

**INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FOR**

## **Quartz-Zone Radiant Heaters**

**Catalogue Numbers HE7915(G), HE7920(G), HE7930(G) and HE7945(G)**

**Standard model supplied with Ruby lamps; suffix (G) refers to units fitted with Gold lamps**

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### 1. CATALOGUE NUMBERS

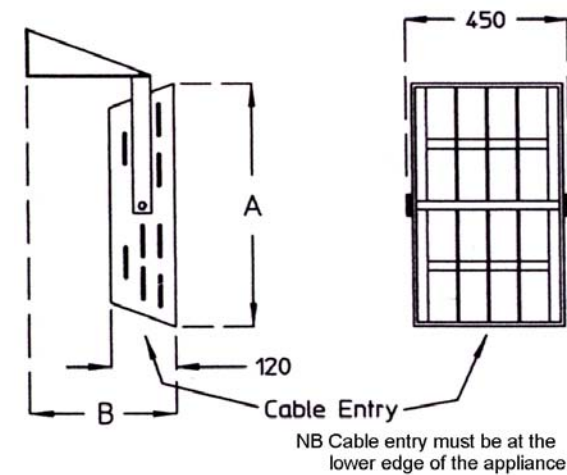
HE7915	Single lamp unit 1.5 kW rating
HE7920	Single lamp unit 2.0 kW rating
HE7930	Twin lamp unit 3.0 kW rating
HE7945	Triple lamp unit 4.5 kW rating

### 2. GENERAL

Quartz heaters are high intensity radiant appliances, using tungsten-halogen lamps as the energy source. The lamps radiate their energy primarily in the short-wave infrared waveband with high energy conversion efficiency and good heat penetrating properties.

The heaters are supplied complete with wall mounting brackets. Their robust construction makes them suitable for most types of industrial and commercial situations. The advanced optical design ensures an even pattern of radiant energy from elevated mounting heights. An outline drawing of the units, together with their overall dimensions is shown in figure 1.

Figure 1 – Outline Dimensions of Quartz Heaters



UNIT	DIMENSION	
	A	B
HE7915	230	310
HE7920	230	310
HE7930	444	410
HE7945	660	410

### 3. SAFETY NOTES

- a) The heaters should not be operated in ambient temperatures greater than 30°C (86°F), otherwise the life of the Quartz unit could be shortened.
- b) The heaters should not be operated in areas subject to continuously high humidity, or excessive dust.
- c) The heaters must be mounted with the Quartz element in the horizontal position.
- d) These radiant heaters are capable of projecting a significant amount of radiant energy for a considerable distance in front of the reflector. Great care should be taken with their mounting if there are flammable materials in the vicinity. These heaters must not be used in areas subject to flammable vapours such as paint solvents or petrol fumes.

### 4. INSTALLATION

The mounting position and spacing of these units will depend on the mounting height and reference should be made to the technical data to determine the optimum position. The minimum recommended mounting heights are as follows:

HE7915	(1.5 kW)	2.5 metres
HE7920	(2.0 kW)	2.7 metres
HE7930	(3.0 kW)	3.0 metres
HE7945	(4.5 kW)	3.3 metres

For wall mounting, a bracket arrangement is supplied as standard and this is shown in figure 2. With the unit wall mounted, it is essential that the radiant energy is directed away from the wall. The minimum clearances from the ceiling or the adjacent walls are shown in figure 3. For maximum heating effect on the occupants of the room, the angle of the front face of the unit to the horizontal should be about 45°.

As well as an efficient conversion of electrical energy into radiant heat energy, the effectiveness of radiant heaters depends on efficient absorption of this energy by the people in the building. Heaters mounted overhead, with their beams directed straight down, will tend to warm only shoulders and tops of heads. More efficient absorption is obtained if the radiant heat is directed from one or both sides of the person. In any situation, the optimum angle for the heaters will be with the plane of the reflectors at about 45° to the horizontal. Heating schemes should be designed such that the area to be heated is effectively covered by units which are mounted close to this angle.

