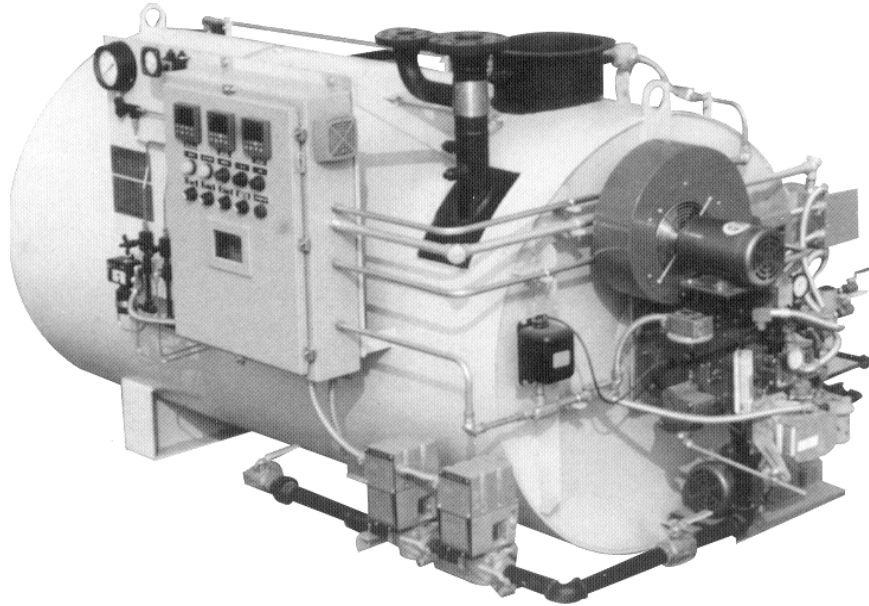


# HELICAL COIL THERMAL FLUID HEATERS MODEL HTF **and** VHTF

For High Temperature Heat Transfer Systems



Capacities from 250,000 – 16,000,000 BTU/Hr.  
Available Horizontal and Vertical

- LOW FIRST COST
- Complete Factory Package
- Safe, Automatic Operation
- ASME Code Construction
- Forced Draft Burner
- Heat Recovery Options
- Limited 5-Year Warranty on Coil
- Single Source Responsibility
- 2 Pass Design for Efficiency
- Fluid Temperatures to 750°F
- Rugged Steel Shell with Structural Steel Saddles
- Shell Internally Insulated with Ceramic Fiber Blanket
- All Coil Supports Located Out of Radiant Section
- Peepsights for Viewing Flame
- Automatic Burner Controls



