

AUGUST 2024

MPT

WEFTEC 2024

**DON'T MISS MPT'S
FEATURED EXHIBITORS**

MODERN PUMPING TODAY®

PROVIDING SOLUTIONS FOR THE WORLDWIDE PUMP INDUSTRY



THE PRICE OF PARADISE

**HAWAII'S CHALLENGES REQUIRE
CREATIVE SOLUTIONS**

SELECTING THE CORRECT PUMP

IT'S NEVER ONE SIZE FITS ALL

More Samples. More Often.

The Most Advanced Vacuum Wastewater Sampler



Patent #11,598,696

Patent #11,768,132

WAVE™

- Fully Programmable Sampling
- 7" Color Touchscreen
- High-Impact, Acrylic/ABS Enclosure
- Heavy Duty, Piston Vacuum Pump
- Modular Refrigeration

Made in the U.S.A.

The WAVE™ by Emerald Coast Manufacturing is an electronically controlled, heavy duty vacuum wastewater sampler capable of fully programmable composite sampling with a high level of accuracy.



Now the WAVE™ has Sequential Capabilities!

The WAVE's powerful vacuum system generates stronger purges that remove contamination and can draw samples from greater distances than other samplers on the market, up to 200 Feet.

The WAVE's integrated touch screen and user-friendly interface provide for straightforward control of sample volume, time and temperature, and the high impact acrylic/ABS body make this all-climate unit able to withstand even the harshest outdoor environments.



EMERALD
COAST™
MANUFACTURING



EmeraldCoastMFG.com
(850) 469-1142

Visit us at WETEC 2024 Booth #2061



BUILT FIRST. BUILT TO LAST.



Chopper

When the going gets tough, turn to the toughest pump on the planet. Since 1960, the unrivaled Vaughan Chopper Pump has been on the cutting edge. This original chopper pump was built first and made to last in any application, including:

- Municipalities
- Housing Developments
- Pulp and Paper Mills
- Hospitals
- Prisons
- And more

*Choose the unmatched reliability of Vaughan.
Ask about our free trial program and on-site demos.*



SEE US AT WEFTEC BOOTH #3717

GUARANTEED PERFORMANCE | EXPEDITED DELIVERY | ELIMINATES COMMUNITORS

888-249-CHOP | CHOPPERPUMPS.COM

COVER PHOTO

Cover photo of the Wave wastewater vacuum sampler provided by Emerald Coast Manufacturing.



A NOTE ON THIS ISSUE:

Welcome to August's edition of MPT! First up, our Case Studies section kicks off with the continuing success story of Lakeside Equipment Corporation's work in Hawaii (pg. 16). As Marian Widdel illustrates, it takes a lot of hard work and reliable engineering to keep paradise looking no nice.

Next, for the professional installer, multiple factors need to be considered before choosing a pump, such as pump type, pump size, total dynamic head, and basin size, to name a few. Franklin Electric's Jeremiah Brodie weighs in with helpful tips on choosing a pump for a sump and waste-management system (pg. 28). The answer is never one size-fits-all.

Finally, even though we're in the dog days of summer, we're looking ahead to the fall, which, for our industry, means the kick-off of an impressive round of trade shows and related exhibitions. With that in mind, check out our special section (pg. 12) featuring MPT's choices for must-see exhibitors at this year's WEFTEC. You'll want to block off time in your schedule to visit each one. Enjoy!



J. Campbell, Editor
Modern Pumping Today

EDITORIAL ADVISORY BOARD:

- TERRY BELL** Product Manager, ABB
- ROBERT G. HAVRIN** Director of Technology, Centrisys Corporation
- MICHAEL MANCINI** Consultant and Trainer, Mancini Consulting Services
- JOHN M. ROACH** Engineering Manager for New Product Development, Trebor International, Inc.: A Unit of IDEX
- LISA RILES** Business Development Manager, Wastewater Pumps, Xylem Inc.: Flygt
- FRANK KNOWLES SMITH III** Executive Vice President, Blacoh Surge Control
- GREG TOWSLEY** Director of Regulatory and Technical Affairs, Grundfos
- TREY WALTERS, P.E.** President, Applied Flow Technology

MPT

Modern Pumping Today®

WWW.MPTMAG.COM

3100 Lorna Rd., Ste 101
Birmingham, AL 35216

J. CAMPBELL VP of Editorial

jay@mptmag.com

JEFF FLETCHER Publisher

jeff@mptmag.com

TIM O'HARA Associate Publisher

tim@mwsmag.com

KEVIN McCLAREN Media Consultant

kevin@mptmag.com

MICHAEL FISCHBACH Media Consultant

michael@mcsmag.com

SETH SAUNDERS Digital Media Specialist

INGRID BERKY Office Manager

SUBSCRIPTIONS

For all changes, go to:

WWW.MPTMAG.COM

Click the **SUBSCRIPTIONS** button in the main menu



WWW.HIGHLANDSPUBLICATIONS.COM

3100 Lorna Rd. Ste.101 | Birmingham, Alabama 35216

TIM GARMON
CEO

RUSSELL HADDOCK
President

CHRIS GARMON
CFO

No part of this publication JULY be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage-and-retrieval system without permission in writing from the publisher. The views expressed by those not on the staff of Modern Pumping Today, or who are not specifically employed by Highlands Publications, Inc., are purely their own. All Industry News material has either been submitted by the subject company or pulled directly from their corporate website, which is assumed to be cleared for release. Comments and submissions are welcome, and can be submitted to jay@mptmag.com.



@modpumpmag

AMERICAN MADE. ENDURING PERFORMANCE.

We forge lasting reliability into every valve. Engineered and manufactured in the USA with the highest standards, our valves are built to meet your toughest challenges, today and far into the future.

Get Started on Streamlining Your AIS & BABA Projects with
Flomatic Valves: (518) 761-9797 | WWW.FLOMATIC.COM



FLOMATIC® VALVES

High Quality Valves, Built To Last...®

CONTENTS

INDUSTRY NEWS

What's happening in the industry 6

CASE STUDIES

Cleaning up grit in paradise 16

The Lakeside success story continues in Hawaii

Seattle project adjusts to changing community 18

More multifamily homes plays role in pump station retrofit

WATER & WASTEWATER FOCUS

The dollars and sense behind fast concrete washouts 22

Protection from online attacks requires knowledge and commitment:

Tips for selecting the correct pump for your installation 28

Choosing a pump for a sump and waste-management system is never one size fits all

MAINTENANCE & RELIABILITY

Municipalities turn to AI for efficiency 32

Smart water management technology is coming to a town near you

PUMP SOLUTIONS

Lowering municipal wastewater treatment pump maintenance time and costs 36

Correct initial design will extend the progressing cavity pump's life: Part 1 of 2

SEALING SOLUTIONS

The advantages of external digester heating 40

Thinking outside the box (and the digester) to improve performance

MODERN PUMPING PRODUCTS

Featured Product: MASS-VAC, INC. MV Multi-Trap Vacuum Inlet Trap 42

EFFICIENCY POINT

AI that deserves an "Ovation" 44

Emerson's Bob Yeager on an innovative tool for power and water industries



18



22



32



36



40

SLICE IT. DICE IT. PASS IT.

ORGANIC SOLIDS ARE NO MATCH FOR
GORMAN-RUPP SUPER T SERIES®
PUMPS EQUIPPED WITH
THE ERADICATOR PLUS™
RETROFIT KIT.



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 upgrade kits for existing Super T Series® self-priming pumps currently installed in wastewater treatment, industrial by-product and agricultural 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 to keep your operation running smoothly month after month, year after year.

 For more information, call Gorman-Rupp at 419-755-1011
or visit GRpumps.com to find a distributor near you.

GR
GORMAN-RUPP
PUMPS
The Pump People®

ALLGON LAUNCHES VIRTUAL REALITY IN SAFETY TRAINING

Allgon subsidiary Åkerströms Björbo has launched a virtual training tool designed to significantly improve personal safety during heavy lifting operations. Åkerströms Björbo has developed proprietary VR simulators that provide a realistic and secure training environment for crane operators.

These simulators are tailored to meet the rigorous demands and standards of the Swedish industry, enabling operators to practice critical tasks such as precision driving, handling load swings, and safely maneuvering around suspended loads. The training tool includes several modules, culminating in a final exam where participants receive a detailed performance summary.

“With our VR training, operators can perform risky maneuvers in a safe, visual world that is designed to be authentic and engaging, optimizing the learning experience,” says Magnus Kenger, business developer at Åkerströms. “We can also provide other personnel on the work site with a chance to experience the crane operator’s work, enhancing overall understanding and further improving safety.”

The simulator is ideal for both introductory and refresher training for crane operators, ensuring they maintain the necessary skills for safe and efficient crane handling.

WOOLPERT TAKES ON HYDROGRAPHIC SURVEY FOR NOAA

The National Oceanic and Atmospheric Administration has tasked Woolpert with performing hydrographic survey and collecting bathymetric data in Tangier Sound, Maryland, under a \$6.1 million contract. The data will update National Ocean Service nautical charting products, which are used for improving the safety of maritime traffic and commerce, and will support commercial fishing, shipping channels, coastal resilience, scientific research, and Seabed 2030.

Seabed 2030 is a collaborative effort between the Nippon Foundation and the General Bathymetric Chart of the Oceans that aims to integrate and share all available bathymetric data to produce a definitive map of the world’s ocean floor by 2030. Last year, NOAA tasked Woolpert with collecting data in the Chesapeake Bay Watershed, which included portions of the Potomac, Rappahannock, James, and York Rivers. Woolpert will collect data over 116 square nautical miles in Tangier Sound located in the Chesapeake Bay, the largest estuary in North America. The 64,000-square-mile watershed is heavily trafficked by commercial and recreational vessels used for tourism, fishing, and marine commerce.

