BILL SPITZER & ASSOCIATES

Pump Lube Oil Reservoir Upgrade for a Petrochemical Customer

When a customer within the Petrochemical industry in Louisiana needed to upgrade their lube oil reservoir on a positive displacement pump, they enlisted the BSA team for support.

Here's how the BSA team provided a stellar solution for the customer's challenges.

The Challenges

The existing pump's oil reservoir capacity was too small to accommodate a larger set of duplex filters that were installed on the pump skid. This created low lube oil pressure alarms whenever the customer was swapping filters, which tripped the pump.

The client had no dimensional drawings on the reservoir or the flange connection at the pump. To ensure the fit on the new larger reservoir would match up perfectly, we made a site visit and took all the critical dimensional measurements ourselves.

Every time this tripped the pump, the Petrochemical customer experienced unscheduled downtime and a loss of production.

Upon inspecting the current reservoir, our team noticed it hung from the bottom of the outboard bearing housing with a right-angle shaft driven lube pump extending down into the reservoir.

In other words, fitting a new reservoir to the pump end would prove challenging. To do so properly, our team would need to overcome several challenges:

1. Increase the reservoir capacity within the limited available space. The reservoir could not extend to the right or increase in height; it could only extend to the left side of the outboard bearing housing.
2. The cantilever design of the new reservoir would need to be supported off the pump base due to the additional weight of increased oil capacity.
3. We would need to minimize piping connection changes from the original design, to assist with field installation – all without dimensional drawings.
4. And we'd need to do it all within two weeks.

The Solution

We started by increasing the original 4.5-gallon capacity to 10.1-gallons for increased production and efficiency. And we duplicated the pump flange and piping connections of the old reservoir to minimize field installation problems.

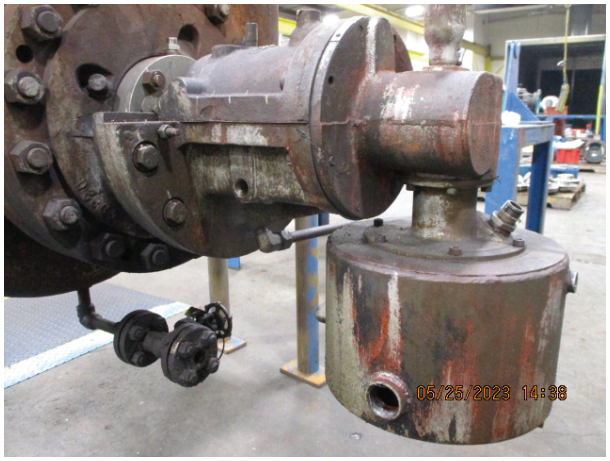
But we didn't stop there. We also:

- Fabricated four threaded support brackets for adjustable legs
- Added a liquid level gauge with a thermometer
- Added a new drain connection with a crystal clear
- Luneta Tritan low point bowl assembly, that provides visual indication of any wear debris in the reservoir.

Everything was constructed from 304SS material – a significant improvement from the existing material of construction.

We not only increased the pump's capacity, but we also improved the pump's design with viewable temp and fluid level indication and added a low-point drain and contaminate-indicating sight glass. And we did all of this with some photos from a site visit – no design drawings to fabricate from.

And that two-week timeline challenge? We only needed 10 working days.



Key Outcomes

This project was a significant success for our customer. Because of the BSA team's expertise, we were able to provide various added benefits to the customer, including:

- More than doubled pump capacity
- Minimized field installation problems
- A way for the customer to easily identify any wear debris and check the fluid level in the reservoir without needing to take apart the pump
- Resumed operations in a tight turnaround

Lessons Learned

We exist to take care of customers. To solve problems, to react and respond promptly, and to do the dirty work others might avoid. From system design all the way down to installation and field-level support, we support our customers every step of the way.

That's why looking back at our project performance is of utmost importance to us.

We strongly believe there is always a solution to the problem. The customer came to us with a slew of challenges, but that did not deter us from providing a solution for every one of their concerns and requests. We answered by saying, "We are on it!" and were able to provide an exceptional experience to a new customer.