RotaLube **Boosts Uptime** for **Dairy** Processor

Case Study

Challenge

Our customer, a packaging and processing company for milk, experienced issues with their chain lubrication method. The chains used in this process were washed regularly for food hygiene regulations, however, the lactic acid in milk is highly corrosive, which meant the chains rusted after only 6 months of operation. This led to issues in the chain's performance, causing frequent and unplanned downtimes. This rust also led to high repair costs and production losses due to replacing or fixing the chains, this unplanned downtime increases the overall cost of production by disrupting operations and reducing the efficiency of the company.

They had a traditional, gravity-fed lubrication system. This system would apply lubrication to the chains through a drip feed system which was not consistent in application. This led to over-lubrication which can cause excess lubricant to attract dust or lactic acid from the milk, which then increased the rate of corrosion and rust, decreasing the life expectancy of the chain alongside increased contamination risks.

- A milk processing company faced costly downtimes and chain failures due to rust from lactic acid, requiring frequent replacements.
- Their gravity-fed lubrication system over-lubricated chains, attracting dust and lactic acid, increasing contamination risks and production costs.

Solution

To effectively combat rust and corrosion issues caused by the harsh conditions in the food processing environment, the decision was made to install a Stainless-Steel Lubrication System. This system is specifically engineered to perform reliably in demanding applications such as dairy and milk processing, where constant exposure to moisture, cleaning chemicals, and lactic acid is common. Equipped with high-performance Viton seals, the system ensures accurate and controlled lubricant application, preventing over-lubrication and minimising the risk of contamination.

Additionally, the Viton seals offer exceptional chemical resistance, allowing the system to withstand routine washdowns and prolonged exposure to corrosive substances without degrading or compromising performance.

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Photo: RotaLube System.

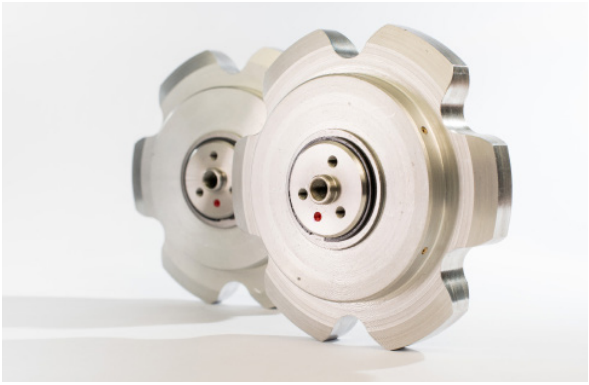

Photo: Stainless Steel RotaLube.

Results

After the installation of the RotaLube System, the customer noticed the chain had been running smoothly with no unplanned production downtime, this was to be an estimated saving of £39K-£78K annually.

This was achieved by avoiding production losses and improving the chain's lifespan, meaning fewer repairs and less downtime.

Due to the decrease in machinery downtime, the decrease in maintenance costs and fewer chain replacements the impact on savings is estimated to be around £42-£83K per year.

RotaLube eliminated downtime and saved the customer £39K–£78K annually in production and chain costs.

The system significantly reduced machinery downtime, leading to decreased maintenance on fewer chain replacements.

Overall, the combined savings from reduced downtime, maintenance and replacements were estimated to be around £42K-£83K a year.

Milk Production

Conveyor chains are used in the milk production industry for packaging and processing. They are used to transport milk cartons, bottles or packs through various stages of the production and packaging process.

They are usually made from a durable metal such as stainless steel to be resistant to corrosion caused by lactic acid and regular cleanings. The chain system will usually operate constantly to prevent any wear and to maintain operational efficiency.

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