

EnviroGear Seal-less Pumps Help Henkel Improve Reliability and Safety

Henkel Adhesives

EnviroGear seal-less pumps help Henkel improve reliability and safety while eliminating environmental issues on a demanding tanker unloading application that involves 12 different adhesives of varying viscosities. Annual maintenance savings alone per pump were \$5,500 resulting in a 2.2 year payback and a 17% IIR.

Challenge

A Henkel adhesives manufacturing facility wanted to improve the reliability and performance of a demanding tanker-unloading application. The service required the pump to handle 12 different adhesives of varying viscosities. Leakage from the unloading pump caused high maintenance and environmental costs. High maintenance costs were caused by frequent seal repairs and pump rebuilds. The packed internal gear pump required constant routine maintenance. The packing had to be adjusted every week and new packing rings were added every three weeks. Two to three times a year, the idler and the idler bushing needed to be replaced. Those repairs cost \$500 each

time. Furthermore, pump end-clearances were adjusted “blindly” to improve the pumping of the wide range of liquids, which resulted in rapid wear of pumping elements. Wearing elements and frequency of adjusting the pressure relief valve contributed to safety and pump performance concerns. High environmental costs were compounded by the fact that the pump was located in a high-traffic walkway where the leaked fluids posed a serious slip hazard. To prevent dangerous slips and falls, operators pressure-washed the area daily. This same area was cleaned more thoroughly every other week, and three to four times a year a special crew worked Saturdays to complete the job. The Saturday crews were paid overtime.

Solution

To eliminate high maintenance, safety and environmental costs, EnviroGear Pump proposed to replace the existing pump with a higher flow capacity EnviroGear seal-less gear pump model S1-82-CS. The dimensional interchangeability of the EnviroGear eliminated expensive piping or drive changes.

Results

The EnviroGear pump has been in service since 2006 without any maintenance issues. High maintenance costs associated with seal repairs and pump rebuilds have been eliminated. Maintenance savings alone amount to \$5,500.

Performance and safety concerns have been addressed. The factory-set end clearances were adjusted to the needs of the service. Now, no rotor adjustments are required and the EnviroGear pump delivers higher flow rates and reduced cycle times. The managed-change relief valve design has eliminated the possibility of improper valve adjustments. The EnviroGear

seal-less design has eliminated all leakage-related safety and housekeeping cost. The busy work area around the pump is now clean and safe. Operators spend their time on more important activities, and there has been no need for Saturday housekeeping work. The payback period for the pump was 2.21 years, and the IRR of the project is 17%. The customer has ordered several more pumps, and now EnviroGear is the pump of choice on new projects.

“The installation of the EnviroGear pump has met our most dire needs in our raw material handling process. These needs include ease of operation, housekeeping and maintenance. In general, the project has been the type of a success story each plant engineer strives to achieve thanks to the support and technical fore thought provided with the EnviroGear Pump.”

- Brian McWhorter, Project Engineer