

The background is a complex technical drawing in white lines on a blue gradient. It features various mechanical components such as pipes, valves, flanges, and a large globe-like structure in the upper right. The lines are thin and precise, typical of engineering blueprints.

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# APRIL 2023

### A NOTE ON THIS ISSUE:

Welcome and thank you for picking up our annual Products & Services Guide! Each spring, we collect a range of offerings from the myriad areas and markets that make up the worldwide pumping industry and present them to you, our readers. In this special issue, OEMs, parts suppliers, distributors, and point-of-service operators come together to showcase their best and brightest. If staying abreast of the best the market has to offer is of interest to you, we recommend you keep this issue handy throughout the year.

Also, if getting the biggest bang for your buck is your concern, this issue contains two submissions worth your attention. First, in our Case Studies section, Scalewatcher's Jan De Baat Doelman shares how his company's solutions pay for themselves (pg. 12). See how one chemical factory found extra savings by avoiding shutdowns.

Plus, in our Water & Wastewater Focus this month, Dan Widdel of Lakeside Equipment explains how one treatment facility discovered seriously good ROI on septage (pg. 18). This creative approach to a messy situation will provide benefits for years to come. Enjoy!



J. Campbell, Editor  
Modern Pumping Today

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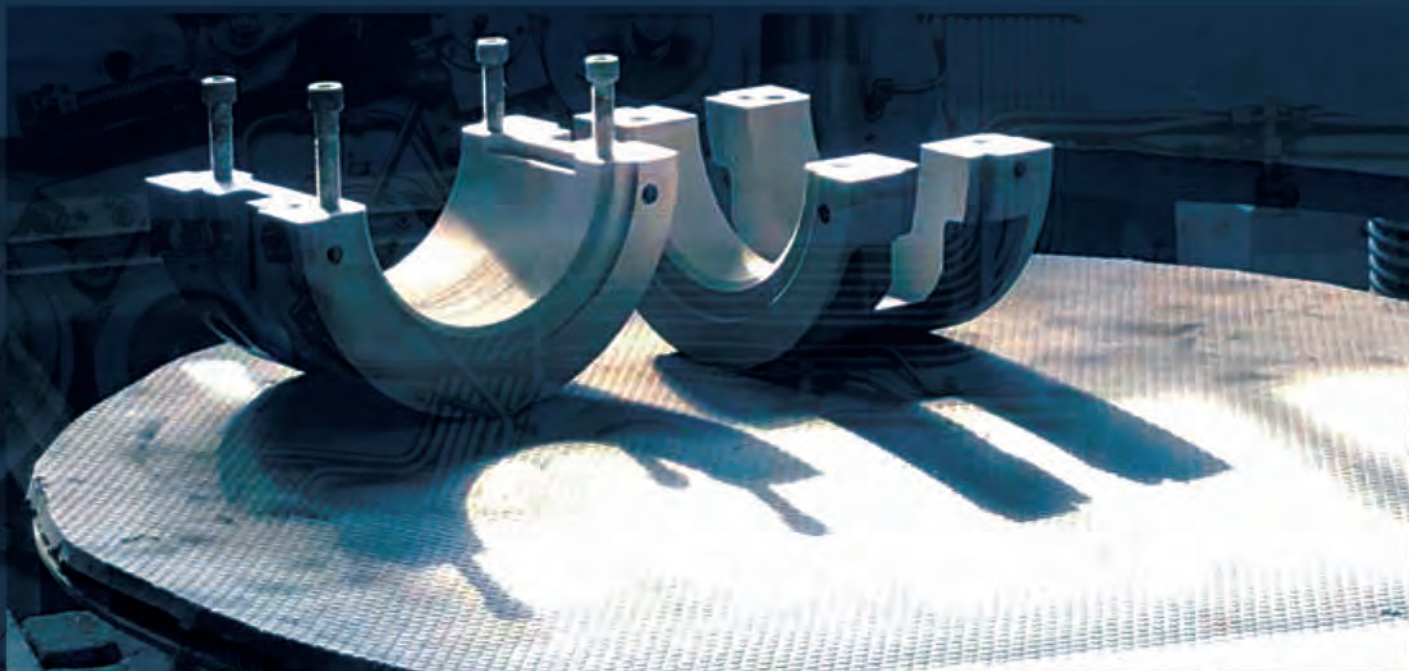
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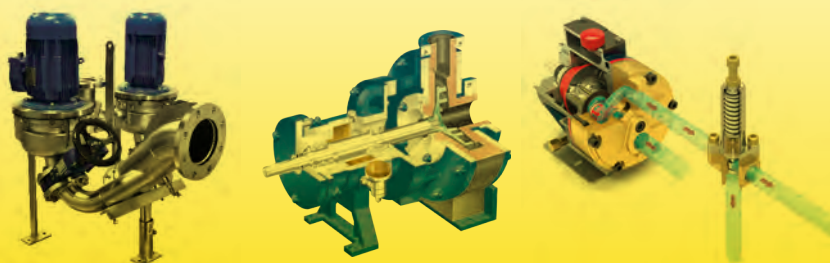
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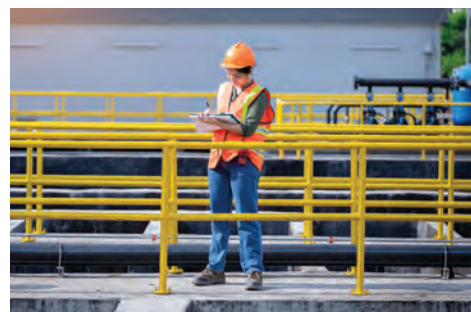
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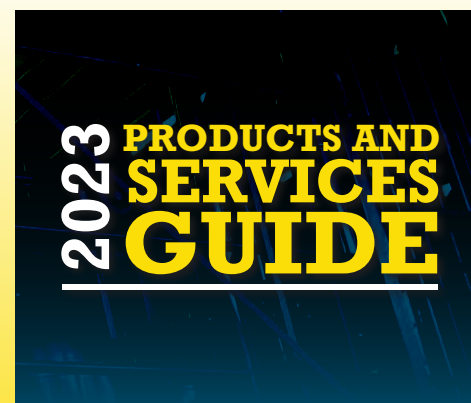
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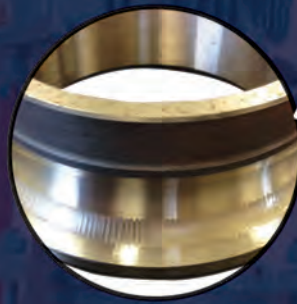
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# FAILED BEARINGS



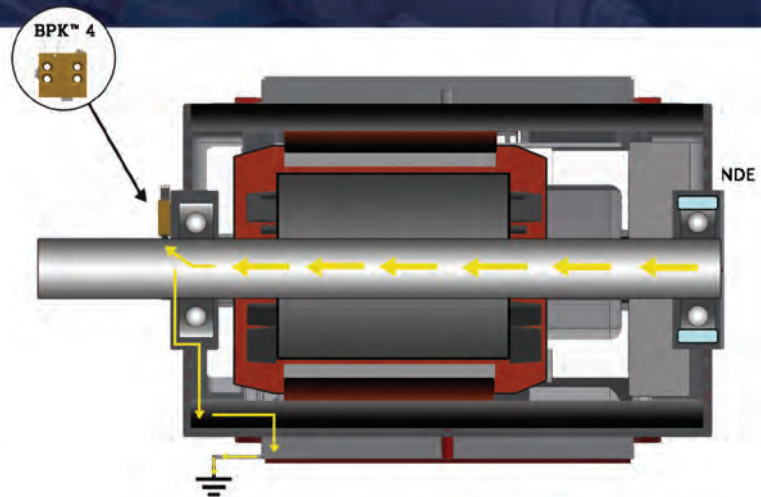
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# HYDRAULIC INSTITUTE ANNOUNCES NEW LEADERSHIP DURING ANNUAL CONFERENCE

The Hydraulic Institute (HI), the largest association of pump manufacturers and suppliers to the pump industry in North America, and the global authority on pumps and pumping systems, installed new leadership during the 2023 Annual Conference in Tucson, Arizona.

Brian Sweeney, president of Crane Pumps and Systems, transitioned from board president into the chairman role. Scott King, president and chief executive officer of Gorman-Rupp, was appointed as the board president.

John Donatiello, senior vice president strategy and business development at Hydro, Inc., assumed the role of treasurer and Charles Pope, president and general manager for Patterson Pump Company, transitioned into the role of secretary. Each officer serves a one-year term that ends in February 2024.

In addition to the officers, four new members joined the HI board. David Flinton, senior vice president, chief innovation, technology, and product management officer of Xylem; Troy Pickering, chief executive officer for Simflo; and Albert Pouria, chief executive officer of Sun Star Electric, began three-year terms which will end in 2026. Mike Mancuso, vice-president of marketing and technology for Flowserve Corp., began a two-year term, which will end in 2025.

Outgoing Chairman DeLancey Davis, chief executive officer for Headwater Companies, will continue to serve as an ex-officio member of board.

The HI board is primarily responsible for providing organizational oversight to the Institute and guiding the direction of its strategic plan.

# ABB INVESTS \$170 MILLION IN THE UNITED STATES

ABB is accelerating its growth strategy in the United States by investing approximately \$170 million and creating highly skilled jobs in manufacturing, innovation, and distribution operations. ABB is committed to growing in the United States by investing in its electrification and automation businesses that meet increased demand from industry-leading customers, while supporting the clean energy transition and the trend towards reshoring of production. This commitment is highlighted by today's pouring of the concrete foundations for a greenfield drives and services facility in New Berlin, Wisconsin. The United States is ABB's largest market, comprising 24 percent of the company's annual revenue.

"The United States is critical to ABB's success as a market that will continue to grow and benefit from our product portfolio that enables the transition to a more energy-efficient future," says Björn Rosengren, CEO of ABB. "Currently, 85 percent of

ABB's sales in the United States are from products produced locally, which provides customers with a more secure supply chain and keeps good-paying manufacturing jobs in America."

ABB technology touches every sector of the economy, from transportation to utilities to buildings. Recently passed legislation like the Inflation Reduction Act, CHIPS Act, and Infrastructure Investment and Jobs Act, gives ABB confidence to invest in manufacturing capacity, distribution systems and technology innovation to bring products and services closer to customers.

The U.S. federal government projects real gross domestic product to increase 2.5 percent in 2023, average 2 percent annual growth between 2024-2028, and grow 2.3 percent per year during 2029-2032. This projected GDP growth, combined with an estimated global EV infrastructure investment of more than \$1 trillion by 2040, gives ABB the confidence to continue investing. ABB projects 25 percent of global EV infrastructure investment will take place in the United States.

Since 2010, ABB has invested \$14 billion in U.S. plant expansions, operational improvements, state-of-the-art equipment, products, and people, making it the company's largest market. With approximately 20,000 employees in more than 40 manufacturing and distribution facilities, ABB is investing, growing, and serving customers

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P14529(03-29-23)



across America through industries that create jobs, encourage innovation and achieve a more productive, sustainable future.

## ENDRESS+HAUSER OPENS NEW REGIONAL LOGISTICS HUB

Endress+Hauser announces the opening of a new 48,000 square-foot Indianapolis, Indiana-based regional logistics hub, marking a further milestone in the company's project aimed to boost the fulfillment of customer orders and satisfaction on a local and global scale.

"This new regional logistics hub will allow us to move products through a global network regardless of where they're produced and where they need to be shipped," said Steve Demaree, North America regional supply chain manager at Endress+Hauser. "Additionally, our logistics systems are now as automated and standardized as possible."

In partnership with Hellmann Worldwide Logistics, Endress+Hauser will strengthen logistics capabilities for the United States, Canada, and Mexico as well as internationally in terms of response time, throughput time and on-time delivery, all of which are pivotal for modern distribution centers. Endress+Hauser already operates two regional logistics hubs in Germany for all of Europe and in China. An additional regional hub is currently being built in India.

"Our regional logistics hub in Indianapolis will continue in serving our mission of reliably supplying customers with measurement and automation technology," says Oliver Blum, corporate director of supply chain at Endress+Hauser. "Our logistics system is an imperative link in the supply chain, and while we prioritize 100 percent availability, flexibility also is crucial."

## TESCO CONTROLS NAMES NEW PRESIDENT

TESCO Controls, a United Flow Technologies ("UFT") company, one of the nation's largest systems integrators in the water/wastewater industry, names Hamid Sarshar as president of the organization. Sarshar will lead the fifty-year-old company into the next strategic phase of growth and innovation within the UFT platform. Hamid Sarshar joined UFT in October 2022 as executive vice-president of operations focused on operational optimization efforts at TESCO.

"I am personally thrilled Hamid has accepted the position of President of TESCO Controls and I am confident in his ability to immediately step into this leadership role at this important moment in TESCO's history. Hamid is an exceptional leader who is respected for driving a people first culture, improving operational performance, mentoring talent, and delivering exceptional consolidated growth while upholding the highest safety standards," comments Matt Hart, CEO for United Flow Technologies.



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Sarshar has over twenty years of experience working for OEMs across multiple industries. Prior to joining UFT, Sarshar was vice president and general manager of Flowserve's \$550 million Global Isolation Valve business for four years. At Flowserve, Sarshar led over 1,500 people and nine production locations worldwide growing operating income over 24 percent, improving on-time delivery, and establishing AGILE product development for Flowserve's most strategic research-and-development projects.

### CYBERTROL ENGINEERING WINS SUSTAINABILITY AWARD

Rockwell Automation, the world's largest company dedicated to industrial automation and digital transformation, names Cybertrol Engineering the winner of the first-ever Sustainability Award during the 2023 Rockwell Automation PartnerNetwork Conference.

The Sustainability Award acknowledges a PartnerNetwork firm that has demonstrated outstanding efforts, initiatives, and programs in the field of environmentalism. The recipient company must align with Rockwell Automation's mission to integrate control and information across the enterprise to help industrial companies be more productive and sustainable.

