TS-1B/W0109-1B Syringe Pump

This pump is a four-channel micro syringe pump which has infusion/withdrawal mode. It combines precison, compact size, multiple functions with ease of operation. It can hold milliliter unit standard syringe. The features of accurate distance control and broad linear speed range (7.9 μm/min - 79.4 mm/min) can meet versatile requirements. The drive unit is independent. It is easy to combination and installation. It can perform complex operation and is suitable for various research fields.

Specifications

Max. infusion distance: 90 mm
Acceptable syringe: 5 μL - 60 mL
Linear speed: 7.9 μm/min - 79.4 mm/min
Adjusting resolution: 7.9 μm/min
Distance resolution: 0.165 μm
Linear force: > 90 N
Setting mode: Membrane keypad and rotary encoded switch
Accuracy: ≤ ± 0.5% error in the condition of ≥ 30% of max. infusion distance
Display: 128×64 graphic LCD
External control: Start/stop control
Communication interface: RS485
Power: AC 90 V - 240 V or DC 12 V
Power consumption: ≤ 40 W
Operating condition:
Temperature 0 - 40 °C
Relative humidity < 80 %
Controller dimensions (L×W×H):
235×178×74 (mm)
Controller weight: 0.9 kg
Drive unit dimensions (L×W×H):
245×100×95 (mm)
Drive unit weight: 1.3 kg

Functions and Features

Parameters setting: The parameters of each channel can be different.
Running control: Each drive unit can be controlled separately; Or four drive units can be controlled to run simultaneously or run at different time.
Channel copy: All drive units can run according to the parameters of one drive units of them
Delaying startup: Delaying startup time of each channel can be controlled separately
Memory functon: Select resume operaton or remain stopped when power returns after an interruption
Block protection: When one drive unit stops accidently, the system will warm and stop
Working mode: Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous
External Control: Accept pulse signal to control the start/stop of the pump. Each channel has two ways OC gate output to indicate the start/stop and direction of the channel
Communication: Realize computer control through RS485 communication interface

Main Functions for Each Channel

Syringe selection: The syringe can be selected in the manufacturer table which includes manufacturer, material and size
User-defined syringe: Save 4 inner diameters of user-defined glass syringe barrel
Working mode: Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous
Parameters setting: Set dispensing volume, infusion time, withdrawal time, pause time and copy number
Display mode selection: Different parameters (volume, flow rates, linear speed) can be selected in the main display interface
Fast forward & fast reverse: Infusion and withdrawal at the max. speed
Calibration: Acquire accurate volume through calibration

Syringe Pump (Part Number)	Glass Syringe Specification (mL)	Barrel Inner Diameter (mm)	Effective Stroke (mm)	Flow Rates (μL/min - mL/min)	Syringe Material	Weight (kg)
TS - 1B / W0109 - 1B (0503171) (0503021)	1	4.7	57.00	0.138 - 1.38	Class Syringe Plastic Syringe	Controller 0.8 Drive Unit 1.3
	2	9.0	31.20	0.505 - 5.05		
	5	13.1	37.10	1.07 - 10.7		
	10	14.8	58.20	1.366 - 13.66		
	20	19.0	70.10	2.251 - 22.51		
	30	23.0	72.00	3.298 - 32.98		
	60	29.1	89.96	5.294 - 52.94		

Note: Flow rates = Linear rate × Section area of the barrel