

Maintaining Your ICU Medical Fluid Warming Devices

ICU Medical offers several Level 1™ fluid warming devices, including the H-1200 Fast Flow Fluid Warmer with integrated air detector/clamp, the Hotline™ Blood and Fluid Warmer and the Normoflo™ Irrigation Fluid Warmer.

Each device is designed to provide many years of service. However, it is critical that the devices are maintained according to the directions in the Operator's Manuals. Here is an easy-to-follow summary of the maintenance procedures.

Recirculating Solution

All three devices use recirculating solution to warm the infused or irrigated fluids. The reservoir must be filled with one of these solutions:

Recirculating Solution	How to Prepare	Maintenance
0.3% Hydrogen Peroxide Solution	Mix 140 mL of 3% hydrogen peroxide with 1,260 mL of distilled water	Replace solution and disinfect reservoir every 12 months
Distilled Water	Use 1,400 mL of distilled water	Replace solution and disinfect reservoir every 30 days
35% Isopropyl Alcohol Solution*	Mix 700 mL of 70% isopropyl alcohol with 700 mL of distilled water	Replace solution and disinfect reservoir every 30 days

*Hotline blood and fluid warmer only.

Maintenance¹

Regular maintenance is critical to ensure the fluid warming devices continue to perform as required. Only competent personnel should perform routine maintenance to the ICU Medical fluid warming devices, which takes place prior to each use, every 30 days, and annually. Be sure to follow the appropriate schedule for the device in question.

Every Use

- › Clean the exterior (after every use)
- › Check the condition with a visual inspection; remove from service any unit that shows physical damage

Every 30 Days

- › Disinfect reservoir and change recirculating solution (if using distilled water or 35% isopropyl alcohol solution)
- › Lubricate O-ring seals (HL-90, H1100, H-1129 & H-1200)

Every 12 Months

- › Disinfect reservoir and change recirculating solution (if using 0.3% hydrogen peroxide solution)
- › Change O-rings, clean fan filter, inspect air detector/clamp, inspect reservoir and float switch assembly (H1100, H-1129 & H-1200; change O-rings on HL-90)
- › Perform tests as described in the testing section of the Operators Manual



ICU Medical Level 1 Fluid Warmers

H-1200 Fast Flow Fluid Warmer: For patients with acute circulatory failure, rapid infusion of crystalloid and/or blood products can be a life-saving intervention and is first-line treatment for acute resuscitation of patients with shock. The Level 1 Fast Flow Fluid Warmer provides a rapid flow of warmed fluids, such as crystalloid or blood product (including red blood cells) at a maximum flow rate of up to 1400 mL/min.

Hotline Blood and Fluid Warmer helps reduce the risk of inadvertent hypothermia by warming the fluids patients receive during surgery. The way in which it works makes Hotline an excellent choice for any surgical procedure where patients may be at risk of even mild hypothermia.

The Normoflo Irrigation Fluid Warmer delivers large volumes of warmed irrigating fluids at optimum flow rates. The device helps maintain patients' core temperature during the entire length of the procedure, helping to prevent Unintended Perioperative Hypothermia (UPH).

1. Read and follow full maintenance instructions in the appropriate Operator Manual

Maintenance Checklist

Task	Every Use	Every 30 Days	Every 12 Months
Clean Exterior	<input type="checkbox"/>		
General Inspection	<input type="checkbox"/>		
Disinfect reservoir and change distilled water or isopropyl alcohol solution		<input type="checkbox"/>	
Lubricate O-rings (HL-90, H1100, H-1129 and H-1200)		<input type="checkbox"/>	
Disinfect reservoir and change the hydrogen peroxide solution			<input type="checkbox"/>
Replace O-rings (HL-90, H1100, H-1129 and H-1200)			<input type="checkbox"/>
Clean fan filter (H-1200)			<input type="checkbox"/>
Alarm signal test			<input type="checkbox"/>
Add recirculating solution test			<input type="checkbox"/>
Check disposables test			<input type="checkbox"/>
Over temperature alarm test			<input type="checkbox"/>
Verify temperature calibration			<input type="checkbox"/>
Electrical safety tests			<input type="checkbox"/>
Inspect air detector/clamp (H-1200)			<input type="checkbox"/>
Inspect reservoir and float switch assembly (H-1200)			<input type="checkbox"/>