



HEATEC HEATERS



ON LAND & SEA



Our heaters and related heating products are used throughout the world—on land and sea. We have been in business since 1977 and have thousands of products in service.

The pictures shown in this folder are but a few samples that illustrate the variety of locations and ways our products are used.

Most of the products we build have special requirements to meet a particular customer's needs. That's not a problem for us. It's something we are used to.



Tanzanite platform with Heatec heater system

This platform and another large platform named "Hickory" are owned and operated by Anadarko Petroleum Corporation. They are located in the Gulf of Mexico. Both have Heatec systems.

Each heater produces 5-million Btu/hour and is used to:

- Reduce viscosity of recovered crude for separation of water.
- Heat glycol solution in a re-boiler to remove water from gases.
- Heat amine solution in a re-boiler to remove CO₂ and sulfur from gases.



Schenzen platform with Heatec heat recovery units

The platform is in the Gulf of Bo Hai near mainland China. It has two Heatec waste heat recovery units. Both recover waste heat from the exhaust of two gas turbines used aboard the platform to drive electrical generators.

Each unit recovers 11,953,126 Btu (3500 kW) per hour. The heat is used in the processing of oil and gases that come from the offshore well.

The Schenzen company is part of the Chinese government and is headquartered in Dong Ying, a city in the Shandong Peninsula in eastern China.





Asphalt Commander on its maiden voyage from Curaçao, near Venezuela

Three Heatec vertical heaters, directly behind the pilot house, maintain the tanker's cargo of 8 million gallons of liquid asphalt at 280 degrees F.

Heatec designed, built and installed the heaters when the ship was converted from a U.S. Navy fuel tanker.

The heaters provide 15 million Btu/hour each and heat thermal fluid circulating thru 22 miles of piping in 14 compartments.

Sargeant Marine, Inc owns and operates the ship.



Heatec 8.4 million Btu/hour incinerator system at Eagle Asphalt Products, Houston, Texas

The system has a combustion chamber (center), secondary heat exchanger (left of center), combustion air preheater (far left) and exhaust blower (lower left.)

The incinerator system burns fumes created when oxidizing virgin asphalt to make "steep roof asphalt." Oxidation is achieved by blowing air into liquid asphalt while in "blow" tanks.

The process produces fumes that cannot be allowed to pollute the atmosphere. Consequently, the Heatec incinerator burns the fumes at temperatures of 1500 degrees F, leaving only carbon dioxide and steam.

About 5 million Btu of heat from incinerating the fumes is recovered and used for other heating functions that save on fuel costs.



McAsphalt barge approaches terminal at Toronto.

A Heatec helical coil heater is installed below deck on the McAsphalt barge. It has been in use since 1991. A long-life coil is extremely important where gaining access for replacement is a major undertaking.

McAsphalt Industries Ltd., in Scarborough, Ontario, is a major distributor of asphalt products. They have approximately 22 terminals throughout Canada and deliver their products by truck, rail and barge.

The barge holds 7,000 metric tons (44,000 barrels) of liquid asphalt.

The heater on the barge has an output of ten million Btu/hour and maintains the asphalt at about 149 degrees C (300 degrees F).



Heatec heater below deck



Heatec heater at chemical plant in Florida

This helical coil heater is at the facility of Arizona Chemical in Panama City, Florida. It has an output of 5 million Btu/hour and is used in the production of chemicals. It heats thermal fluid to a temperature of 653 degrees F at a flow rate of 485 gpm.

The burner has a turn-down ratio of 30 to 1 for precision control and incorporates two flame scanners. It has an oxygen analyzer and recording system.

Since 1977



Heatec heaters at Atlanta Gas Light Company's LNG facility in Chattanooga, Tennessee

Two Heatec helical coil heaters heat a mixture of glycol and water to a temperature of 190 degrees F. The heated mixture circulates through vaporizers that convert LNG (liquefied natural gas) to pipeline quality natural gas.

