INDUSTRIAL FLOW SOLUTIONS™

BJMPumps®

Case Study

Shredding Inefficiencies: Fahrenheit® RAD-AX® Technology Unclogs Utz Potato Chip Production

Overview

The Denver-based Condor Snack Company, owned by Utz® Potato Chip Co., processes approximately 120,000 pounds of potatoes per day. Potatoes are delivered by the truckload to the factory, washed to remove dirt, peeled, sliced, washed again, and then fried. During production, wastewater, debris, starch and peels flow from floor drains into a sump. On top of this, equipment is cleaned weekly with 180oF water and caustic beads to remove the oils used in frying. This hot caustic liquid and oils flow into the sump and are added to the mix for a sump pump to remove. Condor's original pumps sat outside the sump and used a pipe to suck liquids to the pump but clogged continuously due to the potato peels and other debris - halting production multiple times each shift. And the weekly caustic hot-water cleaning caused pumps motors to overheat and fail, requiring frequent pump replacements. In 2016, Condor partnered with their long-standing pump distributor to source a better solution for pumps that would reduce downtime, lower maintenance cost, and be more efficient.

After one year, the new pump was shut down for one planned maintenance event, but there have been no clogs or other downtime.

PROBLEM

- Frequent clogging from debris
- High temperature cleaning overheated motors
- Constant downtime caused decreased production and resource efficiencies

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Solution

Consistent with the parent company's earth friendly philosophy, Condor was intent on making their potato chip manufacturing practice less wasteful both in materials and production downtime. They needed a pump that could to shred high volumes of solids and withstand the extremely high temperatures of the oils and fryer cleaning. The BJM™ Fahrenheit® SKGF series high temperature, solids handling pump by Industrial Flow Solutions™ had all the features Condor required.

SKGF Series pumps feature the patented RAD AX® (Radial + Axial) dual shredding technology designed to cut, shred, shear and expedite wastewater flow that contains solids like those found at the potato chip manufacturer. The tungsten carbide-tipped impeller is trimmed, allowing for a larger motor and higher torque to grind the solids that Condor's manufacturing process contained. The dual shredding technology proved ideal for handling large volumes of potato peels and debris without clogging.

The high-temperature Fahrenheit SKGF pump's motor can handle liquids up to 200oF. Winding protection and NEMA Class R motor insulation allow motor temperatures to rise to 428oF, which makes SKGF Series superior to those with Class A or B insulation. Thermal switches embedded in the motor cut power if temperatures rise too high. When the motor cools, the switch automatically resets and powers the pump back on. This protects the pump motor and ensures reliability and longevity.

"The IFS submersible shredder pump is submerged at the bottom of the sump. It reduces the solid size before it enters the piping system. This has all but eliminated the clogging," states Kevin Kobza, maintenance manager at Condor plant. "This Fahrenheit SGKF pump eliminated both the high temperature and clogging issues," he explains.

RESULTS

- Zero unplanned downtime since installation
- No clogs or motor failures
- More efficient production and maintenance

Features

- Handles high temperatures up to 200°F (93°C)
- Patented RAD-AX® (Radial + Axial) dual shredding technology designed to cut, shred, shear to expedite flow
- Designed to prevent clogs in wastewater that includes <10% solids (by volume)

Applications

- Food & Beverage
- Commercial Buildings
- Municipal Water & Wastewater
- Pharmaceutical & Medical

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