

图片及型号 描述



Advanced syringe pump : Model R100-E



INFUSION RATE:  $0.06 \mu l/hr - 467 ml/hr$  to 0.1 ml/min - 7.78 ml/minSYRINGE SIZE: 5 ml - 60 ml Weight: 7.00 lbs

\*Precision infusion rate control

classic R99-E Syringe Pump.

\*LCD Display

\*Syringe manufacturer & capacity selection option

\*External operation option

\*USB control option

\*Critical stainless steel components

\*Accuracy within 2%

\*Stop switch disconnects power when the plunger reaches the end of the syringe

Razel<sup>TM</sup> Scientific Instruments is pleased to announce our latest development in syringe pumps. The R100-E is controlled by an internal computer so that exact infusion rates can be set. Front panel switches allow for a simple setup, thus avoiding complicated menus or charts. All the settings are shown on the LCD display. All these new features come with the proven reliability of the



Dual site syringe pump : Model R-DE



The Model R-DE has many uses in research and industry. This is a version of the reliable Model R-E syringe pump, in which two pumps are conveniently mounted on a common base, allowing the user to have a syringe loaded at all times, or to increase the flow rate/or capacity by pumping in tandem. With the optional syringe adapter, up to five syringes can be used simultaneously. The Model R-DE provides exact reproducible flows, extreme durability, and simple operation, thus it is the instrument to use in clinical medicine and repetitive experimentation.

.INFUSION RATE: 0.017 ml/min – 24 ml/min;

0.1 ml/hr - 1440 ml/hr

SYRINGE SIZE: 5 ml - 60 ml

Weight: 9.00 lbs

\*Two R-E pumps mounted on a common base

\*Single speed 3.33 with stock synchronous motor

\*Stop switch disconnects power when the plunger reaches the end of the syringe.

\*Interchangeable motors available from .008 -20RPM





High/Low Speed Precision
Microliter Syringe Pump :
Model R-104A

Our classic PHM-103/104 High Speed Microliter Syringe Pump has been redesigned. The original PHM-103/104 pumps were designed to meet the need in laboratories for rapid infusion of addictive compounds, especially nicotine. The new R-104A takes rapid infusion to a new level.

**INFUSION RATE:** 19-1300 μl/sec; 1.14 ml/hr – 78 ml/hr

SYRINGE SIZE:  $10 \mu l - 500 \mu l$ 

Weight: 7.00 lbs

Uses high quality Hamilton MICROLITER™ glass syringes to ensure precise, accurate delivery.

Supports three syringe sizes: 10 µl, 100 µl, and 500 µl.

Wide range of injection rates is possible.

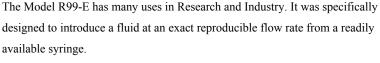
Unprecedented injections speeds are possible. For example, using a 500  $\mu$ l syringe, an injection volume of 100  $\mu$ l can be delivered in under 100 ms! Now able to inject the entire syringe volume during a single injection.

USB operation facilitates use; no extra controllers required.

Includes one 100 ul syringe



Multiple Speed Syringe Pump: Model R99-E



**INFUSION RATE:** 0.004 ml/min - 2.3 ml/min; 0.254 ml/hr - 143 ml/hr

**SYRINGE RIZE:** 5 ml – 60 ml

Weight: 10.00 lbs

- Multiple Speed.
- Critical stainless steel components.
- 0.5% repeatability.
- Accuracy within 2%.
- On/Off lighted rocker switch.
- Infusion rate is set on a 4-digit selector
- Stop switch disconnects power when the plunger reaches the end of the syringe.



## **AVAILABLE FLOW RATE SPEED OPTIONS:**

## Option J:

to allow flow rate to be increased by 3 times to 0.25 ml/hr - 430 ml/hr

## **Option M:**

to allow the infusion rate to be decreased to 0.1 the normal rate (0.025 ml/hr - 143 ml/hr)

## **INTERFACE & SOFTWARE:**

The Interface RS-232 is only available with both option J and M. If you select the Interface option below, you do not need to add a flow rate option.







R-ACC-6 Multi Micro Syringe Adapter

Adapter for Six Micro Syringes. For use with Models R-100, R99.

Weight: 1.00 lbs



RCC-5

Adapter to drive five 50ml syringes. For Use with Model R-DE

Weight: 1.00 lbs



**RMOT Pump Motor** 

Synchronous motor color specifies speed.



Single Speed Syringe Pump: Model R-E



The Model R-E has many uses in research and industry. It was specifically designed to introduce a fluid at an exact reproducible flow rate from a readily available syringe. Its unique size, its extreme durability, and its simplicity to operate, makes the Razel pump the instrument to use in clinical medicine and repetitive experimentation.

INFUSION RATE: 0.017 ml/min - 24 ml/min; 0.1 ml/hr -

1440 ml/hr

SYRINGE SIZE: 5 ml - 60 ml

Weight: 5.00 lbs

- Single speed stock synchronous motor.
- Stop switch disconnects power when the plunger reaches the end of the syringe.
- Most economical option available.
- Interchangeable motors available from .008 20 RPM
- Accuracy within .5%
- Stainless steel and aluminum frame







**Triple Infusion Pump: Model PHM-102** 

Although it was originally designed for home cage infusion of saline, this standalone pump may be used for any periodic infusion application. Permanently attached tethers have been found to remain trouble free for longer periods of time when given periodic infusions with saline in the home cage. This unit will infuse up to three animals at the same time. A pair of two digit thumb-wheel switches are used to set a cycle time from 1 to 99 minutes and an infusion time from 1 to 99 seconds. A setting of 60 and 10, for example, will produce a ten second infusion at one hour intervals. Other features include a flush push button, test mode, single injection mode, and indicator lights that identify cycle activation and infusion activation.

INFUSION RATE: 2.63 ml - 158.0 ml

SYRINGE SIZE: 30 ml

Weight: 10.00 lbs

- Ability to infuse up to 3 animals simultaneously.
- Flush push button.
- Provides infusions from 1 99 seconds at intervals from 1 99 minutes.
- 3.33 RPM motor.
- Indicator lights to identify cycle activation and infusion activation.
- Includes single injection mode.



Variable Speed Syringe Pump: Model PHM-100VS

The delivery mechanism of this pump is similar to the Model R-E, with the difference being that the single speed synchronous motor is replaced by a digitally controlled stepper motor and microprocessor controller that permits both speed and infusion time settings.

INFUSION RATE: 0.106 ml/min – 24.1 ml/min; 6.35 - 1446 ml/hr

SYRINGE SIZE: 5 ml - 60 ml

Weight: 10.00 lbs

- Variable Speed Syringe pump.
- Digitally controlled stepper motor and microprocessor controller permitting both speed and infusion time setting to be user-defined using switches on front panel.
- Selector speeds range from 0.5 20.0 RPM.
- Infusion times range from 0.1 99.9 seconds in 0.1 second increments.
- Unit connected to a 28V DC output.

