

Indeeco's Circulation heater is designed to maintain, raise, preheat and boost process temperatures in a variety of applications.

## Product Highlights

- CSA approved for ordinary and hazardous locations along with ATEX and IECEx certification
- ASME certification & PED/PE(S)R compliance available
- Standard construction includes a pipe thread or pipe flanged Immersion heater
- Six heater mounting options available
- Mounted in a thermally insulated pressure vessel with inlet and outlet nozzles
- Multiple shell and heater material available

## Special Features

- Optional Built-On Thermostats and Contactors
- Special Inlet/Outlet Locations
- Wattage - custom designed
- Voltage - any voltage is available up to 600 volts
- Pressure - custom designs are available for pressures above the standard 160 psi rating at 250°F
- Accessories for Built-in or Loose for Field Installation

## Applications

- Maintain, raise, preheat and boost process temperatures
- Used in commercial, industrial and military applications
- Designed for a wide variety of liquids and gases

## Industry Applications

- Viscous Fluids
- Process Vessels
- Chemical Processing
- Food Processing
- Gasoline Refining
- High Pressure Air or Gases
- Tank Heating (Process, Storage)
- Waste Water / Sewage Treatment
- Plastic Machinery and Processes
- Automotive and Engines
- Water (Deionized, Potable, Process)
- Heat Transfer Systems

## Approvals



Class I, Division 2\*, Groups A, B, C, and D  
 Class I, Division 1, Groups B, C, and D  
 Class II, Division 1, Groups E, F, and G  
 UL STD 50E, Type 4 or 4X  
 II 2 G D\*  
 Ex db IIB+H2 Tx or Txxx°C Gb\*  
 Ex tb IIIC Txxx°C TL xxx°C Db\* IP66  
 \*pipe flange heater construction only



Our products do more in a wide range of applications. **Expect More.**

## Contactor Control Panels

### Standard Features

- Indeco microprocessor-based sequencer (for panels with two or more heating stages)
- Proportional indicating temperature controller (adjustable process temperature with thermocouple input)
- NEMA 12 or 4 painted steel enclosure, wall mount unless otherwise noted
- Overtemperature controller (adjustable temperature limit with thermocouple input)
- Door interlock disconnect switch
- Manual reset pushbutton with built-in pilot light (red) for visual "OVERTEMPERATURE" alarm
- Selector switch – ON/OFF with built-in pilot light (green) for "POWER ON" indication
- Control transformer
- Disconnecting magnetic contactors
- Circuit fusing
- Optional explosion-resistant and purged panels available (cULus only)

APPROVALS



## SCR Control Panels

### Standard Features

- PID self-tuning temperature controller (adjustable process temperature, with thermocouple input)
- Indeco three-phase, zero cross-fired, SCR power controllers
- NEMA 12 or 4 painted steel enclosure, wall mount unless otherwise noted
- Overtemperature controller (adjustable temperature limit with thermocouple input)
- Door interlock disconnect switch
- Manual reset pushbutton with built-in pilot light (red) for visual "OVERTEMPERATURE" alarm
- Selector switch – ON/OFF with built-in pilot light (green) for "Power On" indication
- Control transformer
- Safety contactors
- Circuit fusing
- Ventilating fan and filter when required
- Optional explosion-resistant and purged panels available (cULus only)

APPROVALS



## How to Order

### Standard Heater Construction

Specify: Catalog number and Mounting configuration

### Custom Designs

#### Required Application Information:

- Fluid or gas to be heated
- Required temperature rise ( $\Delta T$ )°F through the heater
- Maximum outlet temperature
- Flow rates (minimum and maximum)
- Maximum design pressure
- Maximum allowable pressure drop through the heater
- Heater environment (hazardous, corrosive, weather-proof, etc.)
- Temperature control requirements

\*INDEECO can help determine custom design specifications or may advise a better choice to reduce cost and delivery time.

#### Specify:\*

- KW
- Voltage and phase
- Nominal heater/vessel configuration (2-1/2" pipe thread; 3", 5", 8", 10" or larger flange size)
- Maximum vessel design pressure (standard design based on 160 psi rating at 250° F, with Class 150 flange standard)
- ASME code stamp required (none or VIII)
- Vessel material (steel, stainless, other)
- Element sheath material (Incoloy, steel, copper, stainless, other)
- Element watt density (W/In<sup>2</sup>)
- Inlet/outlet connection (NPT or flanged)
- Mounting configuration
- Method of temperature/power control
- Special features
- Full hazardous location application details (when applicable)