

CASE STUDY

WASTEWATER INDUSTRY

Packing and Gaskets

Enhancing Pump Reliability and Safety in Wastewater Pumps

Product Solutions: Chesterton AMPS (Advanced Mechanical Packing System), SpiralTrac® P Device, and 1830-SSP Packing



Challenge

After experiencing poor performance with a competitor's mechanical seal, the customer reverted to packing. However, the abrasive operating environment caused the packing to wear quickly, requiring frequent adjustments. Maintenance was especially difficult and unsafe, as the pumps have exposed rotating shafts and are located in a hard-to-access, unhygienic area. This made routine servicing both dangerous and unpleasant.

The customer sought a solution that would:

- Increase Mean Time Between Repairs (MTBR)
- Reduce maintenance labor and material costs
- Extend packing life and improve sealing performance
- Improve worker safety

Solution

The sales representative identified an opportunity to improve pump performance by implementing a SuperSet SpiralTrac® P device along with a Chesterton® 1830-SSP 3R packing set. Four Chesterton AMPS actuators were installed, with the regulator positioned in a safe, accessible location for easy adjustments. The system was supplied by a dedicated bottle air cylinder source to help ensure consistent loading.

- **Pump:** Vertical centrifugal, B and W/48 -48 SD-V
- **Dimensions:** 188.9 mm (7.437") Sleeve x 227 mm (8.937") Box ID x 19 mm (0.75") c/s
- **Speed:** 300 rpm/3.0 mps (584 fpm)
- **Medium:** Raw sewage/influent for wastewater



Results

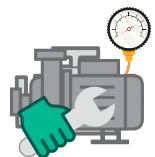
The customer reported excellent performance following the installation. The system maintained consistent pressure on the packing, eliminating the need for frequent inspections and adjustments—tasks that were previously time-consuming and carried significant safety risks.

The solution delivered substantial cost savings, estimated at approximately \$3,000 per pump per year across three pumps. With plans to expand the upgrade to six pumps, the customer projects annual savings of \$20,000.

Repair Costs/MBTR/\$ Savings

- Approximately \$3000 per pump savings per year.
- Projected savings is \$20,000 per year for 6 pumps.
- Reduced shaft/box wear and downtime
- Reduced exposure to workplace hazard
- Increased production time

Chesterton AMPS™ Technology helps eliminate packing adjustments



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