

2019 BUYERS GUIDE



AESSEAL

A specialist in the design and manufacture of mechanical seals and support systems

Our mechanical seals are used in a wide range of pumps and rotating equipment worldwide to prevent liquids and gases escaping into the environment. We manufacture mechanical seal types to suit all industries and our investment in modular design means that we provide the best on-time delivery performance in the industry.

The AESSEAL® range of seals, seal support systems and bearing protectors are all designed to improve pump reliability and reduce maintenance costs. Our business is built around giving our customers such exceptional service that they need never consider alternative sources of supply.

AESSEAL® holds the world's most comprehensive standard inventory portfolio. AESSEAL® operates from 230 locations in 104 countries, including 9 manufacturing and 58 repair locations, and has more than 300 customer service representatives who visit industrial plants every day.

PRODUCTS YOU CAN TRUST

With operations in six continents, AESSEAL® is one of the world's largest supplier of mechanical seals, achieving growth through exceptional customer service and innovative products that provide real customer benefits.

For every seal developed by AESSEAL®, we use state-of-the-art computational facilities and numerical tools to design and optimize seal performance prior to manufacture and testing.



EXPERIENCE THE EXCEPTIONAL

These tools include Predictive Software Code developed in-house, Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD). Our numerical tools are used for seal design, performance optimization, special product application, and troubleshooting.

In combination with an extensive test program the result is world-leading technology that keeps your equipment running longer. Product categories include:

- Cartridge Mechanical Seals
- Component Seals
- Bearing Protection
- Gas Seals
- Seal Support Systems
- Gland Packing

QUALITY FOCUS

Quality is non-negotiable—it's the thread that weaves together all our activities and people.

It's embedded in our manufacturing, ensuring world-class products, and it's ever-present in our processes and approach, giving customers an exceptional experience.

AESSEAL has adopted the European Foundation for Quality Management (EFQM) model. Promoting best practice, it includes measures in all key business areas including resources, people management and customer satisfaction. AESSEAL® is certified to ISO 9001, ISO14001, ISO29001, and OHSAS 18001 for our Global Headquarters and selected global locations. Continuous improvement is part of our culture. AESSEAL® is a member of the European Sealing Association.

Excellence demands exceptional quality in everything—from customer service and manufacturing, through to after sales support. We've created systems to ensure quality is ever present in our work.

YOUR RELIABILITY PARTNER

We don't see ourselves as a supplier but as a business partner, working alongside customers to deliver added value throughout the supply chain and beyond.

We offer inventory management, engineer call-out, training, water-saving audits and a competitor repair/replacement program, as well as a range of reliability services through our customer collaboration site-service program.

Our philosophy is simple: we'll do whatever it takes to deliver, wherever and whenever it's needed. Our aim is to consistently exceed expectation and meet even the most complex briefs and challenging lead times. ♦

AESSEAL

enquiries@aes seal.co.uk • www.aes seal.co.uk

AESSEAL Water Management



EXPERIENCE THE EXCEPTIONAL

Reduce energy consumption

Eliminate excess seal water

Improve pump reliability

Protect the environment



AESSEAL Water Management Systems save in excess of 25 Billion (US) Gallons of water for customers each year



Operating Principle

- 1** Water from the plant water line enters the system
- 2** The pressure of the barrier fluid in the vessel can be regulated via the pressure regulator
- 3** The barrier fluid is circulated to the seal and back to the system by the thermosiphon effect

www.aesseal.com

AutomationDirect



A well-recognized name in the industrial automation market, AutomationDirect provides quality products with FREE award-winning in-house sales and technical support. AutomationDirect provides customers with quick order and delivery through an online store and toll-free number. Prices on most products are well below the industry average and a thirty-day money-back guarantee is offered on nearly all items.

With tens of thousands of part listings, new products include the Productivity 1000 PLC, the Do-more BRX PLC, and the DURApulse GS4 AC drives. These products represent many years of design and development by AutomationDirect's own engineering team as well as their strategic partners. The company also offers motors, operator interface panels/HMI, power supplies, DC motors, sensors, pushbuttons, NEMA enclosures,

circuit protection, cut to length wire, pneumatic supplies, and more.

