

## Suction Heaters ★ Heat Exchangers ★ Bayonet Heaters

### Suction Heaters

This type of heater consists of a custom designed tube bundle mounted inside a shell. The shell is open at one end and closed at the other end. Fluid flows through the open end and is heated by a heat transfer medium-hot oil., steam or other fluid-and exits the suction heater outside of the tank. A mounting flange is supplied on the suction heater that is designed to bolt onto the manway flange in the tank. All American Heating Company suction heaters are built to ASME code and are code stamped.

The Suction Heater heats only the liquid being pumped through it instead of heating an entire storage tank of products.



### Shell and Tube Heat Exchangers

American Heating Company supplies a line of shell and tube exchangers specifically designed to heat viscous fluids. They are custom designed bare tube exchangers that are located external to the storage tanks. Product is heated using either hot oil or steam. The shell and tube exchanger serves the same function as the Suction Heater, however it is located outside of the tank.

All American Heating Company Shell and Tube Heat Exchangers are built to ASME code and are code stamped.



### Bayonet Heaters

This type of heater consists of a custom designed tube bundle that is provided with a mounting flange that is bolted to the side of the tank. The coil is completely open to the fluid in the tank and, unlike a Suction Heater, the Bayonet Heater is designed to heat the entire tank.



1200 Route 46 West, Clifton, New Jersey 07013

Phone: (973) 777-0100 Fax: (973) 777-4693

Email: [info@americanheatingco.com](mailto:info@americanheatingco.com)

Web: [www.americanheatingco.com](http://www.americanheatingco.com)



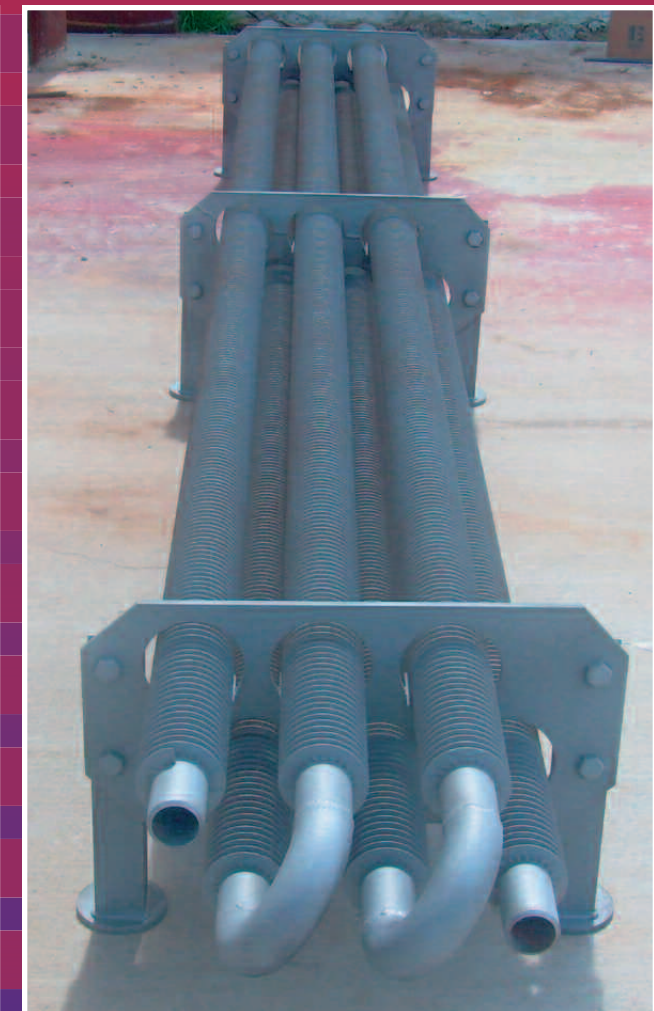
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# AMERICAN HEATING COMPANY

## TANK HEATING PRODUCTS



**SHELL & TUBE HEAT  
EXCHANGERS**



**TANK HEATING COILS**

**SUCTION HEATERS**

**HOT OIL COILS**

**BAYONET HEATERS**

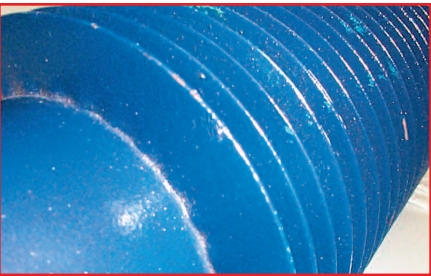
**STEAM COILS**



# American Heating Company Tank Heating Coil Technology & Design

## Finned Coil Advantage

- Finned Coils have as much as 12 times the heat transfer area of bare coils.
- Finned Coils are much less expensive than bare coils on an installed basis.
- Finned Coil installation is quicker and less expensive than bare coils. Minimal work inside the tank is required.
- Less coils means less welds in your tank. Tank leaks are thereby minimized.



