

BRECHLOCK CLOSURE



OVERVIEW

Struthers Wells®, a TEI 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.

TECHNOLOGY

Being one of the original founders of Tubular Exchanger Manufacturers Association (TEMA) and a charter member of the Heat Transfer Research Institute (HTRI), 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 for detailed mechanical design analysis.



FEATURES

- Improved design
 - Self-energized gasket closure
 - Diaphragm closure
- Joint Flexibility
- No gasket seating load
- Diaphragm plate seal welded to the channel

BENEFITS

- Fluid pressure is not applied to the mechanical threads, which avoids hoop stresses and radial expansion at the threads
- Compensates for differential thermal expansion due to varying temperatures of the various joint components
- Improved ACME thread has optimized pitch preventing the potential for binding issues
- Improved design for horizontal installation to prevent scraped-off metal chips which can cause leaks in the shell-to-tube sheet gasket
- Forces on the threads are purely mechanical



BREECHLOCK CLOSURE

In 1968, Struthers Wells® was involved in the design of a special heat exchanger for a major oil company to be used in the Hydrocracking process. Struthers Wells® supplied a number of heat exchangers using the basic concept of breechlock closure, and incorporated certain design features which improved the reliability of the closure design.



SELF-ENERGIZED GASKET CLOSURE

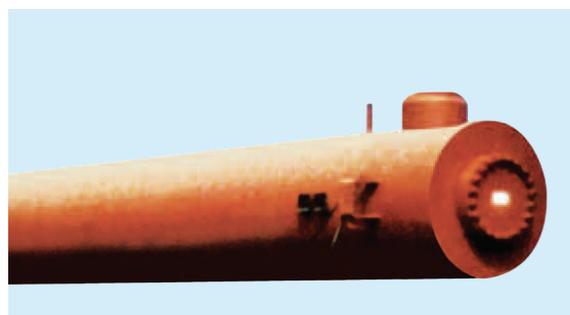
The self-energized gasket closure may be utilized whenever the design pressure is equal to or greater than 3,000 psi or the diameter of the closure is greater than 90 inches.

- Flexible so that the internal pressure acting against it seals the closure
- Bolts are designed for the end load
- No gasket seating load



DIAPHRAGM CLOSURE

The diaphragm closure is used in Chemical and Petrochemical processes. The advantage being the gasket seating load is zero (0) thereby reducing the size of the closure bolts. Because the diaphragm plate is seal welded to the channel, any potential leak paths of the channel fluid are eliminated.



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