

Global Leader in Paints and Coatings Selects EnviroGear Pump to Solve Problematic Cationic Resin Unloading Service

Global Paints and Coatings Manufacturer

Global leader in paints and coatings selects EnviroGear pump to solve problematic cationic resin unloading service. The result - elimination of safety costs and environmental costs plus \$7,119 in annual maintenance savings per pump with payback in 1.4 years. No wonder plant personnel describe EnviroGear as “bulletproof”.

Challenge

The world’s leading coatings and specialty products’ resin manufacturing facility sought to improve the reliability of a resin tank unloading service. The application, cationic resin, contains solvent that is hazardous, flammable and is a source of fugitive emissions.

A traditionally sealed gear pump with a single mechanical seal was used in the service. The pump caused high maintenance and environmental costs because of repeated leakage incidents.

Because the pumped petrochemicals damaged pump seals, the seals failed at least twice a year. It took maintenance crews six hours to replace a seal and to clean up each time a seal failed. Every maintenance incident cost \$900 in parts. And, total maintenance costs for the pump amounted to about \$2,200 in parts and labor every year.

Additionally, about every 18 months, the pump seal failed catastrophically, causing a major spill of the pumped resin. A special clean up crew had to spend 25 hours cleaning hundreds of gallons of spilled material. The cost of clean up for a major spill was \$930.

In addition, high environmental costs were associated with VOCs emitted by the pumped resin. The plant hires an outside company to do sniff tests regularly. When a pump fails a sniff test, the plant has 15 days to repair the seal and submit a report to the EPA.

Solution

To eliminate high environmental, safety and maintenance costs, EnviroGear Pump proposed to replace the existing pump with a seal-less EnviroGear gear pump model S1-69-CS. The dimensional interchangeability of the EnviroGear eliminated expensive piping or drive changes.

The EnviroGear Pump engineering team worked closely with the customer maintenance and engineering personnel to determine the best solution to protect the magnetically driven EnviroGear pump against potentially damaging run dry conditions. A tuning fork was the solution, selected for its affordable price and performance characteristics.

Furthermore, EnviroGear Pump conducted maintenance and operator training to teach company personnel how to work with EnviroGear pumps.

Result

The EnviroGear pump has been in service since 2007 without any maintenance issues. It has been described by the plant personnel as “bulletproof.” High environmental and maintenance costs associated with seal repairs have been eliminated. Annual maintenance savings alone amount to \$7,119. Environmental and safety concerns have been addressed.

The payback period for the pump was 1.46 years, and the IRR of the project is 24%. The customer has ordered pumps for other resin services.

“We have found the EnviroGear technology to be incredibly robust. The sales and technical organization have not only provided our company with the product but the complete solution. What has impressed me the most is the diligence and thoroughness in taking care of the homework upfront to ensure that the right solution was provided the first time.”

- Manager, Engineering and Facilities Maintenance