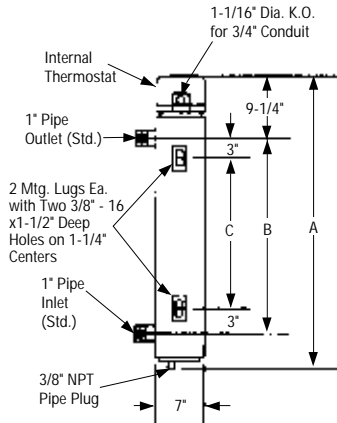


Chromalox®

Installation and RENWEAL PARTS IDENTIFICATION

SERVICE REFERENCE	
DIVISION 4	SECTION NWHMTO
SALES REFERENCE (Supersedes PE438)	PE438-1
161-303185-001	
DATE	MAY, 1999

Type NWHMTO Circulation Heater (for Regular and Fuel Oil Heating)



Specifications — Table A

Model	Volts	Phase	kW	W/In ²	Dimensions (In.)		
					A	B	C
NWHMTO-3015	120	1 or 3	1	15	25-5/8	9-3/8	—
NWHMTO-3015	240 or 480			23			
NWHMTO-3035	240 or 480	1 or 3	3	15	34-3/4	22-1/2	16-1/2
NWHMTO-3305				23			
NWHMTO-3355	240 or 480	1 or 3	5	15	57-1/2	45-1/4	39-1/4
NWHMTO-3505				23			
NWHMTO-3505	240 or 480	1 or 3	7.5	15	68-1/4	56	50
NWHMTO-3075				23			
NWHMTO-3095	240 or 480	1 or 3	9	15	79-1/4	67	61
NWHMTO-3905				23			

GENERAL

WARNING: This heater is not intended for use in hazardous atmospheres where flammable vapors, gases, liquids, or other combustible atmospheres are present as defined in the National Electrical Code. Failure to comply can result in explosion or fire.

Hazardous area terminal enclosures are available, consult your local Chromalox representative for details.

The NWHMTO series is a general-purpose oil circulation heater intended for use indoors.

The 3 steel sheathed tubular elements are centered in a 2-1/2" diameter steel heating chamber and welded to a removable screw plug. The assembly is surrounded by 1-1/2" insulation and sheet metal jacket.

Depending upon the specifications, the NWHMTO may or may not be factory equipped with AR or other Chromalox thermostats. Such thermostats function to control outlet temperatures and limits internal temperatures under abnormal flow conditions. **These controls do not fail-safe.**

CAUTION: Users should install adequate back-up controls and safety devices with their electric heating equipment. Where the consequences of failure may be severe, back-up controls are essential. Although the safety of installation is the responsibility of the user, Chromalox will be glad to make equipment recommendations.

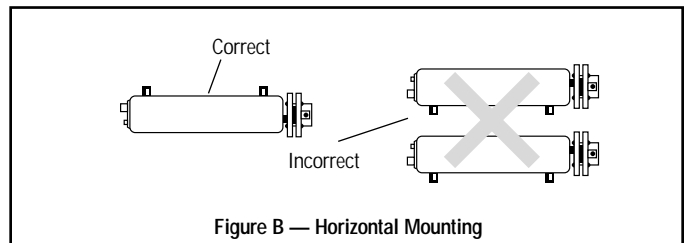
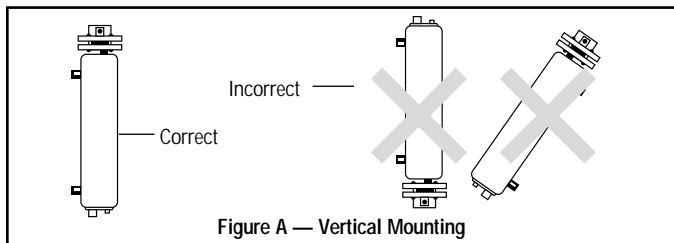
INSTALLATION

WARNING: Hazard of Shock. Disconnect all power before installing heater.

