

DUCT HEATERS



MARATHON HEATER (I) PVT. LTD.

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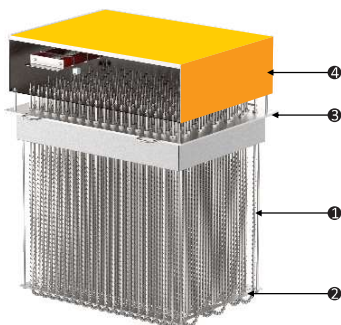
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Duct heaters are devices which are an assembly of multiple heating elements mounted in a plate or casing and used to heat the air in a non pressurized condition. The Heater bundle is usually inserted inside a duct line or a insulated body through which air passes and get heated upto required temperature. Duct heater elements can be of open coil, tubular or finned tubular heating elements, depending upon

Construction

- 1) **Heating Element** : 3 types of heating elements are available
 - a. Tubular Heating element made of Stainless steel sheath / alloy sheath for oxidation and corrosion resistance in wide variety of environment and are suitable for high temperatures applications. The tubular heaters are more safer in comparison to the open coil heaters
 - b. Finned Elements: These are tubular heaters with circular fins winding around the active length. The fins attached to tubular element s increases the heat transfer area to achieve faster heat transfer rate.
 - c. Open coil heating element made of nickel chromium resistance wire for efficient and fast heating and are suitable for high temperatures applications.
- 2) **Support Baffle Plate** to securely hold heating elements and to reduce vibrations.
- 3) **Mounting Flange / Plate**: the heating Elements are fixed to this plate which will be further fitted to the duct outer body. The mounting plate size and shape varies based on the rating & size. The Elements can be either fixed or welded to form permanent joints, based on the applications
- 4) **Terminal Box** : Usually a Rectangular box, inside which all the terminals of heating elements are housed and internally wired to form groups. Sheet metal box designed for installation in safe area or it can be of flameproof design for installation in Hazardous area.



the application, temperature etc. If any application needs a very large capacity of heat duty, then bundle of several smaller duct heater bundles can be made and assembled in series. This will help not only to get desired temperature at varying process condition, but also eases the job of maintenance and spares cost.

Technical Specifications and Tolerances

Rating	From 0.5kW 2000kW (Max) in Single or combination
Operating Temperature	-40°C to 650°C
Element Sheath	SS / Alloy 800 series
Duct Body	MS / SS
Insulation	Ceramic glass wool
Cladding	SS / Aluminum
Terminal Enclosure*	Weatherproof or Flameproof
Control System	Thyristor control or Contactor control or Thermostatic control (Low wattage & single phase systems)
Protections & control:	Element Skin Temperature controls process temperature control Earth leakage protection. Overload current protection.
Installation:	Horizontal / Vertical
Watt Density	Up to 40 W/In ²
Wattage Tolerance	+5%, -10%
Resistance Tolerance	-5%, +10%
Voltage	Customizable

Note : For custom design requirements please contact sales@marathonheat.com

Applications

- Air Drying Operations (Paintings, pellets drying, drying application in process)
- Air Handling Equipment
- Humidity Control
- Comfort Air Heating for the building (HVAC)
- Core Drying
- Chemical pellets dry heating
- Booster Air
- Air Preheating
- Secondary heating
- Multi zone Reheating
- Resistor Load Banks
- Annealing

Features and Benefits

- Environment friendly, No Hazardous smoke, NOx & SOx gas generation.
- Corrosion and oxidation resistance
- Rugged construction eliminates hazard of electric shock
- Reinforced frame allows for minimum vibration
- Very small foot prints required. Can be installed in any existing ducts with little access