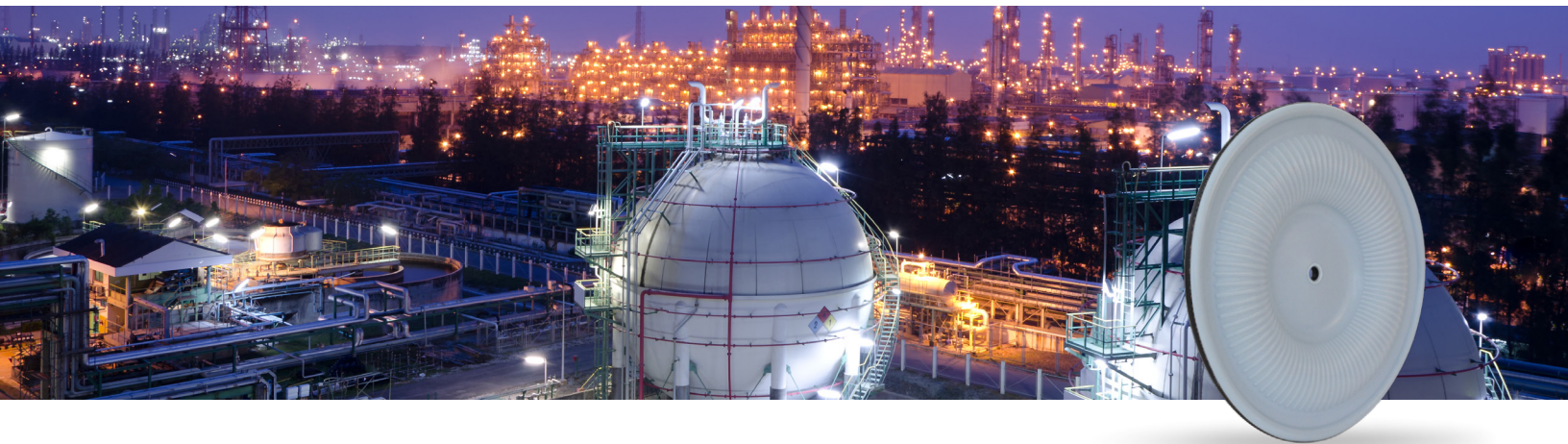


Case Study: Garlock ONE-UP[®] Diaphragms - Chemical Processing



INDUSTRY

Chemical Processing

BACKGROUND

Customer was able to replace traditional diesel driven pumps used for decontamination projects using a combination of AODD pumps and butterfly valves (powered by an air supply). They designed and fabricated skids that utilize two 3" AODD pumps that are joined at the manifolds which allow their customers to use one pump or both pumps at the same time for more demanding applications. The second pump also serves as a backup in the event that the first pump goes down.

CHALLENGES FACED

The challenge faced by this customer was the short life span from the original PTFE diaphragms that came with the pump. They tried using an EPDM diaphragm by itself as well as conventional skived PTFE diaphragms with a EPDM backer but none of them lasted longer than 1 rental period (30days). Most of their applications involved pumping abrasive coke dust, condensate and various chemical cleaning agents which can be aggressive because the abrasives tear through the PTFE and the elastomer backing is softened from the chemicals.

The EPDM and conventional skived PTFE diaphragm life was unpredictable it made it difficult to determine if/when they would rupture.

OPERATING CONDITIONS

Temperature: Ambient up to 200°F (93°C)

Application: Oil refinery

Media: Coke dust, cleaning chemicals

Pressure: 30 - 80 psi

SOLUTION AND BENEFITS

By working closely with one of their distributors the customer was able to source an initial set of Garlock ONE-UP[®] diaphragms which are composed of an ePTFE bonded to a fabric reinforced elastomer backer. In addition, by switching to the 1 piece Garlock ONE-UP[®] composite diaphragms they ultimately saved on overall maintenance costs including: flights to fix a pump at an end-users location, hotel costs and pump replacements.

For more information, please visit:

<http://www.garlock.com>

02.2024