

Rulon[®] Bearings Excel as Drop-in Replacements for Bioreactor Steady Bearings



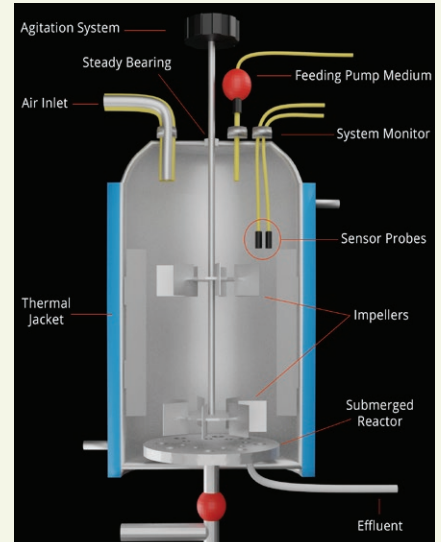
A major pharmaceutical company came to TriStar seeking a bearing solution for their single-use stirred tank bioreactors, which are used to cultivate organisms in a sealed containment system with a controlled environment. This guarantees the optimal growth and metabolic activity of the organism - usually cell cultures.

One of the key components of bioreactors is a flat blade stirring impeller of different designs [depending on the speed and shear requirements of the media].

The impeller shafts are supported by a steady bearing in the top of the tank which has historically been a stainless-steel ball bearing. These bearings required lubrication and seals and had to be able to meet aseptic standards. The customer previously tried ceramic bearings but, without lubrication, they produced more noise than the customer could tolerate.

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FDA-Compliant Rulon Bearings were Ready-Made for this Application

TriStar offers several FDA plane bearing options for applications in both pharma and food processing mixers, blenders, and compounders. [Rulon 641](#), [Rulon 1439](#), [Rulon 1337](#) and [Rulon 123](#) all meet the standards set by these regulatory agencies. Rulon 641 and 1439 also meet USPVI requirements geared specifically towards the pharmaceutical industry.

The advantages of these Rulon materials include:

- They are all [self-lubricating](#).
- They run against soft stainless materials without abrasive wear of the shaft.
- They can carry loads up to 1000 psi.
- They can handle speeds up to 500 fpm wet or dry.
- They all can withstand exposure to typical CIP solutions.

In addition, Rulon bearings offer a simple design with no moving parts - so noise is not an issue. Ultimately, [Rulon 1439](#) was the best fit for this application.

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- Chemical Resistance
- Direct replacement for Bronze



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TriSteel™

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- Metal Backed Bearing System
- 100% Lead Free



Rulon®

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



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