Instruction Manual

Read and understand this material before operating or servicing these heaters. Failure to understand how to safely operate these heaters could result in an accident causing serious injury or death. These heaters should only be operated by qualified personnel.
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INTRODUCTION
Thank you for purchasing a BriskHeat® Silicone Rubber Heating Blanket. Your heater is designed to provide a long and efficient service life with function, reliability, and safety in mind. For additional information concerning this, or other Cole-Parmer products, please contact us toll free at 1-800-323-4340.

SAFETY ALERT SYMBOL
The symbol above is used to call your attention to instructions concerning your personal safety. It points out important safety precautions. It means ‘ATTENTION! Become Alert! Your Personal Safety is involved!’ Read the message that follows and be alert to the possibility of personal injury or death.

SAFETY ALERT SYMBOL
Immediate hazards which WILL result in severe personal injury or death

WARNING
Hazards or unsafe practices which COULD result in severe personal injury or death

CAUTION
Hazards or unsafe practices which COULD result in minor personal injury or property damage.

SAVE THESE INSTRUCTIONS!
Additional copies of this manual are available upon request.

TROUBLESHOOTING GUIDE
Please read this guide prior to contacting Cole-Parmer. This guide is designed to answer the most commonly asked questions. If you are unable to identify the problem or need additional assistance, please contact Cole-Parmer at 1-800-323-4340.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SOLUTION(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not heat</td>
<td>Verify heater is connected to proper voltage.</td>
</tr>
<tr>
<td></td>
<td>Check to see if there is a resistance reading (not an open circuit) in heater using an ohm meter.</td>
</tr>
<tr>
<td>Pressure sensitive adhesive is not adhering</td>
<td>Ensure there are no air gaps and heater is making intimate contact with surface being heated. Use a medium to hard rubber roller.</td>
</tr>
<tr>
<td>Circuit breaker is tripping</td>
<td>Validate that the circuit breaker is capable of handling the amp requirement of heater. The identification label located on the power cord displays the heater’s amperage requirement.</td>
</tr>
<tr>
<td></td>
<td>Examine heater and cord for any damage.</td>
</tr>
<tr>
<td></td>
<td>Check to see if there is a resistance reading between power leads and the ground lead.</td>
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</table>
CONNECTING YOUR HEATING BLANKET TO A POWER SOURCE

1. If your heating blanket does not have its own internal temperature control device, it must be connected to an external control device. The heater must not be operated without some form of temperature control.

**WARNING**
- Your heater is designed to operate at a specific voltage ±10%. Refer to the label on the heater for proper operating voltage and wattage information. Failure to operate the heater at the specified rating could result in overheating of the heating blanket, the surface being heated, or personal injury. Also note lower-than-rated voltage will result in under-heating.
- All electrical connections must be made by qualified personnel and in accordance with all applicable codes and regulations.

2. Most heating blankets are available with an optional high-limit safety thermostat to protect both the heater and the product being heated from damage if the main controlling device fails. This option is especially recommended for surfaces that are high risk for heat damage (e.g. plastic). Contact factory for more details.

3. Ensure heater is protected by a properly rated circuit breaker or fuse.

4. Use of a ground fault circuit interrupter (GFCI) is highly recommended and may be required according to local electric code.

5A. If heating blanket came with a plug:
Plug power cord into appropriate controller.

5B. If heating blanket came without a plug:
Two wires (same color) should be connected to the power source (or temperature control device) directly, through a junction box, or to a connector that is mated to a receptacle connected to the power source. BriskHeat Heating Blankets are non-polarized, allowing either wire to be connected to the neutral or hot. The third wire (if applicable), designated by the color green (or a green stripe), should be connected to ground.

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**IMPORTANT SAFETY INSTRUCTIONS**

- Never handle the heater while it is in operation; always disconnect the heater from the power source and allow to cool prior to handling.
- Inspect heater before use.
- Never operate heater without a temperature control device.
- Do not wrap the heater over itself.
- If spillage of foreign matter onto heater occurs, disconnect from power source and clean after heater is allowed to cool.
- Never operate a heater without an appropriate heat sink (device being heated is considered a heat sink).
- Do not immerse heater in liquid.
- Use heater only in approved locations.
- Keep volatile or combustible material away from heater when in use.
- Do not repair damaged or faulty heaters.
- Do not crush or apply severe physical stress on heater or cord assembly.
- Disconnect heater when not in use.

Failure to observe these warnings may result in personal injury or damage to the heater.
Read and understand this entire manual before operating this electric heater.

PRIOR TO INSTALLATION
1. Check for suspected damage to the heating blanket like rips, punctures, etc.
2. If your heater is equipped with PSA Pressure Sensitive Adhesive, verify the date of manufacture is within 6 months of heater installation. The date of manufacturer is marked on the outside of the packaging. If the date is beyond 6 months, please contact us at 1-800-323-4340 for reapplication of PSA adhesive.
3. Verify surface to be heated is free from all sharp edges, weld splatter, rust, oil, etc. Surface must be clean prior to installing heater.
4. Check that the desired placement of the blanket will not cause damage to the blanket through impact shock, vibration, ambient temperature, or by neighboring moving parts.
5. Confirm voltage / wattage rating of heater is appropriate for power supply device or temperature controller. The heater is designed to work at a specific voltage to heat properly. For additional information, contact Cole-Parmer.
6. Confirm blanket maximum exposure temperature rating is suitable for environment. The temperature of the internal heating element may run up to 25% higher than the external surface of the blanket. Use extreme caution for applications that require a process temperature near the maximum exposure temperature ratings of the blanket: -60ºF to 450ºF (-51ºC to 232ºC).
7. Confirm all necessary installation hardware and tools are readily available. Depending on the application, this may include...

   Tools:
   - wire strippers
   - cleaning / prep supplies (varies based on what is being cleaned)
   - medium to hard roller

   Hardware:
   - junction box
   - wire ties
   - mounting hardware
   - temperature controller and sensor
   - silicone RTV
g
   - insulating material
   - high-temperature adhesive tape

MOUNTING YOUR HEATING BLANKET
Your silicone rubber heating blanket can be mounted on both flat and curved surfaces. However, do not allow your heater to exceed the maximum "bend radius". The typical bend radius is approximately 2" (51mm). To determine the bend radius, slowly bend the heater until it begins to crease or fold. The point prior to creasing is the bend radius. Your heater may be more flexible in one direction than the other, however, the heater should be installed with the wires exiting the bottom if in an outdoor application.

Installation of heater using factory supplied Pressure Sensitive Adhesive (PSA):
3. Peel off the release film [Figure A, page 6] and then press the heater onto the surface of the item being heated using a medium to hard rubber roller [Figure B, page 6]. Ensure heater is making intimate contact with the surface to be heated.
   - The pressure sensitive adhesive will cure when the blanket is energized and heat is generated. PSA generally cures in twenty minutes at 200ºF (93ºC) in a 68ºF (20ºC) ambient environment. The cure time will vary with temperature of the blanket and surrounding ambient conditions. The higher the ambient temperature and set-point of the blanket, the faster the cure time.
   - The blanket may require a temporary method of attachment to secure the heater until the PSA cures. Use a high-temperature adhesive tape to secure the heater.
   - For larger heaters, press the heater onto the surface as the film is removed.

NOTE: BriskHeat does not recommend allowing pressure sensitive adhesive to cure at temperatures below 40ºF (4ºC).