PRODUCT

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INDUSTRIAL HEATERS

Process Heaters

- Duct Heater
- Tubular Heater
- Circulation Heater
- Screw Plug Heater
- Immersion Heater
- Heating Skid Systems
- Finned Tubular Heater
- Infrared Radiant Heater
- Over the Side Immersion Heater

nobleheat[™] Heating Technologies

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Process Heaters.



Sealing Compound

Silicon Or Mica or Porcelain Insulator

Terminal



Electrically Isolated

OxideFully Compacted

- Tubular heating element consists of a resistant nickel chromium wire type 80/20 inserted into a protective metal tube (outer sheath) filled with high purity electro-melt Magnesium oxide (MgO). The assembly will be compacted by rolling/swaging process to ensure excellent heat transfer. Each edge of the sheathed component consists of a non-heatingzone, where the electrical connection is made.
- The electric heater is custom-made with a maximum length of 10500 mm, along with different diameters (8, 11, 12.50,
- 13.50& 16 mm).
- Material of construction : Steel (ERW /seamless).

Coil Concentrically Positioned

• Stainless as per ASTM Grade 304/304L/310/316/ 316L/321 Alloys 600, 625, 640, 800, 825, 840.





Technical Details

Material of outer sheath	Application
Stainless Steel	Immersion Heating's in Water, Alkaline cleaning solutions, Tars, Mild Corrosive liquids, food processing equipment, Indirect and Radiant heating Air heating/ Gas heating. Hopper & tank heatings Large process plant applications.
Alloy 800	Cleaning and degreasing solutions, Corrosive liquids / gases. High temperature / High pressure
Alloy 600 series	Plating and pickling solutions, acid
Titanium	High Corrosive liquids
Temperature	Upto 1800°F
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Screw Plug Heaters are smaller version of Immersion Heaters in which heater flange in replaced with a Threaded Plug. A Single or multiple tubular heating elements are fitted into a thread hexagonal head which are then screwed directly through a threaded coupling in the tank wall or vessel, or installed at process line.

Screw plug heaters are an easy way to heat up solutions in smaller containers that may or may not require auto control on temperature. The Heaters can be installed either horizontally or vertically in the tank. The heater is compatible for both Single phase as well as three phase power supply.



Technical Details

Sheath Material	SS , Alloy 600 series, Alloy 800 series, Hastelloy, Titanium, copper etc
Rating	0.1kW to 50kW
Screw Plug Material	CI, Carbon steel, Brass, SS etc
Screw Plug NPT fittings	1", 1.1/4", 1.1/2",2",2.1/2", 3" (BSP/ NPT) or equivalent Metric threads
Voltage	120 to 690V AC Single phase or three phase
Terminal Enclosure	Safe / Hazardous
Control	Thermostat/RTD/Thermocouple.

- Sheath selection datasheet: The different sheath materials used in these heaters have different watt densities and operating temperatures.
- **Stainless Steel:** Maximum operating temperature is 1200°F INCOLOY: Maximum operating temperature is 1600°F.

Utilization

- Crude oil / HFO / Lubricant Oil Pre Heating in the tanks.
- Clean Water heating.
- Alkaline and corrosive solvent heating.
- Water & other liquid Vaporizers.
- Gas heating Systems.
- Pre Heaters.
- Anti condensation heating in the motors.
- Oil pre heating in compression units.
- Solar water baths.
- Chemical heatings.
- Storage chamber heating.
- Small ovens1

Benefits

- Efficient Heating and Reliable Design.
- Easy to insta.
- Easy to Regulate & Maintain.
- Lower Cost of Maintenance.
- Energy Efficient.

Note: Watt density depends largely on the fluid to be heated and it can vary anywhere between 0.7w/cm² to 15W/cm².



Immersion Heater

Industrial immersion heaters are used widely in all kind of industrial applications such as chemicals, liquids, gases and food processing industries. The immersion heaters are also used in special applications in petrochemical industries such as Flare KO drum heating application and other heating applications in power as well as nuclear applications.

Immersion heaters are designed and constructed in various forms based on the application and mounting requirement. Some of the common types of immersion heaters are.

Direct Immersion heater

The heater bundle will be directly mounted inside the Tanks & process fluid will be directly in contact with the process fluid.

Indirect Immersion Heater

The heating elements will be mounted inside the pockets welded to tube sheet. The heat from the elements transferred to the pocket tubes and in turn to the fluid. These kinds of heaters are used in large storage tank heaters, in which heater replacement can be done without draining the complete system.

L Shape Heater

In some critical process where the heater is required to be mounted vertically but also expected to cover maximum tank area horizontally or at bottom of the tank, the "L" shape heaters are best preferred design.

Benefits

- Versatile, Eco-friendly Heating: Efficiently heats various volumes, reduces fluid viscosity, and emits no harmful gases.
- Precise, Compact & Safe: Offers accurate temperature control, fits small spaces, and meets high safety standards.
- Reliable, Energy-Saving & Low Maintenance: Dependable, energy-efficient design with easy upkeep and convenient tankless repairs.

