

The background is a complex technical drawing in white lines on a blue gradient. It features various mechanical components such as pipes, valves, flanges, and a large globe in the upper right corner. The drawing is dense and detailed, typical of engineering schematics.

MPT

Modern Pumping Today®

DIGITAL EDITION



visit us at dynamatic.com

MAY 2022

MPT

MODERN PUMPING TODAY®

PROVIDING SOLUTIONS FOR THE WORLDWIDE PUMP INDUSTRY

10 **MPT**
years

WASTEWATER PLANTS EMBRACE AUTOMATION

DIGITAL SOLUTIONS OPTIMIZE
OPERATIONS AND ENERGY USE

INDUSTRIAL DATA AT YOUR FINGERTIPS

ADVANCED TOUCHSCREEN
THE LEADING CHOICE FOR
PUMP APPLICATIONS

WHAT IS THREE MINUTES OF MOTOR TESTING WORTH TO YOU?

THE RIGHT EQUIPMENT
CAN SAVE TIME AND MONEY

WWW.MPTMAG.COM

Vaughan
Uninterrupted Reliability

IT'S PRIME TIME
SEE DETAILS INSIDE ▶

Industrial components fast
at a price you can afford!



Strong brands available at automation24.com



See what our customers are saying:
Excellent 4.9 out of 5 ★ Trustpilot

“ Easy to use website,
great price, and quick
FREE shipping. ”

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

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





Making it easy to get what you want

Let's face it, there's never a good time for failed equipment, especially when it's preventable. Clogged pumps lead to downtime and downtime leads to frustration, to say the least. With thousands of installations solving clogging issues, the XFP submersible pumps, utilizing the Contrablock Plus system, have proven themselves to prevent problems before they even start. With superior solids and rag handling and lower maintenance costs for long-term reliability, the choice is easy when it comes to replacing your failing equipment.

And to make it even easier, the XFP is available with a wide range of competitor retrofitting solutions for drop-in replacements, saving time and costly rehabilitation of a pump station. From retrofit brackets to controls to custom solutions, Sulzer makes it easy to get what you want. Don't you think it's time for change?





18

A NOTE ON THIS ISSUE:

Welcome to the May issue of MPT! In our Water & Wastewater Focus section, ABB's Katariina Hietaranta explains how, for wastewater plants, the time is right to move toward greater digitization, efficiency, and the benefits of automation (pg. 18). To assist with these goals, we take a closer look at the ABB Ability Smart Solution for Wastewater, the first in a family of digital solutions designed to optimize operations and reduce energy consumption in the water sector.

Also, human machine interface, or HMI, has become the new standard in industrial monitoring and controls, and IDEC Corporation has recently expanded its HMI product line to meet the need. Linda Htay shows readers how her company's advanced technology touchscreen makes it a leading choice for many applications (pg. 22).

Finally, having the right equipment can save time and money for motor technicians. In an insightful contribution to our Motor Solutions section, Richard Scott of All-Test Pro asks, "What Is Three Minutes of Motor Testing Worth to You?" and the answer might surprise you (pg. 34). Enjoy!



J. Campbell, Editor
Modern Pumping Today

EDITORIAL ADVISORY BOARD:

TERRY BELL Product Manager, ABB

HEINZ P. BLOCH, P.E. Consulting Engineer, Process Machinery Consulting

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

P.O. Box 660197 | Birmingham, Alabama 35266

J. CAMPBELL Editor

jay@mptmag.com

TONYA BROWNING Vice President

tonya@mptmag.com

JEFF FLETCHER National Sales Manager

jeff@mptmag.com

LISA AVERY Art Director

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

312 Lorna Square | Birmingham, Alabama 35216

TIM GARMON

CEO

RUSSELL HADDOCK

President

CHRIS GARMON

CFO

DONNA CAMPBELL

Vice President, Editorial

TONYA BROWNING

Vice President

No part of this publication may 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

We are SCHENCK USA

- BALANCING



- CNC TOOLING TECHNOLOGY



- SPIN TESTING



- AUTOMOTIVE FLUID FILL



- APPLIANCE FLUID FILL



- TESTING - END OF LINE



SCHENCK
Passion for Balancing

Test Devices
by SCHENCK

AGRAMKOW

BENZ
TOOLING

DÜRR

LEADING IN PRODUCTION EFFICIENCY

schenck-usa.com

1(800) 873-2352

sales@schenck-usa.com

CONTENTS

INDUSTRY NEWS

What's happening in the industry 6

SWPA

Submersible pumps smarten up 10

As IIoT expands, pump users need to keep pace

CASE STUDIES

Ensuring high gas yield from a waste plant 12

Weltec commissions its fourth biogas plant in Japan with a focus on safety and production

When gas power meets green power 14

GE-powered heating plant adds 500 sustainable megawatts in South Korea

WATER & WASTEWATER FOCUS

Wastewater plants embrace automation 18

Innovative digital solution reduces energy use and optimizes operations

MAINTENANCE & RELIABILITY

Measuring the quality of liquid processes in real time 20

Improved quality control means less waste, more efficiency, bigger savings

Industrial data at your fingertips 22

Advanced technology touchscreen makes this HMI a leading choice for many applications

PUMP SOLUTIONS

Technology and know-how to pump extreme flood water 26

Ekki's dewatering technologies support India's effort to combat historic rainfall

Affordable even at higher flow rates 28

New Ecosmart pump sizes combine low purchase cost with high performance

America's largest dredge takes shape 32

DSC Dredge and Muddy Water Dredging work to bring massive project to the water

MOTOR SOLUTIONS

What is three minutes of motor testing worth to you? 34

The right equipment can save time and money for motor technicians

SEALING SOLUTIONS

Gas turbine power generation gets a boost 38

Sundyne BMC process gas compressors increasingly deployed as gas boosters in co-generation power plants

MODERN PUMPING PRODUCTS

SEPEX 40

Smart Conveying Technology

EFFICIENCY POINT

In times of crisis, reliability counts more than ever 44

Anoosheh Oskouian on pandemic challenges, pollution abatement, and performance standards



14



18



20



38



40



Reliable Solutions For All Your Gas Detection Needs

Single Gas • Multi Gas • Pumps • Accessories

gasclip
technologies

Portable Gas Detectors You Can Count On
gascliptech.com +1.972.775.7577 1.877.525.0808

Come see us at these
upcoming trade shows:

ASSP Safety Conference & Expo (June 27 - 29)
VPPPA Safety+ Symposium (August 23-25)
NSC Safety Congress & Expo (September 19-21)

ENDRESS+HAUSER BROADENS ITS MOBILE CALIBRATION SERVICES

Endress+Hauser expanded its on-site calibration offerings by adding three additional mobile calibration rigs to the existing fleet, making a total of nineteen rigs that service Endress+Hauser and third-party instrumentation including flow, pressure, and temperature. All Endress+Hauser authorized sales and service representatives across the United States are equipped with mobile calibration capabilities, with over sixty trained and certified calibration technicians.

"Endress+Hauser's network of experienced and certified technicians, along with our mobile rigs, enable our customers to work with a local partner who knows you and what you need," says Lory Stobart, national service operations manager. "This gives the flexibility of offering a calibration solution that is customer-driven, reducing costs for our customers year after year, while meeting quality and audit requirements."

With services that are ISO 17025 accredited, Endress+Hauser can ensure both quality and efficiency when calibrating instruments. On-site services provide end users and customers with a direct connection to technicians, mitigating confusion and downtime. The mobile calibration rigs also eliminate the need to send in instrumentation, creating faster turnaround times.

BECHTEL LAUNCHES NEW MANUFACTURING AND TECHNOLOGY BUSINESS

Bechtel, a global leader in engineering, construction, and project management, announces the formation of its new manufacturing and technology business to address growing customer and market demands for engineering, procurement, and construction services in the semiconductor, electric vehicle, synthetic materials, and data center sectors.

"Bechtel is embracing the challenge of developing resilient supply chains for the world's most advanced technologies," says Brendan Bechtel, the company's chairman and CEO. "The manufacturing and technology business will design, build, and integrate the complex components that make up these facilities and deliver solutions quickly to market."

Extraordinary challenges exist in the construction of advanced facilities, and Bechtel's experience and expertise make the organization uniquely positioned to respond to these critical needs.

"Differentiated by our ability to design for rapid advances in technology and deploy best-in-class construction innovation, Bechtel manufacturing and technology helps customers realize their ambitions in the next generation of manufacturing," says Catherine Hunt Ryan, president of the manufacturing and technology business.



**CUSTOMIZED
SUBMERSIBLE MOTORS**

Sun-Star Electric, Inc.
is the worldwide distributor for Hitachi submersible motors. We are also fully equipped to design and manufacture a custom submersible motor for your specific project. Sun-Star's signature line of oil and water filled motors are built to meet your exact requirements. Put our 40+ years of experience to work on your next submersible motor project.

Sun-Star Electric, Inc. 888-SUN-STAR/800-782-9675
sales@sunstarusa.com www.sunstarusa.com



XP2F

A non-intrusive flow metering and data acquisition solution for new and existing valves.

 www.cla-val.com 

NOT ALL PARTS ARE CREATED EQUAL.

WHEN YOU NEED THE MOST RELIABLE PARTS IN THE INDUSTRY, ASK FOR GORMAN-RUPP OEM REPLACEMENT PARTS.



Look for the mark for unmatched reliability!

When a pump goes down, we understand that time is money. That is why we have invested our time and money into ensuring a complete inventory of Gorman-Rupp OEM pumps and parts is always in stock.

When you place an order for one of our 60,000 parts, we ship it directly from our inventory within 24 hours, 99% of the time. That is service you can count on.

➤ Call Gorman-Rupp at **419-755-1011** or visit **GRpumps.com** to find a distributor near you.

GOR
GORMAN-RUPP
PUMPS

The Pump People®

TSURUMI PUMP ANNOUNCES NEW REGIONAL SALES MANAGER FOR THE SOUTHWEST

Tsurumi Pump announces Slater Blanchard as its new regional sales manager for the Southwest. Blanchard has held general manager positions at several pump companies in the past.

He also has had experience with pumps manufactured by Tsurumi, and mentioned his positive experiences with product durability. Blanchard says he is passionate about the pump industry and is eager to work for a reputable manufacturer such as Tsurumi.

Blanchard joined Tsurumi in March of 2022. As regional sales manager, Blanchard will oversee pump sales for the Southwest, source equipment and materials, and work with distributors to maximize efficiency and customer support in the region. He will be visiting distributors for lunch and learns, attending trade shows, and visiting job sites in the region to provide technical expertise. With nearly twenty years of experience in the industry, Blanchard will bring valuable expertise to Tsurumi.


"People still like to do business with people," Blanchard says. "I'm looking forward to helping Tsurumi customers find solutions to their unique challenges. I also learn a lot from these experiences and that helps me consult with a variety of companies. I'm looking forward to this new chapter."

THE WATER TOWER INNOVATION HUB CELEBRATES GRAND OPENING ON EARTH DAY

Water professionals from across the country came together on Earth Day to celebrate the grand opening of the Water Tower, a water industry innovation center in Gwinnett County, Georgia. The \$33.7 million campus is a hub for water utilities, researchers, companies, and ground-breaking advancements to solve critical water and environmental challenges.

Born out of the pioneer spirit of Gwinnett County leadership, the Water Tower initiative launched in 2019 with the creation of two nonprofit organizations, The Water Tower at Gwinnett and the Water Tower Institute. Through the campus, educational programs, and a broad network of partners and collaborators, the Water Tower aims to provide real-world solutions for water utilities and help the public gain a better understanding of the resources and professionals needed to support clean water in our communities. In addition to R&D and innovation, another area of focus is education, with the goal of encouraging students of all ages to explore learning opportunities and careers in STEAM.

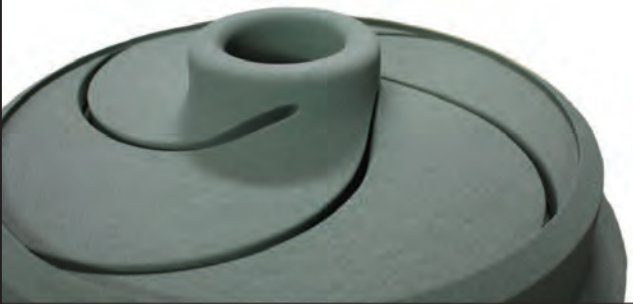
"We are thrilled to see this vision become a reality," says Melissa Meeker, CEO of the Water Tower. "With the opening of this campus, water utilities across Georgia and beyond have access to the latest solutions and workforce training to advance their essential services." ■



Fast Turnaround on Pump Components
with printed sand molds and cores

- True Design Freedom
- Reduced Lead Times
- Print Directly from CAD Files

Integrated Foundry Solutions



hoosierpattern.com | 260.724.9430



HIGH CAPACITY INDUSTRIAL DEHUMIDIFIERS

NEW - NOW WITH SMARTPHONE INTERFACE



Download the App

CALL FOR FAST FRIENDLY FREE ADVISE !

