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October 2025

Midland Plastics



INDUSTRIAL VACUUM & BLOWER SYSTEMS

**6 Zorn Compressor Vacuum Audit
at Midland Plastics**

AERATION BLOWER SYSTEMS

**11 APG-Neuros Treats
Industrial Wastewater**

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VACUUM SOLUTIONS

INDUSTRIAL VACUUM & BLOWER SYSTEMS

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By Troy Dreier, Senior Editor,
Blower & Vacuum Best Practices



AERATION BLOWER SYSTEMS

11 APG-Neuros Aeration Blowers Treat Industrial Wastewater

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Vacuum Best Practices

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NEWS / Blower & Vacuum Industry & Technology

Elmo Rietschle Introduces the VLU Low Ultimate Vacuum Claw Pump for Oil-Free Operation

Elmo Rietschle announced the next generation of claw vacuum technology for the company. The new VLU provides low vacuum in claw technology, with deeper ultimate vacuum levels previously only achieved by oil-lubricated pumps. With no need to replace oil or oil filters frequently, the VLU combines low total cost of ownership with deep vacuum, making it the pinnacle of sustainable vacuum.

The VLU offers low available suction pressure, up to 29”Hg, and low CAPEX compared to equivalent dry technology. The contactless, zero-wear claw technology removes the need to replace costly

components, and it’s environmentally friendly with no oil mist during operation or oil to dispose of after oil changes.

The VLU uses a patented airend design, ensuring optimal performance, reliability and efficiency within a multitude of vacuum applications. With integrated air cooling inside an enclosure, the VLU provides quiet

The VLU Low Ultimate Vacuum Claw Pump



operation without the need for an additional cooling medium. Elmo Rietschle also understands one size vacuum pump does not fit all applications, which is why it’s offering six different pump sizes, all capable of achieving vacuum levels beyond that of traditional claw technology.

VLU pumps come with a standard warranty of 12 months from the date of initial use or 18 months from the date of shipment from the manufacturing facility, whichever comes first. For more information, visit <https://www.elmorietschle.com>.

APG-Neuros Celebrates a Milestone Anniversary – 20 Years of Turbo Blower Growth and Excellence

APG-Neuros is proud to celebrate its 20th anniversary in business – marking two decades of commitment to customer success and industry leadership.



APG-Neuros headquarters in Blainville, Quebec, Canada

Founded in 2005, the company has grown from a small startup trying to introduce turbo blower technology in North America into a trusted name in the industrial and municipal wastewater treatment market. Over the past 20 years, APG-Neuros has served almost 1,000 clients, expanded its team, launched groundbreaking solutions and navigated industry changes with resilience and agility.

To commemorate this achievement, APG-Neuros is unveiling a special 20th anniversary logo and a series of digital campaigns, including new branding assets

for social media, customer stories and a look back at some of the company’s most significant milestones. Throughout 2025, the company will host a series of events and content releases reflecting on its journey and vision for the future.

“Reaching this 20-year milestone is a testament to the incredible people behind this company – our employees, clients and partners,” said Omar Hammoud, Founder and CEO, APG-Neuros. “We’ve built something special together, and we’re just getting started.” For more information, visit <https://apg-neuros.com>.

NAVAC Vacuum Promotes Mike DeLisi to Vice President, Vacuum Technology Business Unit

NAVAC Vacuum has promoted Mike DeLisi to Vice President, Vacuum Technology Business Unit. In this role, DeLisi will oversee business strategy and execution, and will lead a dedicated team in driving NAVAC’s industrial vacuum growth, while also spearheading marketing initiatives and product management.

Since joining NAVAC as Director of Sales for its Vacuum Technology Business unit, DeLisi has played a pivotal role in strengthening the company’s market presence, developing key customer relationships and advancing sales growth in North America. With over 15 years of experience in the industrial vacuum sector, he has a

proven track record of transforming emerging businesses into globally recognized industry leaders. His deep expertise and strategic vision will be instrumental in helping NAVAC achieve its aggressive growth objectives.

