

# The Next Generation Continuous Infusion Syringe Pump System

## Continuous NE-1000X Model: DUAL-NE-1000X

### Eliminates Flow Rate Pauses & Drop-Offs!

Eliminates the problem of flow rate drop-off found in Push-Pull syringe pumps. In these Push-Pull systems, one pump is refilling while the other infuses and then they switch directions. That switch of directions causes a pause or drop in flow. The Continuous NE-1000X's continuous pumping mode eliminates the flow rate drop offs and pauses.

How it Works:

- Refilling pump refills the syringe at a faster rate than the infusing pump, giving it time to prime the syringe.
- Refilling pump pauses and waits for the infusing pump to empty.
- When the pumps switch directions, the refilled pump is primed and starts infusing at the set rate immediately.

Features:

- Two NE-1000X Family of Syringe Pumps connected together via a Dual Pump Sync Cable
- Continuous Pumping Mode provides a precise continuous flow without any drop-offs of pauses.
- Programmable infusion, refill and prime rates and syringe overlap and prime volumes
- Flexibility for the pumps to perform either continuous flow, emulsification, or independently at any time

### NE-1000X Family of Syringe Pumps features:

- 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
- Gradient ramping of flow rates
- Worldwide power supplies available
- Motor stall detection
- Non-volatile memory of all parameters and programming
- Upgradeable to 340 pumping phases program memory with the X2 Upgrade
- Plus many, many more features!!!
- Dispensing accuracy of +/- 1%
- Unlimited lifetime technical support
- Two year warranty



### Dual Pump Plumbing Kit



For use with our continuous infusion system or dual infusion system. Provides a dual check valve for two syringes, withdraw will pull fluid from a reservoir and infusion will output into a separate line. The kit is pre-assembled, all you need to do is plug in the syringes. Each dual check valve uses 6" of 1/8" tubing to connect to a Y connector, one for reservoir and one for output; each Y-connector has 5' of tubing to make connections to your application. Two 60cc Terumo syringes are included.

**Individual parts are also available.  
Model: P-DKIT**

**Not For Clinical Use On Humans**

# Model: NE-1000 Syringe Pump

## Maximum and Minimum Flow Rates

Manufacturer	Syringe (cc)	Inside Diameter (mm)	Maximum Rate (mL/hr)	Minimum Rate (µL/hr)	Maximum Rate (mL/min)
B-D	1	4.699	53.07	0.73	0.884
	3	8.585	177.1	2.434	2.952
	5	11.99	345.5	4.748	5.758
	10	14.43	500.4	6.876	8.341
	20	19.05	872.2	11.99	14.53
	30	21.59	1120	15.4	18.67
	60	26.59	1699	23.35	28.32
Monoject	1	5.74	79.18	1.088	1.319
	3	8.941	192.1	2.64	3.202
	6	12.7	387.6	5.326	6.46
	12	15.72	593.9	8.161	9.899
	20	20.12	972.9	13.37	16.21
	35	23.52	1329	18.27	22.15
	60	26.64	1705	23.44	28.42
	140	38	3470	47.69	57.84
Terumo	1	4.7	53.09	0.73	0.884
	3	8.95	192.5	2.646	3.208
	5	13	406.1	5.581	6.769
	10	15.8	600	8.244	10
	20	20.15	975.8	13.41	16.26
	30	23.1	1282	17.63	21.37
	60	29.7	2120	29.13	35.33
Air-Tite	1	6.7	107.8	1.483	1.798
	2	8.91	190.8	2.622	3.18
	3	9.06	197.2	2.711	3.288
	5	11.75	331.8	4.559	5.53
	10	14.67	517.2	7.107	8.62
	20	19.62	925.2	12.72	15.42
	30	22.69	1237	17.01	20.62
	50	26.96	1746	24.01	29.11
Steel Syringes	1	9.538	218.6	3.005	3.644
	3	9.538	218.6	3.005	3.644
	5	12.7	387.6	5.326	6.46
	8	9.538	218.6	3.005	3.644
	20	19.13	879.5	12.09	14.65
	50	28.6	1965	27.01	32.76

	Syringe (µL)	Inside Diameter (mm)	Maximum Rate (µL/hr)	Minimum Rate (µL/hr)	Syringe (mL)	Inside Diameter (mm)	Maximum Rate (mL/hr)	Minimum Rate (µL/hr)
SGE	5	0.343	282.7	0.004	.25	2.303	12.74	0.176
	10	0.485	565.3	0.008	.5	3.257	25.49	0.351
	25	0.728	1273	0.018	1	4.606	50.99	0.701
	50	1.03	2549	0.036	2.5	7.284	127.5	1.752
	100	0.457	5102	0.071	5	10.3	254.9	3.504
Hamilton Microliter	0.5	0.103	25.49	0.001	10	14.57	510.2	7.01
	1	0.146	51.23	0.001	25	23.03	1274	17.52
	2	0.206	101.9	0.002	50	27.5	1817	24.98
	5	0.326	255.4	0.004	100	34.99	2942	40.43

Not For Clinical Use On Humans

# Model NE-1000 Specifications

## Mechanical & Electrical

Syringe sizes:	Up to 60 mL (140 mL partially filled)
Number of syringes:	1
Motor type:	Step motor
Motor steps per revolution:	400
Microstepping:	1/8 to 1/2 depending on motor speed
Advance per step:	0.2126 $\mu$ M to 0.8504 $\mu$ M depending on motor speed
Motor to drive screw ratio:	15/28
Drive screw pitch:	20 revolutions/”
DC connector:	2.1 mm, center positive
Voltage at DC connector:	12V DC at full load
Amperage:	750 mA at full load
Power supply type:	Unregulated linear external wall adapter, country and power source specific
Power supply output rating:	12V DC @ 800 mA
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:	3.6 lbs. (1.63 kg)
Allen Wrench	3/32 Hex

## Operational

Maximum speed:	5.1005 cm/min
Minimum speed:	0.004205 cm/hr
Maximum pumping rate:	1699 ml/hr with a B-D 60 cc syringe
Minimum pumping rate:	0.73 $\mu$ l/hr with a B-D 1 cc syringe
Maximum force:	35 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

**Not For Clinical Use On Humans**