"We are honored to be recognized by Rockwell Automation for the first-ever Sustainability Award in our efforts to provide viable and cutting-edge technology

to our clients," says Ben Durbin, president of Cybertrol Engineering. "Our team is committed to delivering solutions that not only help our clients achieve their automation goals but also contribute to a more sustainable future. We are proud to be at the forefront of this important movement and look forward to continuing to drive positive change in the industry."

### SIMFLO OPENS NEW TEST FACILITY, CHANGES LEADERSHIP TEAM

SIMFLO announces significant changes to the company's senior leadership team, along with its continued focus on growth and expansion. Troy Pickering, who formerly served as SIMFLO's executive vice president, was named chief executive officer; Woody Boyd, who serves as president, was named president and chief financial officer; and Jay Tando, who formerly served as SIMFLO's vice president of operations and production, was named chief operations officer.

These key senior leadership appointments come right as SIMFLO is wrapping up construction on its new state-of-the-art 35,000-square-foot Engineered Products Facility in Lubbock, Texas, adjacent to SIMFLO's existing headquarters and manufacturing campus.

As the largest turbine pump test facility in North America, SIMFLO's new Engineered Products Facility contains wells up to 80-feet-deep. ■



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## PROJECT PROFILE

**CLIENT:**  
Pragna Dye Chem Pvt. Ltd.

**LOCATION:**  
Ankleshwar, Gujarat, India.

**PROBLEM:**  
Condenser and oil cooler copper tubes required cleaning every four days, as well need to run parallel another 50 TR chiller to maintain temperature.

**SOLUTION:**  
Scalewatcher IE8 model on cooling tower pump outlet; 4-inch OD PPRC pipe for 150 TR Voltas screw chiller.

# ELIMINATING SCALE AND KEEPING IT CHILL

*For one chemical factory, Scalewatcher prevents shutdowns and pays for itself*

BY JAN DE BAAT DOELMAN, SCALEWATCHER

The Pragna Dye Chem Pvt. Ltd. factory located in Ankleshwar, Gujarat, India, manufactures drug intermediates for API and bulk drugs, using nine chillers with single cooling tower. From that cooling tower, the factory uses five different outlets to run

the nine chillers. However, due to the materials involved, hard water scaling on the chiller condenser remained an ongoing issue. Maintaining operations required weekly shutdowns, excessive labor, and costly expense. A new solution was necessary.



## A PERSISTENT PROBLEM

Pragna Dye Chem was using chemicals and salt softener to treat top-up water in the cooling tower. In spite of this process, the factory needed to clean the chiller condenser every fourth day, brushing the condenser copper tubes and oil cooler copper tubes—a time-consuming operation.

Adding to the cleaning expenses of the shutdowns, to maintain the appropriate temperature Pragna Dye Chem needed to run another 50 TR chiller parallel to the one being cleaned, paying a lot electricity charges as well.

## FINDING A SOLUTION

To solve this problem, Pragna Dye Chem chose to cover one cooling tower motor outlet with a Scalewatcher IE8 Model on the 4-inch OD PPRC pipe to prevent the hard water scaling issue for the Voltas screw chiller. The IE8 Model

was installed on July 3, 2022, with an initial test run scheduled out for nineteen days.

## EVALUATION AFTER INSTALLATION

Following the Scalewatcher installation and the cleaning of condenser, factory technicians opened the condenser after the nineteen-day initial evaluation period concluded. No scale was observed in the condenser. Given the initial evaluation's success, Pragna Dye Chem changed cooling tower water, cleaned condenser, and prepared for a longer evaluation period under normal factory conditions from July through December.

From the end of the initial evaluation period in July to December 29, 2022, Pragna Dye Chem didn't clean the condenser for a total of 154 days. For a closer inspection, factory technicians opened the condenser on December 25 for camera

## PROJECT ROI

### ENERGY AUDITOR REPORT OF PRAGNA DYE CHEM PVT. LTD.

#### EFFICIENCY INCREASE:

Reduce use of 50 TR chiller due to extraordinary performance of 150 TR chiller

#### MONTHLY PROJECTED

ELECTRICAL SAVINGS: \$2,000

#### ANNUAL PROJECTED

ELECTRICAL SAVINGS: \$24,000

#### ANNUAL PROJECTED CHEMICAL

SAVINGS: \$2,200

#### PAYBACK PERIOD OF

SCALEWATCHER: 60 days

## PROJECT TIMELINE

### JULY 3, 2022:

Scalewatcher IE8 Model installed on the 4-inch OD PPRC pipe.

### JULY 21, 2022:

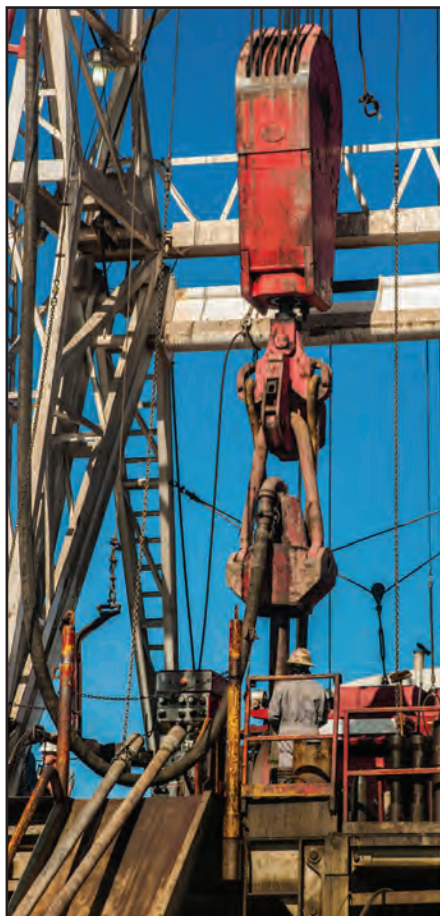
Initial evaluation conducted. Cooling tower water replaced. No scaling issue identified after nineteen days, but technicians suggested cleaning the condenser. Condenser cleaned on the same day.

### JULY 21—DECEMBER 25, 2022:

Evaluation running continues with 154 days and still running.

### CONCLUSION:

Still running, Pragna Dye Chem has not cleaned the condenser tubes. Instead, factory technicians monitor for scaling every fourth day—instead of required cleaning.



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## PROJECT BENEFITS

- Reduced use of chemical by 50 percent.
- Number of shutdowns reduced.
- Condenser and oil cooler tube life extended.
- Reduced labor cost.
- Increased production uptime.

insertion. However, upon seeing no scaling, they closed the condenser without cleaning and allowed it to continue running.

### ADDED BENEFITS

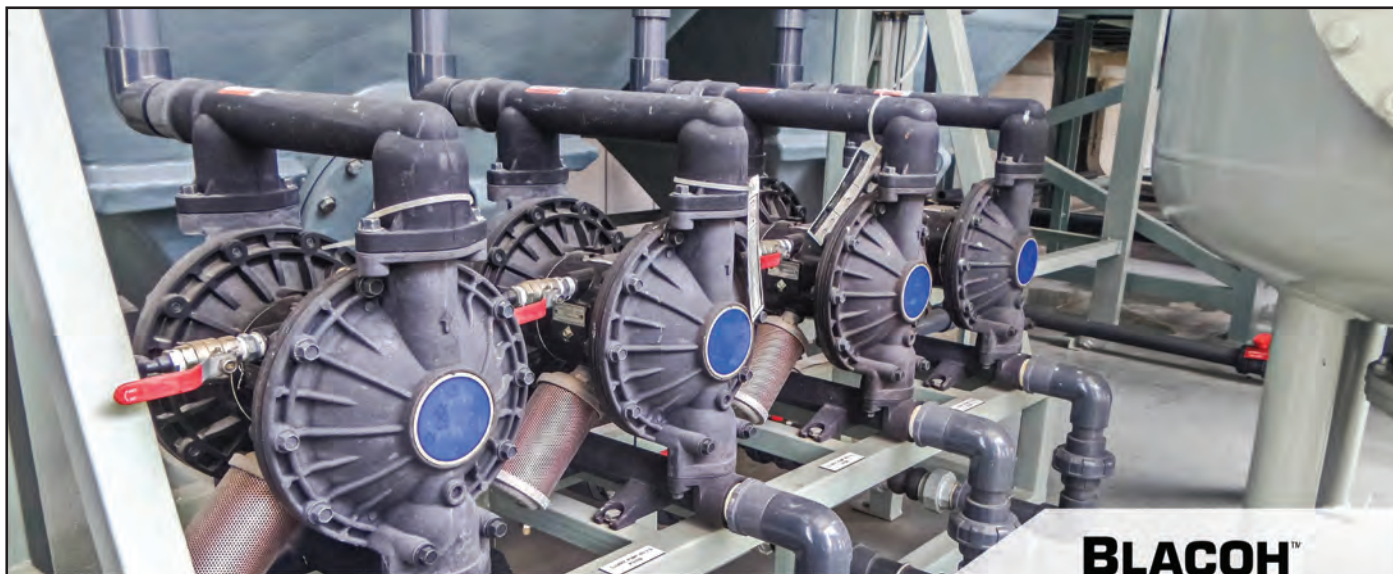
In the factory's current layout, one cooling tower makes use of five outlets, and operators have only needed to cover one outlet with the Scalewatcher to see the benefit. The factory also reported added benefits on another chiller condenser getting the same treated water from the cooling tower, reducing its cleaning and maintenance.

Additionally, without the added electricity cost of running the parallel chiller every four days during pre-installation condenser cleaning, Pragna Dye Chem saw a return on investment that paid for the Scalewatcher unit in only sixty days.

Post-installation, the Scalewatcher has run with zero maintenance, no chemical consumables, and no additional services of any

kind. For both the client and the installation team, this project exceeded expectations to become a huge success. ■

**JAN DE BAAT DOELMAN** is president of Scalewatcher. The Scalewatcher is an environmentally friendly alternative to chemical and mechanical descaling. Launched in the 1980s it has successfully treated hard water problems for industrial manufacturers as well as water companies, oil producers, farmers, horticulturists, shipping companies, shopping centers, school, universities, and government establishments. For more information, call 610.932.6888, email [sales@scalewatcher.com](mailto:sales@scalewatcher.com), or visit [www.scalewatcher.com](http://www.scalewatcher.com).



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Preparing the EM machine for operation.



## PARTNER PROFILE: AVT

Advanced Valve Technologies (AVT), a part of Critica Infrastructure, manufactures comprehensive solutions for the safe and sustainable repair and rehabilitation of critical water and gas infrastructure. The company is best known for the AVT EZ Valve, an award-winning inline insertion valve designed for quick and easy installation for emergency water line repair and planned pipeline maintenance, requiring no disruption in service.

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[www.avtfittings.com](http://www.avtfittings.com).

# CONTROL POINT ADDED AT SAN ANTONIO WATER AND SEWER

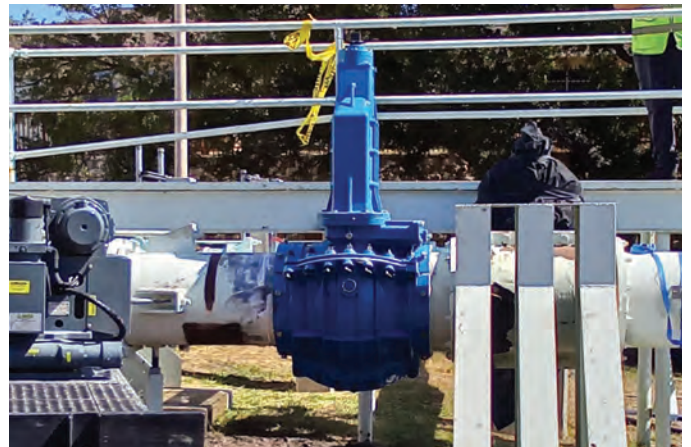
*AVT and Rangeline work together to maintain water supply to America's seventh largest city*

BY EMMA ARDLEY-BATT, CRITICA INFRASTRUCTURE





The EM machine milling a 120-degree slot across the top of Pipe #5.



A view of the completed installation.

AVT's EZ Valve has been used to create a control point at the San Antonio Water and Sewer (SAWS) main pump station after a header was found to be leaking and required repair. The header needed to be isolated to ensure the station could continue pumping and supplying a large area of the city, which is the seventh largest in the United States.

#### THE RIGHT EQUIPMENT FOR THE JOB

AVT's distributor and installer Rangeline Group has an ongoing relationship with SAWS so were called on for a solution. They immediately suggested the installation of an insertion valve which could be cut in under full pressure with no need to shut off the flow. The 18-inch AVT EZ Valve would be the ideal piece of equipment for the job.

"Due to the configuration of the pipes feeding the pump station, an isolation point was required on a narrow section of pipe," says Rangeline's National Sales Director Greg Foushi. "On either side of the pipe section was the leaking header and a branched off tee that was still continually

feeding parts of the city. The new isolation point would enable the pump station to continue to produce the pressures (80 to 90 PSI) and volumes required to maintain its normal water supply to the city, while the header repair was taking place."

#### THE AVT EZ VALVE: HOW IT WORKS

The AVT EZ Valve, an insertion valve, uses an integral isolation gate, which when operated after the slot has been milled into the pipe, allows the EM machine, which milled the slot, to be removed and the resilient wedge installed. This process means the valve can be installed on a live line while the water is flowing. The resilient wedge needs to be lowered just two-thirds of the way into the pipe to commission the installation meaning users have the choice of when to activate the valve.

"Rangeline is a trusted and valued AVT partner and knew the EZ Valve would be the right solution to SAWS' issue," adds Shawn Petty, AVT's vice-president of global sales. "Installing large valves such as these is a highly skilled job and one Rangeline was totally prepared to carry out after many years of installing EZ Valves. We're delighted our technology offered the solution to this tricky issue." ■

## PARTNER PROFILE: RANGELINE GROUP

Rangeline Group is a pipeline service company that specializes in water and wastewater providing solutions such as line stops, wet/hot tapping, valve inserting, and pipe freezing just to list a few. Rangeline is also known for their concrete pressure pipe experts and their mechanical services teams. Rangeline takes it one step further to help educate clients across the nation through lunch and learns, the values and importance of pipelines and how to avoid city shutdowns and water main breaks as we are all in this together.