“This modern, high-resolution bathymetry will help improve the safety of vessel navigation,” Woolpert Project Manager Ryan Cross says.



www.feluwa.com

feluwa
EXCELLENCE IN PUMPS

MULTISAFE® PUMPS
For Slurries and hard to pump media

- Safe and reliable handling of abrasive, aggressive and toxic fluids with high solids content
- Continuous and gentle pumping with low pulsation independent of pressure and viscosity
- Operating pressure: up to 5,000 psi
- Flow rates up to 4,000 gpm

YOUR CONTACT
FELUWA Pumps USA, Inc.
Chuck Martin-President
martin@feluwa.com





VISIT US AT
MINExpo
Booth 10452



SUN STAR
SUBMERSIBLE MOTORS

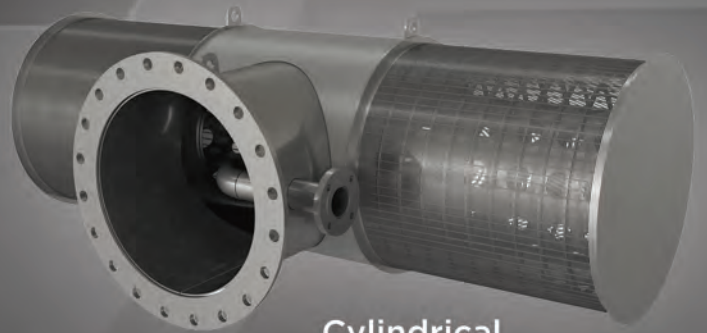
SUN STAR ELECTRIC, INC
An Employee Owned Company
SUNSTARUSA.COM
7722 34th Street, Lubbock, TX 79407
1-800-782-9675

ELGIN

Raw Water Intake and Wastewater Separation Solutions



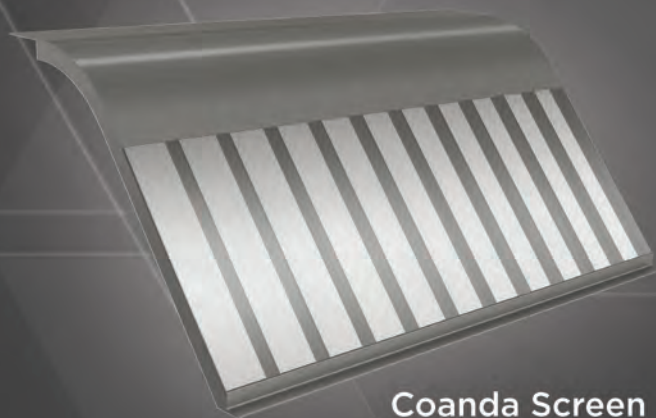
AirBurst
Cleaning System



Cylindrical
Intake Screen



Apex Wastewater
Decanter Centrifuge



Coanda Screen

**Stop by Elgin's
Booth #8121
at WEFTEC**

A FLAGSHIP BRAND OF

TERRASOURCE
GLOBAL

ElginWaterSolutions.com

PASSIVELOGIC EARNS RED DOT DESIGN AWARD FOR SENSE NANO PRODUCT DESIGN

PassiveLogic, creator of the first platform for generative autonomy to enable autonomous infrastructural robots, announces that its Sense Nano sensor was awarded the 2024 Red Dot Design Award in Product Design.

The Red Dot Design Award is one of the most prestigious design awards, and receiving the award is an internationally recognized seal of outstanding design quality. Entries were submitted from sixty countries, and judged by an international panel of experts from twenty countries, whose expertise covers various design disciplines and occupations including professors, consultants, journalists, or industrial designers. Winning products are selected for their aesthetic appeal, function, innovation, and above all, outstanding design.

The Sense Nano is the first truly wireless sensor, communicating with its peers via Bluetooth mesh, while extracting its operating energy from the surrounding environment. The sensor extends autonomy to the very edge, enabling the mass conversion of the buildings into smart assets. The Sense Nano is one of PassiveLogic's eight unique hardware units that seamlessly integrate, working together to enable autonomy for any controllable infrastructural robotic system.

AWWA: CONSUMERS TRUST WATER UTILITIES, SCIENTISTS FOR TAP WATER INFORMATION

Consumers place the most trust in water utilities and scientists to provide them with information about their tap water compared to other entities, according to a survey conducted by Morning Consult on behalf of the American Water Works Association (AWWA). The May 2024 poll, called "Public Perceptions of Tap Water," included responses from 2,010 adults served by water utilities in the United States.

Seventy percent of respondents said they trust their water utilities "a lot" or "some" for information about their water, with scientists close behind at 68 percent. Local governments (59 percent), state governments (57 percent), and environmental groups (57 percent) rounded out the top five most trusted groups.

Water affordability continues to be a big concern among the annual survey's respondents. More than one in three report that they struggle to pay water bills on time. Of those who report struggling to pay their water bills, 83 percent would support a federal assistance program. Nearly 77 percent of respondents overall would support such a program.

"High quality drinking water is critical for all communities," says David LaFrance, AWWA CEO.

QUICK
Usually Ships In 1/2 The Lead Time
Horizontal and Vertical Pumps

VERTIFLO 45 YEARS 1979-2024

Our vertical sump pump line offers up to 3000 GPM, 230' Heads and 26' depth. The horizontal end suction pump line offers up to 3000 GPM, 300' Heads, back pullout construction and semi-open impellers. Standard construction is Cast Iron, 316 Stainless Steel fitted, or all 316 Stainless Steel, and the self-priming pump is available in CD4MCu. View our complete catalog and pump selection software on-line.

HYDRAULIC INSTITUTE PROUD MEMBER
VERTIFLO PUMP COMPANY
The Industrial Pump Specialists

Phone: 513-530-0888 • sales@vertiflopump.com • www.vertiflopump.com

Failed bearings are the leading cause of electric motor failure

**REDUCE COSTS
PREVENT DOWNTIME**

With Helwig Carbon Bearing Protection Kits (BPKs)

HELWIG CARBON PRODUCTS, INC. **ULTIMATE SHAFT GROUNDING SOLUTION** Extra Long Life

Economical & Easy-to-Install

Contact Us/Order Online:
www.helwigcarbon.com
1-800-962-4851



THE NEXT WASTEWATER ALL-STAR DEE MOLISHER

Hailing from Ashland, Ohio, **Dee Molisher**, the Pentair® Next-Gen Submersible Solids Handling Pump, excels against the toughest clogging culprits.

Your next top pick, equipped with a powerful one-two punch of a semi-open stainless steel impeller and a robust cutter plate, is ready to make an immediate impact.

**POWERFUL.
RELENTLESS.
DOMINANT.**



YOUR SCOUTS CAN SEE
DEE MOLISHER IN ACTION
AT [PENTAIR.COM/ALLSTAR](https://www.pentair.com/allstar).

All indicated Pentair trademarks and logos are property of Pentair. Third party registered and unregistered trademarks and logos are the property of their respective owners.

©2024 Pentair. All Rights Reserved.

P24180 (07-16-24)

HEIDELBERG MATERIALS ACQUIRES CARVER SAND AND GRAVEL

Heidelberg Materials North America has entered into a definitive purchase agreement to acquire Carver Sand and Gravel, the largest aggregates producer in the Albany, New York, area. Included in this acquisition are four quarries, three sand and gravel pits, a trucking business, two asphalt plants, 70 million metric tons of reserves and about 200 employees. Heidelberg Materials and Carver Companies have also agreed on a strategic partnership in the Albany area for land and marine logistics.

Carver Sand and Gravel is an established materials producer based in New York's Capital Region.

"The Carver Sand and Gravel business is a great fit with Heidelberg Materials and further expands our footprint in the eastern portion of the very attractive New York market," says Matteo Rozzanigo president of the Northeast Region for Heidelberg Materials North America.

"We built Carver Sand and Gravel from scratch into a successful mining operation with a strong market position in our corner of New York," adds Carver Laraway, president and CEO of Carver Companies and the Port of Coeymans. "While this is a big step for our company, partnering with Heidelberg Materials comes with incredible upside for everyone."

HUDSON TECHNOLOGIES APPOINTS NEW CHIEF FINANCIAL OFFICER

Hudson Technologies, Inc. announces the appointment of Brian J. Bertaux to the role of chief financial officer, effective immediately. Bertaux replaces Nat Krishnamurti, who is leaving the company to pursue other endeavors. Brian Bertaux is a seasoned finance executive and previously spent twenty years at Trex, an NYSE-traded company that is the world's largest manufacturer of high performance, low maintenance composite decking and railing.

During Bertaux's tenure at Trex, the company grew annual revenue from \$100 million to \$900 million, and achieved a market cap of \$10 billion. At Trex, he served in roles of increasing responsibility, eventually serving as interim president for Trex Commercial Products. Earlier in his time at Trex, he served as senior director of finance and strategy with oversight of the finance, accounting and IT functions.

Brian F. Coleman, president and chief executive officer of Hudson, adds, "We are pleased to welcome Brian to Hudson Technologies and believe that with his extensive experience and proven success as a senior level financial executive at both public and private entities, he brings a skillset and expertise ideally suited to his new role. I look forward to working closely with Brian as we focus on expanding Hudson's leadership role in the cooling and reclamation industry." ■



Incompressible & Compressible

PIPE FLOW ANALYSIS SOFTWARE

 AFT FATHOM™  AFT ARROW™
STEADY-STATE

Calculate pressure drop
and flow distribution



**SIMULATE COMPONENTS
& INTERACTION**



**SIZE PUMPS, COMPRESSORS
& VALVES**



**TROUBLESHOOT
SYSTEMS**



**ANALYZE
HEAT TRANSFER**

 AFT IMPULSE™  AFT XSTREAM™
TRANSIENT

Simulate how your system will
respond to surge events



**AVOID UNDESIRABLE
TRANSIENTS**



**CALCULATE
UNBALANCED FORCES**



**EVALUATE VAPOR
CAVITY COLLAPSE**



**EVALUATE SURGE
SUPPRESSION EQUIPMENT**

WEFTEC 2024 FEATURED EXHIBITORS

MPT

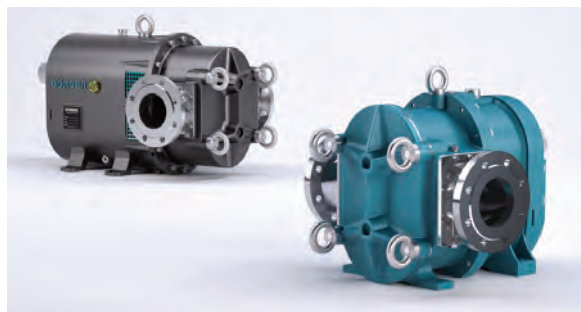
Visit MPT at WEFTEC

BÖRGER[®]
EXCELLENCE - MADE TO LAST

BOERGER
BOOTH #4415

Boerger designs, manufactures, and sells rotary lobe pumps, macerating technology, separation technology, and feeding technology to convey low to high viscous and abrasive media. Key applications can be found in wastewater applications including sludge (primary, WAS, RAS, digested, thickened, etc.), biosolids, grease, sewage, scum, lime slurry, alum sludge, permeate, polymers, etc. Boerger products are designed with maintenance-in-place, which allows for all wetted parts to be easily replaced through the front cover without the removal of pipe or drive systems.

WWW.BOERGER.COM



GR[®]
GORMAN-RUPP
PUMPS

GORMAN-RUPP PUMPS
BOOTH #3429

Gorman-Rupp sets the industry standard for packaged wastewater-handling pumping systems. Our ReliaSource[®] lift stations are 100 percent custom-engineered, manufactured, assembled, and tested by the experts at Gorman-Rupp. That means when you choose ReliaSource, you choose the ultimate in reliability, long-lasting operation, and value. We precision-match the pumps, motors, controls, valves, pipes, and accessories in every ReliaSource system for maximum compatibility and maximum performance—guaranteed.

WWW.GRPUMPS.COM



weftec[®]
the water quality event™

Where the water community comes to connect.

