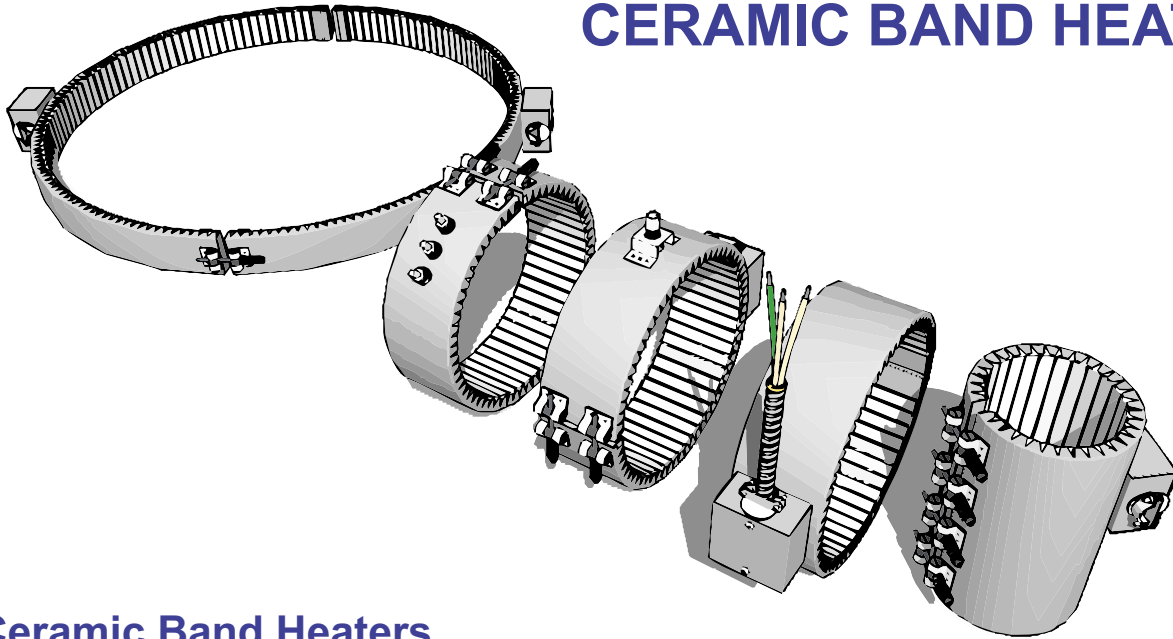


CERAMIC BAND HEATERS



Ceramic Band Heaters

Zesta designs and manufactures all components of the thermal system - heaters, sensors and control systems.

For more than 45 years, Zesta has provided expert solutions to thousands of challenging and unique application problems. This datasheet details Zesta's ceramic band heater offering.

Zesta ceramic band heaters are designed for high-performance. With maximum barrel temperatures to 1400°F (760°C), ceramic band heaters can deliver high temperatures with energy efficiency. Built-in thermal insulation minimizes heat loss, and conserves energy.

A variety of heater constructions are available, with a selection of termination and clamping options.

This datasheet contains typical ceramic band heater configurations. For specialized variations, please consult your Zesta sales engineer for custom applications.

Performance Capabilities

- Maximum operation temperature of 1400°F (760°C)
- Watt densities to 45 W/in²

Features and Benefits

- Ceramic insulators allow higher temperature operation and longer heater life
- Built-in thermal insulation reduces heat loss, conserves energy, and improves efficiency
- Heat transfers through radiation and conduction
- Flexible design allows for easy installation

Applications

- Extruders
- Blown film dies
- Injection molding machines
- Other cylinder heating applications

