

Alternative Energy : Cooling Gasoline

The Objective

To design a heat exchanger capable of cooling hot process gas from 125°C down to 30°C, while maintaining constant pressure and flow conditions. The system needed to deliver durable, reliable performance under steady operating parameters with dependable gas connections.

The Challenge

The customer's process required cooling a continuous gas stream where both pressure and flow rate remained constant, demanding precise thermal control without compromising system integrity.

Tight installation constraints and material compatibility requirements called for a compact, efficient design that would integrate easily into the existing setup.

Additionally, tube stub connections were specified to ensure secure and sanitary gas inlet/outlet fittings.

The Solution

Exergy engineered a tube-in-tube heat exchanger (Model #03315-01) specifically optimized for high-performance gas cooling.

The exchanger was constructed entirely of 316L stainless steel for durability and corrosion resistance.

Key Specifications:

- Inner Tube: 0.75" OD × 0.065" wall thickness
- Outer Tube: 1.25" OD × 0.065" wall thickness
- Tube stubs on all ports for secure gas connections

This robust configuration ensured efficient heat transfer and reliable operation under continuous, steady-state process conditions.

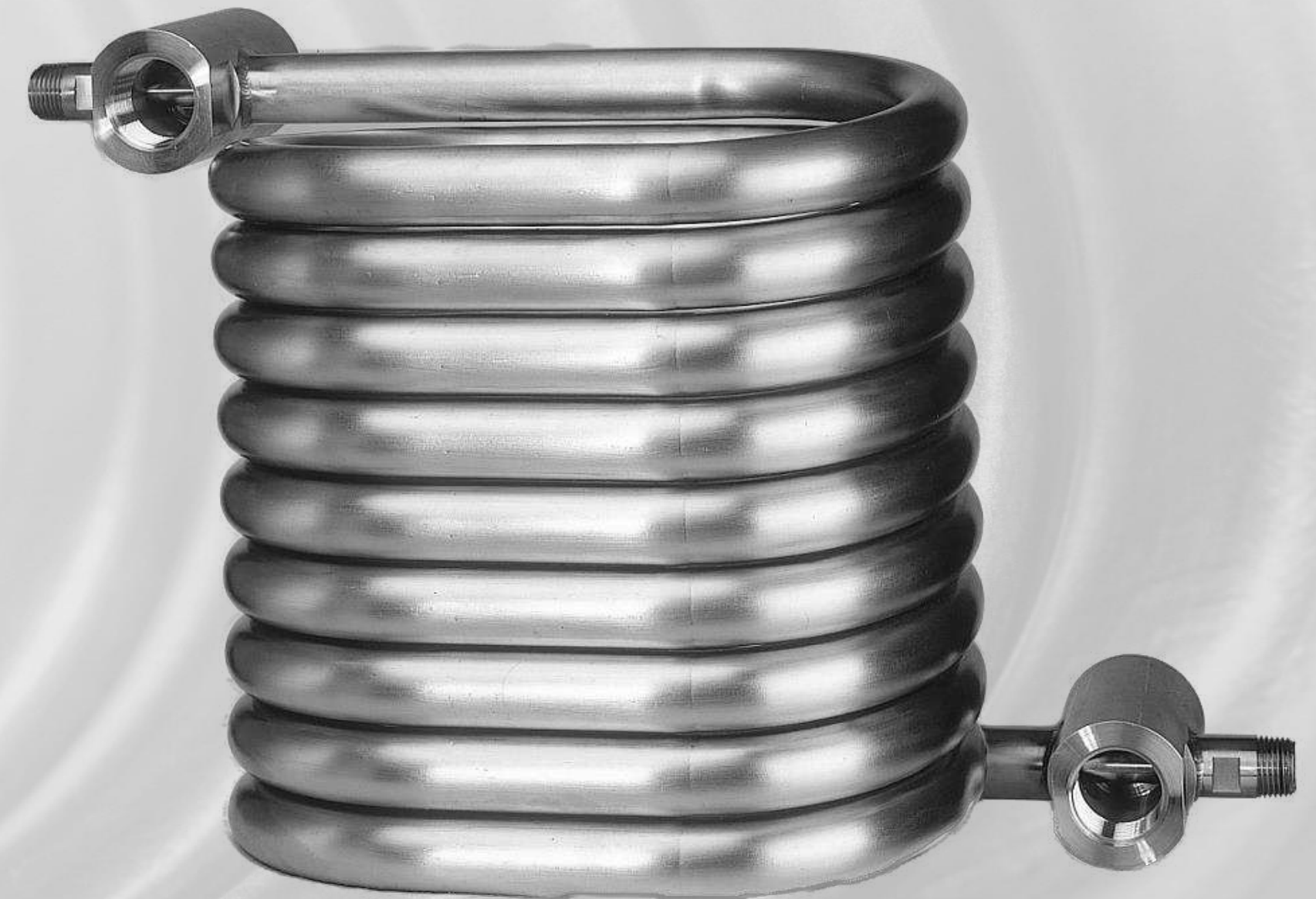
The Results / Benefits

The Exergy solution successfully cooled the gasoline vapor stream from 125°C to 30°C while maintaining consistent flow and pressure.

The all-316L stainless steel construction provided long-term durability and corrosion resistance.

The compact, maintenance-free design integrated seamlessly into the system, delivering dependable thermal performance and low operating costs.

This case highlights Exergy's expertise in engineering precision heat exchangers for demanding gas-cooling applications in industrial environments.



ISO 9001:2015 CERTIFIED
QUALITY MANAGEMENT SYSTEM