

INFRAROUND SERIES ELECTRIC INFRARED HEATERS

GENERAL INSTRUCTIONS AND WARNINGS

General

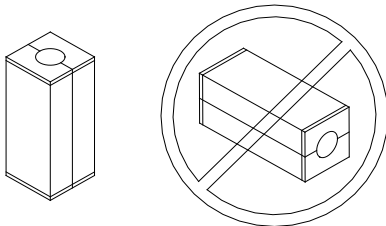
The inherent nature of electric heating products presents safety hazards such as FIRE or ELECTRICAL SHOCK that can result in personal injury, property, or heater damage if used improperly. The purchaser is responsible for proper installation, use, and suitability of the products to their application in accordance with NEC, NFPA, OSHA, and any other state or local standards which may apply.

It is strongly recommended that anyone working with or around this equipment should read and understand all product literature and instructions and become familiar with the heater operation and safety concerns prior to use.

Users should install high temperature control protection in systems where an over-temperature fault condition could present a fire hazard or other hazard. Failure to install temperature control protection where a potential hazard exists could result in damage to equipment and property, and injury to personnel.

Shipping & Handling

The internal heater tubes are fragile and will crack or erode where supported if subjected to shock or vibration. To reduce this risk, the heaters must be adequately crated and **ALWAYS SHIPPED ON THEIR END**. If shipped on their side, *damage will occur*. While transporting, all heaters should be taken out of any oven structures and separately packaged and shipped on their end. If heaters are to be re-shipped, they should be re-packaged and shipped as received. Heaters should always be shipped on end with at least 2" of foam bead board on all sides, and protectively packaged or crated. We take a great deal of care in packaging to assure safe delivery. Upon arrival, please inspect and immediately report any damage to the carrier. The customer will be responsible for any damage or defect occurring after the contents have been removed, reshipped, repackaged, or replaced.



Installation

Long heater life and high heating efficiency will result when heaters are properly installed with the following guidelines.

- Can be mounted vertically, horizontally, or any position
- Mounting must allow for access for repair and/or to open the heater if hinged.
- Mounting points are provided and must be used to adequately and evenly support the heater.
- The mounting surface must be solid and free of all vibrations.
- A 4-inch free air space around the heater is recommended to allow it to "breathe" and cool.

DANGER: HAZARD OF FIRE. Heaters are capable of developing high temperatures; extreme care should be taken to:

1. Do not mount heaters in an atmosphere containing combustible gasses and vapors.
2. Keep combustible materials far enough away to be free from the effects of high temperatures.
3. Guard against contact between heaters and combustible materials.

Wiring

CAUTION: HAZARD OF ELECTRIC SHOCK. Turn off and lock out all power to heaters before servicing. To avoid electric shock and damage to property and equipment, use National Electric Code (NEC) safety practices when wiring and connecting this unit to a power source, electrical sensors, or peripheral devices. Failure to do so could result in injury or death.

Heaters must be installed by qualified electricians in accordance with National Electric Code and any other national or local codes required.

Properly rated hook-up wire must be used to connect electrical power to the heater. The physical and environmental conditions are determining factors for the correct wire size, material, and insulation type to be used. High temperature wire such as MG (mica/glass) or TG (*Teflon*/glass) with nickel clad copper conductors may be required.

Ceramic wire nuts or a terminal block may be provided inside the heater's junction box. They may be used only if approved by all electrical codes, is correct for the application, and for proper wire sizes.

Heaters must have the metal cases grounded to earth to reduce the risk of electrical shock.

Operation

CAUTION: HAZARD OF ELECTRIC SHOCK. Internal exposed metal elements and hardware are *live* electrical conductors. Do not reach through the mesh face or back screen with any object such as tools, part hooks or product. Electrocution and permanent heater damage may result. Disconnect and lock out all sources of power before attempting to remove such items if in contact.

Long heater life and high heating efficiency will result when heaters are properly operated with the following guidelines.

- Operate heaters at the rated voltage only.
- It is recommended to control the heater output with SCR or SSR controllers. Controlling heater temperature at a lower output will proportionally increase heater life.
- Do not operate heaters at element temperatures above **1500 degrees F** (thermocouple reading) or 1750 degrees F actual element temperature. The ceramic tubes are rated for 1800 degrees F and overheating will cause permanent damage.
- It is strongly recommended to control the heater with an automatic temperature controller with a high limit set point of 1500 degrees F.
- Product should not come into contact or rest on any part of the heater or its face screens. Do not operate heaters at high outputs for extended periods of time without running product to absorb and remove the energy.
- Do not leave operating heaters unattended.
- Heaters should not be operated in environments with factors that can oxidize or destroy the elements or electrical insulation inside the heater. Water or water vapor, grease, oils or oil vapors, corrosive liquids and vapors, noxious or reactive gases, metal shavings and contaminants can create leakage (shock) hazards, permanent heater damage, or cause heater failure and therefore, should be avoided.
- Do not let heater slam shut (if hinged). The ceramic tubes are fragile and will break.

Maintenance

The heater must be allowed to cool completely, and all power must be turned off and locked out prior to any maintenance.

When replacing a heater, only install a heater of the same or less wattage and same voltage. For repairing a heater, please consult factory.

To clean the heater, the output may periodically be set to a high setting for a short time to burn off any build up on the elements or screen. Use low pressure air to blow out any dust from the heater face. Use only a cloth damp with water or mild cleaner to wipe all remaining external and flat surfaces. Never wash down with any sprayed liquid or solvent.

Replacement elements and core assemblies are available for field repair. Contact manufacturer for details.

Warranty

Heaters are warranted to be free from defects of workmanship and materials for 1 year or 4,000 hours, whichever is first, from date received by customer. Evidence of misuse, field modification or repair voids warranty. Liability is limited to repair, replacement or refund of faulty material or workmanship.