

micrux

TECHNOLOGIES



Pumping Systems
-.- NE series -.-

Syringe Pumps



Different **pumping systems** are available for the use of **microfluidic** and **electrochemical solutions** offered by **MicruX** or any other supplier.

» Just Infusion Syringe Pump

The **NE-300 Just Infusion Syringe Pump** offers the most basic pumping system at a very affordable price.



- Infusion only, does not withdraw, volume target, nor have computer interface or programmability.
- Holds small or big syringes up to 60 mL.
- Pumps continuously until you stop the pump.
- Infusion rate can be changed while pumping.
- Maximum pumping rate of 20 mL/min with a 60 mL syringe.
- Precise reproducible flow rate.
- Selectable infusion rates units: mL/hr, μ L/hr, mL/min, μ L/min.

» Full Featured Standalone Syringe Pumps

» NE-1000 Single-channel Syringe Pumps (infusion / withdrawal)

NE-1000 family offers a full programmable syringe pump with infusion and withdrawal mode. It holds one syringe from 1 mL up to 60 mL with infusion rates from 0.01 μ L/min to 30 mL/min, respectively. Lower (**NE-1002X**) and higher (**NE-1010**) flow rate models are available. High-pressure model (**NE-8000**) is also available.



- Built for Automation.
- Operates stand-alone or from a computer.
- Easy-to-use keypad interface.
- Applications range from simple infusions to complex pumping programs.
- Program up to 41 pumping phases: change pumping rates, set dispensing volumes, insert pauses, control and respond to external signals, sound the buzzer.
- RS-232 and TTL logic control interfaces.

Syringe pumps provided by MicruX are commercialized by NEW ERA Pump Systems Inc.
www.syringepump.com

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» Full Featured Standalone Syringe Pumps

» NE-4000 Dual-channel Syringe Pump (infusion / withdrawal)

NE-4000 offers full-featured programmable capabilities as the NE-1000. It is able to hold two syringes up to 60 mL with pumping rates from 25 $\mu\text{L}/\text{min}$ to 100 mL/min. Lower (**NE-4002X**) pumping rate models are available.



- Built for Automation.
- Operates stand-alone or from a computer.
- Easy-to-use keypad interface
- Applications range from simple infusions to complex pumping programs.
- Program up to 41 pumping phases: change pumping rates, set dispensing volumes, insert pauses, control and respond to external signals, sound the buzzer.
- RS-232 and TTL logic control interfaces

» NE Multi-channel Syringe Pumps (infusion / withdrawal)

Different **multi-syringe pumps** with the same full-featured programmable capabilities as the NE-1000 are available.



- **NE-1600** holds 2, 4 or 6 syringes of up to 60 mL each or 2 or 4 syringes up to 140 mL each. Infusion rates from 0.008 $\mu\text{L}/\text{min}$ (1 mL syringe) to 40 mL/min (140 mL syringe).
- **NE-1800** holds 2, 4, 6 or 8 syringes of up to 10 mL each with infusion rates from 0.008 $\mu\text{L}/\text{min}$ (1 mL syringe) to 5,7 mL/min (10 mL syringe).
- **NE-1200** holds 2, 4, 6, 8, 10 or 12 syringes of up to 3 mL each with infusion rates from 0.008 $\mu\text{L}/\text{min}$ (1 mL syringe) to 2.0 mL/min (3 mL syringe).

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» Single & Multi-Syringe Pumps

» Syringe pump specifications

	NE-300	NE-1000	NE-4000	NE-1600 / 1800 / 1200
» Working Mode:	Infusion	Infusion / withdrawal		
» Channels:	1		2	up to 12
» Motor type:	Step motor			
» Motor step <i>per</i> resolution:	400		200	
» Microstepping:	1/8 to 1/2 depending on motor speed			
» Advance per step:	0.2126 μ m to 0.8504 μ m depending on motor speed		0.4252 μ m to 1.7009 μ m depending on motor speed	0.1323 μ m to 0.5292 μ m depending on motor speed
» Maximum speed:	38 mm/min	51 mm/min	184 mm/min	35 mm/min
» Minimum speed:	0.7 μ m/min		1.3 μ m/min	0.4 μ m/min
» Linear force:	> 150 N at minimum speed, 80 N at maximum speed		> 400 N at minimum speed, 80 N at maximum speed	> 700 N at minimum speed, 130 N at maximum speed
» Accuracy:	Within +/- 1% over length of syringe, exclusive of syringe variations			
» Flow rate:	12 nL/min – 20 mL/min	12 nL/min – 30 mL/min	25 μ L/min – 100 mL/min	8 nL/min – 20 mL/min
» Syringe size:	1 – 60 mL (140 mL partially filled)			0.5 μ L – 140 mL
» Number of program phases:	--	41		
» Communication interface:	--	RS-232 (network up to 100 pumps)		
» Power supply:	Unregulated linear external wall adapter, country and power source specific (or compatible regulated power supply)			
» Dimensions (D X W X H):	229 x 146 x 114 mm			260 x 381 x 127 mm
» Weight:	1.63 Kg			4.6 Kg

Other options (with different channels, precision, flow rate...) are available on demand depending on the specific requirements.

Accessories, such as syringes, cables, control software, etc..., are also available.

*Note: Specifications subject to change without prior notice. **Not For Clinical Use On Humans.***

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Different **pumping systems** are available for the use of **microfluidic** and **electrochemical solutions** offered by **MicruX** or any other supplier.

» Microfluidic & High-Pressure Syringe Pumps

» Syringe pump specifications

	NE-1002X	NE-4002X	NE-8000
» Working Mode:	Infusion / withdrawal		
» Channels:	1	2	1
» Motor type:	Step motor		
» Motor step <i>per</i> resolution:	400	200	
» Microstepping:	1/16 to 1/2 depending on motor speed	1/8 to 1/2 depending on motor speed	1/8 to 1/1 depending on motor speed
» Advance per step:	4.252232 nm to 34.017857 nm depending on motor speed	0.4252 μ m to 1.7009 μ m depending on motor speed	0.5051 μ m to 4.0409 μ m depending on motor speed
» Maximum speed:	2.245 mm/min	183.369 mm/min	300.33 mm/min
» Minimum speed:	0.014 μ m/min	1.402 μ m/min	1.665 μ m/min
» Linear force:	> 650 N at minimum speed, 80 N at maximum speed	> 400 N at minimum speed, 80 N at maximum speed	> 850 N at minimum speed, 445 N at maximum speed
» Accuracy:	Within +/- 1% over length of syringe, exclusive of syringe variations		
» Flow rate:	0.008 nL/h – 1246 μ L/min	0.008 nL/h – 1555 μ L/min	1.726 μ L/h – 247.4 mL/min
» Syringe size:	0.5 μ L – 60 mL (140 mL partially filled)		0.5 μ L – 140 mL (200 mL partially filled)
» Number of program phases:	41		
» Communication interface:	RS-232 (network up to 100 pumps)		
» Power supply:	Unregulated linear external wall adapter, country and power source specific (or compatible regulated power supply)		
» Dimensions (D X W X H):	229 x 146 x 114 mm		286 x 156 x 162 mm
» Weight:	1.63 Kg		3.55 Kg

Other options (with different channels, precision, flow rate...) are available on demand depending on the specific requirements.

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