For more information, visit [www.rangeline.com](http://www.rangeline.com).

Critica Infrastructure is shaping the future of critical infrastructure through highly-engineered and proven composites, insertion valves, geopolymer materials, and fiber-reinforced polymers, and associated engineering support and training services. Critica Infrastructure solutions are used to construct, maintain, strengthen, protect, and rehabilitate energy transmission and distribution lines, high-consequence industrial pipework, water pipelines, tanks, storm and sanitation systems, and civil/structural assets. Critica Infrastructure solutions are safer and more sustainable, easy to install, cost effective to deploy, and durable for decades. For more information, visit [www.criticainfra-nri.com](http://www.criticainfra-nri.com).





Kishwaukee Water Reclamation District is totally committed to being environmental stewards.

# SERIOUSLY GOOD ROI ON SEPTAGE

*Treatment facility finds a solution that is built to last*

BY DAN WIDDEL, LAKESIDE EQUIPMENT CORPORATION

When investing in new equipment, what would you consider to be a reasonable payback? Five years? Three years?

At the Kishwaukee Water Reclamation District (KWRD) in Illinois, how about just fourteen months. This utility, with its net zero energy plan and biogas plant, could be described as a blueprint for future treatment plants, but it is also very much in the now; totally committed to being an exemplary environmental steward. It believes in "Clean the Kish"; the Kishwaukee River, known locally as "The Kish," a 63.4-mile-long stretch of

water whose name derives from the Native American Potawatomi word for "River of the Sycamore." Recovering resources to protect public health at KWRD is a fundamental ongoing aim and considered necessity—and to achieve it in the best possible and economically viable way for the 50,000 people it serves.

Kishwaukee's clean green renewable energy, nutrient-rich biosolids and eight acres of native prairies, encouraging butterflies and enhancing the beauty of the area—all sounds extremely positive, and it is—but what about the slightly less dashing image of septage?

## TRYING NEW SOLUTIONS

Far enough out of Greater Chicago, close to agricultural land and homes with septic tanks, KWRD realized that their location was advantageous for septage collection, and that there was a gap in the market; confirmed by an approach from a septic hauling firm that was looking for a receiving station. So in 2012, this enterprising facility in Dekalb, Illinois (65 miles from Chicago), began taking in septage, which was dumped into a manhole on site that combined with the main influent flow. Word soon spread, and by offering very competitive rates of \$0.035 per gallon,





*Until the Lakeside Septage Acceptance Plant was installed, the plant's screens would regularly become blinded.*

septage fees were fast stacking up, with the plant taking in 442,000 gallons of septage in the first year alone. As more and more haulers, from around a 50-mile radius, chose Dekalb as their unloading site, the treatment plant had to deal with volumes that rose to 704,000 gallons in 2013, all the way up to 2.6 million gallons in 2016.

"Creating regular revenue towards the overall running of our facility has been extremely useful," says Mike Holland, assistant district manager at Kishwaukee Water Reclamation District, "but by its very nature, septage presents challenges, so with an increasing amount of debris, our screens would become blinded and needed cleaning manually. This meant more labor and also more man-hours of troubleshooting, because the flows could mess with our controls. We finally reached a point where we needed to screen the septage separately and have more control."

In 2017, Holland and his colleagues considered a new single screen system, specifically designed for the handling of septage.

## VERY POSITIVE REPORTS

"We looked at some different manufacturers," Holland says, "including Lakeside Equipment Corporation, who we'd always heard very positive reports. We went to visit two of their plants to see for ourselves, and it was more about what we didn't hear. None of the operators talked about problems—just that the equipment was very easy to maintain, clearly built

to last, and didn't involve much time to manage it. We also sought advice from LAI, Ltd. in Rolling Meadows, a manufacturers' representative firm serving the water, wastewater, and stormwater markets, from who we had previously bought equipment."

After careful consideration, Kishwaukee Water Reclamation District chose Lakeside Equipment Corporation's Septage Acceptance Plant (SAP), a small-footprint, pre-engineered, self-contained, fully automated unit with a full-penetration rake-head that removes debris and inorganic solids that typically pass through a conventional bar screen. To pre-treat septage, the SAP is anchored by the reliable, heavy-duty Raptor® Fine Screen. By capturing the debris from the septage, damage to downstream equipment such as clogging pumps/valves, decreasing aeration effectiveness, plus dewatering/filtering equipment and sludge digestion, is prevented.

"We have around fifteen septic haulers that use our facility," adds Holland. "Our intake now exceeds four million gallons per year, but apart from having to clean out the SAP's rock trap once per week, the Lakeside system takes care of everything—and we also know exactly which haulers have come in, at what time, and how much they have dumped."

Installed in 2018, the Lakeside SAP at Dekalb provides security access, load management, and invoicing capabilities. Haulers receive access by the plant's assigned PIN that



*By capturing debris from the septage, damage to downstream equipment, such as clogging pumps, is prevented.*

activates the system, opens the inlet flow control valve, allowing the hauler to select one of five waste types on a touch screen.

## PAYBACK OF JUST FOURTEEN MONTHS

Holland continues, "Taking in septage has become a significant revenue stream for us, keeping wastewater treatment costs down for our citizens. Daily, around five to ten vehicles visit us during our main hours, each depositing about 3,500 gallons per time. The access code makes everything easy. Payback of just fourteen months far exceeded our expectations. The Lakeside SAP has really been an awesome addition to our facility" ■

**DAN WIDDEL** is regional sales manager at Lakeside Equipment Corporation. Lakeside Equipment Corporation is an engineering and manufacturing company concentrating on helping to improve the quality of our water resources. Lakeside started in the spring of 1928 to engineer, develop, and provide water purification systems to municipalities and companies throughout North America. For more information, visit [www.lakeside-equipment.com](http://www.lakeside-equipment.com).





# THE FLEXIBILITY TO IMPROVE ANY SMALL-SCALE WASTEWATER TREATMENT PLANT OPERATION

*Tsurumi's process equipment offers options for beer,  
food, chemicals, or sewage*

BY MIKE KLIMES, TSURUMI AMERICA



The next time you're enjoying a refreshingly cold beer, feel free to make a toast in appreciation of the hardworking screens, pumps and skimmers that ensured the brewer was able to deliver that crisp, clean flavor you appreciate. But perhaps don't dwell too long on the realization that the process equipment manufactured by Tsurumi Pump is just as much at home in a microbrewery as it is in a small-town wastewater treatment plant.

Indeed, the procedures for treating these very different types of wastewater are surprisingly similar and highlight how Tsurumi offers the most reliable and efficient solutions for each stage of the process. But how does all of that process equipment ensure that even the most polluted wastewater ultimately leaves the plant clean enough to safely re-enter the environment?

Once it's been siphoned off from the brewery's fermentation tanks, the first obstacle the water must

overcome on its journey to the ocean will inevitably be pre-treatment through an automatic bar screen. While sewage plants commonly rely on Tsurumi's KE, KS, KW, and KM coarse-screen models to form an early, effective barrier against waste both large and small, from sanitary wipes to shoes and plastic bottles, most breweries will find the finer-screened debris in the same ranges to be sufficient.

Offering a range of bar spacings from 1 to 5 millimeters and 10 to 50 millimeters, the KE, KS and KW front-screens and KM rear-screens will filter out a variety of tiny solids and sediment, further reducing the risk of damage to the pumps and valves of the downstream equipment. Each model has two or more rakes, powered by an economical, small-output motor, that move between the screen bars, scraping out solid matter before clogging can occur. The waste is then moved to the screen top before it is discharged



## OVERVIEW: TSURUMI PROCESS EQUIPMENT

- Regardless of its source, wastewater undergoes a surprisingly similar treatment process before it is released into the environment.
- Tsurumi process equipment—comprising bar screens, submersible mixers, aerators, scum skimmers, and decanting pumps—is designed to economically, efficiently, and durably handle it all.

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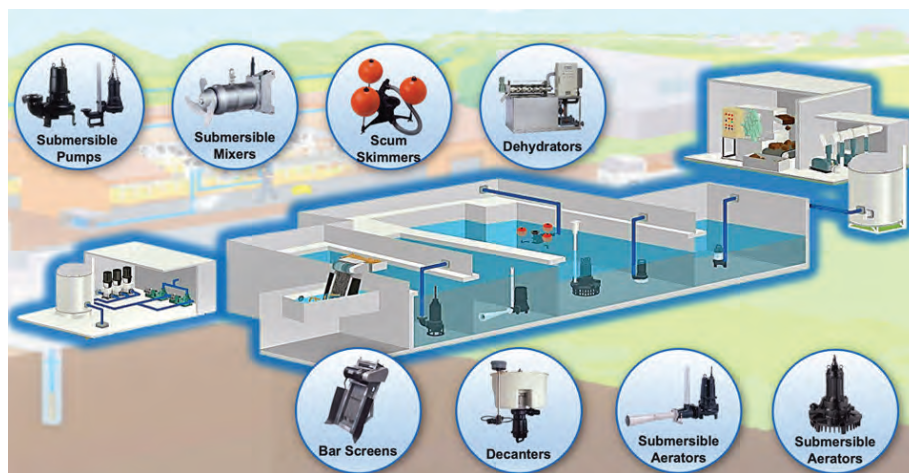
to the transporter or waste bin by gravity slide.

"Our bar screens provide excellent durability in even the harshest environments," says Glenn Wieczorek, managing director of Tsurumi Pump. "We rely on 304 and 316 stainless steel for enhanced corrosion resistance and include no revolving parts in the submersible section. For instance, we offer both traditional chain-driven rake type (wet) and a type of catenary (dry) chain type; where the chain and sprockets avoid contact with the liquid and therefore requires virtually no maintenance."

### NEXT STOP: NITRIFICATION/DENITRIFICATION

Just as with sewage, denitrification of wastewater is the next key treatment stage in the brewing process due to the increased levels of nitrogen that is produced from the proteins in the grains. Both industries will adopt biological treatments such as nitrate-reducing (denitrifying) bacteria to tackle this, aided by anaerobic and/or aerobic mixing to stimulate flow.

Tsurumi's extensive range of MR and MRL submersible mixers is suitable for use in all commonly encountered water levels in these industries. Like the bar screens, these models are also extremely cost-efficient, with output from their submersible motors ranging from just 0.33 to 5.56 horsepower. These motors are directly coupled to a high-efficiency propeller that generates a powerful jet of water, enabling either aerobic/aeration treatment by mixing air and water or purely anaerobic treatment.



The coverage of the MR series has been boosted by offering configurations with or without a guide ring (increasing the flow-regulating effect, or improving the mixing effect and increasing water flow, respectively), thereby enabling each mixer to be precisely matched to its application. Flow rates ranging from 370 to 4,914 gallons per minute are therefore possible.

For applications in shallow (below 20 inches) water, the MRL series of mixers will provide anaerobic mixing at flows of up to 2,985 gallons per minute. With an agitation output of up to 3.1 horsepower (under clear water), they are fitted with a guide ring that extends to the rear, preventing whirlpools from being sucked in, and making them particularly effective for mixing water in flow-regulating tanks.

Available in cast iron or stainless steel constructions, they are also ideal for applications such as environmental conservation in ponds and rivers or enhancing artificial water flow in parks and recreational facilities.

### A BREATH OF FRESH AIR

Stimulating the natural process of bacteria breaking down organic material is at the heart of the next stage of the treatment process, and is encouraged by pumping oxygen into the tank and/or aggressively agitating the water.

By providing aeration over the surrounding 360 degrees, the TRN

self-aspirating submersible mixer/aerator is perfect for promoting aerobic mixing in cylindrical tanks and can operate as low as 20 feet deep, and even greater depths when simply using the draft tube or supplemental blower system. With output ranging from 1 to 54 horsepower, they produce a strong flow of water mixed with air that ensures every part of the tank is aerated and that no sediment is formed.

Directly connected to the motor shaft, its rotor causes a circular movement of the water, resulting in negative pressure around it. Air is then automatically brought in from above through the suction line, before being intensively mixed with the water flowing into the area around the rotor. This forms thousands of microscopic air bubbles that are spun radially outwards at high speeds through the channels of the guide vane, reaching every part of the tank to ensure the water is uniformly oxygenated.

"It's vital that this hard-working mixer provides the highest durability, so we start with the obvious—the casing is solid cast iron, and parts that are subject to particular wear such as the shaft, screws, the impeller, and suction plate are built from stainless steel," Wieczorek says.

"The hollow tip of the impeller allows an air cushion to be formed, which prevents the shaft seal from touching water and greatly increases its lifespan. Also, the bearings and



the oil bath around the shaft seal are oversized, so whether it's working in a brewery, a slaughterhouse, or a sewage treatment site, the TRN will deliver fault-free twenty-four-hour operation."

Alternatively, the Tsurumi BER series of submersible ejectors can be utilized to deliver the highest levels of mixing and oxygen transfer. Ideal for Sequence Batch Reactor treatment systems, this aspirating aerator combines a submersible pump with a venturi jet-based diffuser to eliminate the need for blowers, air piping, and compressed air. The ejection current generates a self-feeding, negative pressure around the nozzle that draws air from the surface through an inlet pipe, mixes it with the water below, and then ejects the mixture. The result is a remarkably strong churning force that produces exceptionally efficient oxygen dissolution across a wide area.

"The BER is a very flexible option," continues Wieczorek. "Successful applications include sewage treatment plants in small towns that had previously struggled to deal with the tripling of its wastewater during the summer season."

## A MAJOR CLARIFICATION

Once the wastewater reaches the clarification stage of the process, the focus turns to sludge removal. First, all floating debris will be removed from the water's surface.

Tsurumi's FSP floating scum skimmer consists of a submersible pump, jet-injector mechanism, three floats, and relies on the Venturi principle to remove floating oils and grease solids with a minimal amount of water. A bypass attached to the discharge opening recycles part of the pumped water to the intake to generate a jet flow, resulting in the generation of consistent, stable suction power in the collection cup, or intake.

