

THERMAL FLUID HEATERS



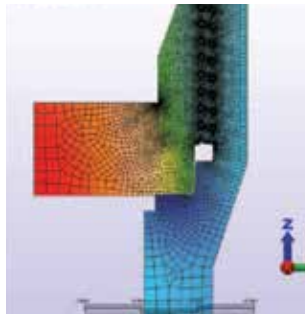
Struthers Wells
a Babcock Power Inc. line of products

OVERVIEW

Struthers Wells, a Babcock Power Inc.® line of products, designs, fabricates and supplies heat recovery equipment for the extraction of heat from high temperature process or flue gas streams and is a major supplier of circulating thermal fluid heating systems to Chemical, Petrochemical, Petroleum and Power producers.

With over 1,000 installations, Struthers Wells systems are designed to provide high-temperature heat at relatively low pressures to a wide variety of process users such as heat exchangers, reboilers, kettles, autoclaves, calciners, dryers and synthetic fiber extrusion presses. In a thermal fluid system, transfer fluid is heated to elevated temperatures and then transfers heat to process users by either condensing vapor or liquid-phase heat transfer.

- Synthetic Fluids
 - Dowtherm®
 - Therminol®
 - Syltherm®
 - and others
- Mineral Oils
- Inorganic Fluids
- Molten Salt
- Liquid Metals



FEATURES

- High-efficiency crossflow convection tube banks
- Optional air preheaters
- Customized shell and tube exchangers and crossflow tubular exchangers
- Available with on-line cleaning by sootblowers
- Vertical heaters occupy smallest possible footprint

BENEFITS

- Capable of 90% efficiency.
- Heat duties for fired systems typically range from 3.4 million Btu/hr (1.0 MWt) to over 121 million Btu/hr (35 MWt) in a single heater.
- Vertical heaters save valuable plot area. Allows the stack to be integral to the heater instead of requiring a free-standing stack.



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TECHNOLOGY

Being one of the original founders of Tubular Exchanger Manufacturers Association (TEMA) and a charter member of the Heat Transfer Research Institute (HTRI), TEi Struthers Wells has available the most current and advanced technology for the design and manufacture of heat transfer equipment. The basis for many current computer programs used by industry leaders today is due to Struthers Wells contribution to the development of numerous standard mechanical, thermal, fluid, and vibration algorithms and calculation methods.

Struthers Wells uses sophisticated finite element analysis software to perform detailed mechanical design analysis.

A wide range of heater type are offered to assure that the thermal fluid heater proposed is the best choice for the application, not merely the type that can be fabricated at the least cost.



SERPENTINE AND HELICAL COILS

- Serpentine coils are offered with optional coil drains and are the workhorse of the industry, offering the most rugged and flexible design.
- Helical coils are inherently drainable and are preferred for freeze-prone liquids such as molten salt or liquid metals.
- Horizontal serpentine coils are inherently drainable, so they are ideal for difficult fluid applications. These horizontal heaters are usually the first choice when sufficient plot area is available.

CABIN AND CONVECTIVE HEATERS

- Cabin heaters are typically used in larger sizes that cannot be shipped in one shop-assembled piece. This design often lends itself well to modular design for quick field assembly.
- Convective Heaters with a Combustion Chamber and Flue Gas Recirculation provide controlled, uniform heat flux profiles in cases where fluid film overheating may be a concern.
- These heaters ship as skid-mounted assemblies with key items accessible from grade level for easy inspection and maintenance.

SAFETY³ PEOPLE. POWER. PROJECTS.

We're giving safety the third degree.

Babcock Power Inc. and its subsidiaries place the safety, health and security of our people at the core of our company values. Our team is our most valuable resource, generating solutions everyday to deliver safe, clean, reliable energy globally. With a keen focus on safety, Babcock Power Inc. conducts business in a manner that protects our people, our customers and the environment. From innovation to generation, we are proud of our award-winning safety record and are committed to operating with integrity and excellence.

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