Ebac Industrial Products Inc

East Coast Office
700 Thimble Shoals Blvd, Suite 109,
Newport News, VA 23606-2575
Toll Free 1-855-873-6800

West Coast Office
2060 Chicago Ave, Suite C7,
Riverside, CA 92507
www.ebacusa.com



ANUE

WATER TECHNOLOGIES

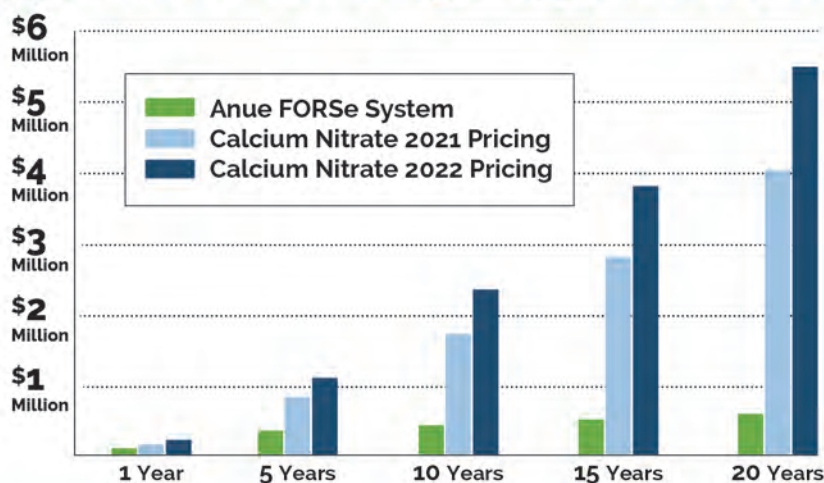
H₂S CORROSION

BETTER FORCE MAINS, LOWER COST

Use of nitrates leads to higher costs and will not prevent damage from corrosion. ANUE Water's FORSe® Oxygen Technology provides best in class performance.

ANUE FORSe® System Economics vs Calcium Nitrate

\$5 Million in Savings • \$3 Million NPV



ANUE

WATER TECHNOLOGIES

sales@anuewater.com

www.anuewater.com
760-727-2683



Industry 4.0 products, such as the Flygt Pareo, upgrade existing equipment with advantages of smart technology.

SUBMERSIBLE PUMPS SMARTEN UP

As IIoT expands, pump users need to keep pace

BY SWPA EXECUTIVE DIRECTOR ADAM STOLBERG AND RANA ELBITTIBSSI, XYLEM/FLYGT

With the accelerated rate of technological change in the industrial sector, the industrial internet of things, or IIoT, has become standard operating procedure across myriad applications, including those involving submersibles. In the conversation that follows, SWPA Executive Director Adam Stolberg and Rana Elbittibssi, P.Eng., M.Eng., regional products manager for Xylem/Flygt, discuss the expanding role of automation, smart devices, real-time data collection, and AI as tools to improve the efficiency and performance of submersible pumps.

WHAT ROLE DOES IIOT PLAY IN TODAY'S SUBMERSIBLE PUMP

APPLICATIONS? WHERE WILL THE TECHNOLOGY BE IN THE NEXT TEN YEARS?

The industrial internet of things, or IIoT, plays a big role in several submersible pump applications and plays multiple roles. For example, IIoT can focus on connecting machine to machine through communication, collecting big data, and allowing enterprises and municipalities to achieve better efficiency and reliability in their operations.

You have to understand that there are a range of benefits with IIoT and a nearly limitless potential that pump users are just beginning to take advantage of. With the

consistent capturing and transmitting of data among smart devices and machines provide many growth opportunities, efficient field services, asset tracking and improved facility management, going forward in the next ten years, IIoT will play a major role in digital transformation and to detect any change in conditions in real time and allow pump users to respond accordingly.

SWPA'S PHILOSOPHY OF THE SYSTEMS APPROACH MEANS EACH COMPONENT IS ASSESSED TO PREDICT A PUMPING SYSTEM'S PEAK PERFORMANCE. HOW WILL INTRODUCING MORE AUTOMATION, SMART TECHNOLOGY, AND ARTIFICIAL INTELLIGENCE AFFECT THIS?



Enhanced learning and training processes with IIoT will provide field service technicians with easy access to information.

As pump users adopt more automation and connect pumping systems with smart devices, this will enable them to gather and analyze data faster—even at real-time speed. Consequently, shortening the time between an event in a pumping system, its being monitored, and its data being communicated to the user will enhance performance and close the gap that traditionally existed between manually checking on a pump's and station's performance. Compared to the old way of data collection versus data collected via digital means, it will enable faster prediction to performance.

HOW DOES MORE ELEMENTS OF IIOT ENTERING THE PUMP MARKET CHANGE THE RESPONSIBILITIES AND REQUIREMENTS PLACED ON PUMP OPERATORS AND TECHNICIANS?

When we discuss the possibilities of IIoT, it can sometimes seem overwhelming. However, if anything, further adoption of this technology should make life easier for field



As pump users adopt more automation and connect pumping systems with smart devices, this will enable them to gather and analyze data faster.

service technicians in the long run. Enhanced learning and training processes with IIoT will provide field service technicians with easy access to information about which parts they need to make a repair. Improved regular monitoring and detection will also identify potential issues in pump equipment before they become major issues. With this proactive approach, preventive maintenance can be performed before a critical failure occurs.

HOW IMPORTANT IS CONTINUING EDUCATION FOR THOSE WORKING IN THE PUMP INDUSTRY? AND HOW DO YOU SEE PROFESSIONAL ORGANIZATIONS LIKE SWPA PROVIDING VALUE FOR PUMP PROFESSIONALS?

As more and more IIoT equipment is integrated into daily use, it's important to engage our workforce in updated technology and familiarize them with how to make the best use of the data it can provide. As technicians build on this knowledge, they'll be in the best possible position



to make better interpretation to their data.

Organizations like SWPA are perfectly suited to assist today's pump professionals and facilitate the "how to" value among the pump industry by providing courses and training with adequate credits for pump operators and their enterprises. ■

The mission of the Submersible Wastewater Pump Association (SWPA) is to enhance the global wastewater environment by informing, educating, and providing leadership in the design, procurement, and operation of submersible wastewater pumping systems. For more information, visit www.swpa.org.



A biogas plant of Weltec Biopower recently went live outside of Tokyo. The facility is the fourth project to be rolled out by the German manufacturer in Japan.



The mostly liquid substrate mix consists of organic waste and cattle manure from a nearby farm and are introduced to the digester by means of a central pump.

ENSURING HIGH GAS YIELD FROM A WASTE PLANT

Weltec commissions its fourth biogas plant in Japan with a focus on safety and production

BY VLADIMIR BOGATOV, WELTEC BIOPOWER



Further information on the energetic utilization and use of all types of organic waste and wastewater will be available from May 30 to June 3, 2022, at the IFAT in Munich (Germany), hall A4, stand 217. The specialists of Weltec will be attending the exposition with examples of the company's latest offerings.

A biogas plant of Weltec Biopower recently went live in Saitama Prefecture, 25 miles north of Tokyo. The facility, which is equipped with a 450-kilowatt cogeneration power plant, is the fourth project to be rolled out by the German manufacturer in Japan. In terms of substrates, the operator makes use of organic leftovers from the vicinity. Since the raw material mix varies, Weltec ensures a steady biogas output with its biological service. This special service of the biogas specialist also comprises another plant of the same customer.

BUILDING WITH AN EYE TOWARD THE FUTURE

Even after the reactor accident in Fukushima back in 2011, Japan continues to use nuclear power. However, renewable energies are consistently expanded and already account for a fifth of the power generated. Above all, leftovers are the preferred substrates in Japan. The biogas plant in Saitama, too, digests some 12,000 tons of organic waste into energy. The substrate mix consists of organic waste and cattle manure from a nearby farm that belongs to the operator. The largely

liquid organics are introduced to the digester by means of a central pump. Solid feedstocks are transported by a dosing feeder with a capacity of over 950 cubic feet

To ensure efficient digestion of this mixture, Weltec Biopower has set up a stainless-steel digester with a capacity of nearly 100,000 cubic feet. Its diameter measures 83 feet, and its height is 20 feet. The upstream substrate storage tank, which is made of stainless steel, has a capacity of 1,271 cubic feet, a diameter of 30 feet and a height of 16.5 feet. The 18,540-cubic-foot digestate storage tank (diameter 38 feet, height 16.5 feet), too, is made of high-quality stainless steel.

CUSTOM DESIGN AND BENEFITS


Finally, the digestate is separated and the solid phase is dried with special technology in order to further reduce the volume. Most of this residue is used as compost, and some of it as fertilizer. The Japanese appreciate the custom plant design and the benefits of our modular approach, especially because the plant structure with stainless-steel modules facilitates the consideration of the special risks in areas that experience a lot of seismic activity.

EXPANDING A PARTNERSHIP


All in all, Weltec Biopower has provided the customer with an all-inclusive package in "made in Germany" quality along with individual after-sales service. Subsequently, the Japanese operator also entrusted Weltec with the biological supervision of its other biogas plant, which had been set up by a different provider in 2017.

As this plant's yield was above average, the biology experts of Weltec had the substrate mix of the old plant carefully analyzed by a Japanese lab. Based on the results, the raw material mix and the retention time have been optimized. Due to the constantly changing composition of the waste, Weltec will continue to supervise the two plants biologically in order to maximize the gas yield. ■

Weltec Biopower GmbH is one of the world's leading enterprises in the field of stainless-steel biogas plant construction. The company has planned, developed, and built anaerobic digestion plants since 2001. Today, the medium-sized company has about eighty employees at the headquarters in Vechta, Germany, and has established more than 350 energy plants in twenty-five countries worldwide. The global distribution and service network spans six continents. The range of customers includes businesses from the agriculture, food, waste, and wastewater industries. For more information visit, www.weltec-biopower.com.




Application:
Sewerage
Lift Station



Problem:
Diaphragm seal is so impacted that the gauge is stuck at 10 psi, even after it is removed from the pipeline.


Solution:
Onyx Isolator Rings on the same service provide accurate pressure readings year after year and never clog or plug.

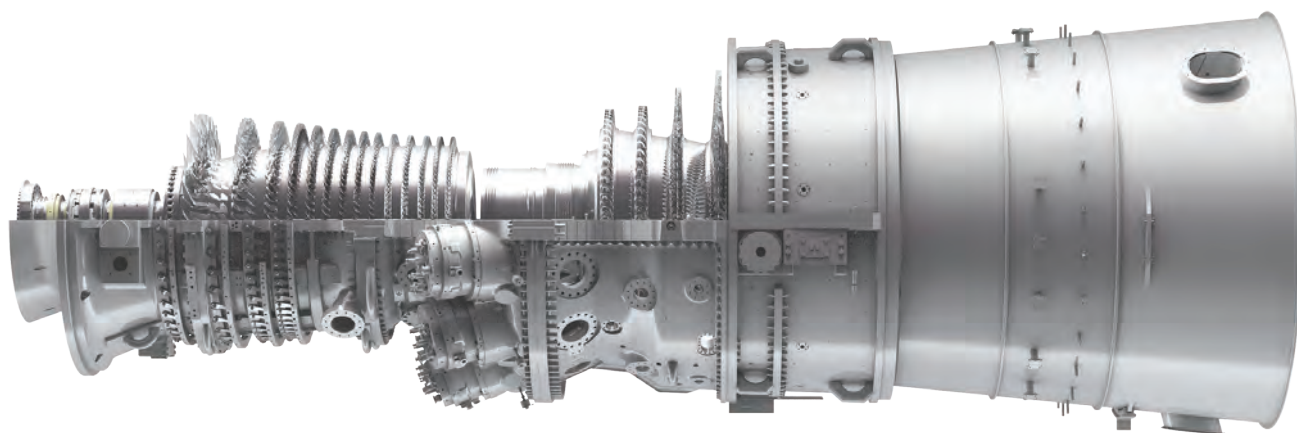


ONYX VALVE

ARMADILLO TOUGH

www.onyxvalve.com
tel: 856-829-2888





With the 7HA.02 gas turbine at its heart, the CHP project allows South Korea to reduce carbon emissions per unit of fuel used at the plant and supports the transition to a lower carbon future in the country.

WHEN GAS POWER MEETS GREEN POWER

GE-powered heating plant adds 500 sustainable megawatts in South Korea

BY ZATALINI ZULKIPLY, GE GAS POWER

GE recently began commercial operation for GS Power's Anyang Combined Heat and Power (CHP) Plant Unit 2-2 in Anyang City, Gyeonggi Province, South Korea. The project consists of the renewal of older gas-powered assets with the latest turbine technology including one GE 7HA.02 gas turbine, with a matching GT H65 generator, one STF D650 steam turbine and a ST A39 generator, along with a Mark VIe Distributed Control System (DCS) software solution and services to support the availability and reliability of the plant. The updated plant now delivers approximately 500 megawatts (MW) of electricity, the equivalent output needed to power approximately 500,000 South Korean homes, while also providing steam for district heating for more

than 180,000 citizens of Anyang City. Amidst the COVID-19 pandemic and extraordinary heavy rains and typhoons, the commissioning work was executed safely to ensure the plant achieved commercial operations one week ahead of schedule.

MORE ENERGY WITH FEWER EMISSIONS

The Anyang District Heating Plant benefits from GE's HA technology, which is capable of reaching close to 62.2 percent net plant efficiency in combined cycle and more than 93 percent efficiency in district heating mode. District heating mode is enabled by industry leading steam turbine flexibility, allowing for high efficiency in both district heating and power only modes. This process captures and reuses excess heat

or steam that would otherwise be released into the environment or go unutilized, effectively generating more energy and less carbon emissions per unit of fuel.

