

AL-4000

Aladdin SyringeTWO Programmable Double Syringe Pump - holds two syringes of up to 60 cc

Overview



- Operates stand-alone or from a computer
- Programmable preset protocols
- RS-232 and TTL logic control interfaces
- Motor stall detection
- Non-volatile memory of all parameters and programming
- Upgradeable memory
- Dispensing accuracy of $\pm 1\%$

Channels	2
Type	Infusion / Withdrawal
Flow Range	0.001 $\mu\text{L/hr}$ (0.5 μL syringe) to 7515 mL/hr (60 mL syringe)
Dispensing Accuracy	$\pm 1\%$
Syringe Sizes Accepted	0.5 μL to 60 mL
Linear Force Applied To All Syringes	100 lb at low speed

The AL-4000 Programmable Syringe Pump is perfect for situations requiring flexibility or automation. With dual syringes, you can use two syringes of different size for proportional infusion. The pump accepts syringes that range from the smallest available to 60mL.

This pump can handle applications like simple infusions, as well as complex pumping programs. You can program up to 41 pumping phases that change pumping rates; set dispensing volumes; insert pauses; control and respond to external signals; or sound an alarm. Connect two pumps with a dual cable (WPI #GN-TTL) to create a dual pump system that allows for continuous infusion or emulsification. If required, you can network, control and monitor up to 100 pumps with a single computer.

AL-4000 Two-Channel Syringe Pump Example Flow Rates

Syringe Size	Maximum Rate	Minimum Rate
0.5 µL	90.39 µL/hr	0.001 µL/hr
1 mL	187.4 mL/hr	1.430 µL/hr
3 mL	793.4 mL/hr	6.054 µL/hr
5 mL	1320 mL/hr	10.08 µL/hr
10 mL	2153 mL/hr	16.44 µL/hr
20 mL	3425 mL/hr	26.14 µL/hr
30 mL	4468 mL/hr	34.09 µL/hr
60 mL	7515 mL/hr	57.34 µL/hr

NOTE: This product is not approved for clinical use on humans.

Specifications

Syringe Sizes	Up to 60mL(140mL partially filled)
Number of Syringes	2
Motor Type	Step Motor, 1/8 to 1/2 step modes
Steps per Revolution	200
Advance per Step	0.42522321µM to 1.7009µM depending on motor speed
Motor to Drive Screw Ratio	15/28
Drive Screw Pitch	20 revolutions/inch
Power Supply	Wall adapter 12V DC @ 1000 mA
DC Connector	2.5mm, center positive
Power Supply Type	Unregulated linear external wall adapter, country and power source specific
Dimensions	22.9 x 14.6 x 11.4 cm (8.75 x 5.75 x 4.5 in.)
Weight	1.63 kg (3.6 lb)
Max. Speed	18.36964cm/min
Min. Speed	0.008409cm/hr
Max. Pumping Rate	6120mL/hr. with a B-D 60cc syringe
Min. Pumping Rate	1.459µL/hr. with a B-D 1cc syringe
Max. Force	100 lbs. at minimum speed, 18 lbs. at maximum speed



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The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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