

## Intelligent Syringe Pump

### SPL



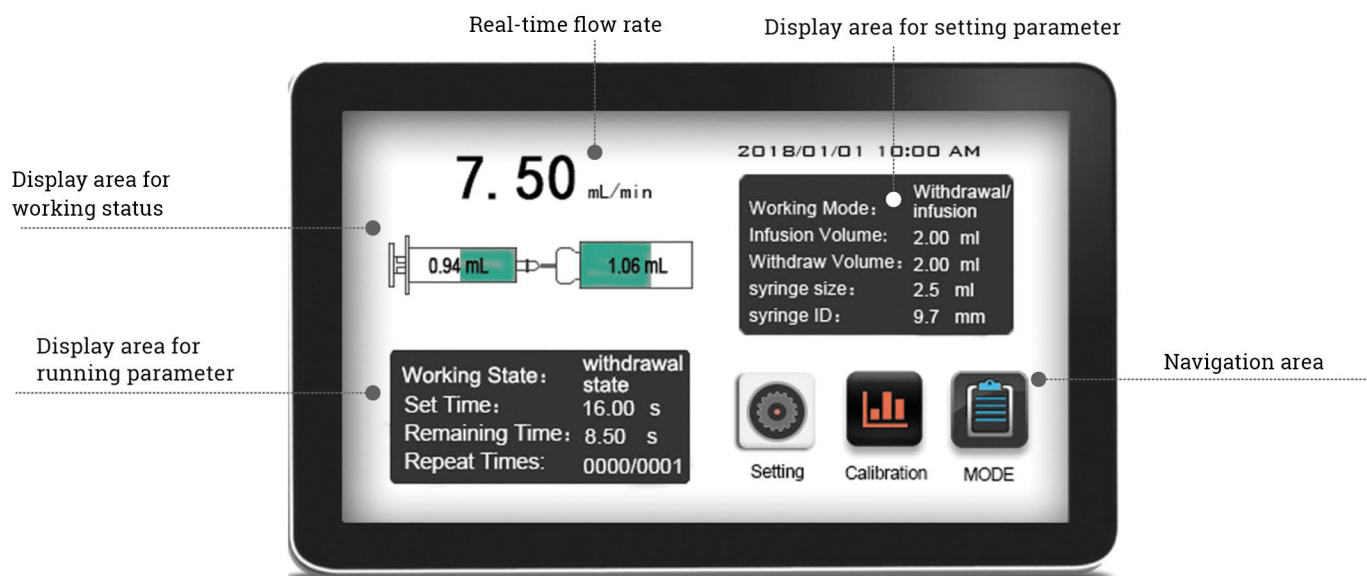
### Introduction

SPL series, with 4.3" full color touch screen and mechanical keypad control, easy and convenient operation. Support RS232 and RS485 communication, multiple external control interfaces, convenient for users to remotely control under different conditions. N70/N70S push-pull pump unit, stable flow rate, compact structure and small size, convenient to be integrated. Stereotaxic compatible.

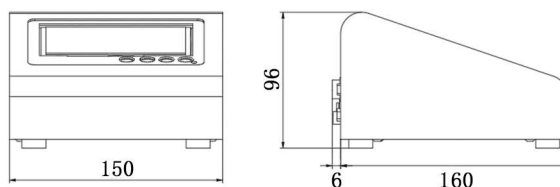
### Features

1. Compact structure and light weight makes it ideal for hand-held or stereotaxic injection.
2. Stable flow rate, suitable for high precision transferring of micro volume.
3. Adjustable linear force.
4. 4 working modes: Infusion, withdrawal, infusion-withdrawal, withdrawal-infusion. The parameters of different working modes are saved independently without affecting each other.
5. Built-in multiple syringe models, also can set customized syringe inner diameter.
6. 4.3" full color LCD screen display, touch screen control. Friendly operating interface, the LCD screen displays technical datas in real time.
7. Two metering methods are available for selection: Infusion volume-infusion flow rate; infusion volume-infusion time. The infusion volume displayed in real time, also support calibration function.

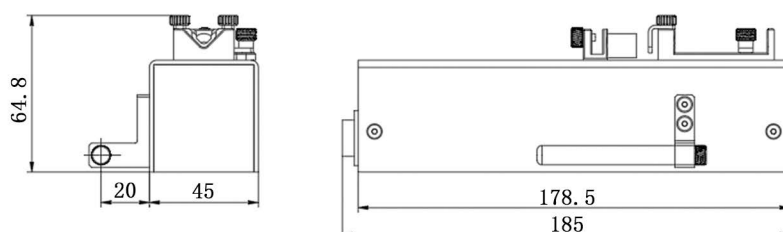
## Interface display



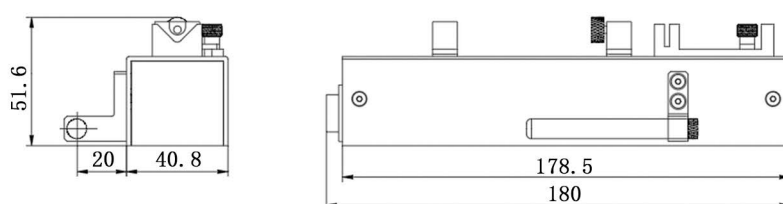
## Dimension Drawing (Unit: mm)