"Following GE's successful modernization of Anyang CHP Unit 2-1, we chose to continue to partner with GE for the success of the second unit renewal project to support our efforts in delivering cleaner and more efficient combined heat and power to homes and businesses in the Anyang region," says GS Power. "We trust in GE's technology to help us in meeting the energy and heating needs of our communities in Anyang City, while reducing our plant's carbon footprint. This project is also contributing towards the country's goal laid out in the government's Green New Deal to achieve carbon neutrality by 2050."



Anyang District Heating Plant Unit 2-2, powered by GE's highly efficient and advanced 7HA.02 gas turbine technology, adds approximately 500 megawatts to the national grid, the equivalent needed to power approximately 500,000 South Korean homes as well as steam for district heating for over 180,000 citizens of Anyang City.

ANOTHER STEP TOWARD A RENEWABLE FUTURE

Through the modernization of the Anyang combined heat plant, the plant is set to achieve more than 13.8 percent points of additional efficiency for electricity generation. Similar to the Naepo and Kospo district heating projects, Anyang CHP plant will connect to Korea's Direct Heating System (DHS), a centralized system that distributes heat to

residential developments since the 1990s. With a growing population of nearly fifty-two million, DHS delivers energy efficiency on a national level and has enabled better urban planning. The use of district-wide direct heating and cooling systems has helped South Korea contain carbon emissions, relative to the impact of individual heating and air-conditioning systems in line with the expansion of densely populated communities.

"Gas power plays a critical role in facilitating South Korea's transition to a more energy efficient, reliable, and lower carbon future" says Ramesh Singaram, president and CEO of GE Gas Power Asia. "Since Korea's long-term goal is to increase its reliance on renewable power sources, gas turbine technology is crucial to ensure the needed power to balance the variable nature of renewables and ensure system reliability at all times. We're proud to work with GS Power to support South Korea's district heating needs with a highly efficient energy solution that delivers energy savings and reductions in emissions."

ONE PIECE OF A LARGER PUZZLE

GE is a major player in power generation in South Korea. GE's gas turbines (simple and combined cycle) have the capacity to generate more than 14,000 megawatts of electricity with an installed base of over seventy-seven units. GE has been present in South Korea since 1976, working closely with local partners to support the

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.

SPRING-LOADED!

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

UPSTREAM TRIM!

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

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

Proudly manufactured in the USA



Order online at : www.checkall.com

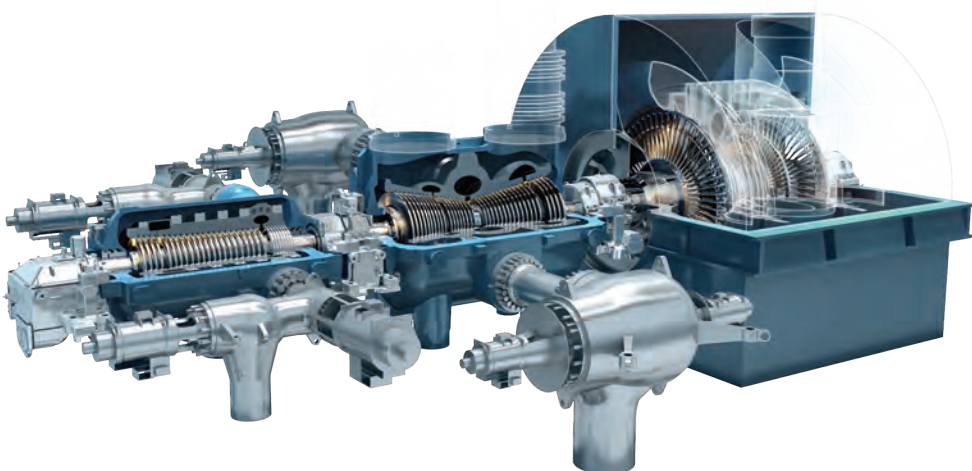
Call us at 515-224-2301 or
email us at sales@checkall.com

Proudly manufactured in the USA

country's growth in energy, advanced infrastructure, and healthcare. In 2015, GE undertook a large-scale manufacturing plant investment in Changwon, South Korea, by acquiring Doosan's HRSG business.

GE's experience and proven technology in district heating applications in Korea includes not only GS Power's combined-cycle power plant Unit 2-1 in Anyang, but also Naepo's CHP plant in Naepo City Korea Southern Power Co., Ltd. (KOSPO)'s Shinsejong CHP plant at Sejong City, and Oseong CHP plant, in Pyeongtaek.

The project addressed unprecedented challenges during the construction phase. As COVID-19 pandemic infection rates climbed rapidly in the country, restrictions on travel reduced the availability and mobilization of resources. Transportation of power generation equipment was also challenged by extraordinary heavy rains during the typhoon season. Although this posed a significant challenge in bringing



GE's steam turbines offer outstanding competitive performance for high parameter renewable steam power and combined cycle applications.

the plant in operation, the plant achieved commercial operation one week ahead of schedule through the use of a modular-based construction process—where large parts of the plant were manufactured and shipped already assembled to the construction site and the successful collaboration with GS Power and FieldCore, GE's field services company. ■

GE Gas Power is a world leader in natural gas power technology, services, and solutions. Through relentless innovation and continuous cooperation with our customers, the company is providing more advanced, cleaner, and efficient power that people depend on today and building the energy technologies of the future. With the world's largest installed base of gas turbines and more than 670 million operating hours across GE's installed fleet, GE Gas Power offers advanced technology and a level of experience that's unmatched in the industry to build, operate, and maintain leading gas power plants. For more information, visit www.ge.com/power/gas.

VESCONITE HILUBE PUMP WEAR RINGS

Achieve better pump efficiencies by applying closer clearances

- NO GALLING
- LOWER BY-PASS



VESCONITE
BEARINGS

+1 713 574 7255
vesconite@vesconite.com
vesconite.com

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

43 YEARS
1979
2022

Free Pump Selection Software On-line

www.VERIFLOpump.com

513-530-0888

REPLACEMENT • REPAIR • RECOVERING



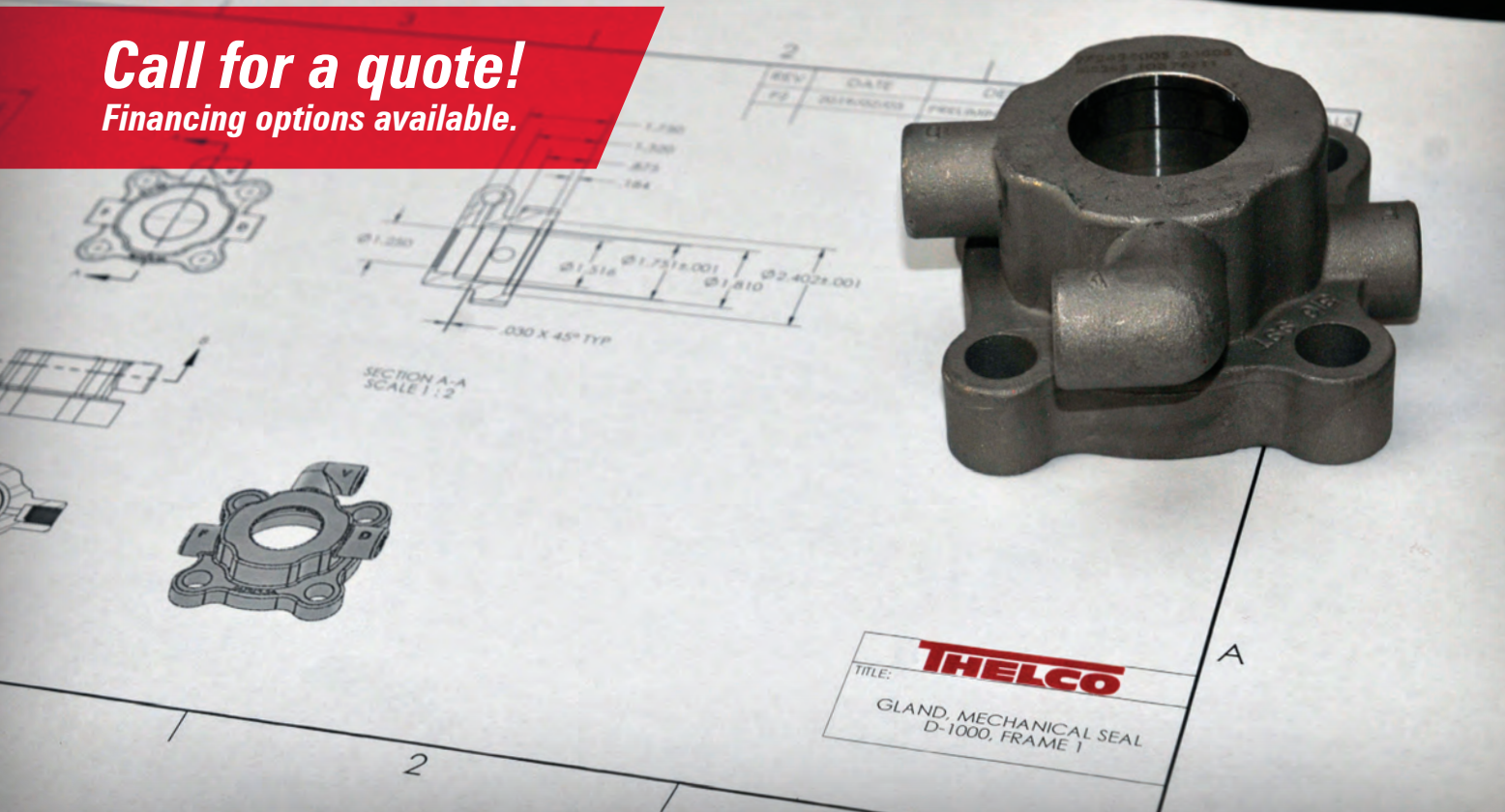
Aftermarket pump parts for most models of Börger®, Vogelsang®, Lobeline®, Lobeflo®, and Muniflo® Pumps
Repair of Rotary Lobe Pumps
Manufacturer of the Muniflo Rotary Lobe Pump (originally manufactured by Wemco since 1985)

Are you looking for obsolete Lobeflo® Pump parts? We are the answer!

Equi PUMP
info@equipump.com
www.equipump.com

• 800-783-5623 • fax 800-693-5623

Call for a quote!
Financing options available.



The parts you need... When you need them.

Thelco supplies all of the turned parts, gaskets, shims, investment cast impeller lock washers, mechanical seals, and many cast parts for Worthington® and Flowserve® pumps. Our expertise paired with a vast inventory of thousands of available parts, and quick turnaround time

shipping domestically and internationally (usually within twenty-four hours of order) helps support production across a wide variety of industries. Thelco also removes barriers to getting the job done quickly without the worry of an unexpected expense with pain-free financing options.



303-761-7616

thelco.parts@thelco.com

www.thelco.com

2390 West Dartmouth Avenue • Englewood, Colorado 80110



WASTEWATER PLANTS EMBRACE AUTOMATION

Innovative digital solution reduces energy use and optimizes operations

BY KATARIINA HIETARANTA, ABB

For wastewater plants, the time is right to move toward greater digitization, efficiency, and the benefits of automation. To assist with these goals, ABB Ability Smart Solution for Wastewater is the first in a family of digital solutions designed to optimize operations and reduce energy consumption in the water sector. This new wastewater technology enables continuous monitoring, coupled with automation, to achieve energy savings of up to 25 percent during aeration and pumping and up to 10 percent reduction in chemical usage. Furthermore, the

platform's agnostic software design means there will be no conflicts with existing setups—it merely adds an additional layer to cooperate with any automation package.

SMART SOLUTIONS FOR UNPRECEDENTED CHALLENGES

According to the International Energy Agency, global electricity consumption in wastewater treatment reached 222 terawatt hours in 2020, with electricity usage across the sector predicted to increase by 80 percent by 2040. This is in part due to the increasing demand for treated wastewater, which is now considered a valuable potential resource.

ABB launches ABB Ability Smart Solution for Wastewater, a digital solution that addresses the unprecedented challenge faced by wastewater treatment plant operators to achieve both the lowest energy use, and the highest operational standards.

The innovative solution is composed of two main pillars: advanced process control (APC) and digital twin and simulation technology to forecast future operational needs. It will help wastewater treatment plants reach optimal operating conditions by reducing process variability and stabilizing operations through continuous monitoring and automation. This enables constant, incremental operational adjustments and gains, reducing energy consumption and chemical usage, alongside increasing profitability.

SUSTAINABLE SOLUTIONS FOR THE LONG TERM

Developed with hydraulic modelling intelligence from the Danish water environment specialists, DHI Group, the ABB Ability Smart Solution for Wastewater creates a more stable treatment process by predicting wastewater inflow together with environmental factors such as



weather patterns, reducing risk of overflow and fines.

"This new product leverages our long-standing expertise in advanced process control, performance optimization and digital twin technology," Marco Achilea, global segment manager of water and infrastructure for ABB Energy Industries, adds. "With the demand for treated wastewater rapidly growing around the world, our goal is to continue to develop sustainable solutions that reduce energy use whilst improving water quality and operational efficiency."

SECURE SOLUTIONS FROM AN INDUSTRY LEADER

ABB's Process Automation business is a leader in automation, electrification, and digitalization for the process and hybrid industries, and ABB Ability Smart Solution for Wastewater will be the first in a family of smart solutions for the water industry. Building on the experience and solid performances of ABB's Optimax and APC, this



first offering is designed to make wastewater treatment plants safer, smarter, and more sustainable.

