

Challenge

Background

A European sewage plant was sealing two sludge recirculation pumps with metal bellows mechanical seals recommended by a seal manufacturer. The customer was looking to improve Mean Time Between Repair (MTBR), which was 6 – 9 months. The application was medium sludge water with high content of particles. Flush water was not acceptable for the customer.

Conditions were as follows:

- Temperature: 5°C – 30°C (41°F – 86°F)
- Suction pressure: 0.6 bar g (8.7 psig)
- Discharge pressure: 0.9 bar g (13 psig)



Sludge recirculation pump.

Solution

Product

To change from the existing bellows seal to a **Chesterton 170 Seal** was a big step, but with many advantages. In the **170 Seal**, the springs operate outside the process fluid to prevent clogs, the seal face design is line-to-line to handle solids, and the O-Ring is working on a micropolished surface to eliminate hang up. These combined benefits will lead to a long-lasting operation time.



The new solution provides more uptime.

Results

Increase Reliability

The **Chesterton 170 Seal** outperformed the bellows seal. Now at 10 months of operation and still counting, this solution continues to work without the need for flush water.

Due to this success, a second **170 Seal** was installed.



Chesterton 170 Slurry Seal running successfully.