



BD Bodyguard™ Ambulatory Infusion System

TPN Quick User Guide

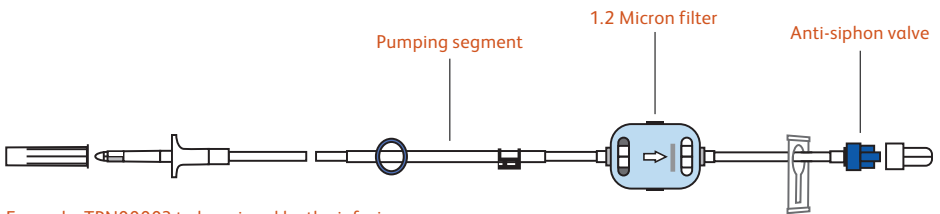


The multi-function keypad



Features of the BD BodyGuard™ MicroSets

Each BD BodyGuard™ MicroSet has a unique dedicated pumping segment which contains a blue ring (anti-stretch key) and a black key with two protrusions that must be fitted pointing upwards. The key can only be loaded one way so fluids flow in the direction of the arrows inside the pump door. The infusion sets have an anti-siphon/anti-reflux protection and a micron particulate filter, incorporating air-elimination.



Example: TPN00003 to be primed by the infusion pump

Loading the infusion set

Step 1: Open the door

Open the pump door by pulling down the latch.



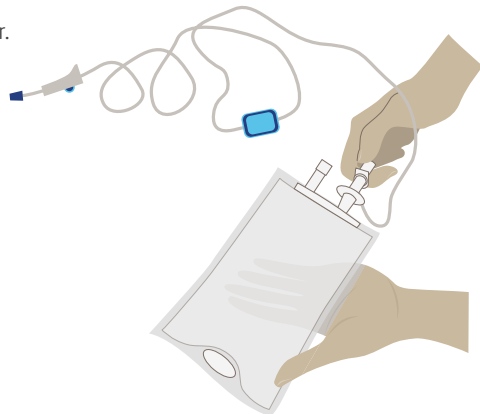
Step 2: Select the right set

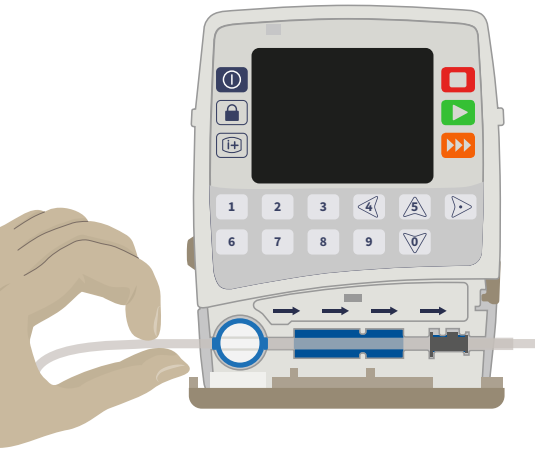
Ensure the appropriate set has been selected. Only use dedicated BD BodyGuard™ MicroSets. A wide range of specialty TPN sets are available.

Follow the instructions supplied with the infusion sets.

Step 3: Spike

Insert the spike into the fluid container.





Step 4: Loading the set

Locate the black key in the pressure sensor. The two protrusions must face up. They can only be loaded in this direction.

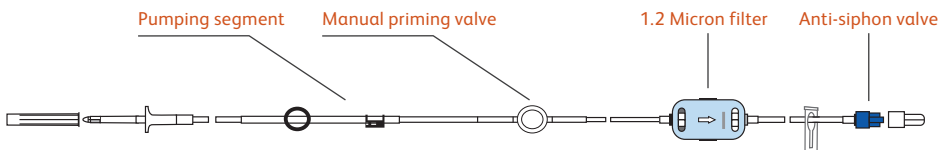
Locate the blue ring (anti-stretching key) in the left side of the tubing channel around the air sensor.

Close the door fully until you hear a 'click'.

Manual priming

If you're using a set with a manual priming valve, follow these steps:

1. Remove the spike cover from the set and spike the fluid bag.
2. Orientate the filter so that the arrow is pointing upwards. It is advisable to hold the priming valve and filter at least 30 cm below the bag outlet/spike during priming to create head height pressure.
3. Gently apply constant pressure to the priming button to start priming.
4. Maintain firm, constant pressure on the button to enable fluid to flow through the set and prime the line.
5. Continue to maintain the filter vertically until fluid is visible at the luer lock connector.
6. Connect to access the device/catheter.



