

NWHIS, NWHOIS & GCHIS Series

Pure Water, Corrosive Solution & High Temperature Gas Applications

- **Flanged Heater Design**
- **3 - 14" Type 304 Stainless Steel Pipe Body, 150 Lb Construction**
- **2 - 200kW**
- **120, 240 and 480V, 1 & 3 Phase**
- **General Purpose, Moisture Resistant Terminal, Moisture Resistant/Explosion Proof Enclosure**
- **0.475" Dia. Stainless Steel or INCOLOY® Sheath Elements (15 - 50 W/in²)**
- **With & Without Thermostat**
- **UL, CSA, ATEX and Other Third Party Approval, Listing or Certification Available on Many Models**

Applications

Pure Water — Heating of demineralized or de-ionized water that is highly aggressive to mild steel.

Mildly Corrosive Solutions — Heat mildly corrosive solutions (pH5 to pH9) using stainless elements and a passivated stainless pipe body.

Highly Corrosive Solutions and Oils — Low watt density INCOLOY® sheath elements coupled with a passivated Stainless Steel pipe body provides long service life when heating highly corrosive solutions and sulfur laden oils.

Steam Superheating — Increase the enthalpy and quality of steam. Smaller units can be used to make up line losses in steam generating and distribution systems.

High Temperature Gas — INCOLOY® elements and a Stainless Steel vessel enhance safe operation to nearly 1400°F outlet gas temperature in air, gas or steam superheating applications.

Features

Terminal Enclosures — Standard stock heater terminal enclosure E1 General Purpose. Moisture Resistant/Explosion Proof E2 or Moisture Resistant E4 Enclosures are available as assembly stock.

Elements — Sturdy 0.475" Dia. Stainless Steel or INCOLOY® sheath elements provide superior strength and rigidity. Chromalox elements utilize high quality resistance wire for coil construction. The coil is surrounded with high purity magnesium oxide which is compacted to a dense solid to ensure high thermal conductivity and dielectric strength.

Corrosion Resistance — NWHIS and NWHOIS pipe bodies and all Stainless Steel heating elements are passivated to provide additional resistance to corrosion.

Flanges — Type 304 Stainless Steel flanges are standard on 3" and larger circulation heaters. Flange dimensions conform to ANSI B16.5 standards.

Vessels — Pipe body and nozzles are type 304 ASTM A312 ERW Stainless Steel pipe. The end disks are type 304 ASTM A240 Stainless Steel plate. Provided with thermal insulation and painted sheet metal jacket.

Baffle Assemblies — Internal baffle assemblies are provided for model GCHISB-18 heaters to increase the velocity of the air, gas or steam as it passes through the vessel. Increasing the velocity of the gas helps reduce the temperature of the element sheaths and the vessel walls in critical applications.

Wiring — Wiring terminals are spaced to provide proper arcing and creepage clearances. Termination insulators provide electrical isolation between the terminals and the grounded metal sheath to enhance personnel safety and equipment service life. Heavy duty jumper straps and other terminal parts assure tight connections and an extra margin of current carrying capacity.

Controls — All stock and assembly stock heaters, Series MTSS, 03 and 06, come equipped



with mechanical AR thermostats. These thermostats are suitable for most applications. Explosion-resistant and liquid-tight thermostats are provided on E2 and E4 units, respectively. Individual product pages list other types of thermostats and controls available for each heater. For heaters listed without controls, refer to the Overview on Mechanical and Electrical Control Options in this section.

Precision Temperature Control and Control Panels — For larger kW heaters and precise control of gas temperatures in high temperature applications, Chromalox recommends the use of thermocouple sensors, electronic PID temperature controls and SCR power panels for circulation heater applications. The use of electronic and SCR controls will minimize overshoot and reduce the possibility of heater damage from overtemperature operation. Integral or remote mounted control panels with electronic controls and solid state (SCR) or contactor power controllers can be provided using virtually any combination of control devices. Consult the Controls section for details.