-grade true color LCD screen	
Control	Touch screen and keypad	
Maximum pressure of liquid path	0.68Mpa	
Valve Type	3 port 120° valve	
Tube Connection Interface	1/4-28UNF	
Syringe Size	50 μ L, 100 μ L, 250 μ L, 500 μ L, 1.0mL, 2.5 mL, 5.0 mL, 10 mL, 25 mL	
Power Supply	Pump Unit: Standard 24V adapter	Controller: Standard 5V adapter
Environment Temperature	15°C-40°C	
Relative Humidity	<80%(RH)	

Industrial Syringe Pump

SP60-8B



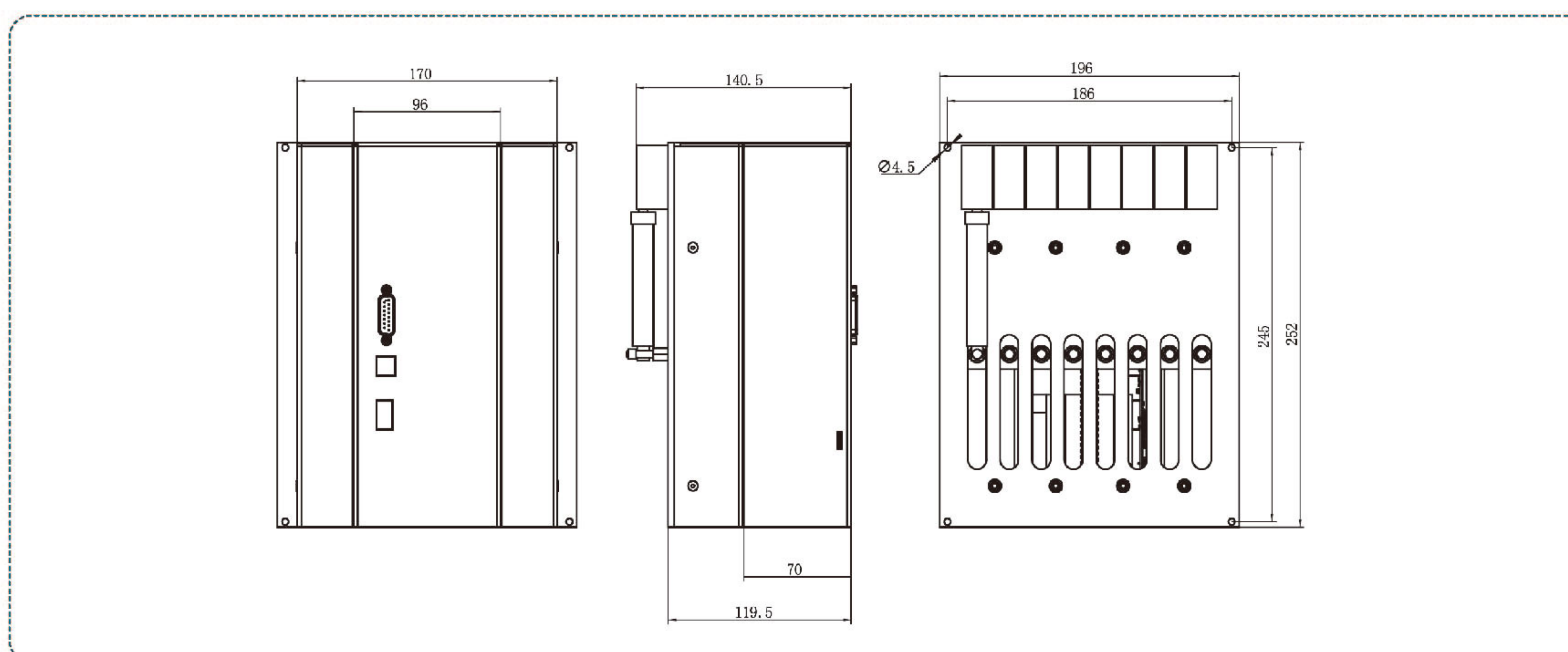
Model No.

SP60-8B

Introduction

SP60-8B is a fully programmable, open-architecture and precise liquid handling pump unit with a liquid volume range of 5 μ L-5mL. It is controlled by an external computer or microprocessor to realize automated pipetting, dilution and dispensing functions.

Dimension Drawing (Unit: mm)



Technical Specifications

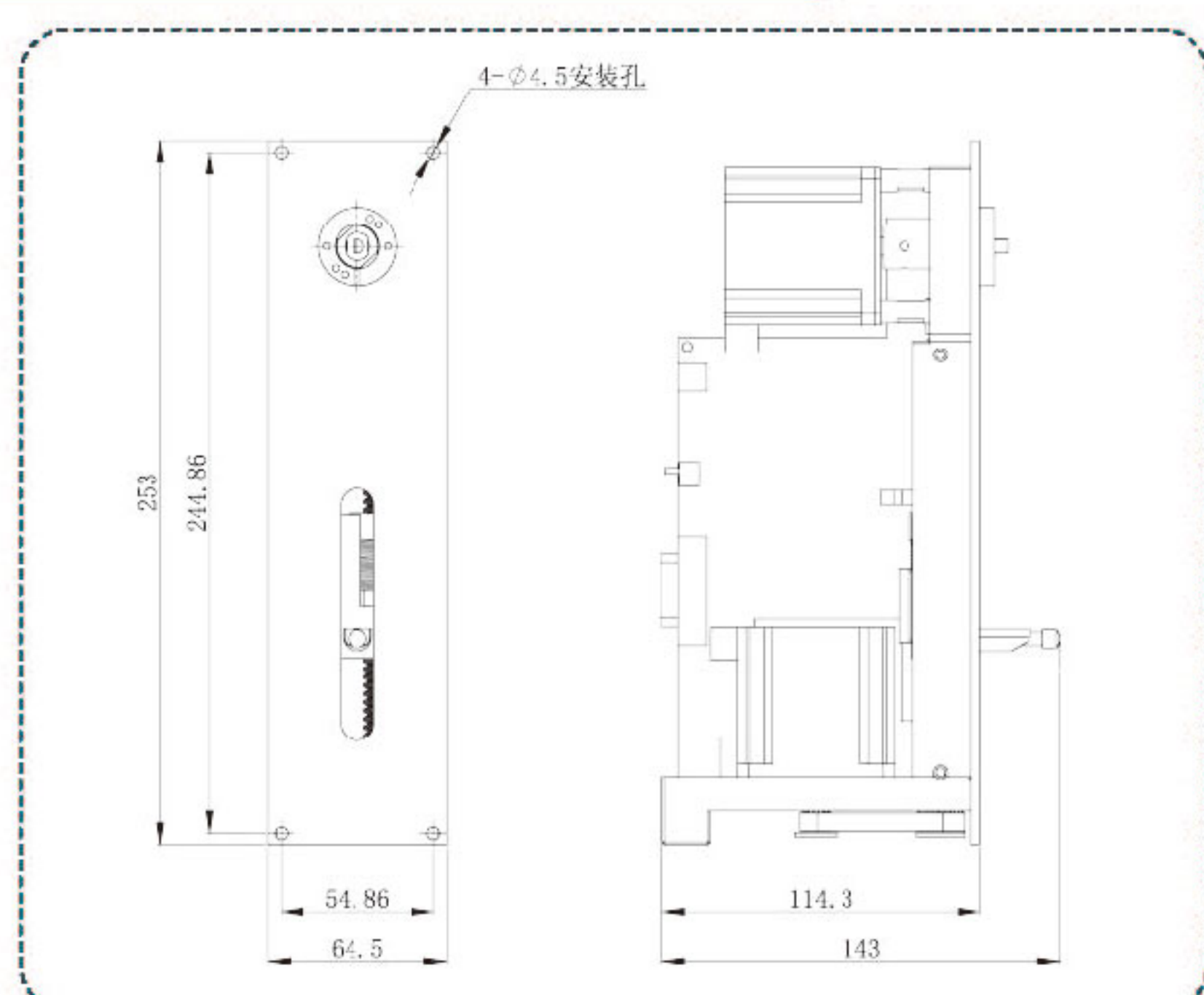
Stroke resolution	Normal mode: 6000 steps	Accuracy of syringe	$\leq 1\%$ at full stroke
	Micro step mode: 48000 steps	Syringe material	Valve body: PEEK; The diaphragm:FKM
Working principle	The stepping motor drives the screw rod and there is a quadrature encoder to detect step loss	Syringe fittings	1/4-28UNF
		Syringe fluid contact	PEEK,FKM
Max. stroke	60mm	Valve body rated pressure	0.2MPa
Syringe piston speed	1-6000Steps/sec	Voltage	24V+ 10% DC
Syringes	50 μ L, 100 μ L, 250 μ L, 500 μ L, 1mL, 2.5mL, 5mL	Electric current	Configuration 2.5A (Peak value)
Syringe rod barrel material	Borosilicate hydrochloride glass	Communication	RS232, RS485
		Baud rate	9600 or 38400
Syringe plunger material	stainless steel	Input	Two TTL level signal inputs
		Output	Three TTL level signal outputs
Syringe seal material	High purity Teflon (PTFE, TFE) and UHMWPE (Black sealing plug)	Dimension(L*W*H)	252mm*196mm*119.5mm(Without injector)
		Weight	3750.0g(Without injector)
Syringe precision	$\leq 0.05\%$ CV Per stroke (Syringes above 500 μ L); $\leq 0.5\%$ CV Per stroke (250 μ L and 100 μ L syringes)	Condition temperature	1 $^{\circ}$ C--40 $^{\circ}$ C
		Operating humidity	20%- 80% at 40 $^{\circ}$ C
		Storage temperature	-20 $^{\circ}$ C-65 $^{\circ}$ C

