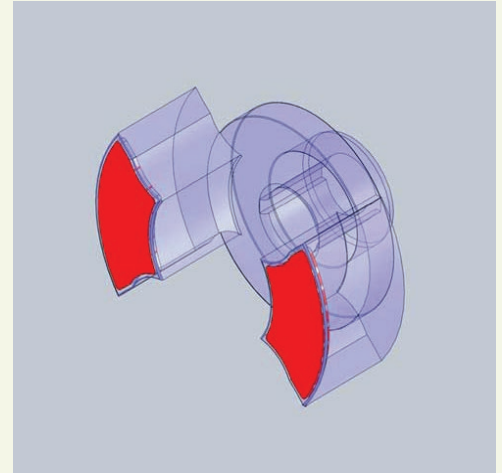
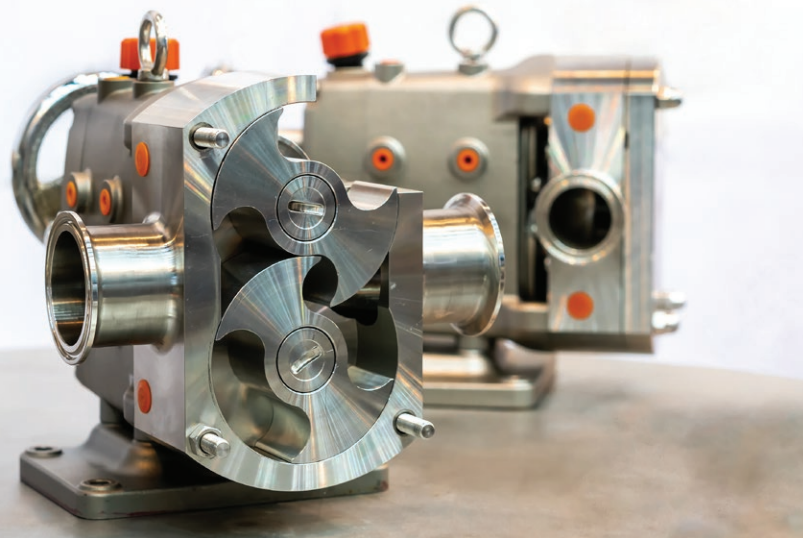


Special PEEK Rotor Insert Eliminates Failure in Chemical Pump

■ A partnership with TriStar gives you a competitive edge.



A major chemical processor came to us with an issue where exposure to acids was resulting in premature failure of pump rotors. In this case, the system was a processing pump that uses a rotor system to produce flow.

As initially designed, the rotor relies on the acids being processed to produce a hydrodynamic lubricating film across the faceplates. Unfortunately, engineers found that this system still left open the opportunity for metal-on-metal contact.

The operating environment of the pump was in sulfuric and acetic acid at 120°F against 316L stainless steel. After studying the pumps while in use, TriStar engineers felt the best option was to isolate the rotor from the case by using polymer inserts in the rotor face.

Bearing Grade PEEK Delivered Performance and Reliability Along with Excellent Chemical Resistance

A special bearing grade PEEK was selected that can withstand the chemical exposure and operating temperature and is dimensionally stable [as there are tight tolerances on the inserts]. It also offers low friction if there is a loss of fluid film as well as excellent wear life.

Because it is easily machined and fabricated yet extremely strong, PEEK is often specified for extremely high demand applications, including in aerospace, oil and gas and medical implant use, where its biocompatibility is a key benefit.

Additionally, our engineers had to develop a good method for mounting these inserts and settled on a special adhesive resistant to acid along with mechanical fastening.

Reports back from the customer show that the design is giving them longer wear life on the rotor and body and they have now approved our design for pump rebuilds throughout the plant.

We're ready to put our engineering expertise to work for you from prototype to production.

Engineering | Custom Fabrication | Manufacturing



CJ Composite

- Self-Lubricating
- Low weight | High Strength
- Chemical Resistance
- Direct replacement for Bronze



Ultracomp[®]

- Self-Lubricating
- High Load | Low Speed
- 54,400 PSI Compressive Strength
- Exceptional Resistance to Vibration and Impact



TriSteel[™]

- Self-Lubricating
- High Load | High Speed
- Metal Backed Bearing System
- 100% Lead Free



Rulon[®]

- Self-Lubricating
- Low weight | High Strength
- Low Coefficient of Friction
- Chemically Resistant



Enhanced Materials Division

- Plasma Surface Treatment
- Specialized Primers & Coatings
- Material ID & Selection
- Process Engineering | Analysis & Testing



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