



## Reducing biosolids disposal costs

### Hollandia Dairy reduces costs and environmental impact

### Case story

California dairy, Hollandia, looked to an Alfa Laval ALDEC 20 decanter centrifuge as a key part of their goal to eliminate the need to truck wastewater biosolids to special facilities.

In early 2018 Hollandia Dairy, a southern California manufacturer, processor, and distributor of wholesome dairy products, started investigating methods to eliminate the need to haul away biosolids from the wastewater treatment plant at their San Marcos, California production facility. Always keen to sustainability and their impact on the environment, family-owned Hollandia had installed a MBBR (moving bed bio-reactor) with DAF (dissolved air flotation) wastewater treatment process around 10 years earlier to ensure they were well in compliance with California's stringent environmental requirements. They were now looking for a way to further reduce the environmental impact and cost to send ~25,000 lbs of biosolids that the wastewater treatment system produced daily to a specialized biosolids handling facility. They set the goal that any remaining solids after processing would meet the stringent "Class A" standard. Meeting the "Class A" standard would allow this material to be disposed of as standard waste that did not require special handling or permits. Potentially, these solids could also be used as fertilizer, essentially meaning there was a possibility that no solids would require disposal in a landfill of any kind.

#### Dewatering capabilities and a history of quality

After researching many methods of dewatering biosolids and visiting other wastewater processes in the area, Hollandia made a visit to nearby municipal wastewater treatment plants and witnessed Alfa Laval decanter centrifuges in action. The decanter centrifuge could produce a drier cake than other technologies and could be adjusted quickly with variable speed drives to accommodate for varying process conditions. With flexibility and performance being important, this would allow Hollandia the ability to adjust as process conditions required. Already familiar with the Alfa Laval brand from their strong reputation in dairy, and after seeing the



Hollandia chose an Alfa Laval ALDEC 20 decanter centrifuge to dewater its dairy wastewater biosolids prior to further processing. Alfa Laval was chosen not only for its proven technology, but for its partnership and expertise in wastewater treatment.

impressive capabilities of the decanter centrifuge, they were curious to learn more. After a phone call with an Alfa Laval wastewater expert, they were convinced that the company had deep technical expertise in wastewater and that the decanter centrifuge was a proven and capable technology. Hollandia agreed to send a sample for testing at Alfa Laval's advanced testing lab in Houston, Texas.

The MBBR + DAF wastewater treatment process at Hollandia produces a biosolids stream that is ~5% solids. The results of the sample test proved the decanter centrifuge to be a perfect fit for the application, with output solids expected to be 14-16%. This meant that the waste stream volume of the biosolids would be reduced by over two-thirds in the decanter centrifuge prior to further moisture reduction in an extruder and dryer that Hollandia was installing as part of the overall biosolids solution. Based on the expected flow of up to 3000 GPD at 5% solids, an ALDEC 20 decanter centrifuge was selected. Since Hollandia was looking for a turnkey system, Alfa Laval worked with a long-time partner to package a skid system that required the customer only to provide flow piping, power, and a concrete pad for the skid with no need to purchase and install pumps, control panels, or other associated equipment.

Upon start-up, the performance of the ALDEC 20 decanter centrifuge has proven to be performing better than the original target objectives. When combined with the extruder and dryer installed by Hollandia, the 25,000 lbs of biosolids produced each day are reduced to 1,200 lbs/day of dry solids. As they had hoped, Hollandia has also had a local agricultural partner willing to utilize some of these dried solids in their operation as fertilizer. The reduction in waste and environmental impact fit perfectly in line with Hollandia's and Alfa Laval's commitment to sustainability.

### **Wastewater expertise is highly valued**

Wastewater systems can be very complex, so having a high level of expertise is critical to ensure the results desired. To Hollandia, the expertise provided by the wastewater team at Alfa Laval was of just as much value as the product itself. In order to achieve the desired results, the ALDEC 20 system had to work seamlessly with the extruder and dryer in the process. Alfa Laval recognized the need to work closely with the customer to develop an integrated solution, not just deliver the decanter skid. This partnership and collaboration would ensure a successful result for the customer and an easier long-term operation of the entire system.

Hollandia was extremely pleased with the support it received throughout the project, which started up in July 2019. "This has been fantastic.", says Hank van Nieuwenhuyzen, COO of Hollandia Dairy, "After meeting the experts at Alfa Laval, my world became so much

easier. I had someone that could guide me through the possible solutions, and during the process I learned so much about wastewater."

### **The value continues after start-up**

A critical factor for Hollandia in the decision to work with Alfa Laval was the support they knew they would receive long after the sale. During the start-up of the process, Alfa Laval field service technicians were on site providing oversight and guidance as the ALDEC 20 and surrounding equipment were put into service. They worked closely with plant personnel to ensure that they understood the operation of the equipment and that they could run the process effectively post start-up.

In addition, as part of the package provided, Alfa Laval's exclusive Connectivity support service was deployed. This interactive system can allow Hollandia's ALDEC 20 system to be monitored, and troubleshooting performed, remotely with the help of Alfa Laval expert service staff. The Connectivity service will collect process data that will be shared with the customer who will work together with Alfa Laval to design a preventative maintenance plan to help ensure optimum performance and trouble-free operation.

"We have been so impressed with the process experts and field service team at Alfa Laval," says van Nieuwenhuyzen, "I never felt any sales pressure, just a willingness to help me solve my problems. It's like hiring a team of wastewater experts for Hollandia."

### **About Hollandia Dairy:**

Hollandia Dairy is a family owned and operated dairy in Southern California's San Diego County. They have been producing, processing, and distributing award winning, farm fresh milk and nutritional dairy products since 1950. Steadily growing, they expanded in 2009 with a distribution center in Riverside County to extend their range of customers served. They are a Certified Humane dairy that ensures ethical treatment of their cows and this resonates in their slogan of "From our cows to you...Naturally!™". It is their way of doing business, a 100 percent commitment to quality and service. A key part of their success is built around an integrated model that places their source of milk, production, and distribution systems in close geographic proximity so that the milk is guaranteed to be at its freshest when processed. It has perfected the process so well that Hollandia Dairy milk can go from cow to a consumer's table in less than 24 hours!



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### **How to contact Alfa Laval**

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