Efficiently Conducts Heat From Nickel-Chrome Element Wire to the Sheath

The 375 finned strip heater from Watlow® is constructed of highly-compacted magnesium oxide (MgO) based insulation, which conducts heat efficiently from the nickel chromium element wire to the sheath. Two-inch wide (51 mm) nickel plated fins are attached to maximize surface contact allowing heat to transfer into the air faster. Lower sheath temperature and element life are maximized by this finned construction.

Performance Capabilities
- Aluminized steel sheath temperatures up to 1100°F (595°C)
- Watt densities up to 33 W/in² (5.1 W/cm²)
- UL® approved up to 240VAC (File No. E52951)
- CSA approved up to 600VAC (File No. LR7392)

Features and Benefits
Nickel-chromium element wire is centered in the heater
- Ensures uniform heat

Aluminized steel sheath
- Operates at higher temperatures and resists corrosion better than iron-sheathed heaters

Optional 430 stainless steel sheath
- Provides a durable solution for highly-corrosive environments

Welded post terminals
- Produces strong, trouble-free connections

Available lengths from 5½ to 48 in. (140 to 1220 mm)
- Fits a variety of application needs

Typical Applications
- Enclosure heating
- Load bank resistors
- Shrink tunnels
- Duct heaters
- Space heaters
- Drying ovens
- Incubators
- Air heating
- Heat curing
- Ink drying
- Food dryers
- Moisture protection
- Dehumidifiers
- Stress relieving ovens
Technical Information

Calculating Watt Density

Use the graph and formulas to ensure the maximum allowable watt density for the heater is not exceeded in the application. Open air watt density is calculated for the total heated surface area.

Formulas

Watt Density = \( \frac{\text{Wattage}}{\text{Heated Area}} \)

Heated Area

(Offset Terminals) = [(Overall Length (A) - 4 in.) x 3.75 in.]
= [(Overall Length (A) - 102 mm) x 95.3 mm]

(Parallel Terminals) = [(Overall Length (A) - 3.12 in.) x 3.75 in.]
= [(Overall Length (A) - 79.3 mm) x 95.3 mm]

(One-on-One Terminals) = [(Overall Length (A) - 4.25 in.) x 3.75 in.]
= [(Overall Length (A) - 108 mm) x 95.3 mm]
Termination Options

Offset Terminals

Two 10-24 threaded post terminals are offset from each other on the same end.

Parallel Terminals

Two 10-24 threaded post terminals are used; both terminals on one end.

One-on-One Terminals

Two 10-24 threaded post terminals are placed one on each end.

In-Line Terminals

Two 10-24 threaded post terminals are in-line with each other on the same end.
Termination Options (Con’t)

Metallic Terminal Boxes - Variations

Metallic terminal boxes are available from stock on offset terminals. Terminal boxes act as a safety feature by covering the terminals. A conduit may be attached to the box through 7/16 in. (22.2 mm) diameter holes in the ends of the box. To order, specify terminal box.

Accessories

Secondary Insulation Bushings

Insulators are suitable when air heating and/or voltage to ground is a concern. A secondary insulation bushing kit, part number Z-5230, contains one set of bushings for one heater. To accommodate bushings, 7/32 x 11/16 inch diameter mounting holes must be specified when ordering.

Note: Number of fins are dependent on length of heater.

Ceramic Terminal Covers

Ceramic terminal covers offer a convenient and economical method to insulate post terminals. A 10-24 screw thread is sized for standard length posts and is supplied as an accessory item and shipped separately. Specify Z-4918 and quantity.