Technical Specifications

- Easily replaceable fuse, battery, and power cord.
- Five hour memory which retains infusion data after power off.
- Automatic self-reset routine that detects for proper function before use.
- Use standard Baxter solution administration sets.
- Independent secondary medication program that automatically switches over to primary program upon completion.
- Locking control panel that prevents tampering.
- Safety clamp mechanism that prevents accidental free flow.
- Ultrasonic air detector that senses bubbles approximately 50 microliters or larger without nuisance alarms.
- Occlusion sensors that detect both upstream and downstream restrictions.
- Easy to load, spill-resistant pumping mechanism.
- Range of infusion rates. The pump's features include:

Introduction
22. Pumping Mechanism
   - Sensor
   - Upper Chamber Occlusion
   - Door Latch
   - Strain LED

21. Charging LED
   - Backlight Key

19. CLEAR TO VOL Key

18. CHARGE LED

17. TO VOL/STANDBY Key

16. ALERT LED

15. PUMPING Key

14. green LED which is continuously lit during pumping.

13. red LED which is continuously lit during charging.

12. SEC START Key

11. SEC VIBR Key

10. SEC RATE Key

9. silence Key

8. stop Key

7. Numerical Keypad

6. PRI START Key

5. PRI VIBR Key

4. PRI RATE Key

3. main Display

2. message Display

1. ON-OFF/CHARGE Key

Function

- linear peristaltic pumping mechanism.
- detects a complete lack of restriction upstream of the pump.
- opens and closes the pump door.
- is changing.
- green LED which is consistently lit while the pump is plugged into the battery.
- backlighting remains on for 60 seconds each time the backlight key is pressed.
- when pressed, the backlighting is displayed for three seconds.
- yellow LED which is continuously lit during alarm mode.
- green LED which is continuously lit during pumping.
- red LED which blinks on and off during alarm, accompanied by a visual message.
- starts the delivery of the secondary solution.
- enters the VIBR for the secondary solution.
- enters the initialization rate for the secondary solution.
- temporarily silences an audible alarm for 2 minutes, All visual alarms.
- stops pumping until limited instructions are given.
- an alert will sound if the key deactivates any rate or VIBR currently being set.
- the numerical values for rate and VIBR are entered with these keys. The CLR
- starts the delivery of the primary solution.
- enters the VIBR for the primary solution.
- clears the initialization rate for the primary solution.
- shows the volume to be infused (VIBR), and total volume infused for primary.
- returns the pump on and off.
- the pump's internal battery charger remains on.
- runs the pump on and off. The pump's internal battery charger remains on.
- 115 VAC power source.
- key deactivates the ON-OFF/CHARGE Key as long as the pump is plugged into a power source?

Refer to figures 1-3 for the location of the following items.
Secures the pump to the IV pole.

Allows easy access to the battery.

Allows addition of an optional nurse call jack.

For generation of audible alarm and alert tones.

Allows addition of future accessories.

Removable only by qualified personnel for easy replacement.

Fuses compartment.

Adjuts sound level of audible alarm and alert tones. The tones cannot be

pressed.

Disables front panel controls, except BACKLIGHT and 101 VOLT/STATUS, when

stores power cord during battery operation and pump storage.

Detects air bubbles in the tubing.

Prevents accidental fluid flow when the pump door is opened.

Shows the correct way to load tubing into the pump.

Detects tubing restrictions downstream of the pump.

Figure 1, Front View of Pump
1. Press ON-OFF/CHARGE key. All display illuminations momentarily shown in Figure 5. The audible alarm sounds.

