

## NE-1002X Microfluidics Syringe Pump



**Programmable Microfluidics Syringe Pump**

**Part of The NE-1000 Family of Syringe Pumps**

**Additional models include:  
Continuous Infusion**

**Microfluidics Syringe Pump System  
(Dual-NE-1002X)**

**Double Microfluidics Syringe Pump  
(NE-4002X)**

### NE-1002X Features

#### Advance Per Step: 4.252232 Nanometers

Smooth pumping at ultra low flow rates

Accepts syringes from the smallest size available up to 60 ml. A 140 ml syringe can be filled up to 120ml

Pumping rate as low as 8 pL/hr with a .5 µL syringe or as high as 1555 µL/min with a 60 mL syringe

Includes the X Upgrade Smooth Linear/Gradient increasing and decreasing pumping feature

#### Includes all of the features of the NE-1000 Family of Syringe Pumps

Built for Automation

Operates stand-alone or from a computer

Infuses and withdraws

Applications range from simple infusions to complex pumping programs

Programmable preset protocols

Program up to 41 pumping phases that change pumping rates, set dispensing volumes, insert pauses, control and respond to external signals, sound the buzzer

RS-232 and TTL logic control interfaces

Network, control, and monitor up to 100 pumps with one computer

Two pumps connected with a dual cable create a Dual Pump System allowing for continuous infusion or emulsification

Worldwide power supplies available

Motor stall detection

Non-volatile memory of all parameters and programming

Upgradeable to the 'X2 advanced firmware versions for increased program memory

Dispensing accuracy of +/-1%

Plus many, many more features!!!

Unlimited lifetime technical support

Two year warranty

**\*\*\* Not for clinical use on humans \*\*\***

**Model: NE-1002X / NE-4002X Microfluidics Syringe Pump**

**Maximum and Minimum Flow Rates**

Manufacturer	Syringe (cc)	Inside Diameter (mm)	Maximum Rate (µL/hr)	Minimum Rate (nL/hr)	Maximum Rate (µL/min)
B-D	1	4.699	2335	14.59	38.92
	3	8.585	7796	48.68	129.9
	5	11.99	9999	94.95	253.4
	10	14.43	9999	137.6	367
	20	19.05	9999	239.7	639.7
	30	21.59	9999	307.9	821.7
	60	26.59	9999	467	1246
Monoject	1	5.74	3485	21.76	58.08
	3	8.941	8456	52.8	140.9
	6	12.7	9999	106.6	284.3
	12	15.72	9999	163.3	435.6
	20	20.12	9999	267.4	713.6
	35	23.52	9999	365.4	975.2
	60	26.64	9999	468.8	1251
Terumo	140	38	9999	953.7	2545
	1	4.7	2336	14.59	38.94
	3	8.95	8473	52.91	141.2
	5	13	9999	111.7	297.9
	10	15.8	9999	164.9	440.1
	20	20.15	9999	268.2	715.8
	30	23.1	9999	352.5	940.7
Air-Tite	60	29.7	9999	582.6	1555
	10	15.9	9999	167	445.6
	20	20.25	9999	270.9	722.9
	30	22.5	9999	334.4	892.5
Hamilton Microliter	50	29	9999	555.5	1482
	0.5	0.103	1122	0.008	18.7
	1	0.146	2254	0.015	37.57
	2	0.206	4488	0.029	74.81
	5	1.3	9999	1.117	2979
SGE	10	0.48	9999	0.153	406.1
	0.5	0.1	1057	0.007	17.62
	1	0.15	2380	0.015	39.66
	500	3.26	9999	7.019	9999

There will be an update coming soon of the flow rates which will include our full line of Air-Tite & SGE glass syringe.

## Specifications

### Mechanical & Electrical

**Advance per micro-step 4.252232 Nanometers**

Syringe sizes: Smallest micro-liter, up to 60 cc

Number of syringes:

NE-1002X: 1

NE-4002X: 2

Motor type: Step motor

Motor steps per revolution: 400

Motor gearbox 25:1 reduction

Motor to drive screw ratio: 15/28

Drive screw pitch: 20 revolutions/”

Power supply: Switching Regulated 12V 1A,  
Standard 2.1 mm female center positive  
Country prong style specific

Amperage: 500 mA at full load

Dimensions: 8 3/4” x 5 3/4” x 4 1/2” High  
(22.86 cm x 14.605 cm x 11.43 cm)

Weight: 3.8 lbs. (1.63 kg)

### Operational

Maximum speed: 0.2245 cm/min

Minimum speed: 0.8409µm/hr

Maximum pumping rate: 1246 µl/mn with a B-D 60 cc syringe

Minimum pumping rate: 1.4.59 nL/hr with a B-D 1 cc syringe

Maximum force: 100 lbs. at minimum speed, 18 lbs. at maximum speed

Number of Program Phases: 41

RS-232 pump network: 100 pumps maximum

RS-232 selectable baud rates: 300, 1200, 2400, 9600, 19200

Syringe inside diameter range: 0.100 to 50.00 mm