Figure 2 – Wall Mounting of Quartz Heaters

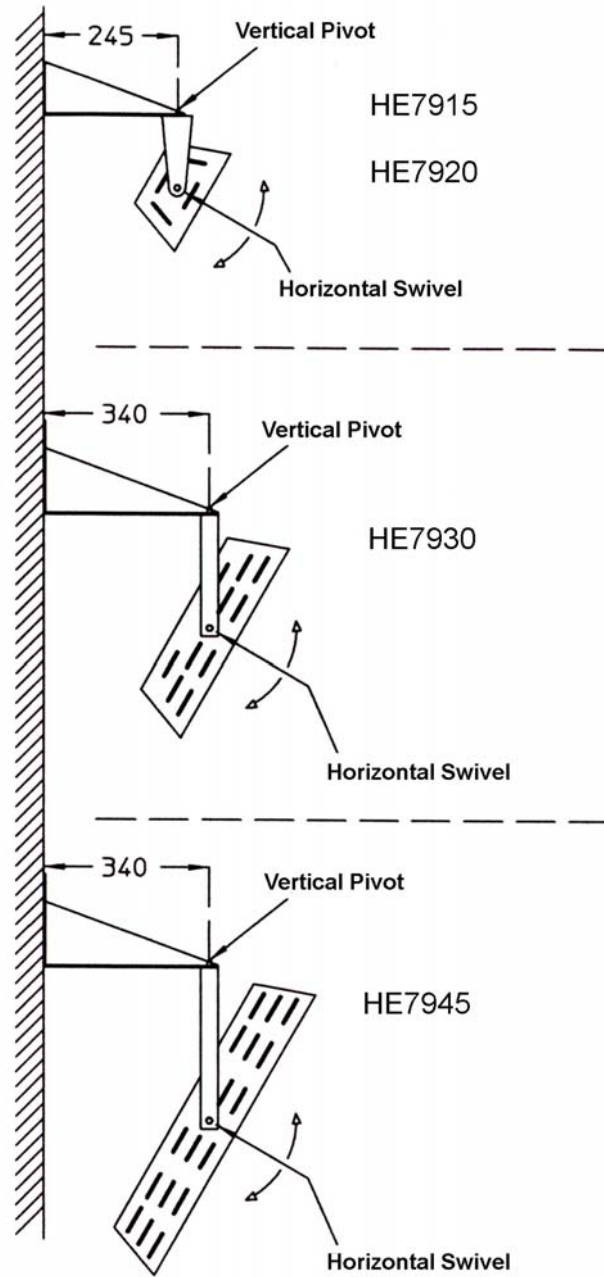
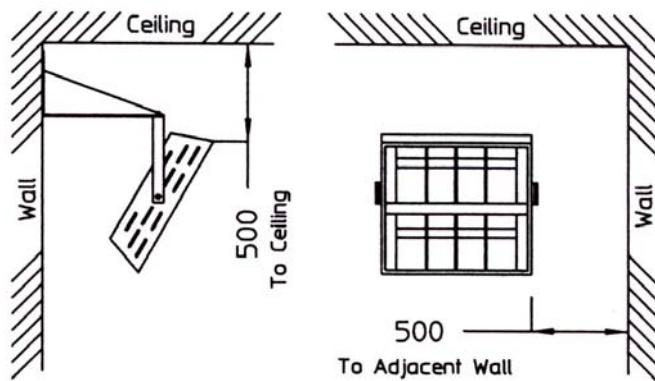


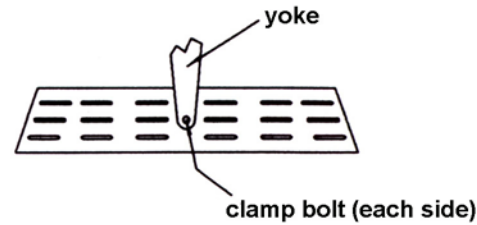
Figure 3 – Minimum Clearances to Adjacent Wall and Ceilings



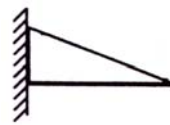
## 5. ASSEMBLY

Carefully unpack the heater. During heater assembly and installation DO NOT TOUCH the outer sleeve of the lamp, otherwise finger marks could lead to de-vitrification and cracking of the sleeve. Any finger marks should be carefully removed with methylated spirits. (see also section 8 – 'Maintenance').

For all units, assemble the yoke onto the heater body, tightening the clamp bolts finger tight.

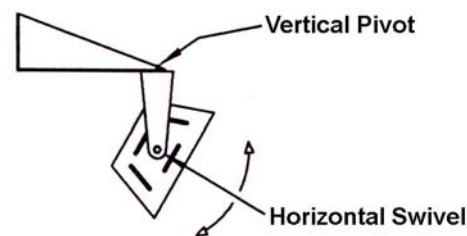


Secure to the wall, with suitable fixings, the hanging bracket. Ensure the position of this bracket will allow suitable clearances between the heater, when fitted, and adjacent walls, ceilings or objects. See Fig 3.



Mount the yoke/heater assembly to the hanging bracket using the bolt, washer and nut provided.

Finally adjust the direction of the heater to irradiate the desired area and tighten up all clamping nuts and bolts.



