Quick start guide for
Altrix™ Precision Temperature Management System

Setup

Fill the reservoir

*Caution*
- Always use sterile distilled water or water that has been passed through a filter less than or equal to 0.22 microns with this product.
- Always fill the reservoir with room temperature sterile distilled water to reduce the risk of burn.
- Do not overfill the reservoir to avoid the risk of water spillage and fall.

The removable reservoir is translucent for you to see the water levels.
1. Fill the reservoir with five liters of sterile distilled water. Do not fill past the fill line to avoid water overflow.
2. If you remove the reservoir from the controller to fill it with sterile distilled water, replace it by gently lowering the reservoir back into position. Make sure that it is secure.

Power on
1. Plug the power cord into a wall outlet.
2. Tap the Stand-by button to start the product.
Connecting patient temperature probe

- Align the red dot on the Reusable Adapter Cable (B) to the controller (A) probe port A or B.
- Connect the plug (C) to the patient temperature probe.

Selecting primary probe

1. Tap the Settings button.
2. Tap Select Probe to display the Select Primary Probe (Probe A or Probe B) screen
   
   Note: Primary probe will default to Probe A.
3. Tap Confirm.

Connecting patient temperature output cable

This feature allows the operator to view the temperature on the Altrix system and on a separate device.

- Insert the reusable patient temperature output cable into the patient temperature output port, located in between the Probe A and Probe B ports.

Connecting thermal transfer devices

There are two connector types for Stryker’s thermal transfer devices: Clik-Tite and colder style.

Caution

Always use Stryker accessories. Failure to comply with these instructions may invalidate any or all warranties and may negatively affect the products EMC performance. This also protects the product from cardiac defibrillation.

Pre-filling the thermal transfer devices

Caution

Always pre-fill the thermal transfer device with sterile distilled water before you apply it to the patient. This is to reduce the risk of pressure injuries.

1. Open all of the clamps on the connector hose and thermal transfer device.
2. Make sure that the controller is powered.
3. Tap the Manual mode button.
4. Tap Confirm.
5. Select a water temperature that aligns with your target patient temperature. Allow the water to flow from the controller into the thermal transfer device until full.
6. Tap Confirm.
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Initiation of therapy

Selecting a therapy mode
You can select from one of these three modes:
• Automatic (therapy)
• Manual (therapy)
• Monitor (non-therapy)

Automatic therapy
In Automatic mode, the therapy cools or warms the patient to a selected patient target temperature. The product continually measures the patient temperature and automatically adjusts the water temperature until the selected patient target temperature is achieved.

Cooling
Select Automatic therapy mode and confirm
Select Target Temperature and confirm
Select Max, Med, Min and confirm

Warming
Press Edit
Select Target Temperature and confirm
Select Max, Med, Min or Custom and confirm

Refer to the Altrix Precision Temperature Management System Operations Manual for additional information.
Manual therapy
In Manual mode, the product controls the water temperature only. A temperature probe is not required when operating in manual mode.

Display the patient data graph
To display the patient data graph, tap the graph icon. The patient data graph stores the following variables:
• Primary patient temperature reading (A)
• Intermediate target temperature (B)
• Water temperature (C)
• Power level (D)

Pause therapy
• To pause therapy, press and hold the Pause Therapy button for two seconds.
• To resume therapy, press and hold the Pause Therapy button for two seconds.

Stop therapy
• Press and hold the Stand-by button for two seconds.
• Unplug the product from the wall outlet.
• Open the clamps for approximately 10 minutes to allow the water to drain back into the controller.
• Close clamps to stop the water flow and detach wraps from hoses.
# Quick start guide for

Altrix Precision Temperature Management System

## Product functions

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Power" /></td>
<td>Stand-by</td>
<td>Press and hold the button for two seconds to stop therapy or power off</td>
</tr>
<tr>
<td><img src="image" alt="Pause" /></td>
<td>Therapy paused</td>
<td>Press and hold the button for two seconds to pause or resume therapy</td>
</tr>
<tr>
<td><img src="image" alt="Temperature" /></td>
<td>View temperature</td>
<td>Select temperature degree in Celsius or Fahrenheit</td>
</tr>
<tr>
<td><img src="image" alt="Unlock" /></td>
<td>Lock / unlock screen</td>
<td>Press and hold the button for two seconds to lock or unlock the graphical user interface</td>
</tr>
<tr>
<td><img src="image" alt="Audio" /></td>
<td>Audio paused</td>
<td>Pause or resume the audible indicator when an alarm is active. Silences each alarm for five or ten minutes depending on the alarm condition. This button breathes to indicate that it is in a paused state.</td>
</tr>
<tr>
<td><img src="image" alt="Automatic" /></td>
<td>Automatic therapy mode</td>
<td>Cools or warms the patient to a selected patient target temperature</td>
</tr>
<tr>
<td><img src="image" alt="Manual" /></td>
<td>Manual therapy mode</td>
<td>Cools or warms the water to a selected water target temperature</td>
</tr>
<tr>
<td><img src="image" alt="Monitor" /></td>
<td>Monitor only mode</td>
<td>Displays the current patient temperature (no therapy)</td>
</tr>
</tbody>
</table>