“Mike has been an invaluable asset to NAVAC, bringing both industry expertise and a forward-thinking approach to business growth,” said Lintao Lu, President of NAVAC. “His leadership has already made a significant impact, and we’re confident that in this new role, he will continue to drive NAVAC’s success in the vacuum technology sector.” For more information, visit <https://navacvacuum.com>.



Mike DeLisi, Vice President, Vacuum Technology Business Unit, NAVAC Vacuum

The Busch Group Mourns for Co-Founder and Co-Owner Dr. Karl Busch, a Pioneer in Vacuum Technology

Dr. Karl Busch, Co-Founder and Co-Owner, Busch Group, passed away on July 17, 2025, at the age of 96.



Dr. Karl Busch, Co-Founder and Co-Owner, Busch Group

Dr. Busch was not only a pioneer in the field of vacuum technology but also a deeply caring father, mentor and role model. In 1963, together with his wife Ayhan Busch, he founded Busch Vacuum Solutions with just 5,000 Deutsche Marks and, over the decades, built it into a global enterprise with more than \$2 billion in revenue. Today, more than 8,000 people in 44 countries worldwide work

for the Busch Group, which consists of the two well-known brands Busch Vacuum Solutions and Pfeiffer Vacuum+Fab Solutions.

Dr. Busch's life's work continues to shape vacuum innovation across industries around the world. He combined visionary thinking with an engineer's love of detail. His groundbreaking inventions, like the Huckepack and R5 vacuum pumps for food packaging, were not just technical achievements, but also expressions of his commitment to practical solutions and product excellence. The design of the R5 was revolutionary and became the most successful vacuum pump design in the world with millions sold.

Yet beyond his business legacy, Dr. Busch was devoted to his family. Dr. Karl and Ayhan Busch always worked together as a team of equals: as husband and wife for 62 years, parents and business leaders. He was a father who truly listened with patience, curiosity and trust and involved his children early in the company, sought their advice and built a business culture rooted in family teamwork and shared purpose.

His personal motto, drawn from the Alemannic dialect, was "Nit luck lo!" – "Never give up!" This was a principle that guided his life, whether he was hiking in the Black Forest up to his mid-nineties, running a half-marathon at age 87 or starting negotiations for the first German joint venture in China in 1978.

Dr Busch's legacy will continue to live on, in the company he built, the innovations he inspired, Busch Group's company culture and values and, most of all, the people whose lives he touched. He is survived by his wife Ayhan, his children Ayla, Sami and Kaya, their spouses, six grandchildren and a global family of colleagues and friends who will miss him dearly. For more information, visit <https://www.buschvacuum.com>.



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Zorn Compressor Vacuum Audit at Midland Plastics

By Troy Dreier, Senior Editor,
Blower & Vacuum Best Practices

► Zorn Compressor & Equipment started in 1965 and now has eight locations in Wisconsin and Illinois. It's a Quincy distributor, carrying Quincy rotary screw vacuum pumps, lubricated and oil-free rotary screw air compressors, oil-free rotary scroll air compressors, oil-free rotary tooth air compressors and lubricated reciprocating air compressors. It also carries Gardner Denver lubricated and oil-free rotary screw air compressors, lubricated rotary vane air compressors and lubricated reciprocating air compressors; Powerex oil-free rotary vane air compressors, oil-less rotary scroll air compressors and oil-less reciprocating air compressors and Ingersoll Rand oil-free centrifugal air compressors.

The Midland Plastics plant in New Berlin, WI, is a longtime customer of Zorn. The 105,000-square-foot plant employs 100 people and manufactures a variety of custom plastic materials, including dashboard and door panels for the automotive industry, created with thermoforming. The plant has three thermoforming machines that operate nearly around the clock. Plastic comes in large sheets, which the plant heats and vacuums into a mold.

Much of Zorn's work for the plant has been repairs to keep older compressed air and industrial vacuum systems running. When Account Representative Bryan Dominick took

over the account he began a larger discussion with plant management on energy efficiency.