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	Power supply	Plunger seal material: PTFE
Run time per stroke	1.25s-100min		DC24V $\pm 10\%$ /1.25A(Peak value)
Speed resolution	0.01mm/s	Communication interface	RS232/RS485/CAN
Stroke resolution	0.01mm or 0.00125mm		Baud rate
Valve switch time	≤ 250 ms between adjacent ports	Addressing	UP to 15 individual addresses available(BCD switch)
Valves type	3 port 120° valve, 4 port 90° valve, 3 port distribution valve, 9 port distribution valve		Input
Valve material	Valve body: PCTFE Valve element: PTFE	Output	Three TTL level signal outputs, for synchronous external devices
Tubing fittings	1/4-28UNF		Condition temperature
Syringe fittings	1/4-28UNF	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



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:

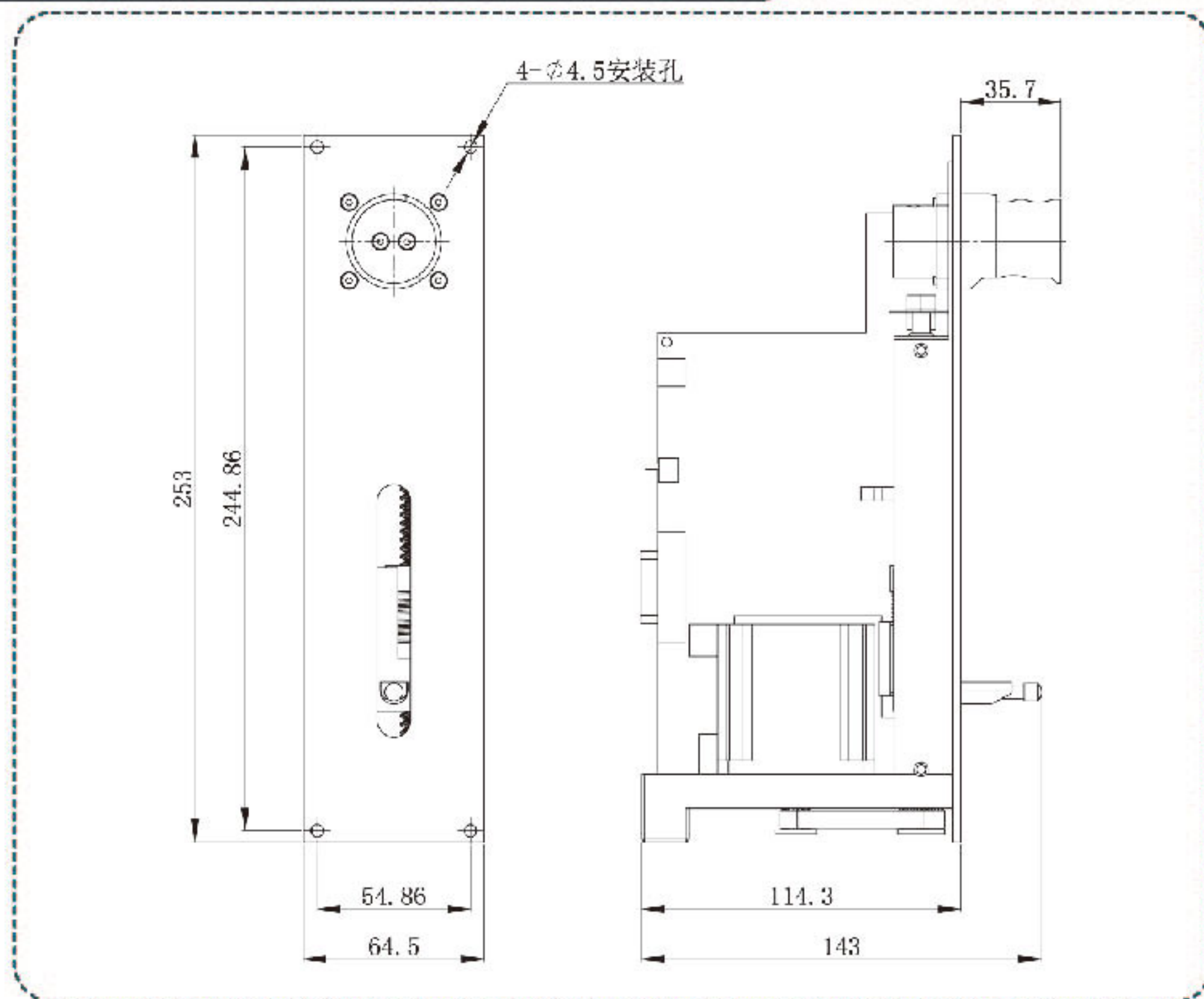
RS-232/RS-485 communication interfaces;

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)

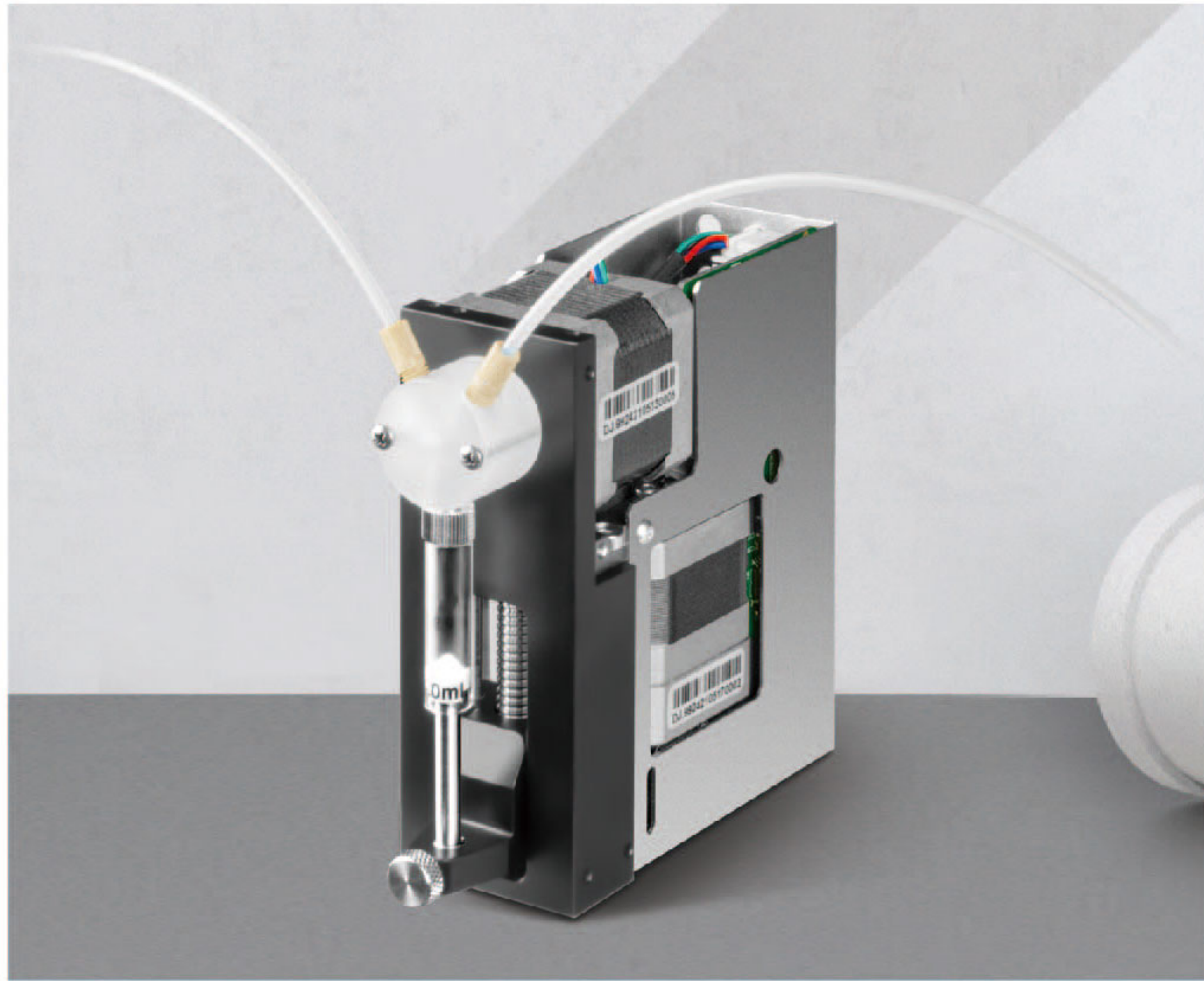


Technical Specifications

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 $\pm 10\%$ /1.25A(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	1/4-28UNF	Condition temperature	15 $^{\circ}$ C-40 $^{\circ}$ C
Syringe fittings	1/4-28UNF	Storage temperature	-20 $^{\circ}$ C -65 $^{\circ}$ 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



