

RAPID TURNAROUND OF CRITICAL MOLTEN SULPHUR PUMP

Improving availability through stocked spares,
seal support and installation review

AVTPUMP was engaged by an existing customer to support a critical molten sulphur pump with a history of reliability issues on site.

The asset has a bespoke design and long lead times on replacement parts, making rapid repair difficult when failures occur. To improve response times, AVTPUMP worked with the customer to hold a dedicated set of critical spares in stock, allowing urgent repairs to be completed more quickly when required.



THE CHALLENGE

The pump is used to transfer molten sulphur for loading onto waterborne vessels. If the asset cannot operate, the product cannot be loaded, creating major cost implications and the potential for vessels to be redirected to alternative terminals.

The application is particularly demanding due to the high operating temperature and the behaviour of the process media. If temperature is not maintained correctly, sulphur can solidify within the pump or seal area, leading to restriction, premature seal failure and reduced flow.

OUR FINDINGS

Inspection identified heavy contamination throughout the pump, along with water ingress in the bearing housing. Further investigation indicated that the moisture was likely condensate caused by the way the pump had been lagged.

The process media was also found to build up around the impeller and volute, impeding flow and contributing to performance issues. Due to the high temperature required for molten sulphur transfer, the mechanical seal required a steam flush to prevent solidified product building up inside the seal chamber and causing premature failure.

The existing seal flush arrangement was therefore reviewed and improved, with pipework upgraded to stainless steel using twin ferrule fittings.



“By working closely with the customer and AESSEAL®, we were able to support the immediate requirement while putting practical improvements in place for future reliability.”
- AVTPUMP Engineer

OUR SOLUTION

AVTPUMP completed the urgent pump service and supported the customer with practical recommendations to improve the current installation.

Working with AESSEAL®, a bespoke mechanical seal solution was technically verified for the application, supported by an upgraded steam flush arrangement to improve reliability and reduce the risk of product solidification around the seal.

To support future responsiveness, AVTPUMP and the customer also established a stockholding arrangement for key spare parts, helping reduce repair turnaround time for this long-lead time bespoke pump.

THE RESULT

The customer is now reviewing the wider installation, including fitting and lagging procedures, to reduce the risk of condensate-related issues in the bearing housing. Pipework has also been inspected for blockage as a precautionary measure.

This project demonstrates the value of combining rapid breakdown response with technical application review, stocked spares and cross-group support to improve reliability on critical, high-temperature process equipment.



AT A GLANCE

Industry: Chemical Processing

Application: Molten sulphur transfer and vessel loading

Services provided:

- » Out-of-hours support
- » Quick turnaround assistance
- » Pump service and inspection
- » Installation review
- » Seal application support

Products Used:

- » AESSEAL® mechanical seal
- » Stainless steel seal flush pipework with twin ferrule fittings
- » Dedicated stocked spares

Key Issue: Long lead times, high temperatures, seal reliability and product build-up.

Outcome: Urgent repair completed, seal flush improved, critical spares stocked, and reliability enhancements identified.

Need help? Contact our experts

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