

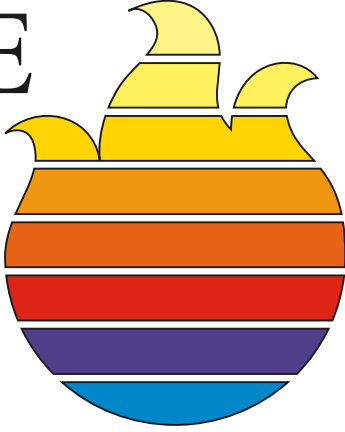


HEATEC



**THERMAL FLUID
AND PROCESS HEATERS**

INDUSTRIAL PRODUCT LINE



Heatec specializes in heating and storage equipment. We design and manufacture our products at our facility in Chattanooga, Tennessee. We have been in business since 1977 and are a division of Astec.

Our products are widely used in industrial applications, such as the following:

- *Chemical*
- *Gas*
- *Insulation*
- *Petrochemical*
- *Food*
- *Textile*
- *Pharmaceutical*
- *Wood and glass*
- *Tank farms*
- *Paper and pulp*
- *Rubber*
- *Packaging*
- *Plastics and vinyl*
- *Roofing*
- *Electronics*

Industrial Products We Make

Horizontal Helical Coil Heaters
Three-Pass Heaters
Vertical Helical Coil Heaters
Vertical Serpentine Heaters/
Vaporizers
Convectec Heaters
Vertical Down-Fired Heaters
Vertical Mixing Tanks
Bath Heaters
Cabin Style Heaters
Waste Heat Recovery Units
Expansion Tanks and Pumps
Steam Generators
Electric heaters
Fuel skids



Heatec manufacturing facility and office in Chattanooga, Tennessee

THERMAL FLUID AND PROCESS HEATERS—OUR SPECIALTIES

Heatec products for industrial use are primarily thermal fluid and process heaters. We make a wide variety of fired-heaters, both in a horizontal configuration and in a vertical configuration. Some heat thermal fluid, which in turn heats tanks, presses, dryers, reactors, chillers, extruders and steam generators. Others heat products that flow through the heating coils of the heaters.

HCI Horizontal Helical Coil Heater

Heats thermal fluid, which heats other equipment used for industrial processing. Twelve models are available in both horizontal and vertical configurations. Designed around a two-pass helical coil and provides high efficiency, simplicity, low maintenance and relatively low cost. Coil meets ASME code. Available with a manifold that enables the heater to operate with multiple thermal fluid circuits. Outputs range from 0.7 to 30-million Btu/hour.



Three-Pass Helical Coil Heater

A very high efficiency helical coil heater. Has two helical coils, a smaller coil that fits inside of a larger coil. Hot burner gasses pass through the center of the smaller coil and double back between it and the larger coil. They then travel back between the outer diameter of the larger coil and the heater shell. Thus, the gases make three passes through the heater before they reach the exhaust stack. Capacities range from 0.7 to 60 million Btu/hour. Available in horizontal and vertical configurations.





Vertical Helical Coil Heater

Is an upright helical-coil heater popular in the chemical and petro-chemical industries. Can be found on offshore oil and gas platforms. Its primary use is to heat thermal fluids and natural gas. Capacities range from 1 to 30 million Btu/hour.



Vertical Serpentine Heater/Vaporizer

Is an upright heater that uses serpentine heating coils. Used primary in the food, chemical, petrochemical, and petroleum industries. Can be used to heat almost any fluid. Occupies only a small ground area. Capacities range from 1 to 75 million Btu/hour.