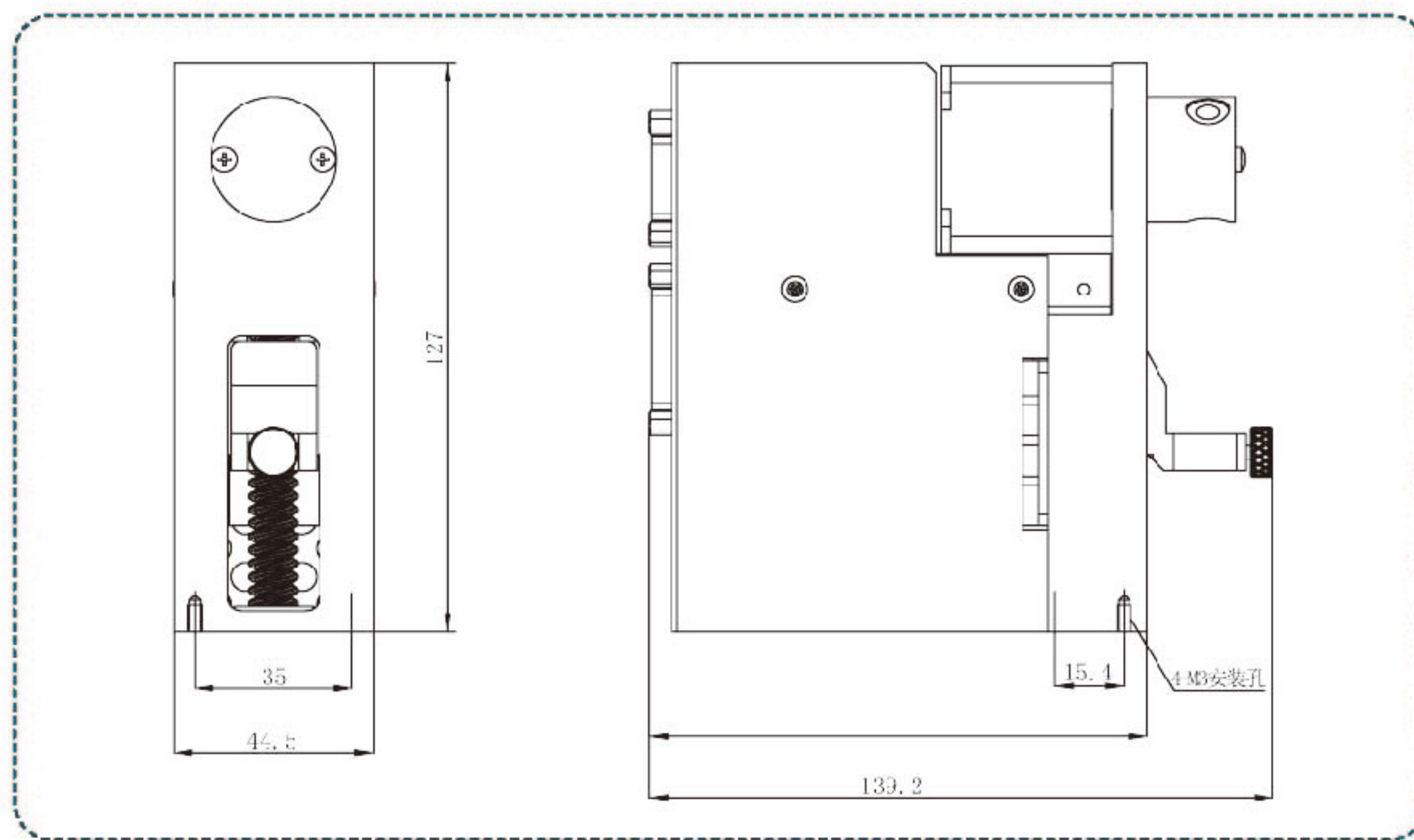
Model No.

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/CAN 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)	Syringe material	Barrel material: Borosilicate glass
Plunger drive	Stepper motor drives ball screw, quadrature encoder detects out-of-step and returns to zero		Plunger rod material: Stainless steel
Max. stroke(Steps)	30mm(3000 steps or 24000 steps)	Power supply	Plunger seal material: PTFE
Linear speed range	0.025mm/s-25mm/s		DC24V $\pm 10\%$ /1.25A
Run time per stroke	1.2s-1200s	Communication interface	RS232/RS485/CAN
Speed resolution	0.005mm/s		Baud rate
Stroke resolution	0.01mm or 0.00125mm	Addressing	UP to 15 individual addresses available(BCD switch)
Valve switch time	≤ 250 ms between adjacent ports		Input
Valves type	3 port 120° valve, 4 port 90° valve, 3 port distribution valve, 9 port distribution valve	Output	Three TTL level signal outputs, for synchronous external devices
Valve material	Valve body: PCTFE Valve element: PTFE		Condition temperature
Tubing fittings	1/4-28UNF	Storage temperature	-20°C -65°C
Syringe fittings	1/4-28UNF	Max. pressure	0.68Mpa
Syringes	50 μ L, 100 μ L, 250 μ L, 500 μ L, 1.0mL, 2.5mL, 5.0mL	Dimension(mm)	139.2*44.5*127 (mm)

