Precision Syringe Pumps
Peristaltic Pumps
Syringe Heaters
Accessories

NEW ERA
Pump Systems Inc.
SyringePump.com

NE-1000

High Precision - Fully Programmable

Syringe Pump Features

- Infusion and withdrawal
- Set pumping rates and dispensing volumes
- Fully programmable; automation capable
- Operates stand-alone or computer controllable
- Accepts external input to trigger events
- Network, control and monitor up to 100 pumps with one computer
- Dispensing accuracy to ± 1%
- Easy-to-use keypad interface
- Worldwide power supplies available
- Motor stall detection
- Space-saving chassis design
- Many, many more features

Program up to 41 Pumping Phases

- Change pumping rates
- Set dispensing volumes
- Insert pauses
- Control and respond to external signals
- Sound buzzer

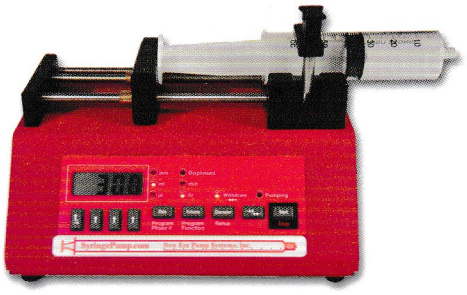
Other Models & Upgrades

- **NE-1010 and NE-8000 pumps with greater pumping force**
- Syringe capacities from 1 to 12 syringes
- FW-1-X firmware with linear/gradient flow rate ramping and additional advanced programming
- FW-1-X2 firmware includes X upgrade plus increased programmable phases and baud rate

Visit www.SyringePump.com for Many More Models & U

NE-300

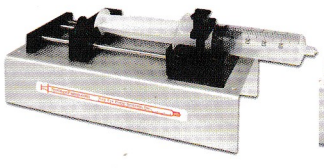
"Just the features you want... none that you don't want to pay for"

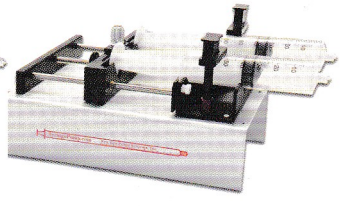


Just Infusion™
Our Most Basic Economy Version

- Holds small or big syringes up to 60 mL
- Pumps continuously until you stop the pump
- Change infusion rate while pumping
- Remembers previous settings on power up
- Syringe purge mode
- Power failure mode
- Displays total volume dispensed in mL or µL
- Precise reproducible flow rates, up to 1,500 mL/hr
- **Infuses only!** No withdrawal, volume target, computer interface or programmability

NE-500 NE-4500





Programmable OEM Syringe Pumps

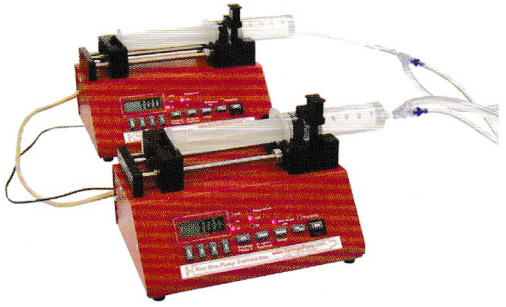
- Built for automation
- Operates from a computer or standalone
- Infusion and withdrawal
- Set a single pumping rate and/or dispense volume or load a complex pumping program
- Network, control, and monitor up to 100 pumps with one computer
- Dispensing accuracy of ±1%

Other Models & Upgrades

- NE-501, NE-510, NE-511, NE-4501
- NE-501L, NE-510L, NE-511L, NE4501L (long chassis)
- FW-5-X firmware with linear/gradient flow rate ramping and additional advanced programming
- FW-5-X2 firmware includes X upgrade plus increased programmable phases to 340

Dual-NE-1000X

The Next Generation
Continuous Infusion Syringe Pump System



Continuous Flow Pumping
Eliminates Flow Rate Pauses & Drop Offs
"typical in continuous flow syringe pumps"

Available for all syringe pumps
(except NE-300)

SyringePumpPro

Control Software for Syringe Pumps

Takes your Pump Control to the Next Level!