2. Push pump into a T-type grounded outlet. Unless battery power is required.

3. Prepare high container and target administration set according to the directions accompanying the products.


5. Press pump door handle to horizontal position and pull door open.

6. Push safety clamp to open position.

7. Thread locking channel from top to position as shown in Fig. 4.

8. Close pump door.

9. Open set control clamp completely. Verify intake drops are falling in drip chamber. If flow is observed, reclock.

10. Return set to configuration of other device.

11. Press ON-OFF/CHARGE key. All display illuminations momentarily shown in Figure 5. The audible alarm sounds.

Instructions for Use

- Always verify programmed information prior to starting the device.
- Secondary set for the secondary line.
- When a secondary infusion is programmed, use only continuous-flow sets in the primary line with a compatible pump. Read and follow instructions of the filter to be used.
- If using a filter set, use only filters which are specifically designed for the infusions that they may be used with.
- When replacing filter, use a compatible, curved venous catheter, Baxter recommendation sets with a luer lock adapter be code number (for example: 562417).
- This system filter standard Baxter soft tubing administration sets (i.e., the last character of the filter is S) - than the last character of the filter is B or T.
- Ensure that tubing is placed directly through the pump mechanism using guides and safety clamp before entering the system filter.
- Always close the administration set control clamp before opening pump door and removing set.
- Do not store pump with the ON-OFF/CHARGE key ON. The battery may discharge completely.
- Do not store pump with the ON-OFF/CHARGE key OFF. The battery may discharge completely.
- Do not store pump with the ON-OFF/CHARGE key OFF. The battery may discharge completely.
- As with any infusion device, always replace fluid containers before or simultaneously the last drum enters.
- Operate pump from 115 V, 60 Hz, hospital grade, well-grounded outlet only. Leave the pump plugged in when not in use to maintain the battery charge.
- Danger - Possible explosion hazard if used in the presence of flammable anesthetics.

Safety Precautions

Operating Instructions
If pump is not regulated in two minutes, an audible alarm sounds.

16. To halt infusion, press STOP key. The PUMPING LED goes out and STOPPED appears in the message display.

INFUSED is displayed first, followed by RATE and VTBL.

17. To read total volume infused and/or review infusion settings, press TOTAL STATUS key. TOTAL VOLUME

contains how many drops in the administration set drip chamber.

16. Press PUMPING LED lights and a moving bar appears next to the flow rate setting.

15. If desired, reset the volume infused to zero by pressing CLEAR TO VOL.

b. Enter desired VTBL (in ml) on keyboard. Set VTBL equal to the amount of fluid in the container or less if

a. Press PUMPING key.

14. Set primary volume to be infused as follows:

To correct a mistake, press RATE key again and re-enter the correct rate.

b. Enter desired flow rate (in ml/hr) on keyboard. The pump will not accept a zero as the first digit entered.

a. Press RATE key.

13. Set primary flow rate as follows:

12. Set audible alarm knob on the rear of the pump to the desired level.

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**Figure 5. Self-Test Displays**

**Figure 4. Tube Loading Diagram**
4. To change secondary flow rate, follow the above procedure using the SEC RATE and SEC START keys instead of PRESS RATE and PRESS START keys.

3. Press PRESS START. The pump begins delivering fluid at the new rate; the alert tone stops, and the TITRATE message disappears.

2. Enter the new flow rate on the keyboard periodically.

1. Press PRIM RATE key while pump is running. TITRATE appears in the message display and an alert tone sounds.

To change the primary flow rate, follow the procedure given below.

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### Changing Flow Rates (Titrating) While Pump is Running

1. Press SEC START to begin titration. Drops begin falling in the secondary set drip chamber, when the VTBL of the accompanying secondary program reaches zero, the pump reverses to the primary program.

2. Press SEC VTBL key.

3. Enter the desired fluid amount (in ml) on the keyboard. Set VTBL equal to the volume of fluid in the container. To correct a mistake, press SEC VTBL again and re-enter the correct value.

4. Press SEC VTBL key.

5. Lower primary container with the burette accompanying the Baxter secondary set.

6. Open secondary set control clamp.

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### Starting a Secondary Program

1. Prepare secondary fluid container and administer set according to the instructions accompanying the product.

2. Close secondary set control clamp.

3. Set secondary flow rate as follows:

4. Press SEC VTBL key. The right-hand side of the main display now shows secondary infusion data.

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| 1. Prepare secondary fluid container and administer set according to the instructions accompanying the product. |
| 2. Close secondary set control clamp. |
| 3. Set secondary flow rate as follows: |
| 4. Press SEC VTBL key. The right-hand side of the main display now shows secondary infusion data. |
| 5. Lower primary container with the burette accompanying the Baxter secondary set. |
| 6. Open secondary set control clamp. |
| 7. Press SEC VTBL key. Drops begin falling in the secondary set drip chamber, when the VTBL of the accompanying secondary program reaches zero, the pump reverses to the primary program. |

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| 7. Press SEC VTBL key. Drops begin falling in the secondary set drip chamber, when the VTBL of the accompanying secondary program reaches zero, the pump reverses to the primary program. |
| 8. Press SEC VTBL key. The right-hand side of the main display now shows secondary infusion data. |
| 9. When the selected volume has been delivered, the pump sounds an alert tone and switches to a KO (Keep Valve) position. |
| 10. Remove set from pump as follows: |
| Open (set at 5 ml/hr) of the current rate setting, whichever is lower. |
| c. Open pump door. |
| d. Press SAFETY clamp button. |
| e. Check that no fluid is flowing in set, then remove set from pump. |
Battery Powered Operation

In the event of fully charged batteries and power loss, the pump will continue to operate at 120 RPM for up to 24 hours. The display will show "Battery Powered" when the AC power is interrupted or the pump is unplugged. When operating on battery power, the pump automatically switches to Battery Mode Operation when the pump is unplugged and the AC power is interrupted.