◀◀◀ Laboratory Syringe Pump

Programmable Syringe Pump



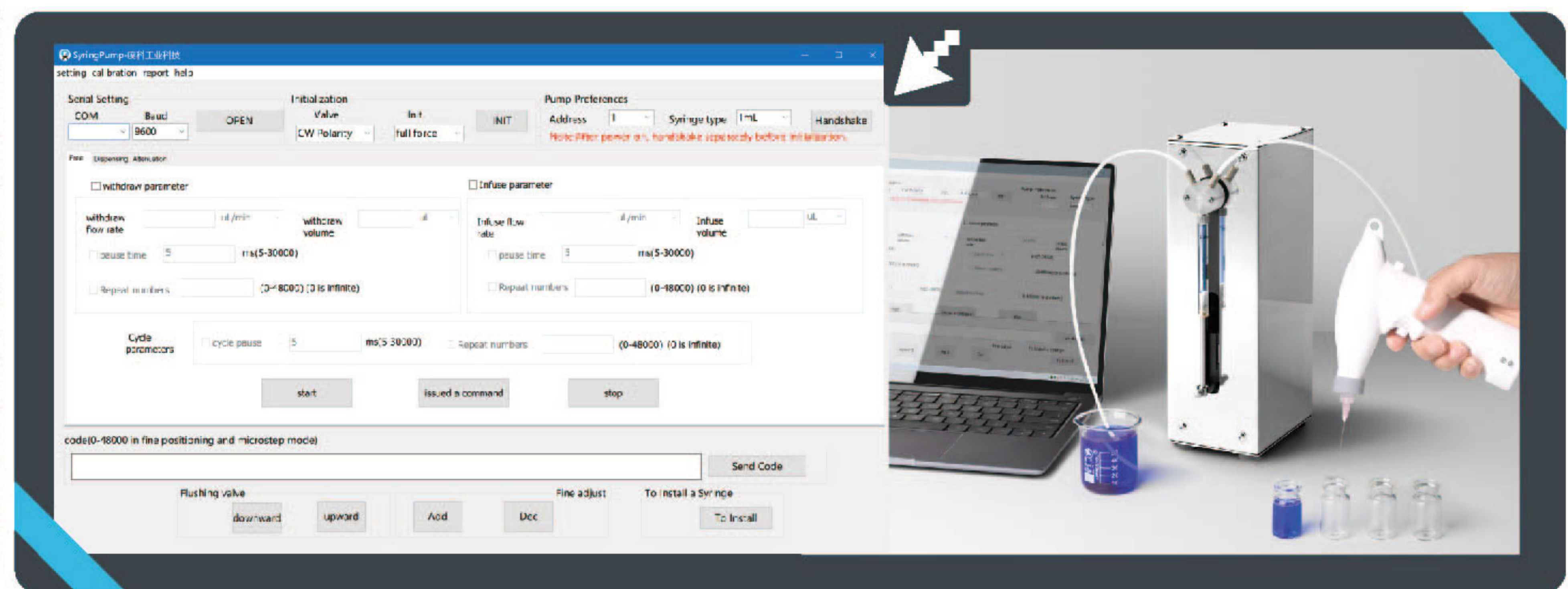
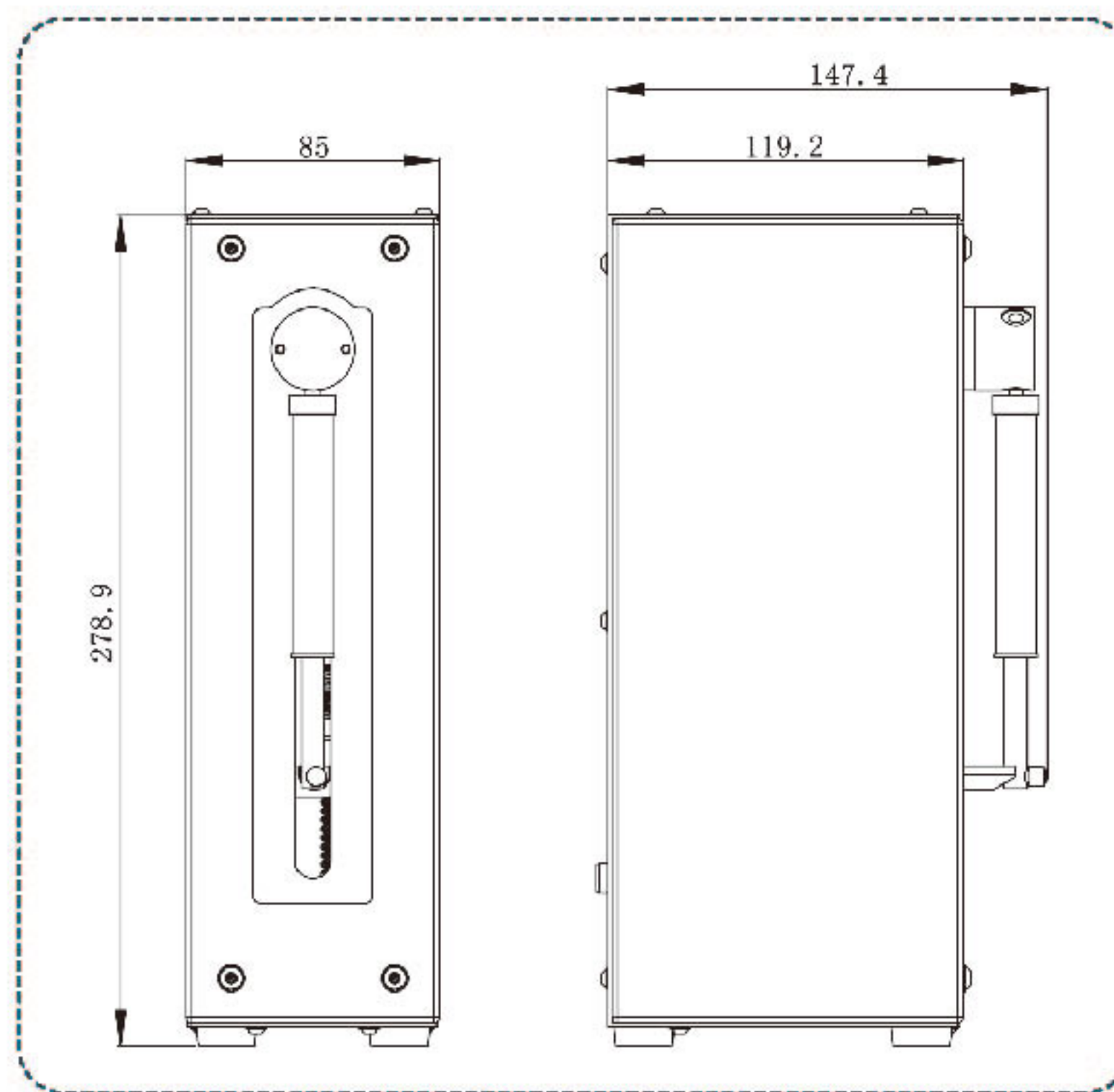
Model No.

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 $\pm 10\%$ /1.25A(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° valve, 4 port 90° valve, 3 port distribution valve, 9 port distribution valve		Input
Tubing fittings	1/4-28UNF	Output	Three TTL level signal outputs, for synchronous external devices
Syringe fittings	1/4-28UNF		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	0.68Mpa	Dimension(mm)	147.4*85*278.9mm
Weight	3.25kg		

