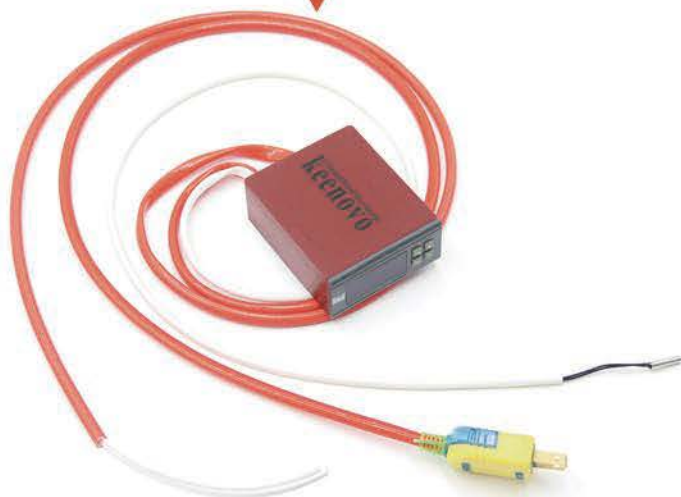


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**User's Manual-Keenovo Flexible Heaters**



## User's Manual - Keenovo Flexible Heaters

### 1. Introduction:

Thank you for choosing Keenovo. As the industry leading manufacturer of flexible heaters ( both silicone heaters and Kapton heaters), we take great pride in our position as an experienced flexible heating solution provider. Keenovo flexible heater, be it one single custom made irregular-shaped heater or 10,000 standard heaters, each and every one is designed to provide a long and efficient service life with function, reliability, and safety in mind.

### 2. Important General Rules:

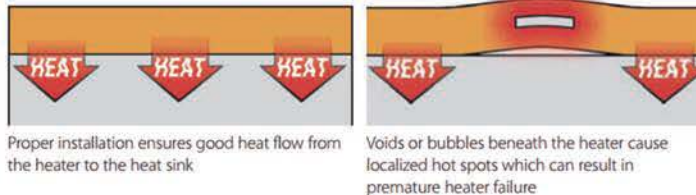
- Do not immerse heater in liquid, though it's moisture-proof.
- Keep volatile or combustible material away from heater when in use.
- Keep sharp metal objects away from heater.
- Do not cut or trim the heater.
- Disconnect all supply power at the source before making any power connections.
- Never handle the heater while it is in operation; always disconnect the heater from the power source and allow to cool prior to handling.
- Never operate the heater before a proper installation to the heat-sink.
- A temperature control device is always recommended.

### 3. Prior to Installation

- Verify surface to be heated is free from all sharp edges, weld splatter, rust, oil, etc. Surface must be clean prior to installation.
- Confirm voltage / wattage rating of heater is appropriate for power supply device or temperature controller. Most heaters are designed to work at a specific voltage to heat properly.
- If your Keenovo Heater does not have its own internal temperature control device, it is strongly suggested that an external control device be applied.

### 4. Installation

Versatile flexible heaters allow a variety of mounting methods. Proper installation is crucial to heater's optimum performance. Heaters must be in intimate and firm contact with the heat sink, as any gaps can block heat transfer and cause a hot spot incurring premature heater failure.



#### 4.1 Install with High Temperature Silicone RTV Cement/Sealant

- Clean surface of the object to be heated. Remove all dirt, grease, oil and other contaminants using a de-greasing solvent. DO NOT USE GASOLINE OR ACETONE.
- Apply a thin layer of the high temperature silicone sealant ( such as Loctite 5399 for example) on the object area, same size or slightly larger than the heater measurements.
- Place the heater pad on the area with sealant, and seal the heater edges with a thick bead of the sealant.
- Secure the heater pad position and allow several hours for vulcanization process.( please follow sealant instructions for the exact time required for this process). It's suggested to apply some even pressure onto the heater pad surface during this procedure.

#### 4.2 Install with Factory-Applied Adhesive Backing

- Clean surface of the object to be heated. Remove all dirt, grease, oil and other contaminants using a de-greasing solvent. DO NOT USE GASOLINE OR ACETONE.
- Peel off the adhesive backing paper partially. Suggested to start from the end opposite to that where power wires exit.

- Apply the adhesive to the surface gradually at a 30 degree angle. Add pressure using a roller or spreader to remove any possible air pockets
- Seal the heater edges with a thick bead of the RTV sealant.

### 5. Wiring

Wiring of the heater pad can be done either before or after installation. Flexible heaters come with on polarity. So it's ok to connect either of the two wires from the heater element to live or neutral on a power supply. Please follow your local regulations and have someone who is electrically competent to complete the following:

- Strip the ends of the power cable on the heater pad. Usually a 10mm strip is good for the connection.
- Crimp a wiring terminal on the bare ends.
- Wire a plug on the power wires.

### 6. Warning

- The appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Children being supervised not to play with the appliance.

### 7. Warranty.

- Warranty of one year since purchase date is offered.
- Every and each item is tested and made sure in good condition before shipment.
- Mal-functions due to mis-use or man made damages are not included in this warranty.
- Due to manufacture reasons, stains on surface do not affect the function and life time.

### 8. Custom Design Welcome.

Looking for custom designed & manufactured flexible heaters? Just tell us your requirements and leave the rest to Keenovo. A general idea of what you want is enough to turn our heater design experts on solving your heating challenge. Best Quality Guaranteed.