Example: 120-112XSFK

After manually priming, load the set into the pump, power on and follow steps for programming the pump

Infusion set priming by the infusion pump

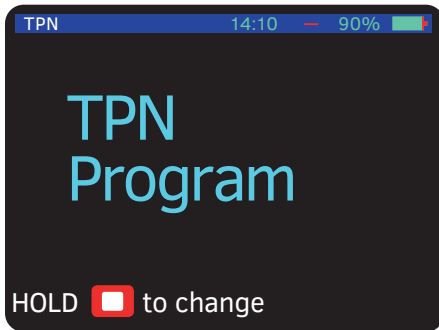


Step 1: Switch on

Press  to power up the pump.



The home screen will appear automatically for a few seconds.

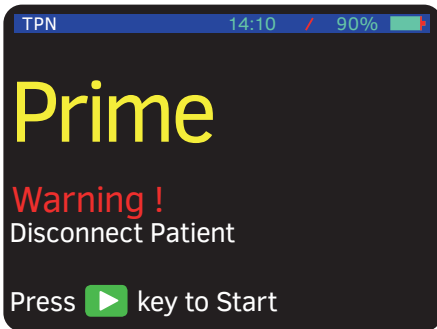
If 'Delay before Start' is set, you must include enough volume for the delay period in addition to the 5 ml KVO volume.




Step 2: Select TPN Program

The program you select will remain in the pump's memory until it's changed.

Therefore if the last program used was "TPN" the TPN Program will appear when you turn on the pump. Confirm your choice by pressing  or hold  to select the program required.

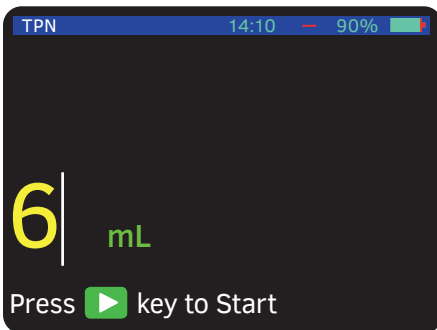


Step 3: Prime

To prime and eliminate the air from the set, press .

Always disconnect IV tubing from the patient before starting the priming procedure.

Note, If using a set with a filter, orientate the filter so the arrow is pointing upwards and position the filter in line with the pump.

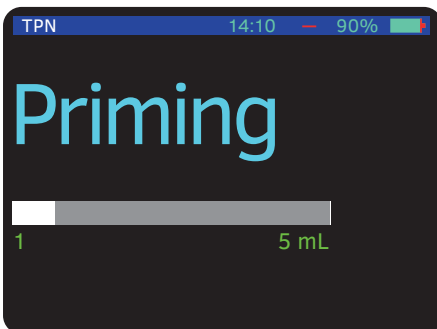


Step 4: Select the priming volume

Confirm default volume or enter priming volume required. The actual set priming volume will depend on the set being used.

Consult the set packaging label.

Press  to start the priming.



Step 5: Complete the priming

The screen displays the priming process.

When priming is completed, the screen will revert back to the last screen.

Make sure that all the air is removed, reprime if necessary.


Connect line to access device/catheter.

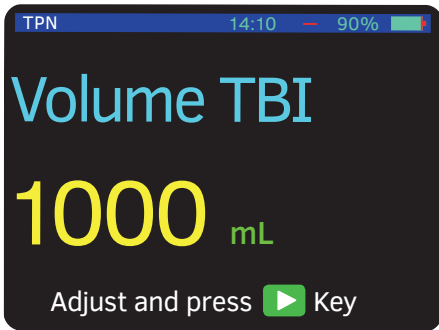
Programming the pump in TPN mode



Step 1: Bag Volume screen


The Bag Volume screen will appear. Enter the desired volume by using the numeric keypad.

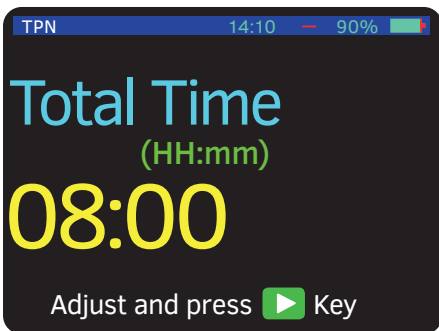
Enter or confirm by pressing . The pump remembers previous entries if store last program is on.



