

Screw Plug Heaters

Construction Features



1" — 2-1/2" Screw Plug Heaters

- Element bends repressed uniformly to insure electrical insulation integrity.
- One piece forging of hex, thread and riser assures reliability.
- Element spacers prevent hot spots.
- Bussing is permanent and encapsulated in epoxy seal.
- UL CSA label furnished on all standard copper, stainless steel and Incoloy sheathed heaters, NEMA Type 1, 4 and 4x environments.

Tubular Elements are welded or silver soldered into a hex head pipe thread fitting. Elements have 80/20 nickel-chromium resistance coils centered in a heavy gauge metal tube surrounded by magnesium oxide insulation. Through rolling, the magnesium oxide is compacted for rapid heat transfer from the coil to the sheath. Elements are annealed, bent and then 360° repressed to insure magnesium oxide integrity in the bent area.

1" and 1-1/4" screw plug heaters have .312" diameter elements for operation up to 277 volts. 2" and 2-1/2" screw plug heaters have .475" diameter elements suitable for operation up to 600 volts.

Screw Plug Fittings of forged brass, silver soldered to the sheath, are furnished as standard with copper sheathed heaters. Steel and stainless steel sheathed elements are welded into fittings of like material.

Outlet Boxes are furnished on heaters without a built-in thermostat. A 4" NEMA 1 octagon outlet box having 3/4" knockouts is standard.

2" NPT stock heaters (without thermostats) are furnished with cast liquidproof outlet boxes.

Heaters with a built-in thermostat are normally furnished with a NEMA 1 rectangular sheet metal enclosure having combination 1/2"-3/4" knockouts. However, those heaters drawing more than 40 amps are furnished with welded steel outlet boxes having 1" or 1-1/4" hubs for electrical connections.

Built-In Thermostats provide automatic temperature control without the necessity of installing a separate well for the thermostat bulb in the field and making electrical connections between the heater and control. The thermostats are fully adjustable from 0-100/120° F, 40-120° F, or 60-250° F.

Standard thermostats are single-pole for single-phase heaters and for pilot duty three phase applications and two pole for de-energizing load carrying applications, see page 48 for selection criteria.

Heaters rated above these capacities require a magnetic contactor, with the thermostat controlling the contactor holding coil.

The thermostat's pilot duty rating is 250 VA at 277 volts maximum.

Element Spacers are made from Type 304 stainless steel to maintain a uniform distance between elements, thus preventing hot spots.

Epoxy Seals for a moisture resistant seal where fluid temperatures do not exceed 250° F.

UL and CSA Listings are available. All standard copper, Type 304 and 316 stainless steel and Incoloy sheathed heaters are listed by the Underwriters Laboratories under Reference E23541. These heaters, as well as steel sheathed heaters, are also available with the CSA (Canadian Standards Association) label under File No. LR11895. Some non-standard constructions can be UL and CSA labeled. Consult factory for availability.