

WILFLEY EMW PUMP

Reduces Cost of Ownership in Potash Hydrofloat Product Application

WILFLEY®

DURABLE. WATERLESS SEALING. INDUSTRIAL PUMPS.



Market:
Potash

Application:
Hydrofloat

Product:
**Model EMW 6"x4",
Maxalloy 5A material,
Wilfley Waterless
Seal technology**

Country:
Canada



BACKGROUND

Potash is a critical ingredient that helps to improve crop yields, increase resistance to plant diseases, and heighten water retention. Potash is an impure combination of potassium carbonate and potassium salt. The term potash has been commonly used to describe the fertilizer forms of potassium derived from rocks by separating the salt and other minerals.

HydroFloat has been used for more than a decade in potash floatation. HydroFloat Separators improve coarse particle recovery through enhanced bubble-particle interactions.

The competitors pumps require frequent packing maintenance, which is then associated with frequent bearing contamination and failures. These pumps have a high cost of ownership due to maintenance and downtime and product loss.

CHALLENGES

Monthly maintenance costs of \$4-5,000 CAD/month (3-3,750 USD/month) are a big issue with the competitors pumps. Frequent pump rebuilds costs run about \$20,000 CAD (15,000) per rebuild. Tank overflow is a real challenge. Solids in the slurry media are considered product so any tank overflow is production loss sent to tails.

THE SOLUTION

The customer and Wilfley Rep evaluated the process requirements and conditions for the possibility of using an EMW 6x4 with the Wilfley waterless sealing technology in the application. It was determined to be suitable for a trial.

Minimum RPM for VFD was provided to ensure dynamic seal would seal with VFD turndown. The EMW 6x4 was installed, operated 6+ months trouble-free and eliminated headaches and costs associated with conventional seals.



There was no unplanned downtime and/or maintenance associated with the EMW 6x4 seal during the trial period.

In addition to the service life benefits, the EWM also reduced their suction tank product overflow over the 9-month trial period. **This is an important metric because any product overflow goes into the sump and would be considered lost product.** During the 9-month period the competitors pump had 62hrs with a tank level of 95% or greater (overflowing, or near overflow) and the EMW had 41hrs with a tank level of 95% or greater. This reduced the high-level operation by 34% and reduced the risk of potential product loss.

Reduced bearing temperatures were measured by reliability team when compared to the competitors 6x4 pump

The was no work order associated with the EMW 6x4 pump after 9 months of service.

THE RESULT

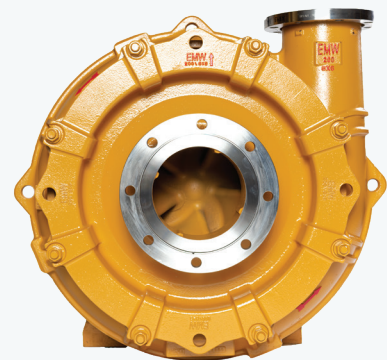
Based on the performance of the EMW 6x4 in this application, the customer has committed to changing the pump in its sister circuit to utilize a duplicate EMW pump.

Process Engineer stated: **“We have been very happy with the EMW 6x4 pump.”**

Reliability Engineer stated: **“From a reliability standpoint, the EMW 6x4 pump has been great. It is not at all on my radar which means it’s performing well. There have been no recorded work orders associated this pump.”**

THE WILFLEY WATERLESS SEAL TECHNOLOGY

The Wilfley Waterless Seal Technology is made by the interaction of a dynamic seal coupled with a static seal. Our technology eliminates the need for packing, mechanical seals and flush water. This sealing technology has proven that Wilfley pumps can operate trouble and maintenance-free as compared to conventional seals saving the customer on downtime, lower maintenance cost, and thousands of dollars of water usage.



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