- Connects multiple pumps to your computer for remote control
- Control pumps individually or as a group
- Automatically monitor all pump parameters
- Configure and control multi-pump protocols, log pump activity and send commands to selected pumps
- Upload pumping programs

Computer Interface Software

- **Pump Terminal Emulator** simplifies pump programming
- **Pump Program Generator** has drop-down menus to guide you along required parameters

Multi-Channel Programmable Syringe Pumps

NE-4000	**2 Channel**
NE-1600	**6 Channel**
NE-1800	**8 Channel**
NE-1200	**12 Channel**

Multi-Channels Available in Higher Speeds

NE-1660	**NE-1860**	**NE-1260**
6 Channel	**8 Channel**	**12 Channel**

ıde Features - Customization of Any Device Available

Microfluidics

Programmable Syringe Pumps

NE-1002X & NE-4002X

moothest Microfluidic Syringe Pump Available

- Smooth linear/gradient increasing and decreasing pumping feature
- Advance Per Step: 4.252232 Nanometers
- Infusion rates: .008 nL/hr (.5 µL syringe) to 2,545 µL/min (140 mL syringe)
- Available with 1 and 2 Channels

Syringe Heater Kit

THERMO-KINETIC HEAT CLAMPING

ww.syringeheater.com

Syringe pump and syringe not included

- aximum temperature of 185°C
- onstantly monitors and displays temperature the primary heating pad
- ecision control of temperature set point

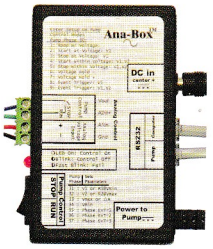
dels & Accessories

EATER-KIT-1LG	Syringe Heater Kit Control Unit Primary Heating Pad with Temperature Sensor
EATER-KIT-5SP	Heater Kit for small syringes & tubes
L-PC-PUMP-7	RS-232 Primary Computer Control Cable

ntroller supports to 12 pads – additional pads sold parately

a-Box™ Closed Loop Analog Sensor Interface

- ary the pumping rate in proportion a variable voltage input
- art or stop pump at set voltages
- ary the pumping rate to maintain voltage window – ie. maintain a essure or pH level
- taches to any pump in the E-1000 Family



ADPT-ANABOX-11

NE-9000

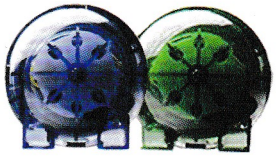
Programmable Peristaltic Pumps

Peristaltic pumps have few moving parts. Their lack of valves, seals and glands make them inexpensive to maintain – especially with our inter-changeable heads and tubes. Fluids can be kept more clean and sterile than other pumping methods.

The fluid goes through the tube and nev omes in contact with the pump – no damage from abrasive, corrosive or viscous liquids.

- Dispense a set volume from a reservoir
- Dispensing and withdrawal pumping
- Additional pumping heads available for quick change between fluids – improves productivity
- Time saving Learn and Repeat™ mode
- Slow down and anti-drip modes improve dispensing accuracy
- Calibration mode improves instrument repeatability
- Fully programmable with computer interface for more advanced applications
- Store and select from up to 40 dispenses
- Easy-to-use keypad interface
- Available in 3/16" or 1/16" pump heads

Models & Accessories

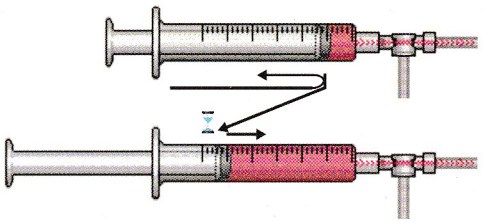


- **NE-9000 Peristaltic Pump** for large volume dispensing – includes **PERI-HEAD-KIT-YB2**
- **NE-9000G Peristaltic Pump** designed for precision with lower flow rates and small dispense volumes – includes **PERI-HEADKIT-YG4**
- **PERI-HEAD-KIT-YB2** includes Blue, 2-roller head, 4 ft. 3/16" ID industrial grade tubing (Q-TP-IND1-3/16), 4 nylon clamp ties and vial of lubricant
- **PERI-HEAD-KIT-YG4** includes Green, 4-roller head, 4 ft. 1/16" ID PharMed® tubing (Q-TP-PMED-1/16), 4 nylon clamp ties, 4 reduction couplers and vial of lubricant
- **Q-TP-IND1-3/16** industrial grade tubing, 3/16" ID x 5/16" OD x 1/16" Wall
- **Q-TP-PMED-1/16** PharMed® tubing, 1/16" ID x 3/16" OD x 1/16" Wall
- **ADPT-FOOTSW-2:** Foot Switch for hands-free operation

www.SYRINGEPUMP.com

Advanced Applications – Built-in – Off the Shelf

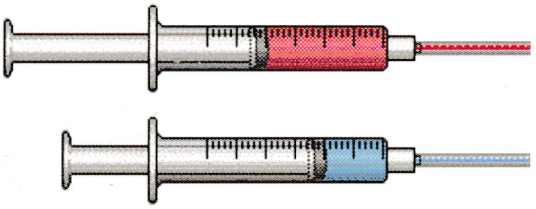
Next Generation Continuous Infusion System



