



**AMERICAN
HEATING
COMPANY**



PROCESS HEATERS • HOT OIL HEATERS • DIRECT FIRED HEATERS

Pictured below are some of the various components of the **American Heating Company** Hot Oil Heater:



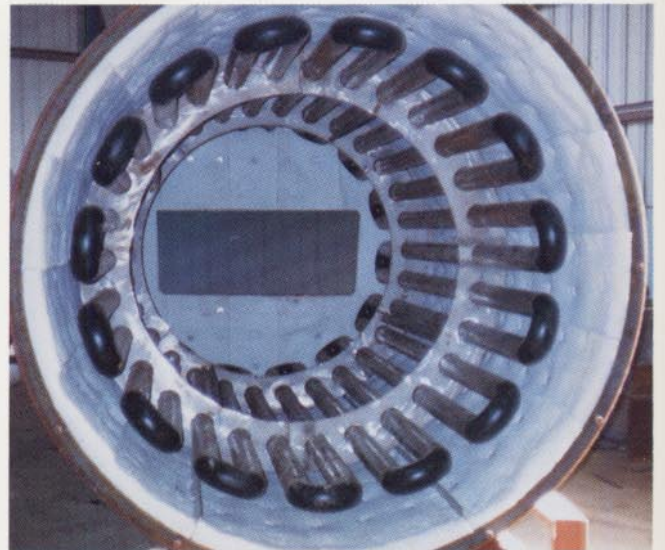
Stainless steel radiant tube supports



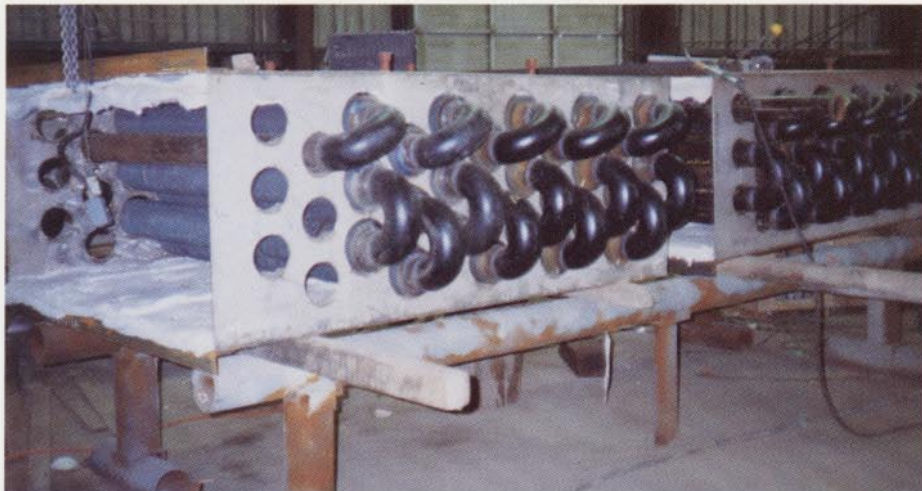
Radiant tube bundle



Radiant shell with ceramic fiber blanket and stainless steel runners



Completed radiant section



Convection section with finned tubes



Control panel

Applications

American Heating Company Heaters can be used in a wide variety of applications. With our vast experience and knowledge of heat transfer, American Heating Company can custom design any heater for your specific need. In addition, we have a large inventory of standard model heaters to fit most of your everyday applications.

Some of the ways in which you can use an American Heating Company Heater are:

- HOT OIL HEATERS

- Asphalt Heating
- Chemical Process Heating
- Petroleum Refining
- Tanker and Barge Heating
- Rubbers, Plastics and Paper Processing Heat.
- Synthetic Fiber Production
- Surface Coatings Curing
- Alkyd Paints and Resin Kettle Heating
- Lube Oil and Fuel Oil Heating
- Metal Treating
- Space Heating
- Food Industry
- Laundries
- Hospitals

- VAPOR PHASE HEATERS

- Natural Gas Heating
- Regeneration Gas Heating
- Air Heating
- Steam Superheating