KROHNE

▶ measure the facts

KROHNE is a world-leading manufacturer and supplier of solutions in industrial process instrumentation and offers supporting products and services for one-stop-shopping and in industries as widespread as oil and gas, water and wastewater, chemical and petrochemical, food and beverage, power, minerals and mining, and marine. With flow, level, temperature, and pressure measurement as well as process analytics, KROHNE offers the whole range of process measurement instruments. WWW.US.KROHNE.COM



KROHNE BOOTH #6323

KROHNE is a world-leading manufacturer and supplier of solutions



ALLIED MOULDED PRODUCTS, Inc.

ALLIED MOULDED PRODUCTS BOOTH #3005

Allied Moulded's extensive line of NEMA type 4X/IP66 fiberglass reinforced polyester (FRP) enclosures, made with our proprietary ULTRAGUARD® resin formulation, outperforms competitors in the areas of: yellowing, gloss retention, discoloration, and change in texture. Allied Moulded also offers our POLYLINER® series, a line of polycarbonate, injection-molded enclosures. With a wide range of sizes, accessories, and customizations available, Allied Moulded can solve your industrial enclosure needs. WWW.ALLIEDMOULDED.COM



BLACOH™ FLUID CONTROL BOOTH #3406

Blacoh offers engineered fluid control products manufactured to exacting standards in a wide variety of sizes, materials, and pressure ratings to suit virtually every application. Blacoh has been improving process system performance, reliability, safety, and productivity for over forty-five years, so find Blacoh products wherever fluid is being pumped. Blacoh products are made in the USA for a reason—nothing gets in the way of providing Blacoh products to customers.

WWW.BLACOH.COM



MELTRIC CORPORATION BOOTH #3973

A COMPANY OF MARECHAL ELECTRIC

Reduce downtime. Mitigate litigation. Eliminate risks. Discover the perfect solution for safe, reliable pump and motor connections. MELTRIC® DSN and DS, UL & CSA listed devices offer arc flash protection, are watertight, and are ideal for making and breaking connections under load. Specifically designed for use with pumps, motors, lift stations, blenders, generators, and more. Visit us at Booth #3973 during WEFTEC for hands on demonstrations that show how MELTRIC can improve your operations.

WWW.MELTRIC.COM



Where the water community comes to connect.



SMITH & LOVELESS
BOOTH #4029

Smith & Loveless Inc.

Packaged Smith & Loveless EVERLAST™

Above-Ground Pump Stations offer the best choice for pump O&M, safety, longevity, and costs. Everything is above the wet well and inspection of the complete pump station can be accomplished in mere seconds, eliminating all of the confined space hassles and costs associated with pulling sewage-coated submersible pumps from the wet well and accessing confined space valve vaults. Pump clogs are virtually eliminated with the non-clog X-PELLER® wastewater pump impeller due to its unique monoport design that allows it to successfully pass problem flushables and 3-inch solids. QUICKSMART™ Touchscreen Controls offer the most operator-friendly pump experience with remote control and system maintenance reminders.

WWW.SMITHANDLOVELESS.COM



HOMA PUMP TECHNOLOGY
BOOTH #6127

HOMA stands behind every product with a generous warranty, extensive spare parts inventory, regional authorized service centers, factory engineers and technicians who are all dedicated to the support of the entire HOMA product line. Whether your application requires a residential grinder or effluent pump, or you are handling an industrial process stream or municipal wastewater, HOMA will engineer a pumping solution for you. WWW.HOMAPUMP.COM

TSURUMI PUMP **TSURUMI PUMP**
BOOTH #4341

Tsurumi Pump is a world-renowned manufacturer of submersible pumps, providing equipment for various applications such as wastewater treatment, mining, construction, water features, sewage bypass, and more. Tsurumi is known for its advanced pump technology, strong distribution network, and one of the largest inventories in North America. At this year's WEFTEC, Tsurumi is showcasing its AVANT® line of wastewater products.

WWW.TSURUMIPUMP.COM



VAUGHAN COMPANY
BOOTH #3717

Established in 1960, Vaughan Company is the industry leader in reliable chopper pumps and mechanical hydraulic mixing systems. With more than sixty years of experience, Vaughan Company remains committed to giving their customers outstanding service and the most dependable product solutions in the world. Today, Vaughan chopper pumps are the specified product for tough environments where other conventional pumps have proven to fail. Vaughan Chopper Pumps are available in a variety of sizes and configurations, including vertical wet well, vertical recirculator, submersible, submersible recirculator, self-primer, horizontal, and vertical dry pit. Sizes range from 3- to 16-inch discharge, depending on the configuration. Vaughan promises you the best not only in product design, reliability, dependability, and availability, but also in service and support, to assure you of the lowest in lifecycle costs. WWW.CHOPPERPUMPS.COM



Where the water community comes to connect.

The logo for MPT (Modern Pumping Today) is located in the top center. It consists of the letters 'MPT' in a bold, yellow, sans-serif font, set against a dark blue rectangular background. Below the letters, the tagline 'Modern Pumping Today' is written in a smaller, white, sans-serif font.

MPT

Modern Pumping Today®

The top half of the image features several brass fittings, including elbows, tees, and straight connectors, scattered across a technical drawing. The drawing includes various lines, circles, and text such as 'Ø50x3.5', '24', '25', and '50x80'. A dark blue horizontal band is overlaid on the bottom of this section, containing the main headline.

**INCLUDE US
IN YOUR PLANS.**

HAVE FULL ACCESS TO

MPTMAG.COM

FOR ALL YOUR SOLUTIONS
ANYWHERE, ANYTIME.

A close-up photograph of a brass fitting, showing its hexagonal shape and threaded end, is positioned in the bottom right corner of the advertisement.

Lakeside has been supplying wastewater treatment equipment to Hawaii since 1956.

CLEANING UP GRIT IN PARADISE

The Lakeside success story continues in Hawaii

BY MARIAN WIDDEL, LAKESIDE EQUIPMENT CORPORATION

Lakeside Equipment Corporation has completed the commissioning of new screens and grit collectors in Hawaii; continuing its solid relationship with the Pacific island group that goes back almost seventy years.

The new equipment for the Ritz-Carlton O'ahu, Turtle Bay, on Oahu adds another landmark to Lakeside's near eight-decade portfolio in Hawaii.

Designed to remove inorganic solids that can be harmful to downstream equipment, the Lakeside Raptor FalconRake Bar Screen at Turtle Bay benefits from multiple rakes that clean the screen, plus rake teeth that penetrate the bar openings to remove captured material. Meanwhile the Lakeside In-Line Grit Collector (ideal for smaller treatment facilities) is an all-in-one aerated grit chamber that maintains circulation in various flow conditions to prevent lighter organic material from settling.

REMARKABLE HISTORY

With a presence on three of the Hawaiian Islands, this latest installation for Lakeside is also the 15th different type of equipment system that is has provided to America's 50th state.

Lakeside's remarkable history in Hawaii began in 1956 when (known as Lakeside Engineering), the company's visionary president, Dr. John Montgomery, together with his wife, Mary, took the then, epic journey from Chicago to Honolulu, because he firmly believed that good opportunities existed there for the

business. He was right. It's not quite clear whether the Montgomerys took time out to surf and relax on Waikiki Beach, but even if they did, they succeeded in securing their first order on the islands, for a filter, a final clarifier, and a Spiragester at Kailua Heights on the northwest of the Big Island.



Lakeside's latest installation in Hawaii includes a Raptor FalconRake Bar Screen and an In-Line Grit Collector.

Known for always backing its customers with exemplary aftersales service, Lakeside's Dr Montgomery journeyed all the way back to the Kailua Heights WWTP a year later to check that the operators on site were happy with what had been installed.

The next installation in the Pacific for Lakeside was on the island of Kauai, where it installed the first of several low-maintenance, non-clogging open screw pumps, which lift large quantities of wastewater at low heads.

HARD WORK AND ENTERPRISE

Lakeside is immensely proud of its long track-record in Hawaii; with this latest order bringing another

important, long-term and highly cost-effective solution to Oahu. It is incredible to think that thanks to the hard work and enterprise shown by the late, great Dr. Montgomery, the first equipment for Hawaii was installed sixty-eight years ago—and that the company continues to supply the islands to this very day.

Promark Corporation of Kapolei play a pivotal role in Hawaii as the Lakeside sales representative, with their first-class knowledge of their customer's wastewater needs—and Lakeside's very popular former vice president, Warren Kersten (now retired) was also instrumental in maintaining and increasing our equipment sales to the islands.



Non-clogging screw pumps from Lakeside have been installed at several locations in Hawaii.

In this partnership, Lakeside has built a relationship that has stood the test of time with no end in sight—or, as the locals say, "a hui hou." 🇺🇸

MARIAN WIDDEL is administrative 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.

Water & Wastewater Solutions to Protect People & Electronics



Learn More

THERMAL MANAGEMENT

SIGNALING TECHNOLOGY



H₂S corrosion resistant control panel cooling



Gas detection & machine notification
Audible & visual alarms

pfannenbergusa.com



SEATTLE PROJECT ADJUSTS TO CHANGING COMMUNITY

More multifamily homes plays role in pump station retrofit

BY THOMAS RENNER

A thirty-seven-unit condominium project celebrated its grand opening last year along Seattle's Alki waterfront, bringing a resort lifestyle to residents of the units. In a nation in which many people covet residential spaces on shorelines, it illustrates a dynamic that is playing out in other sections of the United States.

The project was developed by Vibrant Cities, which builds multifamily properties in Seattle and Portland. The buildings are "strategically positioned in sought-after neighborhoods and are purposefully designed with building community in mind,"

according to the Vibrant Cities website. The Seattle project broke ground in 2019 and was the largest condo project planned for West Seattle in 2020. It took Vibrant Cities and a previous property owner twenty-three years to assemble five waterfront parcels for the project.

Development is nothing new along Alki Beach, which overlooks Puget Sound and offers scintillating views of Seattle's skyline. Many of the area's single-family homes have been replaced with multi-family residences. Such transformations, however, can result in unintended consequences.

The Alki Pump Station, which was built in 1959, had reached the end of its useful life. But the area's population growth and addition of multi-family housing also played a role in the plan by Seattle Public Utilities to renovate the station, which is essential for moving sewage and storm water from the surrounding area to a water treatment facility. More homes mean a city's infrastructure grid needs major updating, and many U.S. cities have had to adapt to the change.

The renovated pump station opened last year, and Seattle Public Works converted the airlift style facility to one that uses centrifugal



ALKI PUMP STATION FACTS & FIGURES

What:	Seattle Public Utilities constructed a new pump station, converting an airlift-style pump station to a more standard station. The conversion will reduce the risk of failure, improve system reliability and performance and reduce maintenance costs. Construction began in July 2022 and was completed in November 2023.
Why:	The existing pump station, built in 1959 had reached the end of its useful life. In addition, the community had transformed from a region of mostly single-family homes to multi-family residential buildings.
Unusual Art:	The station includes a 1,200 square feet piece of artwork created by Sarah Thompson Moore. Called Tracing Alki, the work incorporates the natural history of the area before European settlement and was created to interact with the natural environment.
Open the Door:	Some areas of Moore's work is included on two floor doors manufactured by BILCO. The doors are equipped with AASHTO H-20 wheel-loading and a pan-type cover that can accept a variety of floor materials.
Did you know?	The project involved the interests of multiple stakeholders, including the Muckleshoot Indian Tribe. The tribe's ancestors were among the first settlers in the Puget Sound region.