The floats enable its submersion depth to be set to a single millimeter if desired, maintaining this distance regardless of changes in water level.

A simple twist of the floats, however, can quickly increase flow by setting the suction mouth deeper (up to about 2.5 inches), with the scum then being pumped to the concentration tank for processing.

Again, with a power output ranging from 1/2 to 1 horsepower, the FSP is

an extremely economical option and has been successfully employed to remove a variety of other floating debris, ranging from duckweed to oil spills.

Operating in the same secondary clarifying tank, just beneath the level of the scum skimmer, will be



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a floating decanting pump tasked with discharging supernatant liquid—which should now be approaching expected effluent specifications—to the drain when used in a brewery application. With outputs from 1/3 to 2 horsepower, Tsurumi's comprehensive range of FHP solutions comprises a float that keeps the submersible pump stable even in basins with strong flows and a photosensor. When this detects decreasing water purity near the inlet, a floating ball valve incorporated in the intake switches off the pump to prevent the inflow of sludge and sediment.

At this stage, the only remaining process is the handling of sludge return and slurry removal. Here, very small solids, or 'fines' will have sunk to the bottom of the tank, but rather than it all being collected for use as fertilizer, some of this activated sludge will be returned to the upstream denitrification and aeration tanks to kickstart the breakdown of organic material.

For easy removal of the sludge, an agitator pump will be required to homogenize the medium. Tsurumi offers a huge choice of suitable models, but a long-time favorite with brewers has been its VANCS PU series of resin-made pumps with a vortex impeller that ensures virtually unshakeable operation. The use of 304 stainless steel further enhances its corrosion resistance, while the use of liquid paraffin as its lubricating oil widens its application to high-

grade installations such as decorative waterfalls, fishponds, and aquaculture.

"Our process equipment is so flexible that it can be used across several industries, whether for wastewater, chemical processing, or food-processing applications," Wiczorek concludes. "One of the key features is the way that this equipment works in conjunction with the pumps, ensuring the most efficient operations while allowing us to be a one-stop-shop where customers can get all of their pump needs in one place. That's definitely worth raising a glass to!"

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Operating in the same secondary clarifying tank, just beneath the level of the scum skimmer, will be a floating decanting pump tasked with discharging supernatant liquid—which should now be approaching expected effluent specifications—to the drain when used in a brewery application. With outputs from 1/3 to 2 horsepower, Tsurumi's comprehensive range of FHP solutions comprises a float that keeps the submersible pump stable even in basins with strong flows and a photosensor. When this detects decreasing water purity near the inlet, a floating ball valve incorporated in the intake switches off the pump to prevent the inflow of sludge and sediment.

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Tsurumi America, Inc., a division of Tsurumi Manufacturing, was founded in 1979. Headquartered in Glendale Heights, Illinois, Tsurumi (America), Inc. has bases in Quebec, Canada; El Paso, Texas; and Salt Lake City, Utah. Globally, Tsurumi is active in forty-five countries and has been an innovator in the pump industry since 1924. Tsurumi America is a provider of leading pumping technology in construction, civil engineering, mining, industrial wastewater, domestic wastewater, sewage treatment, flood control and scenery creation fields. All Tsurumi products are backed by independent, third-party verification. Beyond leading pump technology, Tsurumi America is recognized for its robust distribution network and one of the largest on-hand inventories in North America. For more information, visit [www.tsurumipump.com](http://www.tsurumipump.com).



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# NEW SLAM-SHUT VALVE READY FOR HYDROGEN APPLICATIONS

*Bureau Veritas certifies Emerson's BM6X Series for pressures up to 100 bar*

BY OSCAR BRESSAN, EMERSON

Emerson is working with its customers to develop a hydrogen ecosystem, starting with research and innovation, and scaling up production and transportation. These efforts are an important focus of the European Union's strategy on hydrogen, adopted in 2020, and of similar efforts in other countries and regions worldwide.

That plan took a huge leap forward last December with the approval by Bureau Veritas Italia of the company's

BM6X Series Slam-Shut valve for use in applications with up to 100 percent hydrogen and pressures up to 100 bar. The certification was achieved as a result of the commitment of Emerson and Bureau Veritas Italia to ensure suitable products are available for use in new hydrogen infrastructure.

The certification granted to the Emerson BM6X Series Slam-Shut valve confirms the verification of material suitability, based on internal

and external seal tests performed at the Emerson production plant in Castel Maggiore, Bologna, Italy. Certifying key components, such as the Emerson BM6X Series Slam-Shut valve, is a critical step for these types of projects.

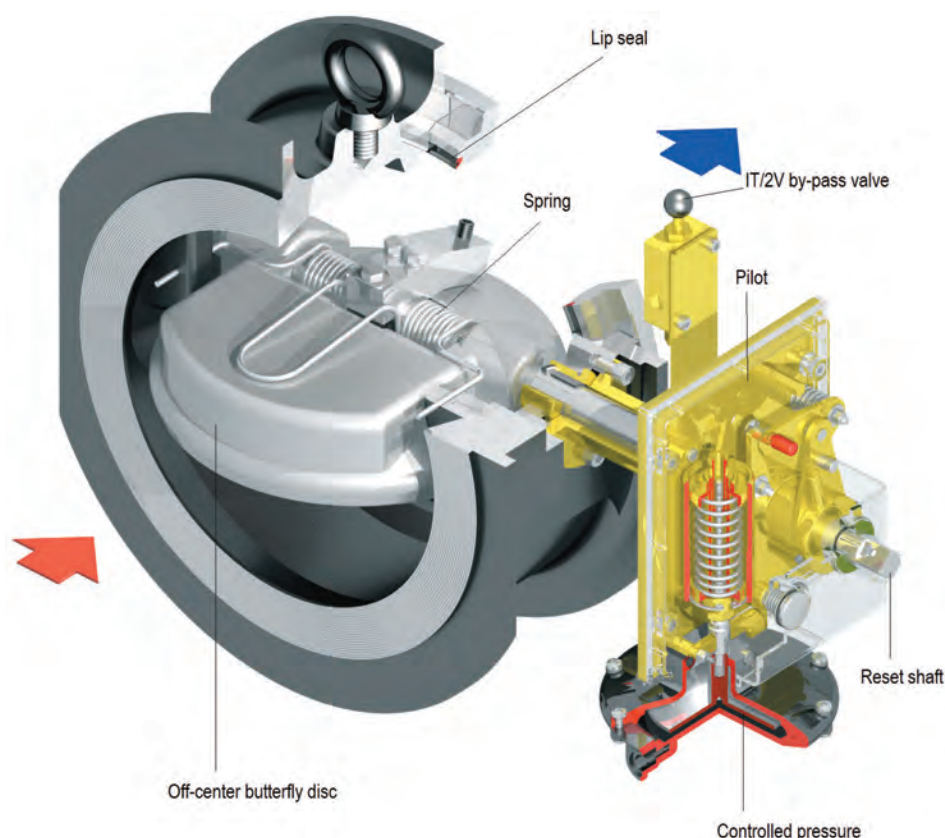
## COMMITTED TO SAFETY AND EFFICIENCY

"The Bureau Veritas procedure, relating to the issue of Type Approval for hydrogen-operated actuators and valves, defines the audit process for the issue, maintenance, and renewal of the certification for actuators and valves used with hydrogen or hydrogen mixtures," says Giuseppe Signoretta, hydrogen technical manager, Bureau Veritas.

"This procedure supports the certification of products ready to be used in the hydrogen field, and it provides a suitable tool for the concrete implementation of the European plans for energy independence and reduction of carbon emissions. The collaboration between Emerson and Bureau Veritas demonstrates a concrete commitment to offer suitable and safe products for natural gas distribution networks," adds Signoretta.

## QUALITY AND ADAPTABILITY, ALL IN ONE

To ensure product quality, safety, and conformity, Emerson is collaborating with the testing and certification agency Bureau Veritas Italia, and it has developed internal procedures to assess the suitability







Industrial end users can reduce emissions by using a mix of hydrogen and natural gas as fuel for turbines used for power generation. ■

**OSCAR BRESSAN** is a standardization and product engineer with Emerson's pressure management research and development team. Emerson is a global technology and software company providing innovative solutions for the world's most essential industries. Emerson is an automation leader that helps process, hybrid, and discrete manufacturers optimize operations, protect personnel, reduce emissions, and achieve their sustainability goals through its unmatched automation portfolio. For more information, visit [www.emerson.com](http://www.emerson.com).

of products to be used in gas infrastructure applications.

The Emerson procedures describe the requirements, tests, and inspection methods for metallic and non-metallic materials, as well as internal and external sealing necessary to use pressure control products in contact with natural gas and blended hydrogen, or pure hydrogen. After the first certification obtained for the Emerson BM6X Series Slam-Shut valve, Emerson will continue to certify other equipment used in hydrogen infrastructure to ensure sustainability and reliability for this rapidly developing market.

#### BM6X SERIES SLAM-SHUT VALVE IN THE FIELD

The Emerson BM6X Series Slam-Shut valve has multiple applications throughout gas transmission networks, regulating stations, and end use infrastructure. For example, natural gas transmission and distribution companies can blend hydrogen into their distribution systems, reducing emissions when the blended mixture of hydrogen and natural gas is burned in homes for cooking, heating, and other uses.

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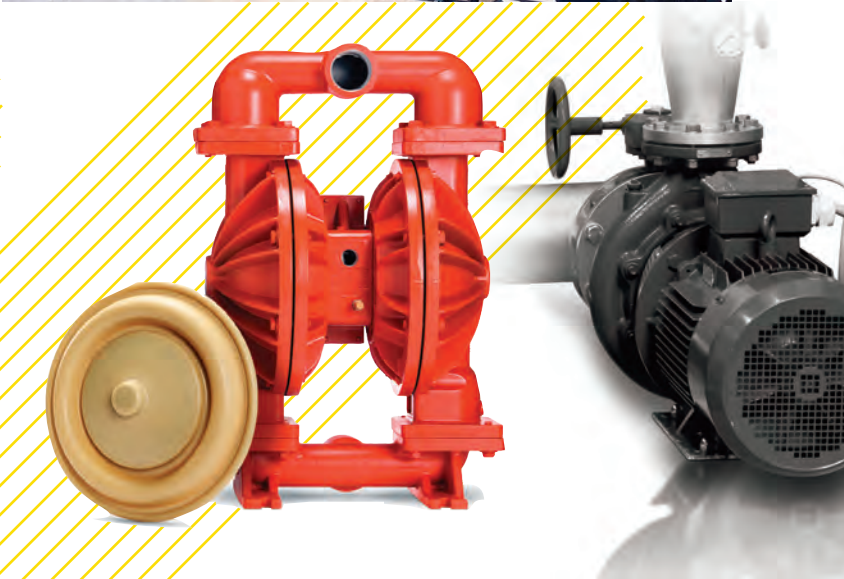
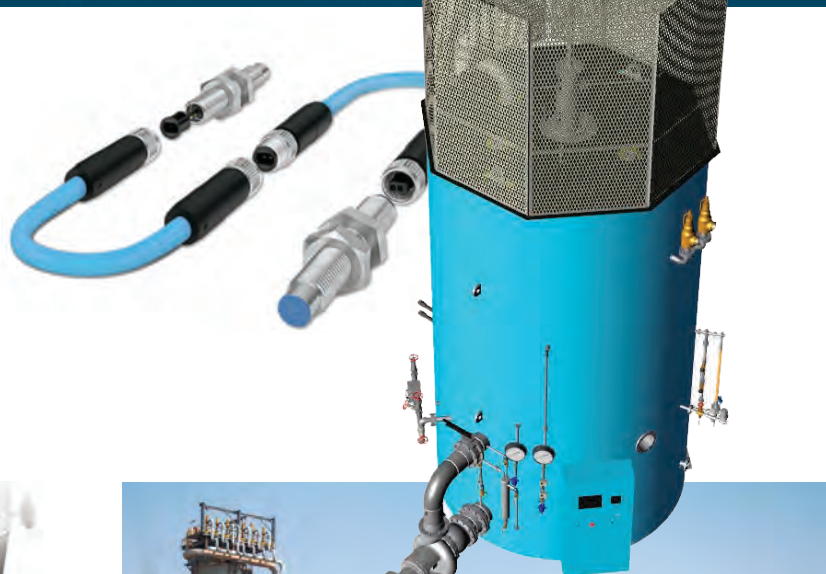


# MPT

MODERN PUMPING TODAY®

PROVIDING SOLUTIONS FOR THE WORLDWIDE PUMP INDUSTRY

2023 PRODUCTS AND  
SERVICES  
GUIDE



# Automation24

**A**utomation24 is your premier online supplier for industrial automation components offering a well-rounded selection of products and solutions from sensor to control cabinet. We have been developing a well-rounded range of items from industry leading manufacturers and offer them to our customers at the best prices.

- High-quality process control and monitoring solutions from Beijer Electronics
- Innovative data loggers and process displays from Lascar Electronics
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- NEW configurable process instrumentation from

To make your purchase with us as pleasant and easy as possible, we place great emphasis on our easy-to-use webshop. Take advantage of the filter function which separates products based on technical characteristics to simplify selection. In addition, we have a product comparison function and provide comprehensive product information.



# Automation24

Order conveniently and quickly online and benefit from our cost-effective process, factory, and safety technology portfolio.

## AN EVER-GROWING RANGE OF PRODUCTS

Throughout 2022 a variety of new items were added to the continuously growing range of products available online:

- Safety light curtains for reliable user protection from Datalogic

Endress+Hauser now available!  
Easily tailor your products to meet your applications' specific requirements

## READY WHEN YOU ARE

By having our own on-site warehouse here in the United States and consistent availability of products, items that are shown as available according to the real-time inventory update on our webshop will be shipped the same working day.

## WE ARE HERE FOR YOU

You will find answers to frequently asked questions in our FAQ section, but should you have any further questions, our outstanding Technical Customer Service Engineers are at your disposal Monday through Friday between the hours of 8:00 a.m. to 6:00 p.m. EST via phone, live chat, or email.

They are available to assist with product selection and provide support for your application before, during, and after your order. ■



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NO PROBLEM!**

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Industrial components fast  
at a price you can afford!



