



Thermal and Cable Solutions

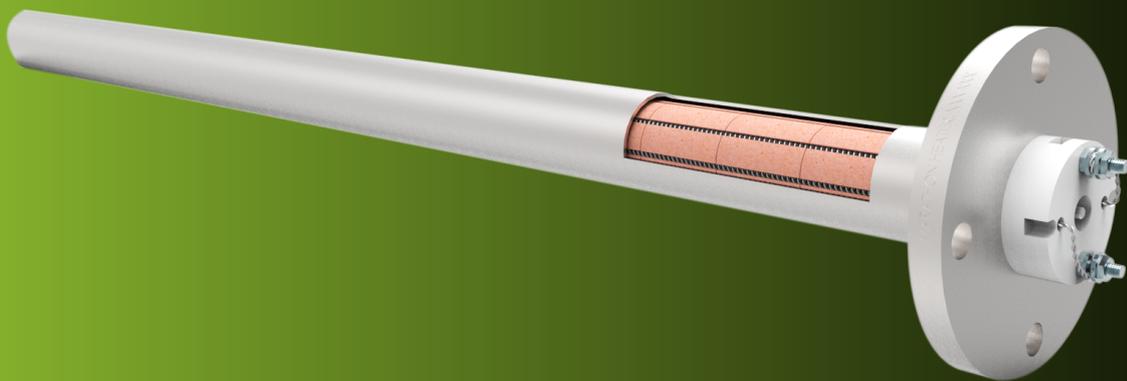
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# BOBBIN IMMERSION HEATERS



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## BOBBIN IMMERSION HEATERS

Marathon make Ceramic Bobbin Heaters are fabricated from high temperature factory insulators in various diameters and lengths for any voltage or wattage within manufacturing limits. Bobbin heaters are made with sheathed and without sheathed material.

The sheath material ranges from nickel plated mild steel, Inconel alloys and stainless steel. Resistance wire are supported on refractory insulators and connected to a terminal block at one end. Thermowell can be provided for

accurate temperature sensing or other controls can be provided as well. They are normally manufactured for horizontal mounting, but may be specially designed and constructed for vertical installation. Designed for any voltage or wattage within manufacturing limits. These Bobbin Heaters consist of elements, which are exposed partially in air for better transmission of heat. Also, when it is inserted into a radiant/immersion tube, it offers a large heated area to the liquid or semi-solid to be heated.

### Technical Specifications

Power	Upto 12kw
Watt density	1 to 10 W/cm <sup>2</sup>
Temperature range	Upto 600°C
Heating element	Ferritic alloys wire mara FeCrAl and non ferritic wire NiCr 80-20, NiCr 70-30
Bobbin size	Standard: 25,30,36,42,45,57,93 other customize size available
Heater parameters	Customized – power rating, voltage, resistance, length, diameter and other dimensions
Radiant tube/immersion tube	Stainless steel SS grade, incoloy, cast alloys
Thickness of tube	1.5 to 3mm
Length of tube	300 to 2800mm customised
Terminal box	MS, IP 54 standard, IP 66 water proof terminal box
Control	Thermocouple, RTD, thermostat for temperature controlling

### Construction

1. Some Refractory ceramic blocks assembled together to the required length.
2. The Nichrome resistance wire heating element is inserted into the ceramic blocks for maximum life, evenly wound for even heat distribution.

### Applications

- Water, chemicals etc.
- Offer for semi-solid materials like wax, fats, oil and bitumen.
- Suitable for indirect heating of gases and liquids, where it is inserted into a pocket or protection tube in the process tank, wherein, it can be repaired or replaced without draining the process tank.

### Advantage

- Suitable for low temperature up to 600°C furnace heating.
- Wide range of lengths, voltages and power is available to meet customers' specific requirement.
- Simple and low-cost installation
- Ease of maintenance and repair
- Versatile and non-polluting
- Energy efficient as 100% of heat generated is within the solution

**Note :** For custom design requirements please contact factory

