



INDUSTRIAL CASE STUDY

HEAVY-DUTY FOOD PROCESSING & MIXING EQUIPMENT





OMNISEAL® ROTARY LIP SEALS & SPRING-ENERGIZED SEALS, RULON® BEARINGS

HEAVY-DUTY FOOD PROCESSING & MIXING EQUIPMENT

Regina Schaade November 2024

INDUSTRIAL FOOD PRODUCTION MIXING PROCESS SOLUTION BAKERY EQUIPMENT

Environment

Food manufacturing is a complex process where raw materials are transformed into delicious and safe consumable products. Various high-tech industrial technologies are used in this industry, one of which is heavy-duty conventional processing that includes many precision and critical stages: feeding, grinding, mixing, distributing, processing under heat and pressure, cooling, transmitting, forming, and discharging. Since the food is used for public consumption, they must meet stringent health requirements. i.e., food and pharma certification. Therefore, all components used in these heavy-duty food processing and mixing equipment must handle extreme operational conditions such as pressure, aggressive media and vacuum.

Challenge

Bulk media are often used in this production equipment, e.g., fluids or gases, to help foods like dough grow. During the mixing and cleaning process, equipment are put under extreme environments such as vacuum, pressure, temperature and aggressive media. Sealing components are used to prevent leakage and maintain purity; therefore, they need to be:

- System pressure resistant
- Vacuum tight mainly for filling & cleaning
- Temperature resistant
- Compatible with media in the mixing vessel & ingredients added for the process
 - gas tightness requirement
 - abrasive particle tightness
 - temperature shock capability
 - chemical compatibility
- Food certified & compliant with industry standards



Solution

As long-term partners of industrial customers, Omniseal Solutions has provided custom sealing solutions that reliably protect heavy-duty equipment used in the food and beverage industries for many years. Not only are precision and purity needed but also high performance in extreme operating conditions. Our polymer seals and components provide these technology advantages.

1. Our Omniseal® polymer lip seals are proven to handle high speed in mixers, motors and distribution units where there is a large amount of generated force. If the right seals are not used, leakage can occur.
2. Our Omniseal® spring-energized seals ensure a gas tightness, preventing the flow of gas or air, in order to preserve the food product as well as the surrounding environment.
3. Our Rulon® bearings are known for their low wear and friction as well as their self-lubrication, which help the equipment operate more smoothly during processing and mixing.

Along with precision sealing solutions, we also offer global expertise and a technical team who understand our customer's specific requirements and applications. The above polymer solutions are often used in industrial equipment; however, we also design metal seals for extreme requirements such as high pressure and temperature; Hycomp™ composites and Meldin® polyimides for demanding vibrating or dry running environments.



Need an airtight sealing solution for your industrial food systems? Our polymer seals handle extreme pressure, temperature, media & more!

Benefits

- Extended run life with no unexpected production stops
- Longer process time, less maintenance, proven to be only durable solution
- Thorough material testing, certificates available upon request

Design Expertise & Tailor-made Solutions for Your Critical Applications

Omniseal Solutions is a global engineering leader with over 65 years of historical legacy, relentlessly dedicated to the design and manufacture of precision sealing and wear control solutions that protect critical applications in the most demanding environments and passionately driven to push *Beyond the Boundaries of Possible*.



Contact Our Expert

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