This is the latest offering to customers from a broad portfolio of products, systems, and end-to-end solutions, including industry-specific products as well as measurement and analytics offerings. As one of the top two companies in the global market, ABB has built on a deep domain expertise, diverse team and global footprint, and are dedicated to helping its customers increase competitiveness, improve their return on investment and run safe, smart, and sustainable operations. ■

ABB is a leading global technology company that energizes the transformation of society and industry to achieve a more productive, sustainable future. By connecting software to its electrification, robotics, automation, and motion portfolio, ABB pushes the boundaries of technology to drive performance to new levels. With a history of excellence stretching back more than 130 years, ABB's success is driven by about 105,000 talented employees in over 100 countries. For more information, visit www.abb.com.

BLACOH™
FLUID CONTROL

**EXTREME
PERFORMANCE
for
EXTREME
PRESSURES**

Our **Sentry™ XP Series High Pressure Dampeners** are engineered for high performance and reliability with 316L stainless steel solid shell housings and ACME threaded caps. Now in sizes ranging from 8 to 122 cubic inch (0.13L to 2.0L) with pressure ratings from 2,000 to 15,000 psi (1378 to 1,034.2 bar), including models using PTFE bellows.

For more information, visit Blacoh.com
Sales@Blacoh.com | 951.342.3100



MEASURING THE QUALITY OF LIQUID PROCESSES IN REAL TIME

Improved quality control means less waste, more efficiency, bigger savings

BY TUULI POTILA, COLLO

Collo's new online measuring technology can detect nearly any change in liquid properties straight from the process in real time. The novel technology has the potential to revolutionize liquid quality control, since it enables continuous process monitoring and is universally suitable for all fluids, from thin to thick.

Collo's technology is based on RF signals that can penetrate any liquid, machine learning, and sophisticated edge computing analysis. It is a simple-to-use solution that adapts to any liquid process automatically and results in an eight-dimensional multiparameter, real-time analysis that makes it possible to adjust the process immediately when there is a quality issue.

"The technology can detect nearly any thinkable change in the liquid properties in real time," says Matti Järveläinen, CEO and founder of ColloidTek. "The result is a continuous quality control, contrary to the normal, time-consuming quality control process based on blind samples and laboratory analyses."

CUSTOMERS WORLDWIDE

Collo's liquid fingerprint technology gives the manufacturing industry an opportunity to ensure that a liquid process behaves consistently from batch to batch. As an example, it can monitor fermentation processes widely used in food, cosmetics, and pharmaceutical industries and many other bioprocesses, to ensure that the

delicate microbiological process is progressing as intended.

"The number of scrapped end-products can be minimized if the quality deviations are detected early in the process," says Mikko Tielinen, head of sales. "Why invest in a new factory if it is possible to radically enhance the production at the current factory just by improving the way the process quality is measured?"

That is one of the reasons why Collo is currently building industrial partnerships worldwide, from Asia to Europe and the United States.

"Since Collo can adapt to almost any fluid, it means that the manufacturing industry can focus its quality assurance on real problems in real time, instead of

relying on blind samples that only provide retroactive snapshots of the process," Järveläinen adds. "We have customers across the world, and we are currently negotiating with various *Fortune* 500 companies, which shows that our technology is something extraordinary."

PROTECTING ECOSYSTEMS

Fast response to liquid quality changes can be critical in other applications as well. Collo recently conducted a study to find out how unsupervised machine learning could be used to detect abnormal qualities in sewage waste. The study was conducted together with the city of Oulu waterworks in Northern Finland.

"Water treatment is important worldwide and with our technology it is possible to supervise the quality of both tap water and sewage in real time," Järveläinen says. "The problem with sewage is that if harmful chemicals pass through undetected, it can be a threat for both the water treatment process and the environment."

In the study, Collo collected data from the sewage well for a couple of weeks and then compressed the information into a couple of models showing how the process should look when it was working well. After that,

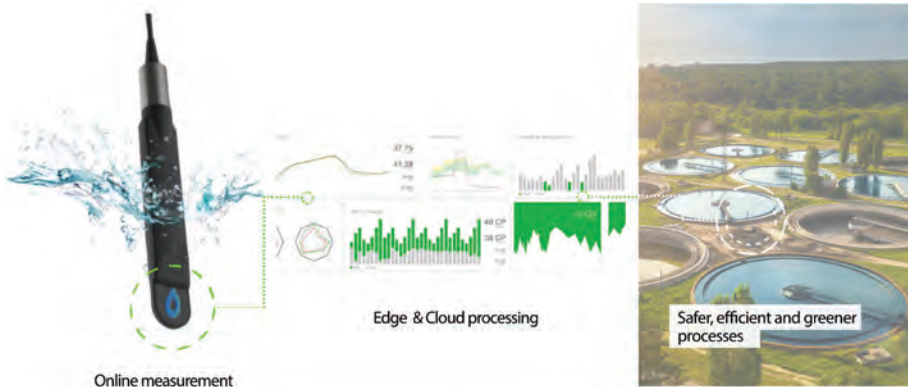


Mikko Tielinen, head of sales (left), and Matti Järvinen, CEO of ColloidTek, know their ways among the pipes and tanks at a liquid processing facility.

the analyzer monitored the sewage quality according to these models.

"With the aid of machine learning, our system was able to pinpoint the liquid quality deviations in the

process," Järveläinen concludes. "The study showed that our analyzer could be used on a large scale to monitor industrial wastewater streams for early detection of anomalies like chemical spillage, product losses, or other abnormal behavior." ■



Collo's eight-dimensional multiparameter, real-time analysis makes it possible to adjust a wide array of different liquid processes immediately when there is a quality issue.

Collo is an industrial liquid process performance solution developed by ColloidTek Oy (Collo). The company was founded in 2017 after extensive scientific research in measurement technology at Tampere University by its founders and key personnel. Collo develops and commercializes the Collo technology for various industries, helping customers understand and enhance their liquid processes. Their customers are well-known industrial companies like Fonterra, Siemens Energy, SSAB, UPM, ABB, Danone, Evonik, LKAB, Kemira, and others. For more information, visit www.collo.fi.

INDUSTRIAL DATA AT YOUR FINGERTIPS

Advanced technology touchscreen makes this HMI a leading choice for many applications

BY LINDA HTAY, IDEC CORPORATION

IDEC Corporation has expanded its human machine interfaces (HMI) product family with the new HG2J Series 7-inch touchscreen HMI. Hardware and software advancements incorporated into this HMI make it easier to integrate and use for any type of industrial application.

ADVANCED AND DURABLE TOUCH DISPLAY

The HMI's projected capacitive touch panel (PCAP) technology saves space, improves performance, is wear-resistant, and provides a long life. PCAP glass requires fewer layers than traditional analog resistive plastic films, and the self-capacitance technology can also prevent accidental input due to water droplets. It is also more resistant to scratches, won't turn yellow in the sun, and has a higher tolerance for dirt deposits, and for

contact with cleaning or washdown chemicals. Fewer layers and better light transmission ratings mean less backlight power is needed and provides an industry-leading 5,300 cd-per-square-foot brightness level and 50,000-hour backlight life.

With a TFT LCD display resolution of 800x480 pixels, the HG2J HMI is conveniently sized for applications both small and large, and it provides smooth font rendering within its large high-visibility display area. This PCAP display does not require the large bezels of standard IR displays, allowing the bezel to be slimmer and sleeker in appearance for a small installation footprint, and the overall HMI depth is just 1.1 inches, substantially less than the approximately 2-inch depth required by competing products.

Operation with an input voltage of 12-24 VDC makes the HG2J



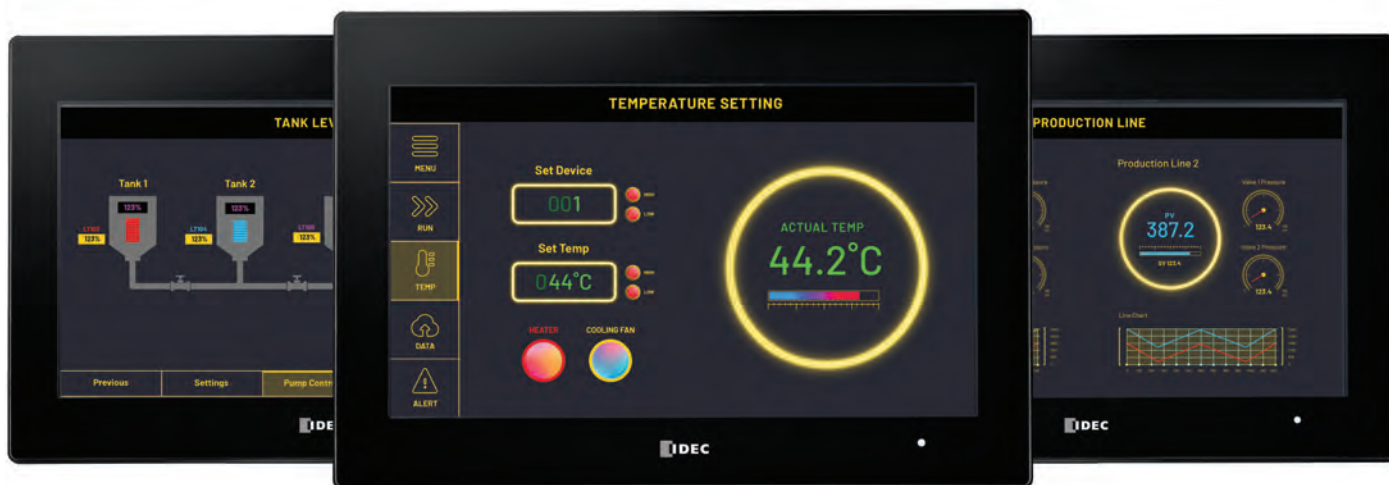
HMI suitable for a wide variety of industrial, solar, and vehicle applications. The HMI is rated for operation in an exceptionally wide temperature range of -4 to 140 degrees Fahrenheit (-20 to 60 degrees Celsius), and it carries IP66/67, UL, and CE ratings, with a Class I Div 2 hazardous location rating.

ADAPTABLE CONNECTIVITY

HG2J HMIs feature a full complement of connectivity options, including two USB A ports, serial connectivity (RS485/422 and RS232C), and an Ethernet port. Push-in wiring connectors are used for power and serial connections, providing easy installation and service. The USB ports enable connectivity with Linux-compatible accessories such as wifi and Bluetooth dongles, speakers, and barcode readers.

A single reset button is used for rebooting the unit, and a multifunction





front LED light provides status information for the hardware, boot mode, and OS operating mode. Maintenance is simplified because the HMI requires no batteries, it uses MRAM to maintain data stored in internal data registers in the absence of power, and it features a hypercapacitor to maintain clock operation for up to two weeks without line power.

COMMUNICATIONS AND IIoT

The HG2J HMI supports over 100 serial and Ethernet industrial communication protocols, including Modbus, providing connectivity with most PLC makes and models and making it ideal for industrial internet of things (IIoT) applications. The HMI supports simultaneous use of up to four protocols, and the User Communication Protocol function

allows users to develop their own protocols for specialty serial or Ethernet devices.

A built-in web server provides remote access functionality for PCs and mobile devices just as if the user were in front of the HMI itself—improving operation, troubleshooting, and maintenance—while the FTP client/server protocol can be used for transferring configurations and data



At Wilden®, simple, reliable and efficient is in our DNA – we don't waste time on complicated designs, we don't cut corners just to save you money, and we don't sacrifice energy efficiency for performance.

That's why we offer the most innovative, cost-effective, and dependable AODD pumps in the industry, solutions that combine unmatched efficiency and unparalleled performance that competitors simply can't match.

See how at wildenpump.com.

WILDEN®

PSG | 22069 Van Buren Street
Grand Terrace, CA 92313-5651 USA
P: +1 (909) 422-1730 | F: +1 (909) 783-3440
wildenpump.com



between local memory and external systems. Email functionality provides up to 255 templates so alarm logs, data values, screenshots, and more can be transmitted to multiple recipients securely using SMTPS and SSL. The HMI also supports Twitter for notifying users of system status.

FLEXIBLE SOFTWARE

The HG2J HMI OS provides 24Mb of user application memory and more address space than prior models. Download time is nine times faster than prior models, and it supports a wide variety of external devices and printers.

All HMIs in the product line are configured using the same simple, intuitive WindO/I-NV4 screen creation software, so users only need to be familiar with one inexpensive software package. The drag-and-drop user interface and built-in symbol library with over 10,700 images helps users rapidly create cutting-edge graphics. Another advantage is projects can automatically be converted from one HMI size to another within seconds using the same software.

HIGH-PERFORMANCE AND CAPABLE HMI

The IDEC HG2J 7-inch touchscreen HMI uses modern hardware and software technologies to provide an optimal display size and a high degree of usability in the smallest form factor possible, with ratings enabling integration into all types of projects and environments. These features make it a good fit for remote operations in the petrochemical and mining industries, and in food and beverage and life sciences applications subject to washdowns. ■

IDEC Corporation is a global supplier that has provided innovative and reliable industrial automation and control products since 1945. Covering a broad range of market needs, these feature-rich and value-driven products include PLCs, human machine interfaces (HMIs), safety products, and other industrial automation components. By delivering world-class products backed by personalized service and highly-rated technical support, IDEC enables design engineers to create lean, cost-effective, and safe solutions to optimize their automation applications. With the recent acquisition of APEM, one of the world's leading manufacturers of operator interface panels and related components, IDEC continues to enhance its customers' ability to create high-quality solutions. For more information, visit www.idec.com/usa.

