



Industrial mixers and agitators - reliably sealed even at high peripheral speeds with Garlock PS-SEAL®

Companies throughout Europe are using Garlock PS-SEAL® with GYLON® Style 3504 in modern mixing plants in the food and pharmaceutical industries, solving previous problems with high rotation speeds and high temperatures.

The particular challenges for machine builders and operators of industrial mixers and agitators in selecting a suitable sealing solution are manifold. On the one hand, it must be possible to ensure the hygienic manufacture of the end products, and on the other hand, the media must be reliably sealed in both the production and cleaning cycles. Both processes often take place under high requirements in terms of pressure, temperature and speed.

Two practical examples illustrate the high demands of mixers and agitators on sealing solutions:

A German company specialised in the development and manufacture of machines for the food industry was looking for innovative sealing solutions for its high-speed mixers. These should meet high speeds and high temperatures. Furthermore, media resistance to sticky processing products was also an important selection criterion. The Garlock product range, rounded off with conformities to FDA and EC1935/2004, encouraged the manufacturer to seek a solution with Garlock for all mixing and processing machines. PS-SEAL® with a single lip in GYLON® Style 3504 (blue) and a static sealing element also in GYLON® Style 3504 (blue) met all requirements and passed the test phase so convincingly that all previous seals were replaced with the Garlock PS-SEAL® solution in the specifications of their complete portfolio of mixing machines.

Another example from an Italian company also illustrates the challenges of sealing mixers. The company, which is specialised in the selection, design and construction of industrial and sanitary mixers for all types of fluids, complained that the need for flexibility and competitive production costs were often at odds with the reliability and efficiency of the mixers' sealing systems. Packings could not withstand increasingly demanding process conditions and mechanical seals were too complex and costly, especially without the option of serialization. Further complicating the search for the perfect sealing solution was the fact that many of their applications ran dry and had high temperatures. They also required easy maintenance and replacement of seals in their equipment. After extensive discussion and collaboration with the Garlock engineering team, the company decided to replace the mechanical seals in all of their top entry mixers with Garlock PS-SEAL®. This supported the required level of

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compliance with industry expectations, and the modified PTFE structure of GYLON® Style 3504 (blue) ensured compatibility with both the chemical and mechanical requirements of the application. In addition, the company was able to simplify the design and avoid the need to install a lubrication system even in high temperature applications.

The PS-SEAL® product family from Garlock stands for reliable sealing of rotating shafts at high circumferential speeds, high pressures and extreme temperatures. Abrasive media are sealed just as reliably as aggressive media.

Case studies on this solution:

https://www.garlock.info/wp-content/uploads/2021/11/Garlock_Case-Study_PS-SEAL_GYLON-Blue_Food-Mixer_21033_EN-EU-1.pdf

https://www.garlock.info/wp-content/uploads/2021/11/Garlock_Case-Study_PS-SEAL_Food_Pharma_Mixer_21045_EN-EU-1.pdf

Contact:

Garlock GmbH (Head Office Europe)
Falkenweg 1
41468 Neuss
Germany

Phone: +49 2131 349-0
garlockgmbh@garlock.com
www.garlock.com/de

Press Contact:

Stephanie Bursch
+49 2131 349-119
Stephanie.Bursch@garlock.com

About Garlock:

Garlock, an Enpro Company, is one of the leading international companies in the field of sealing technology and is regarded as a specialist for the sealing of critical and demanding media in innovative mechanical and plant engineering. More than 1,500 employees work for the company worldwide, of which around 240 work in Europe. Garlock is also represented by sales partners and specialist dealers in over 90 countries. Garlock supports a wide range of industries with an integrated range of services. In addition to standard seals, Garlock primarily develops and produces special solutions for customer-specific applications.

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Caption: Garlock PS-SEAL® with GYLON®Style 3504 (blue).
Photo credits: Garlock



Caption: Garlock PS-SEAL®
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