

Application Success Story



Power Generation • River Water • Packing

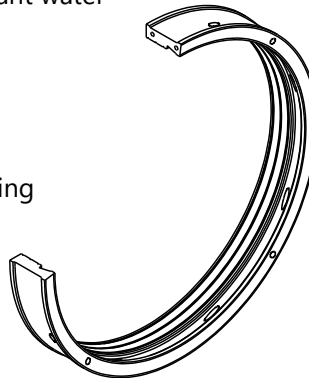
Chesterton SuperSet™ Sealing System in Hydroelectric Turbine

Existing System & Issues

- Axially Split Mechanical seal
- Nylon faces against stainless steel.
- In 21 years of operation of the turbine, never reached optimum sealing performance producing abundant water leaks and repetitive device changes.

Solution

- SpiralTrac Version P Split 316L Stainless Steel
- Three rings of CHESTERTON Style 1400 x 1" Packing
- Chesterton Style #5500 LiveLoad Washers
- Chesterton FlowGuardian SP50 Flowmeter



270° 3D visual of SpiralTrac™

Result (2013)

- Flush reduction from 500 liters per hour to 80 liters per hour. **That is 84% water consumption reduction.**
- Reduction from 2 drainage pumps simultaneously working 24 hours per day to the use of a single pump that runs 3 hours a day.
- Decreased turbine deterioration in terms of corrosion and chemical attack, since practically passed 24 hours in immersion.
- **4 months in service with virtually zero leaks!**
- Reducing the cost of the sealing system in a 70% increase in service life and significantly reducing the maintenance work.
- Virtually eliminating downtime between stops, through use of Gland Bolt Live Loading.

Application Info

Type: Vertical Shaft Kaplan Turbine
Speed: 300-695 RPM
Shaft size: 450 mm
Fluid: River Water with suspended solids



Voest Alpine Kaplan turbine with vertical axis



Chesterton SuperSet™: SpiralTrac™ Version P Split Metal Device with Chesterton 1400™ Graphite Packing



Split Wear Sleeve and Tri-split Stuffing Box assembly with SpiralTrac™



Update (2018)

"The application is running for **4 years** 24/7 without any failures or change of packing!"

If this Success Story has peaked your interest and would like to know more, our technical support team can always be reached at support@enviroseal.ca. Hope we will hear from you!



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