

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FOR SERIES OKB, OKD & OKH – INFRARED RADIANT HEATERS



FIRE/EXPLOSION HAZARD WARNING - During operation, take precautions to ensure that combustible materials are always kept at a safe distance from the radiant energy. This heater is not intended for use in hazardous areas where flammable vapours, gases or liquids or other combustibles are present. Remember that objects placed under an infrared heater can take a while to reach stabilized temperatures. If you are unsure of the suitability of the heater for the intended application, check with the factory for recommendations. Failure to comply can result in personal injury and/or property damage.

DESCRIPTION

1.0 The OKB, OKD & OKH radiant heaters are suitable for comfort heating use in non-hazardous areas protected from rain, snow or splashing, where heating element temperatures in excess of 1382°F(750°C) will not present the risk of fire or explosion. The heater does not present a safety hazard when it is installed, operated and maintained in accordance with these instructions.

2.0 The heaters are available with metal sheath, quartz lamp or quartz tube heating elements. Use heaters with metal sheathed elements where there is heavy vibration or mechanical shock. Quartz tube or quartz lamp elements are very fragile and require extreme care in handling. Heaters utilizing quartz tubes or quartz lamps are unsuitable for applications in locations where the risk of heavy vibration or mechanical shock exists.

3.0 To avoid damage in transit, heaters with quartz lamp or quartz tube elements are shipped with the elements not installed in the fixture.

4.0 A minimum of handling of the quartz sheath is recommended since any type of contamination on the sheath may reduce service life.

7.0 For chain mounting, install eye bolts supplied in the 1/4-20 drilled and tapped holes located at the top of the cast aluminum end plates. Use the locking nut to secure the eye bolt in the casting at the preferred location. Fasten the chains to the eye bolts and suspend the fixture from the ceiling ensuring that the minimum clearances shown in Table 1 are maintained.

Table 1	UL		CSA	
	OKB, OKD & OKH		OKB	OKD & OKH
	USL	CNL		
A. From the nearest wall	24"(610 mm)		15"(380mm)	10"(254mm)
B. From end of heater to wall	24"(610 mm)		12"(305mm)	39"(1000mm)
C. From the ceiling	24"(610 mm)		15"(380mm)	15"(380mm)
D. From the Floor	72"(1830 mm) 96"(2400 mm)		–	–
E. Between heaters	36"(915 mm)		–	–

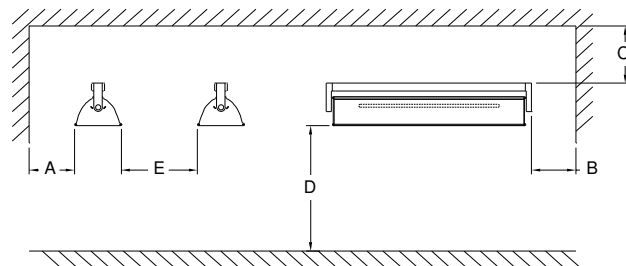


FIG. 1 – MOUNTING CLEARANCES

INSTALLATION



The system designer is responsible for the safety of this equipment and adequate back-up controls and safety devices must be installed. Failure to comply could result in personal injury and/or property damage.



Heaters must be wired by qualified personnel in compliance with local codes.

5.0 Verify that the nameplate voltage and wattage are suitable for use on the available electrical power supply. Do not connect the heater to an electrical supply voltage other than shown on the product label.

6.0 Minimum space clearances from combustibles, when heaters are horizontally mounted and installed, as listed in Table 1 following.

8.0 For rod mounting 1/4"-20 threaded rods of suitable length are to be installed in place of the eye bolts as in paragraph 7.0 above.

9.0 If flush mounting on a non-combustible surface, be sure to slot the mounting holes (5/16" x 1/2" hole) to allow for heater expansion.

10.0 These heaters are intended to be installed in a maximum 40°C ambient temperature.



For metal sheathed heaters, insulation contamination or moisture accumulation can cause fault to the element sheath generating arcing and releasing molten metal. Install proper ground fault protection to prevent personal injury and/or property damage.

11.0 The connection boxes at the ends of the heater each have a volume of 56 in³(917 cm³) for the OKH and OKD and 12 in³(196 cm³) for the OKB.

12.0 Supply connectors to the heater must be suitable for 194°F(90°C). A flexible (BX) metal covered wire is recommended for applications protected from outside weather conditions.

13.0 For short circuit protection, heaters must be installed with proper fast acting fuses or breakers as close as possible to the amperage draw of the unit(s), in compliance with the local electrical codes.



Heaters with quartz tube or quartz lamp type heating elements are suitable for horizontal mounting only. Heaters with metal sheathed heating elements can be mounted in any desired position.

14.0 For wiring (all units except the Type R unit), first remove the top channel to install the conduit connector fitting and then connect the supply and ground wires to the pigtail leads. Re-install the channel and leave it in place unless removal is required for servicing. The Type R unit has a moisture proof housing enclosing the terminals of a “U” shaped metal sheathed element. Use rigid conduit (½”) to ensure moisture protection.



