CHESTERTON
Global Solutions, Local Service.

Gas Seal for Propylene Services

Rotating Equipment Sealing Solutions

Chemical
Chesterton 4400 Dual Concentric Gas Seal
Case Study 013 RE

Challenge

Propylene is a primary intermediate in the production of many plastic materials. It is a gas atmosphere and flammable, and is a poor seal face lubricant. It is considered a volatile organic compound (VOC) and emissions are regulated by many governments.

This plant was using single seal with a steam quench to seal propylene. The quench kept the seal O-rings resilient during operation but added temperature to the single seal. This increased emissions and flashing, resulted in reduced sealing performance.

The plant wanted to improve sealing reliability and eliminate any fugitive emissions.

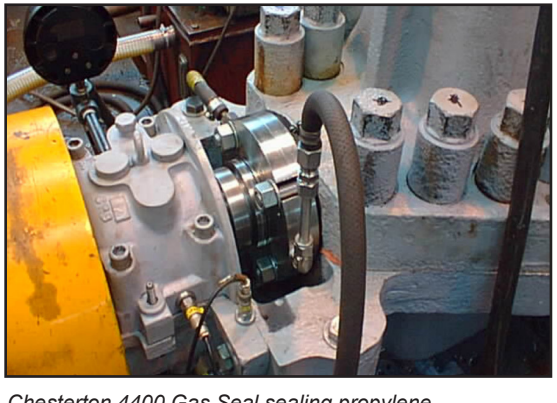
Solution

The **Chesterton 4400 Dual Concentric Gas Seal** was installed in the propylene pump population.

- Environmental Piping Plan 74 was installed to protect and control the gas supply to the seal
- Plan 11 was also used to reduce the pressure in the stuffing box
- The steam quench was eliminated because the **Chesterton 4400 Gas Seal** was fitted with FKM O-rings that maintained their resiliency without the need of added heat

Results

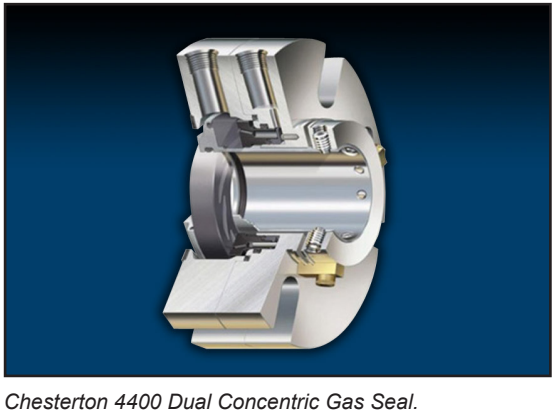
- The operation was able to eliminate fugitive emissions using the **Chesterton 4400 Dual Concentric Gas Seal**
- Sealing reliability was significantly improved
- The plant was also able to eliminate steam quench requirements and increase sealing



Chesterton 4400 Gas Seal sealing propylene.

Why Use Chesterton 4400 Gas Seals?

- Zero emission, monitoring exempt dual gas seal design
- Full sealing recovery following loss of barrier gas
- In-Gland Control System (IGCS) dynamically tracks process pressure to minimize gas consumption
- No heat generation
- Designed for ANSI/API pumps, mixers, compressors, and blowers



Chesterton 4400 Dual Concentric Gas Seal.

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