The graphical user interface shown is for reference only. The image shows where you will see the icons and buttons illuminate when they are active. At no time will you see all of these icons at the same time.
Product functions (continued)

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
</table>
| ![Increase](icon) | Increase | Increases the water or patient temperature by 0.1° for cooling or warming temperature  
Note: Press and hold the increase button to move the temperature up faster. |
| ![Decrease](icon) | Decrease | Decreases the water or patient temperature by 0.1° for cooling or warming temperature  
Note: Press and hold the decrease button to move the temperature down |
| ![Back](icon) | Back | Returns to the previous screen or cancel an operation |
| ![Edit](icon) | Edit settings, Exit, or Cancel | Edit current settings, exit, or cancel. |
| ![Confirm](icon) | Confirm selection | Accepts the selected settings |
| ![Next](icon) | Next or More | Changes to the next screen, option, or setting |
| ![Pages](icon) | Page indicators (may also appear vertical) | Indicates that there is more than one page associated with the screen topic for the page that is currently displayed |
| ![Settings](icon) | Settings | Displays the summary of the current, visual / audible, language, or primary probe settings |
| ![Graph](icon) | Graph | Graphical display of the selected items such as patient temperature, target temperature, water temperature, and power level |
| ![Help](icon) | Help | Displays contextual help screens for therapies, navigation, buttons, and alarm screens |

¹Breathe: The brightness of the button or icon will go to a low light and then increase to a bright light. This cycle repeats.
### Quick start guide for
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#### Product functions (continued)

<table>
<thead>
<tr>
<th>Icon</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Water" /></td>
<td>Water temperature on target, solid green when active, does not breathe</td>
</tr>
<tr>
<td><img src="image" alt="Patient" /></td>
<td>Patient temperature on target</td>
</tr>
<tr>
<td><img src="image" alt="Patient probe A" /></td>
<td>Patient probe A port, stabilized</td>
</tr>
<tr>
<td><img src="image" alt="Patient probe B" /></td>
<td>Patient probe B port, stabilized</td>
</tr>
<tr>
<td><img src="image" alt="External device" /></td>
<td>External device, patient probe A</td>
</tr>
<tr>
<td><img src="image" alt="External device" /></td>
<td>External device, patient probe B</td>
</tr>
<tr>
<td><img src="image" alt="Stand-by" /></td>
<td>Stand-by</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Icon</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Cooling" /></td>
<td>Cooling therapy</td>
</tr>
<tr>
<td><img src="image" alt="Warming" /></td>
<td>Warming therapy</td>
</tr>
<tr>
<td><img src="image" alt="Current therapy duration" /></td>
<td>Current therapy duration</td>
</tr>
<tr>
<td><img src="image" alt="Total duration" /></td>
<td>Total duration</td>
</tr>
<tr>
<td><img src="image" alt="Visual and audible tests" /></td>
<td>Visual and audible tests</td>
</tr>
<tr>
<td><img src="image" alt="Target patient or water temperature" /></td>
<td>Target patient or water temperature</td>
</tr>
</tbody>
</table>

