



# The energy efficient Alfa Laval LKH-PF

A heavy duty, yet low energy consumption solution

Case Story

A major cheese producer in the Western US was interested in replacing a pump for their demanding reverse osmosis (RO) filtration process. As a high capacity cheese plant, they were also open to products and solutions that could improve their overall efficiency. After learning about the potential energy saving benefits of the LKH-PF pump from their main contractor, they decided to put Alfa Laval to the test.

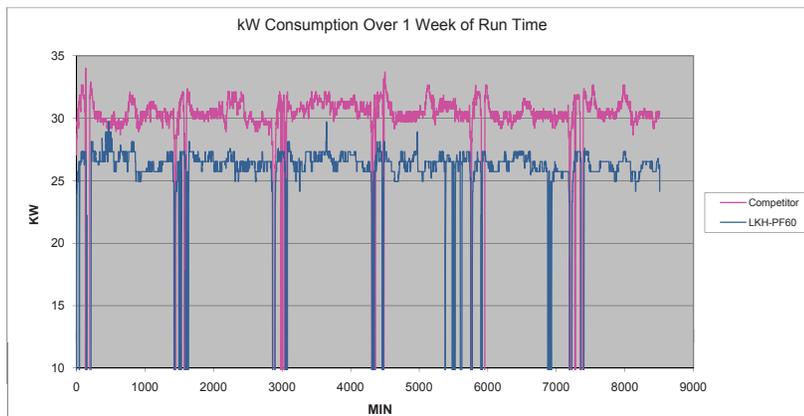
Due to the exact specifications and duty points needed in their existing filtration process, a pump trial was required. To provide a fair comparison, prior to the trial the customer recording exact power consumption for a one week period of their existing pump. The existing pump was then replaced with an LKH-PF60 trial pump operating at the exact same duty conditions – power consumption was also recorded for a one week period. After comparing the performance of both pumps, the trial showed that the LKH-PF60 consumed nearly 15% less power or a difference of 4.3 kW than the existing pump – proving an \$1,800 per year, per pump savings. For a typical RO system, this equates to a \$30,000 per year



power savings. Considering the customer is located in the Western US where energy costs are only 4.5 cents per kilowatt hour, customers in larger, more expensive markets could realize twice the savings.

As a result of the successful trial, LKH pumps were purchased. In fact, the LKH is so efficient that fewer pumps were required compared to the competition – reducing the overall footprint, considered a huge

benefit for filtration applications where space is a premium. While Alfa Laval is pleased with optimizing our customer's process and gaining additional LKH pump business – this is only part of the story. The larger success story is that by switching to the LKH, customers can realize a 15% or more energy consumption cost savings. At metropolitan locations where energy costs average 7.5 cents per kilowatt hour, customers could realize \$60,000 or more per year in power savings – a major contribution to any plants overall sustainability goals.



Actual kilowatt test results – with Alfa Laval's LKH-PF60 15% lower (in blue) compared to competitor's less efficient pump (in pink)

### The LKH-PF Advantage:

In addition to reverse osmosis, the LKH-PF is engineered for the most demanding nano, micro and ultra filtration applications – including a wide variety of dairy and food filtration applications. Features with benefits include:

- **Extremely energy efficient design and operation** – can be a major plant sustainability contributor
- **Pumps up to 1,200 GPM** – built for the most demanding filtration applications
- **Inlet pressures up to 600 PSI and boost pressures of 230 PSI** – higher pressures reduce the number of pumps required and minimize your installation costs
- **Heavy duty overall design** – features an up to 1" thick pump casing and back-plate with more bolts, and heavy duty internal seals to handle the highest pressure and flow rates
- **Low profile design** – ideal for skid fabrication where footprint/space is a premium
- **Front loading, standardized shaft seal** – maintains product integrity and allows for easy seal replacement without removing back-plate
- **Interchangeable shaft seals** – utilizes the same seal as the LKH multistage to help reduce cost of ownership



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#### How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit [www.alfalaval.us](http://www.alfalaval.us) to access the information directly.