Strong brands available at automation24.com



See what our customers are saying:  
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“ Great website. Easy to find  
what you need. Fast order processing.  
Excellent sales and support staff. ”

“ Fantastic service all around.  
Knowledgeable and accessible tech support,  
and above and beyond customer service. ”

“ Easy ordering and super  
fast shipping. Will order  
from them again. ”



# Elgin Separation Solutions

For over thirty years, Elgin Separation Solutions has provided pumping solutions for industrial, oil and gas, and trenchless operations. As a leading separation technology specialists' provider, Elgin has helped customers worldwide with liquid/solid separation, dewatering, and waste management processes.

Today, Elgin offers a full range of products to support natural resource recycling, product classification, dewatering, fluid recovery, waste management, liquid/solid separation, crushers, and feeders applications. With offices worldwide, Elgin can provide the ideal solution for your operations with custom in-house engineering and design services. Additionally, Elgin's field service team can be deployed globally to help train and make sure your operations stay up and running.

At Elgin, we understand how important operational processes are and focus on key components to ensure maximum performance. When utilizing centrifugal pumps, operators are faced with a variety of problems involving abrasive materials that reduces performance through impeller and pump casing wear. At Elgin, we develop solutions that solve real problems operators are facing today.



Figure 1: BlueProof RB™ pump liner.



Figure 2: Premium heavy duty mechanical seal.

Elgin's DuroLast RB/NE™ abrasion resistant slurry pumps are designed to better manage abrasive materials associated with pumping operations. Whether operated as a standalone pump or part of Elgin's turn-key solutions, abrasion resistant slurry pumps improve performance and extend pump life versus traditional pumps.

## DUROLAST BLUEPROOF RB/NE™ CASING LINER

Elgin's DuroLast™ pumps can be configured with either a HDPE Polyurethane (RB) or Nitrile Rubber (NE) liner that are designed to protect the casing from extended wear caused by abrasive and corrosive material while improving performance. The BlueProof RB™ liner is ideal for water-based slurries and the BlueProof NE™ for oil-based slurry.

## PREMIUM HEAVY-DUTY MECHANICAL SEAL

Pump performance is further enhanced with a premium heavy-duty mechanical seal that prevents leakage of fluid from the pump while improving performance when

processing high temperature and highly abrasive material.

## THERMAL SIPHON COOLING TECHNOLOGY

Mechanical seal operation is further enhanced with an onboard thermal siphon technology that prevents pump damage from run-dry operating conditions and lubricates components to prevent high temperatures from occurring. Pump performance is further improved with an elastomer



Figure 3: Thermal siphon cooling technology.

coated impeller, which minimizes wear. In addition, centering of impeller within the casing is simplified with adjustable screw on bearing housing. Access to pump bearings is made easy with a split casing design.

Call us today and learn how Elgin can help improve your pumping and solids separation operations. ■

**ELGIN SEPARATION SOLUTIONS**

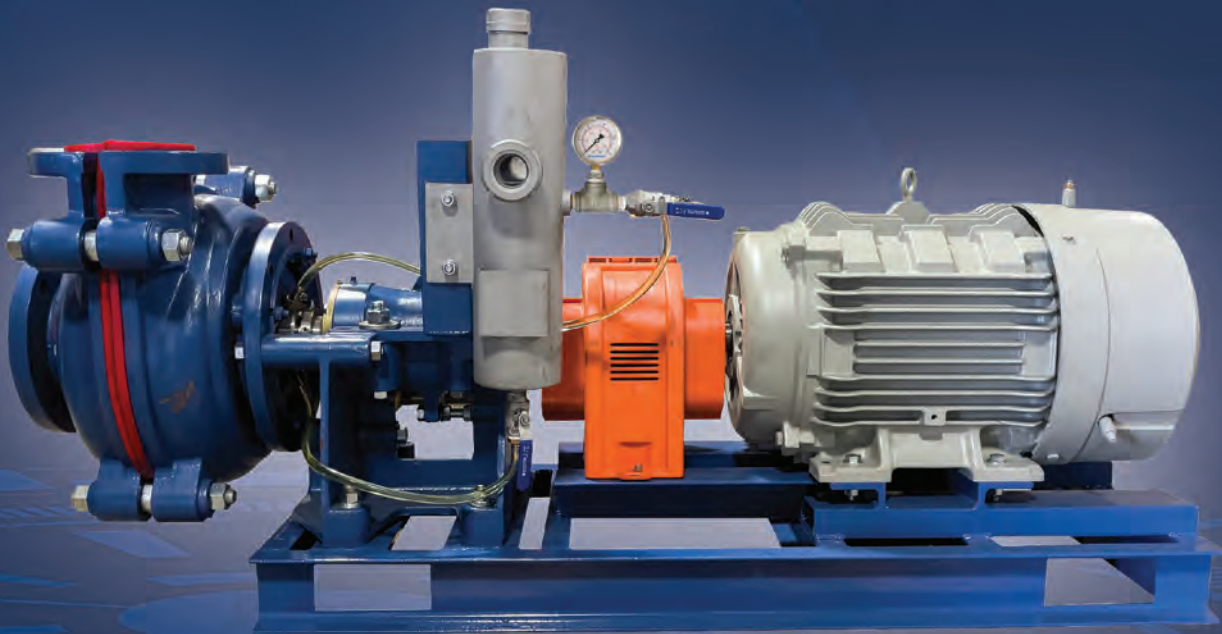
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**DuroLast RB™ /NE™ Abrasion  
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- Premium Mechanical Seal
- Polyurethane BlueProof RB™  
Liner for Water-Based Slurry
- Nitrile Rubber BlueProof NE™  
Liner for Oil-Based Slurry
- Thermal Siphon Technology
- Split Casing Design

**Onboard Thermal Siphon  
Technology Prevents  
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Natural Resource Recycling • Product Classification • Dewatering • Fluid Recovery  
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# Gorman-Rupp Pumps

**G**orman-Rupp has been revolutionizing the pumping industry since 1933. Many of the innovations introduced by Gorman-Rupp over the past ninety years have become industry standards.

We continue to update our machinery, processes, research and development, and engineering to ensure that our pumps and systems are among the most reliable and efficient on the market. With nearly one million square feet under roof, our facilities house some of the most modern manufacturing, testing, and warehousing facilities in the world. Our experienced engineers take advantage of the latest technologies and innovations to custom-design, manufacture, and assemble our products.

With over one million Gorman-Rupp pumps installed to date, we have the knowledge and experience understand your specific application. We provide solids- and clean-fluid handling pumping solutions for municipalities, industrial plants, construction and rental businesses, refineries and petroleum plants, mining sites, agricultural operations, and a variety of original equipment manufacturers.

One of our most successful and innovative lines of pumps has been our self-priming models. Gorman-Rupp also manufactures complete lines of submersible, priming-assisted (dry-prime), standard centrifugal, horizontal end suction centrifugal, and rotary gear products built for the most aggressive pumping applications. In addition, our ReliaSource® pump packages that incorporate these

products are designed, manufactured, and tested and include pumps, motors, piping, and controls to ensure superior operation and easy installation.

We perform rigorous testing based on Hydraulic Institute Standards and test to customers' actual operating conditions in our one-of-a-kind testing facility guaranteeing innovative, superior-quality products that are ready to tackle your toughest jobs. To ensure you get the right equipment for your requirements,



Gorman-Rupp partners with a worldwide network of distribution and provides them with the most extensive training. Gorman-Rupp distributors will work hand-in-hand with you to recommend, customize, and specify equipment. And Gorman-Rupp is always available should you ever require any assistance.

## PHILOSOPHY

Gorman-Rupp stands behind the quality of our pumps to ensure they meet your requirements for the long haul. To maintain industry-leading client satisfaction well beyond product installation, we offer a variety of services to meet your needs, including world-class training, service, and industry-leading warranty.

## INDUSTRY-LEADING SUPPORT AND WARRANTY

Gorman-Rupp stands behind the quality of our pumps to ensure they meet your requirements for the long haul. To maintain industry-leading client satisfaction well beyond product installation, we offer a variety of services to meet your needs, including:

### INDUSTRIAL

If your application deals with abrasive, corrosive fluids, or liquids containing large solids, we have the right pump for the job. Gorman-Rupp pumps are constructed in a variety of materials to move fluids in steel mills, paper mills, underground mines, food processing, automotive and chemical plants, canneries, power plants, tanneries, glue and resin plants, and any other facility where dependability and ease of service are essential.

### MUNICIPAL

When you choose Gorman-Rupp, you benefit from one of the largest and highest quality lines of municipal pumps, engine-driven pumps, sewage lift stations and water booster/reuse stations available on the market. Our ReliaSource® packaged lift and booster stations ship complete from the factory with pumps, motors, and controls and are 100 percent tested before they leave the facility to ensure product efficiency and operation. ■

#### GORMAN-RUPP PUMPS

P.O. Box 1217  
Mansfield, Ohio 44901





# SLICE IT. DICE IT. PASS IT.

**ERADICATOR PLUS™ —  
GORMAN-RUPP'S NEW  
SOLIDS-HANDLING  
TECHNOLOGY.**

REMOVABLE,  
LIGHTWEIGHT  
INSPECTION  
COVER

SHIMLESS  
ADJUSTMENT  
DESIGN

EXTRA-THICK,  
AGGRESSIVE,  
SELF-CLEANING  
WEARPLATE

HEAVY-DUTY  
CONTINUOUS  
VANE IMPELLER

**ERADICATOR<sup>®</sup>  
PLUS**

Flushable wipes, trash bags, mop heads, rags and other stringy materials can be hard on pumps – that's why your facility needs a dependable solution for handling solids-laden wastewater. Gorman-Rupp is now offering Eradicator Plus™ solids reduction technology for 3", 4" and 6" Super T Series® self-priming pumps to help tackle municipal wastes, industrial by-products and a variety of other aggressive applications. The extra-thick, self-cleaning wearplate is designed to cut and shred organic solids entering the pump, while the rugged, continuous vane impeller prevents the build-up of debris and keeps your pump operating at peak efficiency. A lightweight inspection cover allows for easy access to the inside of the pump without disturbing wearplate-to-impeller clearance.

**Trust Gorman-Rupp pumps to keep your operation running smoothly  
month after month, year after year.**

**GOR<sup>®</sup>**  
**GORMAN-RUPP**  
**PUMPS**

*The Pump People<sup>®</sup>*

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# Industrial Flow Solutions

## TURNING FLOW PROBLEMS INTO FLOW SOLUTIONS

Industrial Flow Solutions™ (IFS) headquartered in New Haven, Connecticut, specializes in the design, manufacturing, sales, and service of wastewater pumps and controls ideal for municipal, industrial, commercial, and residential applications. Our brands include OverWatch® Direct In-Line Pump Systems, DERAGGER™ Intelligent Control Systems and Advanced Monitoring Technology, BJM Pumps® and Stancor® Submersible Pumps, and Oil Minder® Customizable Water and Oil Sensing Alarm System.



### INDUSTRY-LEADING EXPERIENCE AND SUPPORT

With over 200 years of technical and application experience, IFS supports partners through the design, build, test, install, and post-install processes. In the New Haven location, a state-of-the-art, in-house testing facility that is built to Hydraulic Institute Standards enables comprehensive testing with rapid results. With a focus on turning customers' flow problems into flow solutions, IFS products lower costs, increase efficiencies, and minimize the environmental impact. IFS is committed to offering industry-leading response times with a high human touch from initial inquiry to post-installation support.



### OVERWATCH® DIRECT IN-LINE PUMP SYSTEM: CHANGING THE WORLD ONE WET WELL AT A TIME

The OverWatch® Direct In-Line Pump

System is a breakthrough technology designed to lift influent the point of entry, eliminating the wet well. Influent is contained, eliminating odors, and reducing maintenance. The stainless-steel body is designed to withstand the effects of corrosion from harsh materials and solutions, making OverWatch® an ideal solution for the Municipal, Industrial, and Commercial industries.

- Save time and money with smart sensing systems that adjust in real-time to manage flow and avoid clogs
- Create safer working environments for maintenance crews by eliminating hazards associated with a wet well
- Eliminate downtime resulting from clogged pumps
- Increase operational efficiencies with reduced maintenance
- Improve environmental impact with less evasive ground construction



### DERAGGER™: INTELLIGENT CONTROL SYSTEMS AND ADVANCED NETWORK MONITORING TECHNOLOGY

The DERAGGER™ smart technology detects rags early and eliminates wastewater pump blockages in real-time. DERAGGER is a cost-saving solution for the municipal, industrial, and commercial industries. Available in a range of models, the DERAGGER offering provides intelligent data monitoring and analytics designed to meet specific application needs.

- Eliminate pump ragging by monitoring the dynamic torque waveform in real-time

- Increase pumping efficiency and reduce operational costs
- Premium solution offers a high-resolution power analyzer that provides essential data for remote insight into the pump station
- Modular solution may be added to a new or existing control panel



### BJM PUMPS® AND STANCOR®: POWERFUL PUMPING SOLUTIONS

BJM Pumps® and Stancor® submersible pump products are designed for harsh environments to save money by minimizing downtime and increasing efficiency. This results in an improved total cost of ownership over the service life of our pumps.

BJM Pumps offers tailored solutions for heavy solids-laden liquids, abrasive slurries, acidic or caustic fluids, and fluid temperatures up to 200 degrees Fahrenheit. Our industry-leading Fahrenheit® series high-temperature pumps are capable of continuously handling 200-degree solutions.

Stancor® offers dewatering and solids handling submersible pumps that operate in challenging, harsh environments, including utilities, mining, and construction industries.

Part of the Stancor product family, the Oil Minder® solution-based system integrates submersible pumps and oil-sensing controls to deliver code compliance while reducing environmental risks.

### CONTACT IFS TODAY

IFS offers industry-leading lead times and unsurpassed responsiveness with a personal touch. For more information on the pumping and control solutions IFS offers, visit [www.flowsolutions.com](http://www.flowsolutions.com)





INDUSTRIAL  
FLOW  
SOLUTIONS™

Turning flow problems into flow solutions.

