

RADIANT HEATERS

GENERAL INFORMATION

Process Heating by infrared radiation is accomplished without the need of physical contact with the heat source, the necessity of hot air or products of combusting material to carry heat from the source to the products.

The heat is transferred via invisible electromagnetic waves from an infrared energy source. When infrared energy strikes the product the radiation is absorbed and converted into heat. The radiant energy does not heat the air appreciably and requires no air for transmission.

LOW INSTALLATION AND MAINTENANCE COSTS.

The simplicity of infrared ovens and the lightness of their structure results in a low initial cost and minimum maintenance.

FAST HEAT-UP AND COOL-DOWN TIME.

Because infrared ovens do not rely on air to transmit the heat, the oven starts to heat the product the moment it is energised. This reduces the oven operation time. Also, the oven quickly cools down after being de-energised.

HIGH EFFICIENCY.

Utilising high quality electric infrared heaters up to 86% of the energy input is converted into process heating radiation.

CLEAN HEAT.

Electric infrared radiants, themselves, do not produce products of combustion. Thus, the product is not contaminated by hot gas, there is no flame to contain and no product of combustion that must be discharged.

SPACE SAVINGS.

High heat source concentrations quickly increase product temperature, shorten conveyor length and save floor area. Also, compact infrared ovens can be suspended from the ceiling.

VERSATILITY.

To increase output, infrared ovens can be added to existing ovens, or built into existing machines to increase output.

MOBILITY.

Units can be designed as portable or easily disassembled for moving with cost-saving plant changes not as expensive in comparison to larger and heavier convention type ovens.

CONVENIENT POWER SUPPLY.

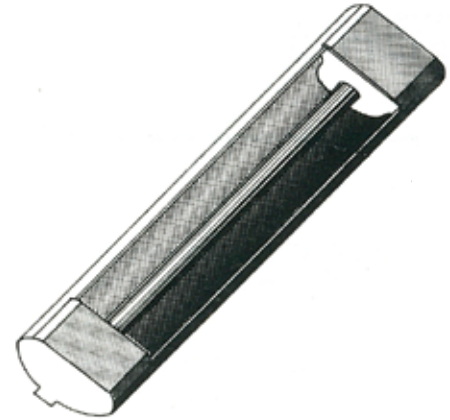
Electric power can be readily provided to any location in the plant. Also changes are simple and inexpensive.

RADIANT HEATERS

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HOTCO F.I.R. radiant heaters supply industry's need for a robust, compact, and reliable source of infra red heat, which is in the invisible far-infra red wave length and is absorbed with almost equal speed by all colours and surfaces.

Built-in reflectors radiate this heat in a wide uniform band, assuring even heating and making these units ideal for many industrial uses.

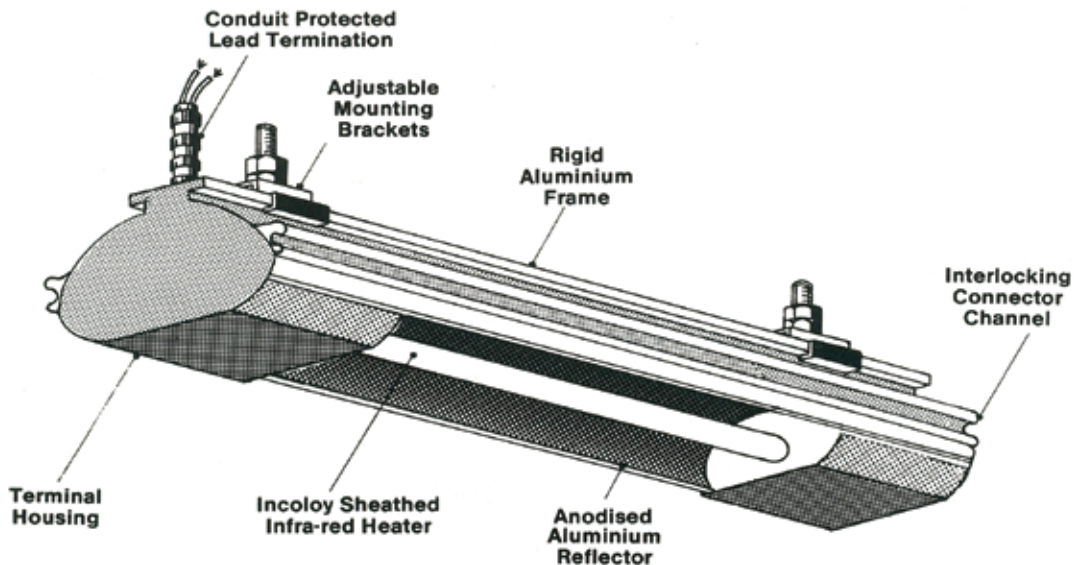


GENERAL APPLICATIONS

BAKING AND CURING
DRYING
MASS HEATING
COMFORT HEATING

Of paints, enamel, lacquers, inks and adhesives.
Of metals, ores, powders, sandpaper, textiles and food.
Of steel parts such as moulding preforms, chutes, and hoppers.
Of manufacturing and warehouse areas in exposed and semi-exposed areas as auxiliary heating.

