

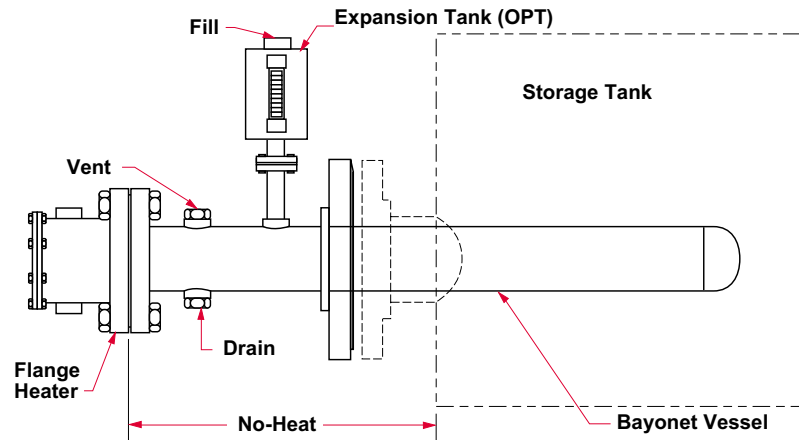
Tubular and Process Assemblies

Circulation Heaters

Pipe Insert Heaters

Pipe insert immersion heaters permit removing and servicing the heater bundle without draining the liquid being heated.

Heating is accomplished by mounting a flange or screw plug immersion heater inside a pressure-tight bayonet pipe vessel. The pipe vessel then mates to a flange connection on a storage tank's side. Heat transfer between element(s) and tank contents is accomplished by heating the air or heat transfer fluid inside the bayonet pipe for conduction to the tank's contents.



Performance Capabilities

- Wattages to 100kW
- Voltages to 600V~(ac)
- Ratings to 600 lb pressure class
- Incoloy® sheath temperatures to 1400°F (760°C)
- Stainless steel sheath temperatures to 1200°F (650°C)
- Steel sheath temperatures to 750°F (400°C)

Features and Benefits

- **Low watt density screw plug or flange heaters**, mounted in the bayonet vessel, provide long life.

- **Carbon steel, 304 and 316 stainless steel bayonet vessels** offer compatibility with a wide range of liquids.
- **Welded flange on pipe vessel** ensures pressure seal.
- **Heating element support(s)** ensure proper element spacing and maximum heater performance.
- **Heat transfer fluid fill/drain and vent couplings** ease installation and maintenance.

Applications

- Indirect heating of viscous fluids:
 - Asphalt
 - Tar
 - Molasses
 - Syrup
 - Glue
- Corrosive liquids
- Degreasing fluids

Options

Pipe insert heaters can be supplied with a variety of options, including:

- Appropriate gasket materials
- Passivation cleaning on pipe insert
- European screw plug to flange adapters
- CSA certified terminal enclosures
- Stand-off terminal enclosures
- Thermocouple temperature sensors
- Thermostats
- Customer specified materials, sizes and pressure class ratings

For descriptions and ordering information about these options, please refer to **Flange Immersion Heaters, pages 340 to 343**, or **Screw Plug Immersion Heaters, pages 322 to 326**.

Flanges

Flanges to 24 inches nominal pipe size are available in materials compatible with specific application

needs. For information on flange materials and ratings, consult your Watlow representative.

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F.O.B.: Hannibal, Missouri

Circulation Heaters Pipe Insert Heaters

Bayonet Vessels

Bayonet vessels are available up to 14 inches nominal pipe size and 20 feet long. Vessel size is dependent upon the kW

requirement and element watt density. For more information, please consult your Watlow representative.

Application Hints

- Mount pipe insert heater horizontally.
- Locate pipe insert heaters low in the tank, but above the sludge level.
- Consider a low liquid level sensor to protect against low liquid level conditions.
- Select the proper heat transfer media (air or fluid) to adequately

conduct heat from the elements to the bayonet vessel. Consult your Watlow representative for recommendations.

- Select a watt density that's compatible with the heat transfer media being used.
- Use a sheath high-limit sensing device inside the bayonet vessel to protect against element over-heating.

- For pipe insert heater assemblies employing heat transfer fluid, use an expansion tank. This will allow for fluid expansion and contraction during heater cycling.
- Insulate the pipe insert heater's exterior to minimize heat loss.



Caution:

Do not insulate the terminal enclosure.

How to Order

All pipe insert heaters are **made-to-order**. To order, please specify:

- Application
- Volts/watts
- Phase
- Number of circuits
- Bayonet vessel material
- Storage tank mating flange size

- Maximum bayonet length beyond the storage tank mating flange
- Dimension from heater flange to inside of storage tank wall
- Terminal enclosure type
- Options
- Quantity

Availability

Made-to-Order: Six to eight weeks
Options, complexity and quantity may affect availability and lead times. Consult factory.