◀◀◀ Laboratory Syringe Pump

Programmable Syringe Pump



ASD60-II

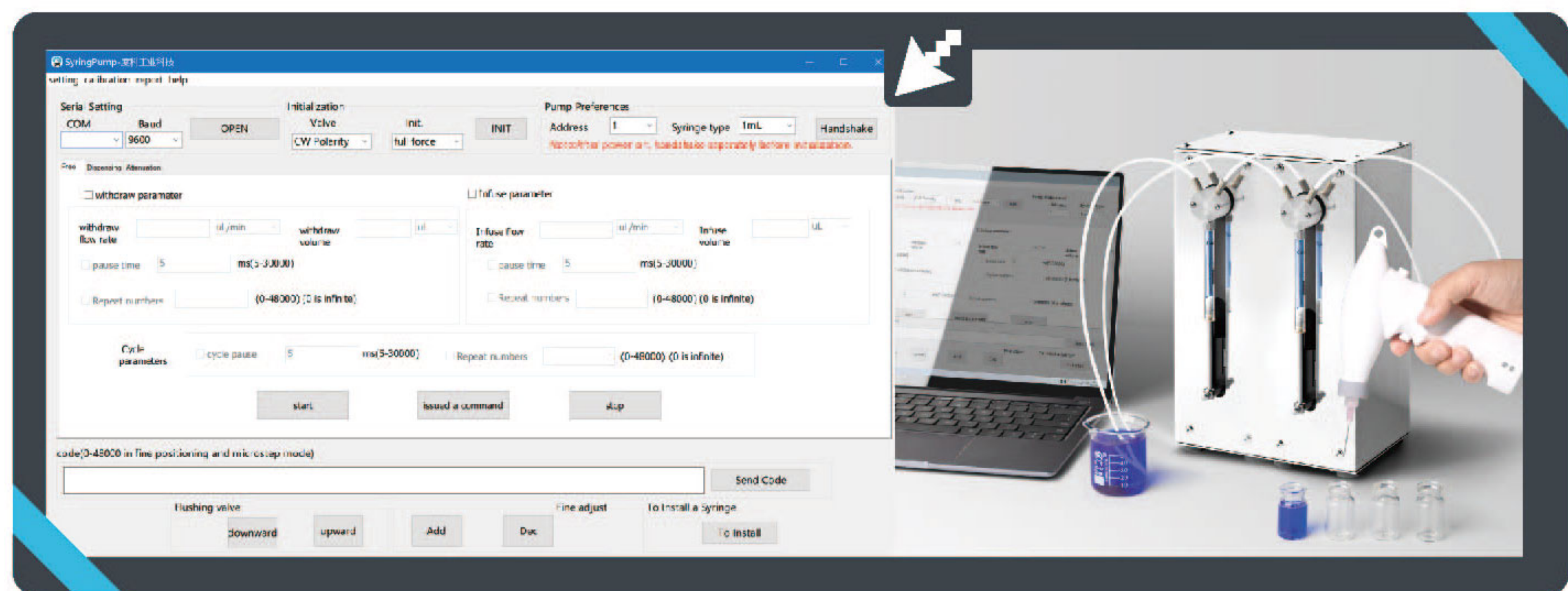
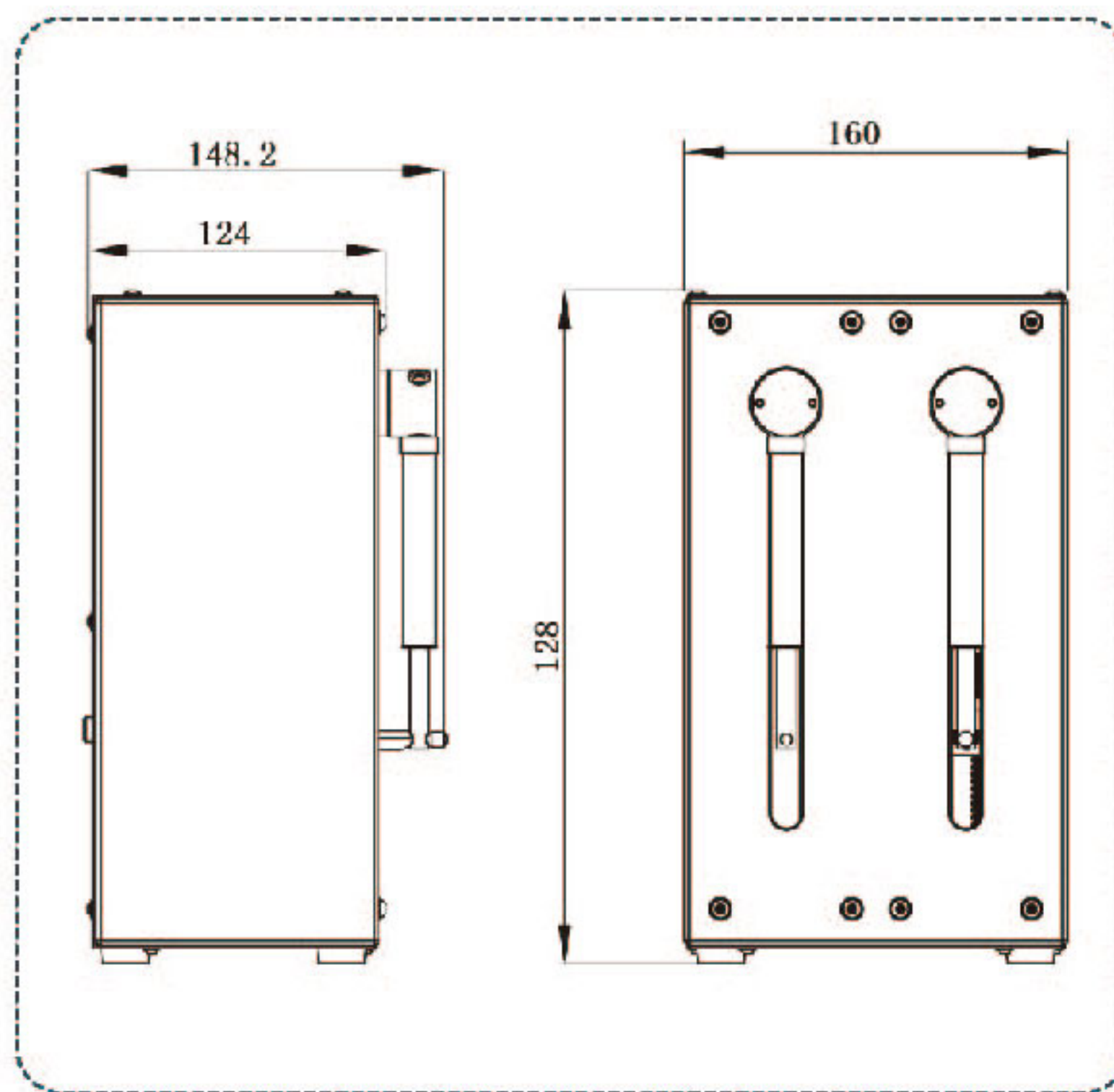
Model No.

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)		Barrel material: Borosilicate glass
Max. stroke(Steps)	60mm (6000 steps or 48000 steps)	Syringe material	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	1/4-28UNF	Output	Three TTL level signal outputs, for synchronous external devices
Syringe fittings	1/4-28UNF	Condition temperature	15°C-40°C
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	0.68Mpa	Dimension(mm)	147.4*85*278.9mm
Weight	3.25kg		

◀◀◀ Laboratory Syringe Pump

Programmable Syringe Pump



ASD60-III

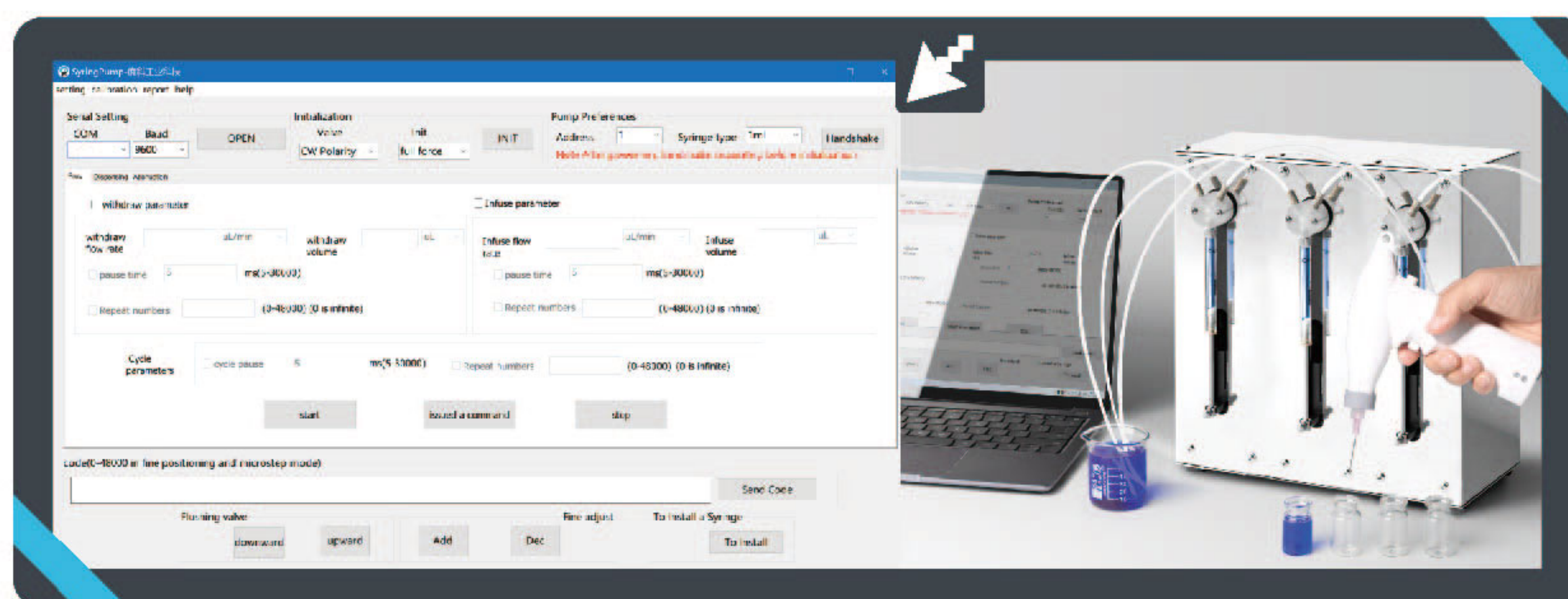
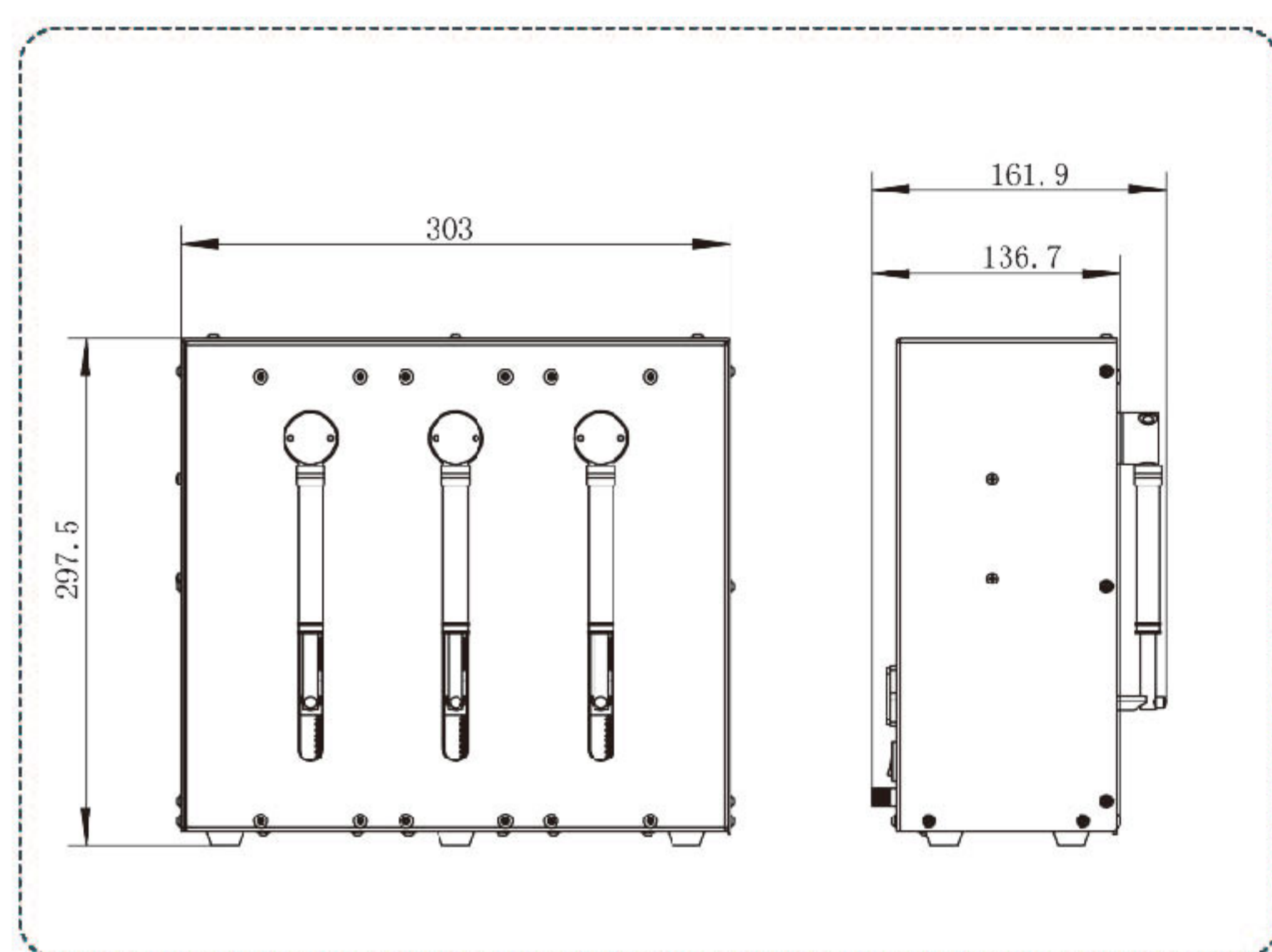
Model No.