Step 2: Volume To Be Infused screen


Entered the desired volume to be infused by using the numeric keypad.

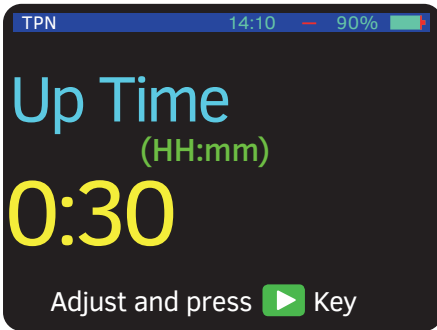
Confirm by pressing .



Step 3: Total Time screen

Use the numeric keypad to enter or confirm the total time you want the infusion to run. The first two digits represent hours and last two digits represent minutes (for example, enter 0-8-0-0 for 8 hours).

Confirm by pressing .

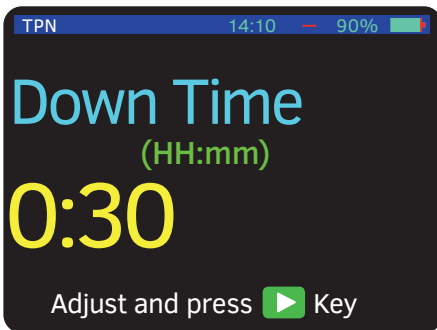


Step 4: Up Time ('ramp-up')

If required, enter the desired ramp-up duration – in hours (hh) and minutes (mm) – using the numeric keypad.

Enter or confirm by pressing . The pump will gradually ramp-up the infusion rate over the selected time period.

To proceed without ramping-up, press .



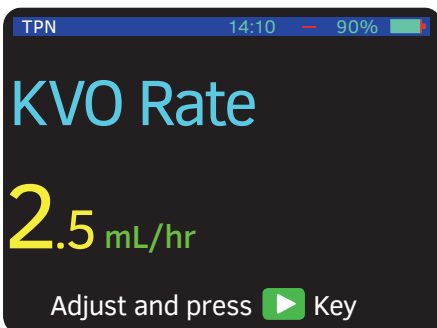
Step 5: Down Time

If required enter the desired 'ramp-down' duration – in hours (hh) and minutes (mm) – using the numeric keypad.

Enter or confirm by pressing .

The pump will gradually ramp-down the infusion rate over the selected time period.

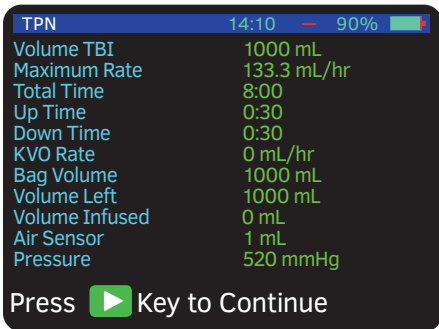
To proceed without ramping down, press .



Step 6: KVO rate

If required, enter the desired KVO (Keep Vein Open) rate in ml/hr using the numeric keypad and confirm by pressing .

To proceed without KVO, press .

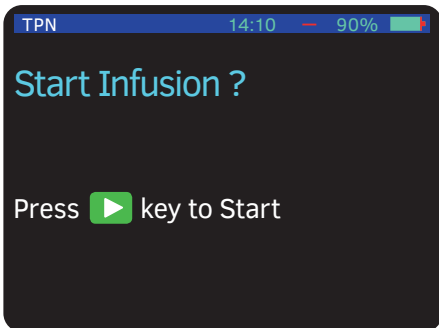


Step 7: Accumulation screen

The pump calculates the set data and displays it on the accumulation screen based on the infusion parameters you have just entered with the maximal rate for the program to be infused during flat period.