**OverWatch®**



Direct In-Line Pump System

**DERAGGER™**



Intelligent Controls Systems &  
Advanced Network Monitoring

**BJMPumps®**



Submersible Pumps

**STANCOR®**



Submersible Pumps

New Haven, CT USA

[www.flowsolutions.com](http://www.flowsolutions.com)

# Mueller Water Products

**M**ueller Water Products, Inc. is a leading manufacturer and marketer of products and services used in the transmission, distribution, and measurement of water. Since 1857, Mueller has been helping municipalities increase operational efficiencies, improve customer service, and prioritize capital spending, demonstrating why Mueller Water Products is Where Intelligence Meets Infrastructure®.

## COMMITTED TO SAFE DRINKING WATER

From life-saving fire protection to data intelligence, we are committed to developing products and solutions that help cities and water utilities deliver clean, safe drinking water. Our broad product and service portfolio includes engineered valves, fire hydrants, pipe connection and repair products, metering products, leak detection, pipe condition assessment, and software that provides critical water data.

When you invest in water infrastructure, quality matters. That is why we select rugged materials and build state-of-the-art software—to provide products and services that are designed and engineered for the long run. When you choose Mueller, you choose a lasting value that can ultimately translate into cost savings.

## SERVING ALL YOUR WATER DISTRIBUTION NEEDS

Mueller is one of the only companies that can fulfill your water system needs from end to end – at the source, at the plant, below the ground, on the street, and in the cloud. Built on a legacy of innovation, we have the vision and expertise to provide advanced infrastructure and technology solutions for transmitting, distributing, measuring, and monitoring water more safely and efficiently than ever before.

Mueller brands provide products and solutions for:

### FLOW CONTROL SOLUTIONS

Mueller offers a full line of products for controlling water safely and efficiently across your distribution system, including valves and control systems. And for easy and effective maintenance and repair, we offer superior service line connection products and equipment.

Products in this category include:

- **Valves:** resilient wedge gate, metal seated gate, butterfly, check, plug, cone, air release, knife gate, slide gates, and more
- **Water Network Connections:** drilling and tapping machines, service brass, and pipe repair
- **Control Systems:** pressure and flow

### FIRE PROTECTION SOLUTIONS

Safety is built into every Mueller® solution. All our fire protection solutions are compliant with Underwriters Laboratories and Factory Mutual requirements.

Products in this category include:

- Valves
- Hydrants
- Hydrant security
- Indicator posts
- Tapping materials

### PIPELINE MANAGEMENT TECHNOLOGY

Proven technology that enables utilities to assess and optimize water networks.

Products in this category include:

- Pipe condition assessment
- Pipeline monitoring
- Lead detection
- Leak detection
- Software: utility dashboard, monitoring services, notifications

### METERING AND COMMUNICATION TECHNOLOGY

Smart metering paired with the Mi.Net® Advanced Metering Infrastructure (AMI) system and Sentryx™ Water Intelligence Platform provides water network agility and enables utilities to connect meters to

their AMI network in specific areas or across the entire distribution system by leveraging existing cellular infrastructure—eliminating the need for maintenance.

Products in this category include:

- **Meters:** residential, commercial, industrial, fire service, registers, valves, setters, and boxes
- **Communications:** endpoints and data loggers
- **Software:** water intelligence platform for water utilities to monitor, control, and monetize water distribution networks. Utility dashboard, billing consumer information software, customer portal, and leak/network operation services
- **Services:** field operations, network operations center, network-as-a-service

## THE MUELLER ADVANTAGE

Mueller solutions are born from the collective products, services, and professionals in our family of the most trusted companies in the industry. Together, we are a consultative, dedicated team of engineering, sales, support, and distribution experts working collaboratively toward one goal—your success.

We go above and beyond what's expected to help your water infrastructure system work harder and smarter and last longer, now and in the future. And we continue to invest in innovative ways to help you see insights across your system so you can proactively address concerns, extend the life of your operations, and improve your customer service and bottom line.

Mueller Water Products brands include Mueller®, Echologics®, Hydro Gate®, Hydro-Guard®, HYMAX®, i2O®, Jones®, Krausz®, Mi.Net®, Milliken®, Pratt®, Pratt Industrial®, Sentryx™, Singer®, and U.S. Pipe Valve and Hydrant.

For more information, visit [www.muellerwaterproducts.com](http://www.muellerwaterproducts.com). ■



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Mueller delivers safe, strong and sustainable  
**C87850 lead-free brass products**

For 165 years, Mueller has been strongly committed to innovation. Our newest achievement in Decatur, Illinois continues this tradition as the largest foundry of its kind in the world. Spec Mueller C87850 lead-free brass products for your water infrastructure projects today.

**MUELLERWP.COM**



**SCAN TO LEARN MORE ABOUT**  
how we've expanded our capacity  
to better serve you.

The bottom half of the advertisement features a wide-angle, low-perspective shot of a lush green field. In the background, a dense urban skyline with various high-rise buildings is visible under a clear sky. The Mueller logo is positioned in the lower-left corner of this image.

**MUELLER**



# Vaughan Chopper Pumps

## THE VALUE OF MADE IN AMERICA

Established in 1960, Vaughan Company® is the industry leader in reliable chopper pumps and mechanical hydraulic mixing systems. With more than sixty-two years of experience and four generations of expertise, Vaughan Company remains committed to giving customers around the world outstanding service and the most dependable pumping solutions.

American-made and built to last, our pumps and systems are available in a variety of sizes and configurations to meet the unique needs of any operation. We have your back with a range of durable pumping solutions to eliminate lift station clogging and handle the toughest solids. Vaughan promises you the best in product design, reliability, dependability, and availability—plus, superior service and support to bring life-cycle costs to the lowest they can be.

To maintain our position as the industry leader, Vaughan Company takes full advantage of cutting-edge technology. We incorporate in-house 3D computer modeling, which allows us to create exact fits and precision castings for all components.

All of this leads to one simple point: when you buy Vaughan, you get the best.

### WORLDWIDE LIFT STATION SOLUTIONS THAT GO BEYOND THE BARN

Since the late 1950s, “What could make this better?” was the unwavering motivation Jim Vaughan used to invent

the world's first chopper pump. After countless hours of repairing clogged manure pumps for local dairy farmers, he knew there had to be a solution. Jim officially introduced the world's first chopper pump in 1960, and Vaughan Company was born. His brilliant idea met a genuine need that had applications far surpassing the dairy farm.

In the decades since, our operations expanded significantly, providing high-performing and exceptionally reliable pumps across the globe. With over forty worldwide issued or pending patents, Vaughan company has your back anywhere—from prisons to dairy farms, wastewater treatment plants and more.

We're still motivated by Jim's initial question: “What could make this better?” In the most extreme environments where standard non-clog pumps fail, our lift station solutions provide dependable, clog-free chopping and mixing.

### BENEFITS OF BUYING AMERICAN MADE

For federally funded projects, Vaughan pumps and pumping equipment meet all requirements to receive federal aid under the Build America, Buy America (BABA) act. Nearly all Vaughan Company materials are produced in the United States and constructed in Vaughan's 140,000 square foot. Washington state-based manufacturing facility. With an extensive \$10 million inventory and strong relationships with domestic suppliers and foundries, Vaughan ensures reliable quality and fast lead times.

Not to mention, each chopper pump or mixing system is custom-built to meet the end user's specific needs. Even without current supply chain disruptions, global sourcing would not allow for this level of customization within a feasible timeline. In addition to fast builds, our manufacturing facility holds a large surplus of spare parts, so Vaughan products are easily maintained.



Knowing that every pump user faces a unique situation, Vaughan Company also has local sales representatives across the country to provide exceptional customer service when it is needed most—whether that is working closely with customers to tailor pump solutions for an exact situation or providing post-installation support.

### PRODUCTS THAT SUPPORT AMERICA

Today, we're still passionate about that original question: “What could make this better?” While Vaughan's locally sourced and American-made chopper pumps keep projects moving, their benefits don't stop there.

The answer to Jim Vaughan's question extends beyond the walls of the manufacturing facility. As a major local employer, we strive to strengthen our community by giving to charities and community organizations. Our scholarship program supports graduates of the Elma and Montesano school districts who are planning to pursue a post-secondary degree or technical certificate in the water and wastewater sector.

Vaughan products are not just made in America, they also support the future of America.

To learn more about American-made Vaughan Chopper Pumps, Rotamix® hydraulic mixing systems and our other specialty products, contact the company at 888.249.CHOP (2467) or [info@chopperpumps.com](mailto:info@chopperpumps.com). 🇺🇸

[www.chopperpumps.com](http://www.chopperpumps.com).







WE STIR UP  
EVERYTHING  
BUT TROUBLE.

 **Rotamix®**

For hydraulic mixing without headaches, choose the reliable Vaughan Rotamix System. Blend lower operating and maintenance costs with a more efficient breakdown of solids. Your digesters, sludge storage tanks, and equalization basins won't know what hit them.

*Choose the unmatched reliability of Vaughan.  
Free sample CFD's upon request.*

**Vaughan**  
Unmatched Reliability

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GUARANTEED PERFORMANCE | NO MOVING PARTS IN THE TANK | FOCUSED MIXING

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# Yaskawa

## THE YASKAWA QUALITY EXPERIENCE



# YASKAWA

Yaskawa is the leading global manufacturer of low and medium voltage inverter drives, servo systems, machine controllers, and industrial robots. Our standard products, as well as tailor-made solutions, are well known and have a high reputation for outstanding quality and reliability.

We're the only industrial drives manufacturer to win the Deming prize—the most prestigious quality award in manufacturing. But we know that tells only part of the quality story. What about innovative design, knowledgeable, responsive engineers who understand your business, and superior support and training? Those crucial assets are a vital part of how a company is ultimately judged and what we mean by the Yaskawa Quality Experience.

At Yaskawa, Quality is more than numbers, more than awards—it's the total experience of purchasing and owning Yaskawa products and working with Yaskawa people.

### FP605 INDUSTRIAL FAN AND PUMP DRIVE

Here for the long haul and helping to contribute to a healthy and sustainable environment, the Yaskawa FP605 is an easy to install and configure industrial fan and pump drive. It is designed for countless applications to reduce energy use, including centrifugal compressors, fans, pumps, and process control in industries such as material handling, food and beverage, chemical, rubber and plastics, textile and printing.

The FP605 builds on the successful legacy established by its predecessor, the P1000 AC Drive. Like Yaskawa's latest GA800 and GA500 AC Drives, the FP605 uses flexibility, sustainability, and ease of use to make the complicated simple.

### FLEXIBILITY

The FP605 shows its flexibility by providing a drive solution for all environments, having the ability to run any motor type, accommodating hardware and network control solutions, with a simple installation procedure.

### DRIVES FOR EVERY ENVIRONMENT

- IP20/UL Type 1: 3 to 60 HP @ 240 V; 3 to 125 HP @ 480 V
- IP20/Protected Chassis: 75 to 150 HP @ 240 V; 150 to 600 HP @ 480 V
- IP55/UL Type 12: 3 to 40 HP @ 240 V; 3 to 100 HP @ 480 V
- IP55/UL Type 12 with Switch: 3 to 40 HP @ 240 V; 3 to 75 HP @ 480 V

### FLEXIBLE SOLUTIONS

- -10 to 60 degrees Celsius ambient
- Side-by-side mounting
- UL Type 1 kits for IP20/Protected Chassis drives
- External heatsink flange mounting (UL Type 1 or UL Type 12)
- Compatible with all major network communication protocols

### SUSTAINABILITY

The FP605 proves its sustainability with its integrated Functional Safety capability, environmentally-friendly materials, and, as always, Yaskawa's durable and long-lasting quality and design.

- Ten-year maintenance free operation
- Compliance with global certifications and standards
- Built-in (5 percent split or 3 percent positive bus DC link choke) line impedance for harmonic reduction
- Embedded STO functional safety maximizes production uptime
- Conformal coating for circuit board protection

### EASE OF USE

We made the FP605 easy to install and easy to start up. Its innovative and award-winning in-box media, intuitive keypad, and software tools help you get the drive out of the box and into the field as fast as possible.

### QUICK AND EASY SET-UP

- Simple steps for efficient commissioning
- Convenient programming without main power
- Operation of induction, permanent magnet, and synchronous reluctance motors
- DriveWizard® Mobile app for drive management ■



# MAKING THE COMPLICATED SIMPLE

SUSTAINABLE, FLEXIBLE, EASY

From fractional to 600 HP, Yaskawa industrial drives cover all of your application needs, with an array of features that improve your operations.

- ✓ **Intuitive Mobile-Friendly Interaction**
- ✓ **Fast Connection to Any Major Network Protocol**
- ✓ **Functional safety rated - Standard**
- ✓ **Best-in-class Efficiency**

And don't forget about everything else Yaskawa provides you with.

- ✓ **World-Class Quality and Reliability**
- ✓ **Award Winning Customer Service**
- ✓ **Product Lifetime Training**
- ✓ **Free 24/7/365 Technical Support**

Life getting too complicated?  
Contact Yaskawa for help today.



FOR MORE INFORMATION:  
<https://go.yaskawa-america.com/yai1467>

**IT'S PERSONAL**

**YASKAWA**



**Yaskawa America, Inc.** 1-800-YASKAWA  
Email: [info@yaskawa.com](mailto:info@yaskawa.com) | [yaskawa.com](http://yaskawa.com)



# Check-All Valve Mfg. Co.

Since 1958, Check-All Valve Mfg. Co. has manufactured a complete line of in-line spring-loaded piston-type check valves. With worldwide service, Check-All Valve serves a wide range of industries including the chemical, petrochemical, pharmaceutical, food and beverage, water treatment, OEM, MRO, and many others. Lightweight, efficient, and rugged, every Check-All valve is designed and built to perform to exact needs and specifications. The company is ISO 9001 certified and manufactures product lines compliant with CE/PED requirements, Canadian Registration Number guidelines, 3A Sanitary Standards, and others.