Each of the two heaters can bring the circulating glycol-water mixture to temperature in ten minutes and can vaporize 66 million standard cubic feet per day. Each heater has a 60 million Btu/hour low NO_x burner. They have heat recovery economizers for higher efficiency and reduced flue gas temperatures.

A LNG facility at the Columbia Gas Transmission Corporation in Chesapeake, Virginia uses the same type of Heatec heater.



Johns Manville roofing plant in Macon, Georgia

The plant produces asphalt roofing materials. Its Heatec heating system saves the company a lot of money by eliminating the need for a boiler tender.

The plant uses a Heatec 5,000,000 Btu thermal fluid heater to heat a 50,000 gallon asphalt storage tank.

The heater also heats a steam generator, eliminating the need for a fired boiler. Heated thermal fluid from the heater circulates through tubes of the steam generator, heating water surrounding the tubes and converting it into steam.

Asphalt in the storage tank is stored at 300 degrees F. A Heatec booster heater ups the temperature to 450 degrees F as it is pumped into the metering tanks and applied to the roofing material.



Thermal fluid heater.



Steam generator.



Heatec all-convection heaters in Angola

Cabinda Gulf Oil Limited uses several all-convection heaters (Heatec Convectec™ heaters) at their oil wells in Angola. Five are used at this site. This refinery is typical of those using all-convection heaters.

The crude is piped directly from their production fields to the heaters. It flows through the heater's heat-exchanger coils, which are heated exclusively by convection gases to avoid high film temperatures. Heating lowers its viscosity so it can be distributed within the refinery.



Heatec's vertical serpentine heater (right) is used to heat thermal fluid for production of carbon dioxide at a Chevron refinery in Wickett, Texas.



Heatec all-convection heaters at Diamond Shamrock Petroleum, Shamrock, Texas

Diamond Shamrock uses Heatec Convectec™ heaters to heat oil highly sensitive to over-heating. Film temperatures produced at the tube walls of the heat exchanger are precisely controlled by the all-convection design. The heater can heat fluid products without subjecting them to film temperatures more than 5 degrees F above their bulk temperature.

Heatec's Convectec heater is used in the petrochemical, chemical, automotive and manufacturing industries. It is used to heat water, gases, crude oil, thermal fluids, and viscous liquids. The heater is also used for heating cryogenic liquids such as LNG, liquid ammonia, and nitrogen.

Capacities range from 3 to 125 million Btu/hr.



West Virginia plant heats natural gas for turbines

The Ceredo Electric Generating Station in West Virginia uses a Heatec system to heat natural gas from 50 to 115 degrees F. Natural gas fuels the turbine engines that produce electricity.

Heating the gas prevents ice formation when its pressure is reduced for the engines. Ice causes numerous problems such as clogging fuel lines and freezing control valves. Even small ice particles in the fuel can cause extensive damage to turbine engines.

The Heatec system consists of an 11.7 million Btu/hour thermal fluid heater, a heat exchanger, an expansion tank, a pump system and a control panel. The thermal fluid is a non-flammable mixture of water and ethylene glycol. It is heated to 300 degrees F and passes through the heat exchanger where the natural gas is heated.



Wyoming power plant heats inlet air for turbines

The Black Hills Power and Light Company in Gillette, Wyoming uses two Heatec heaters to heat inlet air for their gas-turbine generators.

The turbine generators produce electricity to supplement power generated by older steam-powered generators in nearby facilities.

Heating combustion air prevents formation of ice during sub-zero or icing conditions. Ice can damage the turbines. The two Heatec heaters each produce 13.5 million Btu/hour. They maintain the temperature of water-glycol solution in the heating loop at 200 degrees F for heating the inlet air.