Utilization

- At large Storage Tanks for pre heating of thick fluids.
- Oil Heating (crude, Thermic fluids, and other Process fluids etc in storage tanks)
- Water heating applications & vaporizer System.
- For reducing the viscosity of the fluid and make it suitable for pumping out.
- Steam Boilers.
- Oil cooling systems & compression packages.
- Edible oil heating for food industries.



Industries We Cover

- Oil & gas.
- Refinery & petrochemicals.
- Crude oil, Bitumen & other oil storage facilities.
- Power plants.
- Chemical & fertilizers.
- OEM's (compressor, skids, boilers etc).
- Steel plants & auxiliary units for oil heating in storage facilities.
- Aluminum plants & Auxiliary Units.
- Food & beverages.
- Water treatment facilities.
- Nuclear & defense.
- R&D.



Air Duct Heater

Electric tubular heating elements are commonly used to heat air in ducted systems primarily for air drying purposes in various industrial applications.

Duct or air heaters are used in heating ventilation and air-conditioning systems (HVAC) in residential and industrial complexes, as well as in hotels, airports and stadiums etc. for the purpose of maintaining

temperatures. The same system is applied in offshore environments. In industrial applications such as power plants and painting applications, the duct heaters are used for the applications which required hot air purging, or drying purpose.

Construction :

- Heating Elements:Tubular: Sheathed for protection in harsh, high-temp settings; safer.
- Finned: Tubular with added fins for better heat transfer.
- Open Coil: Exposed wire for quick, high-temp heating.
- Support Baffle: Holds elements, reduces vibration.
- Mounting Plate: Attaches elements to the duct; customizable.
- Terminal Box: Houses element wiring; safe or flameproof options.





Technical Details and Allowances :

- Energy-efficient.
- Secure Design.
- environmentally friendly, free of harmful smoke • and the production of NOx and SOx gases.
- Resistance against oxidation and corrosion.
- Easy-to-use system Simple to use and install.
- long-lasting and simple to maintain.

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- The risk of electric shock is eliminated by rugged construction.
- A reinforced frame minimizes vibration.
- little loss of heat.
- Very little footprints are necessary.
 - It requires minimum access to install in any existing ducting.

Qualities and Benefitss

- Paintings, pellet drying, and drying application in process are examples of air drying operations.
- Equipment for handling air.
- Control of Humidity.
- The building's comfort air heating (HVAC).
- Drying of the Core

Typical Industries Include

- Power plants.
- Automobiles.
- Chemical.
- Onshore and offshore platform facilities.

A circulation heater is a compact electric unit where a heating element bundle sits inside a pressure vessel. It rapidly heats flowing process fluids, managing pressure and element temperature. These systems are customizable (single/multi-stage, vertical/horizontal) to fit specific process needs.

Construction

- 1. Terminal Enclosures: Protect electrical connections in all environments.
- Heater Bundle: U-pin elements with supports, designed for safe temperatures and flow, secured to the flange. Heat duty can be banked for control
- 3. Pressure Vessel: ASME-compliant shell with nozzles, single or multi-stage, vertical or horizontal Insulation recommended.
- 4. Temperature Sensors: Monitor element skin and other critical temperatures (thermocouples/RTDs) PSV advised for high pressure.
- Control Panel: Regulates heater operation (thyristor/ON/OFF), displays status, and includes safety interlocks and an emergency stop.



Benefits

- Eco-friendly design. There are no harmful gases, smokes, or emissions coming from the system.
- Compact design for rapid continuous flow heating.
- Both continuous and short-term operation are possible with this device.
- Accuracy temperature regulation.
- Able to fit into tiny footprints.
- Specially made to satisfy requirements.
- Highest dielectric strength and high energy efficiency.
- Compliant with industry-standard safety and plumbing requirements.
- Dependable design.
- Simple to use and low upkeep.
- Conserving energy.

Utilizes

- For industrial applications, to raise the temperature of any fluid from low to high.
- These are the most widely used applications.
- Heating skids powered by natural gas or fuel gas.
- Crude oil, thermodynamic fluids, and other process fluids are all heated by oil.
- Air, nitrogen, hydrogen, argon, fuel gas, flue gas, and so forth are examples of gas heating.
- Applications for water heating and vaporizer systems.
- Boilers that use steam.
- Heating of edible oil for the food industry.

Sectors We Cover

- Gas and oil.
- Petrochemicals & refineries.
- plants that process gas.
- units for air separation.
- power plants.
- fertilizers and chemicals.
- OEMs (such as boilers, skids, and compressors).
- Auxiliary units and steel plants.
- Auxiliary units and aluminum plants.
- Food and drink.

Note: Watt density depends largely on the fluid to be heated and it can vary anywhere between 0.7w/cm² to 15W/cm².



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