

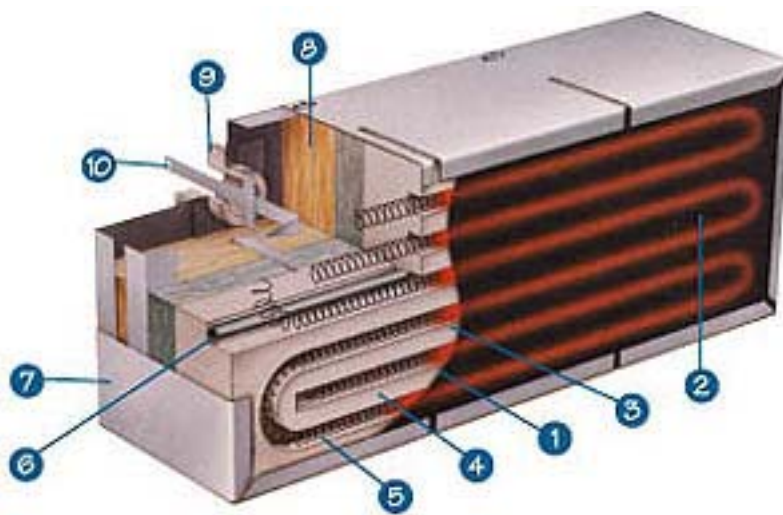
F-Series Panel Heaters

F-Series Panel Heater (Models: FB & FBA)

Features:

1. High-temperature quartz cloth
2. High-temperature black coating
3. High-temperature cement bond
4. Refractory board to hold resistance wire
5. Precision resistance wire
6. Quartz thermowell tube (optional)
7. Heavy gauge aluminized steel frame
8. Blanket insulation
9. Ceramic bushings to insulate terminals
10. Stainless steel terminals

Heaters in the F-Series line of infrared panel heaters have a very durable emitter surface constructed using a patented manufacturing process. The FB model has a solid flat uniform surface. Because the FBA heater has air holes drilled throughout its face, its insulation is removed in order to accommodate an air delivery plenum.



F-Series Panel Heater Specifications

F & FBA Series Face Options

Quartz composite is the standard face on the F-Series panel heater, our best selling model. It is produced by a patented process that uses a high temperature material and special cement to bond quartz fabric with a ceramic fiber coil support. The end result is a unique, highly durable, quartz composite face heater.

The F-Series heater has a tremendous amount of flexibility. Its shape can be manufactured rectangular (most common), square, round, or C-shaped. The heat can be aimed in a single direction (most common) or in dual directions. Our special designs can help to avoid cold spots across wide web applications. The maximum watt density of 25 watts/in² (39 kW/m²) provides a sufficient amount of power for most applications. The use of an external reflector in most infrared heaters results in a dramatic loss of radiant efficiency over time. Because the proven design of the F-Series heater requires no external reflector, it maintains a consistently high radiant efficiency over time.

The F-Series heater is used in most process heating applications. The only applications where it might not be used are vacuum applications and those in which materials could possibly damage the heater's face. Otherwise, this is the perfect heater for nearly all infrared heating, drying, and curing applications.

F-Series Specifications

The F-Series heater can be constructed as wide as 30" (762 mm) and as long as 84" (2133 mm), though not that width and length in the same heater. For example, an 84" (2133 mm) long heater is commonly 12" (305 mm) wide. This heater is very flexible in size and watt density options. It has a maximum watt density of 25 watts/in²(39 kW/m²) and a durability defined by a typical life expectancy of 25,000 hours. The heater has a high radiant efficiency of 78.5%. Because its design does not depend on an external reflector, the heater maintains a high radiant efficiency over time. The F-Series heat transfer rate for 25 watts/in²(39 kW/m²) is 2.4 Btu/ft²/sec. delivered to the product and for 12.5 watts/in² (19.4 kW/m²) is 1.15 Btu/ft²./sec. delivered to the product.

FBA-Series Specifications

The FBA model has holes drilled in its face in order to enable forced air to flow through the heater. The airflow's purpose is either to protect sensitive material or components from being damaged by infrared heating, improve the drying process by gently sweeping moisture away, or provide an infrared/convection heating combination. As an extension of the F-Series heater, the FBA model is manufactured with either 1/8" (3.2 mm) or 1/4" (6.4 mm) holes usually located 1" (25.4 mm) from the center. The heater has no internal insulation in order to accommodate a 2"-5" (50.8-127 mm) typical plenum area in its cavity. It commonly has a back-mounted 3" (76.2 mm) hole for airflow. The hole size can match your specifications. Smaller heaters have one hole, whereas larger heaters can have multiple holes. The airflow can also be directed through the side or end of the heater casing in some applications. Individual high-temperature fans can be attached directly to these holes, or a centrifugal fan can be used with ductwork to supply the air to multiple heaters. The airflow construction commonly has 20 to 50 cfm/ft². Applications for the FBA model include removing moisture, operation in a secondary stage powder coating oven, screen printing, and electronics.

The FBA-Series heater can be constructed as wide as 24" (610 mm) and as long as 72" (1829 mm), though not that width and length in the same heater. A 72" (1829 mm) long heater is commonly 12" (305 mm) wide. The heater has a maximum watt density of 25 watts/in²(39 kW/m²) and a durability defined by a typical life expectancy of 25,000 hours. It has a high radiant efficiency of 78.5%. Because the heater's design does not depend on an external reflector, the heater maintains a consistently high radiant efficiency over time.

F-Series Warm-up Curve

The warm-up curves are measured from heaters running facedown in open air. The thermocouple is located in a standard location inside a thermowell behind the coil. The curves will change depending on the environment and thermocouple location.