THE UPDATED BIRD GETS THE WORM!

MPT
Modern Pumping Today

Follow us on Twitter and Facebook:
 @ModPumpMag
 @modernpumpingtoday

MOD-TRONIC

Stocking distributor of **MINCO**
Sensors, Heaters and Controls

MOTOR TEMPERATURE SENSORS

RTDs Thermocouples Thermistors Thermostats

FOR STATORS

FOR BEARINGS



**ANTI-CONDENSATION
SPACE HEATERS**

**TEMPERATURE
MONITORS**



MOD-TRONIC

www.RewindSensors.com

1-800-794-5883



TECHNOLOGY AND KNOW-HOW TO PUMP EXTREME FLOOD WATER

Ekki's dewatering technologies support India's effort to combat historic rainfall

BY SATHISH KUMAR, EKKI

The state of Tamil Nadu in India suffered significant flooding as a result of the recent rainfalls.

Pumps and water technology firm Ekki's dewatering solutions supported Tamil Nadu and other coastal areas in India to manage and pump out rainwater rapidly from flooded areas by providing a number of tailor-made solutions to the area's needs.

THE PROACTIVE APPROACH TO FLOOD WATERS

Ekki has been proactive in providing its dewatering solutions to help remove flood waters in the affected areas. Ekki not only provided its pumps for the operations, but also deployed its technical team to support on-ground work. Ekki's dewatering solutions was selected due to

its high efficiency and capacity, as well as its low operating and maintenance costs.

Ekki through its partnership with global wastewater leader Homa is one of the very few water technology companies in the world to give complete storm water and dewatering pump solutions up to 500 horsepower and has deep design knowledge in this space.

BOZO PUMPS DON'T CLOWN AROUND

Ekki's BOZO Dewatering pumps are perfectly designed for this type of operation-capable of handling high volumes of water and withstanding the toughest operating conditions. Ekki designs and manufactures a full line of Bozo dewatering pumps specifically built to help combat unwanted water from floods. Additionally, they are offered in three differing series designs to best fit the needs of the application.

abrasive resistant and best suited for the dewatering of construction sites, mines, quarries, STPs, and so on.

Finally, the ECD line comes in a compact design with special grade impellers offer better durability for high abrasive liquids in construction sites, effluents from showers, washing machines, sinks below sewer levels, rainwater, and so on. Its hermetically sealed motor equips the pump with built-in thermal protection and a strainer prevents larger particles from entering the flow.



Ekki's executive team also briefed the Honourable Member of Parliament Kanimozhi Karunanidhi regarding the dewatering technologies deployed while she was overseeing the flood relief operations recently in the state.

The BOZO EMD series offers pumps with an exclusive semi-vortex impeller that minimizes the pumps' clogging situation. With minimized clogging, these pumps have maximum durability and outstanding performance. These pumps are used mainly for domestic use, civil construction, and basements dewatering/drainage purpose.

Whereas, the ESD series offers pumps with an exclusive semi-open impeller made of high chrome alloy matched with a wear plate made of ductile iron. The body of the motor and pump is made of rigid cast iron or stainless steel for long-lasting durability. With the use of special material, these pumps are high

A RELIABLE PARTNER IN TIMES OF CRISIS

Ekki is a reliable partner and proven leader in the dewatering industry. Ekki's executive team also briefed the Honourable Member of Parliament Kanimozhi Karunanidhi regarding the dewatering technologies deployed while she was overseeing the flood relief operations recently in the state.

"We are pleased to be partnering with the government authorities in Tamil Nadu, India, to enhance people's lives in these difficult times, we look forward to continued collaboration with the government to help alleviate similar situations in the future," adds Kanishka Arumugam, co-CEO of Ekki. ■



Ekki's BOZO dewatering pumps.

Ekki is one among India's most advanced pump and water technologies provider. The privately held, family-owned firm provides water in an efficient and sustainable way for agricultural, building services, industrial, and public utilities markets through its innovative products and services. Established in 1981, this family business produces a wide range of pumps and water technologies from its four world-class production centers. Internationally, Ekki is establishing its global presence and has several manufacturing collaborations with technology leaders and distribution partnerships with global distributors. Today, Ekki's products are sold in more than twenty countries. The Ekki Group has an International joint venture alliance with Homa of Germany, a world leader in wastewater technology. For more information, visit www.ekkigroup.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

A collection of Tuf-Lok pipe and tube couplings, showing various sizes and materials.

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

In addition to the LCA version, the Ecosmart will also be available in the more powerful LCC and LCD versions.



AFFORDABLE EVEN AT HIGHER FLOW RATES

New Ecosmart pump sizes combine low purchase cost with high performance

BY THOMAS BÖKENBRINK, LEWA GMBH

In many applications in the oil and gas industry, the chemical industry, or even the food industry, pumps that work reliably and provide high performance are needed. At the same time, they must have convincingly low investment costs. With the Ecosmart diaphragm metering pump, the German Lewa GmbH has provided a cost-attractive and safe model that can handle flow rates of up to 300 l/h for many years. For use in applications with higher flow rates, the pump expert from Leonberg, Germany, is now expanding its

product range with two new sizes. In addition to the LCA version, the Ecosmart will also be available in the more powerful LCC and LCD versions in the future. While the LCC model can meter in excess of 264 gallons per hour, Lewa designed the LCD for a flow rate of up to 528 gallons per hour. The maximum permissible operating pressure for both models is 50 bar and 600 pounds respectively. The stringent use of similar components within the Ecosmart product family keeps production costs and therefore the final price

low. At the same time, a high level of safety can be guaranteed by focusing on all essential design features such as the pressure relief valve or the proven sandwich diaphragm with continuous monitoring. The LCC variant was made available at the end of 2021 and the LCD model will be available by mid-2022.

In addition to the proven diaphragm metering pumps of the Ecoflow series, Lewa has offered the less expensive Ecosmart pump for several years. This is mainly due to the fact that although a reliable pump unit

is required in numerous processes, at the same time relatively low discharge pressures in the lower two-digit range require less complex pump technology. With the Ecosmart LCA in the single pump version, however, only a flow rate of below 80 gallons per hour was previously possible. In order to be able to offer the Ecosmart for applications with higher flow rates, the engineers at Lewa began developing two additional, larger pump variants in 2019. The aim was to scale up the Ecosmart to larger applications with the proven safety level and high quality Lewa components without significantly increasing the low investment cost typical for this pump series. This was to be achieved by a consistent modular principle within the pump series, as well as a strict focus on the essential functions and features. The specifications also demanded the usual Lewa suitability for unrestricted continuous operation over many years. Options

for integrating the pumps into automated systems via analog control signals or bus systems are also a matter of course.

ADJUSTMENT OF PLUNGER DIAMETER AND STROKE ENABLE MORE FLOW

First of all, the requirements for the conveying capacity had to be implemented constructively. Larger plunger diameters were selected for the smaller LCC variant, so that more than 264 gallons per hour can be conveyed instead of less than 80 gallons. In the case of the more powerful LCD version, the engineers also decided to extend the stroke length so that a maximum flow rate of 528 gallons per hour could be achieved. Both pump types can work against a maximum operating pressure of 50 bar. As with all hydraulically actuated diaphragm metering pumps, maximum pressures are achieved with smaller plunger diameters.



Lewa Ecosmart LCC in compact vertical design.

World's First High-Volume Diaphragm Pumps

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

Pumps 2000 Pneumatic Diaphragm Pumps.

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

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

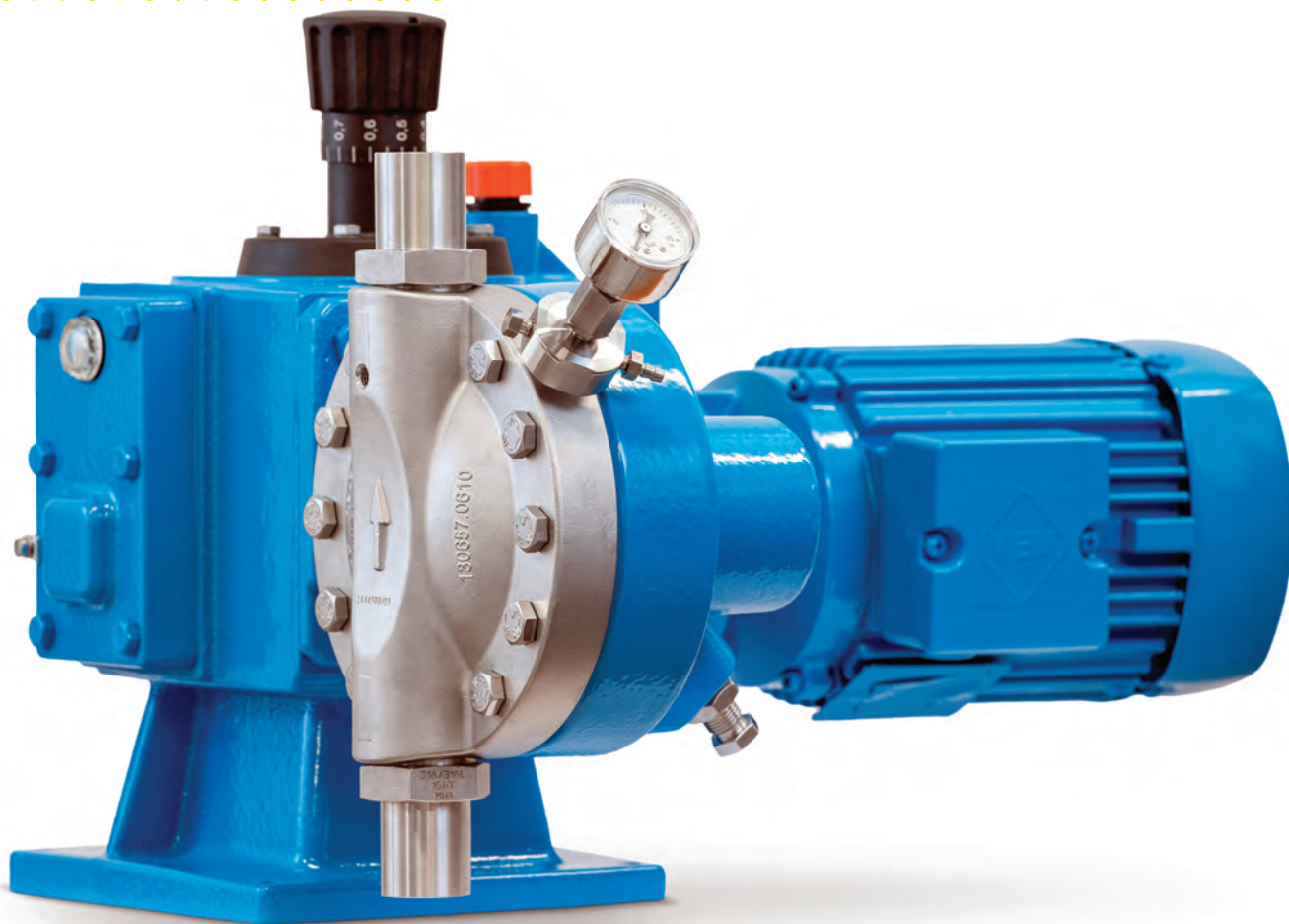
Ask about our
TRIAL PROGRAM

Pumps 2000
Innovation & Excellence

www.pumps2000.com

ATEX
Certified

Tel: 412.963.9200, 1.800.245.6211 • Fax: 412.963.9214 • info@pumps2000.com



Just as important as the performance of the pump was the operational reliability typical of Lewa familiar from other pump series. For this purpose, individual, essential features such as the integrated pressure safety valve or the sandwich diaphragm were taken over from the Ecoflow models. The individually adjustable pressure safety valve ensures that sudden overpressure in the pump does not damage the diaphragm or pump drive. The diaphragm protection system DPS, whose essential component is a return spring for the diaphragm, also ensures that the PTFE sandwich diaphragm always works in the right place. It cannot be overstretched or damaged during start-up. Thus, the pump is protected against operating errors or upset operating conditions. Finally, the standard diaphragm monitoring system checks the condition of the diaphragm and warns plant operators immediately if there is any damage. This reliably prevents

cross-contamination between the pump and the piping system and ensures operational safety at all times, especially in sensitive areas with toxic fluids. However, diaphragm monitoring is rarely used because Lewa diaphragms of this series usually achieve service lives of several years – even under full load and continuous operation.

A key point was to keep production costs within a similar range to the small LCA variant, thereby creating attractive market prices for applications with less demanding requirements and lower operating pressure. To do so, the design of the two new pump sizes needed to integrate components that are as identical or at least similar as possible in order to avoid high manufacturing costs. In this way, the Lewa engineers were able to successfully implement the common parts strategy that had already been practiced many times.