The state-of-the-art headquarters facility near Atlanta is designed throughout for maximum performance. Orders for in-stock items can be taken as late as 6 pm. EST and be shipped for next-day delivery. The majority of products are stocked for same-day shipping and two-day transit is free on orders over \$49 within the United States, Canada, and Puerto Rico. Some exclusions apply.

The company provides online tutorial videos through their web store at www.automationdirect.com as well as their YouTube channel. A Customer Forum provides peer support on technical and application questions.

AutomationDirect's customer support team was rated top-notch by its customers. For fifteen years straight, the Tech Support team has been voted by readers of Control Design magazine as best in service and support for various products. Also, their own customer surveys consistently rank the company's service as better than other suppliers. ♦



Affordable HMIs for any budget

Starting at only **\$98.00**, you're guaranteed the savings you need

C-more HMIs
starting at:
\$465.00
(EA9-T7CL-R)

C-more



C-more micro HMIs
starting at only:
\$98.00
(EA3-S3ML-RN)

C-more
micro

The C-more and C-more Micro HMI families provide a variety of affordable options and features to meet your operator interface needs, no matter the project size or complexity. Whether your application requires advanced interfacing or just the basics, we have a low-cost HMI solution for you.

- C-more advanced touchscreen HMIs are available in a variety of sizes including 6, 7, 8, 10, 12 and 15 inch, with widescreen options. Advanced functionality includes animations, logic, math, alarming, remote accessibility (web server and mobile app), data logging and a myriad of supported communication protocols.
- C-more Micro non-touch and touchscreen HMIs are available in a variety of sizes starting at 3 inches. With free programming software and a starting price of \$98.00, these micro HMIs provide the basic functionality needed for small systems and cost-conscious applications.

Research, price, buy at:

www.automationdirect.com/cmoredirect
www.automationdirect.com/cmoredirect/micro



AUTOMATIONDIRECT.com
1-800-633-0405 the #1 value in automation

Bently Nevada

ASSET PROTECTION AND CONDITION MONITORING

To operate safely and reliably, industries depend on actionable information. Bently Nevada systems and services from Baker Hughes, a GE company (BHGE), are designed to help our customers increase safety, optimize operations, protect their production assets, have less downtime, avoid unplanned events, and schedule condition-based maintenance.

Over 60 years of innovation means that Bently Nevada engineers and service teams provide an unmatched depth of expertise. Our products, software, and people provide customer-focused, plant-wide solutions to customers in over 140 countries, a truly global reach.

The company was founded by Don Bently, a pioneer in the condition-monitoring industry. Bently Nevada employs over 1,200 people worldwide and is headquartered in Minden, Nevada near Lake Tahoe, three hours east of San Francisco. ♦

QUICK FACTS

- 9 manufacturing plants in nine countries
- 60+ years of innovation
- 140 products in over 140 countries
- 1,600+ System 1® users worldwide
- 10,000 overspeed detection systems sold since 1994
- 100,000 rack monitoring systems installed globally
- 4,000,000+ sensor monitoring points

SYSTEM 1® FOR MACHINERY CONDITION MONITORING

BHGE's suite of ground breaking Bently Nevada rack-based and distributed machinery condition monitoring software and hardware solutions, vibration monitoring equipment, and sensors enable greater asset reliability and enhanced efficiency for your operations, backed by an expert global support system.



**BAKER
HUGHES**
a GE company



 **Bently Nevada**

Protect your equipment and prevent unplanned downtime

Bently Nevada condition monitoring hardware, software, and services from Baker Hughes, a GE company (BHGE), provide actionable information that enables customers to protect machinery and meet productivity goals.

Visit us at the IMC event in Florida, December 10-14, 2018

industrial.ai



Bradleys, Inc.

Large vertical motor load testing minimizes downtime and expense

Bradleys, Inc. continues to expand its Hi-Power Electric Motor Load Testing System capabilities. Load Testing is critical to ensure reliability of motors in the field and in mission-critical situations.