ASD60-III

Introduction

ASD60-III 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 $\pm 10\%$ /1.25A(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° valve, 4 port 90° valve, 3 port distribution valve, 9 port distribution valve		
Tubing fittings	1/4-28UNF	Input	Two TTL level signal inputs, for restart the paused instruct
Syringe fittings	1/4-28UNF		
Syringes	50 μ L, 100 μ L, 250 μ L, 500 μ L, 1.0mL, 2.5mL, 5.0m, 10mL, 25mL	Output	Three TTL level signal outputs, for synchronous external devices
Max. pressure	0.68Mpa		
Weight	7.0kg	Condition temperature	15°C-40°C
		Storage temperature	-20°C -65°C
		Dimension(mm)	303*161.9*297.5mm

◀◀◀ Laboratory Syringe Pump

Intelligent Syringe Pump

ISPLab Series



Model No.

ISPLab01, ISPLab02, ISPLab04, ISPLab06, ISPLab08, ISPLab10, ISPLab12
ISPLab01-G, ISPLab01-G2, ISPLab02-G1

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.

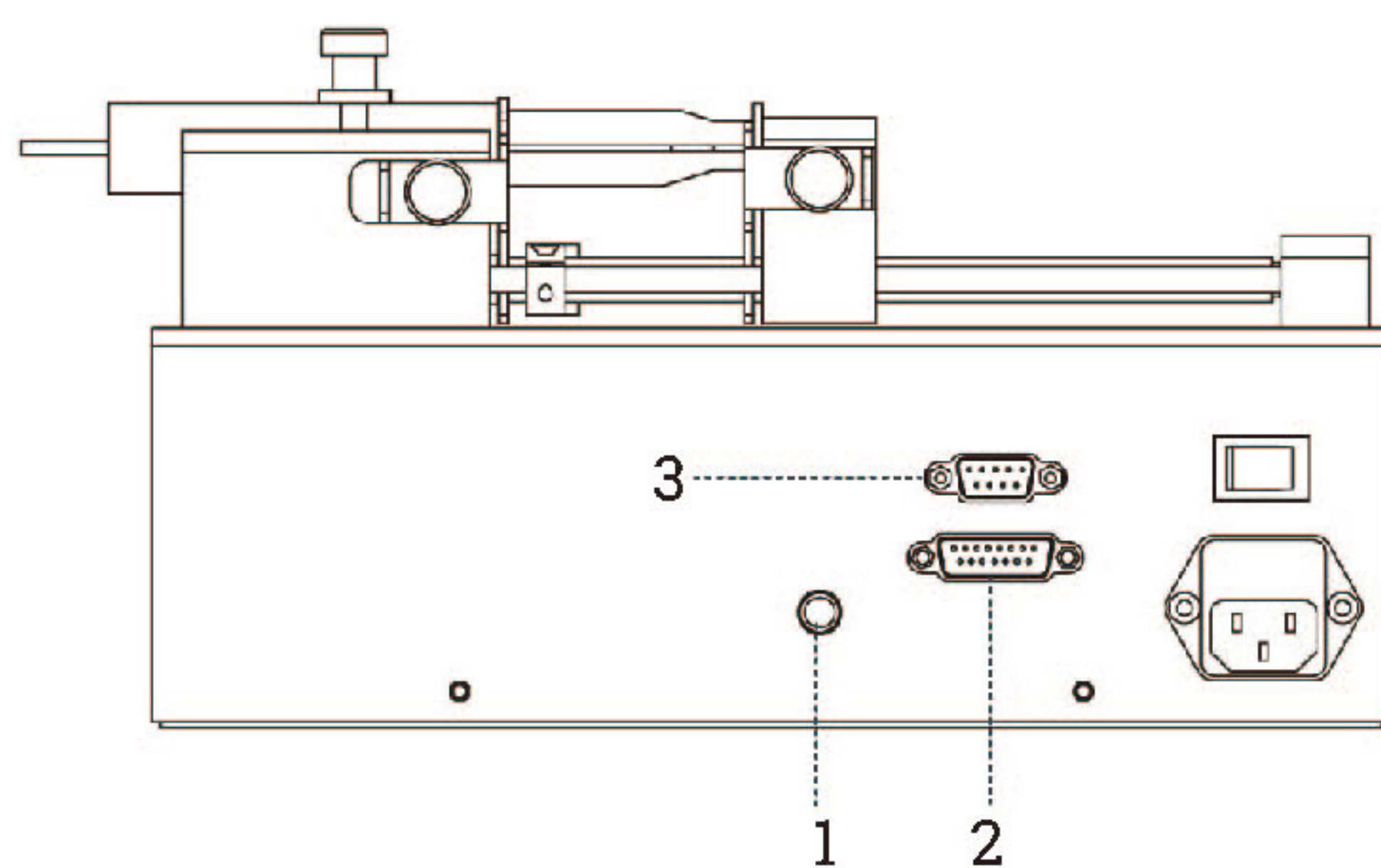
| 4 different working modes:

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

◀◀◀ Laboratory Syringe Pump

Technical Specifications

Working mode	Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion						
Channel number	1	2	4	6	8	10	12
Syringe size	0.5μL-150mL			0.5μL-10mL			
Syringe selection	ISPLab01-G1/ISPLab02-G1: 1-25mL; ISPLab01-G2: 50mL, 100mL(Glass syringe)						
	Syringe size and customized diameter						
Linear speed range	1μm/min-132mm/min(Flow rate=Linear speed* syringe inner cut area)						
Min. linear rate	1μm/min						
Linear force	8-20kgf, online adjust						
Max. stroke	140mm						
Stoke resolution	0.078μm/μstep						
Accuracy	Error $\pm 0.3\%$ (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	AC100-240V/65W						
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(uL/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

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	0.5μL-150mL			0.5μL-10mL			
	SPLab01-G1/SPLab02-G1: 1-25mL; SPLab01-G2: 50mL 100mL(Glass syringe)						
Syringe selection	Syringe size and customized diameter						
Linear speed range	5μm/min-132mm/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)	
		SPLab01/SPLab02	SPLab04-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	————

