

## SYRINGE DOSING PUMP SYSTEMS

Programmable syringe pumps providing an economical cost high quality solution to your sophisticated dispensing applications. Instead of buying pumps for a dedicated application, purchase a pump which you can easily reconfigure as your dispensing needs change. For less than the cost of many limited function pumps!

**ProSense**  
Laboratory & Process equipment

[www.prosense.net](http://www.prosense.net)

### General features:

- Infuses and withdraws.
- Accepts small syringes or large syringes, up to 60 cc (NE1800 up to 10 cc).
- Dispense continuously at a fixed pumping rate.
- Change pumping rate and direction while pumping.
- Selectable rate units:  $\mu\text{l/hr}$ ,  $\mu\text{l/min}$ ,  $\text{ml/hr}$ ,  $\text{ml/min}$ .
- Dispense a specified volume.
- Pre-program dispense volumes. Each volume can be different.
- Ramp up or down the pumping rate.
- Automatically change pumping rates or pumping direction.
- Automatically pause the program and wait for the user to continue the dispense.
- Timed delays between dispenses.
- Synchronize dispenses with other equipment or pumps to change pumping rates in reaction to a sensor or signals from other pumps.
- Send logic signals to other equipment. Change pumping rates in reaction to a sensor.
- Program the audible alarm to beep at any time to alert the operator.
- Enter the pumping program from the keypad or download it from a computer.
- Operates stand-alone, from an RS-232 computer port or from the TTL logic interface.
- Total volume pumped separately accumulated for infusion and withdrawal.
- Network, control and monitor up to 100 pumps with one computer.

### Programming features:

- 41 programmable phases.
- Set event interrupts from external signals to cause automatic jumps to another part of the program.
- Conditional jumps based on external inputs.
- Nested loops: Repeat a section of the program continuously or a set number of times.
- Program editing functions: Insert and delete program phases. Simplifies program development and updating.
- Allows quick removal or addition of program phases.
- Enter programs from the keypad or from a computer.
- Automatically change pumping rates.
- Insert timed delays between dispenses.
- Download or upload pumping programs from or to a computer. Store dispensing programs in a file on your computer, then download them to one or more pumps. Specify in the file to send a different pumping program to each pump in the pump network.



### NE500

Holds 1 syringe, from the smallest available, up to 60 cc. Infusion rates from 0.73  $\mu\text{L/hr}$  with a 1 cc up to 2100  $\text{ml/hr}$  with a 60 cc syringe. Chassis mountable: 23,5(L) x 10,8(W) x 10,5(H) cm.



### NE1000

Holds 1 syringe, from the smallest available, up to 60 cc. Infusion rates from 0.73  $\mu\text{L/hr}$  with a 1 cc up to 2100  $\text{ml/hr}$  with a 60 cc syringe.

### PUMP-DUAL-U

Using 2 NE-1000 pumps attached with a cable, one pump will infuse while the other pump refills.



### NE1600

Holds up to 6 syringes of up to 60 cc each. Infusion rates from 0.568  $\mu\text{L/hr}$  with a 1 cc up to 1337  $\text{ml/hr}$  with a 60 cc syringe.

### NE1800

Holds up to 8 syringes of up to 10 cc each. Infusion rates from 0.568  $\mu\text{L/hr}$  with a 1 cc up to 380  $\text{ml/hr}$  with a 10 cc syringe.

## HIGH PRESSURE SYRINGE PUMP

The High Pressure Syringe Dosing Pump is designed to give low flow rates that are pulse free, accurate and stable. The operating principle is "one shot" syringe.

The control unit holds the electronics for the control and operation of both motor syringes. The commands to the control unit can be entered in two ways, i.e. via serial communication (RS 232) from a supervisory system or manually via the key board in the front panel of the control unit. When the control unit is operated via serial communication this is supervised by the system. In case of communication failure the dosing is automatically interrupted.

Each motor syringe consists of one dosing syringe and one drive unit. The syringe materials that are in contact with the dosed liquid are 316 SS and PTFE. The syringes have fixed seals, which make filling, washing and maintenance easier. The volume of each syringe is 50 ml and the dosing range is from 0.0 ml/min to 5 ml/min. The highest counter pressure (reactor pressure) that is allowed is 100 bars.

The flow rate can be set manually - in steps of 0.01 ml/min - from the front panel of the control unit or it can be set in steps of 0.001 ml/min from the operators PC through the key board, from a program file or by a control loop. Note, however, that in the flow rate range below 0.01 ml/min the syringe might run on/off at 0.01 ml/min to get an average flow rate that corresponds to the set flow rate value.



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*Why pay  
more if you  
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