

Quick Troubleshooting Guide

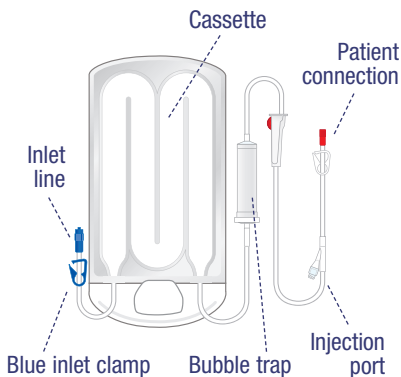
Refer to the Ranger™ Operator's Manual for warnings, instructions and other information related to this product.

Standard Flow Warming Set

flow rates: KVO - 150 mL/min

Removing Air from the Standard Flow Warming Set

1. Close the clamp between the injection port and the patient connection.
2. Invert the bubble trap.
3. Insert a syringe in the injection port and aspirate air until the bubble trap and IV line are free of air.
4. Place the bubble trap right side up in the holder.
5. Open the clamp and continue the infusion.



Removing the Warming Set

1. Close the blue inlet clamp proximal to the cassette and open all clamps distal to the cassette.
2. Allow fluid to flow to the patient (this may take 2-3 seconds).
3. After priming and assuring there is no air present, connect main IV line to the patient to infuse fluids without warming.
4. Remove the cassette from the warming unit and discard according to institutional protocol.

Refer to the Ranger™ Operator's Manual for warnings, instructions and other information related to this product.



High Flow Warming Set

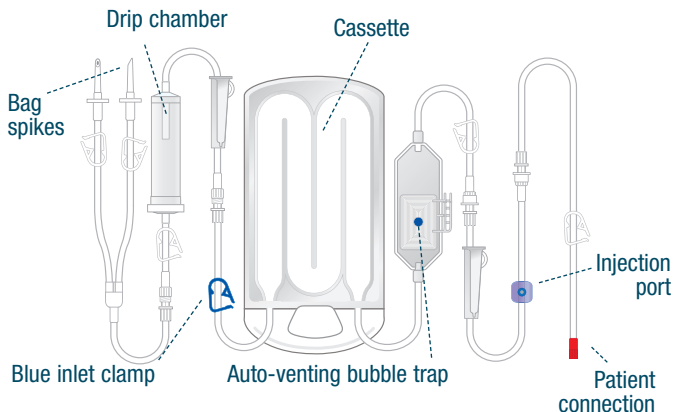
flow rates: KVO - 500 mL/min

Removing Air from the High Flow Warming Set

1. The bubble trap is designed to continuously vent air from the patient line. Monitor fluid lines to ensure they are air-free.
2. If necessary, expel trapped air by tapping the bubble trap against the warming unit.

Removing the Warming Set

1. Close the blue inlet clamp proximal to the cassette and open all clamps distal to the cassette.
2. Allow fluid to flow to the patient (this may take 2-3 seconds).
3. After priming and assuring there is no air present, connect main IV line to the patient to infuse fluids without warming.
4. Remove the cassette from the warming unit and discard according to institutional protocol.



Troubleshooting



CONDITION: Cannot remove the warming set.

CAUSE	SOLUTION
Warming cassette is still pressurized.	Drain fluid from warming cassette before removing it.
Fluids are still being infused.	Stop infusing fluids.
Clamp is open above bubble trap.	Close the clamp above the bubble trap.
Warming unit is below patient level, creating excessive back pressure.	Raise the warming unit above patient level to remove excess back pressure. In a few seconds you will be able to remove the warming set.

Safety Alerts

See Operator's Manual for a full description of error indicators. Some transient conditions may cause an over temperature condition. If you hear an alert, observe the LED display. If the temperature readout does not return to 41°C within a few seconds, turn off the unit.

Note

Always insert the warming set into the warming unit before priming the warming set. Turn the unit ON after you have primed the warming set.

3M™ Ranger™ Blood/Fluid Warming System

Warnings:

To reduce the risks associated with hazardous voltage and fire and thermal energy hazards:

- Do not substitute other devices (i.e. Model 247) for the Ranger blood/fluid warming unit or Ranger blood/fluid warming sets.
- Do not continue use of the unit if the over-temperature alert continues to sound and the temperature does not return to the set point temperature. Immediately stop fluid flow and discard the warming set. Have the blood/fluid warming unit tested by a biomedical technician or call 3M technical service.

To reduce the risks associated with hazardous voltage and fire:

- Do not modify or service this device, and do not open the warming unit case as there are no user-serviceable parts in the unit.
- Connect power cord to receptacles marked "Hospital Only," "Hospital Grade," or a reliably grounded outlet.
- Use only the power cord specified for this product and certified for the country of use.
- Do not allow the power cord to get wet.
- Do not use the Ranger blood/fluid warming system when it appears the unit power cord, or warming set is damaged. Use only 3M specified replacement parts.
- Keep power cord visible and accessible at all times. The plug on the power cord serves as the disconnect device. The wall socket outlet shall be as close as practical and shall be easily accessible.

To reduce the risks associated with air embolism:

- Never infuse fluids if air bubbles are present in the fluid line.

Notice:

Federal law (USA) restricts this device to sale by or on the order of a licensed healthcare professional.

To avoid device damage:

- Do not clean the blood/fluid warming unit with solvents. Damage to the case, label, and internal components may result.
- Do not immerse the blood/fluid warming unit in cleaning or sterilizing solutions. The unit is not liquid proof.
- Do not insert metallic instruments in the blood/fluid warming unit.
- Do not use abrasive materials or solutions to clean the heater plates.
- Do not allow spills to dry inside the unit, as this may make it more difficult to clean the unit.
- The Ranger blood/fluid warming unit meets medical electronic interference requirements. If radio frequency interference with other equipment should occur, connect the unit to a different power source.
- Do not administer fluids if air is in the patient tubing, as air embolism may result.



Infection Prevention Division

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3m.com/infectionprevention

Cautions:

To reduce the risks associated with cross-contamination:

- The cleaning tool provides only superficial cleaning, it does not disinfect or sterilize the interior of the unit.

To reduce the risks associated with impact and facility medical device damage:

- Clamp the Ranger blood/fluid warming unit to an IV pole with a minimum 14" (35.6 cm) radius wheelbase and at a height no higher than 44" (112 cm).

To reduce the risks associated with environmental contamination:

- Follow applicable regulations when disposing of this device or any of its electronic components.

Do not use for direct cardiac application. When using the Ranger blood/fluid warming system with a central venous catheter (CVC), ensure that the catheter tip does not have direct contact with the heart and ensure that all electrical devices connected to or near the patient have an appropriate leakage current rating for the application. If a CVC tip is found to be in direct contact with a patient's heart, the blood/fluid warming unit, Model 245 should be immediately disconnected from the CVC until the CVC is safely repositioned. Failure to follow these precautions may cause cardiac disturbance and/or patient injury.

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