Convectec™ Heater

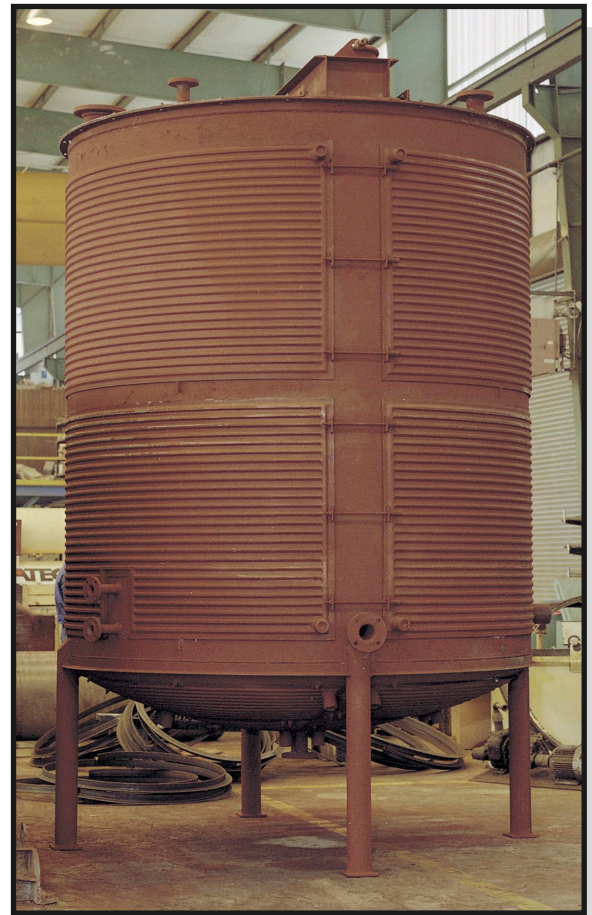
Used in the petrochemical, chemical, food, automotive and manufacturing industries. Has a wide variety of applications, especially for heating fluids sensitive to overheating. Film temperatures produced at tube walls of the heat exchanger are precisely controlled by the all-convection design. The heater can be designed so that fluids are not subjected to film temperatures more than 5 degrees F above their bulk temperature. Outputs range from 2 to 100 million Btu/Hour.





Vertical Down-Fired Heater

Is an upright helical coil heater with the burner mounted on top of the heating chamber. Used in manufacturing, especially where a small footprint is needed. Two versions are available. One has a single coil for two-pass gas flow. The other has two coils for three-pass gas flow. Outputs range from 500,000 to 60 million



Vertical Mixing Tank

Used in the roofing industry to heat and mix modified bitumen. Also used in the chemical industry for heating and mixing chemicals. Available with top-mounted mixers and furnished complete with heating coils surrounding the tank, insulation, and aluminum insulation covers. Designed for each application. Tank sizes range from 500 to 20,000 gallons.

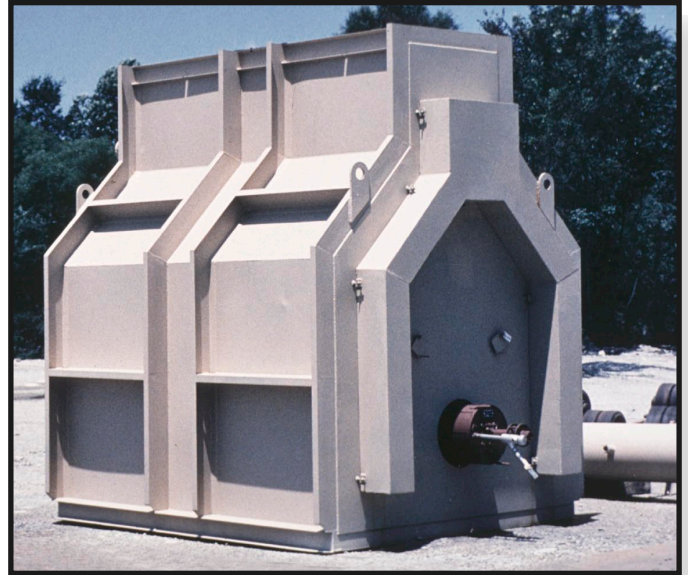
Bath Heater

Indirectly heats process fluids in either gaseous or liquid states. The fluids flow through the heated coils in the heater. The coils are immersed in a liquid bath heated by a fire tube, which is heated by a burner. The liquid bath may be a mixture of water and glycol, a salt solution, or occasionally a thermal fluid, depending upon the temperatures needed. Capacities range from 300,000 to 6 million Btu/hour.



Cabin Style Heater

Is used mainly in the chemical, petrochemical, and petroleum industries. The heat inside of the cabin shell is directed outward to coils on the inner walls. This provides direct heating of the process fluids passing through the coils. This type of unit is used primarily in difficult high-temperature processes (Amine and DEA re-boilers) where frequent cleaning of the combustion chamber is needed. Capacities range from 1 to 50 million Btu/hour.



Waste Heat Recovery unit

Recovers heat from exhaust gases of gas-powered turbines or other machines or processes that generate heated gases that might otherwise be wasted. Can be used with turbine engines, reciprocating engines, or with process streams. The hot gases are routed around finned coils that pick up the heat. The coils heat fluid flowing through them. The fluid is used to heat other materials. We design the units for your specific application.