Pump users also benefit from this intelligent modular principle, as many

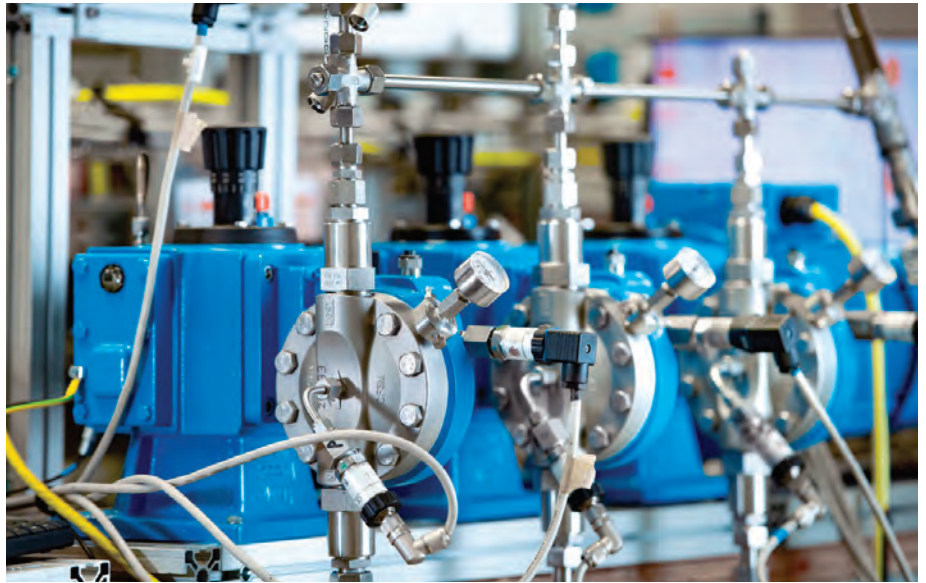
wear parts can be used across pump types. This considerably simplifies the spare parts inventory. At the same time, the modular principle also allows individual adjustments to the respective application. For example, stroke frequencies or plunger diameters can be selected individually. The basis for this is the M900 pump head, which is already used in the LCA variant and in the Ecoflow program.

GOOD INTEGRABILITY FOR PLANT CONSTRUCTION COMPANIES

The pump's flexibility also offers advantages for plant construction: It allows the Ecosmart pump to be oriented either vertically or horizontally, making it easier to integrate the unit into systems with limited or confined spaces. In addition, the pump head of the new LCC and LCD models is aligned at right angles to the plunger axis, resulting in a particularly compact



Lewa Ecosmart LCC in heated cabinet.



Lewa Ecosmart LCCs on the test stand.

format. In many pumps, the pump head is on the same axis as the plunger, which often results in bulky pump dimensions. The 90-degree orientation avoids this with the new models. This advantage is achieved by the extremely compact and completely newly developed, cost-effective diaphragm drive.

In order to ensure the long service life typical of Lewa pumps, only high-quality, robust materials are used in the LCC and LCD versions. Toxic and abrasive substances can stress the pump significantly and so a variety of materials can be used on the wet end, which are also successfully used in the high-pressure variants of the Ecoflow series. Many high-quality parts from the Ecoflow series are also used for the drive units, employing the common parts strategy. The result is robustness and durability that is unusual in this pump class. In addition, all Ecosmart pumps have been designed with a single oil bath, which is used for both the lubrication of the drive unit and the hydraulics of the pump head. This eliminates the more complex lubrication via two separate oil systems and results in a simpler design, which not only facilitates operation but also reduces maintenance work.

Last but not least, the new LCC and LCD versions—like the LCA—comply

with the U.S. industry standard for metering pumps API 675, ensuring nearly unlimited usage for numerous demanding processes in a wide range of industries.

USE IN THE CHEMICAL INDUSTRY

For example, when metering solvents in the chemical industry, pumps are needed that on the one hand meet the highest specification requirements and on the other hand are still cost-effective. Here, the Ecosmart pump with its higher performance is able to meet exactly these requirements, as it has been precisely engineered for applications in the lower pressure range up to 50 bar (600 pounds). The larger versions of the Ecosmart pump are also suitable for industrial water treatment, such as in seawater desalination or industrial cooling circuits. What counts here above all is compactness and cost-effective design, which the entire Lewa Ecosmart series fulfills thanks to its innovative design principle.

Before the new pump variants are available to customers, a number of extensive tests will be carried out. They will ensure that the units also meet the high internal company requirements for reliability and performance in operational practice. They include, on the one hand,

continuous load tests of up to several tens of thousands of hours and, on the other hand, overload tests. In the latter, the pump is run continuously at up to 20 percent above maximum pressure to further validate its robustness. Special tests are carried out in heated cabinets to proof that the pumps also perform perfectly under extreme ambient conditions. After successful completion of all tests and final adjustments, the Ecosmart version LCC is now on the market, the LCD model will follow in mid-2022. ■

THOMAS BÖKENBRINK is lead product manager for pumps for Lewa GmbH. Lewa develops technologies and provides solutions for the vast array of applications among its customers. Its products are used mainly in the oil and gas industry, in gas odorization, in refineries and petrochemicals, as well as in the production of plastics, detergents, and cleaners. Additional application areas include the chemical industry, cosmetics industry, pharmaceuticals and biotechnology, food and beverage industry, and energy utilities. For more information, visit www.lewa.com/en/pumps/metering-pumps/lewa-ecosmart-diaphragm-metering-pump.



Left to right: Matthew B. Devall, co-owner and director of Muddy Water Dredging; Charlie Johnson, director of domestic dredge sales of DSC Dredge, LLC; and Michael J. Kerns, co-owner and president of Muddy Water Dredging.

AMERICA'S LARGEST DREDGE TAKES SHAPE

DSC Dredge and Muddy Water Dredging work to bring massive project to the water

BY MERCEDES GABRIEL, DSC DREDGE

In the fall of 2021, an established company with a solid reputation in commercial dredging and a new company that's already making a name for itself put forward a plan for one of the most ambitious builds the industry has ever seen. Michael Kerns, president and CEO of Muddy Water Dredging, and Bob Wetta, president and CEO of DSC Dredge LLC, launched a project to build a custom 24-inch dual pump Marlin Class dredge—one of the largest of its kind in the United States, to maintain U.S. navigable waterways.



Once completed, this custom dredge will be one of the largest of its kind in the United States.

THE IMPORTANCE OF FIRST PRINCIPLES

Muddy Water Dredging (MWD) was established in late 2021 with corporate headquarters located in Orange, Texas. Co-owners Michael J. Kerns and Matthew B. Devall bring over forty years of experience in the dredging and maritime transportation industry. According to co-owners, "MWD will engage a first principles approach by employing the latest technological advancements to the machinery and employees allowing for a truly unique and forward-thinking organization, we are incredibly excited to join a dynamic industry that is vitally important in sustaining U.S. Navigable Waterways."

Over the years, DSC has made its name in the industry for helping clients make the right choice when it comes to their dredging needs and MWD is a continuation of that client partnership. This custom Marlin Class dredge will have an overall length of 371 feet, making it one of if not the longest 24-inch dredge in the United States with the capability of dredging a 400-foot-wide cut utilizing an 80-degree swing arc—increasing the dredge's swing/advance efficiency by 5.9 percent. At a duty point of 28,236-gallon-per-minute slurry volume, this new dredge will have the ability of filling an Olympic size swimming



Rendering of custom 24-inch dual pump Marlin Class dredge.

pool with dredge slurry in only twenty-three minutes and can completely fill an area the size of the New Orleans Superdome in only twenty-three days.

DESIGN MEETS FUNCTION

Notwithstanding the massiveness and strength this dredge embodies, its customization not only includes a detachable carriage barge that allows the dredge to quickly convert from a wide cut format configuration to a shorter conventional dredge configuration for work in areas with limited space but also has lay-down carriage barge spuds to facilitate transit under low clearance structures. The perfect balance of elegant design and outstanding function—this is the essence of design meets function.

This custom dredge will be equipped with DSC's survey-grade DSC Vision package, DSC's Dredge Rx remote monitoring package, and DSC's Dredge Quality Management (DQM) system for automated USACE reporting. The dredge will also be fitted with three 12-by-12-foot offices, a 15-by-19-foot meeting/break room, restroom facilities, and a 20-by-27-foot lever room.

PUTTING THE PIECES TOGETHER

In early March, DSC Dredge officials joined representatives of MWD on a visit to GIW Industries, one of the world's leading manufacturers of heavy duty, centrifugal slurry pumps. During the visit, Charles Johnson, DSC director of domestic dredge sales, together with MWD co-owners Kerns and Devall checked out the LSA-54 pump (a smaller version of the one that will be used on MWD's new dredge). This custom 24-inch diesel-electric design, with a total installed horsepower of 9,621 horsepower and delivering 6,830 kilowatts of electrical power, is expected to be completed before the end of 2023.

NOW COMES THE FUN PART

"I am extremely grateful to everyone involved for all the hard work over the last few months to make this a reality," states Devall.

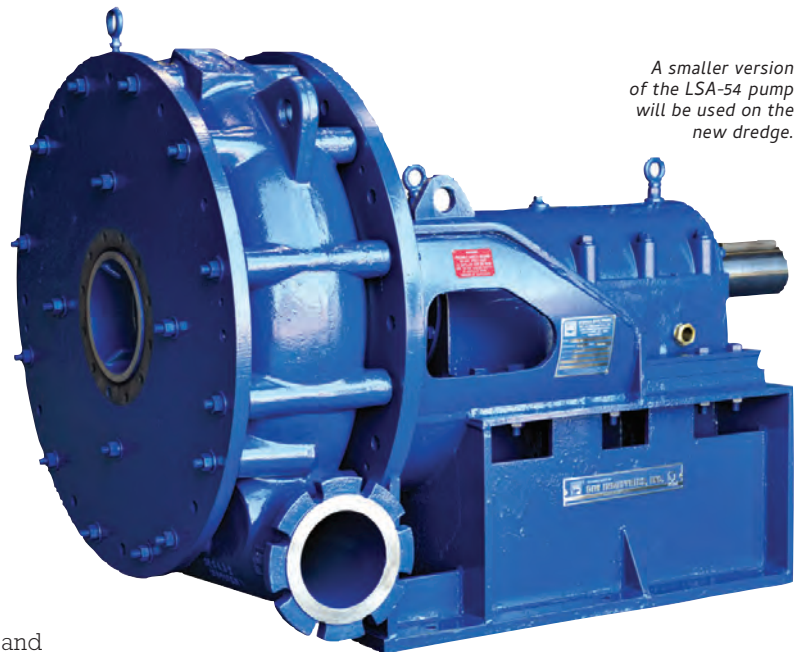
Kerns adds, "I am extremely proud to re-enter the U.S. dredging industry as co-owner and president of Muddy Water Dredging and fortunate to have an opportunity to incorporate my many years of dredging experience into the design of our new 24-inch cutter-suction dredge."

"DSC is extremely excited to partner with Muddy Water Dredging on this new 24-inch dredge build. The



Left to right: Matthew B. Devall, co-owner and director of Muddy Water Dredging; Bob Wetta, president and CEO of DSC Dredge, LLC; and Michael J. Kerns, co-owner and president of Muddy Water Dredging.

specifications and overall design of the dredge will lend itself to the future of efficient dredge designs while still providing a beast of a dredge. Muddy Water Dredging has taken steps to bring a new dredge to the industry that will be designed for high production capacity, the latest in dredging technology and an efficient and practical design. It doesn't get much better than partnering with clients that share the same vision and that's exactly what we have with Muddy Water Dredging. This is going to be fun," states Bob Wetta, president and CEO of DSC Dredge. ■



A smaller version of the LSA-54 pump will be used on the new dredge.

DSC is a global leader in the dredge manufacturing industry, engineering superior customized dredging solutions to meet specific application needs, while continuing to exceed customer expectations. DSC Dredge designs and manufactures high quality, durable cutter suction dredges. DSC Dredge helps customers make the right choice. Quality, innovation, service, commitment, and customization are key DSC attributes, which explains why customers choose to work with DSC. DSC Dredge operates from three manufacturing facilities located in Reserve, Louisiana; Poplarville, Mississippi; and Greenbush, Michigan. For more information, visit www.dscdredge.com.



Phases displayed from the AT5 test report.

The seventh generation of the All-Test Pro motor testing unit ensures the reliability of motors in the field and helps to maximize the productivity of maintenance teams everywhere.

WHAT IS THREE MINUTES OF MOTOR TESTING WORTH TO YOU?

The right equipment can save time and money for motor technicians

BY RICHARD SCOTT, ALL-TEST PRO, LLC

Motor testing is among the most common yet underutilized diagnostic and measurement tools that yields an incredible return on investment. The following case study illustrates this point. In 2015, a motor distributor in the Netherlands provided a 17-kilowatt, 400-volt motor to a local hospital. The hospital rented a portable crane to install the motor onto the roof of the building. The motor is used to operate a fan that is mounted on the hospital's roof. However, not even a full year into its service life, the motor suddenly stopped running, so the motor distributor was contacted for field service, troubleshooting, and on-site support.

DIAGNOSING THE PROBLEM

The motor had been connected to a variable frequency drive (VFD), and when the motor stopped running, the hospital's maintenance technician reset the VFD. The motor did start, but unfortunately, the VFD shut the motor down again. Next, the technician performed an insulation-to-ground test and determined the motor winding was not shorted to ground. Using a digital multimeter, he then measured phase resistance and learned the phases were not open. The motor testing tools the technician used pointed to a "good" motor; therefore, they decided to replace the VFD.

After the new VFD had been installed, the motor started up but did not continue to run. Much to the technician's chagrin, they were experiencing the same problem, which compelled the hospital's maintenance manager to contact the distributor who had supplied the hospital with the motor.