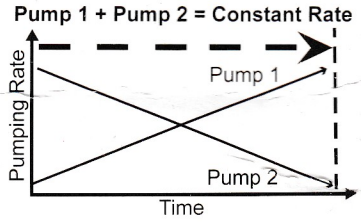
Eliminate flow rate pauses and drop-outs – common with basic "Push-Pull" style pumping systems. The refilling syringe refills at a faster rate than the infusing syringe, allowing time to prime the syringe and/or overlap the infusion. The infusing pump changing direction, or reaching overlap volume triggers paused pump to start infusing.This creates a nearly seamless transition between syringes.

Inverse Linear Constant Flow Rate Mode

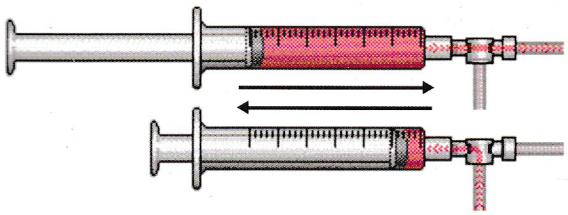
r1 + r2 = R constant



Maintain constant flow rate while linearly increasing or decreasing the flow rate of Pump 1, while Pump 2 pumps inversely, linearly decreasing or increasing. The two syringes combine for a constant flow rate.

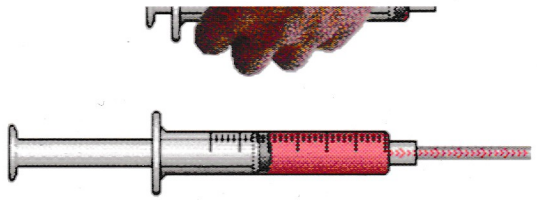


imultaneous (Reciprocating) Infusion/Withdrawal



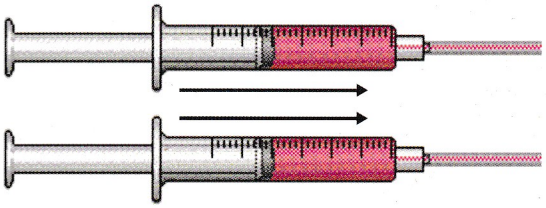
Basic continuous infusion mode – "Push-Pull" style. One pump infuses while the other pump dispenses. When the master pump changes direction, the other pump also changes direction.

Continuous Infusion ing Pre-loaded Syringes



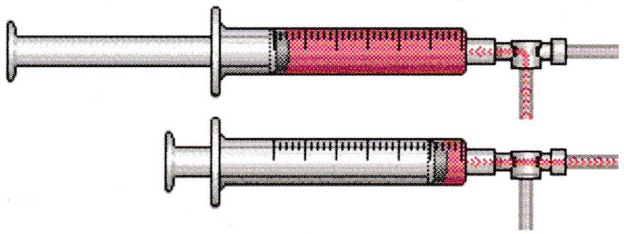
Load pre-filled syringes in Pump 1 and Pump 2. Start Pump 1, then when the syringe is empty Pump 1 stops and Pump 2 automatically starts. Load a new pre-filled syringe in Pump 1, and when the syringe in Pump 2 is empty Pump 2 stops and Pump 1 starts – cycle repeats.

Dual Pumps Mode



Creates a double pump using two indepdendent pumps. The second pump emulates the operation of the first pump: Start, Stop, Change Speed, Change Direction.

Alternating Pump Mode



Alternate dispenses of two chemicals. Automatically alternates between two pumps. Pump chemical 1 – then chemical 2, then repeat.

Emulsification

Mixes contents of two syringes, while one syrine infuses, the other syringe withdraws. Then they change directions.

info@syringepump.com

Not for clinical use on humans.
Pictures are representative of usage. Syringes and other accessories are not included.
Two year limited warranty. Unlimited lifetime technical support.