Specifications

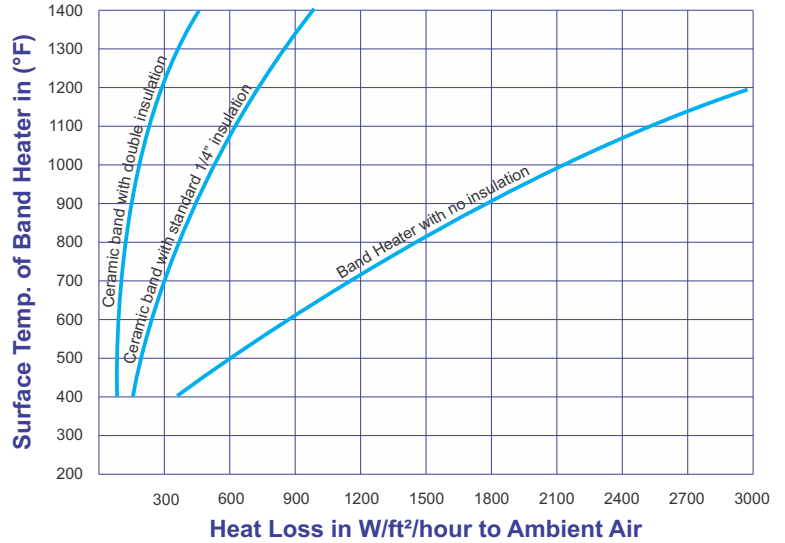
Electrical

- Resistance tolerance: -10% (+5%)
- Wattage tolerance: +10% (-5%)
- Maximum watt density: 45 W/in² (114 W/cm²)
- Maximum operating temperature: 1400°F (760°C)
- Maximum voltage: 600 VAC

Mechanical

- Overall thickness: 5/8" (15.9mm)
- Overall thickness: 5/8" (15.9mm)
- Minimum width: 1.5" (38mm)
- Maximum width: 9.69" (246.1mm)
- Minimum I.D.: 2" (51mm)
- Maximum I.D.: 15" (381mm) *(one-piece construction)
- Width tolerance: ±0.125" (3.175mm)
- Standard gap: 0.25" (6.4mm)

Insulated vs. Non-insulated Ceramic Band Heaters



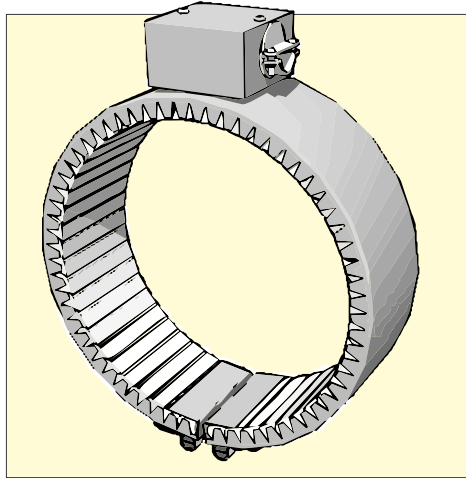
Physical Limitation of Variations

Options	Diameter		Width	
	Min. in (mm)	Max. in (mm)	Min. in (mm)	Max. in (mm)
1 pc.	3 (76.2)	15 (381)	1.5 (38.1)	10 (254)
2 pc.	7 (177.8)	30 (762)	1.5 (38.1)	10 (254)
Partial coverage	7 (177.8)	—	1.5 (38.1)	10 (254)
Barrel nuts	3 (76.2)	—	1.5 (38.1)	10 (254)
Spring loaded barrel nuts	3 (76.2)	—	1.5 (38.1)	10 (254)
Type C leads	2.5 (63.5)	—	2.5 (63.5)	10 (254)
Type E leads	2.5 (63.5)	—	2.5 (63.5)	10 (254)
Type H leads	2.5 (63.5)	—	2.5 (63.5)	10 (254)
Post terminals	—	—	—	10 (254)
Ceramic terminal covers	2 (50.8)	—	1.5 (38.1)	10 (254)
Terminal box	2.5 (63.5)	—	2.5 (63.5)	10 (254)
Holes and notches	2.5 (63.5)	—	2.5 (63.5)	10 (254)
European plug	2.5 (63.5)	—	2 (50.8)	10 (254)

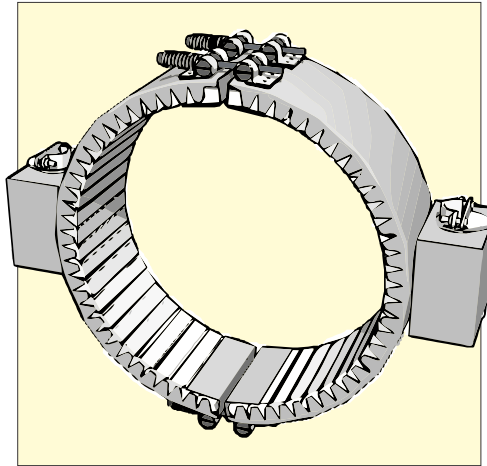
— No restrictions.

