Designing for the Customer’s Hygienic Applications

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Understanding the Customer Need...

- Products to be run through pump
  - Temperatures that are used during
  - pH of the processing and cleaning
  - Total Chlorides in product
  - Fiber and/or Particle size
  - Viscosity of the product
• Cleaning chemicals and process
  • Temperatures that are used during cleaning
  • pH of the processing and cleaning
  • Total Chlorides in cleaning chemicals
  • Total Sulfides in cleaning chemicals
• Materials are chosen to fit the need of the customer and the process.

• Adjustments in the product contact materials can make a large gain in reliability of the pump in many processes.

• Elastomers can be chosen to meet the chemical and temperature requirement of the customer’s process.

• Optional materials can be used on non-product contact areas to meet the customer requirements for corrosion resistance.
• Seal types are available to meet all customer requirements and have the design has been driven by customer needs in the field.

• Specific confectionary seals including a specific mechanical seal to maximize the life and cleanability of the seal in high sugar or granular processes.

• Seal materials that are resistant to chemical attack to maximize seal life in highly variable pH processes.

• Seal design that allows for a highly cleanable pump.
Customer requests and processes have helped adjust the pump body design to allow for better cleaning and sanitation.

- Elimination of dead space in the pumps
- Maximization of velocity around areas that are tough to clean.
- Ability of the pump body to drain when in the properly installed position.
• Dairy Industry

• Cheese Making

• High Chloride Products

• Goals: Make the metal parts of the pumps more resistant to chloride attack

• Solutions: Usage of a different alloy throughout the product contact parts of the pump to maximize the life of the pump.
• Dairy Industry
  • Yogurt Making
  • Fruit Transfer

• Goals: Enhance the capability of the pump to CIP small seeds from berries.

• Solutions: Usage of a different design in the seal and cover areas to allow for CIP ability of the pump.
• Dairy Industry

• Cream Transfer in New Zealand

• Cream Receiving

• Goals: Enhance the capability of the pump to CIP small seeds from berries.

• Solutions: Usage of a different design in the seal and cover areas to allow for CIP ability of the pump.
• Food Industry

• Candy Making

• Caramel Transfer

  • Goals: Enhance the capability of the pump to transfer high sugar caramel with a sanitary mechanical seal.

  • Solutions: Usage of a different design in the seal geometry to allow for a better “cutting” of the high sugar product that allowed for the seal lubricant to “wash away” the product on the seal.