Check-All valves are engineered for silent operation. They close quickly and smoothly to eliminate hammer noise. They are designed to function equally well in either

a vertical or horizontal position, with proper spring selection. They are also designed to reduce installation costs. The insert series check valves easily fit into existing line components, which reduces initial cost and installation time. The seating surfaces are parallel to each other thereby eliminating the excessive wear occurring in plug, cone and ball seats. Check-All valves can also be used as low-pressure relief valves and vacuum breakers.

With many styles available, Check-All Valve provides check valves for practically every service application. Valves are offered with metal-to-metal or soft seats in sizes ranging from 1/8-inch NPT to 20-inch flange connections. Pressure ratings are available from full vacuum to 10,000 PSI. Standard

or exotic materials are available and you can choose from a wide variety of spring settings and seat materials for any valve. Most options are available with fast delivery. Specially designed valves are another option that Check-All Valve performs on a regular basis. Check-All Valve Mfg. Co. is staffed to supply you with a quality product as well as personal technical services. ■

## CHECK-ALL VALVE MFG. CO.

Contact us for a complete  
catalog or see us at  
[www.checkall.com](http://www.checkall.com).

## Check All your valve needs at **Check-All®**

### ✓ SILENT OPERATION!

Our check valves close quickly and smoothly to avoid water hammer noise and vibration.

### ✓ SPRING-LOADED!

Multiple spring settings as well as seat and body materials available to meet your application needs.

### ✓ UPSTREAM TRIM!

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# EDE Electric Motor Testing

EDE Electric Motor Testing partners with maintenance professionals; providing answers to technology issues, calibration requirements, testing tools and training that help electrical maintenance departments work effectively. Our focus is providing high quality products and services that make a difference. We offer services to a wide range of industries including: utilities, automotive, pulp and paper, government, mining, motor repair, testing and field services.

Keeping electric infrastructure operational is a daunting task. At EDE we help demystify electrical testing programs and offer a wide range of support, training, and instrumentation to facilitate this important work. Whether it is for up-tower maintenance or QC in motor manufacturing, we help "Find a Way" to keep your electric maintenance program running smoothly.

## PROJECT MANAGEMENT SOLUTIONS

When it comes to electric motor and generator testing, the right tools for the job and the knowledge to properly use them are the most important aspects to get a project off the ground. At EDE we believe in results-based support of electrical maintenance programs and professionals.

We consult on projects, listening to the needs of the E/I Specialist. After fully understanding the scope, we help define products and instrumentation that will provide the answers needed for project completion.

## PRECISION CALIBRATION AND TOOLS

EDE has developed products to assist maintenance professional with calibration verification, monitoring of motors in stores or during outages along with monitoring motor processes with tools that make sense.

- The **CAL5000/CAL5000LT/ CAL5000S**: Provides NIST traceable calibration for many types of test equipment.
- The **HPD-2 Heater Power Detector**: Provides continuous monitoring of the operation of electric motor winding heaters.
- The **SST-50 Start Stop Timer** is a rechargeable unit that counts each start for troubleshooting processes.
- **High quality Test Lead Replacements**: Replacement sets for resistance testing and high voltage testing also with custom cabling.

## TECHNICAL SUPPORT: CALIBRATION, SERVICE, REPAIR

EDE provides a NIST traceable calibration. Our equipment is

certified yearly with uncertainties at an ISO17025 compliant facility. We perform standard, prior/post and multi-year calibrations on many types of high voltage test equipment. This service is provided either at your facility via onsite visits, remotely with the help of a technician or at our facility.

When it come to repair of high voltage test equipment EDE provides component (board) level repair and troubleshooting to return proper functionality. We pride ourselves on solving the issues of test equipment used in the field or in shop settings. From new test leads to circuit board issues, we have the expertise to find the problem. From damage due to shipping or breakage due to years of use, we have been successful in returning many instruments to service. ■

### The Test Tools you need - for the information You Require...



From monitoring equipment, tools and test instruments to the need for on-going calibration requirements and the training to understand everything - there is no wonder the maintenance professional is overwhelmed. With the availability of new and upcoming technology, information overload can quickly set in when trying to put together the best maintenance solution. **That's where we come in.** EDE can demystify electrical testing programs, offer support, training programs and the high tech equipment to make your maintenance activities straight forward and motors and generators doing what they are supposed to do - run. We will help you **Find the Way.**

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# Hoosier Pattern

For twenty-five years, Hoosier Pattern has always been on the cutting edge of innovation. We have consistently raised the bar in our industry while maintaining the highest quality of products for our customers. Hoosier Pattern opened in November 1997 in a 3,000 square foot facility with just a couple of machining centers and three owners. In 2005, Hoosier Pattern grew to fifteen employees due to customers' demands. In 2009, Keith Gerber became sole owner of the company and continued to expand the CNC technology and employ more staff. In 2013, Hoosier Pattern became the first service center to own and operate a 3D sand printer in the United States. Today, we have five 3D sand printers in house. Twenty-five years later, we now occupy a 90,000 square foot facility with state-of-the-art technology

and employ over sixty employees with current technology including:

- CAD/CAM software, to design foundry tooling and create toolpaths for our CNC technology
- Over twenty-five machining centers including vertical and horizontal machining
- Five-axis machining
- CNC lathes
- Five 3D Sand Printers for Sand Molds and Cores
- Two 3D Plastic Printers
- CMM and Laser Scanning Technology
- Active Apprenticeship Program for pattern making registered with the Department of Labor
- ISO Certified
- ITAR/EAR Compliant

Our employees are a vital component to our success. Without them, Hoosier Pattern would not be celebrating twenty-five years in business. Our employees share our vision of excellence in every aspect of their jobs. Our staff is well-trained and well-educated. Hoosier Pattern stays up to date in the latest technology, allowing us to cater to our customers' needs. We also understand our customers' demand for expedient delivery times, and product excellence is a must. Therefore, these expectations are the driving force behind our day-to-day operations. We are committed to "On-Time Delivery," and we're constantly striving to meet our customers' deadlines.

Celebrating twenty-five years is an achievement that we are very proud of. ■

## WE DELIVER A PATTERN OF EXCELLENCE



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Hoosier Pattern continues to be an industry leader by setting the bar high to exceed our customer's expectations. With our state-of-the-art technologies along with our highly-experienced team members, Hoosier Pattern continues to deliver the industry's best additive manufacturing molds and cores on time and every time.

### WE EXCEED EXPECTATIONS

- » On Time Delivery
- » Quality Products
- » Experienced Team



Call Us Today at 260.724.9430



# KROHNE

KROHNE offers a complete measurement instrumentation product portfolio including industry specific system solutions and complementary services for projects of any size, anywhere in the world. Since starting in 1921, we have amassed an enormous amount of application knowledge that is integrated into our products, solutions, and services.

The resulting innovative technologies are based on our extensive R&D with 10 percent of the work force dedicated that area. While sensor development for flow, level and other variables is the primary focus, we are also very active in advancing device communication and the Internet of Things (IoT) for the process industries including device diagnostics for analysis and process optimization.

If you buy a KROHNE product, you will get a measuring device that performs most accurate with low uncertainty under real process conditions. To achieve this, we operate more than 120 calibration facilities for volume flow, mass flow, level, temperature, density, and pressure for every device we manufacture. For example, every flowmeter is wet calibrated using water or air as standard before leaving our facilities. We can also provide customer specific calibration such as:

- Multipoint calibrations
- Varying temperatures, viscosities, or pressures
- Specific fluids
- Specific pipe geometries or piping provided by the customer

For calibration we only use direct comparison. For example, we calibrate our Coriolis mass flowmeters with a gravimetric weighing system. Our calibration rigs are the most accurate for measuring device production with reference accuracies 5 to 10 times better than that of the meter under test.

This goes for small (1 millimeter) or very large meter sizes since Krohne operates precise volumetric calibration rigs up to 120 inches with a certified accuracy of 0.013 percent based on a 144-foot-tall tank containing almost 132,000 gallons of water allowing for a maximum flow rate of 7,925,000 gallons per hour.

In North America, we have a brand-new manufacturing and calibration facility in Beverly, Massachusetts. We serve our markets through a network of representatives, distributors, and direct sales personnel.

Our mission is to provide unparalleled application expertise, on-time delivery, and cost-effective quality products so that we can exceed our valued customers' expectations. We offer a technically

proficient, KROHNE-trained sales force that gets involved in all aspects of technical sales and applications support.

Our dedicated technical support, field application, start-up and repair teams are located throughout the regions to provide timely and effective services at your site or at our factory. Our TASC (Technical Application Support Center) is the heart of KROHNE's technical support capability and is available by phone or email every day, at any time, day or night. This group of trained engineers and technicians is at your disposal for product application, installation, operation, or troubleshooting questions. You can reach our support team by calling our toll-free number 800.FLOWING (356.9464) or by email at [tasc@krohne.com](mailto:tasc@krohne.com). ■



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# Pedrollo

Pedrollo S.p.A., founded in San Bonifacio (Verona) in 1974, is one of the major family-owned industrial companies in Italy and is globally recognized as a benchmark in the electric water pumps industry, with more of 2.5 million pumps manufactured every year.

Pedrollo is a leading company in manufacturing and supplying electrical water pumps for residential, commercial, agricultural, and industrial use. Pedrollo is a producer of a complete range of electric water pumps, motors, electronic controls—including VSD and pressure systems. With a focus on innovative products, the wide range of pump includes many diverse types of pump products, such as peripheral, centrifugal, horizontal and vertical multistage, self-priming, pool pumps, deep well submersible

pump end as well as electric motors, sump, sewage, effluent, and grinder pumps. Pedrollo will also offer a wide array of accessories, electronic controls, including VSP, and pump systems and packages.

Pedrollo's worldwide success is based on a great innovative capacity sustained by constant research and a strong commitment to development. These efforts are ultimately aimed at the technical improvement of systems and products. Upon ensuring the models' functional priorities, Pedrollo continues with regular design updates: a much-appreciated detail in the market and a distinctive sign of Italian quality. There is also a constant renewal of products also from an aesthetical point of view, making them more pleasing both to the eye and touch as well as being more efficient—

another indicator of the complete attention that Pedrollo promises to its customers. Moreover, Pedrollo uses an advanced prototyping center that enables the invention and realization of new increasingly improved performing products and designed to solve to customers' ever-changing requirements. Pedrollo possesses a tradition of creativity and technology that signifies the excellence of "Made in Italy."

Innovation, quality, service, professionalism, self-reliance, and its innovation-focused business model, along with commitment to sustainability and social responsibility ([www.pedrollo4people.com](http://www.pedrollo4people.com)), are the foundations of its long-established reputation.

Pedrollo S.p.A. is a part of Pedrollo Group ([www.pedrollogroup.com](http://www.pedrollogroup.com)). ■

## ITALIAN PREMIUM QUALITY WATER PUMPS SINCE 1974



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# Sulzer Pumps Solutions, Inc.

Sulzer is a global leader in the design and manufacture of fluid systems with over 200 years of experience in developing innovative products and services that support greater sustainability of our world's resources. With specialist knowledge in pumps, agitators, mixers, separators, blowers, and purification technologies, Sulzer offers high-performance products with excellent reliability and efficiency. Users are assured of expert, local support through the worldwide network of 180 manufacturing facilities and service centers.

Within Sulzer, the flow equipment division offers a comprehensive range of products that have been created through intensive research and development to ensure every application can achieve optimum performance. Used extensively

throughout the water cycle, Sulzer's products offer considerable benefits in terms of operating costs and long-term reliability.

- The Johnston pump range is renowned for its reliability and versatility.
- The HST turbocompressor is a market leader in terms of efficiency and almost zero maintenance costs.
- The XRW submersible mixer is a premium product that offers outstanding life-cycle economy and excellent reliability.
- The XFP submersible sewage pump range sets a standard in terms of efficiency

and availability thanks to its IE3 motor and Contrablock Plus impeller, which ensure excellent performance in arduous conditions.

- Nordic Water, a Sulzer brand, has developed a broad range of packaged processes that offer a reduced footprint, lower operating costs, and include sustainable solutions such as filtration technology for micro-pollutants. ■

## **SULZER PUMPS SOLUTIONS, INC.**

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Pump

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Products built with quality, not only as a core design feature but a brand identity. With NSF certification, an array of standard features, and the ability to be extensively customized, no wonder it's been the vertical pump brand of choice for over 100 years.

## **SULZER**

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[www.johnstonpump.com](http://www.johnstonpump.com)

# Trillium Flow Technologies

Trillium Flow Technologies™ is a global designer, manufacturer, and service provider of engineered pumps and valves for critical infrastructure, energy, and industrial applications. Our product portfolio serves our customers in the water and wastewater, power generation, oil and gas, mining, and general process industries.

In the United States, our pumps business boasts more than 220 years of combined experience providing reliable and efficient solutions that perform in the most demanding environments. We design, manufacture, and test our entire U.S. pump brand portfolio from our state-of-the-art facility in Fresno, California.

Floway® Pumps are an industry-leading vertical turbine pump in the water and wastewater, oil and gas, mining, energy, and industrial markets.

Floway® pumps can be manufactured to API, HI, and NSF requirements, using the most durable wear and corrosion-resistant materials.

Our Roto-Jet® brand encompasses high-pressure, single-stage centrifugal pumps with Pitot tube technology for low-flow, high-head applications and can be manufactured to API requirements. The Pitot tube's simple design and performance have earned the Roto-Jet® brand a reputation as the reliable and robust "go-to" solution for low-flow, high-pressure challenges.

WEMCO® is known for reliable centrifugal screw and vortex pumps with an international distribution network. WEMCO® pumps have served municipal and industrial customers in markets as diverse as water and wastewater, agri-food, solid bulk and sand applications, chemicals, and general industry for over fifty years.

The WSP® brand serves the global food and beverage processing, waste management, and material processing industries, and are designed to be rugged and dependable while simplifying maintenance and reducing life cycle costs. Our WSP® line can be manufactured according to strict API, HI, and NSF requirements.

