

TYPE "ES" INFRARED HEATER



HIGH EFFICIENCY

The Casso-Solar Type ES heaters are designed for maximum radiant energy. They utilize a fused quartz emitter plate similar to the Casso-Solar Type "C" heater. The heaters feature tunable emissions to match the peak absorption point of the material being processed, and are designed with internal refractory, eliminating the need for external reflectors. The heater face is self cleaning with a life expectancy of up to four times that of ceramic heaters.

With new product and process technology under continuous development, production equipment is required to give precise and flexible control over production quality, while operating efficiently with minimum maintenance. For over forty years, Casso-Solar Corporation has been providing our customers the competitive edge.

REPLACES IMPORTED AND DOMESTIC CERAMIC HEATERS

The ES has been developed as a replacement for less efficient ceramic heaters.

Independent European testing laboratories (ref: KEM, German Industrial Trade Magazine) confirm 30% to 50% more usable energy is provided with the Casso-Solar Infrared Heater than the standard ceramic type. The type ES is directly interchangeable with the ceramicheater types.

MODULAR LAYOUT

Utilizing the two standard sizes, the heaters can be arranged in a variety of patterns and arrays to contour the heat pattern to the product size and shape. Modular construction allows for discrete zone temperature control, an important requirement in profiling applications such as thermoforming and vacuum forming.

EASY TO CONTROL

The Casso-SolarType ES heaters can be easily controlled through the use of fast cycling open loop or time-proportioning temperature controllers with closed loop feedback. Power to the heaters can be provided through mercury contactors, solid state relays or SCR power controllers. An optional thermowell accepts a type "K" thermocouple for closed loop control.

STANDARD HEATERS

Type	Watts	Volts single phase	Watt Density (WSI)	Approx. Wt. (Oz.)
ES-10-1000-240	1000	240	40	21
ES-10-1000-120	1000	120	40	21
ES-10-650-240	650	240	25	21
ES-10-650-120	650	120	25	21
ES-10-500-240	500	240	20	21
ES-10-500-120	500	120	20	21
ES-10-325-120	325	120	13	21
ES-10-250-120	250	120	10	21
ES-5-1000-240	500	240	40	11
ES-5-500-120	500	120	40	11
ES-5-325-120	325	120	25	11
ES-5-250-120	250	120	20	11

Sales & Technical Information

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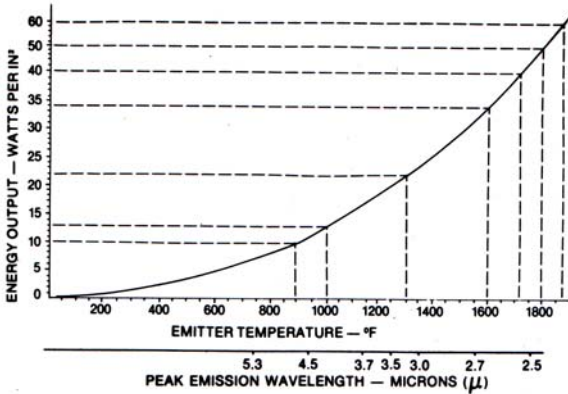


CASSO-SOLAR
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CASSO-SOLAR INFRARED HEATER - TYPE ES

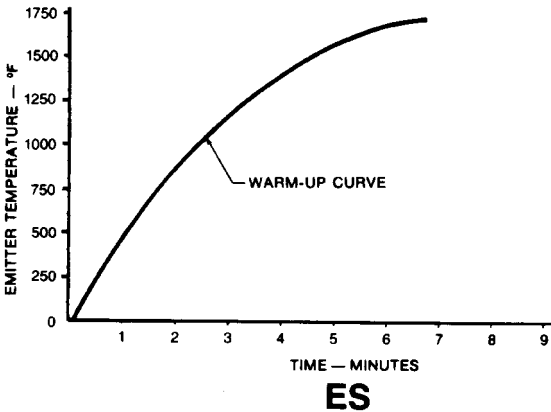


EMISSION OUTPUT CURVE

The emission output curve at the left shows emitter temperature versus watt density and the corresponding wavelength emitted for a specific emitter temperature. For example, an emitter temperature of 1300°F would correspond to a peak wavelength of 3.2 microns with a free air watt density of 22 watts per square inch. The key to efficiency is to select the emitter wavelength that best matches the peak absorbion of the product to be processed.

WARM-UP CURVE

The warm-up curve at right shows the response time of the Casso-Solar Infrared Heater Type ES, as measured by the thermocouple, from a cold start to a maximum temperature, for a 40 watt per square inch heater. Changes in temperature, or partial warm-up, will be along this characteristic curve. Peak radiant output is achieved in under three minutes.



SPECIFICATIONS

