

THE UNIVENTOR 801 SYRINGE PUMP

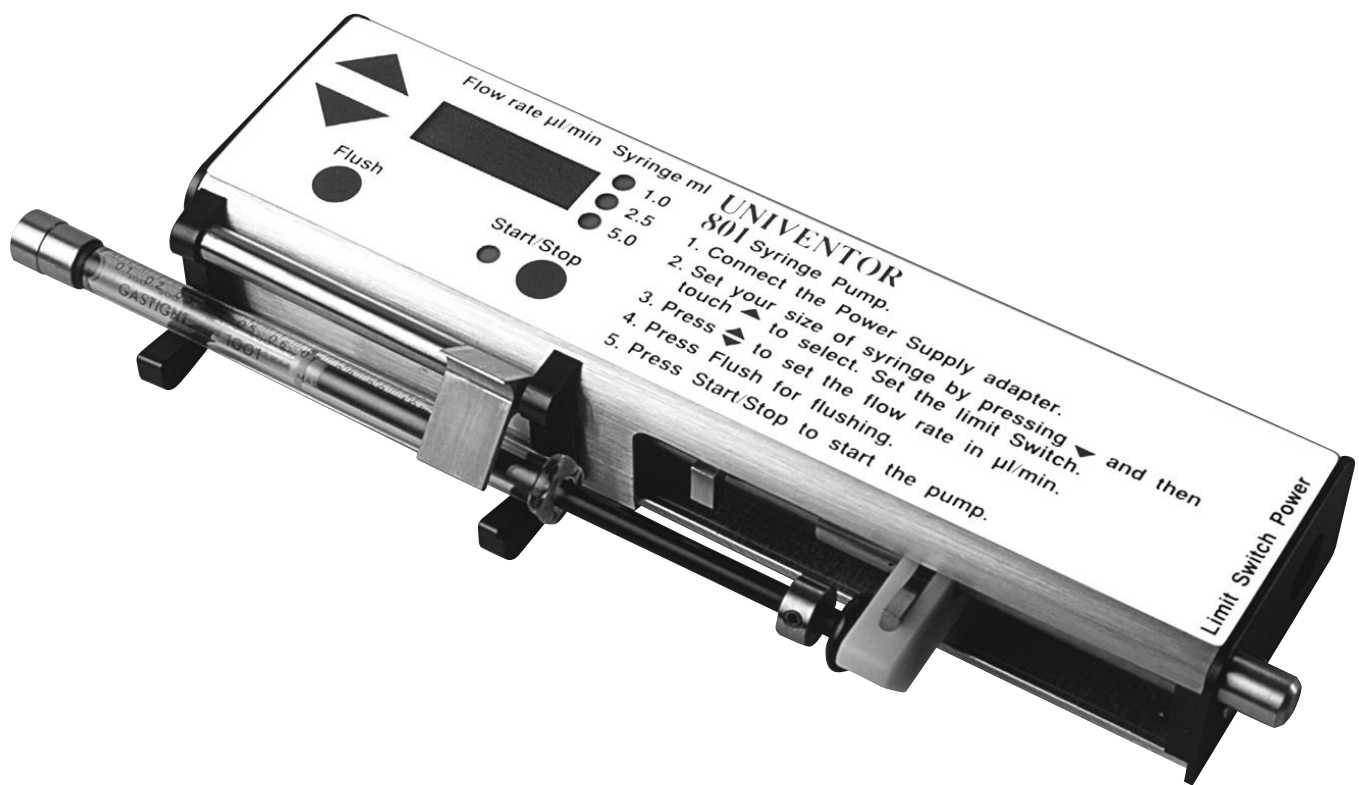


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Section 2 - INTRODUCTION

2.1. INTRODUCTION

The Univentor 801 is a microdialysis Syringe Pump designed to perform microinjections with precision and reliability.

The 801 Syringe Pump operates with a DC motor and advanced electronics, ensuring a constant and pulse free flow, delivered almost silently.