- GLYCOL HEATERS

- WATER HEATERS

- CRUDE OIL HEATERS



(2) 12.0 MM BTU/HR Hot Oil Heaters with 4,000 Gallon expansion tank for an Asphalt Storage Facility in New Jersey



1.5 MM BTU/Hr. Hot Oil Heater used in a Laminating Process in New Jersey



10.0 MM BTU/Hr. Hot Oil Heater used in a Chemical Process Plant

Specifications:

American Heating Company has many standard models of heaters ranging in size from 0.6 MM BTU/Hr. to 50.0 MM BTU/Hr. In addition, we can custom design a heater to fit any of your specific requirements.

Custom designed heaters are available up to 200 MM BTU/Hr. or more.

Please contact American Heating Company or an authorized representative to determine the correct heater size for your application.

Standard Features:

Coil:

- Serpentine Radiant Design
- Finned Convection Design
- Seamless Pipe
- Space Between Tubes
- Stainless Steel Supports
- Fully Hydrotested
- Partial X-Ray of Welds
- Tube Seals at Terminal Connections

Safety Controls:

- High Oil Temperature
- High Stack Temperature
- Low Oil Level
- Low Differential Pressure
- Flame Safeguard - Indicating Type
- High Pressure Control

Burner:

- Full Modulation
- Automatic Controls
- Forced Draft Fan
- Weatherproof Wiring (if Outdoor Installation)
- Flame Failure Audible Alarm
- Wired and Test-Fired at Factory

Circulating System:

- Expansion Tank (Remote)
- Main Circulating Pump
- Mechanical Seals on Pumps

Electrical:

- Standard Voltage 460/60/3
- Control Panel
- Safety Disconnect Switch
- Control Circuit Transformer
- Indicating Lights
- Indicating Annunciator Lights
- Pump and Burner Interlock
- Motor Starters

General:

- 1/4" Carbon Steel Shell
- 4 Inches Ceramic Fiber Internal Insulation
- Skid-Mounted
- Flanged Inlets and Outlets
- Lifting Lugs
- Removable Radiant Coil
- Removable Burner Head
- Programmable Controller

All Heaters Are A.S.M.E. Code Stamped to Section I and National Board Registered

Optional Features:

- F.M. Approval
- IRI. Approval
- Oil, Natural Gas or Combination Burners
- Waste Oil Firing

- Pumping Skids
- High Temperature Systems
- Coil Metallurgy
- Various Motor Voltages
- On/Off Firing on Some Smaller Models

American Heating Company Engineering Services:

American Heating Company can offer a complete spectrum of services for all of your plant needs. These include:

- Evaluation of Heat Requirements of Your Plant
- Design of Complete Heating Systems
- Sizing of Process Fluid Lines
- Project Management
- Energy Surveys
- Pumping Requirements
- Plant Layout Drawings
- Piping Drawings

FOR MORE INFORMATION ABOUT OUR PRODUCTS PLEASE CONTACT:

AMERICAN HEATING COMPANY

1200 Rt. 46
Clifton, NJ 07013

973-777-0100
973-777-4693 FAX



AHC-25-94



Plant Location:
Tulsa, Oklahoma

Do you really believe that helical coil heaters are 80-85-90% efficient?

WE DIDN'T THINK SO!

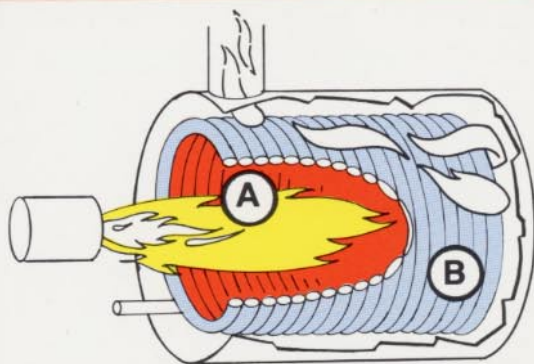
Do you have any of these problems?