The responsive motor distributor, who has a service center and support staff, sent one of their technicians to the hospital to test the motor. The service center technician used a meg-ohm meter and digital multimeter to determine that the motor was not grounded and the

phases were not open, which was no different from the previous test results. Since the motor still did not run, the decision was made to replace the motor.

A crane was brought in to remove the motor from the roof of the hospital

and allow a replacement motor to be installed. The replacement motor started and operated normally, confirming the new VFD was working as intended. The "suspect" motor was sent to the service center for a more thorough inspection.



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**



An All-Test Pro 5 was used to perform a de-energized, non-destructive motor circuit analysis (MCA) test.

THE SOLUTION: THREE MINUTES OF MOTOR TESTING

An All-Test Pro 5 was used to perform a de-energized, non-destructive motor circuit analysis (MCA) test at the service provider's facility. Motor circuit analysis evaluates the condition of the electric motor connections, stator, and rotor in just minutes.

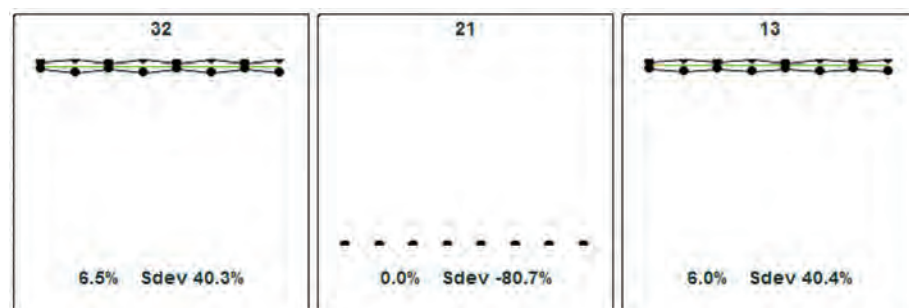
Using the AT5, connections were made to the three phases of the motor and a static test was performed. Next, the motor shaft was manually moved during the dynamic portion of the 3-phase test, and at the end of the test the instrument showed the results.

When performing the dynamic test between phases 2-1, it became clear that this was the phase that had the problem.

LESSONS LEARNED

OWNERS AND OPERATORS CAN REDUCE MAINTENANCE COSTS

A 17-kilowatt, 400-volt motor is not expensive, but when it is mounted on the roof of a building, and the owner has to rent a crane to lift that motor for installation and removal, the cost to the owner can become extremely expensive when it comes to maintenance and reliability. If the



Stator and rotor signatures from the AT5 test report.

hospital's maintenance team had owned and utilized a motor circuit analysis instrument such as All-Test Pro units, then they would have been able to tell right away that the motor had been the "bad actor" and not the VFD. Many hours were wasted by ordering and installing a new VFD when it had not been the true cause of the problem.

DISTRIBUTORS AND SUPPLIERS CAN IMPROVE QUALITY ASSURANCE

Motor distributors and suppliers should implement an additional quality control measure prior to delivering new or off-the-shelf motors to their customers. Spending three minutes to check the condition of motors will help distributors and suppliers avoid warranty issues and increase customer satisfaction.

CONTINUING TO IMPROVE

Since the time of this success story, All-Test Pro has continued to develop and manufacture reliable motor testing equipment to meet the needs of the industry. The newest design, the All-Test Pro 7, uses the company's proven, patented technology to look beyond vibration, temperature, and ultrasound test methods—giving technicians instant answers on a motor's health. It represents the seventh generation in product innovation that ensures the reliability of motors in the field and helps to maximize the productivity of maintenance teams everywhere.

Technicians can use the All-Test Pro 7 to boost motor testing methods. Test any motor's resistance, stator, rotor, contamination, and insulation stats all

on one device and receive accurate diagnostics within as little as a few minutes.

With the All-Test Pro 7, technicians can use the patented stator and rotor signatures to test the squirrel-cage rotor and stator with a single assessment. Technicians can also diagnose common fault types using this product's patented test value static (TVS), which provides a sum calculated from a three-phase MCA static assessment.

This product tests every AC motor type. It evaluates the electrical health of synchronous, single-phase motors by assessing their stator wings, rotors, cables, and other components. ■

Since 1985, All-Test Pro, LLC has provided industry with the most advanced predictive maintenance testing and troubleshooting tools for AC and DC motors, coils, windings, transformers, generators, and more to a wide range of industries worldwide. With a full line of testing instruments, software, accessories and training programs, All-Test Pro has the tools you need to perform advanced non-destructive motor testing and analysis for both de-energized motor circuit analysis and energized electrical signature and power analysis. The extensive capabilities of the instruments, coupled with dependable post-sale training and technical support, ensure improved productivity, reduced downtime, and a rapid return on investment. For more information, visit www.alltestpro.com.

SEEPEX.

An Ingersoll Rand Business



MINIMIZE YOUR DOWNTIME.

Progressive Cavity Pumps With Short Lead Times.



FAST SHIP PUMP PROGRAM

- 80% OF PARTS IN 24 HOURS
- SELECT PUMPS IN 5 DAYS

CONTACT YOUR LOCAL SEEPEX REPRESENTATIVE OR SEEPEX DIRECTLY TO TAKE ADVANTAGE OF FAST SHIP PUMPS.

SEEPEX OFFERS A FAST SHIP PUMP PROGRAM TO CUSTOMERS WHO REQUIRE EXPEDITED DELIVERY OF A PROGRESSIVE CAVITY PUMP.

Customers no longer have to suffer through long lead times associated with typical pump companies. SEEPEX is offering the ability to order select pump models at industry-leading speed in as few as 5 business days with other build-to-order models available in 2-3 weeks. SEEPEX is changing the way business is done by shifting the industry standard lead time by as much as 75% with the below-offered pump models.

When in trouble, customers can rely on SEEPEX to keep their processes up and running with minimal downtime.

"WE HAD A CUSTOMER WITH A FAILING PUMP ON A CRITICAL DEODORIZING APPLICATION. WITHOUT THE PUMP FUNCTIONING, NO PRODUCT COULD BE SHIPPED FROM THEIR PLANT. THE CUSTOMER WAS IN A PANIC AND NEEDED A PUMP IMMEDIATELY. WE CONTACTED SEEPEX AND THEY WERE ABLE TO SHIP OUT A NEW PUMP, COMPLETE WITH A CUSTOM GEARBOX, IN SEVEN BUSINESS DAYS."

– Steve Geraldson, Tencarva, SEEPEX Distributor.

SEEPEX PUMPS OFFERED IN THE FAST SHIP PUMP PROGRAM:



**GENERAL
INDUSTRIAL PUMPS**



**ACCURATE
DOSING PUMPS**



**MAINTAIN-IN-PLACE SMART
CONVEYING TECHNOLOGY (SCT)**



WOBBLE PUMPS

SEEPEX Inc.
511 Speedway Drive
Enon, OH 45323 USA
+1 937 864-7150
www.seepeex.com



GAS TURBINE POWER GENERATION GETS A BOOST

Sundyne BMC process gas compressors increasingly deployed as gas boosters in co-generation power plants

BY COLIN GUPPY, SUNDYNE

In recent years, the demand for clean and affordable energy has increased the popularity of gas turbine power generation in industrial and commercial co-generation, or co-gen, power plants. Co-gen power plants require gas pressures in the range of 250 to 750 psig to operate their turbines in an optimal fashion. Interstate gas pipelines transport gas at different pressures—ranging anywhere from 30 to 125 psig. In order to boost incoming gas pressures to levels required by turbines, many co-gen facilities at refineries, chemical plants, hospitals, universities, and other industrial plants are deploying Sundyne fuel gas boosters.

PLAYING A VITAL ROLE

The fuel gas booster is one of the most important pieces of equipment in co-gen power plants, because

if the fuel gas compressor fails, the entire power plant stops. Common requirements for fuel gas boosters include high efficiency across variable suction pressures and several gas turbine operating modes, a small footprint, simplified installation, and short delivery times.

KEY VALUES ARE CRUCIAL

To address these requirements, Sundyne compressors feature a design that emphasizes the following key values for the industry.

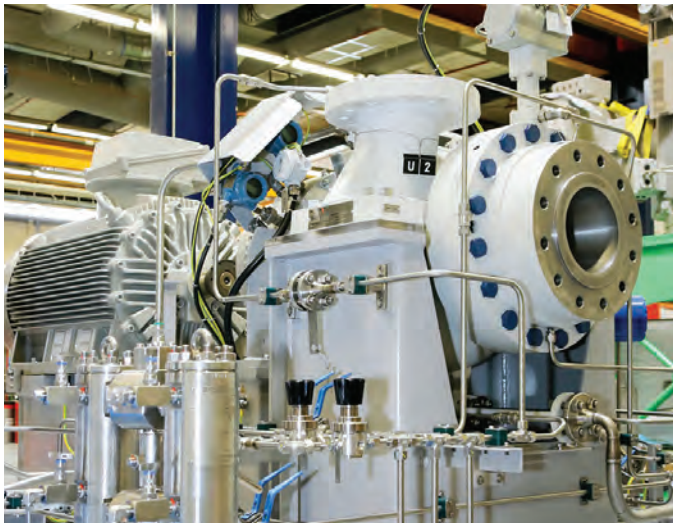
HIGH EFFICIENCY

Sundyne's high-speed digital control system integrates all the compressor control functionality in a single system—including surge protection, load-sharing capabilities, compressor-switching, and discharge pressure control. This system has been designed

to provide the highest efficiency and reliability, and it can be configured to control compressors in multiple configurations, including variable inlet guide vanes, suction throttling, variable speed, and/or gas recirculation.

SAFETY

Unlike alternative sealing arrangements such as labyrinth, carbon rings, or single seal configurations—Sundyne's Tandem Dry Gas Seals configuration is the only sealing arrangement to provide a fully controlled gas emission system. This oil-free operation avoids fuel gas contamination and assures greater process stability. Sundyne's oil-free design eliminates concerns related to oil contamination. For fuel gas boosting applications, oil content should be less than 1 part per million to guarantee optimal gas combustion



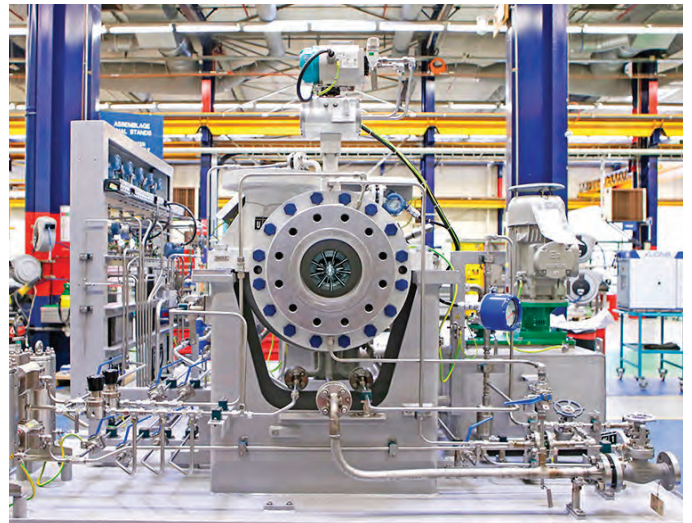
in the turbine. Compared to alternative technologies, such as oil-flooded screw compressors, Sundyne's technology eliminates oil contamination without relying on filtration or separation systems.

PULSATION-FREE, SMOOTH GAS FLOW

Fuel gas boosting compressors need to continuously deliver a steady supply of fuel gas at pressures needed for optimal gas turbine operation, under all load conditions. Sundyne's centrifugal technology is specifically designed to deliver smooth, pulse-free flow.

SMALL FOOTPRINT

Now 75 percent smaller than volumetric compressor technology, Sundyne's single-skid packages eliminate the need for large foundations and lengthy installations, making them ideally suited for smaller co-gen facilities (or offshore units) where space and manpower are limited.



MINIMAL MAINTENANCE

Reducing maintenance and maximizing uptime are key requirements for profitable power generation. Sundyne compressors are designed for five-year minimum uninterrupted operation.

SHORTEN DELIVERY TIMES

Sundyne fully-integrated compressor trains include auxiliary systems such as: air/water cooled gas heat exchangers; nitrogen generators; valve skids, and all the associated monitors and controllers. As a result, third-party packages are not required, which shortens delivery times. While many Sundyne gas compressors are built "fit-for-purpose," Sundyne also manufactures units to meet stringent API 617 standards.

THE DEMAND IS RISING

Ever-growing demand for cleaner and more affordable energy is increasing the popularity of gas turbine power generation in industrial and commercial power plants—and most of these plants prefer centrifugal compression to boost fuel gas from pipeline pressures to the higher pressures they require. With more than fifty years of technological development and investment, Sundyne gas compressors are specifically tuned to handle fuel gas boosting applications in any type of plant. ■

COLIN GUPPY is Sundyne's chief commercial officer. He is responsible for developing strategies and tactics for Sundyne's chemical industry sector. He can be reached at colin.guppy@sundyne.com. Sundyne has assembled industry-leading brands that provide customers with a wide range of fluid and gas handling services and solutions. Brands like Ansimag, HMD Kontro, and Marelli have broadened the original Sundyne portfolio for a wider range of markets. Sundyne equipment can be built to most standards, including ANSI, ISO, and API. For more information, visit www.sundyne.com.

