



NEWS

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March 2014 Issue

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ONLY SOLUTIONS

What do you do when you're linear actuator bearings are "including" cheese debris? Particularly when your cheese slicing system requires FDA/caustic washdown compliance and FDA inspectors are on site reviewing all process operations for "included" debris which can propagate harmful bacteria.

NO JIVE!

THE Application

1. Repeated Impact with Dense, Malleable Product
2. FDA Compliant Materials
3. Caustic Washdown
4. Self-Lubricating
5. No Product Inclusion
6. 24/7 Cycling



THE Issues



LM76 300 Series
Stainless/PTFE FDA
Linear Bearing

Originally, our customer specified LM76's standard stainless, FDA/PTFE linear bearings in their linear actuator. At the outset, these bearings met all requirements: FDA/Caustic Washdown compliance, self-lubricating and no catastrophic (mechanical) failure mode. Initially, our customer felt the standard running clearance between bearing ID and shaft (.001 overall, .0005" either side) would be sufficient for clearing away debris. Not so. Thus, we needed a seal that would be FDA compliant, have a low "K" or wear factor and low coefficient of friction so drive torque wouldn't be negatively affected. Since standard industry nitrile and buna seals were never in contention, we had to design a "scraper seal" from scratch.

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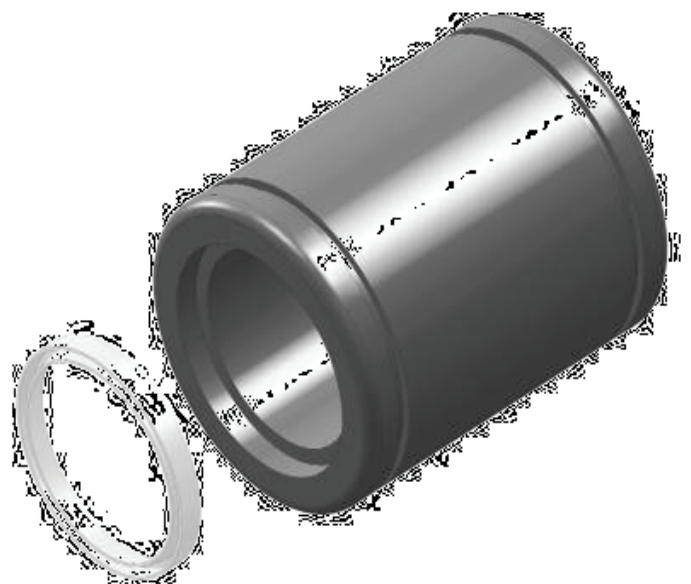
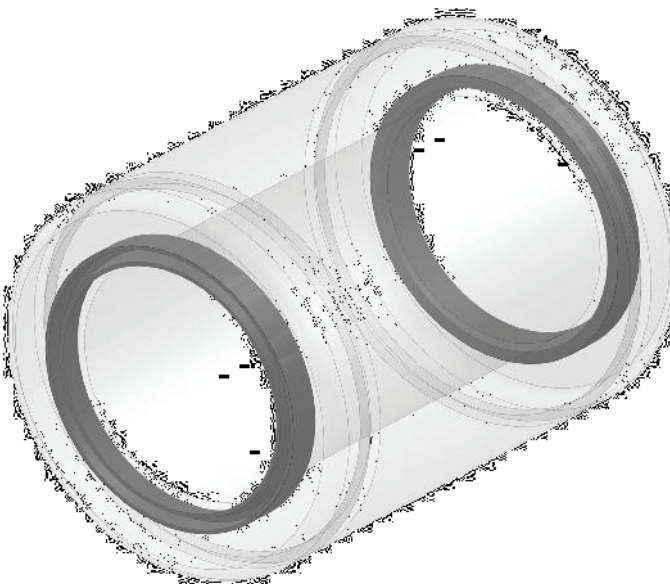
THE Solution



**Stainless/PTFE Bearing
with ETX Scraper Seal**

John Tarbell (President and Internationally regarded Plain Bearing Expert) reviewed several materials and selected Ertalyte® PET-P because it met all criteria relative to FDA/Washdown compliance, “K” (wear) factor, coefficient of friction, machinability and thermal expansion/contraction. The ETX seals were designed for a slight interference fit between bearing ID and shaft. In addition, a “spring area groove” was designed behind the scraper lip to allow for proper spring-flex action and to accommodate thermal expansion during operation. Lastly, undercuts were machined at both ends of the bearing shell to anchor the snap-in ETX scraper seals. Since the scraper lips are zero-clearance on the shaft, the interference fit prevents cheese residue from

migrating beneath the seal as it scrapes the shaft surface. ETX’s low frictional characteristics had little negative impact on drive torque.





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