◀◀◀ Laboratory Syringe Pump

Programmable Syringe Pump



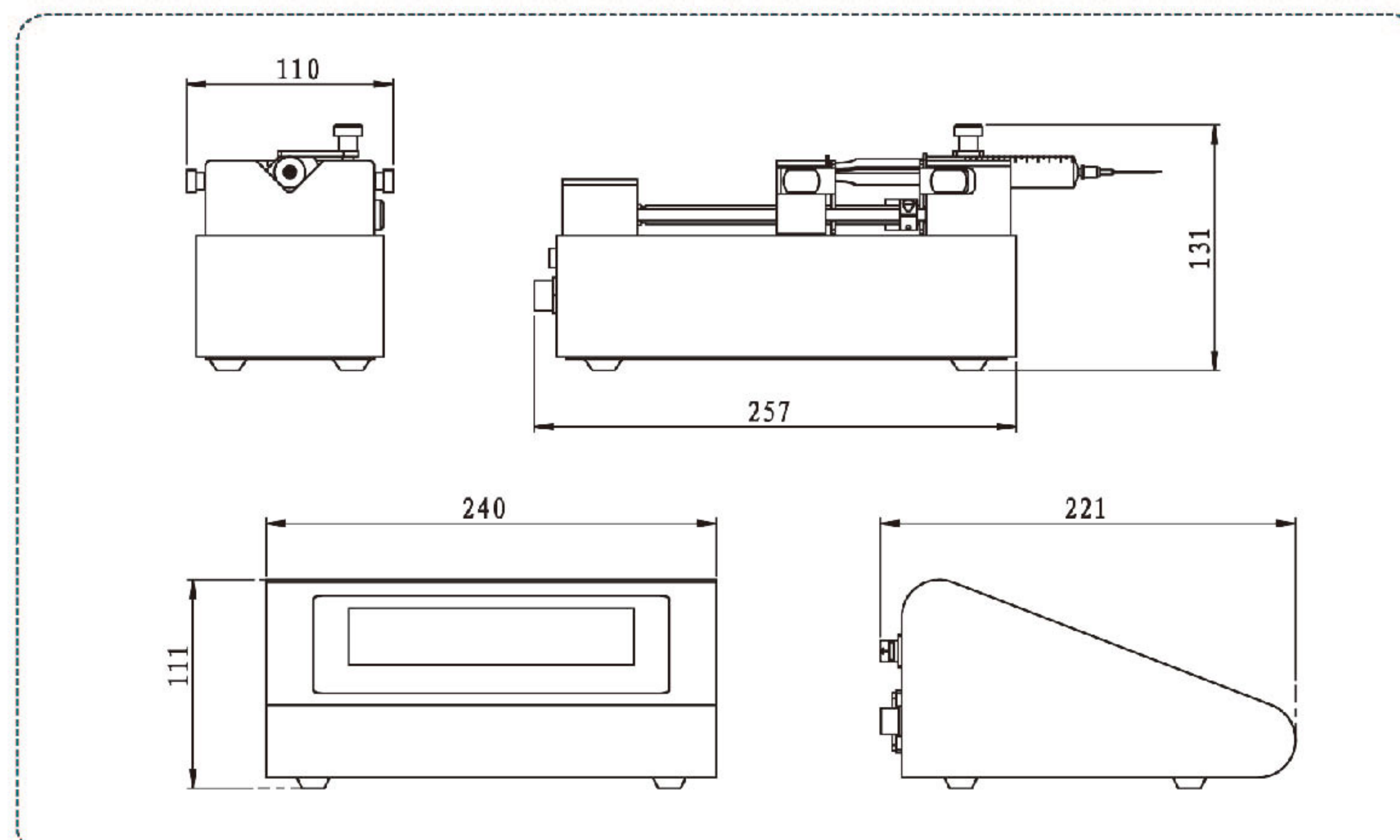
Model Number

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.

Dimension Drawing (Unit: mm)



Features

| Online flow rate modification function:

The pump is running, without stopping, adjust the flow rate at any time to meet complex application.

| 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.

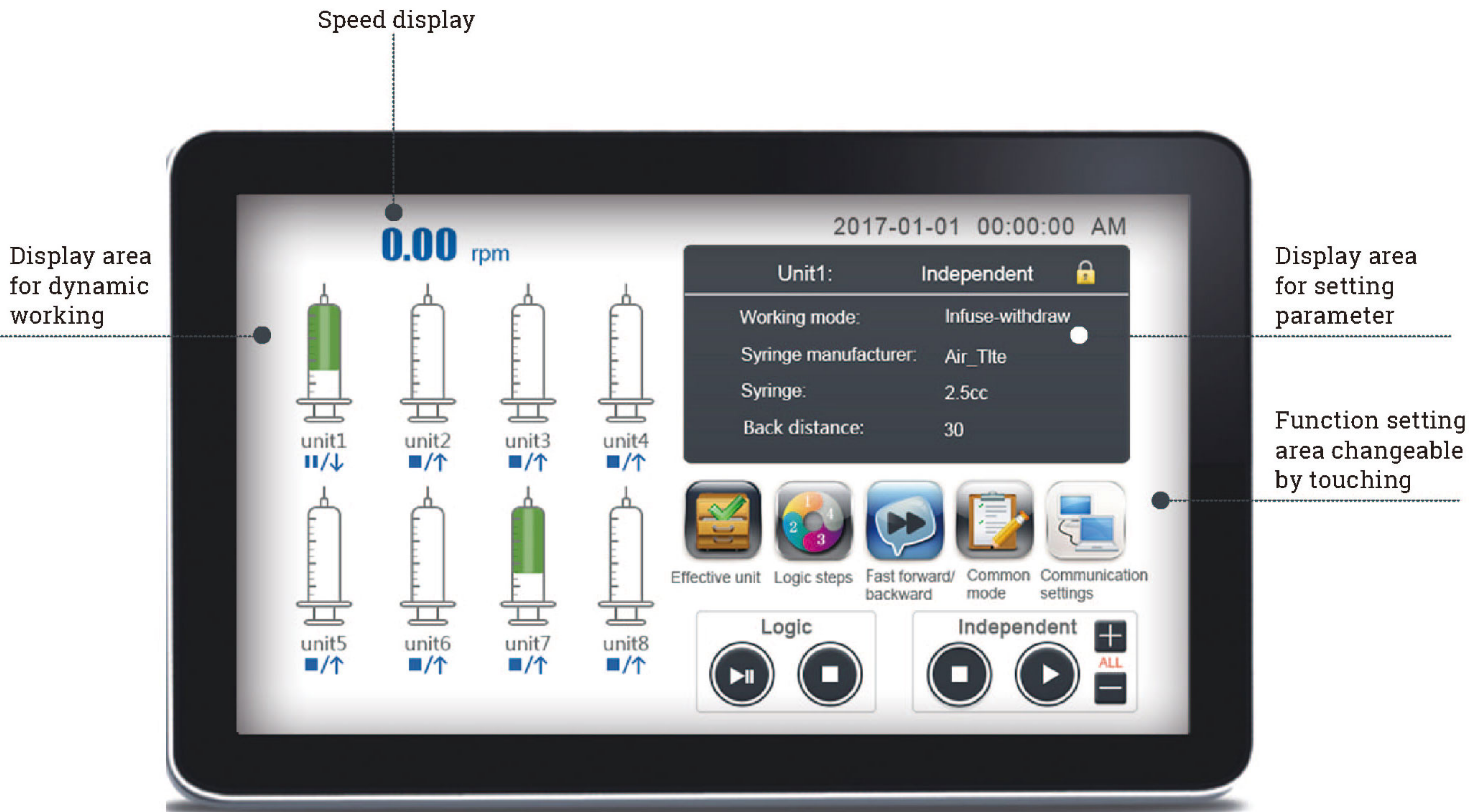
| Real time monitor, animate display monitor result. Controller can receive traffic alarm of each unit.

| 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.

◀◀◀ Laboratory Syringe Pump

Interface Display



Technical Specifications

Working mode(Five)	Infusion,withdrawal,infusion/ withdrawal,withdrawal/infusion	Display	Industrial grade 7"LCD color display
		Control method	Touch screen
Pump unit	1-8 for option	Power-off memory	Display the previous data parameter after power supply again
Syringe size	10μL-60mL		
Syringe selection	Syringe size and customized diameter	External control signal	Start/stop signal, active switch signal (5-24V universal) All start/stop signal, passive switch signal, such as foot pedal switch
Linear speed range	1μm/min-132mm/min (Flow rate=Linear speed* syringe inner cut area)	Communication interface	RS232/RS485, Modbus protocol (RTU mode)
Min. linear rate	1μm/min		
Linear force	≥16Kgf	Controller power supply	DC5V/10W
Max. stroke	90mm	Pump unit power supply	DC24V/30W
Stoke resolution	0.078μm/μStep	Condition temperature	0-40°C
Accuracy	Stroke≥30% maximum stroke, Error≤ ±0.5%	Relative humidity	< 80%
		IP rate	IP31
Back distance	0.01--5mm	Controller dimension	240×221×111 (mm)
Working mode	Independent running mode and Logic running mode	Controller weight	2.0kg
		Pump unit dimension	257×110×131 (mm)
Stored modes	5 group data of each running mode	Pump unit weight	3.0kg

◀◀◀ Laboratory Syringe Pump

Programmable Syringe Pump



Model No.