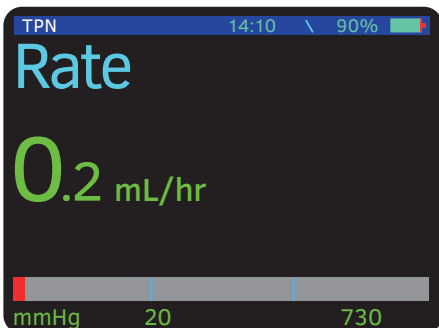
Scroll up and down using the arrow keys to review the summary. Press [Play] to confirm the parameters. Note, If delay start is enabled screen prompts will display after the accumulation screen is confirmed.

Press [Stop] to go back to the Volume setting screen and change any parameters as required.



Step 8: Start the infusion

Press [Play] to start the infusion.



Step 9: Main infusion screen

During program operation, the pump displays the rate at which the program is operating and program direction (up/flat/down).

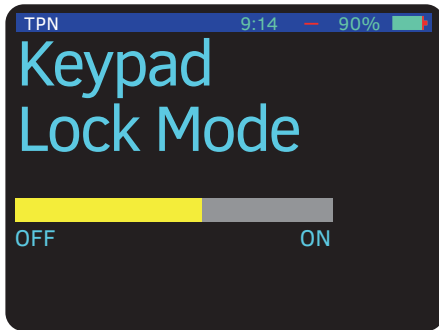
How to lock

The BD Bodyguard™ provides different levels of locking:

Keypad Locking – during operation all keys are disabled except the Stop key and the Info key.


Program Locking – this feature locks the setting key so that the entered parameters and programs cannot be changed. This feature is used to avoid potential mistakes due to tampering by children or for homecare patients who repeat the same program every day.

Maximum Rate Locking – this feature enables a maximum rate to be set, therefore the program can be adjusted only up to a certain set limit.

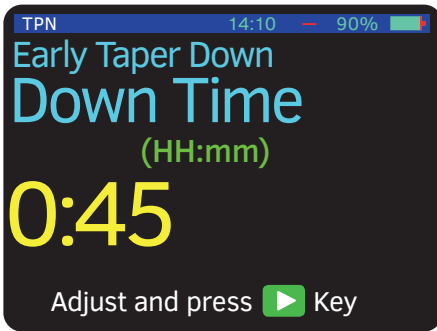


Keypad Locking


Press and hold  till a 'beep' is heard and the whole bar turns yellow.

To unlock the keypad press and hold  till the entire bar is clear and a 'beep' is heard.


Early Taper down




If the program has to be interrupted earlier than expected please do the following:

Press  continuously for two seconds to stop the pump and display the Early Taper Down screen.

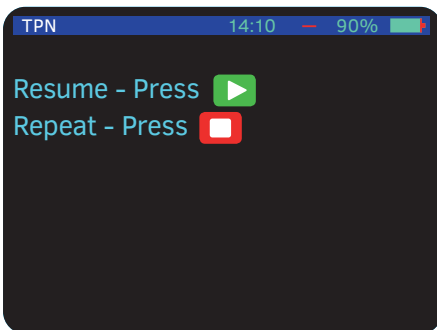
You can either:

Press , if you want to start the taper down process immediately with existing parameters.


Enter a new taper down time using the numeric keypad, and confirm with .


Please note that the new taper down time should be less than the current taper down time.

Resume or repeat your infusion



If the pump is turned off during an infusion, this screen will appear when it is turned back on.

Press , to resume your infusion at the point it was stopped or interrupted.

Press , to repeat the whole infusion or to program a new infusion.

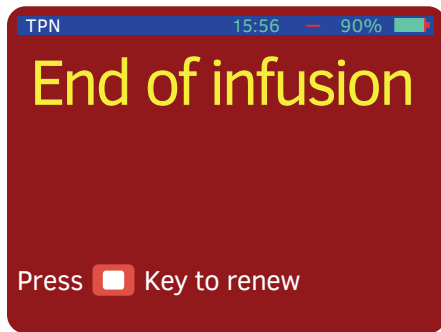
Alarms & Troubleshooting

High Priority Alarms


Four things happen in the event of an alarm:

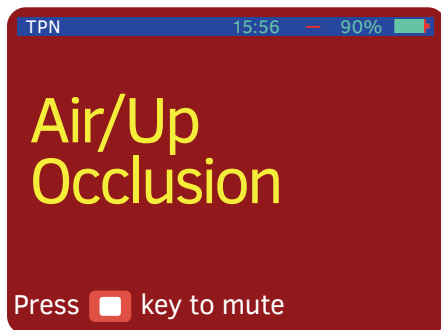
- The infusion stops.
- An audible alarm activates.
- A message appears on the display screen indicating the cause of the alarm.
- The alarm LED indicator turns red (high priority alarms) or yellow (medium priority and low-priority alarms).