Seattle Public Utilities completed construction of the Alki Pump Station in November. (Photo credit: Seattle Public Utilities)



pumps. SPW also incorporated art into the project. Using a variety of materials and textures, artist Sarah Thompson Moore created "Tracing Alki." While a project very much a part of Seattle's present and future, it also honors the region's past.

"This project seized an opportunity to turn an otherwise unremarkable space into one that the public can truly appreciate, and it invites the public to better understand our wastewater system and our connection with the surrounding water bodies," says Avery Reger, P.E. of SPU.

SYSTEM CONVERSION

In 2015, Seattle evaluated all thirteen of its airlift-type wastewater pump stations. Each evaluation looked at several factors such as parcels served, flow projects, and options for improvement. The Alki pump station was recommended as the highest priority for retrofitting.

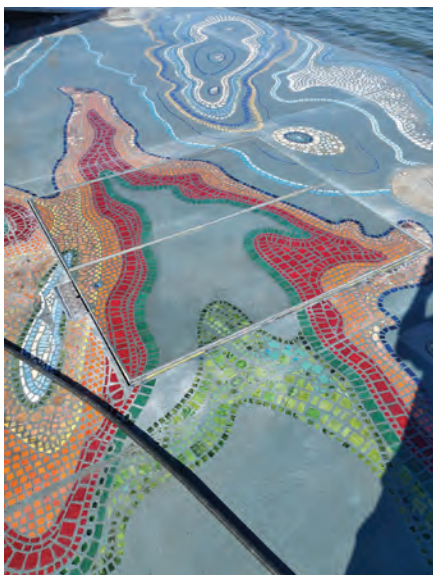
"Airlift pumps were installed primarily due to solids (in the pumped liquid) that tend to plug and

wear out other types of wastewater pumps," according to an SPU report. "However, these airlift pumps are obsolete and deteriorated—demanding frequent maintenance and subject to availability of replacement parts and equipment."

In addition, Reger says centrifugal pumps have become the norm for moving wastewater. "Increased electrical and hydraulic efficiency and ease of maintenance are just some of the benefits of electrically driven centrifugal pumps," he says.

The retrofit required dismantling and removing the existing airlift system. Crews also converted the existing structure into a separated wet well and dry wall configuration.

Workers also replaced the 8-inch diameter force main with a 6-inch diameter force main; upgraded electrical and structural components and installed underground ventilation ducting, ducting and irrigation pipe. SPU also added a safety guardrail along a seawall to protect the site. SPU estimated the cost of the project at \$1.2 million.



The project includes a public artwork, *Tracing Alki*, a portion of which is incorporated on to two access doors manufactured by BILCO. (Photo credit: Seattle Public Utilities)

The conversion will reduce the risk of failure, improve system reliability and performance, and reduce maintenance costs. "The goal of the project was to improve the performance and reliability of the facility while also bringing it up to modern construction codes," Reger says.

WORK OF ART

From the project's inception, artwork was planned to be incorporated into the project. "Site improvements would include a concrete pad with public art, a protective guardrail atop the adjacent seawall, and landscape plantings featuring plants native to the Seattle area," SPU says in its proposal.

Thompson Moore was selected to develop the project. Her work was inspired by a topographical map of Seattle printed in 1894 and took four years to create.

"Through the use of iridescent and light refractive materials and a variety of textures, the artwork was created to interact with the natural environment, offering a unique experience with each visit," Moore writes on her website. Moore said the project incorporates the natural history of the area before European

settlement, bringing to light the changes that have occurred since then. She took into the account the interests of various stakeholders, including the Muckleshoot Indian Tribe, whose forefathers inhabited the region for centuries before non-Indian settlement.

Determining how to incorporate Moore's work into the site was logistically challenging. "One major complexity of construction involved the installation of the tile artwork," Reger says. "The tiles needed to be installed integrally with the freshly poured concrete. The process started with the artist loosely gluing the intricate design of tens of thousands of tiles on a fabric scrim at their studio."

The project covers 1,200 square feet, and the area was divided into manageably sized panels while concrete was poured and tooled.

CREATIVE SOLUTION

Some of the tiles were placed on two floor doors manufactured by BILCO, the manufacturer of specialty access products. One door was a 5-foot x 5-foot double leaf door, and the other was a single leaf door that measured 3-feet, 3-inches by 3-feet, 9-inches.

The doors are also equipped with a pan-type cover that can accept a variety of flooring materials. The cover is designed with a 1-inch fillable pan for field installation of architectural flooring material. The doors allow access to equipment for repair and replacement of parts.

The doors are equipped with AASHTO H-20 wheel-loading, which allows for truck axle loading of 32,000 pounds.

In most instances, the BILCO terrazzo doors are used for interior applications. It's also uncommon for doors with the pan design to be included on H-20 doors. Harbor Pacific Contractors procured the doors for the project from Anderson Specialties, BILCO's manufacturer's representative in Seattle.

"BILCO hatches were submitted by contractor and met the design

requirements," Reger says. "There were limited manufacturers that could produce a hatch with an inlay pan for the concrete and tile artwork that was to be installed. Being able to extend the artwork on to the hatches was important for the artist's vision and hides them in plain sight without affecting the accessibility of the station."

SPU held an outreach event in December 2023 and Reger said the community has embraced the project, which is located in an area popular for walkers, runners, nearby residents out for a stroll with their pets and other recreational pursuits.

"The feedback from the community was very positive," Reger says. "Many people praised the thought-provoking, highly detailed artwork and had an appreciation for the dedication and effort of everyone involved to deliver a unique and enjoyable space." ■



SPU converted the airlift-type pipe station to a more standard pump station, which will reduce the risk of failure, improve system reliability and performance and reduce maintenance costs. (Photo credit: Seattle Public Utilities)

THOMAS RENNER writes on building, engineering and other trade industry topics for publications throughout the United States. The BILCO Company has served the building industry since 1926. During these years it has built a reputation among architects, engineers, specifiers, and the construction trades for dependability and for products that are unequaled in design and workmanship. For more information, visit www.bilco.com.



Portable Gas Detectors You Can Count On

gascliptech.com +1.972.775.7577 1.877.525.0808

Reliable Gas Detection



At Gas Clip Technologies, we believe that quality and budget-friendly should go hand-in-hand, which is why we create top-of-the-line gas detection solutions that have a low cost of ownership. Each detector is compliance-based and designed to withstand the roughest treatment in the harshest environments.

All of our products are available through distributors worldwide.

UPCOMING EVENTS

ASSP Safety Congress & Expo (Aug. 7 - 9): Booth #900
VPPPA Safety+ Symposium (Aug. 26 - 27): Booth #810
NSC Safety Congress & Expo (Sept. 16 - 18): Booth #1328



Scan to visit
our website!



THE DOLLARS AND SENSE BEHIND FAST CONCRETE WASHOUTS

More efficient management can cut time and increase revenue

BY DEL WILLIAMS

For ready-mixed concrete plant executives, traditional methods of washing out concrete trucks can seriously compromise efficiency and profitability, wasting a significant

amount of time on every washout. Fortunately, new high speed washout systems can now complete the task in just minutes, significantly streamlining operations and boosting profitability.

When examining the benefits of better washout management, producers will likely find significant savings can be achieved by changing their current washout process to a

faster, more efficient method. Plant operators need to consider the cost savings available from shorter washout times, as well as additional profits that can be generated from greater driver availability, and even the potential for additional work.

For many concrete plants, the financial benefits of faster washouts can be surprisingly substantial. Some calculation tools indicate that total savings and increased revenue from faster washouts can approach \$500,000 annually, or even into seven figures, depending on the size of the operation. Even small operators can achieve savings in the hundreds of thousands of dollars each year.

HIGH SPEED WASHOUT EQUIPMENT RECLAIMS TIME, MONEY, AND MATERIALS

After each delivery, washing out trucks and equipment is essential to meet mix specifications, reclaim unused materials, and keep equipment clean. Ideally, washouts

should be fast and efficient, and reclaim all reusable materials.

The traditional washout process typically requires drivers to travel to designated washout ponds or pits, sometimes long distances from the plant, to perform washouts. Drivers then manually clean and rinse the truck and discharge the water and concrete into the pit. They then drive back to the plant for the next load. This process can be time consuming and costly.

At some plants, specialized washout equipment is used but the process is often still slow due to the fact that the equipment being used requires concrete to be fed in at a slow rate, again, wasting time.

Today, a much faster, more efficient washout approach is now being utilized. A high speed, self-contained, closed-loop, concrete reclamation and water handling system that can be conveniently located at the plant.

“To perform a washout, the driver backs up to the machine, adds

recycled water to the drum, and after mixing, empties the water and concrete into the machine. The system can take eight cubic yards in four minutes, saving producers a significant amount of time.” says Shane Schmutzler, president of Port Washington, Wisconsin-based Jadair International, Inc., a manufacturer of concrete reclaiming and washout systems including the Redi-Claim and Redi-Wash Washout Systems.

He explains that these high-speed washout systems are designed to quickly washout trucks and reclaim the materials. Additionally, the Redi-Wash Washout System clarifies the washout internally, without the use of settling pits or presses. The water is then reused for future washouts. The used cement is discharged separately and can be handled easily by a loader as a dry, clay-like product, reducing mess and saving time.

To help concrete plant executives estimate the potential savings from using a more streamlined washout



sales@curflo.com
281-479-5000
curflo.com

SOLUTIONS UNIQUELY ENGINEERED FOR YOU

- ANSI PUMPS
- GEAR PUMPS
- SELF-PRIMING PUMPS
- BLENDER PUMPS

QUICK-SHIPPING OUR ENTIRE RANGE



New high-speed washout systems present a game-changing solution for fast results.

approach, Jadair offers a savings calculator that evaluates factors such as labor, truck costs, and materials. By inserting these values into the calculator, along with the plant operating hours, the calculator provides insight into the potential savings available from a high speed, automated, washout system when compared to their existing washout method.

With decades of concrete industry experience, Schmutzler offers some illustrative examples of the potential savings for concrete plant executives:

TRUCK AND DRIVER TIME DOWN, ANNUAL SAVINGS UP

Using a high speed, automated, closed-loop concrete reclamation and water handling unit like Jadair's Redi-Wash Washout System, plants can save as much as \$195,000 per year, or more, in mixer truck and driver-related costs.

This figure is derived from an example of a ready-mixed concrete plant with 20 mixer trucks, each washing out twice a day. That equals forty washouts total per day at the plant. With the current washout

process, it takes twenty minutes for each driver to washout, including travel to and from the washout pit. Using these figures, the total time taken each day for washouts at this plant is 800 minutes.

