

A photograph of a wastewater treatment plant at sunset. The image shows a long, curved concrete channel filled with water, reflecting the warm orange and yellow light of the setting sun. In the background, there are industrial structures and a bridge. The sky is filled with soft, colorful clouds.

Unconventional approach gets a wastewater treatment plant two centrifuges for the price of one!

When Alfa Laval's Mark Schlitzkus and Sipke Verbeek joined Heyward's local representative, Tim Bishop, on a sales call to Greensboro's TZO's 56 MGD wastewater treatment plant in Greensboro, NC, they went in knowing the plant's existing plan was to replace its Humbolt (Andritz) machines with an open bid project. At the time, Alfa Laval was not on the projected bidders list. By the time the three left, arrangements were being made for the customer to visit Alfa Laval references that would lead to an order a short time later.

Why the change in course?

Three reasons: excellent technology, a creative approach with an attractive outcome and the experience and professionalism only Alfa Laval could bring.

In this case story you'll learn:

- How Alfa Laval G3 centrifuges deliver double the flow with ½ the power required and using less polymer vs. older technology
- An alternative to the traditional design/bid/build approach that saved significant costs and cut the scheduled completion time in half
- How a combination of world-class supplier, a top-notch representative, and a flexible technology integrator deliver exceptional value

Getting to level ground

Greensboro TZO had been operating Humboldt (Andritz) CP-3084 centrifuges in sludge dewatering for over 25 years. The time had come to upgrade to more efficient models and they had gone down the path of hiring an engineering firm as they anticipated the project was going to require expertise that they or a supplier would not have on their own. The plant was also initially skeptical of greased bearings (Alfa Laval's standard on the unit proposed) as their current supplier was supplying oil lubricated and tried to convince them grease was inferior.

During the meeting, the Alfa Laval team listened carefully to their concerns and addressed them, one by one, with facts and data and what they could really expect from an Alfa Laval decanter centrifuge. Alfa Laval had numerous successful installations and references to support the facts. Longevity, dependability and excellent process performance were the key takeaways by the owner for the ALDEC G3 decanters proposed for the project.

In addition, the owner had conducted their own research on greased bearing technology and concluded the benefits of greased bearings were superior to oil and would be preferred for their installation.

The conversation then turned toward capabilities.

Turnkey delivery, efficiency and performance turned the tide that led to a plane ride

Now that any concerns Greensboro TZO had regarding process and mechanical performance were addressed, their interest was piqued.

In terms of delivering process results, the high performance G3-125 decanters could *double* the flow per decanter in the same footprint as the existing decanters, while at the same time, cutting power consumption in *half*, along with a reduction of polymer required. This would provide tremendous value to the plant.

What was even more valuable to the plant was Alfa Laval would provide their solution *turnkey* by partnering with an integrator to deliver the entire project. This meant the plant could save a tremendous amount of money on engineering and installation costs. Budget allocations had originally allowed a scope of one centrifuge, but this turnkey approach would allow for the installation of *two units* and reduce the project timeline by almost a year. The customer began talking with Alfa Laval about references and before the meeting was over, they were planning visits.



A partnership leads to exceptional value for Greensboro

After that initial meeting, Greensboro TZO felt this project delivery method would be a huge benefit for them. Within six months, references were visited, funds were approved and an order was placed for two decanter systems.

While this story seems very straight forward, not just anybody could deliver this unique value proposition.

This entire strategy was possible due to the complete package Alfa Laval was able to deploy that included three things:

- Superior products with features that address real needs and pain points
- Exceptional process knowledge and the ability to listen, problem solve and build trust with customers
- Magnificent partnerships with both the local representative and a Michigan based system integrator

"Alfa Laval developed a proven solution for our centrifuge needs. Seeing the solutions at several west coast installations helped my team better understand the unique opportunity for our sludge dewatering. We are now able to feed our incinerators with one centrifuge where in the past it took two," said leadership from TZO. "Heyward's and Alfa Laval's management of the project made this one of the best solutions we have experienced at TZO."

