

## Large Tank Heaters

### Application & Equipment Selection

- **Type OCE Open Coil Elements in 2" and 3" Schedule 40 NPS Pipe**
- **Type STFX Small Tank Flange Heaters**
- **Type LTFX Large Tank Flange Heaters**
- **Type FXTH Flexible Tank Heaters for Oil and Viscous Liquids**
- **Type RSTO Immersion Heaters with Integrated Control Panel**
- **SHO Suction Heaters for Asphalt & Fuel Oil Applications for Horizontal Installations**
- **4 - 240 kW (13.6 - 819 Mwh)**
- **208 - 600V, 3 Phase**

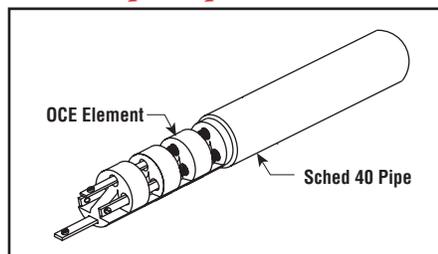
#### *Applications*

A major portion of the heating operations in large storage tanks can be performed at night during off peak power rates. Frequently, only small amounts of heat are required to sustain temperature levels in the tank during the daytime. Using Chromalox packaged control centers, large tank heating systems can be operated with little or no manual attention. The needed heat can be applied economically and automatically by using strategically located thermostats to monitor tank temperatures and energize the heaters. The heating operation may be fully automated by using time clocks to program the start and stop of both off peak and daytime heating functions.

In addition to operating convenience, electric heating systems require very little upkeep and are practically maintenance free. The result is substantially reduced operating costs over alternative heating methods.

**OCE Open Coil Elements** — Heavy gauge resistance wire coils are mounted into high density electrical ceramics. The ceramics are strung on a continuous support bar to provide sufficient rigidity to insert the assembly into a 2 or 3" Schedule 40 NPS steel pipe. Pipes are installed into tanks or vessels by the end user. NEMA 4 terminal enclosure kits are available for field installation.

#### *OCE — Open Pipe Heater*



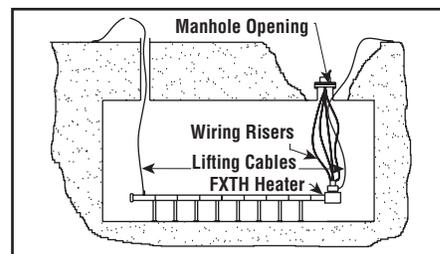
**WARNING** — In hazardous areas, pipe surfaces could achieve temperatures high enough to cause auto-ignition of hazardous materials present. Consult Article 500 of the National Electrical Code for further information on the maximum allowable temperatures for a specific application.

#### *Equipment*

Chromalox offers a number of cost effective solutions to the challenge of heating materials in large storage tanks. In addition to flanged immersion heaters, over-the-side heaters, circulation heaters, steam boilers, heat transfer systems and heat tracing cables which are described in other sections of this catalog, Chromalox offers three uniquely designed heating systems for large storage tanks. These specialty products can be installed in above or below ground tanks made of steel, concrete or Fiberglass®. Equipment selection ranges from simple OCE Pipe Insert Heaters to larger RSTO Unitary Immersion Heaters to the FXTH Flexible Tank Heater.

**FXTH Flexible Tank Heaters** — are particularly useful when the storage tank to be heated is under ground or the tank ends are inaccessible for installation of more conventional heaters. FXTH heaters can be installed through the normal manhole opening of many large tanks without requiring any modifications to the tank itself.

