



Harvard PHD 2000 Advanced Syringe Pumps

- High accuracy and precision
- Low flow rate
- Ultimate flexibility and versatility

Forty years ago Harvard Apparatus perfected the lead screw principle and created the first syringe pump. Since that time, tens of thousands of Harvard pumps have earned a reputation as the most reliable research partners in every major laboratory in the World. The PHD 2000 syringe pump series gives you the lowest flow rates ever, the highest accuracy, the smoothest flow, advanced programmability from the keypad and yet, is very easy to use.

Highest Accuracy and Precision
A welded steel chassis, magnetic guide rods, and advanced programming give you reproducibility within 0.1%.

Lowest Flow Rates
A new micro stepping motor gives you the lowest flow rates ever, down to 0.001 ml/hr. It won't disturb your experiments.

Versatility
There is a PHD 2000 syringe pump for every application: simple infusion, infusion and withdrawal, and programmable infusion.

1. Infuse Only

This pump is suitable for simple infusion only. It has high accuracy and low rates but does not need programmability capabilities later on, the PHD 2000 series is the way to go.

2. Infuse/Withdraw

The Harvard PHD 2000 series is the way to go for the infusion only mode.

3. Programmable

The Harvard PHD 2000 series is the way to go for advanced programming. The PHD 2000 series pump can store up to 100 programs. The programs are stored in non-volatile memory. This gives you this level of control and flexibility. The programmable pumps may also be programmed using Symphony, Harvard's Windows™ pump manager software, [see page A7](#).

Easy to Use

A bright, easy to read, two-line fluorescent display can be easily read from across the lab. A target volume key makes it easy to dispense a set volume. An ergonomic 'Autolock' release mechanism is easy for even small hands to operate and can never be left unlocked. The numerical keys utilize the familiar 'telephone' layout.

Upgrade

We offer pumps that can be upgraded. If you buy an infuse/withdraw pump and later decide you want programmability you can upgrade it. You pay a lot less than buying a whole new pump.

PHD 2000 Programmable with Standard 2-Syringe Rack



PHD 2000 Infuse/Withdraw with 6/10 Multi-Rack



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functional level you need, then select the appropriate rack. The PHD 2000 remote series is available in a variety of rack holders including the 6/10 multi-infusion studies, shown above:

- The new push/pull syringe pump holds 4 syringes, 2 in each direction, for syringe sizes 0.5 μ l to 30 ml
- The standard 2-syringe rack holds 2 syringes from 0.5 μ l to 140 ml
- The 4 x 140 multi-rack holds four 100 or 140 ml plastic syringes only
- 6/10 multi-rack will hold up to 10 syringes from 0.5 μ l to 20 ml and up to 6 syringes from 30 ml to 60 ml
- The microliter syringe rack independently holds 4 microliter syringes enabling syringes of different sizes to run simultaneously

You can also buy a new rack without having to buy a new pump. The racks attach easily with just a few screws and are made of heavy-duty steel to ensure even delivery across the syringe rack.