SUBHOT®
INDUSTRIAL HEATERS

FLANGED IMMERSION HEATER

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

MAKE IN INDIA

AN ISO 9001:2015 COMPANY

NSIC CERTIFIED CO. | CE | ZED Zero Effect Zero Defect | D&B Decide with Confidence | IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT | eiaCI 035-CB-QMS | GeM Government e Marketplace

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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 manufactur 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.

FLANGED IMMERSION HEATER

DESCRIPTION

Flanged Immersion Heaters Are Heavy-Duty Industrial Heating Solutions Designed For Direct Immersion In Tanks And Vessels To Heat Liquids, Gases, Or Viscous Fluids. Built With A Flange-Mounted Tubular Heating Element, These Heaters Ensure Maximum Heat Transfer And Reliability For Demanding Process Applications.

The Heating Elements Are Brazed Or Welded Into A Flange And Inserted Directly Into The Process Medium, Allowing Rapid And Uniform Heating. Flanged Immersion Heaters Are Available In A Variety Of Sheath Materials Such As Stainless Steel, Incoloy, Or Titanium, Making Them Suitable For Corrosive, High-Pressure, Or High-Temperature Environments.

COMPONENTS

Component	Specification
Hairpin / Bulge Elements	NiCr or FeCrAl tubular coils, MgO-packed for efficient heat transfer and insulation.
Welded Flange	ANSI 150/300/600# or DIN PN16/40 carbon steel, SS304/316, or Incoloy flanges for leak-tight mounting.
Terminal Enclosure	IP23 standard or IP66, ATEX optional terminal box with ceramic block and cable gland.
Gasket & Seal	PTFE, graphite, or Viton flange gasket for chemical compatibility and zero leaks.
Optional Thermowell & Sensor	Integral stainless steel thermowell with PT100 or thermocouple sensor for accurate control.

TECHNICAL SPECIFICATION

Parameter	Specification
Heater Sheath Material	SS304/310/316/321, Incoloy, Titanium
Max Temperature	Up to 650 °C (Customizable)
Max Watt Density	65 W/in²
Voltage	Up to 480 V (Customizable) AC
Flange Size	ANSI 150–600#, DIN PN16/40 (DN50–DN200)
Immersion Length	50 mm–3000 mm
Terminal Box Rating	IP23 (std) / IP66, ATEX
Control Options	Built-in thermostat, RTD, SSR drive, PLC interface

ADVANTAGES

- **High Energy Efficiency** – Direct immersion design ensures minimal heat loss and maximum thermal transfer.
- **Durable Construction** – Available in stainless steel, Incoloy, or titanium for long service life in harsh environments.
- **Customizable Design** – Flexible options for voltage, watt density, flange size, and immersion length.
- Precise Temperature Control – Compatible with thermostats, RTDs, SSR drives, and PLC-based control systems.
- **Easy Installation & Maintenance** – Flange-mounted design allows straightforward replacement without draining the vessel (when isolation is provided).
- **Wide Application Range** – Suitable for water, oil, chemicals, gases, and high-viscosity fluids.
- **Safe Operation** – IP66, ATEX-certified terminal enclosures and optional safety cut-offs for hazardous areas.

APPLICATIONS

- **Chemical Processing** – Heats baths, reactors, and other industrial process vessels.
- **Heat Transfer Systems** – Ideal for oil circulation loops in industrial plants.
- **Water Treatment** – Suitable for heating water and wastewater tanks.

- **Food & Pharmaceutical Hygiene –** CIP/SIP vessel heating for sanitary processes.
- **Storage & Blending –** Maintains temperature in tanks containing liquids or viscous materials.
- **Steam & Boiler Support –** Preheats water for steam generation and boiler feed systems.

FEATURES

- **Leak-Proof Flange Design** – Ensures zero maintenance and long-term reliability.
- **Corrosion & Abrasion Resistance** – Wide alloy selection to suit challenging environments.
- **Safety Certifications** – Explosion-proof and hazardous-area compliant options available.
- **Custom Engineering** – Flange sizes and element configurations tailored to your requirements.
- **Easy Maintenance** – Field-replaceable elements reduce downtime during servicing.
- **Even Heat Distribution** – Optimized design ensures uniform heating across large vessels.