To unlock the panel: Press the PANEL LOCK button. The lock message disappears. If the pump is stopped due to an alarm, the lock is still active. To lock the panel: While the pump is running, press the PANEL LOCK switch on the rear of the pump. The message "Panel Locked" appears in the display.

The pump control panel can be locked during pumping to prevent tampering. It can be unlocked at any time. The pump control panel can be locked during pumping to prevent tampering. It can be unlocked at any time.
### Alarms and Alarms

<table>
<thead>
<tr>
<th>Condition</th>
<th>Secondary Alarm</th>
<th>Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery Power has been exhausted. Plug pump into outlet to restore operation.</td>
<td>No low</td>
<td></td>
</tr>
<tr>
<td>Pump do not fully closed.</td>
<td>No low</td>
<td></td>
</tr>
<tr>
<td>Closed clamp upstream of the pump.</td>
<td>No low</td>
<td></td>
</tr>
<tr>
<td>Closed clamp or other blockage downsteam of the pump.</td>
<td>No low</td>
<td></td>
</tr>
<tr>
<td>Air bubble at detector.</td>
<td>No low</td>
<td></td>
</tr>
<tr>
<td>Possible Cause</td>
<td>Alarm Message</td>
<td></td>
</tr>
<tr>
<td>Condition until a non-zero Secndary VTBL is enabled.</td>
<td>SEC VTBL=0</td>
<td></td>
</tr>
<tr>
<td>A secondary VTBL of zero has been entered. The pump will remain in this alert.</td>
<td>SEC RATE=0</td>
<td></td>
</tr>
<tr>
<td>Condition until a non-zero Secndary flow rate is enabled. The pump will remain in this alert.</td>
<td>SEC PROGRAMM</td>
<td></td>
</tr>
<tr>
<td>A secondary flow rate of zero has been entered. The pump will remain in this alert.</td>
<td>alarm</td>
<td></td>
</tr>
<tr>
<td>New measurement is being programmed while pump is running. Pumps will remain in this alert.</td>
<td>Battery low</td>
<td></td>
</tr>
<tr>
<td>Battery needs charging. Pump will stop operating in approximately fifteen minutes unless it is plugged into an AC outlet.</td>
<td>Battery</td>
<td></td>
</tr>
<tr>
<td>Pump is operating on internal battery power.</td>
<td>No low</td>
<td></td>
</tr>
</tbody>
</table>

The following chart describes the pump's alarm alert messages along with the cause of each.
Do not use the following chemicals on the pump. They will damage the front panel, acetone, ammonia, benzene. Damage the pump and void the warranty. Do not clean or disassemble internal parts by alcohol. Do not use the pump with ethylene oxide gas. Doing so may:

- Isopropyl alcohol up to 95%
- Soap water
- Water
- A solution of 10% bleach and Purdue Frederick
- Clorox Co.
- Edison Chemical Co.
- Surigene
- Vessel Labs
- Manufacturer

List of Cleaners

- Clean pumps that have been used in an isopropyl alcohol, then again from the list below that cleans and disinfects.
- Follow manufacturer's cleaning instructions for concentrated cleaners.
- The exterior of the pump may be cleaned with a soft cloth, sparingly dampened with any of the cleaners listed below.
To improve packing...

Baxter Healthcare Corporation will not be responsible for unauthorized returns or for units damaged in shipment due to improper packing.

...of the product shall be returned to the instrument when it is returned for service.

A warranty receipt number will be issued and should accompany all communications. A copy written description for repair. When calling Baxter Product Service, please be prepared to provide code number and serial number of the product, to ensure prompt return. A Baxter Product Service representative must be notified before shipping any unit. Shipping costs for all units returned to Baxter Healthcare Corporation shall be paid by the customer. The unit must be packed in the original container or in another Baxter approved container that will provide adequate protection during shipping. The unit must be in warranty as per the Baxter Healthcare Corporation Warranty, Service Agreement (optional), or lease agreement, the in-use.


Contact Baxter Healthcare Corporation Customer Service Division for service and repair information for all instruments.


Service Information

The warranty of this product, and service by other than a Baxter Healthcare Corporation authorized representative may void this warranty. The warranty period for products, other than battery packs, is limited to a period of six months under normal use and set use.

Baxter Healthcare Corporation warrants that the equipment shall be free from defects in material and workmanship when delivered to the original Purchaser. Baxter Healthcare Corporation is not responsible for any defects caused by reasonable wear and tear.