Note: pressing  will mute the alarm for two minutes.



End of Infusion

The current infusion program has been completed. Turn the pump off or press  to start a new program.



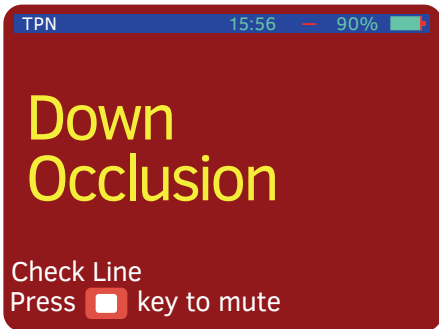
Air in line

Different situations can cause an Air/Up Occlusion alarm:

Air is present in the administration sets. Disconnect the line from the patient and proceed with priming as described in the priming section.

The clamp on the administration set is closed upstream. Open the clamp.

The administration set is not loaded correctly. Reload the set.



Down Occlusion

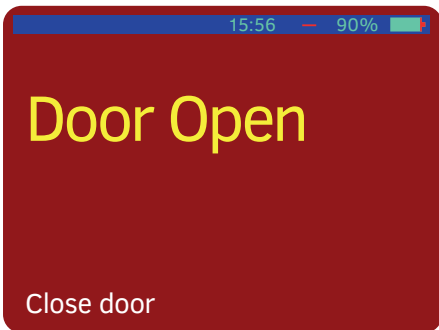
Different situations can cause a Down Occlusion alarm.

The clamp on the administration set is closed downstream. Open the clamp.

The administration set is kinked. Straighten the set.

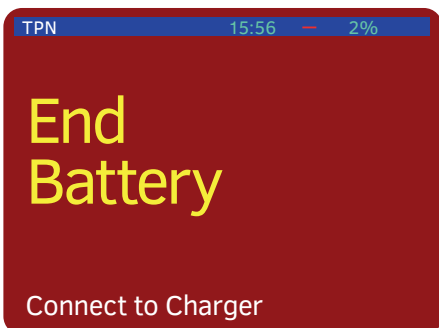
The cannula is blocked. Change the cannula.

The administration set is not loaded correctly. Reload the set.



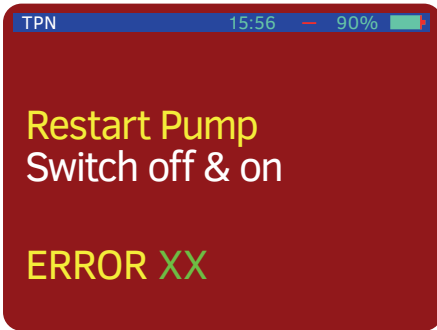
Door Open

The door of the pump was not closed prior to operation. Close the door of the pump.



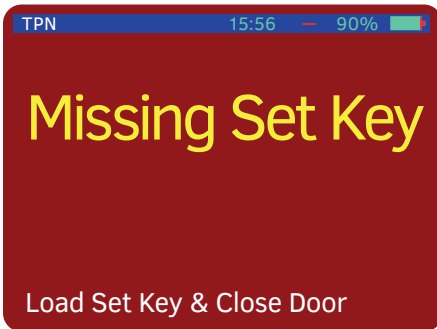
End Battery

The battery is depleted. Place the pump in a charger and connect to mains power. Wait two minutes before operating.



Technical/system malfunction

A technical/system malfunction has occurred. Restart the pump. If the pump does not restart or the alarm does not stop, turn off the pump, pack it carefully in its original packing and send it for servicing.

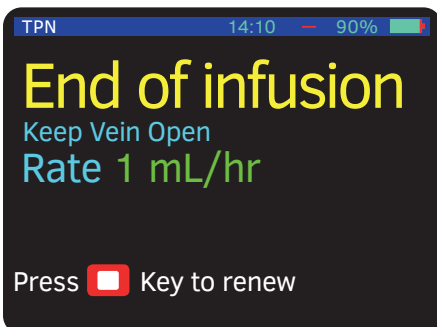


Missing Set Key


The administration set is loaded incorrectly. For example the key may not be located in the correct place. Reload the set into the pump by following the correct instructions.

