



CASE STUDIES: STAINLESS STEEL AIR MIZER® | RIBBON BLENDER

Increasing Reliability to Ensure a Quality Product

Neogen Corporation (NASDAQ:NEOG) develops and manufactures products dedicated to food and animal safety. The company's Food Safety Division produces dehydrated culture media and diagnostic test kits to detect food-borne bacteria, natural toxins, food allergens, drug residues and sanitation concerns. Recently, Neogen introduced 'rapid tests' to quickly detect both E. coli and Salmonella.

Neogen's customers face serious consequences if their products are contaminated; they rely on the accuracy of Neogen's test kits to ensure the safety of their products.

THE CHALLENGE

The production processes utilized to make Neogen's specialized products proved a challenge for their rotating equipment and facility.

Two ribbon blenders at one location in Lansing, Michigan were running on-and-off over two shifts, mixing very fine powders. When fully loaded the blenders can weigh up to 3000 lbs; nearly 2000 lbs of which is product. The equipment is used across a variety of Neogen's products, and batches are switched out 2-3 times a day. Each time the batches had to be switched, the ribbon blender was completely sprayed down to prevent cross contamination. It was especially difficult to thoroughly clean the packing material the team was using to seal the blenders.

Over time, the sodium content from the product combined with the wash-down environment started to take its toll on the facility; the maintenance team at Neogen became concerned about the effect on the integrity of the flooring because the equipment was kept on the second level of the process facility. They wanted to find a permanent solution to the regular maintenance required by the ribbon blenders while addressing the environmental concern.

THE SOLUTION

Neogen called Inpro/Seal® after seeing an advertisement in a trade publication. After a meeting with their Inpro/Seal regional manager, they agreed to move forward with one set of Inpro/Seal Air Mizers® for their large ribbon blender application. "We knew we couldn't keep doing what we were doing; we had to make the investment." said Phillip McKinney, Plant Engineer.

FACTS AT A GLANCE

Challenge:

- Ribbon blender required wash down 2-3 times a day to prevent batch cross contamination.
- Existing packing was especially difficult to thoroughly clean.
- Spray downs mixed with product content started to damage the floor.

Solution:

- Food Grade Inpro/Seal Air Mizer was installed to:
 - meet FDA requirements.
 - accommodate product type.
 - meet stringent requirements for a sterile environment.



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Matt Nicol (right), Inpro/Seal Regional Manager, and Neogen employees stand in front of a newly installed Inpro/Seal® Air Mizer® on one of their ribbon blenders.



The stainless steel food grade Inpro/Seal Air Mizer is a permanent shaft sealing solution that meets all FDA requirements.

The stainless steel food-grade Air Mizer was selected as an optimal solution because it could meet all FDA requirements, accommodate the sodium content in the product and meet stringent requirements for the sterile environment. The non-contacting seal utilizes small amounts of air to create a positive purge on the shaft, permanently sealing against product loss and contamination. Unlike mechanical seals, lip seals or packing material, the Inpro/Seal Air Mizer is able to accommodate for shaft movement, misalignment and/or run-out, and is designed to last the lifetime of the equipment.

Neogen's custom engineered Air Mizer arrived on-time, and the Inpro/Seal regional manager joined their team on-site for the first installation. The retrofit became a little challenging when the team discovered the equipment required modifications. They knew they needed to complete the installation within the scheduled downtime for the ribbon blender or risk significant impact to their production schedule and, subsequently, lost revenue. The team at Neogen worked through the night to make sure the equipment was ready to run with the new Air Mizer in the morning; to their surprise, their Inpro/Seal regional manager worked alongside them the whole time. "It seems like you usually have to sacrifice one for the other...quality or service. Not in this case." said McKinney.

A RETURN ON INVESTMENT

McKinney and his team estimate that installing the Air Mizers has helped them save quite a bit in hard and soft costs by improving the reliability of their equipment and helping them ensure the quality of their product. They've been able to reduce the routine maintenance on the ribbon blenders and the clean-up time. They've also eliminated the cost of replacement packing and associated equipment downtime. Most importantly, they have confidence that they are not cross-contaminating their products.

The team at Neogen has been incredibly pleased with the performance of their Air Mizers. They felt confident that the room wouldn't be subject to any additional water damage, and have invested in reconstructing the floor to address the previous damage. Since the initial installation they have purchased a second set of Air Mizers for their smaller ribbon blender and are looking at applying the Inpro/Seal Bearing Isolator to increase the reliability of other pieces of rotating equipment at their facility.

Other Neogen facilities with similar ribbon blender applications are also considering applying this technology to reduce the maintenance and environmental concerns at their locations.