BUCAN
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FH-INS03

Flanged Immersion Heaters for Liquids and Gases

All Bucan **flanged immersion heaters** incorporate a conservative design approach, use premium quality raw materials and are made by a highly skilled staff. You can expect top performance and by following these instructions you will benefit from many years of trouble free service.

Installation:

1. Only qualified personnel are to install **industrial electric heating equipment** and must meet all national and local codes.
2. Ensure the power connections match the **voltage, phase and wattage** data on the nameplate.
3. You must allow adequate space for thermal expansion of the heating elements.
4. Liquid heaters must be fully immersed when the **immersion heater** is energized.
    a. In the event that your system generates sludge, mount the heater above the sludge level.
    b. In the event that scale or other matter builds up on the element surface, clean as required.
5. Gas heaters must have a positive and adequate gas flow over the elements when the heater is energized.
6. Flange mating surface must be clean and free of burrs and surface damage to prevent leaking.
7. Installations in wet or outdoor locations, or subject to drips and spillage, require a Class 4 (CSA designation), NEMA 4 (UL designation) terminal box. The heater nameplate will have the suffix "R".
8. Your heater may have a built-in thermostat, it can be a pilot duty device, or under certain load conditions it may be directly connected.

Operation:

1. Before heater energization, ensure liquid heaters are fully immersed and gas heaters have the required flow rate.
2. Heater sheath materials have maximum recommended operating temperatures; do not exceed the temperatures shown in Table 1.
3. Sheath material selection depends on the application; check Table 1 for sheath material recommendations.
4. A General Purpose (NEMA 1) terminal box is standard. Special terminal boxes are required for environments containing:
    a. Water or water vapours
    b. Oil, oil vapours or grease
    c. Corrosive vapours or gases
    d. Reactive or noxious gases
        i. use the Class 4, NEMA 4 enclosure in these environments
    e. Hazardous Locations
        i. use the Hazloc, NEMA 7 enclosure in these environments

Maintenance:

1. Solutions may create scale and/or sludge build-up on the sheath, frequently inspect and clean as required.
2. Inspect and tighten the electrical connections as required
3. Look for contamination inside terminal enclosure and seal properly to prevent potential leakage.

Table 1

Heater Sheath	Maximum Sheath Temp.	Used to heat
steel	750°F (400°C)	oil, hydraulic oil
copper	360°F (180°C)	water, tap/municipal only
Incoloy 800®	1500°F (815°C)	water, alkaline solutions, air, gases, radiant
Incoloy 840®	1400°F (760°C)	air, radiant
Inconel 600®	1600°F (870°C)	strong alkaline solutions, high temperature gases
stainless steel	1200°F (650°C)	De-ionized, de-mineralized, process water, some mild acids