12711 Townepark Way / LOUISVILLE, KY 40243  
800-665-4251 / 502-962-2883 / FAX 502-9244-4046

# DESIGN ADVANTAGES AND BENEFITS

## Models HTF and VHTF Helical Coil Thermal Fluid Heaters

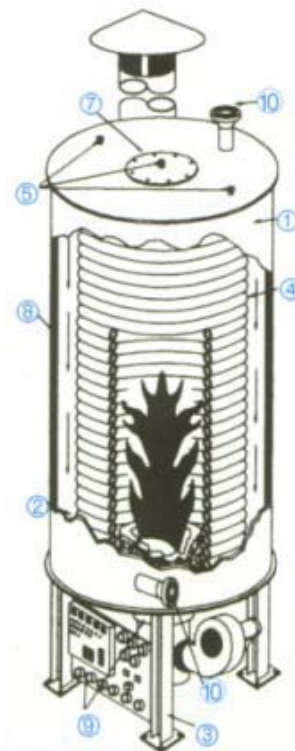
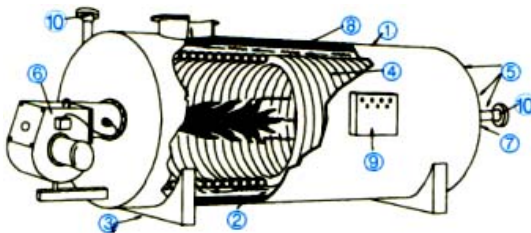
- **Two-Pass Design** – radiant- and convection-pass for efficient operation.
- **High Temperatures with Low Pressures** – First Thermal Heaters can operate at, or near, atmospheric pressure at temperatures as high as 750°F. (A pressure of more than 3,000 psi would be required to produce the same temperature with steam).
- **Highly Effective Insulation** – shell internally lined with multi-layered ceramic fiber blanket with an average K factor of 0.46.
- **Completely Packaged** – burner, burner controls and control panel including temperature indicators, pressure switches and fluid-flow protection – all pre-piped, wired and factory-tested for proper, fully automatic operation.
- **Efficient Burner** – with forced draft, low-excess air and high-turndown ratio for all commercially available gases or liquid fuels.
- **Proportioning Control** – to match normal range of heat demand. Automatic off-on operation for very low heat load.
- **Control Panel** – with full programming combustion safeguard (ultra-violet detection), fluid temperature and pressure controls, motor starters, relays, operating switches and lights to indicate operating conditions. NEMA 1 (standard) with optional NEMA ratings available for any need.
- **Low Maintenance and Long Life** – thermal fluid does not cause scale or corrosion.
- **Conservative Design** – increases equipment life and reduces downtime.
- **Factory-Trained Service Personnel** – available for start up, operator training, and fast emergency service.
- **Computer Design** – for each job for proper flux, film, and tubewall temperatures, velocity,  $\Delta T$  and  $\Delta P$  to stay well within the limitations of the thermal fluid and materials of construction for long life and to fit your system requirements.
- **Special Controls and Construction Options** – include systems to meet FM or IRI insurance requirements or other insurance or customer standards, burner management systems incorporating PLC's, sandblasting and application of special coatings for protection against corrosive atmospheres. Many other options available to meet your system requirements.
- **Limited 5-Year Coil Warranty** – is available on First Thermal Heaters for most applications thus providing you with financial protection that isn't available from most manufacturers.
- **Pipe Coil Supports of Stainless Steel** – not exposed to radiant heat.
- **ASME Code Pipe Coil Construction**

**Model VHTF – Vertical** saves valuable plant space. Allows quick and easy draining of coil by gravity.

### Model HTF

**Horizontal** offers economical design with maximum accessibility.

1. Rugged steel shell.
2. Coil supports.
3. Structural steel shell support.
4. ASME Code pipe coil.
5. Peepsights.
6. Forced draft burner available for wide choice of fuels, turndowns, emissions and fuel efficiencies.
7. Bolted access door for easy access to internals.
8. Shell insulated with low density ceramic fiber blanket for low skin temperature and heat sink.
9. Burner and controls mounted for easy access.
10. ANSI 300# flanges for thermal fluid connections.



# TYPICAL APPLICATIONS

## For First Thermal Helical Coil Heaters

- Heating evaporators • Molding plastic or rubber products • Textile heat setting • Heating resin kettles • Processing paints and varnishes • Manufacturing linoleum and vinyl floor coverings • Melting asphalt • Heating dyes • Processing food products • Heating platens • Melting soft metals • Heating drying ovens • Drying and baking enamels • Heating chemical reactors • Deodorizing animal and vegetable oils • Evaporating high-boiling materials • Heating chemical process equipment • Desulphurizing, dehydrating and odorizing gas • Heating revolving rolls to high temperatures • Comfort heating • Snow melting • Pipe tracing • Heat for synthetic fiber manufacturing



**Our technical staff will be happy to help with advice about any other specialized applications you might need.**

		HIGH TEMPERATURE HEAT TRANSFER FLUIDS											
Fluids	Temp°F	300	350	400	450	500	550	600	650	700	750	800	
DOWTHERM A/ MONSANTO VPI*		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
DOWTHERM G		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
THERMINOL 55		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
THERMINOL 59		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
THERMINOL 66		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
THERMINOL 75		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
CALFLO AF		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
CALFLO HTF		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
SYLTHERM 800		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
MULTITHERM PG1 / PARATHERM NF		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
MULTITHERM IG2 / PARATHERM HE		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			
MOBILTHERM 603		BOILING POINT			MAXIMUM OPERATING (BULK) TEMPERATURE					MAXIMUM FILM TEMPERATURE			

\* Vapor or Liquid Phase Operations. Others Liquid Phase Only.

KEY TO ABOVE



BOILING POINT

MAXIMUM OPERATING (BULK) TEMPERATURE

MAXIMUM FILM TEMPERATURE

The above chart is shown to provide a general picture of many of the commonly used thermal fluids. Consult the fluid manufacturer for complete specifications.

**Look to First Thermal Heaters for experience, quality control and dependable service! We have hydrostatic testing facilities, test area for electrical checks, and the skilled technicians for any job, including complete system packaging. You can count on First Thermal Heaters to maintain your critical production specifications and timetable!**