Also included in our global pump portfolio are Begemann®, Gabbioneta Pumps®, and Termomeccanica Pompe, manufactured at our facilities in Italy. Trillium Flow Technologies™ provides complete international support, starting with highly engineered, reliable products for your industry and continuing with a unique level of support and service. Learn more about the performance engineered difference at [www.trilliumflow.com](http://www.trilliumflow.com).

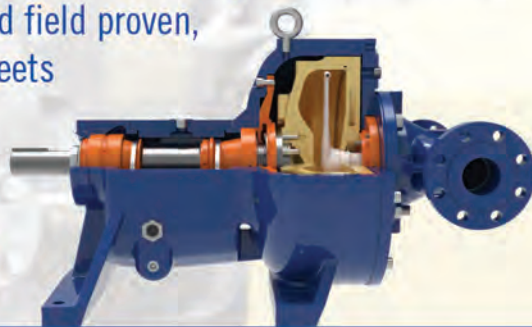
WEMCO® is a registered trademark of FLSmidth. ■



## THERE IS ONLY ONE ORIGINAL: **ROTO-JET®**

**We know Roto-Jet pumps better than anyone – after all, we invented them.**

For over 50 years, Roto-Jet® pumps have been the go-to brand for high pressure applications across the globe. Reliable, and field proven, the Roto-Jet's unique stationary pitot tube design meets the demanding requirements of today's low-flow high-head applications.



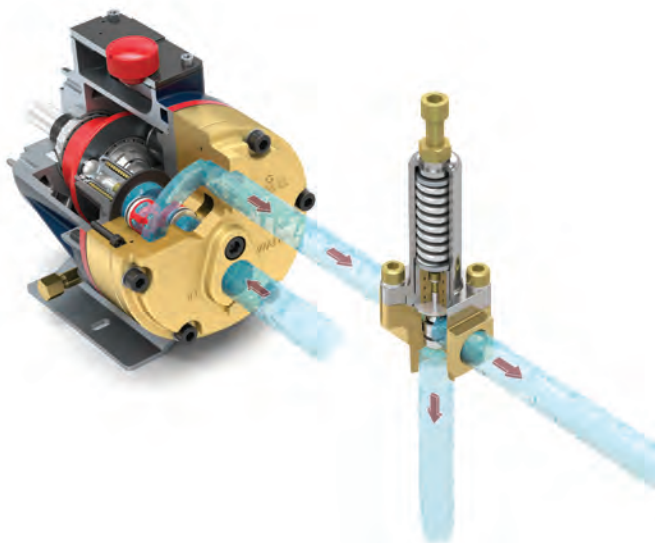
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# Wanner Engineering, Inc.

## HYDRA-CELL® SEAL-LESS DESIGN ADVANTAGES



Hydra-Cell pumps feature a seal-less design that separates the fluid (liquid) end from the hydraulic (power) end. Combined with hydraulically balanced, multiple diaphragms, Hydra-Cell pumps provide long-lasting performance benefits that minimize maintenance and costly downtime.

- Processes the full spectrum of non-lubricating to highly viscous fluids.
- Handles non-dissolved solids up to 800 microns in size (depending on model) and 9 hardness (out of 10) on the Mohs scale without the need for fine filtration.
- Runs dry indefinitely without damage to the pump.
- Eliminates leak paths to prevent glycol losses and reduce environmental containment costs.
- Provides linear, virtually pulse-free flow without using expensive pulsation dampeners.
- Delivers low-shear pumping action to ensure integrity of long-chain structures.
- Wide range of models available offering maximum flow rates from 1 to 153 gallons per minute and maximum discharge pressures up to 350 psi for non-metallic pump heads and up to 5000 psi for metallic pump heads. ■

Request more information at  
[www.hydra-cell.com](http://www.hydra-cell.com).

## However large or small, **HYDRA-CELL PUMPS**

**have no packing  
or seals to leak, wear  
or replace.**



With its seal-less design, Hydra-Cell reduces downtime and annual maintenance costs in a wide range of OEM and processing applications. No leak path also means lower environmental containment costs. Ever reliable, Hydra-Cell pumps can handle abrasive solids up to 800 microns (depending on model) and will run dry without damage.

*Contact us today for details.*



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## Alabama Laser

Alabama Laser offers laser cladding/weld overlay services to refurbish damaged parts to OEM specs, repair worn surfaces, and enhance the properties of new parts (wear/corrosion/erosion resistance).

We provide laser cladding of pump components, hydraulic shafts, electric motors, downhole tools, valve components, cylinders, boiler tubes, fittings, flanges, sleeves, bushings, and rotors. ASME code stamp certified.

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Since 1936, Cla-Val has produced the world's highest quality automatic control valves for a diverse array of industries. Cla-Val has continued to strengthen its operational and customer service capabilities around the world by enhancing product lines and building state-of-the-art production facilities and warehouses in Canada, Switzerland, France, the United Kingdom, and New Zealand.

With all our major locations having dedicated training centers, our team of sales personnel and factory authorized sales agents are able to provide exceptional industry expertise throughout the world. Our aggressive research and development programs have resulted in the design and production of technologically advanced electronic and hydraulic control systems that consistently meet the challenges of increasingly complex and diverse applications. ■

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## Ebac Industrial Products

Ebac, located in Newport News, Virginia, was opened in 1978 to serve and support the North and South America markets. With over forty product lines and a new location in Riverside, California, Ebac specializes in providing pre-engineered dehumidification solutions for military, industrial, commercial, and residential applications, such as:

- **CLEANING AND RESTORATION:** A wide variety of portable dehumidifiers used to dry rooms and materials after water damage has occurred.
- **RENTAL:** Rugged portable and semi-permanent dehumidifiers made available to the public through national tool rental companies.
- **HVAC:** Moisture removal and air quality solutions including residential, pool, industrial processes, archival storage, commercial, and municipal applications.

Ebac strives to provide the highest quality product, service, and application engineering support to each one of its diversified market segments. An active, ongoing research, and development program ensures that Ebac clients are supplied with the latest and most cost effective moisture removal solutions. ■



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## Graphite Metallizing Corporation

GRAPHALLOY® case rings and bushings allow pumps to survive repeated "run-dry" conditions, slow roll operation, and frequent stop/starts—conditions where metal and plastics fail.

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GRAPHALLOY can be the solution to the toughest bearing, bushing, thrust washer, cam follower, or pillow block bearing design problem. It is available in over 100 grades with specific properties that meet a wide range of engineering solutions and specifications. FDA acceptable grades of GRAPHALLOY are available for food contact equipment. NSF® International has certified two grades of GRAPHALLOY material for use in municipal well pumps and water treatment plant applications.

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## Helwig Carbon

Bearing failure is the number one cause of electric motor failure and it can be avoided. Many pumps utilize a variable frequency drive (VFD) to increase pump motor efficiency. While VFDs lower power consumption, they also induce currents onto the motor shaft. These shaft currents will often discharge through the motor bearings causing fluting, burnt grease, and eventual bearing failure. Downtime, repairs, and warranty claims can be the result of bearing failure and can be extremely costly to any company.

Helwig's BPKs (Bearing Protection Kits) have been leading the industry in shaft grounding solutions for years. Our proven silver graphite brush technology, K007, is unlike other shaft grounding systems because it eliminates the need for maintenance and will keep bearings protected year-after-year. Helwig BPKs effectively divert induced electrical currents away from the bearings. The result is the lowest shaft voltage and maximum discharge to ground through the kit rather than through the bearings, protecting them from damage and failure.

Additionally, our MultiFit Bracket mounting system allows for a BPK to be attached to multiple bolt designs while keeping constant contact on the motor shaft. The MultiFit Bracket system can be used with existing bolts which eliminates the need for drilling and tapping.

Helwig Carbon is the world's leading expert on shaft grounding. Call us for a quote today! ■

# MOTOR BEARING PROTECTION

SAVE ELECTRIC MOTORS FROM VFD INDUCED SHAFT CURRENTS

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## Sun-Star Electric, Inc.

Sun-Star Electric, Inc. is a Texas corporation established in 1977 and is the principal worldwide distributor for Hitachi submersible motors.

Sun-Star Electric, Inc. designs and manufactures its own Sun-Star branded oil-filled and wet-wound submersible motors for standard and special applications along with the deep-ocean-capable Aqua Star motor.

Sun-Star Electric is an expert for rapid service and repair of the power generation industry's critical, high-pressure water-filled boiler water circulating pump motors.

Sun-Star Electric, Inc. maintains a 75,000-square-foot manufacturing facility, which is fully equipped for the manufacture and repair of submersible electric motors and includes full fabrication, machining, winding, and in-house testing capabilities. In 2011, Sun-Star Electric, Inc. transitioned to an employee-owned company (ESOP). ■



**SUN-STAR ELECTRIC, INC.**

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LUBBOCK, TEXAS 79407  
SUNSTARUSA.COM

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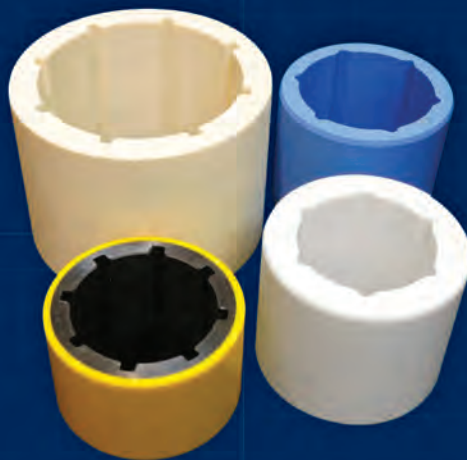
# Thordon Bearings

Thordon is the world's leading manufacturer of long-lasting non-metallic bearings that require no oil or grease. They are easy to design, safely machined, and install quickly. Our vertical pump bearings provide long wear life, high abrasion resistance and can provide dry start up capability. Thordon's proven performance in vertical pumps, power plants, sewage and wastewater treatment, refineries, mining, agriculture, and any industry moving water has lowered operating costs.

Our polymer bearings can also be used in aerators, flocculators, screens, butterfly valves, or virtually all applications where greased bronze bearings are currently installed. ThorPlas-White is the newest material in the Thordon bearing family, specifically developed to operate as a drinking water system component used in the treatment and distribution of potable water. It has International Certification for NSF/ANSI 61 Drinking Water System Components and NSF/ANSI 51 Food Equipment Materials, as well as WRAS.

By providing engineered, customizable solutions, our bearings improve efficiency results in saving companies both time and money by eliminating grease, lowering life-cycle costs, improving equipment downtime, and increasing mean time between failure (MTBF). Thordon bearings are available and supported globally by its worldwide network of factory-trained authorized distributors. ■

**Replace your bearings less often  
with Thordon's long wear life,  
abrasive resistant pump bearings.**



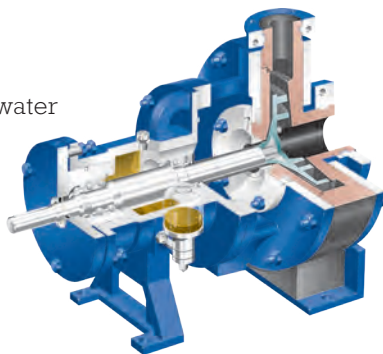
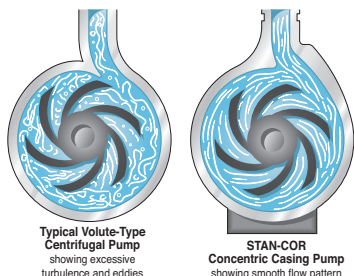
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# Wanner Engineering, Inc.

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# A FAMILY COMPANY WITH A GLOBAL REACH

## Netzsch celebrates 150 years

From a small workshop in Selb, Germany, to an internationally successful mechanical engineering group: Netzsch is ringing in its 150th anniversary year and over 4,100 employees worldwide are joining in the celebration. Below, brothers Moritz and Paul Netzsch, the fifth generation of the Netzsch family of owners, and Chief Financial Officer Jens Niessner, reflect on the company's legacy.

**MPT:** *What are some things you want your workforce, customers, and partners to take away from this anniversary year?*

**MORITZ NETZSCH:** It is important to me that we have a stable, continued development of what we do today. My wish is that, with all the reflection, with all the necessary rethinking and new thinking, we grow organically, and bring the company into the next generation stronger than ever.

**MPT:** *With such a long history, how has the company's past influenced its values today?*

**PAUL NETZSCH:** Our history provides answers as to why we have existed for so long. Our slogan "Proven Excellence" is no empty phrase. We can prove our excellence from our history. One can observe how we actively shaped entire industries over many years. Along with this, Netzsch has always been able to adapt to radical changes in the corporate world or in the marketplace. Sometimes this also meant that we had to drastically reposition ourselves.

**MORITZ NETZSCH:** After the Second World War, for example, potato washing machines were designed, and during the heyday of the porcelain industry, Netzsch built complete factories for the ceramic industry. All of these developments ultimately led to Netzsch positioning itself very successfully in the market with its "Analyzing and Testing," "Grinding and Dispersing," and "Pumps and Systems" business units. We want to transfer this historically grown adaptability into the future as well.

**MPT:** *How has being a family-owned company influenced Netzsch's longevity?*



**JENS NIESSNER:** You can feel our Netzsch spirit at every location. Our values, the economic success, the perspective for the employees—this pairing sparks an aura that makes us competitive even in places where other companies with a high international profile are located. I often meet employees, whether it's in China, Brazil, or Waldkraiburg, and realize in conversation the son or daughter now also works for us. Our spirit is not only inherited by the owner family, but also by our workforce.

**MPT:** *As you celebrate the company's past, what do you have planned for the future?*

**JENS NIESSNER:** We drive industrial progress to sustain a successful ecosystem through generations. The new mission for the future reveals a strengthened will to shape things at Netzsch. Looking back gives courage, but above all it makes us want to look forward to the future. And this future should be characterized by innovation more than ever. Since 2019, for example, employees have been involved in the development of futuristic ideas in Netzsch's own innovation incubator NEDGEX and are always on the lookout for potential new business areas. In 2021, NEDGEX was honored by Infront Consulting and the business magazine Capital as one of the best digital innovations labs in Germany with the Digital Lab Award. ■

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