- Process fluid degradation
- Tube failures
- High fuel costs
- High stack temperatures - 800°F or higher
- High maintenance costs
- Limited operation at fluid temperatures over 400°F

WE THOUGHT SO!

Then it is time to consider an American Heating Company serpentine coil, high efficiency heater. Our finely-engineered heater design, proven with over forty (40) years of operating experience, can eliminate all of the problems listed above while delivering the highest fuel efficiency attainable today — **and we guarantee it!**

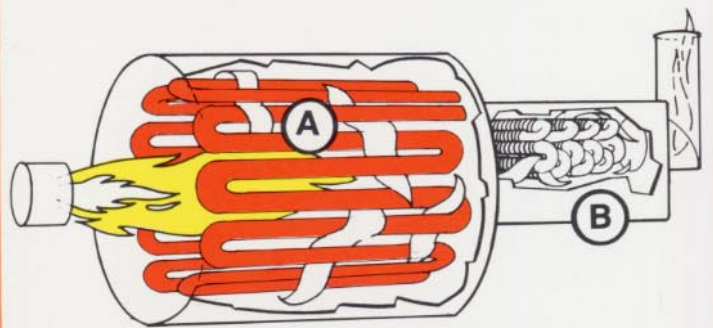
Compare the coil arrangement of a helical coil heater versus a serpentine coil heater shown below:



TYPICAL HELICAL COIL HEATER

RADIANT SECTION

Designation A above shows the radiant section of both types of heaters. This is the portion of the heater where heat is transferred by direct radiation. Note that this occurs only on the inside surface of the helical coil tubes while heat is transferred to the front, sides and back of the serpentine coil. This allows for a much more even heat distribution, less oil degradation, longer tube life and higher operating oil temperature with the serpentine design.



**AHC SERPENTINE COIL HEATER
WITH ECONOMIZER SECTIONS**

CONVECTION SECTION

Designation B above shows the convection section or economizer of both types of heaters. This portion of the heater transfers its heat by convection. Note that this occurs only on the outside surface of the helical coil tubes while heat is transferred to many times the surface area of the AHC finned convection section. This allows for a much lower stack temperature and much higher efficiency with the finned coil AHC design. The lack of the convection surface area is the reason that stack temperatures of 800°F and higher are found in the actual operation of a helical coil heater.

Compare some of the standard features of an American Heating Company Heater with those of a helical coil design:

	American Heating Co.	Competitors
Serpentine Radiant Coil	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Removable Radiant Coil	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stainless Steel Tube Supports and Runners	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4" High Temp. Ceramic Fiber Internal Insulation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stainless Steel Insulation Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1/4" Carbon Steel Shell	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Finned Convection Section (Economizer)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All Welded External Piping	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mechanical Seals on Pumps (Liquid Heaters)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Indicating Temperature Controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Indicating Annunciator Lights	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fully Hydrotested	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Partial X-Ray of Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Tube Seals at Terminal Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>

For a complete listing of the standard features of our heaters, please refer to the back page of this brochure.

HOT OIL HEATERS

American Heating Company specializes in the design of HOT OIL HEATERS and Heating Systems.

As noted on the previous page, there are distinct differences between a serpentine coil design with finned convection section (AHC heater) and a helical coil design. Some of the advantages of the AHC Hot Oil Heater are:

- Higher Efficiency
- Low Level of Fluid Degradation
- Operating Temperatures up to 650°F
- Long Tube Life — Over Ten (10) Years of Continuous Operation
- Ease of Maintenance — Removable Tube Bundles

HOT OIL VS. STEAM

Although steam has been the choice in many applications over the years, we find that Hot Oil may be a better choice in most of these applications. Shown below are some of the reasons why we believe this:

- Low System Pressure at High Temperatures
- Smaller Diameter System Piping (Liquid vs. Vapor)
- Eliminate Flash Drums, Safety Valves and Pressure Control Devices
- Eliminate Heat Lost by Condensation in Supply Lines
- Minimum Maintenance — No Steam Traps or Frozen Lines
- Reduce Number of Operating Personnel
- Minimize Heat Transfer Surface in User Vessel to be Heated