



**HEATEC**

# HELICAL COIL REBOILER

**T**HE HEATEC HELICAL COIL REBOILER is a fired heat exchanger that can be used in systems that process natural gas for pipeline distribution. Key features are its vertical configuration and forced circulation.

Two of these units may be used in a gas processing system. One may be used to regenerate glycol. The other may be used to regenerate amine.

When glycol is used to remove moisture from gas the glycol becomes a mixture of glycol and water. It must be regenerated before it can be reused. Regeneration removes the water from the glycol. The reboiler provides heat for this process.

Heating the glycol-water mixture vaporizes the water, while the glycol remains mostly liquid. The vapors are usually piped to a distillation column, which recovers glycol that may have vaporized.

When amine is used to remove hydrogen sulfide ( $H_2S$ ) and carbon dioxide ( $CO_2$ ) from gas, it too must be regenerated before it can be reused. Regeneration removes these contaminants from the amine. The re-boiler provides heat for this process.

The unit has one or more helical coils that resemble those in HMO heaters or conventional thermal fluid heaters, also used in gas processing. However, these units should not be confused with each other.

Unlike HMO heaters, the glycol or amine is heated *directly* as it flows through the coils of the reboiler. The reboiler can be designed with one or more coils, depending on the flow rate needed.

The shell of the unit is insulated to minimize heat loss and increase thermal efficiency.

Our reboilers can be provided in various sizes to meet customer needs.

Heatec also offers fire tube reboilers. Here are some considerations for choosing between these two types of reboilers:



The unit pictured here has an output of 8.66 million Btu/hour. It has a stack heat exchanger to recover waste heat.

**Space needed.** The vertical configuration of the helical coil reboiler has a significantly smaller footprint than the fire tube reboiler. Consequently it requires much less floor space.

**Capacity.** Helical coil reboilers usually have greater capacities for their physical size than fire tube reboilers. This is a consideration for shipping and for installation location.

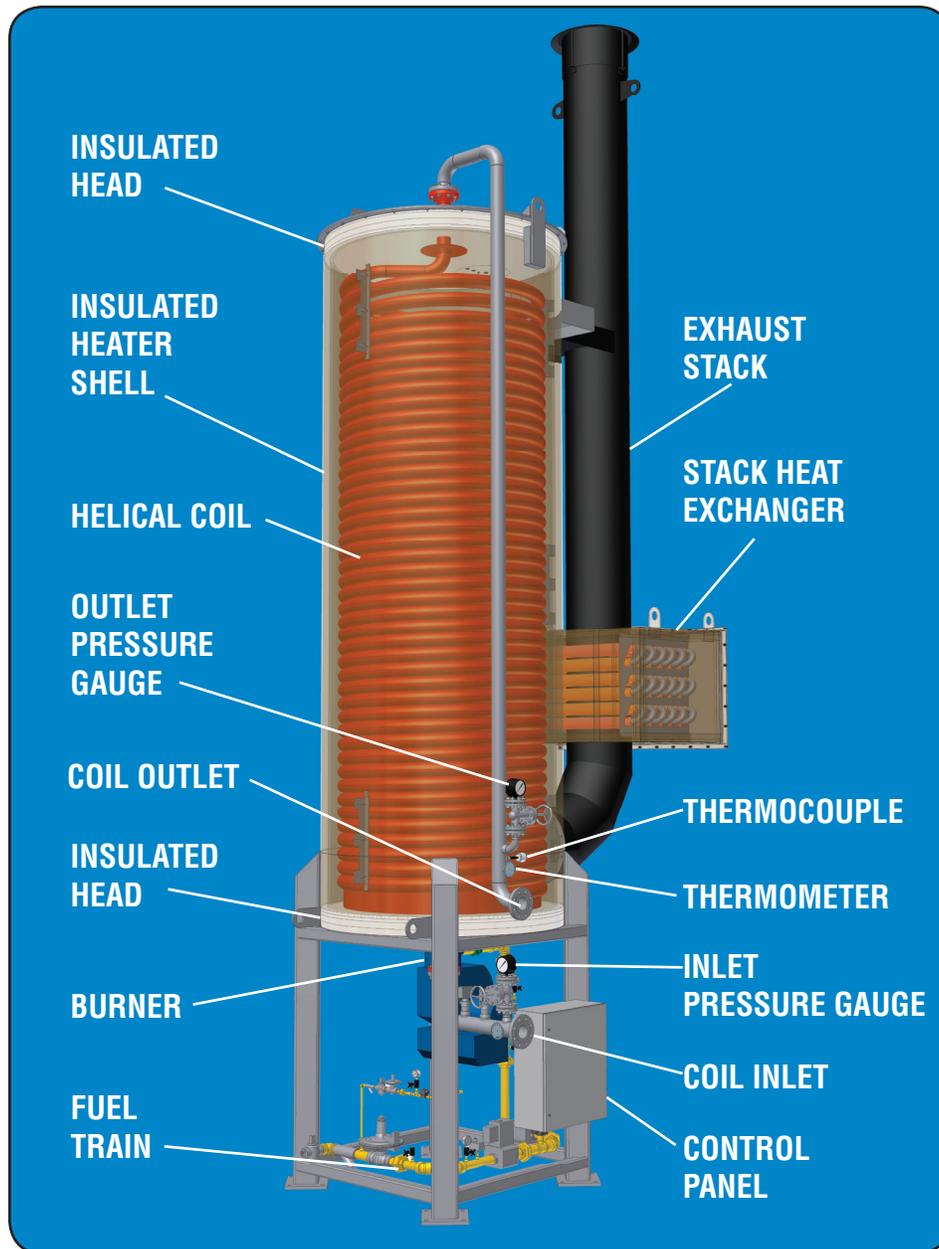
**Electrical power.** Fire tube reboilers do not require booster pumps for circulation. This reduces electrical power demand on offshore platforms.

**Film temperatures.** Helical coil reboilers have forced recirculation, which produces lower film temperatures than natural circulation of fire tube reboilers.

**Thermal efficiency.** A heat exchanger is easily fitted to the exhaust stack of a helical coil reboiler to

recover waste heat from the exhaust stack. It can provide a significant reduction in fuel usage.

**Emissions.** Helical coil reboilers produce lower levels of NO<sub>x</sub> because of lower operating temperatures in their combustion chambers, an inherent characteristic of their design.



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