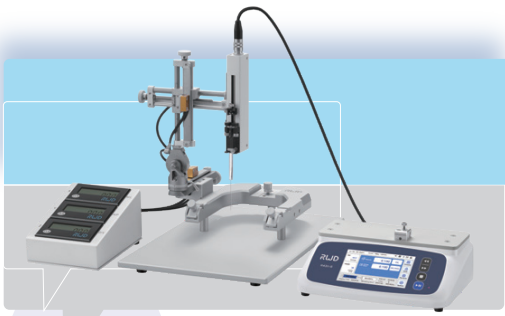
RWD

Aniphy
Instruments that work

R430 Series Syringe Pump

High Precision · Split Design · Full Scenario Adaptation



Product Introduction

The VI-R430 series split-type micro syringe pump is a high-precision fluid control device featuring precision, stability and strong anti-interference capability. It can be equipped with syringes to deliver micro-volume liquids accurately, uniformly and continuously, and has been widely used in laboratory and industrial environments.

Advantages

- **Split Design for Easy Use:** Compact and lightweight execution unit, easy to disassemble, convenient for joint use with stereotaxic instruments and micromanipulators for stereotaxic injection.
- **Precision and Stability:** Excellent control system and precise mechanical structure, with strong anti-electromagnetic interference, remains stable, reliable operation in complex experimental environments.
- **Intelligent Interaction:** 5-inch high-resolution color LCD touch screen with ergonomic tilt design, adjustable brightness, concise interface and one-click switching function.
- **Multi-mode Adaptation:** Supports 5 working modes: Infuse, Withdraw, Infuse/Withdraw, Withdraw/Infuse and Continuous Cycle.
- **Strong Compatibility:** Built-in parameters for mainstream syringe brands such as Hamilton and SGE, supports custom syringe specifications, and is compatible with domestic Gaoge syringes.
- **Flexible Expansion:** Equipped with RS485, DB15 external control and USB-B interfaces, supports multi-unit cascade and remote automatic control.
- **Safety Protection:** Screen lock + password protection, power failure memory, adjustable linear thrust, effectively preventing misoperation and syringe damage.

Models and Ranges

Model	Syringes	Application Scenarios
VI-R430-S	0.5 μL～100 μL	ultra-micro stereotaxic injection, microinjection and microdialysis perfusion
VI-R430-L	5.0 μL～1000 μL	conventional microinjection, reagent delivery and industrial microfluidics

Technical Parameters

Operating Modes: Infuse, Withdraw, Infuse/Withdraw, Withdraw/Infuse, Continuous Cycle

Channel Number: 1

Maximum Stroke: 70 mm

Linear Travel Accuracy: ±0.35% (when stroke > 30%)

Repeatability: ±0.05%

Flow Rate Range: R430-S: 0.005 nL/min ~ 152.456 μL/min; R430-L: 0.058 nL/min ~ 1.587 mL/min

Linear Thrust: R430-S > 1 kgf; R430-L > 4 kgf (adjustable from 25% to 100%)

Display: 5-inch high-resolution color LCD touch screen

Screen Lock Function: Prevents misoperation during operation

Power Failure Memory: Retains all parameter settings before power outage

Communication Interfaces: RS485 (Modbus), DB15 external control, USB-B

Power Supply: AC 100-240V 50Hz/60Hz wide-range power

Operating Environment: Temperature 5-40°C, relative humidity < 80%

Total Power Consumption: < 30W

Typical Application Scenarios

Neuroscience

Stereotaxic injection in small animals, optogenetic virus administration, behavioral studies

Animal Experiments

Precise micro-volume administration, microdialysis perfusion, tissue perfusion, blood collection

Biomedicine

Drug screening, cell culture, precise reagent addition, gene transfection

Industrial Applications

Microfluidics, electro-spinning, microsphere preparation, material synthesis, titration analysis

Product list

Name	Model	Configuration	Quantity	Usage
Control unit	\	standard	1	For parameter setting and injection unit operation control
Injection unit	\	standard	1	For syringe assembly, injection and withdrawal
Power Adaptor	\	standard	1	Available in GB, US, EU, UK and AU standards
Connection cable	\	standard	1	For injection unit and control unit connection
Foot switch and connection cable	R430-FS	optional	1	For controlling injection, emptying and other injection unit operations