

SUBHOT[®]

INDUSTRIAL HEATERS

BUNDLE ROD HEATER

Specialist In: Custom Built Heaters & Heater Assembly Unit Along-With Temperature Controller As Per Customer's Specification.



AN ISO 9001:2015 COMPANY



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SUBHOT ENTERPRISES PRIVATE LIMITED

Company Profile

"SUBHOT" the brand name of **Three Decades Rich**, quality oriented and completely indigenously manufactured IEC standard product since 1990, we are catering successfully to domestic and international Industries. We design develop and supply industrial heaters, heating elements, thermocouples and other high temperature Material Management equipments as per the customer's requirement. We have in house Design, Development & research facilities, follows by stringent quality control measures right from beginning to delivery of the material. Customer satisfaction is our first priority.

We manufacture various types of Tubular Electrical Heaters and heating systems, along with control accessories Cartridge Heaters, Mica Band Heaters, Ceramic Band Heaters, Casted Heaters, Furnace Heaters, Nozzle Heaters, Coil heaters, which are used in Hazardous and Non Hazardous area. In Tubular Electrical heater Heating element is Mineral filled sheathed tubular type. Heating element Insulation material used is Mgo (Magnesium oxide) and heating element wire material is Nichrome. Heating elements are manufactured and tested as per IS-4159 BIS Standards. Electrical heaters are suitable for application for Water, Oil, Chemical, Air, Fuel gas, Natural gases etc and Design as per requirement of customer based on the technical input provided by them. Heating unit consist of Heater vessel, Heater bundle, Terminal box, and U-Shaped heating element fitted on Tube sheet .The selection of heating element for a particular assembly depends on the uses & customers requirement total rating, surface loading, diameter of heating element tube, Operating temperature, space limitation, Type of electrical connection and number of bank etc. The heating element can be permanently fixed on tube sheet OR Can be removable type. Various Sheath material and sizes are available based on design requirement. The heating unit can be supplies Complete with Heater Vessel, Inlet-Outlet Nozzle/Flange, Lug Support and external insulation.

Heater vessels are generally designed as per ASME SecVIII Div-1. For Hazardous area flameproof terminal box are used which are duly certified by CMRI Dhanabad for Gas group IIA, IIB or IIC.

We are also manufacturing the following product at our works:

- Immersion heating elements for Water, Oil and Chemical heating.
- Air Heating element
- Fuel gas and Process gas heater.
- Regeneration heaters.
- Large heating unit upto 520KW with terminal box and control panel.
- Heater for ESP and Ash handling system.
- Cartridge Heaters
- Mica Band Heaters
- Ceramic Band Heaters
- Casted Heaters
- Furnace Heaters



Size of heating tube: 8.2mm, 9.5mm, 11.0mm, 12.0mm, 12.5mm, and 16.0mm, 19.0 mm or as per customer requirement.

MOC of Heating Tube: Copper, Titanium, SS all grade, Incoloy 800, Inconel etc.

Sizing of Tube Sheet: As per design requirement.

Sizing of Heater Vessel: As per design requirement.

Thermocouple: J & K Type own make in SS all grade and Incoloy.

CASTED HEATERS



DESCRIPTION

Bundle Rod Heaters Are High-Performance Heating Elements Engineered For Heavy-Duty Industrial Furnaces And High-Temperature Applications. They Are Constructed Using Multiple Terminal Rods, A Central Support Rod, And Ceramic Discs That Together Form A Compact Bundle.

Designed With Advanced Ferrous Alloy Elements Such As Super FeCrAl And NiCr 80/20, These Heaters Deliver Uniform Heating, Excellent Thermal Efficiency, And Durability Under Extreme Operating Conditions Up To 1250°C. They Are An Eco-Friendly Alternative To Conventional Gas-Fired Systems, Helping Industries Achieve Reduced CO₂ Emissions While Ensuring Reliable Furnace Operation.

COMPONENTS

Component	Material / Details
Terminal Rod	FeCrAl, SS310, or Incoloy – Carries the power supply wiring.
Center Rod	FeCrAl, SS310, or Incoloy – Provides structural support, longer than terminal rods.
Ceramic Disc	Alumina (flower-shaped) – Encompasses heating elements to form a bundle.
Fiber Disc	Ceramic fiber – Holds rods together in the cold zone.
Top Plate	Steel or alloy – Provides structural stability and mounting support.

TECHNICAL SPECIFICATION

Parameter	Specification
Heating Element Material	Ferrous alloy powder metallurgical element, Super FeCrAl, NiCr 80/20
Power	1 kW to 75 kW (custom)
Cold Resistance Tolerance	≤3%
Maximum Temperature	Up to 1250°C (custom)
Voltage	Up to 480V AC (custom)
Watt Density	Up to 5 W/cm ²

ADVANTAGES

- **Eco-Friendly** – Reduces CO₂ emissions by eliminating flue gases.
- **High Efficiency** – Strong heating performance with quick response.
- **Durability** – Built with FeCrAl and Incoloy alloys for long life.
- **Easy Maintenance** – Simplified assembly and replacement.
- **Flexible Mounting** – Supports both vertical and horizontal use.
- **Stable Temperature Control** – Ensures precise furnace operation.
- **Environmentally Safe** – Low heat loss and reduced impact.

APPLICATIONS

- **Aluminium Industry** – Holding and melting furnaces.
- **Steel Industry** – Galvanizing and heat treatment furnaces.
- **Automotive Industry** – Heat treatment and carburizing furnaces.
- **Industrial Furnaces** – Annealing and sealed quench furnaces (SQF).
- **Heavy-Duty Metallurgical Processes** – Consistent high-temperature heating in demanding environments.

FEATURES

- Advanced Super FeCrAl and NiCr alloys for high thermal performance.
- Wide power range (1 kW to 75 kW) with custom options.
- High temperature resistance up to 1250°C.
- Robust insulation with ceramic and fiber discs.
- Top plate stability for secure mounting.
- Long service life with minimal degradation.
- Customizable voltage and watt density.