CASSO-SOLAR TECHNOLOGIES

PRODUCT BULLETIN P102
Type FB

SPECIAL FEATURES

- Operating Environment Up To 1600^{0}F
- Energy Watt Densities To 25 WSI
- High Efficiency
- Multiple Zone Capability
- Modular Construction
- Flexible Design
- Extended Life

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 maintenence. With over 50 years of experience, Casso-Solar Technologies has been providing our customers the competitive edge.

HIGH EFFICIENCY WITH THE BLACK QUARTZ FACE

The Casso-SolarTechnologies' Infrared Heater Type "FB", is a woven quartz cloth surface, finished with a black ceramic coating for high emissivity. The quartz face has the properties of being transparent to the infrared energy generated within the module, over the usable wavelengths of 2.5-6.0 microns. This corresponds to emitter temperatures of up to 1600°F (880°C) and 25 watts per square inch (3.9 watts per square centimeter).

The quartz surface acts like a thermopane window, isolating the emitting source within, from the ambient surroundings, minimizing convection losses. Efficiencies of up to 80% can be realized in converting electrical power input to usable radiant energy.

MATCHING THE HEATER EMISSION TO THE PRODUCT

Like all Casso-Solar Technologies Infrared Heaters, the Type "FB" can be tuned to match the peak absorption point of the material being heated. With the large surface areas available and the special coil layout design, uniform radiation on the product is achieved.

MAINTENANCE AND DOWNTIME MINIMIZED

The simple, compact and sturdy construction of the "FB" heater allows it to be utilized in most applications. It does not require external reflectors to be cleaned or replaced and there is no reduction in radiant output over its life. The "FB" heater is resistant to vibration and shock, due to its one piece bonded construction.

EASY TO INSTALL AND OPERATE

Standard "FB" heaters are available in convenient, lightweight, building block sizes. All standard heaters are provided with mounting studs and all necessary mounting and wiring hardware. Heaters can be mounted to radiate in any direction. In most applications, the "FB" heater can be positioned as close as 2" from the work, reducing the overall system size and construction costs.

The "FB" heater can be accurately controlled with a closed loop time-proportioning temperature controllers. Standard thermowell heaters are provided with two locations for the thermocouple. The low mass of the heater allows rapid responses to requested changes in emitter temperature and minimized initial warm-up.

VERSATILITY IN SIZES, WATTAGES AND VOLTAGES

For most customers, we offer standard economical building block sizes. These standard heaters are stocked in both 15 watt per square inch and 25 watt per square inch power densities. Depending on size and total wattage, stock heaters are available at 120, 240 and 480 volts.

Special sizes can be designed to system requirements, up to 25 watts per square inch and 600 volts. Custom housings, mounting attachments, wiring components, etc. can be provided.

Sales & Technical Information

1-845-354-2010

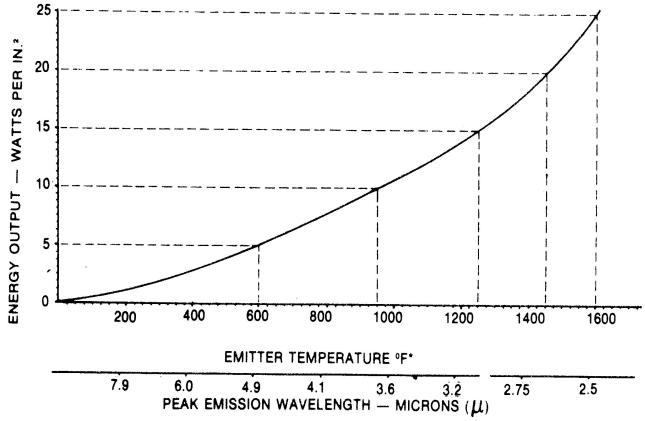
Fax: 1-845-547-0328
Website: www.cassosolartechnologies.com
E-mail: **sales@cassosolartechnologies.com**

CASSO-SOLAR TECHNOLOGIES

506 AIRPORT EXECUTIVE PARK, NANUET, NY 10954

CASSO-SOLAR TECHNOLOGIES

PRODUCT BULLETIN P102
Type FB

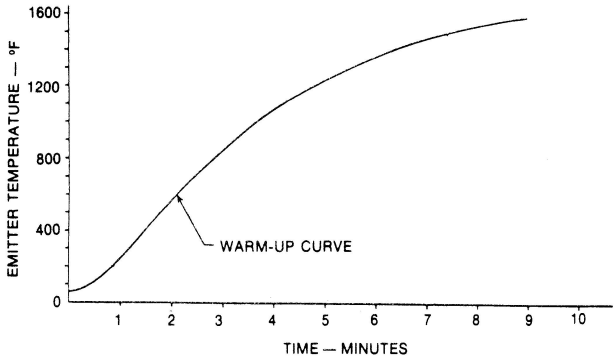


EMISSION OUTPUT CURVE

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 1240°F would correspond to a peak wavelength of 3.0 microns with a free air watt density of 15 watts per square inch. The key to efficiency is to select the emitter wavelength that best matches the peak absorption 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 FB, as measured by the thermocouple, from a cold start to a maximum temperature, for a 25 watt per square inch heater. Changes in temperature, or partial warm-up, will be along this characteristic curve.



STANDARD HEATER CONFIGURATIONS

Size (Inches)							
Length	Width	Watts	Volts	Phase	Watt Density WSI	Part No.	Approx. Weight (lbs.)
6	12	1,080	120/240	1	15	FB120615A2	3
6	12	1,800	240/480	1	25	FB120625B2	3
24	6	2,160	240/480	1	15	FB062415B2	6
24	6	3,600	240/480	1	25	FB062425B2	6
12	12	2,160	240/480	1	15	FB121215B2	6
12	12	3,600	240/480	1	25	FB121225B2	6
24	12	4,320	240/480	1	15	FB122415B2	12
24	12	7,200	240	3	25	FB122425B3	12
24	12	7,200	480	3	25	FB122425C3	12
36	12	6,480	240	3	15	FB123615B3	18
36	12	6,480	480	3	15	FB123615C3	18
36	12	10,800	240	3	25	FB123625B3	18
36	12	10,800	480	3	25	FB123625C3	18
48	12	8,640	240	3	15	FB124815B3	24
48	12	8,640	480	3	15	FB124815C3	24
48	12	14,400	240	3	25	FB124825B3	24
48	12	14,400	480	3	25	FB124825C3	24
60	12	10,800	240	3	15	FB126015B3	30
60	12	10,800	480	3	15	FB126015C3	30
60	12	18,000	240	3	25	FB126025B3	30
60	12	18,000	480	3	25	FB126025C3	30

All units available with thermowell and strain relief to accept a 1/8" diameter Type "K" thermocouple — Add suffix "T" to part number when ordering.

STANDARD SIZE HEATERS

The "FB" heater is available in all the standard sizes plus 12" x 72", 84" or 96". Heaters are 3" deep, plus mounting studs. Additional standard wattages include 5, 10 and 20 watts per square inch; additional voltages include 575/600 volts. Heaters are not typically kept in stock.

SPECIAL SIZE HEATERS

The "FB" heater can be custom designed in size, wattage, voltage and mounting configuration to system specifications. These Maximum watt density is 25 watts per square inch, maximum voltage is 600 volts. Please contact our sales department with regard to custom applications.

April 2025

506 Airport Executive Park, Nanuet, NY 10954 Tel:1-845-354-2010 www.cassosolartechnologies.com