SPM/ZU-I

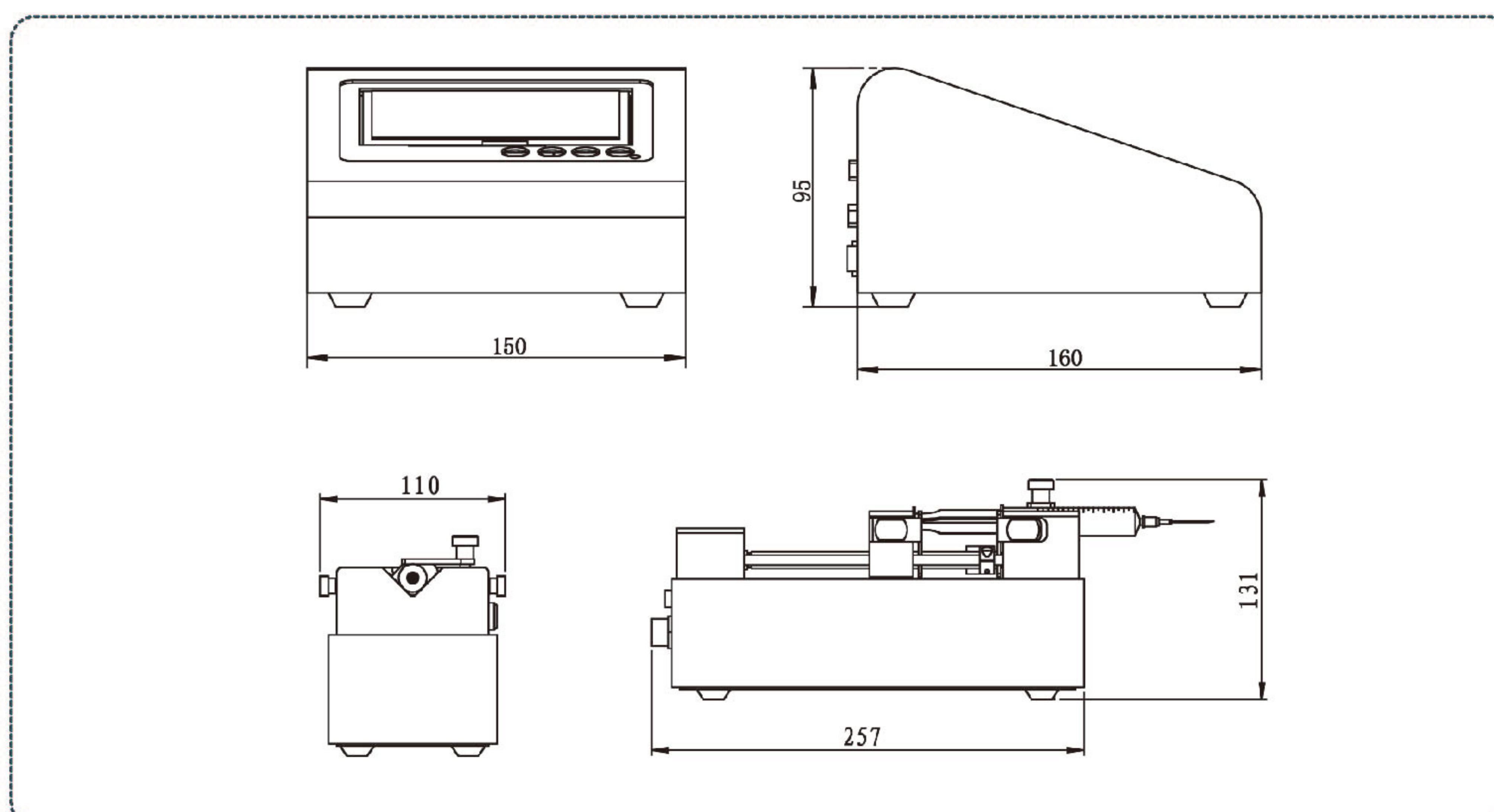
Introduction

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

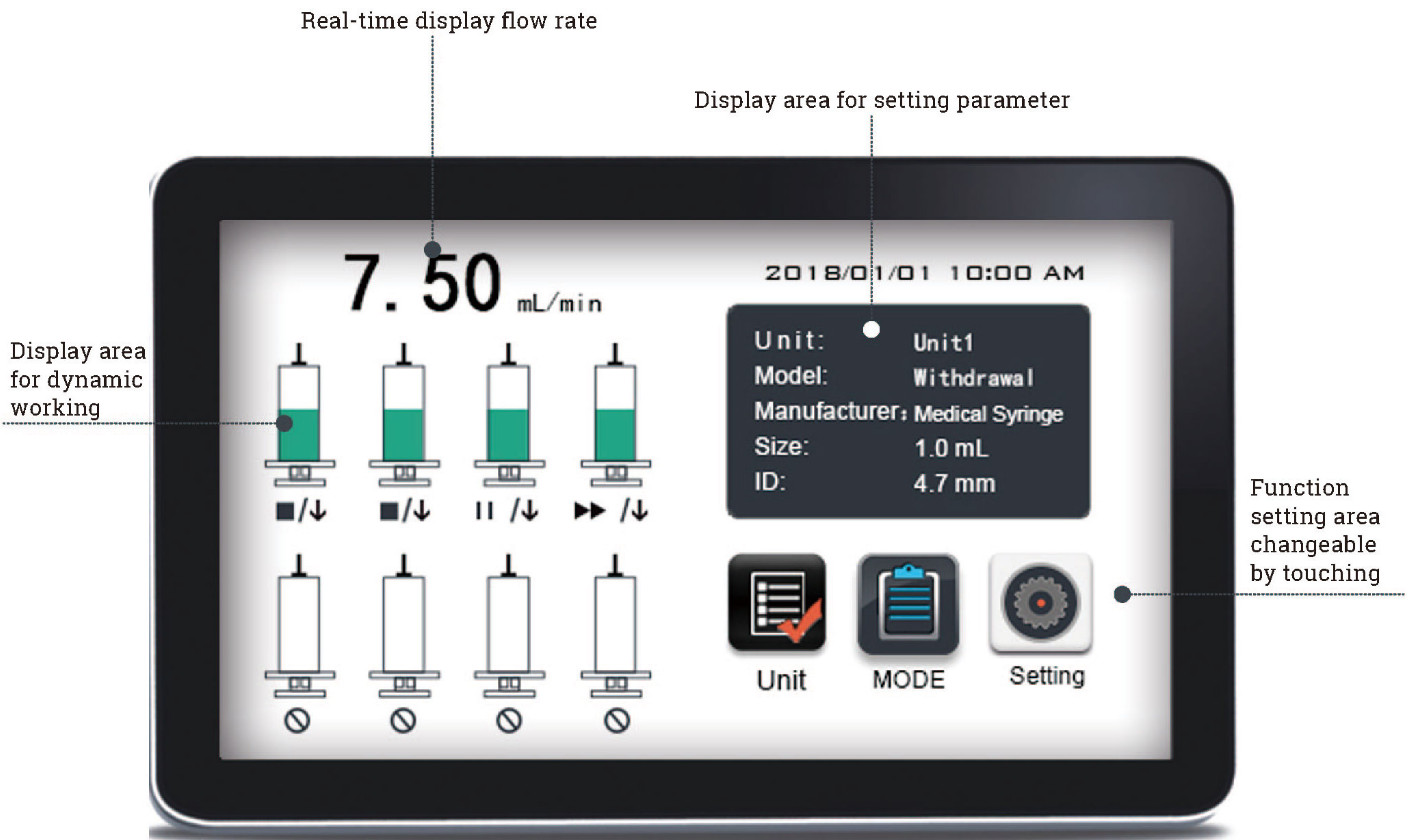
- | Each unit working independently, can set one or some units freely.
- | Each unit can infuse or withdraw different volume in same time or different time.
- | Intelligent calibration, ensure infuse volume accuracy. Online micro adjusting function, convenient to adjust the volume of one units, decrease 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/30W
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	1.0kg
Working mode	Independent working mode	Pump unit dimension	257×110×131 (mm)
Stored modes	Can save 10 group working modes	Pump unit weight	3.0kg



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