One of the two Heatec heaters

From Start To Finish



Trus Joist uses Heatec heaters in production of engineered wood products

Trus Joist, the world's leading producer of laminated joists, uses Heatec thermal fluid heaters to heat presses that laminate wood components of their joists. Their facility in Eugene, Oregon uses two 6.5 million Btu/hour heaters. Their facility in Stayton, Oregon (pictured above) uses one 6.5 million Btu/hour heater.

The temperature of the thermal fluid at the outlet of each heater is 487 degrees F.

Laminated joists are much stronger and lighter than comparable joists made from solid wood.

Trus Joist is a Weyerhaeuser Business.



Two Heatec heaters at Eugene facility



Laminated joists



Heatec heater dries lumber at Skeena Cellulose

A Heatec 3-pass thermal fluid heater heats a new wood-drying kiln at Skeena Cellulose in Terrace, British Columbia, Canada. It has an output of 25 million Btu/hour and heats heating coils in the kiln. It also heats a steam generator that injects steam into the kiln to avoid drying the lumber too fast.

The heater is fired with natural gas. It has two helical coils arranged so burner gasses make 3-passes over their surfaces before entering the exhaust stack. The 3-pass heater design is very energy efficient (estimated 85 % lhv) because it ensures that more heat from the burner is transferred to the helical coils.

The heater extends through roof of the building next to the kiln. Its vertical configuration allows it to fit in very limited floor space.



Heatec heater at Stanley Furniture in Lexington, NC

Stanley Furniture, Inc, located in Lexington, NC, uses a 1.4-million Btu/hour Heatec thermal fluid heater. It heats presses that produce wood veneers for their bedroom furniture.

The heater has a double-wound helical coil made to ASME code. It has an outlet temperature of 450 degrees F.

The heater is equipped with two independent pumps for circulating thermal fluid. One circulates fluid through the top platen of the press. The other circulates fluid through the bottom platen. The temperatures of the top and bottom platens are controlled independently.

The control panel is a UL approved, Type 12 enclosure.



Froedtert Malt uses Heatec heaters to dry malt

Two Froedtert Malt facilities, one in Milwaukee, WI and one in Winona, MN use Heatec 3-pass heaters to make malt. They heat thermal fluid pumped through heat exchangers to heat air that dries the malt. The air is heated to about 180 degrees F and passes through soaked barley, converting it into malt.

The 3-pass design is very energy efficient. The heater at Winona outputs 21 million Btu/hour with an efficiency of 86% LHV. The one in Milwaukee outputs 32 million Btu/hour. Its economizer boosts efficiency to 93% LHV.

Froedtert processes barley into malt for use worldwide in beer, distilled liquor, cereal and other foods.



3-pass heater at Winona



Cleanup of contaminated soil in Brunei

Contaminated soil at this Shell Oil Refinery in Brunei is being cleaned up using thermal processing equipment. Astec and Heatec designed and built the equipment.

Oil-soaked soil is fed into a rotary kiln where the hydrocarbons are vaporized, leaving the soil clean. The vapors are then condensed to recover oil and gases that can be recycled. A Heatec thermal fluid heater and steam generator provide auxiliary heat and steam. Steam is used to seal explosive gases in the kiln during operation and to suppress them at shutdown.



Heatec thermal fluid heater and steam generator.



Mitchell Gas regenerates gas with Heatec heaters

Mitchell Gas Services L.P. in Bridgeport, Texas processes wellhead gas into pipeline-quality gas. They do this by filtering the wellhead gas through solid desiccants that absorb moisture. Additional gas processing at the plant produces clean, pipeline-quality gas suitable for homes and businesses.

When desiccants become saturated with moisture and liquid hydrocarbons, they are regenerated by heating pipeline gas and piping it through the desiccants.

Two Heatec helical coil heaters heat gas for regeneration, heating it from 50 to over 500 degrees F. The heaters produce 7.1 million Btu/hr. Their coils meet ASME code and their shells and skirts were sandblasted and seal welded to resist rust.

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.

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



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an Astec Company