Refer to the Altrix Precision Temperature Management System Operations Manual for additional information.
If any of the alarm conditions persist, call maintenance.
If the page indicators appear on the alarm screen, there are multiple active alarms. Only the highest alarm is displayed.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Alarm priority</th>
<th>Message</th>
<th>Therapy interrupted</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>Water temperature deviation</td>
<td>Medium</td>
<td>Water temperature is ±0.8°C (1.4°F) outside of target temperature</td>
<td>No</td>
<td>Temporary condition upon startup, addition of thermal transfer device, or addition of water</td>
</tr>
<tr>
<td></td>
<td>No water</td>
<td>Medium</td>
<td>No water</td>
<td>Yes</td>
<td>Check for leaks. Add a minimum of 2 liters of sterile distilled water</td>
</tr>
<tr>
<td></td>
<td>No water flow</td>
<td>Medium</td>
<td>No flow detected</td>
<td>Yes</td>
<td>Check for leaks and obstructions at connections, hoses, and thermal transfer devices</td>
</tr>
<tr>
<td></td>
<td>Check water flow on any port</td>
<td>Medium</td>
<td>Reduced flow detected</td>
<td>No</td>
<td>Tap Confirm, if the water port was removed intentionally. Check for leaks and obstructions at connections, hoses, and thermal transfer devices</td>
</tr>
<tr>
<td></td>
<td>Power loss</td>
<td>Medium</td>
<td>Not applicable</td>
<td>Yes</td>
<td>Check power cord connection</td>
</tr>
<tr>
<td></td>
<td>Check patient probe (A or B)</td>
<td>Medium</td>
<td>Abnormal change in patient temperature</td>
<td>Yes</td>
<td>Check probe condition, location, and connections</td>
</tr>
<tr>
<td></td>
<td>Probe or adapter malfunction (A or B)</td>
<td>Medium</td>
<td>No temperature signal detected</td>
<td>Yes</td>
<td>Check probe or adapter cable condition, location, and connections</td>
</tr>
<tr>
<td></td>
<td>Adapter cable disconnected (A or B)</td>
<td>Medium</td>
<td>Adapter cable not detected</td>
<td>Yes</td>
<td>Reinsert the adapter cable. If damaged, replace the adapter cable</td>
</tr>
<tr>
<td></td>
<td>Patient temperature deviation</td>
<td>Medium</td>
<td>Patient temperature is ±0.5°C (0.9°F) outside of target temperature</td>
<td>No</td>
<td>Check patient condition, placement of thermal transfer devices, and all connections</td>
</tr>
<tr>
<td></td>
<td>Normothermia deviation</td>
<td>Low</td>
<td>Patient temperature is outside of 36.0°C (96.8°F) to 38.0°C (100.4°F)</td>
<td>No</td>
<td>Check patient condition, placement of thermal transfer devices, and all connections</td>
</tr>
<tr>
<td></td>
<td>Therapy pause</td>
<td>Medium</td>
<td>Therapy is currently paused</td>
<td>Yes</td>
<td>To resume, press and hold the play/pause for 2 seconds</td>
</tr>
<tr>
<td></td>
<td>Battery low</td>
<td>Low</td>
<td>Battery is low</td>
<td>No</td>
<td>Maintenance is recommended. If battery is not replaced, the product may not function on the next startup.</td>
</tr>
<tr>
<td></td>
<td>Patient temperature output (A or B)</td>
<td>Low</td>
<td>Patient temperature output is inaccurate on the external device, or outside supported range</td>
<td>No</td>
<td>Check output adapter cable connection. Tap Confirm to reactivate the output port.</td>
</tr>
<tr>
<td></td>
<td>Remove from use (RFU)</td>
<td>Medium</td>
<td>The system has powered off due to a malfunction</td>
<td>Yes</td>
<td>Remove the product from use immediately. Notify the appropriate personnel.</td>
</tr>
</tbody>
</table>
Disinfecting the internal water circuit and hoses every 14 days

Use the BruClean TbC disinfectant tablets by Brulin (EPA registration number 71847-2-106) before first use, at least every 14 days, and before storage. BruClean TbC has been validated for internal water circuit disinfection. Make sure that you follow the disinfectant manufacturer’s guidelines to avoid the risk of injury. Failure to follow the disinfectant’s instructions may void your warranty.

Tools required:
- 2 gallons (11.4 L) of sterile distilled water or water that has been passed through a filter less than or equal to 0.22 microns
- Personal protection equipment (PPE) as recommended by the disinfectant manufacturer’s instructions
- Soft, lint free cloth (2 or more)
- 2 BruClean TbC 13.1 g tablets (Active ingredient NaDCC solution ppm = 1874 mg/L)

Note: BruClean TbC is a blend of 48% sodium dichloroisocyanurate and Adipic Acid with a 5% sodium dodecyl benzene sulphonate surfactant.
- Service tool adapter hose (8001-999-017) for Colder style connector hoses
- Floor drain

See Product illustration on page 10 of the manual for clarification of product component names and locations.

Draining the internal water circuit and hoses for disinfection

1. Unplug the power cord from the wall outlet.
2. Place the controller over a floor drain.
   - Note: For best results, the floor drain should be within reach of a wall outlet to power on the controller.
3. To drain the controller, pull up on the controller drain plug (A) to open the drain (Figure 24). Leave the drain open.

