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WARRANTY

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# User's Guide

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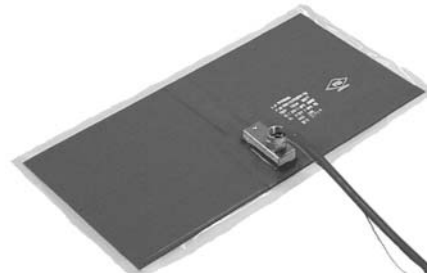
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## **SSHB, SRMU, SEPHB SERIES Silicone Rubber Heating Blankets**

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## INTRODUCTION

Thank you for purchasing this silicone rubber heating blanket. Your heater is designed to provide a long and efficient service life with function, reliability, and safety in mind. For successful operation of these heaters, read and understand these instructions prior to use.

## 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.



Immediate hazards which WILL result in severe personal injury or death



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



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.

## IMPORTANT SAFETY INSTRUCTIONS



### ⚠ DANGER

A person who has not read and understood all installation instructions is not qualified to install this product.

### ⚠ DANGER

- Do not immerse heater in liquid.
- Keep volatile or combustible material away from heater when in use.
- Use heater only in approved locations.
- Keep sharp metal objects away from heater.
- All SEPHB blankets have T ratings described in Article 501 of the NEC code. The blankets should not be used in an area with a lower T rating than the blanket. The T rating is stated in marking on the blanket.

Failure to observe these warnings may result in electric shock, risk of fire, and personal injury.

### ⚠ WARNING



#### End User Must Comply to the Following:

- Only qualified personnel are allowed to connect electrical wiring.
- Disconnect all supply power at the source before making any power connections.
- All electrical wiring must follow local electrical codes and highly recommend following NEC Article 427.
- Final installation / wiring is to be inspected by the authority who has jurisdiction in the area that the heater is installed.
- The end-user is responsible for providing a suitable disconnecting device.
- The end-user is responsible for providing suitable electrical protection device. It is highly recommended that a ground fault circuit breaker is used.
- SEPHB series: A NRTL (National Recognized Testing Laboratory) listed temperature controller with a failure annunciation must be used to control the surface temperature of the blanket. The controller must be approved for the area where it is located.
- SEPHB series: If heater is used to heat volatile material, an auxiliary temperature control, sensing the contents of the vessel, should be used to avoid overheating the material.


Failure to observe these warnings may result in personal injury or damage to the heater.

### Agency Approvals


#### SSHB series

   
up to 358°F (181°C) 73/23/EC  
(Low Voltage Directive)

#### SEPHB series

 Hazardous Locations  
Class I, Division 2, Groups A, B, C, & D  
Class II, Division 2, Groups F & G

#### SRMU series

 73/23/EC (Low Voltage Directive)

Approvals valid only when installed in accordance with all applicable instructions, codes, and regulations.

### ⚠ CAUTION

- 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 operate heater above rated temperature value.
- Fasten heater to device using approved methods only.
- 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.
- SEPHB series: the metal enclosure must not support more than 10lbs (4.5kg).

Failure to observe these warnings may result in personal injury or damage to the heater.

**⚠ WARNING**

Read and understand this entire manual before operating this electric heater.

1. Check for suspected damage to the heating blanket like rips, punctures, etc.
  2. Verify surface to be heated is free from all sharp edges, weld splatter, rust, oil, etc. Surface must be clean prior to installing heater.
  3. 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.
  4. 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.
  5. 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.
    - All Silicone rubber heating blanket except SEPHB exposure temperature range: -60°F to 450°F (-51°C to 232°C)
    - SEPHB exposure temperature range: -60°F to 400°F (-51°C to 204°C)
      - T3: 292°F (145°C) high limit thermostat
      - T4A: 158°F (70°C) high limit thermostat
  6. If the heating blanket is equipped with PSA (pressure sensitive adhesive), confirm the heater was manufactured within the last six months. The PSA has a "shelf life" of six months and must be installed before this time elapses. The date of manufacture is stamped on the product box.
- NOTE: If more than six months has elapsed since date of manufacture, the blanket can be sent back to the factory for re-application of PSA.
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
plug if connecting heater to a receptacle rather than hard wiring to a temperature controller or junction box.		
temperature controller and sensor	silicone RTV	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.**

Your heater can be attached to the surface using:

- Factory applied PSA (pressure sensitive adhesive)
- Factory supplied mechanical fasteners
- Factory supplied or recommended mechanical clamping devices
- High-temperature adhesive tape that will not damage the heater
- Thin layer of RTV

**For all installations, regardless of adhesion method:**

1. For proper temperature control, place the thermocouple, RTD, or other sensing device, so that it touches the edge of the heating blanket.
  - Sensor must be in close proximity to the heater to prevent overheating.
  - If heating blanket is installed on a vertical surface, place sensor directly on lower edge of heating blanket since heat naturally rises.
  - Sensor should be connected in accordance with instructions provided with temperature controller.
  - Secure with one strip of aluminum adhesive tape.
2. Ensure heater is in contact with the surface to be heated. If air gaps are present, heat transfer will decrease and there is a potential to overheat the heating blanket. Use a medium to hard roller to eliminate trapped pockets of air.

**⚠ CAUTION**

Do not wrap the heater over itself or allow it to contact a second heater.

## MOUNTING YOUR HEATING BLANKET

### Installation of heater using factory supplied Pressure Sensitive Adhesive (PSA):

3. Peel off the release film [Figure A] and then press the heater onto the surface of the item being heated using a medium to hard rubber roller [Figure B]. Ensure blanket 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 200°F (93°C) in a 68°F (20°C) 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:** OMEGA® does not recommend allowing pressure sensitive adhesive to cure at temperatures below 40°F (4°C).

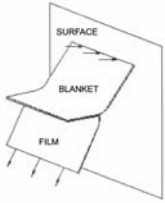


Figure A: Removing Film



Figure B: Rolling the Blanket

## 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  $\pm 10\%$ . 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.

- SEBHB series: A NRTL (National Recognized Testing Laboratory) listed temperature controller with a failure annunciation must be used to control the surface temperature of the blanket. The controller must be approved for the area where it is located.

## CONNECTING YOUR HEATING BLANKET TO A POWER SOURCE

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).
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.
5. 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. These 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.
6. SEBHB series: The conduit connection is 3/4" hub.

## TROUBLESHOOTING GUIDE

Please read this guide prior to contacting OMEGA. 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 us at 1-800-USA-HEAT.

PROBLEM	SOLUTION(S)
Does not heat	Verify heater is connected to proper voltage.  Check to see if there is a resistance reading (not an open circuit) in heater using an ohm meter.
Pressure sensitive adhesive is not adhering	Verify date of manufacture. PSA has a shelf life of six months.  Ensure there are no air gaps and heater is making intimate contact with surface being heated. Use a medium to hard rubber roller.
Circuit breaker is tripping	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.  Examine heater and cord for any damage.  Check to see if there is a resistance reading between power leads and the ground lead.



## WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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## RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. **BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS).** The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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