When making wiring connections to the heater DO NOT pull power connection wires from end cover. Pulling the wires could eliminate the expansion wire loop at the element end connection and may result in damage to wire insulation.

15.0 Follow this procedure and Fig. 2 when installing the tube or lamp:

15.1 Disconnect power at source.

15.2 Remove the terminal covers at each end of the heater.

15.3 Remove the keeper screw on one retainer bracket and slide the ceramic element holder aside.

15.4 Feed the element lead wire through the hole in the ceramic holder at the fixed end first. Slide the ceramic holder removed in 15.3 over the element so that the element is captured in both ceramic holders and then reinstall the keeper screw.

15.5 Loosen the electrical terminal nut on the ceramic blocks to permit connection of the power and lead wires.

15.6 To connect the element lead wires, slide the ceramic holders as far as possible toward the centre of the fixture and loop the element wire over the electrical terminal leaving **very little slack** in the wire. Note that the ceramic blocks are designed to slide freely with element thermal expansion and the **taut lead wires** help to secure the element in place.

15.7 Connect the power wires to the electrical terminals and install terminal covers.

15.8 Before energizing, wipe the quartz sheath and reflector with a cloth or paper towel dampened with alcohol.

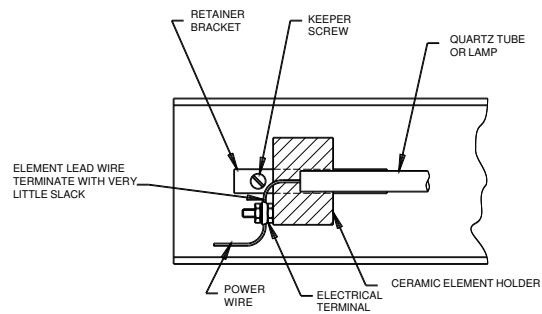


FIG. 2 – TYPICAL WIRING ATTACHMENT OF QUARTZ HEATER

OPERATION



For metal sheathed heaters, prior to operation an insulation resistance check must be performed. Heater with values less than 1 MΩ should follow a drying process. Please contact factory for details on procedure if heater is under 1 MΩ.

16.0 Tighten set screw in end casting (one end only) after installing fixture and setting angle of horizontal tilt. This screw must be tight even if the fixture is not tilted.

17.0 Energize the heater at the voltage shown on the nameplate and visually check the element to ensure that it slides freely on expansion. A small sag is normal, especially on longer heaters.

18.0 Heaters with metal sheathed elements which have not been energized for a prolonged period shall be restarted under close supervision for the first thirty minutes of operation.

MAINTENANCE



Disconnect all power before installing or servicing the heater. Failure to do so could result in personal injury and/or property damage. All maintenance and installation should be done by qualified personnel in compliance with local codes.

19.0 As a safety precaution and to avoid non-scheduled downtimes, replace the heating element if a pronounced hot spot (area of the element that glows brighter) is visible along its heated section.



For metal sheathed heaters, after performing maintenance, and prior to energization, an insulation resistance check must be performed. Heater with values less than 1 MΩ should follow a drying process. Please contact factory for details on procedure if heater is under 1 MΩ.

20.0 Reflectors should be visually inspected for accumulation of dust, and cleaned as necessary using a mild soap and water solution. Take care to ensure that no water or moisture is allowed to contact the ends of the element sheath or wiring connections.

WARRANTY

CCI Thermal Technologies Inc. warrants to the purchaser of each new product that any part thereof which proves to be defective in material or workmanship under normal use within 18 months of the date of shipment or 12 months from the date of start of operation (whichever occurs first) will be repaired or replaced without charge. Any such defect should be brought to the attention of the company's office from which the product was purchased, which is authorized to furnish or replacement within the terms of this warranty.

The Company will not be responsible for any expenses incurred in installation, removal from service, transportation cost, or damages of any type whatsoever, including incidental or consequential damages. Some states or provinces do not allow exclusion or limitation of incidental or consequential damages so the preceding exclusion or limitation may not be applicable to you.

Since we cannot anticipate or control the condition under which our products may be used, we accept no responsibility for the safety and suitability of our products when used alone or in combination with other products. Tests for safety and suitability of the products should be done by the user.

This warranty will not apply if, in the judgement of the Company damage or failure has resulted from accident, alteration, misuse, abuse or operation on an incorrect power supply. The foregoing is in lieu of other warranties expressed or implied. CCI Thermal Technologies Inc. neither assumes nor authorizes any person to assume for it any other obligation, during transportation, installation and operation or liability in connection with the said product.

Since the paint finish may be damaged in use, no warranty applies to such paint finish except for manufacturing defects which become apparent within 30 days from date of installation.

Heaters are not guaranteed against damage caused by corrosion.

Radiant element longevity is largely dependent on the application which it is being used in, cycle times and usage. As such we do not supply warranty on the element.