In contrast, a high-speed concrete reclamation system can reduce that time significantly. If, with such a system, drivers can now washout in five minutes instead of twenty, then washouts at the plant will only require a total of 200 minutes per day. This puts the total amount of time saved at the plant at 600 minutes per day. A significant number.

If the cost to run a mixer truck is \$76/hour, or \$1.25/minute, including the driver's wage, fuel, insurance, etc., this time savings translates into \$750/day (\$1.25/minute x 600 minutes), for a total of \$195,000 per year (260 workdays/year).

This savings is realized by being able to deliver the same amount of concrete each day, with fewer mixer trucks and drivers. The savings calculator available from Jadair details these savings in terms of dollars, as well as in terms of how many fewer trucks can be used at the plant to deliver concrete.

ADDITIONAL DELIVERIES MEAN ADDED REVENUE

With high-speed washout equipment, the plant can deliver the same amount of concrete it currently does while using fewer trucks, thereby saving money. Or, if market conditions permit, plant operators may choose to keep the same number of trucks they currently have, and use the saved time to make extra deliveries, thereby increasing plant revenue. This can be an attractive option.

As an illustration, if the above plant runs ten hours per day, the 600 minutes saved in the previous example is the equivalent of one full workday for one truck and driver. If the plant utilizes this saved time to make extra deliveries, the daily revenue increase could be \$3,120.00/day. This is calculated based on the truck delivering an average of four loads/day with an average load size of 6 cubic yards and an average concrete sales price of \$130.00/yard. This translates into \$811,200/year of additional revenue. Again, a significant number.

"Many ready-mix plants find they can significantly improve operations by using a more efficient concrete washout method. The boost to the bottom line can be even greater if plants make additional deliveries with the extra time freed up from shorter washouts," says Schmutzler.

RECLAIMED MATERIALS MEANS EVEN MORE SAVINGS

Today, the most advanced high speed washout systems can recover sand and stone for re-sale or re-use, using recycled water in a closed-loop process. This is more environmentally friendly and offers concrete executives the option to sell materials they may have previously paid to haul away.

While reclaimed material is not always suitable for high-spec concrete jobs, it can typically be used in lower-spec mixes such as foundations or used as base material.

"The [concrete reclamation] system separates the clays and cements from the sand and gravel. We could have

screened out the three-quarter, three-eighths inch stone from the sand and reintroduced it into our mixes, but choose to sell the material," says Frank Gelewski, director of operations at Fair Lawn, New Jersey-based Tanis Concrete, Inc., which services major highways, airports, and other state and municipal work throughout Northern New Jersey with three state-of-the-art concrete plants.

Today, these closed-loop, concrete reclamation and water handling units can reclaim virtually all the sand and aggregate from returned loads, generating an additional \$25 of savings per cubic yard of processed concrete. The ready-mixed concrete plant in the example might average 20 cubic yards of returned concrete daily for a total savings of \$2,500 per week, or \$130,000 per year in reclaimed materials.

ADDITIONAL SAVINGS IN MAINTENANCE

In washout ponds and pits, the cost to replace make-up water, which is often purchased from a local utility or pumped from wells, can add up quickly.

"We were using metered city water and had to pay for any wasted water," says Gelewski.

Pond maintenance can also be an issue. Ponds and pits require continual maintenance to remain functional. Ponds need perpetual sludge cleanup and torn pond liners need to be repaired or replaced. Pits fill up with washout material, which must then be excavated and hauled away at additional cost.

"About every three months we had to excavate the pit [of washout material], put it in a stockpile, and let it dry out. The material was mixed with clays, fines, stone, and hydrated cement. It was basically a useless product, so we had to pay to have it hauled away to a concrete recycling facility about 12 miles away. At the time, it cost about \$200 a load to dump the material, not counting the truck rental; today, it would cost about \$500 a load," says Gelewski.



New washout systems offering potential savings and additional revenue to concrete producers.

An advertisement for Worldwide Electric Corporation. The top section has a blue background with the website "worldwideelectric.com" and the phone number "(800) 808-2131" in white. Below this is a large blue globe logo with the text "WORLDWIDE ELECTRIC CORPORATION" in white. To the right of the logo is a photograph of a warehouse with workers moving boxes on a pallet. In the foreground, a large blue electric motor is shown. To the right of the motor, the text "Severe Duty, Close-Coupled Motors" is written in blue, with a "NEMA Premium" logo below it. At the bottom left, the text "When your Customer is on the other line." is written in blue. At the bottom right, the text "We Ship Fast. Same Day Shipping!" is written in blue. The bottom of the advertisement has a blue background with the text "ELECTRIC MOTORS | MOTOR CONTROLS | GEAR REDUCERS | GENERATORS" in white.



New washout system is much faster than traditional systems which frees up drivers for additional work.

Tanis Concrete saved substantially in time, water, and maintenance after installing a three-station, Jadair Redi-Wash Washout System, in their onsite truck garage.

“The water is right there at the washout system. There is no running back and forth from one site to another, so we are saving a significant amount of time compared to the previous washout pit,” says Gelewski.

Since the self-contained, closed-loop, concrete reclamation and water handling system reuses the water, this

reduces the need for make-up water typically lost in ponds or pits.

“Our water usage is way down because we are reusing it. We are not wasting water to wash out the trucks only to have it evaporate or hydrate into the ground,” says Gelewski,

Additional savings accrue from eliminating any haul away and disposal fees for unusable materials, which must be excavated and removed from washout pits as part of routine maintenance.

“Now, we no longer need to have a washout pit or a pile of excess material on the side that we have to pay to truck out,” says Gelewski.

SEVEN-FIGURE HIGH SPEED WASHOUT SAVINGS POSSIBLE

When concrete plant executives add up the potential annual savings in truck and driver-related expenses, washout pit maintenance costs, reclaimed material, and the opportunity for increased revenue from extra deliveries, the boost

to the bottom line by switching to high speed, automated washout equipment can often total six or even seven figures.

“Altogether we are saving hundreds of thousands of dollars a year in driver’s time, truck time, and trucking material using a modern washout system,” says Gelewski. ■

DEL WILLIAMS is a technical writer based in Torrance, California. With over fifty years of industry experience both in the mining and concrete industries, Jadair International Inc. continues to be a leader in the design and development of the highest quality, most capable water clarification and concrete washout and reclaiming systems available. For more information, call 800.669.3411 or visit www.jadair.com.

THE UPDATED BIRD GETS THE WORM!



Stay up to day with the latest tips and news:

@modernpumpingtoday

@ModPumpMag





PUMP UP PRODUCTIVITY

WITH YASKAWA INDUSTRIAL AC DRIVES

MAKE THE COMPLICATED SIMPLE

You will get pumped up when you take a look at Yaskawa's family of industrial drives.

Industrial pumping systems are designed to handle an array of process control from minimum requirements to worst case conditions, many times with the same pumping system.

Yaskawa industrial drives save time and resources on installation and programming, while maximizing efficiency for peak energy savings and the return on your investment.

- Wide product range from 1/6 HP up to 1000 HP
- Induction, PM and synchronous reluctance motor control
- Support for all major industrial network communications
- Pump control features that maximize drive and pump life
- Mobile-friendly setup with optional Bluetooth keypad
- Programmable without main power supply connected

Need to optimize your industrial pumping operations?
Call Yaskawa today at 1-800-927-5292.



YASKAWA



Yaskawa America, Inc. 1-800-YASKAWA
For more info: <https://www.yaskawa.com/industrialdrives>



TIPS FOR SELECTING THE CORRECT PUMP FOR YOUR INSTALLATION

Choosing a pump for a sump and waste-management system is never one size fits all

BY JEREMIAH BRODIE, FRANKLIN ELECTRIC

For the professional installer, multiple factors need to be considered before choosing a pump, such as pump type, pump size, total dynamic head, and basin size, to name a few. If the homeowner has a high groundwater level and is prone to flooding due to spring thaw or heavy rain falls, you may want to consider a sump pump sized for higher flow or head pressure to move that water away from your home and valuables. Also, if your customer has an older home and a smaller basin, you may want to consider a pump with a diaphragm switch with no moving parts.

Read below to get additional details on three standard pumps found in residential properties in North America—and which one might be the right one for your job.



SUMP PUMPS

A sump pump removes standing water from the sump basin in a basement or crawlspace. A sump pump can also be used in other applications such as general dewatering, storm shelters, and emergency water transfer. Select sump and light effluent pumps can handle solids half inch or less, depending on the application.

For example, if you have a sump basin that has a gravel base you may run into small rocks or debris that may be loose and may be moved through the pump and out the discharge. With a sump/light effluent pump anything under a half inch will move down the line easily. Here are a few tips on selecting the best sump pump for your application:

PUMP CONSTRUCTION

Cast iron is one of the most robust materials for a sump pump housing. Cast iron is strong and corrosion resistant. Remember that cast iron, unlike other sump pump housings made of steel or cast aluminum, dissipates heat more effectively. To increase the longevity of the electric motor, it is better to keep it cooler. Cast iron will pull the heat away from the motor more efficiently. Another option for brackish water applications is a bronze pump housing. Bronze will withstand brackish applications more so

than cast iron, cast aluminum, steel, or thermoplastic.

SOLIDS HANDLING CAPABILITIES

A non-solid handling sump pump could clog the volute and prevent water from passing. At that point, the water in the basin will continue to rise and potentially cause damage to your home and valuables. If solids in the sump basin could pass through the sump pump, a semi-solid sump/light effluent pump should be considered. A sump/effluent pump with a half inch or less solids handling capability is recommended in this situation. There are also sump pumps with a screen on the bottom of the volute for nonsolid applications.

SWITCH TYPE

There are multiple switch options offered for sump applications. The most common sump pump switches are integral snap-action float switches, tethered float switches, and diaphragm (atmospheric pressure)

switches. Diaphragm switches are ideal for basins that include a primary sump pump and a battery backup system since no moving parts exist. Integral snap-action float switches are suitable for smaller-diameter sump basins since the switch moves vertically up and down. Tethered float switches may take up more room to allow the switch to swing out and turn on. Tethered float switches remain extremely popular in the industry for specific applications.

EFFLUENT PUMPS

Effluent pumps are used to move sewage gray water from one location to another. This pump type is most used in a septic system with an effluent chamber and drain field or mound system but can also be used for other situations that may need a pump for three-fourth inch solid handling capabilities. The capabilities of an effluent pump are not limited to one application. Septic systems are the primary use case

scenario for effluent pumps. Other areas we see these pumps used are for dewatering flooded loading docks and in the removal of water in elevator shafts. These pumps range in performance from high head to high flow applications. Here are a few tips to help you select the right effluent pump for your next jobsite:

PUMP SIZE AND SWITCH TYPE

Keep in mind total displacement head and the flow your job requires. Also, the most popular switch types for effluent pumps are tethered mechanical float switches, integral snap-action float switches, integral vertical float switches, and control panel operation with a manual pump.

PUMP CONSTRUCTION AND DURABILITY

The environment surrounding an effluent pump can be harsh. Make sure the pump you are using is up to the task. Cast iron housing construction will provide the durability to pump effluent gray

More than a Check valve
It's a Check-All®

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

UPSTREAM TRIM!
The upstream trim is protected from corrosive media mixing; thereby, extending valve service life.