In fact any place or process where additional heat is required.



CONSTRUCTION

HEATER

A straight length tubular alloy sheath surrounds a helical coil of nickel-chrome resistance wire which is tightly compacted with magnesium oxide, giving a resistance spiral protected from atmospheric corrosion and mechanical abuse, assuring long life and durability.

REFLECTOR

A highly polished aluminium reflector is formed to a parabolic shape with the heater positioned at its focal point for maximum efficiency.

FRAMEWORK AND TERMINATION

The heater reflector and terminal boxes are mounted into a sturdy extruded aluminium section, and standard lead termination consists of 300 mm of flexible metal conduit with 150 mm heat resistant leads protruding, fitted on end.

A metal terminal box complete with connection block and entry can be fitted if required.

MOUNTING

The F.I.R. unit is supplied with sliding clamps and fixing bolts that can be positioned anywhere along the heater length for ease of installation to a steel frame-work or heaters may be suspended by chain.

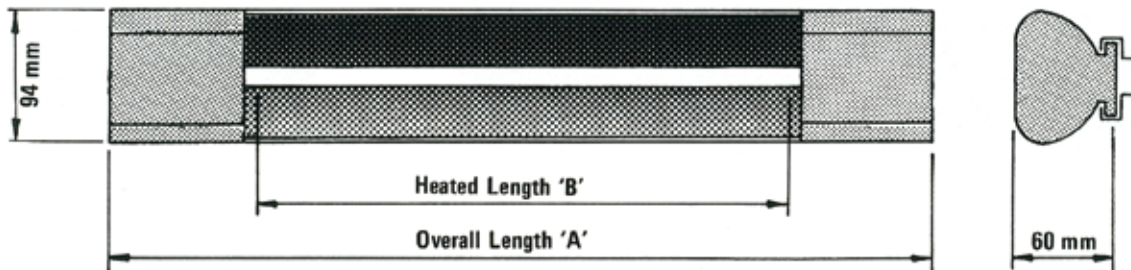
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STANDARD SIZES AND RATINGS

UNIT CATALOGUE NUMBER	WATTAGE	VOLTAGE	DIMENSIONS				REPLACEMENT ELEMENT CATALOGUE No.
			OVERALL 'A'		HEATED 'B'		
			mm.	in.	mm.	in.	
FIR10	800	240	610	24	356	14	FIR10E
FIR20	1500	240	915	36	660	26	FIR20E
FIR30	2000	240	1220	48	965	38	FIR30E
FIR40	2500	240	1525	60	1270	50	FIR40E
FIR50	3000	240	1830	72	1575	62	FIR50E
FIR60	3600	240	2130	84	1880	74	FIR60E

Should the above standard units not suit your particular application, we will be pleased to manufacture units having overall lengths, heated lengths, voltages, tailored to suit your process.

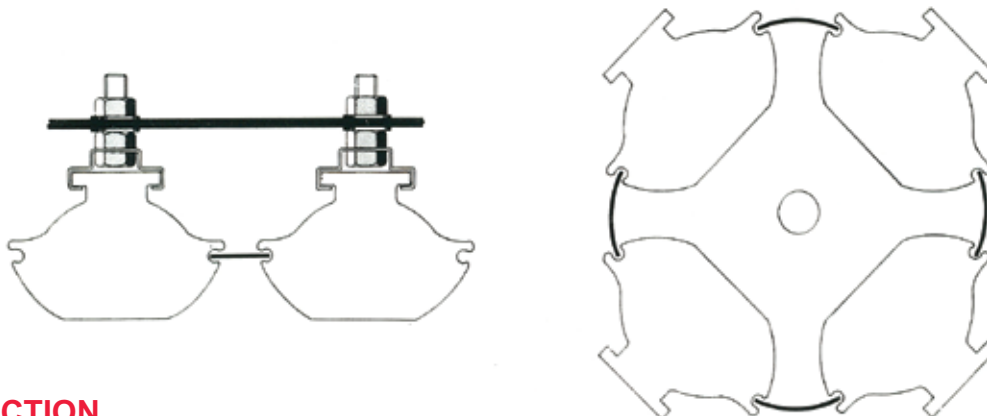
ALL ARE AVAILABLE EX STOCK



ASSEMBLIES

RADIANT TUNNELS, OVEN SECTIONS ETC.

These units can be simply assembled when fastened to a rigid or controlled movable frame, with additional connecting reflectors supplied as required.



CONSTRUCTION

Due to the nature of infrared applications, it is difficult to apply calculations to solve load requirements as there are many products that need only a slight change in character (e.g. moisture content or different ambient conditions) for these to prove inaccurate.

The best results are obtained by actually sampling work on a small scale to determine time and temperature data.