A Vacuum System Audit Prevents Under- or Oversizing

As the plant's older vacuum pumps continued to fail and needed replacement, the plant looked into the costs for replacements versus repair. The existing system included three 40 horsepower (hp), fixed-speed, air-cooled vacuum pumps that used inlet valves to control flow. These inlet valves had hardened over time. The plant didn't know specifics about its vacuum pressure requirements. Sometimes the plant ran one vacuum pump and sometimes all three.

"That's a lot of electrical costs that build up over time," Dominick said. "I'm asking

them how much do you need? If you're running three vacuum pumps and you only need one or one-and-a-half, you're running one-and-a-half unnecessarily, and accruing significant energy costs."

Before purchasing new equipment, management realized paying for an audit was a smart investment. With an audit, it could avoid undersizing its needs and slowing production, or oversizing its needs and wasting money on capital purchasing and electricity. Adam Johnson, Director – Technical Solutions Group, Zorn Compressor & Equipment, performed the audit.

"We measured the vacuum pumps by monitoring the kilowatt draw of the individual pumps, as well as measuring



Midland Plastics runs this thermal molding machine nearly around the clock.

Above: Midland Plastics of New Berlin, WI

the intake vacuum between the air end of the vacuum pump and its inlet modulation valve,” Johnson said. “That way, we could see the true vacuum as it entered the element chamber and use that to calculate the mass flow. We measured the system in acfm as well as in mass flow. We were able to see where the plant’s vacuum levels were falling far out of what they were trying to achieve.

“For instance, we measured vacuum levels between 19”Hg and 22”Hg. The plant was looking for vacuum levels of 22”Hg to be acceptable, but preferred levels as high as 28”Hg. The vacuum system was all over the place. We determined the plant could operate all three pumps at 24”Hg, which would be a good compromise and give the plant a deep enough vacuum to do the thermoforming.”

VSD Vacuum Pumps Stabilize System Vacuum Levels

Johnson put vacuum transducers in strategic locations on the plant floor to see how

well the piping system was working. For audits that don’t seek to increase vacuum levels, he keeps measurements in acfm volumetric flow. But, in audits where the customer wants a deeper or shallower

vacuum, he makes conversions to scfm to ensure he’s making accurate mass flow conversions at 24”Hg compared to 28”Hg and noting the horsepower difference. Audits typically run for a week or two.



Account Representative Bryan Dominick with the two newly installed VSD vacuum pumps.

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>> Zorn Compressor Vacuum Audit at Midland Plastics



pumps with one 50 hp variable-speed drive vacuum (VSD) pump that provided 24"Hg, a flow of 520 acfm and would draw 18.5 kW.

“When a plant has modulating vacuum pumps that aren’t operating as efficiently as we would expect, we’ll estimate their mass flow or their acfm for steady vacuum levels. We’ll propose a variable-speed drive vacuum pump be installed. What we find, oftentimes, is that those variable-speed drive vacuum pumps stabilize the vacuum level, so the required flow ends up being lower than what we projected,” Johnson said. “When we project a flow, we’re estimating that against a model where the vacuum levels were fluctuating continually. A lot of times, we see the vacuum levels end up being shallower, which relates to a higher mass flow.

“Looking at the raw numbers, it’s easy to oversize a vacuum system. We’ve found over and over again that when we install a variable-speed drive vacuum pump, we might expect it to run at 50% capacity or 75% capacity, but it’ll run closer to 25 to 35% capacity. It’s a significant reduction.

The vacuum system audit showed one 50 hp VSD vacuum pump was able to do the work of three older model 40 hp fixed-speed vacuum pumps.

This audit showed vacuum levels that changed dramatically, and three vacuum pumps that didn’t hold their vacuum levels. To select a suitable replacement vacuum pump, Johnson looked at appropriately sized performance charts for Quincy vacuum

pumps. He looked at the vacuum level the plant needed, then looked at the rpm that 40 hp, 50 hp and 60 hp vacuum pumps would achieve and the levels of mass flow and volumetric flow they could provide. He proposed replacing the three vacuum

The Value of Vacuum System Audits

Performing system audits on vacuum systems isn’t as common as on compressed air systems, but they’re just as beneficial.

