

Leaking Cooling Coil Sparks Full Pump Overhaul

Industry Sector:
Water & Wastewater



Application:
Bore Hole Pump



Problem

When a water customer called regarding a critical pump issue at one of their sites, the ERIKS team sprang into action to help determine the root cause of a sudden pump failure.

Following a site visit, our engineers carried out a thorough visual inspection and quickly identified the problem: the pump had seized due to severe overheating. With a 2.7-tonne motor sitting above the pump, we worked closely with the customer to arrange a crane lift to safely remove the motor and gain full access.

Once we had the pump on the ground, our team transported it to our Norwich Workshop for a detailed inspection. The initial strip-down revealed a serious issue – the thrust pad material had completely eroded down to the bare plate. Even more concerning, the bearing housing was completely dry.

After further analysis, we traced the failure back to a leaking cooling coil inside the housing. This leak had flushed out all the oil, leaving the thrust collar and journal bearing running without lubrication. With only water in place of oil, the white metal bearing was quickly worn down – resulting in overheating and total seizure.

Solution

Our workshop team went to work straight away.

First, all three internal shafts were checked for straightness and then precision-machined to accommodate new bronze sleeves. The journal bearing, which had suffered extensive damage, was stripped of its remaining white metal.

We then re-applied a high-quality BS3332 alloy C white metal and proof-machined it, deliberately leaving a 3mm surplus for final finishing.

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To ensure long-term reliability, we carried out ultrasonic testing to ISO 4386-1 Class C standards. We also manufactured a new gland packing seal housing and replaced both the ball lever valve and gate valve as part of the overhaul.

As the existing cutlass bearings were beyond repair, we fabricated two brand-new units to exact specifications.

To tackle the root cause of the failure, a new water coolant coil was manufactured to replace the leaking original. All associated pipework was shot blasted and re-coated to ensure optimum durability.

Once all components were ready, the pump was carefully reassembled, delivered back to site, and refitted along with the motor. We finished with a full functional check at maximum working pressure to confirm that everything was running perfectly.

Thanks to our responsive site support, in-house engineering expertise, and close collaboration with the customer, the pump is now fully operational and the site is back in business.