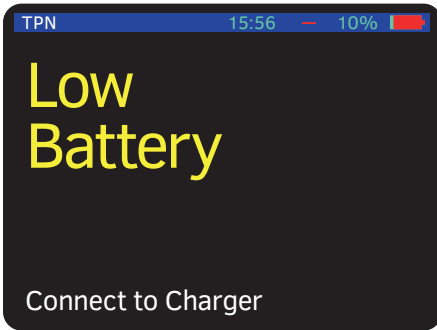
A set other than a BD BodyGuard™ MicroSet was used. Change the set to a MicroSet and load it according to the instructions.

Medium-Priority & Low-Priority Alarms



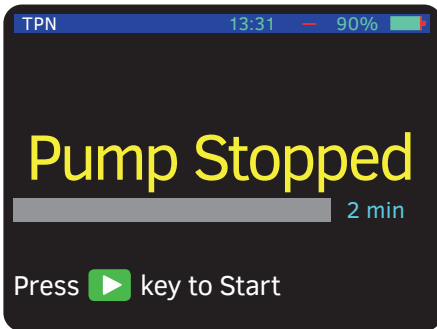
End of infusion – KVO

The current infusion program has been completed and the pump is running in KVO mode. Press  to restart a new program or turn the pump off.




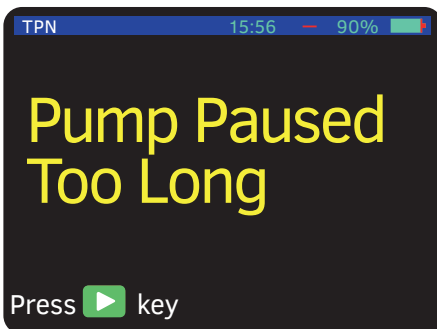
Low Battery

The pump will only run for another 30 minutes. Place the pump in the charger and connect to mains power.




Pump Stopped

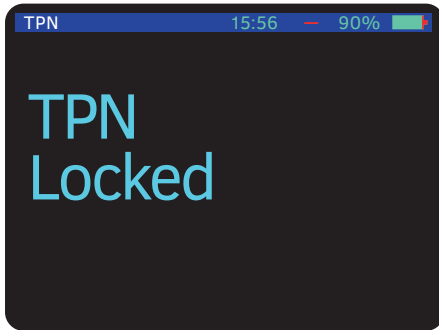
The  has been pressed causing the pump to stop. Press the green key to resume the current infusion.



Pump unattended

Two minutes have elapsed without a button press. Press  to resume.

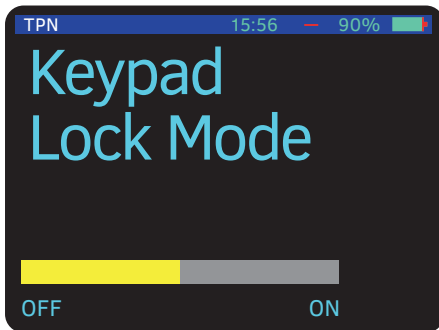
Information Signal




Program lock out

The lock mode has been activated and the settings cannot be changed. If you need to change the program, unlock the pump.

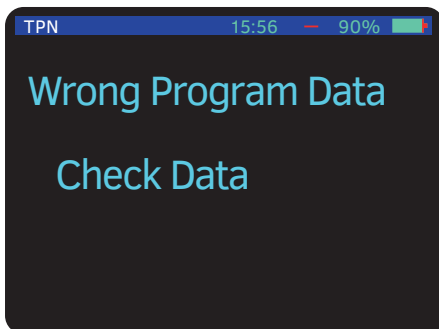
If you are in any doubt, please speak to your supervisor.



Keypad Lock Mode

The keypad is locked and the setting keys do not function. If you need to change a setting, press  to unlock.

Please refer to the instruction for use for further details.



Wrong TPN data

The parameters you have set are impossible to perform e.g. the volume or time parameters are incorrect. Check your data and enter new parameters.

This guide is not intended to be a comprehensive guide for the set up and operation of the BD Bodyguard™.

For more information please refer to the BD Bodyguard™ operation manual.

Some screens in the guide may vary depending on the way the pump is set up.

All persons operating the pump should consult the full operation manual.

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