“It’s no different than your compressed air system,” Dominick said. “You want to understand more about your vacuum system, and that’s how I approach my customers. I think of myself as an educator. If I’m buying something myself, I don’t want to buy it unless I know what I’m buying and understand how it performs. No one wants to be sold anything. System audits help us educate customers. We’re building the project together and understanding how they’ll use it. Often, we find customers don’t understand why their vacuum or compressed air systems are running the way they are.

“Performing compressed air system audits helps us educate customers on why their compressed air system is doing what it’s doing, how efficient it is and everything that goes with it. For a vacuum system, I think a lot of customers shy away from doing an audit because it’s scary: It’s everything backwards,

and it’s a little more complicated. Being able to provide vacuum system audits gives us a great tool for educating customers on what their vacuum system is doing. A vacuum system audit helps customers make well-informed, data-driven decisions.

“Vacuum system audit presentation meetings last up to two hours. A lot of rapport gets built. At the end of it, we’re agreeing on what the customer wants or what the options are. We come together at the conclusion. We feel more like partner consultants when we’re in these meetings rather than trying to sell someone something. At the end of the day, it’s their best interest we have in mind.

“Audits don’t always lead to sales. Some show the customer is running things unnecessarily. We might say, ‘We’ll adjust your pressure settings and turn one or two of these air compressors off, and you can run your whole system off of this one air compressor. You don’t need to buy anything. We’ve just saved you thousands and thousands of dollars a year.’ We’re in the business of taking care of our customers.”

That’s because we’re stabilizing the vacuum pressure, as well as producing the vacuum flow more efficiently. We have company meetings where account reps share this information. When moving from a rotary screw fixed-speed vacuum pump to a variable-speed vacuum pump, not only have we seen significant savings, but those savings are often higher than we initially calculated.”

Vacuum System Audit Produces a Deep Look at Demand

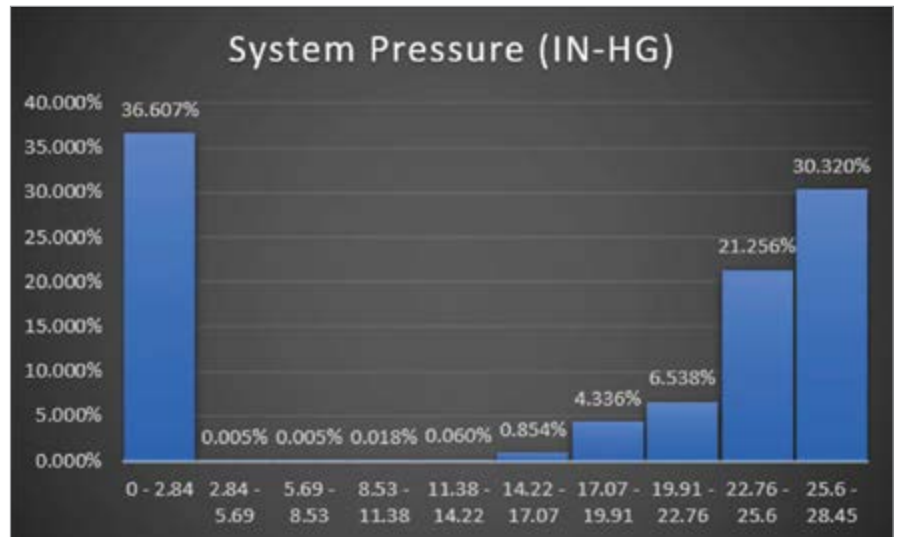
Thanks to the new vacuum pump, the plant’s operations are able to run faster. The plant no longer has to wait for the vacuum system to catch up and provide the needed draw.