Load testing a motor has these benefits:

1. A critical motor recently repaired can be tested to validate the success of a major repair without the expense of installation and start up delays. If a motor has performance issues it may be easier to load test the motor on a different installation to determine if the problem is motor related or site related.
2. If a critical motor is destined for a warehouse for many years and high reliability is important, testing has value.
3. Today, many used motors are repurposed for different applications. Some of this repurposing requires horsepower and speed changes. Load testing the motor can validate the redesign.
4. Some organizations have had serious and expensive startup issues with problematic systems. Load testing a motor and drive system can help minimize startup problems. Systems can be overloaded to verify trip circuits. VFD systems can have power studies performed to verify compliance with strict power quality requirements. Twenty-four to forty-eight hour burn-in tests can be performed to help eliminate infant mortality failures.

To serve the increasing Vertical Motor Load Testing needs of customers, Bradleys' built two different load test stands. "For a motor weighing up to 50,000 pounds or more, Hi-Power Stand 1 accommodates 0 to 1,200 rpm

up to 2,500 HP, and 24,000 ft/lbs of torque; Stand 2 is designed for motors weighing up to 15,000 pounds or more, and accommodates 0 to 3,600 rpm up to 2,250 HP, 8,000 ft/lbs of torque," says Jim Williams, president of Bradleys, Inc. These stands are designed with vibration monitoring in mind. All of the typical performance parameters are monitored and recorded during the load test. All power (KW, KVA, Volts, Amps, Power factor, Efficiency, etc.), temperatures (six stator, two bearing, two ambient, cooling water, etc.), speed, torque, vibration and other required data points are recorded real time. Data collection of 200 samples per second recording of speed, current, voltage, and torque help create high resolution speed versus current and torque curves.

The flexibility of our Hi-Power Load Testing System enables Bradleys to meet your unique motor and system testing requirements. Variable voltage supplies of 480V@2,500 amps up to

13.2KV@250 amps are available for a variety of test setups. Water cooled motors are supported with a 150 GPM supply providing up to 200 KW of heat dissipation. Additionally, Bradleys can provide full voltage locked rotor testing up to 1500 HP. IEEE 112 Procedures are followed. Synchronous motor testing is performed using the IEEE 115 Procedure.

Bradleys encourages all customers to be present to witness their load test. The company's state-of-the-art customer observation room comfortably accommodates eight people. Perched 10 feet above the load testing stand, customers can witness the load test from a safe, quiet distance. For long days of testing, high speed Wifi is available to stay connected to your office. All real time data is displayed live, on dedicated monitors within the observation room. Remote monitoring can be provided for live data and video camera feeds via the internet if you cannot be present to witness your load test on-site.

Additional services are also available; such as dual frequency testing of vertical motors up to 7,000 HP, 13,200 Volts, 50 and 60 HZ. ANSI sound testing can be performed.

Bradleys' customer observation room is soundproofed with 8-inch thick walls to reduce 100 db test floor noise down to 68 db. If your application requires testing with a VFD, this service is also available.

"We are dedicated to ensuring our customers have the services available to increase their motors' reliability. We recognize lost productivity in operations is lost revenue. The Bradleys team is dedicated to adding new capabilities such as Vertical Motor Load Testing, to prevent and minimize downtime for our customers," says Williams. ♦





State of the Art Vertical Motor Load Testing!

At Bradleys, vertical motor load testing is performed with your vertical motor in the **upright** position.

Avoid the expense of installation and startup delays by load testing your recently repaired critical motor to identify performance or site related issues. Load testing identifies reliability issues before your motor is stored in our climate-controlled storage facility and validates the design of your repurposed motor.

Bradleys state of the art load testing facility includes a comfortable observation room where you may monitor your load test; or choose to remotely monitor from the comfort of your office.

Two Separate Vertical Load Test Stands to accommodate:

- » Motors 0-1200 rpm up to 2500 HP, 24,000 ft/lbs of torque, motors weighing up to 50,000 lbs or more.
- » Motors 0-3600 rpm up to 2250 HP, 8000 ft/lbs of torque, motors weighing up to 15,000 lbs or more.

Our LT stands are designed with vibration monitoring in mind. Performance parameters monitored and recorded in real time:

- » Power (KW, KVA, Volts, Amps, Power Factor, Efficiency)
- » Temperature (6 Stator, 2 Bearing, 2 Ambient, Cooling Water)
- » Speed, Torque, Vibration & other data points
- » Data Collection includes 200 samples per second recording of speed, current, voltage and torque creates high resolution speed vs. current and torque curves.

