

SEALED-FOR-LIFE BEARING UPGRADE

Improving reliability by addressing premature bearing failure

AVTPUMP was engaged by a contract customer to investigate a recurring bearing reliability issue affecting multiple pumps across site.

The objective was to identify the root cause of the failures and implement a sustainable engineering solution that would improve Mean Time Between Failures (MTBF), reduce maintenance intervention, and eliminate unnecessary repair costs.



THE CHALLENGE

The pumps involved were critical to the manufacturing process, and the increasing number of bearing failures was having a direct impact on reliability and maintenance resources.

Frequent failures were reducing MTBF, increasing repair costs, and creating the potential for unexpected downtime across the plant.

The issue had become significant enough to be highlighted as a recurring “bad actor” during monthly reliability review meetings.

OUR APPROACH

The issue was initially identified through AVTPUMP’s ongoing reliability support programme, where repeated failures were highlighted during a monthly reliability meeting.

A detailed review of the affected pumps was undertaken, focusing on both the installed bearings and the site’s lubrication strategy.

Working closely with the customer, AVTPUMP assessed the existing bearing arrangements, lubrication methods, and maintenance practices to determine the underlying cause of the failures.

OUR FINDINGS

The investigation revealed that bearing specification was not standardised across the affected pumps and that automatic lubricators had been incorrectly configured.

This resulted in grease being supplied at an excessive rate, leading to chronic overgreasing. While often overlooked, overgreasing is one of the most common causes of premature bearing failure.

The result was a cycle of unnecessary failures and increased maintenance intervention.



“Following the implementation of the sealed-for-life bearing upgrade programme, we were able to eradicate the overgreasing issue completely, increasing MTBF while reducing unnecessary repair costs and unplanned downtime.”

THE RESULT

The upgrade programme successfully eradicated the overgreasing issue and delivered a significant improvement in reliability.

Mean Time Between Failures increased, maintenance intervention was reduced, and unnecessary repair costs were eliminated. The removal of automatic lubricators also simplified maintenance requirements and reduced the potential for future lubrication-related errors.

To ensure long-term consistency, the customer issued a formal plant modification document and AVTPUMP implemented a bearing upgrade tracker to manage the rollout across all applicable pumps.

OUR SOLUTION

AVTPUMP developed a site-wide bearing upgrade programme focused on eliminating the root cause of the problem. The strategy involved replacing existing greased bearings with SKF sealed-for-life bearings across all applicable pumps.

Greasing points were blanked off and automatic lubricators removed entirely. By removing the requirement for manual or automatic greasing, the risk of overgreasing was eliminated and bearing performance became more consistent across the asset population.

AT A GLANCE

Industry: Chemical Processing

Application: Process pumps

Services Provided:

- » Reliability assessment
- » Bearing and lubrication review
- » Technical support
- » Mechanical support
- » Site-wide upgrade programme implementation

Products Used: SKF sealed-for-life bearings

Key Issue: Overgreasing caused by incorrectly configured automatic lubricators

Solution: Upgrade to sealed-for-life bearings with all greasing points removed

Outcome: Increased MTBF, reduced maintenance costs, eliminated overgreasing-related failures, and improved reliability across the plant.



Need help?

Contact our experts

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