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

And most lead times are less than one week. That's what makes our check valves Check-All®.

Proudly manufactured in the USA

Check-All VALVE

Order online at : www.checkall.com
Call us at 515-224-2301 or email us at sales@checkall.com

Proudly manufactured in the USA

water. In some applications, a cast iron impeller is another added durability option in harsh conditions.

SEWAGE PUMPS

Like effluent pumps, sewage pumps are used to move sewage from one place to another. Unlike effluent pumps, sewage pumps are used to move solids up to two inches in diameter. Sewage pumps are used in residential, industrial, or light commercial ejector applications, such as a below-grade bathroom where gravity cannot be used to move sewage to a septic tank or the city main.

Also, if you have applications where your sewage ejector is prone to clogging or binding from flushable wipes, rags, or any other objects that may not pass through the ejectors impellers, a grinder pump may be the solution for your system.

PUMP SIZE

Total displacement head, flow, and shut-off head are critical factors in how far your sewage ejector will move waste. Also, when selecting a sewage pump, consider how many water fixture units (toilets, sinks, etc.) produce waste that will be feeding the wastewater system. These pumps range in horsepower from 4/10 to vast horsepower offerings depending on residential, municipal, and industrial applications. Households with four or more residents may require up to a 2 horsepower sewage pump.

IMPELLER DESIGN

Vortex and non-clog impellers are common choices when choosing a sewage pump. Depending on TDH and flow, the end-user has options when selecting the correct pump for the job.

BASIN SIZE

For a typical residential installation, a minimum of an 18x30 inch basin is adequate. For systems requiring two sewage pumps (duplex systems), they will require a larger basin (a minimum of a 30-inch basin is suggested).

CHOOSE THE RIGHT PUMP

When evaluating the best pump for the job, performance curves can help you determine what type of pump will deliver the maximum amount of efficient pumping. Performance curves show the capacity of wastewater for which the pump can move. When selecting a pump, choose one that will operate in the middle of the curve for optimal performance.

Remember to ask yourself key qualifying questions when choosing



the correct pump for the job. What type of pump is required? What liquid is being pumped? Does the liquid have solids? What is the performance needed of this pump? How many pumps will be in the basin?

Answering these questions will ensure you choose the right pump for your application. ■

REPLACEMENT • REPAIR • RECOVERING



- **Manufacturer of the Muniflo Rotary Lobe Pump** (originally manufactured by Wemco since 1985)
- We also manufacture aftermarket pump parts for most models of Borger®, Vogelsang®, Lobeline®, Lobeflo® and Muniflo® Pumps
- Specialize in Rotary Lobe Pump Repair

Are you looking for obsolete LobeFlo® (SSP/MGI) pump parts? We are the answer!

Equi PUMP
www.equipump.com | www.muniflopump.com
 800-783-5623 | fax 800-693-5623 | info@equipump.com

JEREMIAH BRODIE is a business unit trainer for the Little Giant brand of Franklin Electric. Brodie started his journey in the plumbing industry as a third-party field service representative selling Franklin Electric Coleman (now Little Giant); he is dedicated to the success of plumbing and HVAC markets. He can be reached at jeremiah.brodie@fele.com. For more information, visit www.fewater.com.

MPT

WEBINARS

LEARNING FOR TODAY'S PUMP INDUSTRY, AT YOUR FINGERTIPS

Whether your work focuses on water and wastewater, chemical processing, or original equipment manufacturing, you need to stay up to date with the latest training. MPT's hosted webinars bring industry experts from leading companies to your computer and offer professional certificates for completion.



FOR MORE INFORMATION:

J. Campbell (jay@mptmag.com)
visit our website mptmag.com

MUNICIPALITIES TURN TO AI FOR EFFICIENCY

Smart water management technology is coming to a town near you BY CHARLES CHRISTIE, CATTRON

Even the smallest municipalities are benefiting from advanced automated water monitoring and analytics systems and a boost from AI is right around the corner.

SMALL TOWN, BIG TASK

With a population of approximately 352, the town of Abbott, Texas, is small, even when one considers that the average local jurisdiction population in the United States is only about 6,200. Regardless of its size, one thing that Abbott has in common with all other municipalities across the nation is the reality of maintaining its infrastructure on a finite budget.

When city officials were examining options for reducing costs by automatically monitoring the town's drinking water system, it quickly became clear that a full-blown

supervisory control and data acquisition (SCADA) system was not in the budget. However, Cattron, a company specializing in control and automation systems, had an alternative solution that could offer much of the functionality of a full SCADA system at a fraction of the cost.

REMOTE CONTROL

The company suggested the Abbott team explore Cattron's RemoteIQ Water, a purpose-designed system. RemoteIQ Water is an advanced cloud platform designed for the monitoring and control of applications like lift stations and water treatment plants. It delivers unmatched convenience and reliability without the high costs and complexities associated with implementing a full-scale SCADA system.

With RemoteIQ Water, operators can remotely monitor performance, receive alarms, and manage remote assets such as tank levels, line pressure, flow rates, and water quality from any location, using mobile devices, tablets, or laptops. The platform also offers comprehensive visibility into communication status, critical site events, and provides dashboards and reporting for an in-depth overview of operations.

RemoteIQ Water enables users to configure and send notifications via text, voice, and email, ensuring timely responses to any issues. Additionally, users can access both current and historical data and custom, automated operational reports to analyze trends and gain insights for improved decision-making.

Not only is RemoteIQ a fraction of the cost of a full SCADA system, but customers can pair it with Cattron's Aquavx remote monitoring hardware and then pay a monthly subscription fee, so there is no large, upfront expense for onsite servers, radio networks, or licensed software.

SCADA SCALED

Aquavx is a state-of-the-art wireless SCADA water system that performs remote monitoring, control, and alarm notification. Able to be tailored for medium-sized pump and lift stations, gas compressor stations, substations, and water and wastewater treatment plants, the solution offers unique flexibility and efficiency.



With Cattron's Aquavx ProPlus, there are no networks, engineering or third-party licenses to maintain.

Aquavx provides an array of fixed I/O provides comprehensive monitoring capabilities for virtually any type of sensor or system. Additionally, with fifty-eight Modbus RTU channels, the system seamlessly integrates with existing PLCs or Modbus sensors, enabling smooth data exchange and control.

“We were looking for a cost effective and reliable way to remotely monitor our water supply system,” explains Tony Pustejovsky, mayor of Abbott Texas. “Our systems integrator recommended the Aquavx product.”

GAINING AN ADVANTAGE

Since the implementation of Cattron’s RemoteIQ Water platform and Aquavx remote monitoring device, the town of Abbott has experienced significant improvements in the efficiency and management of its drinking water system. The six pumps, located at two water wells, are now monitored continuously, ensuring optimal performance and load sharing.

The RemoteIQ Water platform allows city officials to track pump cycles and run times, setting up alarms and alerts if any out-of-



Cattron’s RemoteIQ Water is a cutting-edge cloud platform that offers unparalleled convenience and reliability without the cost and complexity of implementing a full-scale SCADA system.

balance operation occurs. This proactive approach enables the town to address potential issues before they escalate, extending the life of the pumps and minimizing the risk of system failures.

With 24/7 monitoring and alert notifications, Abbott’s water management folks can respond

swiftly to any issues that arise. The ability to remotely control and override the automatic control of the pumps from a smart phone or tablet has been a game-changer, allowing the team to take immediate action when needed, without having to be on-site. This has greatly contributed to the overall efficiency of the system, preventing overflows and ensuring the water system remains uncontaminated.

The continuous statistics provided by the RemoteIQ Water platform on pump duty cycles and runtimes have also enabled the town to perform predictive analytics and schedule maintenance activities proactively. By monitoring the pump run times, the team can identify when a pump is due for servicing, reducing unexpected downtime and costly repairs. Additionally, the system alerts the team when duty cycles become unbalanced by a certain percentage, indicating the need for preventative maintenance.

“The ability to monitor, control, and maintain our system remotely from anywhere was a very attractive feature,” says Mayor Pustejovsky. “I’m optimistic that the city will benefit from additional efficiencies and increased uptime of all of the systems that supply water to our great community.”



Real-time data and insights are powered by the RemoteIQ Water cloud platform, and are available to Abbott 24/7.



The continuous statistics have also enabled the town to perform predictive analytics and schedule maintenance activities proactively.

SECURE IN THE KNOWLEDGE

With the increasing connectivity of SCADA systems in municipal and industrial markets, security measures are crucial to prevent unauthorized access and protect against cyberattacks. Cattron's RemoteIQ applications, incorporate robust data hardware security protocols, ensuring that connected systems remain secure and compliant with industry cybersecurity standards.

Cattron's SCADA solutions employ data security technologies such as Transport Layer Security (TLS) to ensure data is highly encrypted between the device and cloud. Once the data is in the cloud, it is securely stored according to ISO 27001 standards, protecting it against unauthorized access. Service Organization Control 2 (SOC-2) and Multi-Factor Authentication (MFA) ensures secure access to the RemoteIQ portal. These and other measures ensure consistent service availability, maintain data integrity, and protecting confidential information, all while complying with privacy regulations. These comprehensive security protocols ensure that Cattron's systems provide reliable and secure solutions for managing critical infrastructure.

SMARTER WATER MANAGEMENT

The promise of AI in municipal water management is becoming more

tangible as Cattron advances its technology. Historically, IoT platforms and remote monitoring systems have excelled at collecting vast amounts of data from field sensors and machines. However, the challenge has been transforming this raw data into actionable insights.

Cattron's AI and machine learning initiative will be bridging this gap by leveraging the collected data for advanced analytics, turning it into a valuable resource for municipalities. Central to these advancements is the concept of predictive analytics.

Cattron has begun implementing sophisticated AI models that analyze trends and predict potential issues, like subtle pump cavitation vibrations, signaling possible problems before they turn into pump failures. This approach will not only enhance operational efficiency but will also allow access to advanced analytics for small and medium-sized municipalities, which traditionally could not afford such technology.

Moreover, the aggregation of data across various systems will provide significant benefits beyond individual municipalities. By collecting continuous machine data, Cattron will offer valuable insights to equipment manufacturers for improving their products and warranty terms.

This aggregated data can also guide municipalities by showcasing best practices from other similar-sized towns, enabling them to implement strategies that have been proven successful elsewhere. The future of AI in municipal water management promises not just efficiency but a collaborative improvement for large and small municipalities alike. ■

Cattron is revolutionizing the way industries control and monitor their operations. As a global leader in radio remote control, engine and generator control panels, and cloud-based monitoring and control solutions, Cattron offers a diverse range of products and services that deliver unparalleled efficiency, productivity, and safety benefits. For more information, visit www.cattron.com.