The experience shows the value of a qualified vacuum system audit. As Johnson noted, the customer might have looked at its faulty vacuum system and decided it needed 120 hp to replace its three vacuum pumps. But after the vacuum system audit, Johnson and Dominick were able to explain that one of its vacuum pumps wasn’t running as often as expected, and the other two vacuum pumps produced less flow than expected. Vacuum levels were inconsistent, often jumping by 10“Hg, ranging from 18“Hg to 28“Hg. The system was between 17“Hg and 19“Hg 4% of the time. Sometimes, it was as low as

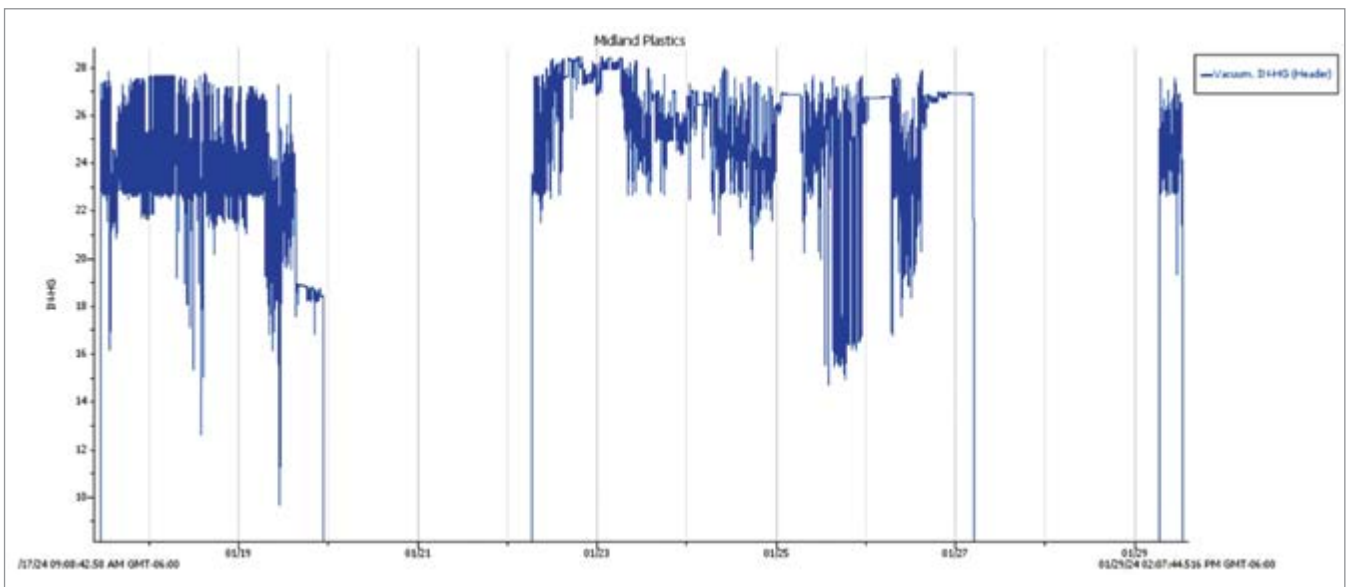
10“Hg. From there, they were able to start a conversation on getting an appropriately sized vacuum pump to meet demand.

“One of the things I do in our reports is create histograms where I break out the flows on the vacuum levels. When we look at a histogram, we see a percent in a given flow range. I also include sustained average tables. I’ll look at what vacuum levels and what flow rates the vacuum system sustained for one minute at

its highest average, down to two hours at its highest average, and then look at the lowest flows sustained for an average of one minute compared to two hours,” Johnson said. “I’ll run the gamut between one minute, five minutes, 10 minutes. When I look at these histograms, I might see the vacuum system was at vacuum levels of 500 cfm for 1% of the time. Then, I can look at the sustained tables and see maybe it was only 1% of the time, but when we were at that flow rate, we



A histogram included in the audit report shows the amount of time the vacuum system operated in each pressure range.



Vacuum levels recorded in the vacuum system header show significant deviations from setpoint, with pressures as shallow as 10“Hg taking place on January 19.

» Zorn Compressor Vacuum Audit at Midland Plastics



Adjusting the ECONTROL+ 3.0 sequencing controller.

were there for five minutes. That tells me this isn't a little hiccup made when transitioning from one vacuum pump to another. This is a true flow range, and we need to have the capacity to meet it when it hits.

"We hope to capture those instances by looking at the sustained high average flows to make sure we're not overlooking something that may happen a small percentage of the time, but when it does happen, it's significant."

