

R. A. ROSS & ASSOCIATES, INC.

CASE STUDY

# TOUGH REPAIR

## PROBLEM:

Rush repair on a foreign pump with no parts availability.



The R. A. Ross team's experience and innovative skills discover the problem behind the problem

*German made Italian owned company pump (pictured above) with no parts available in the US made obtaining parts very difficult and time consuming.*

## SITUATION:

When faced with a rush repair on a German made pump with no stocking US distributorship, our team came up with innovative solutions to get the pump back up and running.

The pump was an ITP brand rotary gear pump model V60-2. The problem with the pump was that the mechanical seal was leaking. Upon inspection of the seal it was determined that the tungsten carbide rotary and the ceramic stationary were still in usable shape, but the holder for the tungsten insert was damaged.

## SOLUTION:

To save the customer time and money we repaired the rotary holder, re-lapping the seal faces and installed new o-rings. With the mechanical seal back in working condition we found the real obstacle in repairing the pump was something that was not what it seemed.

The fluid being pumped was a slurry of distilled mineral spirits with aluminum powder at 260°F-280°F.

- ▶ Our job is to help keep you up and running.
- ▶ R. A. Ross & Associates offers customers over 100 years combined experience with pumps and repairs.

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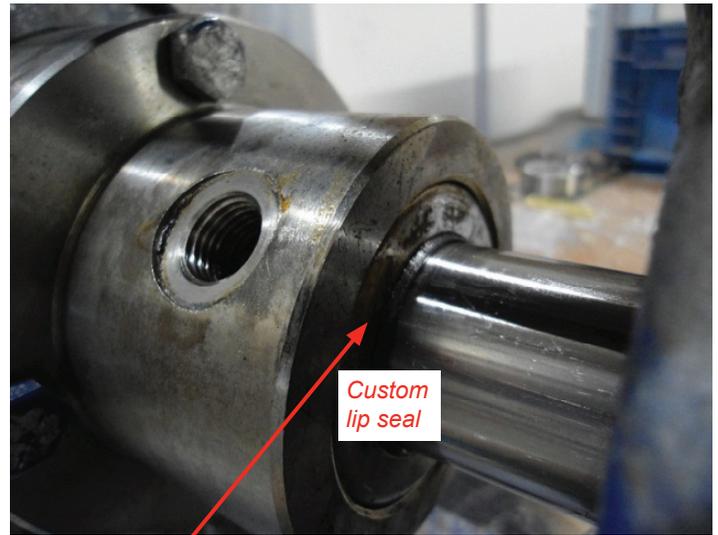
With the high temperatures, all o-rings and elastomers needed to be able to handle at least 280°. The remaining obstacle was the lip seal (Figure 1) in the back of the stuffing box (which was designed to contain clean mineral spirits inside the box). The oil bottle filled with the clean mineral spirits (see picture on front page) helped keep the main seal and lip seal (or a second seal) lubricated. The factory supplied lip seal was a custom made Teflon lip seal that had an extremely long lead time. No lip seal was available quickly that could withstand the high temperature. With this stalling the repair, R. A. Ross and Associates got innovative!

## SEALING DETAILS:

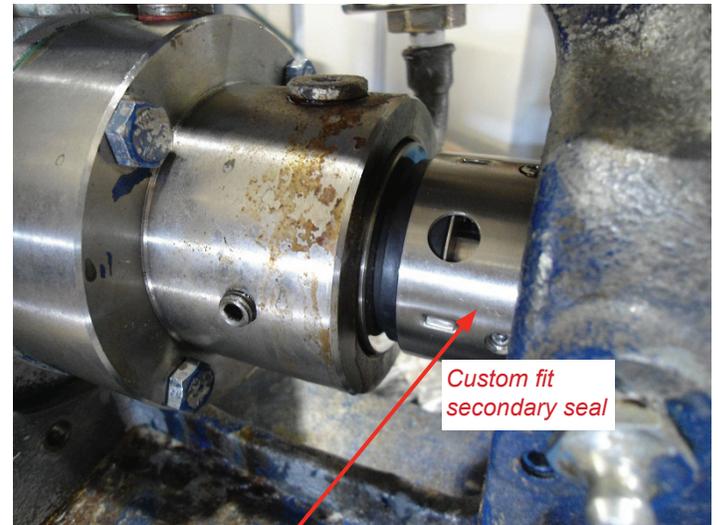
We measured and custom fit a second complete mechanical seal to completely replace the lip seal. Lip seals start wearing immediately and leaking is just a matter of time. Instead, we installed a short height mechanical seal (Figure 2) that would fit into the limited space. We transformed the pump into a double seal arrangement giving the customer the advantage of a secondary mechanical seal in the case of a main seal failure, a BIG SAFETY improvement.

## RESULT:

A much improved, more reliable, SAFER, leak free pump. The pump is working flawlessly and the customer is up and running instead of waiting on parts.



(Figure 1) The original lip seal was installed in the back of the stuffing box to keep the mineral spirits inside.



(Figure 2) We installed a short height mechanical seal in place of the lip seal.

## CONTACT US

Call us for information on how we can help solve your problems in any of the following areas:

- ▶ Pumps
- ▶ Blowers
- ▶ Filters
- ▶ Mixers
- ▶ Tanks
- ▶ Vacuum Pumps
- ▶ Mechanical Seals
- ▶ Heat Exchangers
- ▶ Repairs



**R. A. ROSS & ASSOCIATES, INC.**

*Keeping process flowing since 1985*

R. A. Ross & Associates, Inc.	502 267-8677
Headquarters	Fax 502 266-7928
2231 Ampere Drive	1 800-489-8677
Louisville, KY 40299	solutions@raross.com
	www.raross.com

Serving Kentucky, Indiana, Ohio and W. Virginia