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CASE STUDY

NEW DRIVE DESIGN REDUCES DOWNTIME FOR A FOOD AND BEVERAGE MANUFACTURER

OVERVIEW

A large vegetable processing facility was experiencing weekly downtime events due to motor misalignment problems. With a facility that needed to be running 24/7, they didn't have the time to repair the motor base and were looking for quicker, alternative solutions.

Rumsey's team was able to:

- Design a new drive design that provided better traction to eliminate derailing events
- Provide customer with immediate results without a major interruption to production

CHALLENGE

One of the customer's main machines, an automated slicer, operating on a continuous basis was expericing major problems with the timing belt drive.

The timing belt was derailing weekly causing unneccessary downtime.

In order to correct the underlying motor base alignment, it would have required consecutive days of downtime that were not available to meet production requirements. The maintenance team needed to reduce the weekly hours they were currently expending to realign the timing belt without shutting down production for too long.

SOLUTION

Rumsey's Power Transmission Engineer collected the current drive parameters and developed a new drive design with greater tracking capabilities to eliminate the derailing events. From start to finish the entire project was designed and installed within a month timeframe so the customer could begin seeing results.

1 Engineered Solution

The new design utilized an integrated V-groove timing belt and pulley system. The V-groove on the pulley, and the V-ridge on the timing belt and flanges on both sides of the pullies created a mechanism that would not allow the belt to derail even though the motor base was misaligned.

2 FDA Approved

In order to complete the new design, the team recommended a Breco-Flex polyurethane timing belt with stainless steel cords that would be able to withstand the heavy washdown requirements necessary for the food and beverage facility.

IMPACT

Within the first week after installing the new drive design, the customer saw results and no longer had to struggle with derailing.

Instead of fixing the timing belts weekly, the maintenance team now only performs quarterly preventative maintenance.

The upgraded drive has performed beyond expectations resulting in eliminating potentially $96,000 in unscheduled downtime per year.

Estimated savings of $96,000 per year

Immediate results after installation

Reduced maintenance from weekly to quarterly

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