



Marathon
TempSens

ENGINEERED SOLUTIONS
FOR HEATING & SENSING

ISO 9001-2015



CCOE



CERAMIC BAND HEATERS

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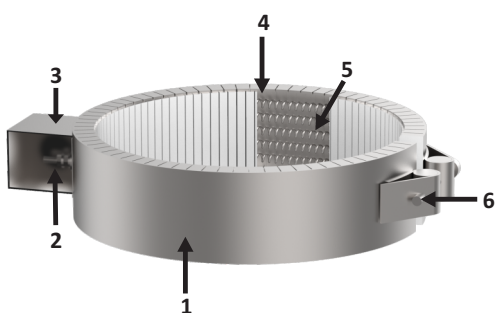
www.marathonheater.in

CERAMIC BAND HEATERS

Ceramic band heaters are medium-to-high temperature heaters that have 648°C as a maximum working temperature. These durable heaters can have optional in-built ceramic fiber jackets that make them energy efficient. Ceramic band heaters are available with different terminal styles, are fully flexible, and can accommodate holes and cut-outs. In a ceramic band heater, nickel-chrome wire is embedded in a flexible outer wall made of special, interlocking ceramic tiles (KNUCKLES), which are assembled like a brick wall. A ceramic fiber insulating mat and a stainless Steel/Aluminised Steel jacket cover this assembly. This construction prevents heat loss and reduces electrical consumption by 20%. Ceramic band heaters can be manufactured with different clamping mechanisms, terminations styles, holes and cut-outs, perforations. The element winding is designed to heat the ceramic blocks to the point at which they radiate energy into the barrel as well as conduct energy by being in contact with the barrel - fit is not as critical as in other types of bands.

Construction

- 1 Stainless Steel Sheath :** Generally we use aluminium coted sheath for oxidation resistance in a wide variety of environment but can also provide SS 304 stainless steel as per application requirements.
- 2 Screw Terminals :** Screw terminals for maximum amperage carrying capacity and firm connection with the winding.
- 3 Terminal Box :** To provide protection against exposed terminals and helps guard terminals from spill over's, dripping. Various terminal type use such as crimp on lead ceramic connector type with using of copper lug crimping and SS bolded terminal.
- 4 Resistance Wire :** Nickel Chromium 80/20 resistance wire for maximum heater life evenly wound for even heat distribution.
- 5 Ceramic Fiber Insulation :** Ceramic fibers are used as insulation materials, because of their ability to withstand high temperatures.
- 6 Ceramic Knuckles :** High purity aluminium oxide ceramic knuckles selected for heating element winding process and maximum dielectric strength and thermal conductivity highly compacted for maximum heat transfer



Applications

- Reduce power consumption
- Uniform heat distribution
- Conserve heat
- Various termination styles
- High degree of flexibility

Maximum Allowable Watt Density in Watt/Sq. Inch

Cylindrical Temp °C	1.5-3" I.D	3-10" I.D.	20
94	52	47	41
150	51	46	40
205	50	45	39
260	46	42	36
315	41	38	31
370	37	33	27
425	29	25	20

Technical Data Sheet For Ceremic Heater

Application	Sheath Material
Sheath Material	Aluminium coated or SS
Insulation Material	Ceramic Fiber Blanket
Watt Density	Up to 45 W/in2
Watt Ratings	500-5000W
Voltage	120 V & 240 V, single phase, 2 phase and 3 phases
Width	25MM – 250MM
Diameter	40 MM minimum to expand up to 1200 mm in 3 parts

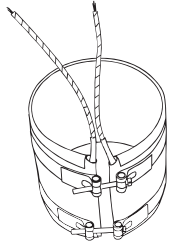
Note - For more custom design requirements please contact factory

Advantage Of Ceramic Band Heater

- Lower operating cost
- Higher operating temp.
- Good heat transfer
- Flexible-easy to install
- Longer heater life

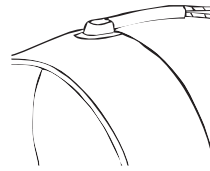
Fibreglass Lead & Stainless Steel Braid terminations

Order Type L1/B1



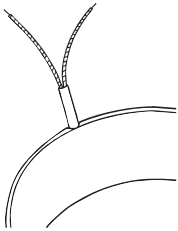
- Leads exiting both sides of gap are standard unless otherwise specified.
- High temperature fiberglass leads are rated to 455°C.
- Standard lead length is 10"

Order Type L4/B4



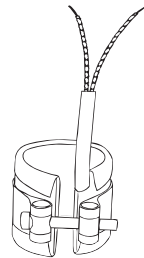
- Leads may exit at right angle out of cap from any position on the heater.
- 1.5" of sleeve protection is standard.

Order Type L2/B2



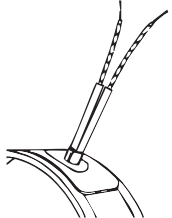
- Lead wires exiting 180 degrees from gap are common on nozzle heater applications.
- 1.5" of sleeve protection is standard on lead exits.

Order Type L5/B5



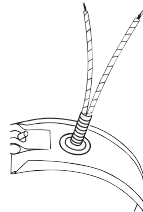
- Lead wires on one side of gap are available on any construction.
- Common exit for small band heaters.
- Standard gap is .300"

Order Type L3/B3



- Leads exiting straight out the side are available on any construction.
- Leads exit through a brass eyelet.

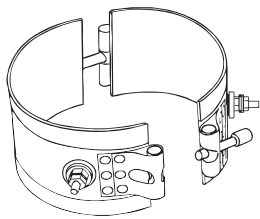
Order Type L6/B6



- Stainless steel spring provides extra support, protecting leads from sharp bends.

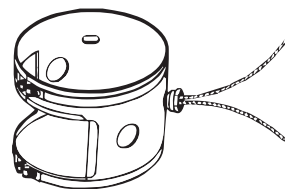
Marathon Special Constructions

Two Piece



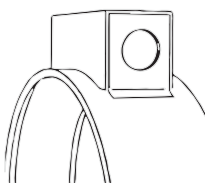
- Two piece construction is available for easy installation and removal.
- Please specify total wattage when ordering
- Min. I.D. 3"

Holes



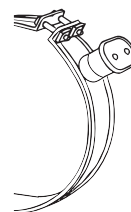
- Band Heaters can be manufactured with custom holes or slots for thermocouples or special mounting needs.
- Minimum of 1/2" is required from the hole to the edge of the heater.

Terminal Box



- Terminal boxes are excellent for preventing electrical shock or electrical shorts. Terminal boxes are available on any clamping or construction style.

Euro Plug



- European type plugs are available upon request.
- 1" x 1.75" x 1"