# Ceramic Band Heater Data Sheet



Ceramic band heaters are specifically designed for high operating temperature applications. The maximum operating temperature is 1400°F depending on the application. TriVolt Industries' ceramic band heaters are manufactured with stainless steel exterior case. A sheet of mica and insulation is inserted between the exterior case and the ceramics to prevent heat loss. The interlocking ceramics make these heaters flexible, less prone to expansion problems and provides good thermal conductivity. Ceramic band heaters are easy to install and have a long functional life.

TriVolt uses high quality nickel chromium on all our products improving its durability and longevity. Ceramic band heaters can be manufactured with slots, holes or notches. A number of terminals, wire lead options, terminal boxes and European plugs offer great flexibility for field wiring. The terminations are TIG welded to ensure a solid connection. All our ceramic band heaters are shipped with a round die to protect them from damage and deformation during transport.

TriVolt adopts a stringent internal Quality Control System. Every heater is tested for resistance and dielectric. All our electric heaters are compliance certified or have international approvals from CSA, CUL, or CE certified.

#### Applications

Plastic extrusion Injection molding Blow-molding Pressure molding Structural foam Food industry Container pipe and tank heating Packaging Chemical, oil and gas Energy industry







#### Specifications

- » Sheath temperature: up to 950°F (510°C)
- » For higher sheath temperature refer to our
- Ceramic Band HT-1200 model
- » Nominal watt density: 20-40 watts/sq. in.
- Maximum watt density: depends on size of heater and operating temperature
- » Maximum voltage 600VAC
- Resistance tolerance: +/- 5%
- » Wattage tolerance: +/- 5%

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#### Construction

- » Exterior material; 304 2b stainless steel
- » Insulation thickness is 0.1875", 0.25" or 0.5"
- » Standard gap: 0.5" (if different please specify)
- » Connections welded on to post terminals
- » Coiled with 80 coil wire Nichrome
- » Manufactured with steatite ceramics
- » Silicone bonded mica installed between the exterior case and ceramics to increase dielectric strength

- » Standard 0.125" insulation ceramic paper is installed above ceramics to prevent heat loss
- » 1 to 4 piece construction
- » Partial coverage
- » Min. diameter: 3"
- » Max. diameter: 96"
- » Min. width: 2"
- » Max. width: 24"
- » Thickness: 0.5" +/- 0.003" (Consult factory for sizes other than those mentioned above)

### **Electrical Connections**

- » Connections TIG welded on to post terminals
- » Post terminals: 1/4-20 (15A per zone)
- » High temperature lead wire, 550°C (1022°F) with protective;
  - > fiberglass sleeve (SL),
  - > stainless steel over braid (SS)
  - > armored cable (AC)
- » Teflon leads
- » Ground post
- » Dual voltage
- » Single or 3-phase

## Types of leads



Fiberglass sleeve (SL), single or double conductor



Armored cable (AC)



Stainless Steel over braid (SS)



Teflon leads

### Lead positions



Exiting 180° from gap, center of width



Exiting at right angle to sheath, next to gap, center of width



Exiting  $90^\circ$  from gap, center of width

## Post terminations



Post terminals on each side of gap, center of width



Post terminals vertical position, center of width



Post terminals horizontal position, center of width

## Lead directions



Exiting straight out, positioned 180° from gap



Exiting at a right angle, positioned 180° from gap



Exiting straight up, positioned 180° from gap

# Ceramic Band Heater Data Sheet

#### **Terminal Housing**

- » Terminal box
- » Terminal block with ceramic block
- » European plug (aluminum block protection)
- » European plug with terminal box
- » Ceramic post covers
- » Stainless steel square cap
- » Brass cap for heaters with different angle lead exits



Terminal box (TB)



European plug (EP)



Stainless steel square cap



Terminal box with ceramic block



European plug with terminal box



Brass cap



Notches



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Adaptors and fittings

#### **Clamping Methods**

- » Barrel nut construction
- » Spring-loaded barrel nuts
- » Latch and trunnion
- » Hinges

Holes

» Notches

» Mounting holes

» Square cut-out» Adaptors and fittings

 » Flange lock-up (16-gauge stainless steel tab, option of support bar for sturdiness)



Barrel nut construction

Mounting holes



Hinges



Spring-loaded barrel nuts



Flange lock-up



Latch and trunnion



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