A Sequencing Controller Switches Between Two Vacuum Pumps

The audit was conducted in January 2024, the report delivered in the middle of February and the plant placed its order for two new vacuum pumps (one for redundancy) by the middle of March. The audit and report followed a year of discussion on improving the vacuum system, so the plant was ready to make a decision.

"When presenting an audit to a customer, we'll get lost in the weeds," Johnson said. "In most presentations, customers are surprised by what they're spending on vacuum or compressed air. There's a lot of education that goes on explaining what the different vacuum controls are doing, why some are more efficient than others and why some

work better than others. Then, we talk about what happens in their system. It's an active meeting with quite a bit of back-and-forth."

The plant's purchase included a sequencing control panel auto-rotating the load between the two vacuum pumps. If the plant adds additional thermal molding machines in the future, both vacuum pumps can work in tandem. Zorn handled the installation, startup and commissioning.

This installation was the first time Zorn worked with the 3.0 version of Quincy's ECONTROL+ sequencing controller, a new model. During installation, the company's engineering managers spent extra time integrating the sequencer and ensuring it communicated with the vacuum pumps. The process involved multiple phone calls with Quincy product experts to ensure the sequencer acted as it should.

Based on the modeling in the audit report, the plant is now saving 87,000 kilowatt

hours (kWh) per year. With a rate of \$0.10 per kWh, that means operating costs dropped from \$22,191 per year to \$13,477 per year, resulting in \$8,714 per year in savings. The ROI period is roughly nine years. The plant is also seeing less material waste. With the previous vacuum system, vacuum pressure fluctuations led to incomplete seals in forming, machining and CNC applications. The new vacuum system not only conserves raw materials but also minimizes downtime and boosts overall production quality.

"With VSD technology in our vacuum pumps, we see performance adjustments based on real-time demand throughout our entire plant. This has ensured optimal vacuum levels, reduced cycle times and enhanced overall efficiency," said Chuck Hamley, General Manager, Midland Plastics. "The whole process was professional. There was always somebody to provide the answers at the appropriate level, from basic information to extreme technical information. The knowledge depth at Zorn Compressor seems to be top-notch."

By replacing its vacuum system, the plant qualified for \$2,000 in energy incentives from Focus on Energy, a Wisconsin state program. **BP**

About Zorn Compressor & Equipment

Zorn Compressor & Equipment is a family-owned company based in Pewaukee, WI, with multiple branches in Wisconsin and Illinois. With over 55 years of experience in the industry, Zorn distributes a wide variety of compressed air equipment, parts and services. It provides maintenance and repair, emergency service and rentals, installation and plant piping and air, energy and system audits. For more information, visit <https://www.zornair.com>.

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APG-Neuros Aeration Blowers Treat Industrial Wastewater

By Troy Dreier, Senior Editor, Blower & Vacuum Best Practices

▶ APG-Neuros provides turbo aeration blowers for industrial wastewater treatment, and it has found success on multiple continents. Different industries have differing levels of toxins and contaminants that need to be reduced before wastewater can be discharged. The company specializes in understanding those requirements and creating custom turbo blowers to customer specifications. Its leading industries are pulp and paper, poultry and food and beverage.

Industrial wastewater is more concentrated than municipal wastewater, and requires more process to reduce high waste concentrations. We spoke to Omar Hammoud, Owner and CEO, about the challenges facing industrial plants and the equipment his company offers to meet those challenges.

Unique Wastewater Treatment Needs for Poultry Processing

The company counts multiple major poultry processors as customers. Poultry processing generates a discharge with a large amount of toxic material in it, including ammonia and iron. Before this discharge can be called wastewater and released to municipal sewers, it needs to be treated with microorganisms. That calls for lots of oxygen. The poultry industry has turned

to turbo blowers to provide this oxygen. Oxygen promotes the microorganisms that feed on ammonia and other toxic materials. Once the concentration has been reduced, it can be discharged to the sewer.

In the United States, discharge limits for meat and poultry processors are regulated by Title 40 of the Code of Federal Regulations, Part 423. With the goal of improving receiving water quality, the EPA has proposed an update to the regulations which is planned to come into effect in the second half of 2025. The proposed discharge limits for poultry and meat include a daily maximum for ammonia of 8 mg/L and a monthly average limitation of 4 mg/L. States are free to set stricter limits for discharges to waters within their state.