The Alfa Laval ALDEC G3-125 solution

Decanter centrifuges have been a compact, high performing solution for thickening and dewatering sludge for decades. The basic principle hasn't changed—use the power of g-forces to quickly separate solids from liquids and convey away the solids in cake form that is dryer than most other technologies.

ALDEC G3 Decanters are compact, require very little operator intervention once started, and incorporate numerous innovations that improve on older designs immensely. These improvements include:

- A unique Slimline conveyor design that allows for a deeper pond, improving throughput and reducing power consumption 20% over even modern designs (and 50% or more over older models)
- Power tubes – allows easy pond depth adjustment and recovers kinetic energy reducing power needs
- Several features to reduce or simplify maintenance, including hinged covers and greased bearings

These features set Alfa Laval technology apart and helped Greensboro TZO choose the ALDEC G3 over other options. The ALDEC G3 machines were able to double the capacity of the older machines in a similar sized bowl, meaning no additional footprint was required to meet the goals. The footprint of the new machines was smaller, freeing up valuable space for plant operations.

Decades of wastewater and decanter centrifuge expertise

Greensboro TZO initially thought outside technical design support would be required. In many situations, that would be the case, but they hadn't counted on the depth and experience of Alfa Laval and their ability to be more than just an equipment supplier.

With over 17,000 employees, many of them engineers and technology experts, **Alfa Laval has a deep bench of capabilities and talent. In the case of Greensboro TZO, the project scope and technical requirements fit perfectly into those capabilities and Alfa Laval was able to offer a solution where they could supplement the plant's expertise so the project could be delivered at significantly less than the initial budgeted cost, and over a year faster.** Dan D'Amato, Alfa Laval E&S Project manager, was assigned the key role of lead for the project. He explains why the project was able to deliver such results:

"This approach was successful because the scope of the project consisted of direct replacement of existing equipment, with limited plant utility modifications required during install. Working together with our integrator, we were able to deliver a professional installation without the need for additional expertise."

This reduced cost meant the plant could stretch their budget further and replace two decanters vs. the previously budgeted single decanter. This was a great win for the project.



ALDEC G3 Slimline conveyor

An exceptional representative, a flexible integration partner and an innovative city

Finally, it is important to mention the partnerships and team that made this creative approach possible.

Alfa Laval's representative for Greensboro TZO, Tim Bishop of Heyward Inc. out of Charlotte, NC, was critical throughout the project. From identifying the initial concerns of the plant, to establishing the setting for the discussion, to being the primary on-site eyes and ears, Tim's involvement displayed exceptional value for both the customer and Alfa Laval.

In his own words, Tim described how the partnerships made this an exciting project to work on:

"This was one of the best projects I have worked on in my 40 years in the business. It certainly had the right team in place on your (Alfa Laval's) side. I would advocate for that team on any retrofit."

Also, key to the success was the involvement of Select Technologies, Inc., a project integration and implementation company located in Belmont, MI. Their role was to make all the carefully laid plans a reality by performing the actual removal of the old decanters and installation of the new ALDEC G3-125s. This required careful coordination with all parties and the nimbleness to keenly problem solve while onsite, because work in the field is often not exactly like it is drawn on paper. Select Technologies' experienced team brought this and more to the partnership to ensure that the project met all its objectives.

Finally, the team at Greensboro TZO engaged fully in this project as a collaborative partner, as well as the end customer. Their openness to the concept of a turnkey design, professionalism, technical expertise and willingness to work closely with all parties ensured the project tracked smoothly, and the result aligned with expectations.

If you'd like to know more about this project and how an Alfa Laval decanter centrifuge solution could yield exceptional results for your water or wastewater thickening or dewatering application, please reach out to Mark Schlitzkus at mark.schlitzkus@alfalaval.com.