

Chromalox®

Installation, Operation and RENEWAL PARTS IDENTIFICATION

SERVICE REFERENCE

DIVISION 4	SECTION SHO
SALES REFERENCE (Supersedes PE422-1)	PE422-2
161-058062-001	
DATE	APRIL, 1999

Type SHO-27 Suction Heater for Regular and Fuel Oil Heating

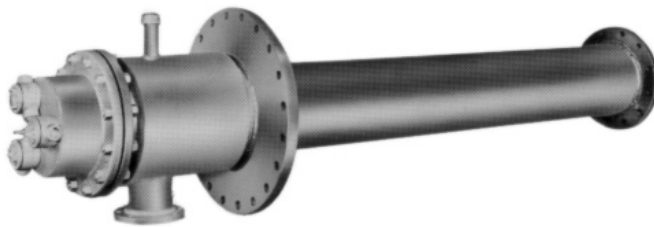


Figure 1

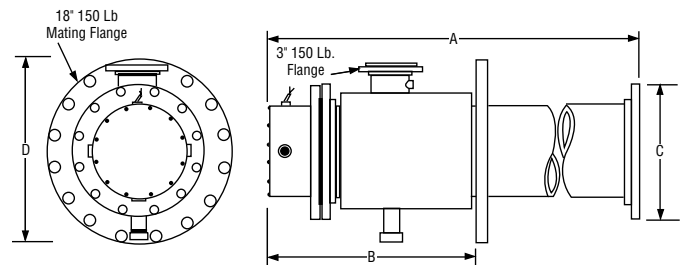


Figure 2

Specifications – Table A

Model	Volts 3 - 3 Ø	kW	W/In ²	Dimensions (In.)				Approx. Wt. (Lbs.)
				A	B	C	D	
SHO 10-2730F1	240-480	30	5	100 ⁷ / ₈	31 ¹ / ₂	16	25	800
SHO 10-2735F1	240-480	35	5	114 ⁷ / ₈	31 ¹ / ₂	16	25	865
SHO 10-2740F1	240-480	40	5	126 ¹ / ₈	31 ¹ / ₂	16	25	945

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.

The SHO-27 series is a regular and fuel oil solution suction heater intended for use outdoors.

The 27 steel-sheathed tubular elements are centered in a 10" diameter galvanized steel heating chamber and welded to a removable galvanized steel flange. The assembly is surrounded by a fiberglass insulation and sheet metal jacket.

Depending upon the order specifications, the SHO-27 may or may not be factory equipped with an AR or other Chromalox thermostat. Such thermostats function to control outlet temperatures and to limit internal temperatures under abnormal flow conditions. These controls do not fail-safe.

WARNING: 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 the installation is the responsibility of the user, Chromalox will be glad to make equipment recommendations.

INSTALLATION

- When mounting heater horizontally, outlet pipes **must** be up. In any other position, heater cannot be purged of air, and elements may be seriously damaged.
- The heater should be rigidly mounted so that vibration is at a minimum since excessive vibration will result in erratic thermostat operation.
- A butterfly valve mounted on the intake with a worm gear assembly is strongly recommended for ease of maintenance of the heating element assembly.
- DANGER: Hazard of Fire. Since the heaters are capable of developing high temperatures, extreme care should be taken:**
 - Avoid operating heaters in an atmosphere containing combustible gases and vapors.
 - Provide a **minimum** of 6" of spacing from chamber and related piping to nearest combustible material.

INSTALLATION

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. Be sure line voltage matches heater voltage (on nameplate).
2. Electric wiring to heater must be installed in accordance with National Electrical Code and with local codes by a qualified person as defined in the NEC.

WARNING: Use copper conductors only.

3. Power controllers **must** be used when heaters are rated for 480 volt service or if the amperage rating of the heaters exceeds the contact rating of the thermostat.
4. A separate control thermostat is recommended for accurate control of outlet temperature. Set limiting thermostat a few degrees above control thermostat. The control thermostat should be wired in series with the limiting thermostat.
5. Refer to Wiring Diagram Figure A for proper wiring diagram for connecting heater.

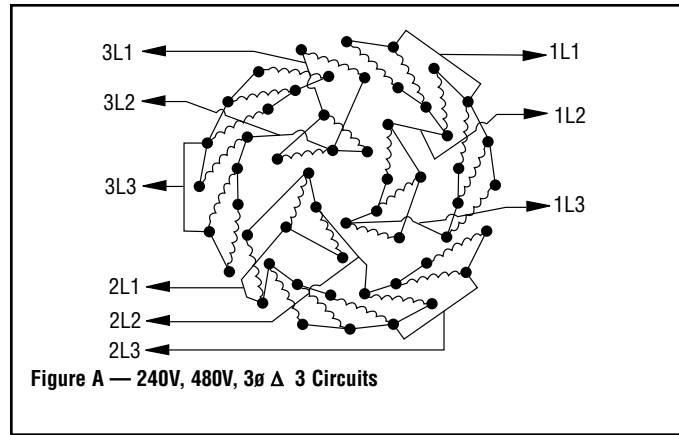


Figure A — 240V, 480V, 3φ Δ 3 Circuits

Note: Use wire size and type specified by N.E.C.
480V and 550V heaters require 600V wire, per N.E.C.
Contactors and wire supplied by customer.

OPERATION

1. Do not heat solutions that are corrosive to the heating element sheath or the heating chamber.

WARNING: Type SHO Suction Heaters are equipped with steel heating elements and galvanized-steel heating chambers. It is the responsibility of the user to know the chemical composition of the corrosive solution and the character of the materials entering the solution as well as the corrosive effect of the solution upon the heating elements and chamber. Chromalox cannot warrant any electric circula-

tion heater against failure by sheath corrosion if such failure is the result of operating conditions beyond our control.

2. Terminal ends of heater must be protected from drippings, condensation, spray or direct spill-over of material. Their presence at the terminals may damage heater electrical insulation. Liquid-tight terminal enclosures are available to protect heater. Check Factory.
3. If foreign material is carried by the fluid flow, install suitable filters in the inlet pipe line to the heater.
4. Do not allow heater to operate when liquid flow is interrupted.

MAINTENANCE

1. **WARNING: Hazard of Shock. Disconnect all power before servicing heater.**
2. Remove heating element assembly periodically to check heater sheath for scaling, corrosion or excessive oxidation. Correct operating conditions to minimize sheath deterioration.

3. Periodically check temperature control and limit control operation to insure accurate and safe process operation.
4. Check all electrical connections periodically and retighten connections which may have loosened in service. Replace wire and wire terminals which show signs of oxidation which would interfere with establishment of reliable electrical connections.

RENEWAL PARTS IDENTIFICATION

Consult Factory Representative for renewal parts identification.

Limited Warranty:

Please refer to the Chromalox limited warranty applicable to this product at http://www.chromalox.com/customer-service/policies/terms_of_sale.aspx.

Chromalox[®]
PRECISION HEAT AND CONTROL

1347 HEIL QUAKER BLVD., LAVERGNE, TN 37086
Phone: (615) 793-3900 www.chromalox.com