TUF-LOK[®]
PIPE & TUBE COUPLINGS

- Self-aligning
- Self-grounding
- Stainless or mild steel
- Low cost
- Reusable
- Externally leakproof
- High pressure rated
- Full vacuum rated



Tuf-Lok International
Phone: +1 608.270.9478
Email: info@tufflok.com • www.tufflok.com

SWITCH TO TEMPERATURE RESISTANT HITEMP 160 PUMP WEAR RINGS & BEARINGS



VESCONITE
www.vesconite.com
vesconite@vesconite.com



MOTOR TEMPERATURE SENSORS

IN STOCK AND READY FOR SHIPMENT!

RTDs Thermocouples Thermistors Thermostats

FOR STATORS

FOR BEARINGS

STICKS



RIBBONS



THERMISTORS



THERMOSTATS

ANTI-CONDENSATION
SPACE HEATERS

TEMPERATURE
MONITORS

ASSEMBLIES



PROBES



EMBEDMENT



MOD-TRONIC

STOCKING DISTRIBUTOR OF **MINCO**
SENSORS, HEATERS AND CONTROLS

www.RewindSensors.com | 1.800.794.5883

LOWERING MUNICIPAL WASTEWATER TREATMENT PUMP MAINTENANCE TIME AND COSTS

Correct initial design will extend the progressing cavity pump's life: Part 1 of 2

BY JEFFREY BYE, NETZSCH PUMPS USA

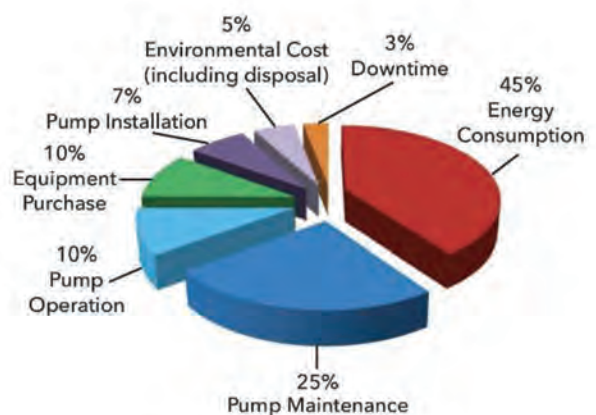


Figure 1
Typical pump life cost profile

Lowering maintenance costs and extending wastewater treatment pump product life is a key concern of any operator. Here we review some design considerations that contribute to lowering costs for progressing cavity pumps in wastewater treatment plant applications, including speed, drive configuration, sealing options, joint types, and piping systems. We also discuss pump configuration options that can contribute to cost reductions or minimize maintenance.

TABLE 1 - WASTEWATER TREATMENT PLANT PROGRESSING CAVITY PUMP APPLICATIONS
Pump stations
Raw sewage, wastewater
Primary and secondary sludge
Return activated sludge (RAS)/waste activated sludge (WAS)/thickened waste activated sludge (TWAS)
Heat exchangers, digested sludge
Sludge dewatering feed
Lime/carbon slurry
Chemical transfer and metering
polymers, flocculants, and precipitants
FOG (fats, oils, grease) receiving
Septage/sludge receiving
Dissolved air flotation (DAF), scum
Biogas, biomass, anaerobic/aerobic digestion
Sludge cake, dewatered sludge

DESIGN IS FUNDAMENTAL TO CONTROLLING COSTS

Table 1 is a summary of the wide variety of potential wastewater treatment plant pump applications. Picking the right design for the specific application is critical for ensuring the pump (and the overall system) is going to operate properly. This will in turn be the major influence on the overall cost of ownership (COO).

Much of the cost is determined by the initial system design and pump technology selected. A common rule of thumb suggests that about 80 percent of overall equipment life costs (maintenance, operation, and Energy consumption) has to do with the initial design of the overall plant and process equipment/pumps used. In other words, whatever is designed comes with a set amount of fixed costs. Therefore, selecting the right equipment (in terms of size, technology, and options/features) will have a major effect on costs; selecting the wrong equipment will result in higher costs and more downtime. Another 10 percent goes to environmental costs (disposal), installation, and downtime. This leaves approximately 10 percent for the initial purchase of the pump.

There are several progressing cavity (PC) pump configurations that can be used for these applications. Each has advantages and disadvantages, and some are more appropriate than others for a particular application. PC pumps can run a long time without service, but when needed, the service required can depend on the design and options selected for the pump. Joints, access windows, type of seal, stator design, rotor materials and coatings, bearings, and ancillary equipment around the pump impact service. Ultimately the pump needs to be designed for minimal and easy servicing.

When one examines the total cost of ownership, including the initial cost of purchase, the electricity used, parts, and maintenance, what looks like a lower cost option may actually end up being the higher cost option. Reduction of service frequency, reduction of required pump parts, and easier, faster serviceability are critical attributes for pump selection. Focusing on these particular areas and spending a little bit more money upfront, will pay dividends.

PUMP DESIGN CONSIDERATIONS

Most operators will work in collaboration with an engineering firm to select and size the right equipment. Keeping in mind that the correct design is important for reducing costs, operators should consider the following factors when selecting a PC pump. Each one has its own positive and negative impact.

Speed

The faster you run the pump, the faster it will wear and the more frequently service will be needed. In other words, greater speed = exponential wear. However, a fast pump usually means a smaller footprint and lower upfront cost (but you pay on the back end with more repairs). Slower is usually better for most applications.

Drive Configuration

The key issue is how much space is available for the pump. PC pumps are long in nature. Adding a bearing frame adds more length, but provides a robust drive shaft supported by independent bearings to handle the thrust load of the pump. This is the force (axial load) pushing the opposite direction from flow across the centerline of the pump. This is essentially what the pump undergoes as it pumps against the system backpressure. Whereas the direct drive is shorter and for low pressure and is sufficient for many applications.

Typically bearing frames are used when the need for high pressures exceeds direct drive capabilities, when the desire for easier servicing is required, or when a belt configuration for space restraints is preferred. Piggyback/overhead or L-shaped bases can shorten the installation footprint. Vertical mounting of the pump can also accommodate limited space.

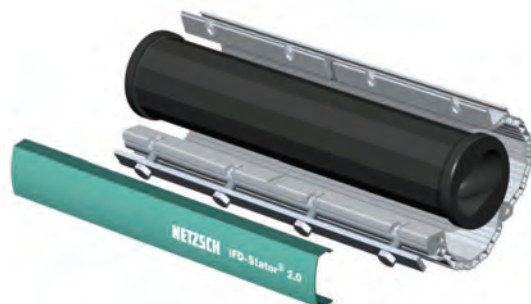


Figure 2: iFD-Stator® 2.0.

Viscosity

The thickness of fluid limits the pump speed, suction, discharge piping ID, and pipe length from the pump by significantly influencing the design and the pressure losses of the system. This affects the suction side or the NPSHa (net positive suction head available) for the pump. Pumps have a specific amount of head pressure required to operate correctly. Otherwise, the result is cavitation and potential failures.

Pump Rotor and Stator Geometry

For the most part, two geometries dominate the various applications. For simplicity's sake, we will call them low flow/high pressure and low pressure/high flow. Both have their own inherent ratings for NPSHr (net positive suction head required) based on the pump's internal design. There are other geometries that can provide higher flow at higher pressures and another for higher flow at lower pressures. Typically, you trade off flow for pressure and vice versa.

Number of Stages

The maximum discharge pressure and ultimately the pump rating per stage is determined by the number of stages. Typically, each stage is rated for 90 psi (6 bar). Therefore, two stages would be rated for 180 psi (12 bar) and so on. Adding more stages for a given rated pressure divides the pressure affecting each stage. More stages equals lower pressure per stage and allows for longer life. With most applications in WWTPs, there is abrasion. Abrasion comes from grit and other inorganics (as well as some organics), that cause wear over time on the pumping elements. This wear is to be expected; it is normal to de-rate the pressure per stage due to the amount of anticipated wear. For example, pumping polymer is very lubricating, has no abrasion factor, and can be rated for the maximum capability of the pump. As another example, 1-2 percent sludge may only be derated by 20 percent per stage (90 psi x 80 percent = ~70 psi) making the rated discharge pressure 70 psi or less. Finally, if you were to pump cake (20 percent or higher), each stage would need to be derated to 50 percent or more.

Stator Design

The design of the stator can help facilitate faster and easier replacement. Each stator inherently uses compressive forces in the design that compresses around the outside of the rotor; which in turn creates the sealing line of the pumping elements. These compressive forces are what make the pump work. However, they also make it harder and more time consuming to replace the stator with a new one.

A new stator requires a great amount of force to install. Netzsch offers a time-saving stator replacement option. The iFD-Stator® design allows for the compressive forces to be released/removed during installation (and removal).



Figure 3: FSIP® Pump Design with the XLC® Stator Adjustment Unit.

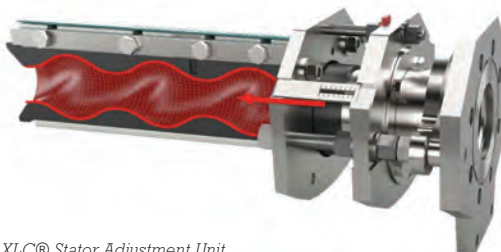


Figure 4: XLC® Stator Adjustment Unit.

Unbolting the compressive shell releases the axial and radial compression of the stator on the rotor. This allows for the new stator tube to slide on with relative ease and then be clamped down without the need for extra turning forces (see figure 2).

Money-saving stator adjustments can also compensate for wear, using compression to re-establish the stator sealing line, increasing operational life and bringing the stator back to factory performance. The process can extend stator life of up to six times. This is a boon to operators, who would otherwise have to take the pump out of service, shut down the entire process, and lose all the revenue from that train. While standard stator replacement may take as much as six hours, with the Netzsch xLC® (stator adjustment device) attached to a pump, it takes less than two minutes (while pumping or not) the stator can be easily adjusted/tightened to renew the performance back to factory standards (see figures 3 and 4).

A LOOK AHEAD

In next month's conclusion to this series, we'll take a deep dive into the various materials of construction compatibility as well as concerns over solids handling and fluid media size. We'll conclude with a detailed examination of serviceability option. ■

JEFFREY BYE is municipal director for Netzsch Pumps USA. The Netzsch Group is an owner-managed, international technology company with headquarters in Germany. The Netzsch business units Analyzing & Testing, Grinding & Dispersing, and Pumps & Systems represent customized solutions at the highest level. More than 4,000 employees in thirty-six countries and a worldwide sales and service network ensure customer proximity and competent service. For more information, visit www.netzsch.com.



BUILT FIRST. BUILT TO LAST.



Chopper

When the going gets tough, turn to the toughest pump on the planet. Since 1960, the unrivaled Vaughan Chopper Pump has been on the cutting edge. This original chopper pump was built first and made to last in any application, including:

- Municipalities
- Housing Developments
- Pulp and Paper Mills
- Hospitals
- Prisons
- And more

*Choose the unmatched reliability of Vaughan.
Ask about our free trial program and on-site demos.*



weftec
the water quality event™

**OPERATIONS
CHALLENGE**

SEE US AT WEFTEC BOOTH #3717

GUARANTEED PERFORMANCE | EXPEDITED DELIVERY | ELIMINATES COMMUNITORS

888-249-CHOP | CHOPPERPUMPS.COM

THE ADVANTAGES OF EXTERNAL DIGESTER HEATING



External digester heating has a number of benefits over internal systems.