Caution

- Always use sterile distilled water or water that has been passed through a filter less than or equal to 0.22 microns with this product.
- Do not disinfect the internal water system with a thermal transfer device attached as this may cause a leak.
- Do not use bleach or any other cleaning or disinfectant agents for internal circuits. This could result in damage to the product. Only use approved disinfectant tablets.
- Always drain the product before disinfecting the internal water circuit. Failure to drain the product may reduce the effectiveness of the disinfection process.
Draining the internal water circuit and hoses for disinfection (cont.)

4. Connect a hose to each port (Figure 25).
5. Close the connector ends of all three hoses:
   a. If you have Colder style connector hoses, attach the service tool adapter hose (8001-999-017) (Figure 26). Complete this for all three hoses.
   b. If you have Clik-Tite hoses, make sure that the connector ends are connected and closed (A), and clamps are open (B). Complete this for all three hoses (Figure 27).
6. To fully drain the hoses, raise all the hoses (Figure 28) above the connection ports on the controller.
   Note: For best performance, hang the hoses to keep them raised. Do not lower the hoses until you have completed the disinfection and rinsing process.
7. Allow the controller and hoses to drain for a minimum of two minutes.
8. Push down on the drain plug to close the drain.

Disinfecting the internal water circuit and hoses

1. Use personal protection equipment as recommended by the BruClean Tbc disinfectant manufacturer’s instructions for use.
2. Put 2 BruClean Tbc tablets into the reservoir.
3. Using appropriate measuring equipment, fill the empty reservoir with 1 gallon (3.8 L) of sterile-distilled water.
   **Note:** Always allow the disinfectant tablets to completely dissolve before starting the 20 minute disinfection cycle.
4. Place the reservoir into the controller.
5. Disconnect the bottom hose from the bottom right port (Figure 29).
6. Connect the bottom hose end to the hydraulic connector in the lid of the reservoir (Figure 30).
7. Plug the power cord into a wall outlet.
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Disinfecting the internal water circuit and hoses (cont.)

8. Press and hold the Stand-by button.
10. Tap Confirm.
11. Set the water target temperature to 25.0°C (77.0°F).
12. Tap Confirm.
13. Run the controller for 20 minutes.
14. After 20 minutes, turn the controller off by pressing and holding the Stand-by button for two seconds.
15. Unplug the power cord from the wall outlet.
16. Place the controller over a floor drain.
17. Remove the reservoir. Pull forward at an angle, and lift out the reservoir.
18. Remove the bottom hose end from the hydraulic connector adapter in the reservoir lid by pushing down on the collar.
19. Empty water from the reservoir, dispose of the water per hospital protocol.
20. Pull up on the controller drain plug (Figure 31) to open the drain.
21. Make sure that all 3 hoses remain raised above the connection ports for draining.
22. Allow the controller and hoses to drain for a minimum of two minutes.
23. Push down on the controller drain plug to close the drain.
24. When the controller and hoses are drained, continue to Rinsing the internal water circuit and hoses.
Rinsing the internal water circuit and hoses

1. Using appropriate measuring equipment, fill the empty reservoir with 1 gallon(s) (3.8 L) of sterile-distilled water.
2. Place the reservoir into the controller.
3. Connect the bottom hose end to the hydraulic connector in the lid of the reservoir (Figure 32).
4. Plug the power cord into a wall outlet.
5. Press and hold the Stand-by button.
6. Tap the Manual mode icon.
7. Tap Confirm.
8. Select the water target temperature of 25.0°C (77.0°F).
10. Allow the controller to run for 5 minutes.
11. After 5 minutes, turn the controller off by pressing and holding the Stand-by button for two seconds.
12. Unplug the power cord from the wall outlet.
13. Place the controller over a floor drain.
14. Remove the reservoir. Pull forward at an angle, and lift out the reservoir.
15. Remove the bottom hose end from the hydraulic connector adapter in the reservoir lid by pushing down on the collar.
16. Empty water from the reservoir, dispose of the water per hospital protocol.
17. Pull up on the controller drain plug to open the drain.
18. Make sure that all 3 hoses remain raised above the connection ports for draining.
19. Allow the controller and hoses to drain for a minimum of two minutes.
20. Push down on the controller drain plug to close the drain.
21. Wipe the inside and outside of the reservoir and reservoir lid, with a dry, soft, lint free cloth.
22. Place the reservoir into the controller.
23. Disconnect and store the service tool adapter hoses from all three of the hoses. (If applicable, when used with colder style hoses.)
24. Store the power cord, cables, and hoses.

Note: The timer will run on the main display, follow the current therapy duration timer.

Figure 32