Omar Hammoud, Owner and CEO, APG-Neuros

Municipalities have their own requirements about what can be discharged to their sewer systems. Municipal treatment relies on primary-secondary-tertiary trains tailored to more dilute, stable domestic sewage. This difference drives variations in design, operation, materials and regulatory compliance requirements across the two sectors.

“Let’s simplify it and say a customer has an ammonia limit of no more than 1 gram per million, but starts at 5 grams per million. Also, it must have a certain level of solids, let’s say no more than 5 grams per million. Those are permit requirements. For it to operate that facility, it must have a prior agreement with the municipality that it’s working within the limits of the permit,” Hammoud said. “The plant must be inspected. A membrane comes to take out the solids, like a strainer. You get rid of contaminants, then you percolate it with oxygen. You add some chemicals to kill strong bacteria and make it less concentrated. Once you reach that limit, by the end of the process, you go into the discharge.

“If, for some reason, for a certain period of time, the plant isn’t able to meet those levels, it has to send a notification saying it needs to treat more. That’s when the customer comes to us, and often it’s under stress. It may have received a cease-and-desist order

Above: The APG-Neuros headquarters in Quebec, Canada

» **APG-Neuros Aeration Blowers Treat Industrial Wastewater**



Four turbo aeration blowers at a major poultry producer.

or a set time to fix the problem. It sends us its requirements in a plan, and our process experts help it design the requirements. From there, we define the blowers that will deliver the requirements and the aeration system that will control that process operation.”

Food and Beverage Plants Seek Out More Efficient Aeration Blowers

The company often provides engineering support to customers. For a recent project with a major food producer, the company was asked to help with the goals of increasing capacity and saving energy.

“We took its requirements and worked with the customer, going back and forth on design iterations, to establish or confirm the treatment requirement. Once we defined the treatment requirement and the amount of air required for the treatment, we went into the controls. Then, we worked with it to define the control of the aeration system that includes blowers and valves. From there, we did the rendering. We produced the mechanical design, how equipment will be installed in the blower room and the mechanical arrangements. We supplied the mechanical design, and it hired a local contractor. It bought the equipment from us, took our design, put it in the blower room,

connected the pipes and fittings and installed the valves. Then, our commissioning team commissioned the system and began normal operation,” Hammoud said.

The company did something similar for a major bread producer. The customer wanted to double its capacity at one facility but didn’t have a design engineer or an outside engineer. The company took the lead by analyzing the requirements, specifying the equipment needed and connecting the customer with mechanical

and electrical designers. Throughout the process, the customer was comfortable that the company had the know-how to help design its new system. Hammoud estimated the customer saved \$250,000 to \$300,000 in engineering fees, money it could put to use optimizing its system.

Many food and beverage plants have their own unique challenges. The beverage creation process of a major soft drink creates wastewater that needs to be treated before it can be discharged to municipal sewers. A major yogurt company ferments milk in its production, and that creates a byproduct that needs to be treated.

At these plants, wastewater is stored in a basin or a lagoon. Basins are more common in urban environments where space is limited, while remote operations favor lagoons. The collection system is also influenced by state and local regulations dictating the type of treatment needed before wastewater can be discharged.

Pulp and Paper Byproducts Need to Be Removed from Wastewater

In the pulp and paper industry, the company has worked with a major paper consumer goods manufacturer since 2010 at multiple plants. Byproducts for that industry include



Turbo aeration blowers at a major sugar refinery.



These turbo aeration blowers were installed in a food processing plant in Washington in 2020.

bleach, calcium and other minerals. These need to be removed before wastewater can be discharged. Discharge limits for pulp and paper producers are regulated by Title 40 of the Code of Federal Regulations, Part 430.

How pulp and paper plants discharge their wastewater varies by location. If the plant is in a suburb, for example, it discharges to a sewer system, but if it's in a remote location, it treats and discharges its wastewater in lagoons, letting it seep into the ground and dissipate to the underground water system.