Thinking outside the box (and the digester) to improve performance

BY YENNI MAELIANAWATI, HRS HEAT EXCHANGERS

Conventional wisdom is to locate digester heating systems on or around the floor of the main digester. While this results in good initial heat transfer and creates thermal currents in the digestate to assist mixing, the accumulation of sediment quickly diminishes these

properties and regular cleaning is necessary to maintain satisfactory performance with such systems. In some cases, heating units have actually been incorporated into the concrete walls or floor of digesters adding to the potential problems and expense should something go wrong.

AN OUTSIDE VIEW

The solution is to locate the heating unit outside of the digester, an approach that is not new. One of the earliest uses of an external heater and heat exchanger for a digester dates back to 1946.

Since then, external digester heating based on heat exchangers



has been used successfully in AD plants around the world. Over the years the design of heat exchangers has improved considerably and is epitomized by the HRS DTI Series of corrugated tube heat exchangers which are ideally suited for the external heating of digester fluids and sludge—and which have been successfully used in a number of such applications.

EASY ACCESS

The biggest advantage of external heating is that it can be checked, cleaned, or serviced at any time without the need to empty (or enter) the digester, a process that is both costly and potentially dangerous. However, there are a number of other benefits, including the fact that external systems can be designed so that one heat exchanger array heats more than one digester.

Also, the improved thermal performance reduces heating

requirements and improves the overall energy efficiency of the AD plant. Where units are constructed of materials such as stainless steel, operating life is considerably improved compared to internal heating units, and routine maintenance is straightforward.

STRENGTH IN NUMBERS

The HRS DTI Series is a true counter-current heat exchanger, meaning that the product flows through the inner tube and the service fluid flows through the surrounding shell. HRS's corrugation technology increases both heat transfer and efficiency over standard smooth tube heat exchanger designs and minimizes fouling, and important consideration when dealing with materials such as digester sludge. Multiple units can be interconnected and have the options of frame mounting, insulated, and clad in stainless steel. ■



HRS has installed several external digester heater systems at AD plants using its DTI Series of corrugated tube heat exchangers.

Located in Georgia, HRS Heat Exchangers is part of the EIL Group (Exchanger Industries Limited) which operates at the forefront of thermal technology. HRS offers innovative heat transfer solutions worldwide across a diverse range of industries. With more than forty years' experience in the anaerobic digestion and biogas sector, specializing in the design and manufacture of an extensive range of turnkey systems and components, incorporating our corrugated tubular, and scraped surface heat exchanger technology, HRS products are compliant with global design and industry standards. For more information, visit www.hrs-heatexchangers.com.

MASS-VAC, INC.

MV MULTI-TRAP VACUUM INLET TRAP

A line of high-capacity vacuum pump foreline traps for silicon solar cell processing including CdTe and CIGS that can help prevent premature pump failures has been introduced by Mass-Vac, Inc.

PROTECT PUMPS FROM PARTICULATES AND VOLATILES

The MV Multi-Trap Vacuum Inlet Trap combines several trapping methods and multiple stages to condense, absorb, and neutralize process byproducts that generate particulates, volatiles, organic solvents, and acids. Ideally suited for silicon solar cell processing equipment, the trap's first stage is a 200 square inch baffle shield surrounded by 3/8 inch I.D. cooling coils for condensing volatile solvents and chemicals on a large cooled surface.

ADAPTABLE AND DURABLE

Featuring user-selectable filter elements to address specific processes, the MV Multi-Trap Vacuum Inlet Trap is capable of up to 2,500 cubic inches of solids accumulation and is offered with a solid stainless steel knock-down stage instead of a water cooled baffle shield. Available filter elements include activated alumina or charcoal, SS- and copper-gauze, Sodasorb and other types of to remove residual solvent vapor acids and particulates. ■



For more information, visit

WWW.MASSVAC.COM

SHIMADZU SCIENTIFIC INSTRUMENTS

LCMS RX TRIPLE QUADRUPOLE MASS SPECTROMETRY INSTRUMENT

The LCMS RX instruments ensure robust and efficient performance under challenging conditions. Enhanced software capabilities autonomously monitor the system, reducing the need for manual intervention. Furthermore, the Performance Concierge proactively evaluates system performance with a standard solution, troubleshoots problems and notifies operators of maintenance needs, effectively minimizing instrument downtime. For more information, visit www.ssi.shimadzu.com



RUSSELECTRIC

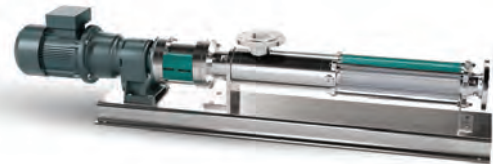
SYSTEM CONTROL UPGRADES FOR CRITICAL POWER EQUIPMENT

These new upgrades are a cost-effective alternative to equipment replacement. By upgrading, customers can experience improved performance and capabilities, updated systems with the latest technology, and a prolonged lifespan for their mission-critical equipment. Additionally, maintenance requirements are decreased, and serviceability is improved. Russelectric Field Engineers conduct these upgrades, ensuring professional and efficient service. All work is backed by the Russelectric warranty. For more information, visit www.russelectric.com

NETZSCH PUMPS & SYSTEMS

NEMO MY MAGNETICALLY COUPLED PUMP

Netzsch announces the Nemo MY Magnetically Coupled Pump, an innovative pump designed to meet the most demanding requirements of industries requiring leak-free pumping solutions. It is ideal for use in chemical, pharmaceutical, paint, and food applications to convey highly viscous product. While mechanical seals are widely used and are a proven method of preventing leakage in pump systems, the failure of a mechanical seal system leads to a seal leak. The Nemo MY Magnetically Coupled Pump features a hermetically sealed design, eliminating the risk of leakage. For more information, visit www.netzsch.com



YASKAWA AMERICA

GA800 AC DRIVE

Yaskawa's GA800 variable speed drive has proven itself as the ultimate combination of power, ease of use, flexibility, and performance. Designed to control traditional and emerging motor technologies, the GA800 handles applications ranging from simple fans and pumps to high-performance test dynamometers requiring precise regulation. In addition to its robust and powerful design, the GA800 provides highly flexible network communications, embedded functional safety, and easy-to-use tools featuring mobile device connectivity. For more information, visit www.yaskawa.com

AI THAT DESERVES AN “OVATION”

Emerson's Bob Yeager on an innovative tool for power and water industries



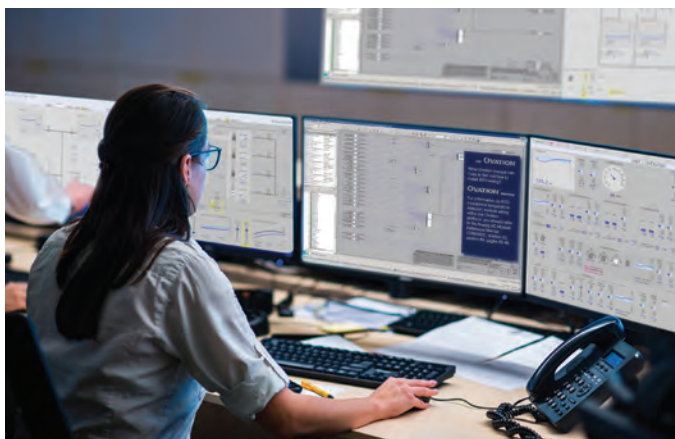
As part of its release of the Ovation 4.0 Automation Platform, Emerson is adding transformative generative artificial intelligence (GenAI) that will enhance data to inform decisions, helping power and water companies accelerate growth, improve

efficiencies, and drive more predictive, reliable, and resilient performance to their operations. Below, Bob Yeager, president of Emerson's power and water business, highlights some of what this transformative technology can offer.

MPT: *How did you recognize the need for generative AI in the latest Ovation rollout?*

BOB YEAGER: With the digital transformation of the power and water industries, utilities and municipalities now have vast amounts of rich production, reliability, safety, and sustainability data for their operations—yet much of it is fragmented and siloed. Operators require a modern, future-proof computing environment that can confidently mine large and complex data sets and harness the power of GenAI for better, more efficient operational insights.

Emerson's Ovation 4.0 Automation Platform with integrated and dedicated GenAI deployment, trained on a



secure foundation of knowledge-based data, will augment workforce expertise and thought processes to enhance productivity by prioritizing and automating tasks. The platform will provide predictive guidance and recommend appropriate actions to increase reliability, improve customer experiences and optimize overall operations.

MPT: *How will this addition benefit Ovation users?*

BOB YEAGER: While global power operators are experiencing unprecedented demands, we are also on the precipice of technological advances that will forever change how we and our customers work. The digital revolution is generating so much valuable data that our Ovation Automation Platform with GenAI can harvest to create accessible, usable insights to inform smarter and more timely action.

Through its AI-based capabilities, the new platform will help support workforce empowerment; remote operations; reliable, continuous operations; grid optimization; and security. Initially released on Microsoft Azure's OpenAI service, the Ovation GenAI will also be available on other large language models that rely on closed, proprietary, and secure data sets.

MPT: *Do you see AI as a tool that's here to stay? What does the future hold for these systems?*

BOB YEAGER: Today's most forward-thinking power and water companies will use our new Ovation 4.0 Automation Platform with GenAI to help sort through their vast amounts of data. By contextualizing data from the intelligent field, edge, and cloud to make better, safer decisions, this technology will enable what we call “Boundless Automation,” breaking down data silos to liberate data and unleash the power of software. ■

Emerson announced its new Ovation GenAI today at its annual Ovation Users Group Conference in Pittsburgh. Emerson is a global technology and software company providing innovative solutions for the world's essential industries. For more information, visit www.emerson.com.

Pumps 2000

Innovation & Excellence

The Lightweight Dual-Diaphragm Pumps that Outperform and Outlast the Competition

- *Less downtime and maintenance – Pays for itself*
- *Low noise levels*
- *Lower air consumption – Saves on energy costs*
- *Lightweight*



3" Ball Valve



Designed for abrasive, solid-laden and corrosive fluids and to create an alternative to heavy, maintenance-intensive diaphragm pumps.



ATEX
Certified



**ASK ABOUT OUR
TRIAL PROGRAM**

SULZER

Need BABA-Compliant Pumps & Sulzer Reliability? Brad's Got Your Back.

Meet Brad, one of the technicians building Sulzer's BABA-compliant pumps at its newly expanded production facility in Easley, South Carolina. He's part of a team dedicated to providing US-made pumps of the highest quality and with significantly reduced lead times to support vital water infrastructure in America.

When pump reliability and quality matter as much as delivery without the wait, trust Sulzer.

Learn more about Sulzer's BABA-compliant equipment
sulzer.com/baba

Visit us at
WEFTEC,
Booth #6139