## 6. ELECTRICAL CONNECTIONS

**WARNING:** Ensure that the electrical supply is isolated and made safe before making any electrical connections.

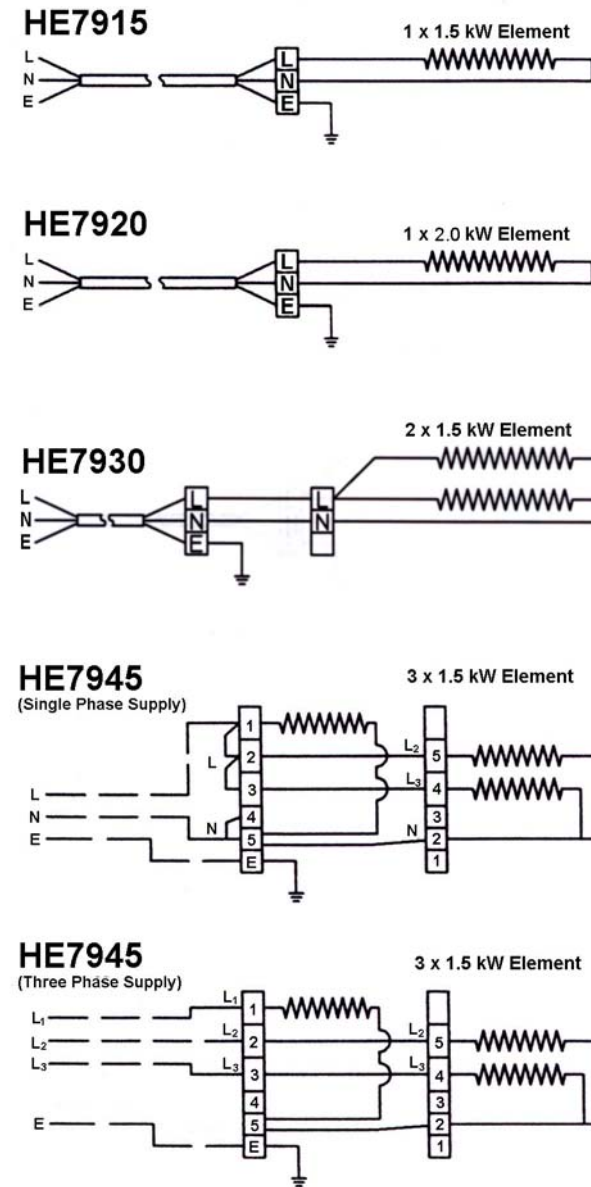
**WARNING:** The Quartz heater must be connected to a known good earth. The terminal block earth terminal is clearly marked with the standard earth symbol.

**NOTE:** If Quartz heaters are NOT being used in conjunction with a Quartz driver unit then, because of the high surge currents associated with tungsten loads, it is recommended that Type 'B' circuit breakers are used with a current rating of 2 x the heater load.

The HE7915, HE7920 and HE7930 should be connected to a 240 Volt single phase supply. The HE7945 (4.5 kW) unit is supplied wired for 240 Volt single phase operation but may be adapted for a three phase 415 Volt supply by removing the linking plates joining the three line terminals at the terminal block.

Mains wiring, supplying power to the appliance, must be in a suitable heat resisting cable (eg butyl rubber or high temperature PVC insulated).

Fig 4 – Circuit Diagrams of Quartz Heaters



Access to the mains supply terminal block can be obtained by removing the entry plate at the rear of the heater, the plate being secured by two screws. The terminal block is fitted to this plate. The plate is connected to the heater body via an earthing cable. Ensure that the cables are tightly connected in the terminal block; ensure that the cables are secure in the cable gland.

**NOTE:** Care should be taken when connecting a single phase supply to the HE7945 (4.5 kW) unit. Ensure that the presence of the linking plate does not cause the conductor to become loose.

Whenever the unit is mounted with the plane of the reflectors at an angle to the floor, ensure that side containing the cable entry is in the lower position. This will assist in keeping the terminals and cable cool. The installation should comply with the requirements of the IEE wiring regulations and the heaters should be connected to a suitable isolating switch.

## 7 CONTROL

In control systems, heaters may be switched on and off, using suitable contractors, linked to the time switches or thermostats. Temperature control using either air thermostats or black bulb thermometers is possible, but the characteristics of radiant heating make it difficult to achieve comfort control without very careful choice of the thermostat and its position. Details of suitable circuits and advice on the correct siting may be obtained from Claudgen.

With the HE7945 (4.5 kW) unit, the three lamps are connected to three separate terminals. If the links are removed, as for three phase operation, it is possible to connect these units for up to three levels of radiant heat output.

Details of suitable circuits may be obtained from Claudgen

## 8. MAINTENANCE

**WARNING:** Before opening the heater to carry out any maintenance, ensure that the mains supply is switched off and made safe. Also ensure that the unit has cooled and is not too hot to handle.

Because of the high heat output and the open nature of the construction, there is a substantial convected airflow through the unit. Any dust in the atmosphere will also be carried up through the heater and, in due course, deposits of dust may build up within the unit. It is essential that such deposits are removed at regular intervals, otherwise they could become a fire hazard. The reflector has a hard anodised coating and is very durable. Nevertheless, it will become dirty after a period of time. To maintain the efficiency of the unit, the reflector should be cleaned regularly. Before cleaning the lamps must be removed, using gloves, or similar means, to prevent the outer sheath from being touched by hand. Cleaning the reflector should require no more than a damp cloth. Avoid using any abrasive cleaners. If necessary, lamps may be cleaned using a clean cloth, moistened with methylated spirits.

**CAUTION:** After cleaning, ensure that all solvents, such as methylated spirits, have evaporated and dispersed before the heater is switched on.

## 9. SPARES

HE7907 1.5 kW Spare Ruby lamp suits { HE7915  
HE7920  
HE7930  
HE7945

HE7905 2.0 kW Spare Ruby lamp for HE7920 only

HE7905G 2.0 kW Spare Gold lamp for HE7920 only

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