

IMPROVING RELIABILITY OF FRYER CIRCULATION PUMPS



SERVICE MATTERS

Reducing Repeat Failures Through Repair Quality and Process Insight

AVTPUMP was engaged to support a food processing facility experiencing frequent failures of pumps used to circulate hot oil within fryer systems.

The objective was to improve Mean Time Between Repairs, enhance the quality and consistency of pump overhauls, and reduce the reliance on urgent repair cycles required to keep production running.

THE CHALLENGE

The pumps are responsible for circulating hot oil around the fryer bath, making them critical to maintaining continuous production.

While some redundancy exists within the system, ongoing process conditions were causing fine product contamination to enter the pumps. Over time, this contamination led to internal build-up, resulting in seizure, premature wear, and repeated failures.

This created a cycle of reactive maintenance, where pumps required frequent, urgent repair to keep the process operational.



OUR APPROACH

AVTPUMP was introduced to the site following successful work at another facility within the same group, where improvements in repair quality and reliability had already been demonstrated.

The focus was not only on repairing failed pumps, but on improving overhaul standards and identifying opportunities to increase consistency and repeatability across the assets.

The pumps were sent to our workshop for detailed inspection, with particular attention given to wear patterns and the impact of contamination on internal components.

OUR FINDINGS

Inspection confirmed that fine particulate contamination within the hot oil was entering the pumps and causing accelerated wear.

Bushes and bearings were subject to premature degradation, and the presence of contamination increased the likelihood of seizure. Mechanical seals were also affected, reducing overall reliability and increasing the frequency of intervention.

The issue was not isolated to a single pump, but was linked to broader process conditions affecting multiple assets.

The continued engagement and rollout of improvements reflects the value delivered through both repair quality and engineering support.

OUR SOLUTION

AVTPUMP carried out full overhauls of the affected pumps, including replacement of worn bushes, bearings, and mechanical seals to restore correct operation. Repair standards were aligned to ensure consistency across all units, improving reliability and extending service life between interventions.

In parallel, recommendations were made to address the root cause of failure. This included the removal or reduction of particulate contamination before it enters the pumps, as well as the implementation of proven bedplate modifications previously applied at another site to improve stability and repeatability.

THE RESULT

The improved repair approach has increased Mean Time Between Repairs and reduced the frequency of urgent interventions required to maintain production.

By combining high-quality overhaul work with process-level recommendations, AVTPUMP has helped the site move away from purely reactive maintenance towards a more controlled and reliable operating model.

Ongoing collaboration is in place to further address contamination and implement infrastructure improvements that will continue to enhance long-term pump reliability.

AT A GLANCE

Industry: Food Processing
Application: Fryer oil circulation
Services provided:

- » Pump overhaul and repair
- » Replacement of bushes, bearings, and mechanical seals
- » Failure analysis and inspection
- » Reliability improvement recommendations

Key Issue: Contamination leading to seizure and premature wear

Outcome: Improved MTBR, reduced reactive maintenance, ongoing reliability improvements

Need help?
Contact our experts