**See why the largest firms choose Bradleys to ensure
their critical motors are at peak performance!**



Electric Motor Solutions
Performance Testing

T: (361) 643-0100

www.bradleysmotors.com

Egger Turo Pumps, Inc.



1947: SWISS ENGINEERED PUMPS & IRIS PROCESS CONTROL VALVES

Egger, founded by Mr. Emile Egger, is an independent family-owned Swiss pump manufacturer specializing in handling solids and aerated liquids.

A key quality feature is that the whole production process—from development through functional testing—is carried out in-house under controlled conditions by 350 skilled employees.

Thanks to the contribution of each member of our team, we have succeeded in maintaining our excellent level of quality, the highest even by typical Swiss standards.

Our unique background has been achieved by our ability to identify with and listen to each of our business partners. These partners have many different specific needs; however, all can be sure of one thing: Egger has the unique solution for them. ♦



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478.250.9880



EVERYTHING BEYOND STANDARD



Innovative Valve Technology

Stable, linear,
repeatable, and
reliable flow control

Gas Clip Technologies

Gas detection has come a long way since the first portable gas detector with a catalytic diffusion sensor was introduced decades ago. New technology has led to the development of sophisticated, yet simple to use, gas detectors that can run for their entire lifespan without ever needing to be charged or calibrated. Gas Clip Technologies' continued development and refinement of advanced low-power photometric infrared technology for LEL measurement helps save more lives and makes compliance to safety regulations simple.

Gas Clip Technologies is leading the gas detection industry with new innovations every year that are designed to keep things simple. Recently added to its family of portable gas detectors is a maintenance-free multigas detector that provides 3-years of continuous runtime with no charging or calibration necessary—the Multi Gas Clip Simple Plus. Finally eliminate the risk of being exposed to hazardous gases due to

a gas detector running out of battery in the middle of a shift. Hydrogen sulfide (H₂S), carbon monoxide (CO), oxygen (O₂), and combustible gases (LEL) can all be detected with this simple-to-use and simple-to-maintain detector. Just turn it on and have worry-free assurance that you will be warned of the most common life-threatening gases 24/7 for 3 full years.

“Keeping gas detection simple means keeping people safe”

What makes this ultra-durable detector able to perform so well for so long even under the harshest of conditions?

The Multi Gas Clip Simple Plus uses a low-energy infrared beam of light inside the sensor that detects combustible gases. This sensor technology has an extremely low drain on the battery, allowing the battery to last for years at a time. Non-infrared (pellistor/catalytic bead) combustible gas sensors, which were the only combustible gas sensors available for many years, contained two beads and a filament which needed to heat up to detect gas. That continual heating process used an enormous amount of energy which quickly consumed the battery power of the detector. By the end of a shift, and sometimes even before a shift was over, gas detectors would need to be recharged. The Multi Gas Clip Simple Plus is always charged up and ready to perform.

The pellistor/catalytic bead combustible gas sensor required continual calibrations because it gradually degraded over time due to exposure to typical sensor poisons such as H₂S or silicones. It was also susceptible to breakage when the detector was accidentally dropped and bursting when it was suddenly exposed to a high level of gas concentration. The sensor could become instantly inoperable without the user's knowledge. The infrared combustible gas sensor in Gas Clip Technologies' detectors contains no fragile filament or bead to get poisoned, to break or to burst. It fails to safe, so the detector will notify you immediately if the sensor fails at any time during operation.

The Multi Gas Clip Simple Plus is the simplest to use and easiest to maintain gas detector available today. It comes with a 3-year warranty and no hidden service or monthly fees. All detectors are quality tested before they are shipped. Any necessary warranty work is handled quickly and efficiently by Gas Clip Technologies' certified service technicians at no cost to the customer. The service department is second to none. ♦

For more information, visit www.gascliptech.com.





