



JiYuHub

Precision Fluid Control Series



# Vertical Syringe Pump with Solenoid Valve

SY-09S

Product Technical Specification | July 2026

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## Product Overview

The SY-09S vertical syringe pump integrates a solenoid valve on the SY-09 platform to save external valve space, making it ideal for size-critical fluid systems. Available in 3 mL and 8 mL sizes, it delivers up to 600 rpm (3 mL), encoder feedback, and ASCII/custom dual-protocol control for IVD, chromatography, online water-quality analysis, and bioreactor sampling.

- Integrated Solenoid Valve
- 3/8 mL
- Encoder
- Dual Protocol
- Compact

## Key Features



### Integrated Solenoid Valve

Valve-pump integration saves external valve space.



### Encoder Closed-Loop

Improved anti-interference and positioning accuracy.



### High Speed

Up to 600 rpm for 3 mL syringe.



### 3 mL / 8 mL Options

Matches different liquid-volume needs.



### Dual Protocol

ASCII / custom protocols.



### Vertical Compact

Easy installation in confined spaces.

## Technical Specifications

| Parameter       | Specification                                                     |
|-----------------|-------------------------------------------------------------------|
| Model           | SY-09S                                                            |
| Principle       | Positive-displacement syringe pump with integrated solenoid valve |
| Accuracy        | ≤1% @ 100% rated stroke                                           |
| Repeatability   | 0.3%~0.7% @ 100% rated stroke                                     |
| Syringe Sizes   | 3 mL / 8 mL                                                       |
| Rated Stroke    | 18 mm (3 mL, 3,600 steps) / 19.2 mm (8 mL, 3,840 steps)           |
| Max Speed       | 600 rpm (3 mL) / 300 rpm (8 mL)                                   |
| Linear Speed    | 0.017~10 mm/s (3 mL) / 0.017~5 mm/s (8 mL)                        |
| Stroke Runtime  | 1.8~1080 s (3 mL) / 3.84~1152 s (8 mL)                            |
| Resolution      | 0.005 mm/step; 0.833 μL (3 mL) / 2.083 μL (8 mL)                  |
| Syringe ID      | 14.55 mm (3 mL) / 23.03 mm (8 mL)                                 |
| Actuator        | Trapezoidal screw (lead 1 mm)                                     |
| Wetted Material | Borosilicate glass, PTFE, PPS, PEEK, EPDM, FKM (solenoid valve)   |
| Max Pressure    | 0.075~0.2 MPa                                                     |
| Connection      | 1/4-28UNF                                                         |
| Communication   | RS232 / RS485                                                     |
| Baud Rate       | RS232/RS485: 9600~115200 bps                                      |

|                   |                                                                                             |
|-------------------|---------------------------------------------------------------------------------------------|
| Protocol          | ASCII / Custom                                                                              |
| Power Supply      | DC24V / 3A                                                                                  |
| Rated Power       | 15 W                                                                                        |
| Operating Temp.   | 5~55 °C                                                                                     |
| Relative Humidity | ≤80% non-condensing                                                                         |
| Weight            | 0.56 kg (3 mL) / 0.62 kg (8 mL)                                                             |
| Maintenance       | Periodic solenoid valve and seal cleaning; avoid particulate ingress                        |
| Application       | IVD analyzers, chromatography injection, online water-quality analysis, bioreactor sampling |

## Typical Applications

- ▶ In-vitro diagnostic analyzers
- ▶ Chromatography autosamplers
- ▶ Online water-quality monitor reagent dosing
- ▶ Bioreactor automatic sampling
- ▶ Laboratory microfluidic systems

## Ordering Guide

| Product Code | Description                                          |
|--------------|------------------------------------------------------|
| SY-09S       | Vertical pump (with solenoid valve) + 3/8 mL syringe |

### Accessories/Consumables

| Accessory             | Specification | Note             |
|-----------------------|---------------|------------------|
| Glass Syringe         | 3 mL / 8 mL   | Volume-dependent |
| Solenoid Valve Module | Integrated    | Standard         |
| Tubing Fitting        | 1/4-28UNF     | Standard         |

## Why Choose Jiuyuhub

**Application-First Matching**  
Recommended for space-constrained valve-pump-integrated systems.

**Southeast Asia Adapted**  
Solenoid valve and encoder stable in hot/humid conditions.

**One-Stop Supply**  
Integrated pump-valve module and consumables.

**24-Hour Response**  
Fast selection and after-sales support.

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