Expansion Tank and Pump

Are usually provided as options for various types of heaters. Larger heaters usually have expansion tanks and pumps mounted on separate skids. The one shown here is actually separate from the heater skid (in the background) and is detachable. However, smaller heaters may have them mounted on the same structure as the heater.



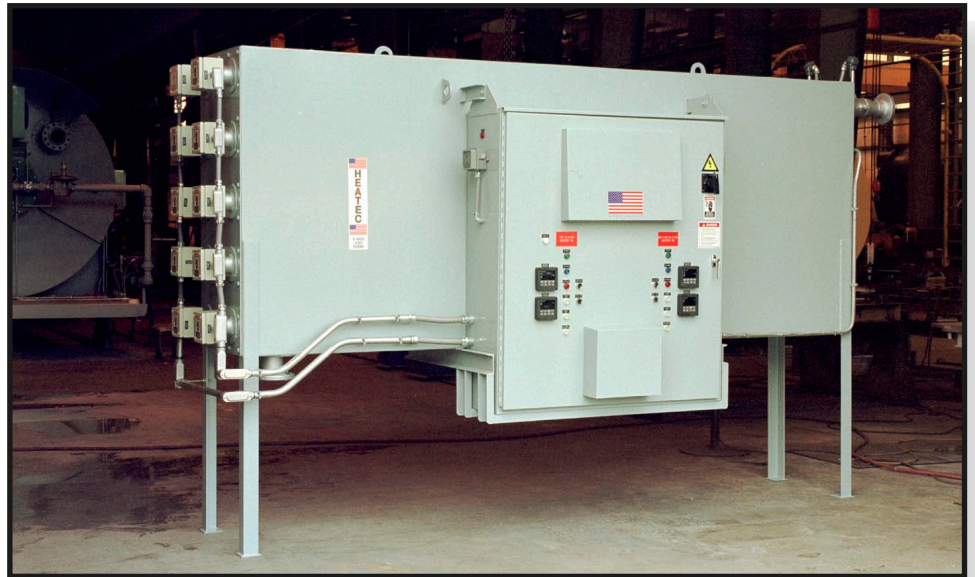
Steam Generator

Produces steam without the use of a fired boiler. Heated thermal fluid from a thermal fluid heater circulates through the tubes of the steam generator, heating water surrounding the tubes and converting it into steam. This has significant advantages over a boiler with a fire tube. Unlike a boiler, the heated tubes in the steam generator can never get hotter than the thermal fluid flowing through them. This eliminates the explosion hazards commonly associated with boilers. Moreover, it eliminates the need for a boiler tender, who must be present whenever a boiler is in operation.



Electric heater

Heats a variety of liquids. Has a series of pipes that contain electric heating elements. The elements heat fluid or gas flowing through the chamber surrounding the heating pipes. Capacities range from 100,000 to 600,000 Btu/hour (29 to 176 kW).



Fuel Skid

Conditions a wide variety of fuel oils or gases used to fire heaters, boilers and gas turbines. Fuel oils are conditioned by heating. The heat can be provided by an external source that supplies heated thermal fluid or hot water. Or the heat source can be hot process air or hot process liquids. Another option is electric heat. Gases are conditioned by cooling and re-heating or heating alone. When conditioning requires cooling the cooling source can be chilled water from an external source or by a refrigeration unit mounted on the skid.



We can handle your heating needs from start to finish. Our experienced engineering staff will design a heater to meet your specific needs. Our skilled craftsmen will build it to exacting standards and pre-test it at our factory.

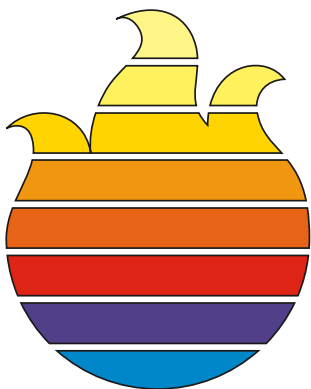
Our trained technicians will tune and calibrate it at your job site and instruct your personnel in its operation. Our parts and service specialists will help you maintain it in top operating condition.

By having a single company handle your project from start to finish you eliminate any shifting of responsibility if a problem arises.

And you may be interested in knowing that our heaters are built for long life. We have been in business since 1977 and have thousands of heaters in service.

The quality of our products and the way we cooperate with our customers have rewarded us with a high degree of customer satisfaction and repeat orders.

Why not let us handle your heating needs from start to finish.



HEATEC

an Astec company