Portable gas detectors you can count on

MGC Simple & Simple Plus the multi gas detectors that you never have to charge



Test for combustible gases (LEL), hydrogen sulfide (H₂S), carbon monoxide (CO) and oxygen (O₂)

NEW
3 year
4 gas

MGC Simple & MGC Simple Plus

- ◆ Two or three year run time with no charging
- ◆ Detect in oxygen deficient or oxygen enriched environments
- ◆ LEL sensor is immune to sensor poisoning
- ◆ Fails to safe
- ◆ Simple, one button operation
- ◆ Logs data at one second intervals whenever gas is detected
- ◆ 100% Quality control tested
- ◆ Full two or three year warranty



Our Family of Products



Multi Gas Clip

The portable multi gas detector that can run continuously for two months on one charge due to advanced infrared sensor technology. Tests for combustible gases (LEL), H₂S, CO and O₂.

Multi Gas Clip Pump

Compact, light-weight, handheld/wearable multi gas detector with internal pump draws from 75 ft. & runs for five days on a single charge. Tests for combustible gases (LEL), H₂S, CO and O₂.



Single Gas Clip

Eliminate downtime with our ultra-reliable portable gas detector. Tests for H₂S, CO or O₂.



Single Gas Clip Plus

Hibernate mode offers extended life option when detector is not in use. Tests for H₂S or CO.



Compatible Docking Stations

Portable, durable 4-bay dock stations quickly bump test, calibrate & log data for up to four detectors at once with the push of a button.

MGC Simple Clip Dock,
Multi Gas Clip Dock,

MGC Pump Clip Dock & Single Gas Clip Dock



Gorman-Rupp Pumps

For more than eighty-five years, Gorman-Rupp has manufactured the high performance, high quality pumps and pumping systems required for lasting service in the municipal, water, wastewater, sewage, industrial, construction, petroleum, and OEM markets. Our extensive line of pump products include self-priming centrifugal pumps, standard centrifugal pumps, submersible pumps, trash pumps, priming-assisted pumps, and rotary gear pumps. Gorman-Rupp also manufactures a complete line of state-of-the-art packaged lift stations and booster stations that include pumps, motors, controls, piping, accessories, and enclosures.

Through the years, our continued growth has focused on superior pump design, engineering, and customer service. As a result, Gorman-Rupp has become a company known for market innovations and improvements that continue to set standards for the pump industry.

Gorman-Rupp operates two manufacturing plants, producing a full line of pumps and sewage pumping stations with custom-made fiberglass enclosures and electrical control panels.

Gorman-Rupp has over 1,000 distributors throughout the United States and the world that are qualified to give expert advice on pump selection and applications. If you have

a service problem, a factory-trained distributor is only a phone call away. Our distributors are backed by the fastest parts service in the industry. Gorman-Rupp stocks more than 60,000 pumps and parts and ships 99 percent of them within twenty-four hours so your parts will be there when you need them.



The Pump People®

CONSTRUCTION MARKET

Gorman-Rupp is the leading manufacturer of pumps for the construction market. Offering nearly 3,000 models, we have one of the largest selections of fluid-handling products in the world. We have built our reputation on the workhorses of the construction pump market: self-priming centrifugal trash pumps. These dependable, versatile performers help contractors move

large volumes of water quickly. We also manufacture an extensive line of submersible, diaphragm, and priming-assisted pumps that offer maximum reliability and service life.

INDUSTRIAL MARKET

You will find Gorman-Rupp pumps operating in the most hostile industrial environments—down in the sub-basements; in the waste sumps; in the heat, steam, grease, and grime; handling the corrosive and abrasive industrial wastes other pumps cannot. Performing reliably month after month, year after year, in all types of waste control systems, pumping solids and debris that would shut other pumps down, Gorman-Rupp industrial pumps are designed for the people who service them.

MUNICIPAL MARKET

Gorman-Rupp sets the industry standard for sewage pumping systems including pumps, motors, and controls (complete sewage lift stations). Our solids handling self-priming and submersible sewage pumps offer maximum dependability and ease of service. Our commitment to “total system responsibility” means you only have to make one call should you encounter a problem with your system, from pumps and controls to the lights and fans in our enclosure. We simply offer the best sewage pumps and pumping systems in the industry. ♦





WHEREVER PUMPS ARE NEEDED, GORMAN-RUPP SENDS THEIR BEST.

Making golf course greens even greener.



