

# Syringe Pump Harvard Model 11 Plus



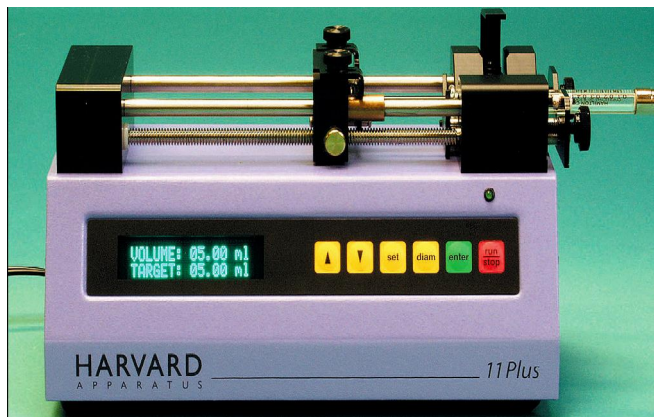
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The Pump '11' Plus is designed as a low cost, single syringe infusion pump capable of low to moderate back pressures.

The pump can hold syringes of any make from 0.5 l to 50/60ml for the single syringe version. The diameter of the syringes is entered via the keypad and the internal micro-processor drives a precision stepper motor to produce accurate fluid flow.

The pump is equipped with a two-line 16 character vacuum fluorescent display along with six membrane keys.

Only two entries required to start pumping; syringe inside diameter (mm) and pumping flow rates. The flow rate can be changed while the pump is running.



## Suitable applications

The pump is suitable for producing a steady flow with most fluids at ambient temperature. It is designed for a batch size up to 60 ml. The unit is suitable to run sterile batches, for example, for living cells, when using sterile syringes and tubing.

The pump is not recommended for fluids containing fast sedimentary particles.

**Advantage:** Vast range of flow rates.

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## Nisco applications

The unit is used for J1 and J30 single nozzle vibrating units with the nozzle size up to 500 µm as well as for electrostatic unit V1 and electromagnetic VarD2Go units.

## Pump specifications

### Flow rate range

0.0014 µl/hr (0.5 µl syringe) to 1693.6 ml/hr (60 ml syringe)

### Syringe size

0.5 µl to 60 ml

### Accuracy

+/. 0.5%

### Linear force average

7.1 kg (16 lbs)

### Voltage operating range

Univers. input 100/250 VAC, 50/60 Hz, 18 W

### Weight

2.3 kg

### Dimensions

11.4 x 22.9 x 11.4 cm (H x W x D)

## Environmental conditions

### Operating temperature range

4C to 40C, 40F to 104F

### Altitude

Up to 2000m

### Humidity

20% to 80% RH, well ventilated room