Controller Dimension Drawing

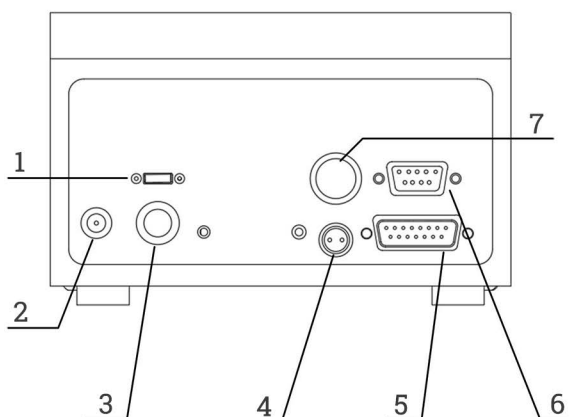


N70 Dimension Drawing



N70S Dimension Drawing

## Introduction



- 1-TypeC Interface
- 2-Power socket
- 3-Power switch
- 4-Foot pedal interface
- 5-15 Pin interface
- 6-9 Pin interface
- 7-Aviation plug interface

## Technical Specifications

|                         |                                                                                                    |                     |
|-------------------------|----------------------------------------------------------------------------------------------------|---------------------|
| Working Mode            | Infusion, Withdrawal, Infusion-Withdrawal, Withdrawal-Infusion, Continuous                         |                     |
| Syringe Size            | N70S(0.5uL-100uL)                                                                                  | N70(5uL-1000uL)     |
| Syringe Selection       | Built in syringe model and customizable syringe inner diameter                                     |                     |
| Linear Speed Range      | 0.6096um/min-152.4mm/min                                                                           | 0.8um/min-200mm/min |
| Linear Speed Resolution | 0.6096um/min                                                                                       | 0.8um/min           |
| Linear Force            | ≤13N ( Adjustable )                                                                                | ≤40N ( Adjustable ) |
| Stroke Resolution       | 0.19um/μstep                                                                                       | 0.25um/μstep        |
| Max. Stroke             | 70mm                                                                                               |                     |
| Accuracy                | Error≤±0.3%(Stroke≥30% of Max. stroke)                                                             |                     |
| Back Distance           | 0.01-10mm                                                                                          |                     |
| Common Mode             | Up to 60 commonly used modes can be saved                                                          |                     |
| Display                 | 4.3" full colour LCD screen                                                                        |                     |
| Control                 | Touch screen and keypads                                                                           |                     |
| External Control Signal | Start/stop signal, active switch signal: 5-24V.                                                    |                     |
|                         | Start/stop signal, passive switch signal, such as foot pedal.                                      |                     |
| Communication Interface | RS232/RS485(Modbus protocol, RTU mode)                                                             |                     |
| Power Supply            | DC24V/1.25A                                                                                        |                     |
| Condition Temperature   | 0-40℃                                                                                              |                     |
| Relative Humidity       | <80%                                                                                               |                     |
| IP Rate                 | IP31                                                                                               |                     |
| Dimension               | 150*166*96mm ( Controller ) , 185*65*64.8mm ( N70 Pump unit ) , 185*60.8*51.6mm ( N70s Pump Unit ) |                     |
| Weight                  | 1.062kg ( Controller ) , 0.469kg ( N70 Pump unit ) , 0.355kg ( N70s Pump unit )                    |                     |

## Applicable Syringes

N70S Flow Rate Chart

| GAUGE | Inner Diameter(mm) | Flow Rate (nL/min-μL/min) |
|-------|--------------------|---------------------------|
| 0.5μL | 0.1                | 0.005 - 1.1975            |
| 1μL   | 0.15               | 0.011- 2.6925             |
| 2μL   | 0.2                | 0.019- 4.7875             |
| 5μL   | 0.35               | 0.059- 14.6625            |
| 10μL  | 0.5                | 0.119- 29.9225            |
| 25μL  | 0.8                | 0.306- 76.605             |
| 50μL  | 1.1                | 0.579- 144.83             |
| 100μL | 1.6                | 1.225- 306.4175           |

N70 Flow Rate Chart

| GAUGE  | Inner Diameter(mm) | Flow Rate (nL/min-μL/min) |
|--------|--------------------|---------------------------|
| 5μL    | 0.35               | 0.077- 19.2425            |
| 10μL   | 0.5                | 0.157- 39.270             |
| 25μL   | 0.8                | 0.402- 100.530            |
| 50μL   | 1.1                | 0.76- 190.067             |
| 100μL  | 1.6                | 1.608- 402.125            |
| 250μL  | 2.31               | 3.353- 838.192            |
| 500μL  | 3.25               | 6.636- 1659.15            |
| 1000μL | 4.61               | 13.353- 3338.27           |