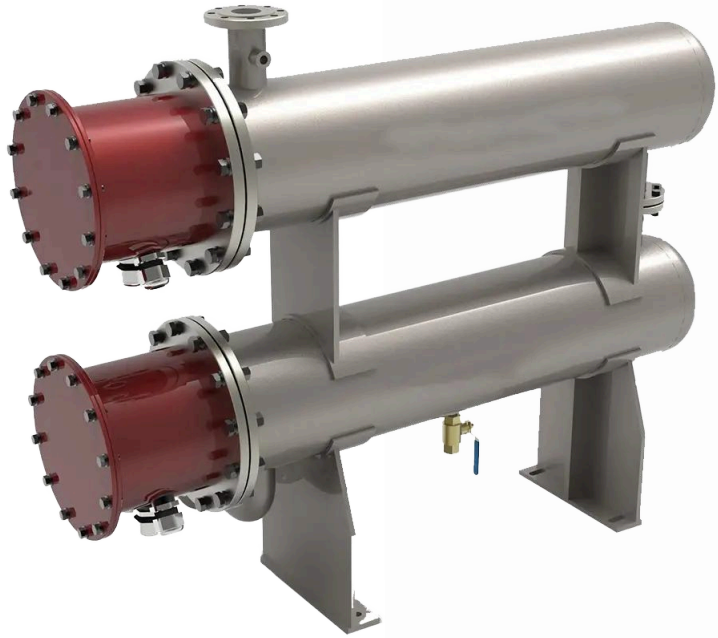
SUBHOT®
INDUSTRIAL HEATERS

CIRCULATION 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.

CIRCULATION HEATER

DESCRIPTION

Circulation Heaters, Also Known As In-Line Heaters, Are Highly Efficient And Robust Heating Solutions Designed To Heat Liquids Or Gases While They Flow Through A Closed-Loop System. These Heaters Consist Of A Flanged Or Screw-Plug Heating Element Mounted In An Insulated Vessel Or Chamber, Through Which The Process Fluid Passes And Is Heated Rapidly To The Desired Temperature.

Engineered For Precise Temperature Control, Circulation Heaters Are Widely Used In Applications Such As Heating Oils, Water, Solvents, Steam, Air, And Inert Gases. Their Compact And Modular Design Makes Them Ideal For Both Small And Large-Scale Industrial Systems Requiring Direct And Efficient Heating With Minimal Heat Loss.

COMPONENTS

Component	Description
Heating Elements	MgO-filled NiCr/FeCrAl tubular coils for efficient heat transfer and long life.
Pressure Vessel	Stainless steel or Incoloy vessel rated to 10 bar for high-pressure applications.
Inlet/Outlet Flanges	ANSI or DIN flange connections for leak-proof mounting in piping systems.
Insulation Jacket	Ceramic fiber and metal jacket minimizing heat loss and protecting operators.
Terminal Enclosure	IP65-rated terminal box with ceramic block and cable gland for safe wiring.
Optional Control Panel	Digital thermostat or PID controller with SSR drive for precise temperature regulation.

TECHNICAL SPECIFICATION

Parameter	Specification
Vessel Sheath Material	Carbon Steel, Stainless Steel, Incoloy
Max Temperature	Up to 650 °C
Max Watt Density	Up to 10 W/cm²
Voltage	110V, 240V, 440V (Customizable)
Pressure Rating	Up to 20 bar (Customizable)
Flow Rate	1–100 L/min (depending on model)

ADVANTAGES

- **High Temperature Performance:** Designed to operate efficiently at temperatures up to 650 °C, this heater is ideal for demanding industrial processes requiring consistent and reliable heat.
- **Robust Construction:** The use of Carbon Steel, Stainless Steel, or Incoloy for the vessel sheath ensures long-lasting durability, excellent corrosion resistance, and performance in harsh environments.
- **Optimized Heating Efficiency:** With a watt density of up to 10 W/cm², the heater ensures fast and uniform heat transfer, minimizing energy loss and improving overall system efficiency.
- **Flexible Voltage Compatibility:** Available in 110V, 240V, and 440V options, the heater can be easily integrated into a wide range of electrical systems, with customization available for specific project needs.
- **High Pressure Handling:** Built to withstand pressures of up to 20 bar, the heater is suitable for use in high-pressure fluid heating systems, such as boilers, tanks, or inline circulation units.
- **Variable Flow Rate Support:** Capable of handling flow rates between 1 to 100 L/min, depending on the model, it is versatile enough to meet both low and high-flow applications.

APPLICATIONS

- **Process Fluid Heating**
  Efficiently heats liquids in pipelines, tanks, and closed-loop systems used across industries.
- **Hazardous Liquid Heating**
  Suitable for safely heating oils, acids, and solvents in explosive or chemically aggressive environments.

- **Deionized Water Heating for Semiconductor Industry**
  Provides ultra-clean, non-contaminating heat for critical processes in semiconductor manufacturing.
- **Viscosity Control**
  Maintains ideal flow properties of liquids in food processing, chemical production, and cosmetic lines.
- **Thermal Oil Circulation Systems**
  Supports indirect heating applications where thermal oil is used as a heat transfer medium in various processing systems.

FEATURES

- **Uniform Temperature Profile**
  Engineered for consistent heat distribution across the entire flow path, ensuring efficient and precise fluid heating.
- **Insulated Vessel for Minimal Heat Loss**
  High-quality insulation reduces thermal losses, improves energy efficiency, and protects surrounding equipment and personnel.
- **Flexible Mounting Options**
  Available in skid-mounted or panel-mounted assemblies for easy integration into various system designs and plant layouts.
- **Replaceable Heating Elements**
  Heating elements can be replaced without dismantling the entire system or interrupting the operation, reducing downtime.
- **Low Maintenance Design**
  Built with durability in mind, the system requires minimal upkeep and offers long service intervals for hassle-free operation.