



Case Study

Squeezing Out Profits: Fahrenheit® high temperature shredder pumps unlock profitability at juice producer

Overview

A Florida-based juice production facility grows and processes oranges to yield 90 million gallons of fresh orange juice every year. As one of the largest suppliers of Florida orange juice in the U.S., the juice producer also operates a feed mill on-site that turns fruit peels into cattle feed.

To create the cattle feed, the mill extracts citrus oils and moisture out of the fruit skin. This evaporation process creates very hot and corrosive liquids that flow into the feed mill's wastewater sump where it is treated. Orange peels, sticks, and leaves are also processed. The residual reclaimed water is then sprayed across a large area to filter naturally back into the ground water.

The 170°F hot, corrosive liquids caused pumps to overheat and fail at a high rate. Improperly shredded solids debris also led to clogging and pump failures. The in-house maintenance team replaced its submersible pumps frequently, at a cost of \$10,000-\$15,000 per year. Increasing operating costs motivated the mill to source new submersible pumps better suited for their specific applications.

“Having run reliably since installation, the SKXF pump has proven to be a perfect fit for this corrosive, high-temp application.”

PROBLEM

- Hot 170°F pumping liquids cause motor failure
- Frequent clogging due to solids in wastewater
- High maintenance and replacement costs
- Production inefficiencies due to equipment failure



Solution

With help of their pump distributor, the maintenance team selected the Fahrenheit® SKXF Series high temperature, corrosion resistant, non-clog shredder pumps by Industrial Flow Solutions™. SKXF Series pumps are designed specifically for very hot wastewater handling and withstand temperatures up to 200°F, versus the industry average of 104°F. The motor is protected by double mechanical seals made of carbide/silicon and carbon/ceramic. SKXF pumps utilize winding protection and (NEMA) Class R motor insulation with a thermal cut out switch, which allows them to operate at winding temperatures up to 300°F.

To process solid debris, SKXF Series non-clog shredder pumps utilize Tungsten carbide-tipped impellers. They cut against a spiral-shaped diffuser plate to rip solids apart with a 360-degree shredding action. Pieces of orange peel, sticks and leaves are easily shredded without losing high volume or lift performance.

The maintenance team installed the first Fahrenheit SKXF Series pump in 2014. It has run reliably ever since. They purchased and installed another SKXF pump in a second sump and purchased a third as a backup. They have yet to need the backup pump. In total, they saw a 60% reduction in the feed mill's maintenance costs.

“With the success of the first two installed, we got a third pump as a back-up. Luckily, it we haven't needed it yet.”



FEATURES

- Fahrenheit® High temperature, corrosion-resistant 316 stainless steel, shredding/cutting solids handling, non-clog shredder pump
- Wear-resistant shredding and cutting system designed to tear, break, rip solids
- Tungsten carbide-tipped impeller
- Max solids from 1.6" - 3.5"

APPLICATIONS

- Food & Beverage
- Commercial Buildings
- Municipal Water & Wastewater
- Pharmaceutical & Medical
- Power Generation & Utilities

RESULTS

- Zero pump failures since installation
- High shred ability without losing high volume or lift performance
- Easily withstands 170°F corrosive wastewater
- 60% savings in maintenance costs



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