FEATURED PRODUCT

SEEPEx

SMART CONVEYING TECHNOLOGY

SEEPEx SWITCH
Performance Guarantee

For added peace of mind when switching to a SEEPEx SCT pump. Customers who replace any brand PC pumps with a SEEPEx SCT or retrofit an existing SEEPEx pump will receive a three-year guarantee on wear parts: rotors, stators, seals, and universal joints.

CONVEYING CAPACITY **UP TO 530 GPM (120 M³/H)**

PRESSURE, 2-STAGE **UP TO 120 PSI (8 BAR)**

PRESSURE, 1-STAGE **UP TO 60 PSI (4 BAR)**

SEEPEX's Smart Conveying Technology (SCT) means quick maintenance, short service downtime, and lower progressive cavity pump life-cycle costs. The SCT pump's design enables the rotor and stator's sealing line to be adjusted to suit the application and compensate for wear, leading to energy efficiency and more than double the lifetime of the rotor and stator. SCT also shortens the maintenance time on the rotor and stator by up to 85 percent.

In SCT pumps, the compression between the rotor and the stator can be adjusted to achieve required pressure, thereby reducing torque and current requirements and operating costs. The stator is manufactured in two pieces covered by four metal segments. These segments are held in place by adjusting mechanisms that can be easily removed to replace the stator halves.

Conventional pumps have rubber stators that are chemically bonded inside a metal tube that creates a fixed compression between the rotor and stator. Discharge

pipng must be removed to replace the stator, and if removing the rotor and stator, additional manpower or rigging is required. SCT pumps do not need to be removed for maintenance, nor does the suction or discharge piping need removing.

Conventional pumps have a one-piece rotor connected to the power train by means of a universal joint. To remove or replace the rotor, the universal joint needs to be dismantled. SCT pumps on the other hand incorporate a smart rotor design. The rotor is manufactured in two pieces: the rotor head and the rotor geometry. This allows the rotor geometry, the portion of the part that wears, to be replaced without disrupting the universal joint, reducing replacement time and cost.

When SCT pump parts need replacing (usually after two or three stator readjustments), only the rubber stator pieces and rotor geometry are discarded. Waste and the cost of disposal are reduced, impacting the overall carbon footprint and total cost of ownership. ■

For more information, call 937.864.7150, email sales.us@seepex.com, or visit

WWW.SEEPEX.COM

FINISH THOMPSON

FT025 1/4-INCH AODD PUMP

The new 1/4-inch AODD plastic pump features a unique lube-free non-stalling air valve that is simple, rugged, and reliable, requiring no separate or mechanical pilot valve. The air valve contains fewer parts than other options on the market, reducing maintenance time and costs. The pump also features a durable stainless steel airline connection for maximum reliability. This workhorse pump has an inherently simple and rugged design with fewer components than other AODD pumps to deliver long-term reliability for users. For more information, visit www.ftiair.com.



ASO SAFETY SOLUTIONS

SAFETY MATS, EDGES, AND BUMPERS

The new ASO safety mats include five additional sizes of the standard black mats with straight or tapered edges, and four new mats in safety yellow. These safety products protect people and machinery from harm. Mats detect the presence of personnel on horizontal surfaces (usually the floor), edges can be used on any surface, usually near possible crushing or shearing points, and bumpers are used in applications involving vehicles or other moving equipment. For more information, visit www.asosafety.com.

FIELDCOMM GROUP

AMS DEVICE MANAGER WITH FDI REGISTRATION

AMS Device Manager is now the first FDI host system to earn the right to display the FDI registration logo in product marketing materials. By pairing a registered FDI Device Package with a registered FDI host, end users are assured of achieving the multi-vendor interoperability FDI promise of "one device, one package, all tools." In practice, this means any HART device supporting FDI will communicate seamlessly with AMS Device Manager, and with future host systems as these become registered. For more information, visit www.fieldcommgroup.org.



DENIOS

LITHIUM-ION BATTERY STATIONS

Lithium-ion batteries are becoming increasingly popular for their ability to deliver power from a compact size. Although they are used in a vast range of equipment, from handheld devices to cars, they are not as harmless as they appear, requiring special handling and care. Denios, a worldwide leader in the design and manufacture of storage containers for hazardous materials, introduces its new lithium-ion stations. Designed specifically for storing lithium-ion batteries, they are ideal for storing new, questionable, damaged, defective, or end-of-life lithium-ion batteries. For more information, visit www.denios-us.com.

PROCO PRODUCTS

PROFLEX SERIES 730CBD COARSE BUBBLE DIFFUSERS

The ProFlex Series 730CBD Coarse Bubble Diffuser is a sought-after pollution control technology used to aerate or mix wastewater for effluent/sewage treatment, used to ensure that sewage and high SG (specific gravity) content is "agitated," or diffused, to ensure proper mixing. The ProFlex 730 CBD is an engineered molded valve that, when submerged and charged with air, will create a series of bubbles strong enough to capture the sewage effluent and carry it to the surface of the tank. For more information, visit www.procoproducts.com.



MELTRIC

DSN100 PLUG AND RECEPTACLE

Meltric releases the DSN100, a new 100 A plug and receptacle—a switch-rated, 100 A, 600 VAC plug and receptacle fitted with Decontactor technology for peak performance and user safety. Meltric's Decontactor technology allows their switch-rated plugs and receptacles to be safely connected and disconnected under full load, up to 200 amps and 100 horsepower, in wet or dry conditions. They combine the safety and functionality of a disconnect switch with the convenience of a plug and receptacle in one device. For more information, visit www.meltric.com.

MELLER OPTICS

SAPPHIRE OPTICS FOR DRONES

Custom fabricated sapphire lenses, windows, and domes for protecting vision systems in commercial and military drones that are exposed to harsh environments are available from Meller Optics, Inc. These optics feature up to 85 percent transmission from the UV to IR and domes can include A/R coatings for enhancing transmission to better than 99 percent. Providing optimum surface protection for vision systems used in harsh environments, sapphire resists chemicals, fast moving dirt and sand, and high heat and pressure. For more information, visit www.melleroptics.com.



FLOMATIC

8-INCH MODEL 408S6 BALL CHECK VALVE

The Model 408S6 ball check valve is now available in a full 316 stainless steel 8-inch design. A proven favorite in the wastewater industry for decades, Flomatic's Model 408S6 ball check valves are American Iron and Steel (AIS) compliant and designed according to AWWA C508 standard lay lengths. Flomatic's ball check valves are anti-roping and self-cleaning with no sharp edges or snag points, which helps to prevent clogging from non-flushable wipes and other non-degradable sanitary products. They have been proven in wastewater lift stations for decades with a simple and reliable design. For more information, visit www.flomatic.com.

SENSAPHONE

EXPRESS II REMOTE MONITORING SYSTEM

The Sensaphone Express II remote monitoring system easily integrates with existing floats, pump alarm outputs, and level transducers to let water facility operators mind the status of pumps, tank levels, indoor and outdoor temperature, humidity levels, ventilation, carbon dioxide, power failure, and more. The Express II is on the job 24/7 and notifies designated users of changes in conditions, whether they are on site or away from the facility, and can alert up to forty-eight people with custom phone calls. For more information, visit www.sensaphone.com.



Q.E.D. ENVIRONMENTAL SYSTEMS

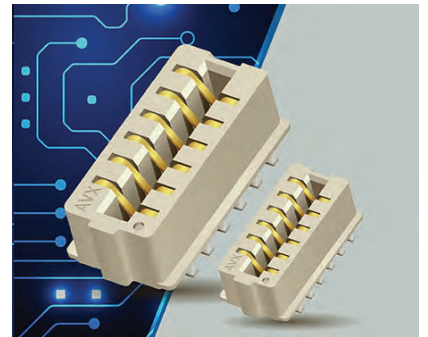
ST1000 GROUNDWATER SAMPLING PUMP

The ST1000, being 0.8 inches (20 millimeters) OD, can sample wells as small as 1-inch diameter at depths over 600 feet (183 meters), which is far deeper than other small diameter bladder pumps. Further, you can sample wells at almost unlimited depth with its optional drop tube inlet kit. This pump also fits larger wells with partial obstruction. The product of QED's decades of experience and service, this pump proves reliable in many environments for years of reliable operation. For more information, visit www.qedenv.com.

KYOCERA AVX

9159-650 SERIES CONNECTORS

The new 9159-650 Series features twice as many proven-robust, gold-plated BeCu compression contacts as the 00-9159 Series it's based on in roughly the same form factor and extends the current rating to 2.5A per contact to deliver exceptional reliability and high signal integrity performance in harsh environment automotive, industrial, and lighting applications. These new vertical, dual-row, top-entry card-edge connectors are available with four to twelve contacts rated for a full 2.5A each and arranged in a staggered, dual-row configuration. For more information, visit www.kyocera-avx.com.



WARREN CONTROLS

1800N SERIES VALVES

The 1800N series provides either modulating or on/off control in either two-way or three-way mixing. These valves also have diverting designs available in bronze, steel, and iron with a wide selection of trims, both electric and pneumatic actuators, and accessory instrumentation. These valves can be supplied in conformance with a variety of MIL-V-18030 service applications, including high pressure differentials, corrosive materials, liquids, gasses, steam, and seawater. For more information, visit www.warrencontrols.com.

IN TIMES OF CRISIS, RELIABILITY COUNTS MORE THAN EVER

Anoosheh Oskouian on pandemic challenges, pollution abatement, and performance standards



Anoosheh Oskouian is president and chief executive officer of Ship & Shore Environmental, Inc., a Southern California-based company that makes pollution reducing equipment for industrial companies. On a recent episode of MPT's podcast, The Efficiency Point, she discussed how her company works to provide reliable, innovative, and efficient

technologies that help clients collect, reduce, and even eliminate pollution emissions. An excerpt of that conversation appears below.

MPT: IN ADDITION TO THE EVERYDAY COSTS OF DOING BUSINESS, U.S. MANUFACTURERS IN MYRIAD FIELDS MUST CONFORM WITH POLLUTION ABATEMENT GOALS AND ENVIRONMENTAL REGULATIONS. HOW HAS SHIP & SHORE ENVIRONMENTAL HELPED THESE COMPANIES ACHIEVE THEIR GOALS?

ANOOSHEH OSKOUIAN: One of the ways we try to address the pollution control for the majority of industries is try to find ways to bring back an ROI on the investment. Just because there are a lot of rules and regulations that are going on naturally all across United States, which is one of the countries that looks into this very seriously and by way of collecting and capturing any potential emission.

Then maybe coming off of a facility, and taking it through our system, we try to see if we can bring back any sources of heat that they're able to use or any means of steam that they may be able to use, so we can try to find ways for it to have some sort of a payback.

But more than that, we try to focus on coming up with a solution that is not so exorbitant to the running costs of any operation—because this system basically handles all the pollution and not necessarily adds anything to the production.

MPT: THE RECENT PANDEMIC HAS AFFECTED BOTH PRIVATE AND BUSINESS LIFE IN INCALCULABLE WAYS. WHAT ARE SOME OF THE EFFECTS YOU'VE SEEN IN ADDRESSING POLLUTING ELEMENTS THAT MOST PEOPLE MAY BE UNAWARE OF?

ANOOSHEH OSKOUIAN: One of the goals that we had as soon as the pandemic came about—and we had the unfortunate environment in which a lot of companies had to shut down—but a lot of the companies, on the other hand, had to go into an overdrive mode to be able to deliver. For example, a lot of the chemical companies as a result of having to produce a lot of the solvents that were being used for the medical industry, and a lot of the plastic companies had to produce a lot more than they normally would and went to the pipes in order to be able to generate more products than were being used.

Therefore, as a result we saw a slowdown on one side and an extreme expansion on another side. The pandemic, if we could ever see a silver lining to such a tragedy, helped a lot of companies to grow their businesses and expand tremendously in order to be able to respond to the demand of people in need.

As a result, we had to make sure that we were constantly following the rules and regulations, but had to keep our manufacturing operations open because there was a lot of work to be done and we cannot manufacture unless we were to do it in person.

So we went through the challenges, but as a whole I think a lot of the companies have survived this time and are now stronger than ever and are producing much more than they ever did before. ■



To listen to an extended version of this interview, be sure to subscribe to MPT's podcast, The Efficiency Point.



COMPREHENSIVE SOLUTIONS FOR EVERY FILTRATION INDUSTRY NEED.

- Single Bag Housings
- Multi-Bag Housings
- Polypropylene Housings
- Indicating Filter
- Centrifugal Separators
- Backwashing Systems
- Coolant Filter Systems
- High Capacity Elements
- Filter Bags



800.821.5373
RosedaleProducts.com

Rosedale Products Inc.
3730 W. Liberty Rd. Ann Arbor, MI 48103
Email: Filters@RosedaleProducts.com
Phone: 734.665.8201 • Fax: 734.665.2214

©2022 Rosedale Products Inc.



PORTABLE WITH PUNCH.

CONDITIONING PUMPS

The Vaughan Conditioning Pump is a beast just below the surface. We mounted our submersible Chopper Pump to a portable stand and super-charged it with a high-velocity mixing nozzle. The result is a powerful pump that can be used in multiple applications at a single site.

Choose the unmatched reliability of Vaughan.

Vaughan
Unmatched Reliability



888-249-CHOP | **ChopperPumps.com**

RECIRCULATE WET WELLS | REMOVE FLOATING MATS | RESUSPEND SOLIDS