## Helically Wound VS. Longitudinal Fins

- All American Heating Company horizontal tank heating coils employ a continuously welded Helically Wound fin design.
- Helical fins in a horizontal design require half the surface area of a longitudinal fin to transfer the same amount of heat.
- Heat transfer is lessened with a longitudinal fin in a horizontal position due to resultant “dead spots” around the fin and tube. This heat transfer phenomenon leads to fluid stagnation, the result of which is hot spots, and eventually, coking of the fluid.

## Helical Fin



## Longitudinal Fin

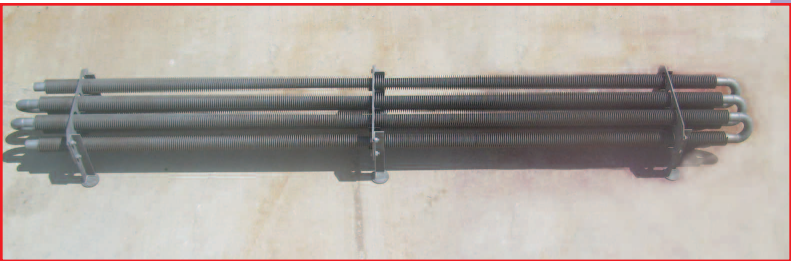


## Benefits of American Heating Company Technology

- American Heating Company offers custom designed coils based upon your specific criteria and needs.
- American Heating Company coils are computer designed by our experienced engineering staff.
- American Heating Company offers assistance in tank heating coil layout within your tank.
- American Heating Company’s Helically wound fin tubes have been proven to deliver twice the amount of heat transfer to the tank product as longitudinal fins for the same heating surface.
- American Heating Company tank coils are compact and can be installed easily and less costly than other coils in your tank.
- American Heating Company can offer tank coil deliveries to meet your needs due to our ability to manufacture these coils in our own fabricating facility in Oklahoma.
- All of our tank heating coils can be code stamped to ASME when required.

## Hot Oil & Steam Tank Coils

- American Heating Company manufactures a large variety of tank heating coils using hot oil, steam, and other liquids as a heat transfer medium.
- Most American Heating Company tank coils are horizontal and employ solid helically-wound fins.
- Tank heating coils can be designed to fit through existing manways.
- Fin and coil material can be carbon steel or a variety of stainless steel and other metals.
- Coils can be schedule 40, schedule 80, or other thickness as required. All coils are designed using seamless pipe.
- Coils can be designed with a multitude of tube diameters, fin heights, fin thickness, and fin density.
- Steam coils are arranged in a parallel flow arrangement to allow for steam to go to condensate in the shortest flow path thereby allowing the highest heat transfer rate possible.
- Tank Heating Coils are supplied with tube supports and legs. Our tube supports are uniquely designed to include a ferrule to prevent the tubes from thinning and leaking due to thermal movement on the tube supports.



Hot Oil coils are arranged in a serpentine fashion within the tank coil in a series flow design.



The header design for the Steam Coils that we employ allows for uniform steam distribution throughout the coil and easy connections to your steam and condensate systems.

## Tank Heating Coil Applications

American Heating Company tank heating coils have been used in a wide variety of applications and industries.

Some of these applications include:

- Asphalt Storage
- Bio-Diesel Storage
- Crude Oil Storage
- Number 6 Oil Storage
- Waste Oil Storage
- Chemical Tank Storage-Sulfur, caustics, etc.
- Water Tank Heating

Some of the industries served include:

- Bio-Diesel Storage
- Tank Storage Terminals
- Oil Refineries
- Chemical Plants
- Food Processing Plants
- Barges and other shipping vessels
- Utilities