System Description: The Thermal Angel is an in line, battery-powered disposable, lightweight and completely portable blood and IV fluid warming device, capable of intravenous application and irrigation warming. The Thermal Angel can be used to help prevent fluid-induced hypothermia. The Thermal Angel TA-200 will strive to achieve 38°C (100.4°F) ±3°C at a flow rate of 2 to 150 ml/min given a fluid input temperature of 20°C (68°F) with a fully charged TA-BCE Battery.
Features: • Lightweight (9 oz), in-line, disposable, portable battery-powered blood and IV fluid warmer
  • No cartridges or cleaning
  • Inserted below standard IV tubing, coming from the bag and before the extension set leading to the infusion site
  • Will strive to achieve 38°C (100.4°F) ±3°C at a flow rate of 2 to 150 ml/min given a fluid input temperature of 20°C (68°F) with a fully charged TA-BCE Battery
  • Quick setup within 30 seconds
  • Warms in approximately 45 seconds
  • Placed at or near the infusion site for minimal heat loss through tubing
  • Failsafe to prevent overheating
  • Ability to remain with patient from first contact through hospital stay
  • Can be used in the field, ambulances, helicopters, ER, OR, military and other care areas
  • The unit uses standard luer fittings and will accept all standard IV line sets
  • Single patient use
  • Heaters adjust automatically in response to changes in flow rate
  • Disposable

Thermal Angel® TA-200 Performance Specifications:

- Output Temperature: 38°C (100.4°F)
- Accuracy: ±3°C (5.4°F)
- Input Temperature: 20°C (68°F)
- Input Flow Rate: 2 to 150 ml/min
- Input Voltage: 12 Volts DC from a fully charged power source
- Warm-up Time: Approximately 45 seconds
Thermal Angel® TA-200 Performance Specifications:

- Output Temperature: 38°C (100.4°F)
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Thermal Angel® TA-200 Absolute Minimum and Maximum Specifications:

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<th>Minimum</th>
<th>Maximum</th>
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<tbody>
<tr>
<td>Output Temperature:</td>
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<td>47°C (116.6°F) failsafe fuse</td>
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<td>Input Temperature:</td>
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<td>38°C (100.4°F)</td>
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<td>Input Flow Rate:</td>
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<td>200 ml/min</td>
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<td>13.8 Volts DC</td>
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<td>40°C (104°F)</td>
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Thermal Angel® TA-200 External Physical Specifications:

- Length: 9.0 in. (22.86 cm)
- Width: 2.8 in. (7.11 cm)
- Depth: 0.95 in. (2.41 cm)
- Weight: 9.2 oz. (260.82 g)

Thermal Angel® TA-200 Fluid Path Specifications:

- Material: Passivated 316L stainless steel tube
- Tube Length: 50.25 in. (127.5 cm)
- Tube Wall Thickness: 0.035 in. (.098 cm)
- Tube I.D.: 0.117 in. (.30 cm)
- Volume: 0.540 cu. in. (8.85 ml)

Thermal Angel® TA-200 Heater Specifications:

- Type: Electrical resistance, band heater
- Material: 1 oz. copper
- Substrate: 3 mil polyester film
TA-200 QUICK STEPS

**Step 1:** • Remove the female luer cap from the inlet end of the Thermal Angel®. • Connect IV tubing to the female luer. Tighten until resistance is met. Do not over tighten.

**Step 2:** • Remove the male luer cap from the outlet end of the Thermal Angel®. • Connect 9 Inch IV Extension Set to the male luer. Tighten until resistance is met. Do not over tighten.

**Step 3:** • Connect assembled IV line to fluid source and prime the line.

**Step 4:** • Connect the male end of the Power Cable to the inlet end cap of the Thermal Angel®. • Connect the female end of the Power Cable to the Battery. • The green LED on the Thermal Angel® inlet end cap should display continuous illumination without blinking.

**Step 5:** • Connect 9 Inch IV Extension Set to IV catheter. • Engage roller clamp on IV tubing to adjust flow.
9 INCH EXTENSION SET
TA-9EXT
6515-01-503-8228

BATTERY
TA-BCE
6515-01-500-2858
BATTERY CHARGER
TA-CAC
6515-01-500-3022

BATTERY BAG
TA-CC
6515-01-500-3045
# CONSUMABLES AND ACCESSORIES START-UP

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<th>NOTES</th>
<th>Nomenclature</th>
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<th>QT</th>
<th>UI</th>
<th>Unit Price</th>
<th>Total Price</th>
<th>MFG</th>
<th>Shelf Life, months</th>
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