

Ideal For Many Process Heating Applications Requiring “Hot Face” Temperatures



Easy to install and capable of high surface temperatures, the RAYMAX® 1220 and 2030 are ideal for many process heating applications requiring “hot-face” temperatures above 1000°F (540°C).

Each ceramic fiber heater is mounted in a 2½ in. (64 mm) deep sheet metal case providing thermal insulation. The case includes post terminals for electrical connections and provides a mounting system that can be used with virtually any flat ceramic fiber unit. Watt density and temperature capabilities can be tailored to meet a specific radiant application for exposed sinuated embedded coil or foil element configuration.

Performance Capabilities

- RAYMAX 2030 (uses sinuated or coil elements): temperatures up to 2000°F (1095°C); watt densities up to 30 W/in² (4.7 W/cm²)
- RAYMAX 1220 (uses an etched foil element): temperatures up to 1200°F (650°C); watt densities up to 20 W/in² (3 W/cm²)
- Maximum voltage up to 600V

Features and Benefits

Lightweight, low mass design

- Allows fast response to controllers

Self insulation with 2½ in. (64 mm) thick mounting case

- Provides high efficiency

Thermocouple mounting clamp

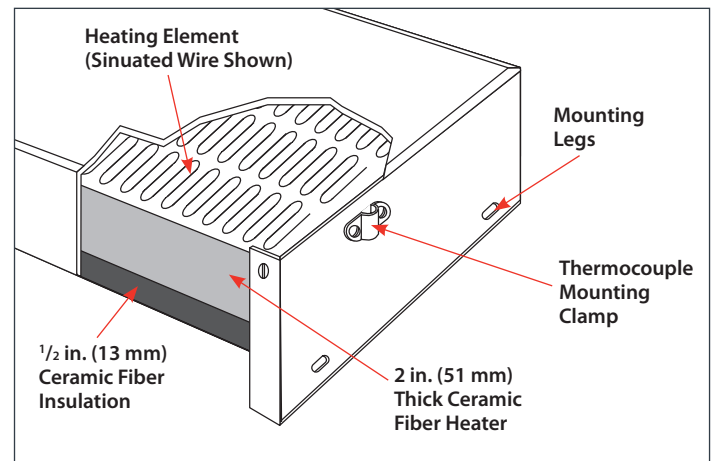
- Simplifies process system control

Aluminized steel case

- Handles temperatures up to 1100°F (595°C)

Special hot-face heating patterns

- Designed specifically for an application using an etched foil RAYMAX 1220



Typical Applications

- Conveyor furnaces
- High-temperature vessel heating
- Tempering and annealing processes for glass, wire, ceramics and metals
- Coating, curing and drying of inks, paints, plastics and films

Application Hints

A thermocouple mounting clamp is attached to one end of the case, with holes on both ends for alternate locations. The clamp can be used with $\frac{1}{8}$ in. (3.2 mm) O.D. sheath thermocouples. The clamp is $\frac{3}{16}$ in. (4.8 mm) high, but can be removed for flush mounting*.

The maximum recommended surface temperature of the heater is based on the rating of the ceramic fiber heater module. This can vary from 2000°F (1095°C) at lower watt densities, to higher watt densities at reduced surface temperatures. **Note:** maximum wattages cannot be achieved at the maximum temperatures simultaneously.

* $\frac{13}{16}$ in. (4.8 mm) and $\frac{1}{4}$ in. (6 mm) are available upon request.

Options

Several options are available with RAYMAX 1220 and 2030 models. Contact your Watlow representative for more information.

- Single-phase non-standard location power terminals
- Terminal box
- Zoning
- Mounting studs and legs
- 3-phase construction
- Thermocouple mounting tubes
- Alternate case materials

Specifications

Weight: Less than 6.5 lbs/ft² (31.75 kg/m²)

Voltage and Wattage: Ratings, up to 600VAC are based on the ceramic fiber heater module mounted in the case.

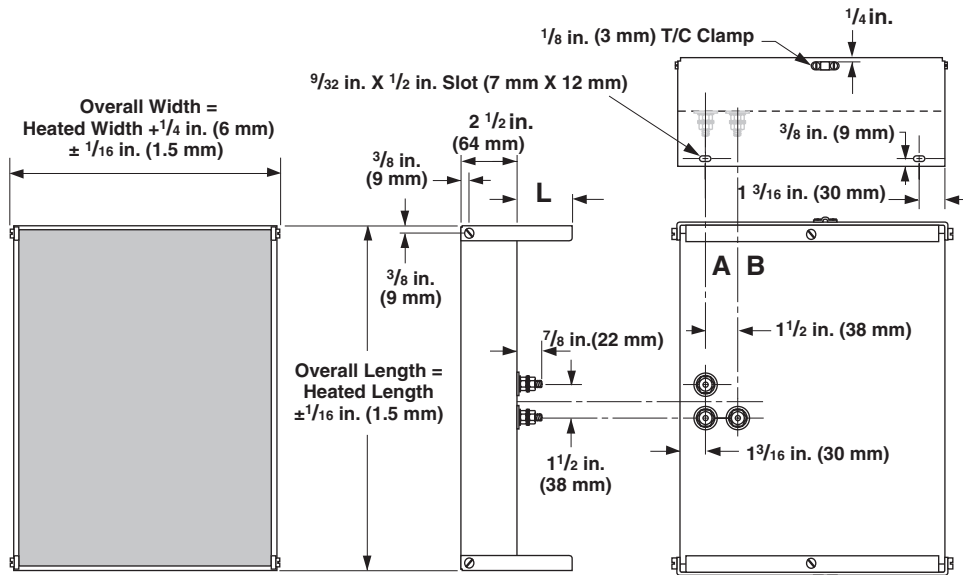
Terminals: Terminals are $\frac{1}{4}$ -20 threaded studs. Two terminals plus ground for single-phase, and three terminals plus ground for 3-phase are located on the center length line unless otherwise specified. Terminals can be positioned anywhere along lines A and B (see illustration below), but not closer than 2 in. (51 mm) to the case ends.

Mounting Legs: Mounting legs are available either 1 in. (25 mm) or 3 in. (76 mm) length. For made-to-order units, mounting legs can be supplied in any incremental length L from $\frac{1}{2}$ in. (13 mm) to 3 in. (76 mm). Slots are not provided in legs less than 1 in. (25 mm) long.

Heater Dimensions	Min.	Max.	Increments
Width: in. (mm)	2 (51)	30 (762)	Any
Width: in. (mm)	6 (152)	52 (1320)	Any

Note: Units will be $\frac{1}{4}$ in. (6 mm) wider than the nominal size of the ceramic fiber heater. Overall length is equal to heater length, but thermocouple clamp not included in length.

Dimensional Drawing



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