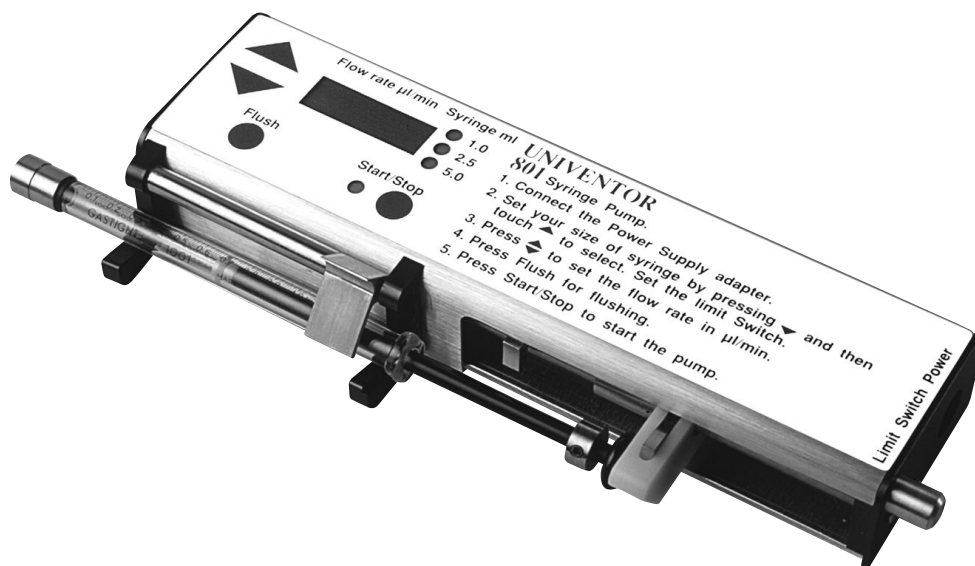


Figure 2.1. The Univentor 801 Syringe Pump

Any type of syringe can be used within clamping range. However, for your convenience the 801 is preprogrammed for one syringe with 60 mm graduation of 1.0 ml, 2.5 ml or 5.0 ml with maximum flow rates of 25 $\mu\text{l}/\text{min}$, 62.5 $\mu\text{l}/\text{min}$ and 99.9 $\mu\text{l}/\text{min}$ respectively.

The instrument and the syringe are protected from damage by setting of limit switch which ensures that the pusher stops accordingly.

Section 1 - WARRANTY & SERVICE

1.1. WARRANTY

Univentor Ltd guarantees all components of the 801 Syringe Pump to be free from defects of material and workmanship for a period of one year after initial purchase. Univentor will repair or replace, at its discretion, all defective components during the aforementioned warranty period.

For warranty service or repair, all Univentor's products must be returned to Univentor or to an authorised Univentor representative. The client is responsible for shipping charges to Univentor.

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance by the client, unauthorised modification or misuse, operation outside of the environmental specifications for the product, or improper site preparation or maintenance.

For any product expressly covered under this warranty, Univentor is liable only to the extent of replacement or repair of the defective items. Univentor shall not be liable for any personal injury, property damage, or consequential damages of any kind whatsoever. The foregoing warranty is in lieu of all other warranties of merchant ability and fitness for a particular purpose.

1.2. DAMAGED SHIPMENTS

Damage to any part of this instrument during shipping should be reported immediately to Univentor or an authorised representative. You must retain the original packing box and contents for inspection by the freight handler. Univentor will replace any new instrument damaged in shipping with an identical product as soon as possible after the claim filing date. Claims not filed within 30 days after the shipping date will be invalid. Do not return damaged goods to Univentor without first contacting Customer Service for a Return Authorisation Number (RA#). When a defective part is returned to Univentor, the RA# immediately identifies you as the sender, and describes the item being returned. Univentor refuses all unauthorised return shipments.

1.3. SERVICE

Univentor has a skilled service staff available to solve any technical problem. For further details contact Univentor or Univentor's representative. Following discussion of your specific difficulties, an appropriate course of action will be described and the problem resolved accordingly. Do not return any products for service until a RETURN AUTHORISATION NUMBER (RA#) has been obtained. The RA# identifies you as the sender and describes in full detail the problems you have. Turnaround time for service can be quoted to you at the time your RA# is issued, although we can not determine the actual amount of service required until we have received your unit and diagnosed the problem. All correspondence and shipments should be sent to Univentor Ltd. or your Univentor representative.

