

## NWHO Series

### Light, Medium & Heavy Weight Oil Applications

- Flange Heater Design
- 2 - 14" Carbon Steel Pipe Body, 150 Lb Construction
- 1 - 200 kW
- 120, 240 and 480V, 1 & 3 Phase
- General Purpose, Moisture Resistant Terminal, Moisture Resistant/Explosion Proof Enclosure
- 0.475" Dia. Steel Sheath Elements (12 - 23 W/in<sup>2</sup>)
- With & Without Thermostat
- UL, CSA, ATEX and Other Third Party Approval, Listing or Certification Available on Many Models

#### Applications

**Light and Medium Weight Oil (20 - 23 W/in<sup>2</sup>)** Ideal for temperature maintenance and for improving flow characteristics of oils. They are also used to heat Heat Transfer Oils under proper conditions.

**Heavy or Fuel Oil (5 - 15 W/in<sup>2</sup>)** — Heating heavy oils reduces the viscosity, thereby improving flow and process efficiency. Preheating fuel oils provides better atomization at the burners and allows the use of lower grade fuel oils.

#### Features

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

**Elements** — Sturdy 0.475" diameter steel 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.

**Flanges** — Carbon Steel Flanges are standard on 3" and larger light and heavy weight oil circulation heaters. Flange dimensions conform to ANSI B16.5 standards.

**Vessels** — Chromalox vessels consist of a pipe body, nozzles and end cap. The pipe body and nozzles are ASTM A53B carbon steel pipe. The end cap or disk is ASTM A516 Grade 70 carbon steel plate. Mounting lugs are welded to the pipe wall. The vessel is wrapped with thermal insulation and covered with a painted sheet metal jacket.

**Baffle Assemblies** — Internal baffle assemblies are provided for Chromalox circulation heaters for use in heating highly viscous or heavy fuel oils. Baffles reduce the internal cross sectional area thereby increasing the velocity of the fluid in contact with the heating element sheaths. Increasing the velocity of the fluid reduces the tendency of heavy oils to overheat and break down or carbonize.



**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 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.

**WARNING** — **Hazard of Fire.** These devices function as temperature controls only. Because they do not fail-safe, an approved temperature and/or pressure safety control must be used for safe operation. Consult Controls section of this catalog.

**Control Panels** — 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.