#### *FXTH — Flexible Tank Heater*



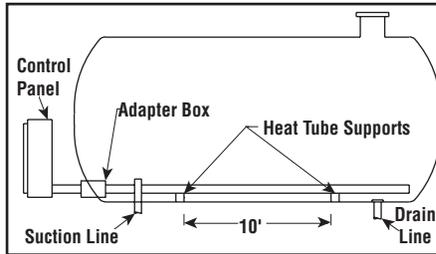
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### Application & Equipment Selection

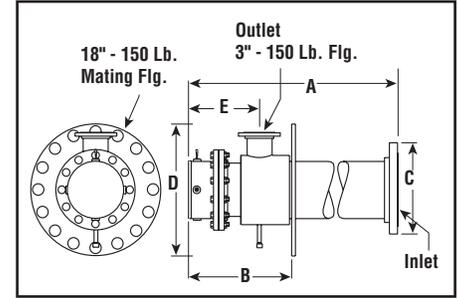
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#### RSTO — Unitary Immersion Heaters SHO Suction Heaters

Metal sheath or open coil elements are inserted into an assembly of 3" Schedule 40 NPS steel pipes. The pipes are welded into an adapter box for convenient field welding of the entire assembly to the header of a steel tank. The heaters are self contained with built-in controls mounted in a weather proof electrical enclosure.

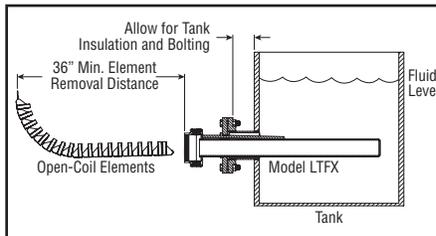
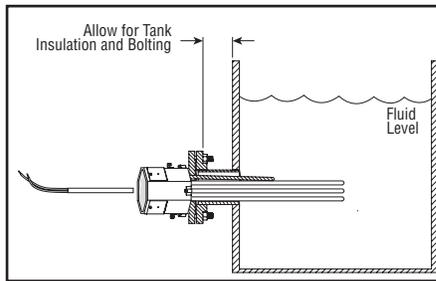


Heating of viscous materials, in large storage tanks, to pumping temperatures. Maintaining an entire tank of viscous fluids such as fuel oil or asphalt at pumping temperatures is very costly. In many applications it is not practical or economical because the tanks are located underground or are not insulated.



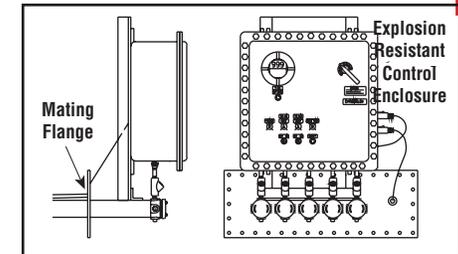
#### Flange Heaters

STFX, Small Tank and LTFX Large Tank Flange Heaters allow tank heating elements to be changed without draining the tank. They provide low watt density heating over a large surface area while providing precise temperature control.



#### Optional Heaters

STFX, LTFX and RSTO Immersion Heaters are available with explosion resistant electrical enclosures and/or adapter flanges in place of the adapter box.



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#### Large Tank Heaters — Selection Guidelines

Model	System Type	Application	Operating Temp. (°F)	kW	Mbh	Construction	Page
OCE	Open Coil Elements	Pipe Insert	0 - 750	4 - 20	13.6 - 68.2	N/A	D-28
STFX	Small Tank Flange Heater	Above Ground Storage Tank	0 - 750	1 - 25	3.4 - 85	ANSI Flange	D-29
LTFX	Large Tank Flange Heater	Above Ground Storage Tank	0 - 750	4 - 240	13.6 - 816	ANSI Flange	D-30
FXTH-B	Large Tank Flexible	Below Ground Storage Tank	50 - 225	6 - 60	20.5 - 204.7	NPT and Welded	D-31
RSTO-B	Large Tank Unitary Immersion	Viscous Fluid	50 - 400	15 - 72	51.2 - 245.7	Welded	D-35
SHO	Suction Heater	Viscous Fluid	0 - 750	30 - 40	102 - 136	ANSI Flange	D-36