Section 3 - GENERAL

3.1. UNPACKING AND INSTALLATION

Remove the instrument from the shipping container and inspect both the instrument and the package for any signs of damage. If any damage is noted, contact the freight handler immediately, see section 1.2.

Missing Items?

Carefully check the invoice against the contents of the shipping package. If anything appears to be missing, check the packing material very carefully for any overlooked items. If any items are missing, contact your Univentor representative immediately.

3.2. POWER SUPPLY

MAINS - Use only the adapter 2601303 fitted on the 801 Syringe Pump. The adapter can automatically handle input voltage in the range from 100V to 240V, 50 to 60 Hz.

3.3. CONTROL PANEL EXPLANATION

The following functions, together with brief instructions, are located on the panel of the 801 Syringe Pump. (see fig 3.3).

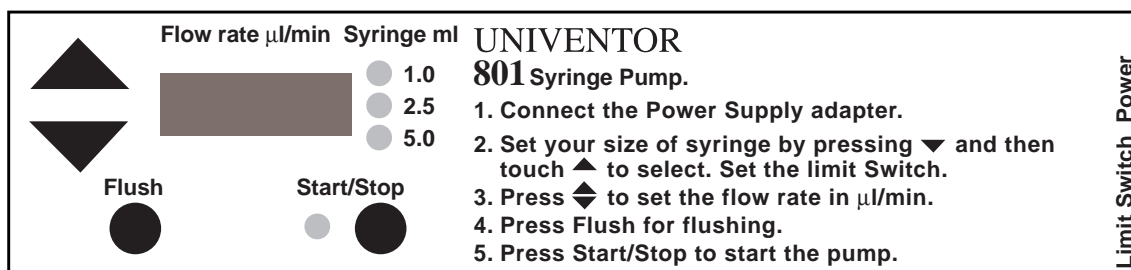


Figure 3.3. The Univentor 801 control panel

Syringe ml	Select one of three optional syringes.
Flow rate $\mu\text{l}/\text{min}$	The display shows the flow rate in $\mu\text{l}/\text{min}$.
Flush	For flushing with a flow rate of 25 $\mu\text{l}/\text{min}$.
Start/Stop	Start/Stop button.
Limit Switch	Will stop the 801 Syringe Pump.
Power	The adaptor is fitted to the pump.

Section 4 - OPERATION

4.1. INSTRUCTIONS

1. Connect the instrument's adaptor to a wall plug.
2. Insert the syringe. Set the limit switch by turning the limit switch dial until the pointer is in the required stopping position.
3. Set the size of your syringe by pressing the arrow pointing down and then touch the arrow pointing up.
4. Press the up/down arrows to set the flow rate.
5. Press **Flush** for flushing.
6. Press **Start/Stop** to start the pump.

4.2. USING OTHER SYRINGES

If using a syringe which is not preprogrammed, select the 1.0 ml syringe size and calculate the flow rate setting using the formula below:

$$\text{Flow rate to be set} = \frac{\text{Desired flow rate } (\mu\text{l}/\text{min}) \times \text{stroke (mm)} \times 1000}{\text{Syringe volume } (\mu\text{l}) \times 60}$$

Section 5 - ROUTINE MAINTENANCE

5.1. CLEANING THE INSTRUMENT

Keep your Univentor 801 Syringe Pump clean. Wipe off any spillage using a soft cloth with mild detergent. Do not use alcohol or any other solvent.

5.2. STORAGE

If the 801 Syringe Pump is not to be used for a significant length of time, it is recommended to clean the instrument and store it safely in the shipping carton.

Section 6 - SPECIFICATIONS

Dimensions:	190(W) x 70(D) x 30(H) mm.
Weight:	0.5 kg including adaptor.
Shipping weight:	1.5 kg.
Power:	External adaptor: 100 - 240 V, 50 - 60 Hz.
Drive motor:	DC motor with variable speed setting. Preset speed is controlled via an automatic closed loop speed control.
Flush:	Pusher movement of 1.5 mm/min forwards.
Syringes:	1 syringe with graduation length of 60 mm. 1.0 ml, 2.5 ml or 5.0 ml.
Minimum pusher travel:	0.006 mm/min.
Maximum pusher travel:	1.5 mm/min.
Deviation of the display:	+/- 1 % or less than 1 unit in the last figure of the display.

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