Fiber Nano Machine Syringe Pump

S-FNM 301

FNM syringe pumps are designed as a low-cost unit, capable of holding 2 or 10 syringes of any make from 10µl to 60ml. These syringe pumps are ideal for delivering accurate and precise amounts of fluids for a multitude of syringe pump applications including electrospinning, infusing calibration into a mass spectrometer or reaction chamber, long term drug infusion to animals and general infusion applications

Features:

- Bright Display and Easy-To-Use Interface
- Continuous flow of stream
- Injection capability in microliter (µl) scale
- Nonvolatile Memory
- Programmable (HPM and HSM series)
- Windows based Software (HSM series)
- Appropriate for high viscose substances (more than 5 bars: HSH series)
- Alarm as soon as the desired injection is completed
(in HPM and HSM series)
- Dual pump is available (200 series)
- Autofill capability (HPM and HSM series); electric
valve is optional
- Infuse/refuse capability (HPM and HSM series)

FNM Syringe Pump nomenclature:

SPXYY ABC

X: 1: one Mechanical system, 2: Two Mechanical system, 3: one big mechanical system

YY: Max. Syringe lines.(1, 2, 4 or 10)

A: M: Medium precision H: High precision

B: O: not programmable; P: Internal programmable; S: Software and Internal programmable

C: M: Medium pressure H: High pressure

Example:

SP204 HSH è Syringe Pump, 2 motors, maximum 4 syringes, High precision, Software, High pressure

SP110 HPM è Syringe Pump, 1 motor, maximum 10 syringes, High precision, Programmable, Medium pressure

SP301 HSM èSyringe Pump, 1 motor, maximum 1 big syringe, High precision, Software, Medium pressure

Specification

Input Power: 100-240V AC, 50-60 Hz.
Number of Syringe: Up to 2 (SP102 series) / Up to 10 (SP110 series)
Display: 4 lines, 20 character LCD display
Nonvolatile Memory: Stores syringe inner diameter, rate, target volume, programs and settings
Syringe Type: Plastic, metal or glass
Minimum Flow Rate: 1 µl/hr using a 10µl syringe (barrel diameter: 1 mm)
Maximum Flow Rate: 5968 ml/hr using a 60 ml syringe (barrel diameter: 29 mm)
Pedal resolution per step: 10 nm
Linear Force (Max): 17 kg (in M series); 25 kg (in H series) measured at the 120 ml/hr injection rate
Drive Motor: 1.8° Stepper Motor
Motor Drive Control: Microprocessor with 1/128 micro stepping
Number of Micro steps per one rev. of Lead Screw: 25600
Step Resolution: 0.049 µm/µstep
Pusher Travel Rate: Minimum: 0.25 µm/min;
Maximum: 152 mm/min
Connectors: USB (S Series)
Operating Temperature: 0 – 45 °C
Storage Temperature: 0 – 45 °C
Method of Operation: Continuous
Dimension: SP102: 24 × 26 × 20 cm, SP110: 24×34×20cm SP204: 30 ×30×22cm
Weight: SP102: 4 kg, SP110: 5.8 kg, SP204: 9.2 kg
Warranty: 1 year

Software Description (windows platform)

The programming functions of HSM series provide powerful capabilities for advanced experiments. While in
program mode, the pump could perform the following tasks at a predetermined time or when prompted by a
signal from an external device:

- Start or stop pumping (injection)
- Change pumping (injection) direction (infuse-withdraw)
- Change flow rates
- Pump (Inject) a precise volume and stop
- Ramp up or down flow rates
- Inject in a desired formula

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