New Era Pump Systems Inc.
www.SyringePump.com
NE-1010 / NE-510 / NE-511 Syringe Pumps

Syringe Manufacturer (all names ™)	Syringe (mL)	Inside Diameter (mm)	Maximum Rate (mL/hr)	Minimum Rate (µL/hr)	Maximum Rate (mL/min)
B-D	1	4.699	191.1	1.459	3.185
	3	8.585	637.9	4.868	10.63
	5	11.99	1244	9.495	20.74
	10	14.43	1802	13.76	30.04
	20	19.05	3141	23.97	52.35
	30	21.59	4035	30.79	67.25
	60	26.59	6120	46.7	102
HSW Norm-Ject	1	4.69	190.4	1.453	3.173
	3	9.65	806.1	6.151	13.43
	5	12.45	1341	10.24	22.36
	10	15.9	2188	16.7	36.47
	20	20.05	3479	26.55	57.99
	30	22.9	4539	34.64	75.65
	50	29.2	7380	56.32	123
Monoject	1	5.74	285.2	2.176	4.753
	3	8.941	692	5.28	11.53
	6	12.7	1396	10.66	23.26
	12	15.72	2139	16.33	35.65
	20	20.12	3504	26.74	58.4
	35	23.52	4788	36.54	79.81
	60	26.64	6143	46.88	102.3
	140	38	9999	95.37	208.3
Terumo	1	4.7	191.2	1.459	3.187
	3	8.95	693.4	5.291	11.55
	5	13	1462	11.17	24.38
	10	15.8	2160	16.49	36.01
	20	20.15	3514	26.82	58.57
	30	23.1	4619	35.25	76.98
	60	29.7	7635	58.26	127.2
Poulten &Graf (Glass)	1	6.7	388.5	2.965	6.476
	2	8.91	687.2	5.244	11.45
	3	9.06	710.5	5.422	11.84
	5	11.75	1195	9.119	19.91
	10	14.67	1862	14.22	31.04
	20	19.62	3332	25.43	55.53
	30	22.69	4456	34.01	74.27
	50	26.96	6291	48.01	104.8
Steel Syringes	1	9.538	787.5	6.009	13.12
	3	9.538	787.5	6.009	13.12
	5	12.7	1396	10.66	23.26
	8	9.538	787.5	6.009	13.12
	20	19.13	3167	24.17	52.79
	50	28.6	7080	54.03	118

	Syringe (µL)	Inside Diameter (mm)	Maximum Rate (µL/hr)	Minimum Rate (µL/hr)	SGE Syringe (mL)	Inside Diameter (mm)	Maximum Rate (mL/hr)	Minimum Rate (µL/hr)
SGE (Glass – Gas Tight)	5	0.343	1018	0.008	0.25	2.303	45.91	0.351
	10	0.485	2036	0.016	0.5	3.257	91.82	0.701
	25	0.728	4587	0.036	1	4.606	183.6	1.402
	50	1.03	9183	0.071	2.5	7.284	459.2	3.505
	100	1.457	9999	0.141	5	10.3	918.3	7.007
Hamilton Microliter (Glass)	0.5	0.103	91.83	0.001	10	14.57	1837	14.03
	1	0.146	184.5	0.002	25	23.03	4591	35.03
	2	0.206	367.3	0.003	50	27.5	6546	49.95
	5	0.326	919.9	0.008	100	34.99	9999	80.86

Specifications

Model	Style	Stall Detection	Number of Syringes	Maximum Syringe Size
NE-1010	Stand-Alone	Yes	1	60 mL; 140 mL partially filled
NE-510	OEM	No	1	60 mL; 140 mL partially filled
NE-511	OEM	Yes	1	60 mL; 140 mL partially filled

Mechanical

Motor type:	Step motor
Motor steps per revolution:	200
Motor to drive screw ratio:	15/28
Drive screw pitch:	20 revolutions/"
Micro-stepping:	1/8 to 1/2 depending on motor speed
Advance per step:	0.4252232 µm to 1.700892857 µm depending on motor speed
Dimensions:	8 3/4" x 5 3/4 x 4 1/2" (LxWxH) (Non-OEM versions) (22.86 cm x 14.605 cm x 11.43 cm)
Weight:	3.8 lbs. (1.63 kg)

Electrical

Power supply type:	External wall adapter, power source specific
Power supply output rating:	12V DC @ 1000 mA
Power connector:	2.1 mm, center positive, DC
Voltage at power connector:	12V DC at full load
Amperage:	1000 mA at full load

Operational

Accuracy:	Within 1% error
Reproducibility:	Within 0.1% error
Maximum force:	100 lbs. at minimum speed, 18 lbs. at maximum speed
Syringe inside diameter range:	0.100 to 50.00 mm
Maximum speed:	18.36964 cm/min
Minimum speed:	0.008409 cm/hr
Maximum pumping rate:	6120 mL/hr with a B-D 60 mL syringe
Minimum pumping rate:	1.459 µL/hr with a B-D 1 mL syringe
Number of Program Phases:	41
RS-232 pump network:	100 pumps maximum
RS-232 selectable baud rates:	300, 1200, 2400, 9600, 19200