

## PS-SEAL®

### Case Study: Mixers for Food & Pharma



#### Industry

Mixers for Food & Pharma, Chemical, O&G, Energy, Water Treatment, Paint Industry, Mining and Ceramic.

#### Customer

The customer is an Italian company specialized in the selection, design and construction of industrial and sanitary mixers for all kinds of liquids.

#### Background

In industrial processes, there is no established standard for sizing mixers for the various applications for which they are required. Each manufacturer offers its own solution based on experience. The selection philosophy aims to create the most simple, economical machine, seeking to transform the energy supplied by the drive as effectively as possible in the liquid, to achieve the mixing objective with the lowest possible consumption.

#### Challenges faced

The need of flexibility and a competitive production cost often is in contrast with the reliability and efficiency of mixers sealing systems. Packings cannot sustain more and more demanding process conditions and mechanical seals are too complex and expensive, especially when serialization is not possible. In addition many applications are dry running and high temperature. From the service point of view, customers require easy maintenance and replacement in the field.

#### Operating Conditions

1. Produced Media: Pharmaceuticals, Soft drinks, Juice, Tomato, etc
2. Speed: 30 – 140 RPM
3. Temperature: up to 120 °C
4. Pressure: up to 3 bar and vacuum

#### Solution and Benefits

Through in-depth discussion and collaboration with the engineering team, the customer decided to replace mechanical seals with Garlock PS-SEAL® in all top entry mixers. This would support the required level of compliance to industry expectations, and the modified PTFE structure would provide compatibility to both chemical and mechanical demands of the application. In addition the customer succeeded in simplifying its design avoiding the installation of a lubricating system even in high temperature applications.

For more information, please visit:

[www.garlock.com](http://www.garlock.com)

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