

LSM • PUMPS



Challenge

Due to an increasing number of repairs of a conventional rotary lobe pump, K Agro researched and approached the market for alternatives. Rotary pumps are exposed to impurities like small stones, sand and other fragments like straw and plant residues that tends to result in wasteful degeneration. In addition, these repairs are often more time-consuming and cost intensive.

K Agro experienced the rotary lobe pumps with an operation time down to only 80 hours whereupon the rotor unit was worn out. The degeneration on the pump was very intense due to an increased fiber content (14% solids) in the pumped biomass. Furthermore, larger fragments from e.g. sugar beets also was hard on the impellers.

Each repair's cost estimated to \$2000 - parts alone. Weekly repairs estimated to be 3 hours ~ 145 hours pr. year.

Downtime cost – total stop of production estimated to \$1000/hour.



Solution highlights

The LSM pump was mapped out as the solution to solve K Agro's pump challenges; avoiding downtime and secure a stable and reliable pump for their production.

Installation of two LSM-150, 6" hose pumps:
Each pump can deliver 528 gallon/minute at 26 RPM.
Efficient adaptation to K Agro's existing plant.

The maintenance of the LSM pumps is possible without dismantling the pump from the application and without the need of special tools – please note, door gives easy access to replace the hose.



Results

K Agro has achieved an increased pump output by LSM's energy efficient hose pump, which demands minimum service and maintenance, and spare parts expenses cut by 2/3.

Return on investment will be visible after just 7 month in operation, just based on spare parts – not taking lost production and working hours into the calculation.

LSM differentiate themselves by the advantage of a larger pump case, which means the hose is longer and therefore able to perform more per revolution. This means they can create the same volume as competitors, but with lower speed, resulting in a longer lifespan of the gear and hose. The special role of adjustment gives the hose optimal compression, lower level of friction, better lubrication, and less power consumption than other pumps – compared to other brands with collector shoes.

In K AGRO's application, we estimate the pump will stand 8-10 months of runtime before the hose needs replacement.

