Desalination Plant Saves Valuable Downtime with Split Seal Solution on Vertical Brine Pump

Power and Desalination
Chesterton 442 and SpiralTrac™
Case Study 038 Rotating Equipment

Challenge

Background
A desalination unit of a power plant in the Middle East was having issues with a vertical pump handling brine. The gland packing used to seal the pump was wearing out the shaft sleeve and causing massive leakage. The plant could not stop the pump or overhaul it, especially during the hot summer days. The pump operated at RPM 490, with pressure of 7.5 bars, and a maximum temperature of 50˚C.

Solution

Product
Chesterton representatives recommended the **Chesterton 442** split seal which can be installed in less than one day.

The pump was sealed with **Chesterton 442** size 280M RSC/RSC EP A2205 plus **SpiralTrac™** Split Adapter (brass) active throat bushing. The **SpiralTrac** adapter allows installation of the **442** in big bore pumps without the need for pump modification. Since brine is a heavy crystallizing media, **SpiralTrac** will help remove the accumulated crystals from the stuffing box for increased reliability.

Results

The installation was completed successfully in only six hours vs. the week of downtime it would have cost to dismantle the pump to replace the packing/shaft sleeve.

The pump was commissioned and started up virtually leak free.

With less packing friction, the plant estimated 5 – 8% power savings with the **442** split seal solution.

Brine vertical pump being serviced for repairs.

SpiralTrac and Chesterton 442 solutions.

Vertical pump installed with 442.

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