Ceramic Band Heater Check List

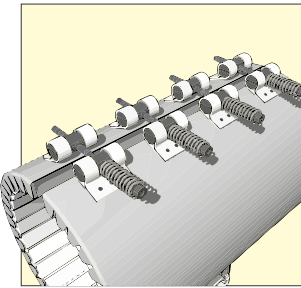
- The heater must be mounted to a clean surface, free from contaminants which may cause the heater to short circuit.
- The heater should be regulated with an appropriate temperature controller.
- The heater is not be used in hazardous locations with combustible gasses or vapors in the environment.
- To avoid electrical hazards to operators, keep all electrical connections properly protected.
- Do not over tighten clamps - excessive force may break the ceramic insulators.



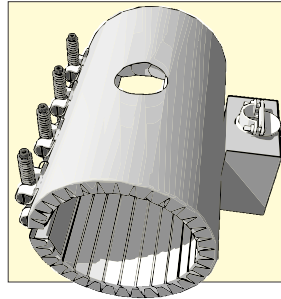
1-Piece Construction
Common ceramic band heater construction.



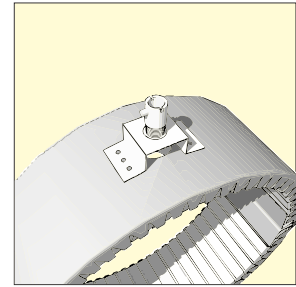
2-Piece Construction
Specify total wattage when ordering.



Welded Barrel Nut Clamping
Standard clamping method for ceramic band heaters

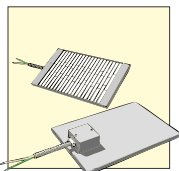


Holes
Provides access for instrumentation.

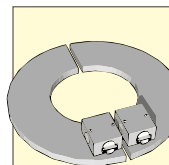


Bayonet Adapter & Bracket
For mounting bayonet style thermocouples.

Special Constructions

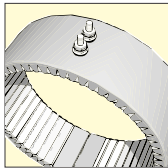


Flat Ceramic Heater
Designed to radiate heat upwards or downwards from a flat surface.

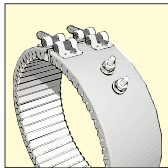


Ring-Shaped Ceramic Heater
Also designed to radiate heat upwards or downwards, from a flat ring-shaped surface.

Post Terminal Options



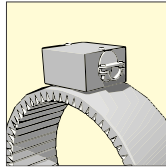
Parallel



Tandem

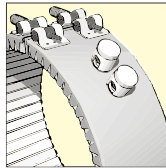


Opposite



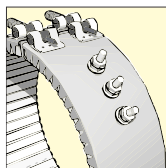
Terminal Box

Provides added protection to the terminals. 2-pc construction heaters require two boxes.



Ceramic Terminal Covers

A cost effective way to insulate post terminals. Sized for standard length posts. #10-32 screw thread size.



Three Terminal Construction:

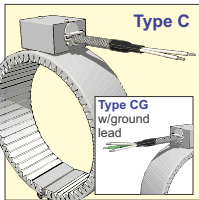
Ground Terminal

Can be connected to the sheath for easy grounding.

3-phase or Dual Voltage

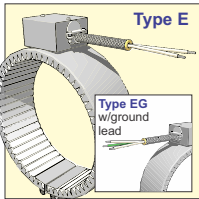
A third terminal can be added to provide dual voltage or three-heat operation.

Lead Wire Options



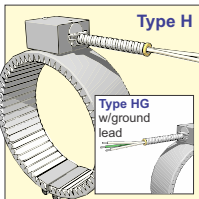
Type C

Terminal box and leads with tight stainless steel overbraid. Braided leads offer flexibility and abrasion protection. To include ground wire, specify type "CG" leads.



Type E

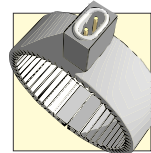
Terminal box and leads with loose stainless steel overbraid. Braided leads offer flexibility and abrasion protection. To include ground wire, specify type "EG" leads.



Type H

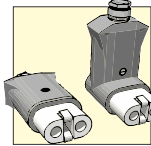
Terminal box and leads with stainless steel flexible hose protection. Hose provides superior abrasion protection. To include ground wire, specify type "HG" leads.

European Plug



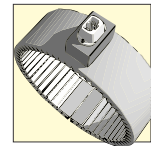
European Plug (DIN)

"ERGE" European style plugs provides a safe and simple way to apply power to band heaters. Maximum of 15A at 240V.



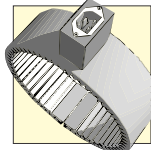
European Style Female Adaptors

For use with "ERGE" high temperature European style plugs.



European Plug (IEC) Vertical Blade

Maximum of 15A at 240V.



European Plug (IEC) Horizontal Blade

Maximum of 15A at 240V.