“We assist them with efficiency and modernization. We don't just supply the equipment, but also do a lot of work helping with the design of the system. It's the same thing I mentioned with our poultry customers. Many of them don't have an engineer designing with them. They come to us because, based on experiments they have done with us, they know we can design the installation for them. If they need help with the process analysis, we can help them determine how much air they need or which product is the best fit. We also do the mechanical and electrical design for them. Then, they have someone who comes in and installs the turbo blower for them and runs it,” Hammoud said.

The company can provide this level of support because of the team it has assembled, which includes experts in wastewater energy efficiency.

“They know the process. They know how to find places to improve operational efficiency,” Hammoud said. “We've put them together, and they do the analysis of the entire system and help define the roadmap to get better efficiency with the right equipment. They can save a lot on engineering fees. We're not saying we're replacing the engineering design team. We're saying some customers may not have the budget, or perhaps the engineering company they work with is small. If they can get a technical solution that helps them, then they've found an easier way of getting results at lower costs because we don't charge for our services.”

Thorough Turbo Blower Testing Provides 99% Availability

When plants move to multi-stage turbo blowers, they reduce their energy consumption and gain greater control over the aeration process, Hammoud said. The company provides a system controller with turbo blowers to help optimize their output.



The turbo aeration blowers in these pictures were installed for a major paper consumer goods manufacturer in 2019.

Other benefits of upgrading to newer equipment include smaller space requirements, less noise and reduced maintenance needs. Many plants are stretched thin, he noted, and need to focus on product rather than maintenance tasks.

The company's goal is to provide 99% availability on its turbo blowers, which it achieves through product design and testing. All designs and components are reviewed and tested by Underwriter Laboratories (UL) and the Canadian Standards Association (CSA). The company does its own testing, as well, running every machine for 150 hours. Turbo blowers are run at extreme conditions with vibration, temperature and electromagnetic interference measured to ensure everything works as it should.

“We do this with every product line before we make it available commercially,” Hammoud said. “When we make it available commercially, the product line has a UL stamp and a CSA stamp on it. That guarantees the quality of every component in the system and the entire system as a whole.”

The company also runs performance tests to ensure customer-specific requirements



» APG-Neuros Aeration Blowers Treat Industrial Wastewater

function as they should. If a turbo blower includes a modified impeller design to optimize it for one particular use, the company tests it for three to four days at its own testing facility. When testing is complete, it sends preliminary data to the customer. If the company has any concerns, it makes changes and retests the equipment. It even invites customer engineers inside its facility to observe or run their own tests. Sometimes, these visits take weeks.

Aeration Blowers with Air Foil or Magnetic Bearings

While the company got its start producing turbo blowers with air foil bearings, it introduced magnetic bearings to all its product lines in 2019. For every product from roughly 100 to 1,500 horsepower (hp) it offers a continuous air foil or magnetic bearing line.

“With magnetic bearings and air bearings, you have flexibility in terms of speed and torque,” said Hammoud. “Every installation is run through our modeling, and we can optimize it. We can select the motor that gives the best impeller characteristics for that installation. That gives us better efficiency.”

Surge prevention is not the deciding factor on which bearing type to select. “Surge primarily is control. It’s not dependent on the bearing,” he said. “You have to have sophistication in the control system to predict surge and prevent it, not control it after you have a surge.” **BP**

About APG-Neuros

Founded in 2005, APG-Neuros is recognized as the force behind the successful introduction of high-speed turbo blower technology in the wastewater treatment markets in North America, Western Europe and the Middle East. Its turbo blowers are used in a variety of industrial applications and wastewater treatment

processes, with over 1,900 units installed in North America and Europe, and more than 8,000 units worldwide.

Its headquarters are in Quebec, Canada, and its manufacturing and testing facility is in Plattsburgh, NY. For more information, visit <https://apg-neuros.com>.

To read articles on **Aeration Blowers**, visit <https://www.blowervacuumbestpractices.com/technology/aeration-blowers>.



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A Publication of

Smith Onandia Communications LLC

37 McMurray Rd., Suite 104, Pittsburgh, PA 15241

Blower & Vacuum Best Practices is published quarterly and mailed together with Compressed Air Best Practices®.

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