- Vertical mounting (axis of chamber vertical as in sketch above) is preferred. (Terminal housing at top of heater)
- When mounting heater horizontally, inlet and outlet **MUST** be up. In any other position, heater cannot be purged of air and elements may be seriously damaged. (See Figure B below)
- The NWHMTO series of circulation heaters are provided with mounting lugs to support the heater chamber. Refer to sketch above for location of these mounting lugs.
- Mount heaters to permit unrestrained expansion of chamber due to temperature. This can be accomplished by using a slotted mount-

ing assembly on either of the lugs.

- DANGER: Hazard of Fire.** Provide minimum of 6" spacing from a chamber and related piping to nearest combustible material. Avoid operation of heater near combustible fluids or in combustible vapor or gas laden atmosphere.
- Provide adequate space at terminal end to permit withdrawal of the heater from chamber should servicing be required.
- If two or more heaters are needed to provide the needed heating capacity, arrange them for series oil flow.
- DANGER: Possible Explosion.** A pressure relief valve should be provided by customer at outlet of vessel. There should be no other valving between vessel and valve.

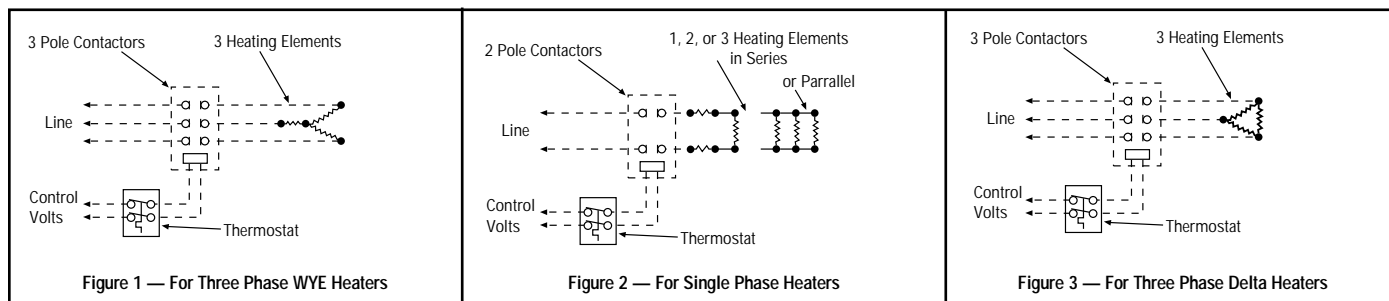


WIRING

WARNING: Hazard of Shock. Any installation involving electric heaters must be effectively grounded in accordance with the National Electrical Code to eliminate shock hazard.

1. Electrical wiring to heater must be installed in accordance with the National Electrical Code and local electrical codes by a qualified person as defined in the NEC.
2. When element wattages are not equal, heaters must not be connected in series.

3. Electrical wiring to heater should be connected in rigid conduit or in flexible hose to keep corrosive vapors and liquids out of the terminal housing. If high humidity is encountered, the conduit should slope down away from the heater.
4. If flexible cord is employed, a watertight connector should be used for entry of the cord into the terminal box. Outdoor applications require liquid-tight conduit and connectors.
5. Bring the power line wires through the opening in the terminal box. Connect line wire as shown in the diagram. (Figures 1 thru 3)



Note: Dotted lines indicate "customer furnished."

OPERATION

1. Do not heat materials that are corrosive to the heating element sheath or chamber. For oil heating service, drain may be provided from bottom of chamber. Check factory.
2. Terminal ends of heater must be protected from drippings condensation spray or direct spill-over of material whose presence at the terminals may damage heater electrical insulation. Liquid-tight ter-

minal enclosures are available to protect heater. Check with local sales representative.

3. If foreign material is carried by the oil flow, install suitable filters in the inlet pipe line to the heater.
4. Do not allow heater to operate when fluid flow is interrupted.

MAINTENANCE

WARNING: Hazard of Shock. Disconnect all power before servicing heater.

1. Remove heating element assembly periodically to check heater sheath for corrosion or excessive oxidation. Correct operating conditions to minimize sheath deterioration.

2. Periodically check temperature control and limit control operation to insure accurate and safe process operation.

3. Check all electrical connections periodically and retighten connections which may have loosened in service. Replace wire terminals which show signs of oxidation which would interfere with establishment of reliable electrical connections.

RENEWAL PARTS IDENTIFICATION

Thermostat 60-250°F300-048518-013

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