When it comes to pumps, one name fits the golf industry to a tee: National Pump Company. That's why Trilogy and Blackstone golf courses in Peoria, Arizona, rely on NPC vertical turbine pumps to keep their greens in championship form. From agriculture and industrial to construction and petroleum, we have a pump that's up to the task. Wherever your travels take you, there's Gorman-Rupp. The pump that drives the industry.

For more information, contact your nearest Gorman-Rupp distributor or visit GormanRupp.com.

The Pump People®

GORMAN-RUPP USA / GORMAN-RUPP CANADA / GORMAN-RUPP AFRICA / GORMAN-RUPP EUROPE / GORMAN-RUPP RENTAL / HYDRO+ SA / PATTERSON PUMP COMPANY / PATTERSON PUMP IRELAND
NATIONAL PUMP COMPANY / BAYOU CITY PUMP COMPANY / GORMAN-RUPP INDUSTRIES / AMT PUMP COMPANY

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NOV

Backed by strong legacy brands, National Oilwell Varco (NOV) provides pumping and mixing solutions in various industrial markets around the world. We have been manufacturing pumping and mixing equipment and systems since the early 1900s, and over time have expanded our product lines and aftermarket support. With decades of application experience, equipment and solutions, we're ready to work with you to understand your unique challenges and provide Moyno™ pumps, screens and grinders, and Chemineer™, Kenics™, Greerco™, and Prochem™ mixing equipment to help you improve productivity, efficiency, quality, and performance.

PUMPS, SCREENS, AND GRINDERS

Our Moyno pumps provide global leadership in the design and development of progressing cavity pump technology. Delivering superior performance and operating efficiency, our pumps are ideal fluids handling solutions for a wide range of applications including slurries, viscous, shear sensitive, two or tri phase mixtures, or when applications require significant suction lift capabilities.

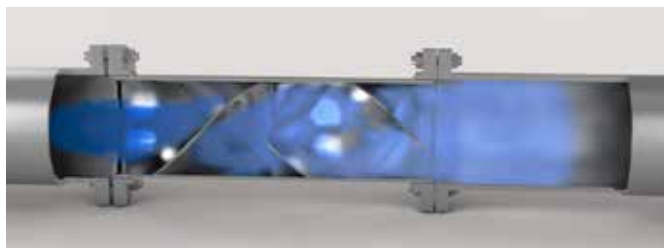
While continuing to engineer industry-leading pump ranges, we also offer Moyno grinders and screens specifically designed for industries requiring solids reduction or waste conditioning.

MIXING TECHNOLOGIES

Our Chemineer agitators, Kenics static mixers and heat exchangers, Greerco high shear mixers, and Prochem belt-driven side entry mixers bring superior, highly engineered mixing solutions to your industrial processes. Our fluid mixing knowledge, supported by the best application software, proprietary mixer designs and state-of-the-art laboratory allows us to be the preferred supplier of fluid mixing equipment. With many of the original gearboxes still in service today, we are recognized for producing dependable, heavy-duty equipment.

SERVICES AND AFTERMARKET

Service expertise drives predictable uptime that is critical to your operation. In every situation, you can rely on us to provide quick and effective support throughout the entire life of your project. Our deep knowledge of your processes ensures you have the latest technology for your application to get the job done right, with trusted products you can depend on. From consulting and field services to spare parts and training, let us be your strategic partner. ♦



NOV
industrial@nov.com
www.nov.com/industrial



As strong as our legacy.

Our Mono/Moyno progressing cavity pumps, screens and grinders, and Chemineer, Kenics, Greerco and Prochem mixing equipment have stood the test of time. Now part of the global NOV family, our industrial brands are leaders in providing the right solution for your process.

Learn more at [nov.com/industrial](https://www.nov.com/industrial)

Moyno™ | Mono™ | Chemineer™ | Kenics™ | Greerco™ | Prochem™

Sims Pump Valve Company, Inc.



For more than ninety-nine years, Sims Pump Company has been a leader in pump technology. Sims Pump has an excellent reputation for offering innovative solutions for marine and industrial pump applications. Sims specializes in solving balance, cavitation, corrosion, electrolysis, erosion, and radial thrust problems by upgrading existing pumps and impellers to the patented Simsite® structural graphite composite technology.



These two impellers operated for eighteen months in salt water. The Simsite® Impeller is unaffected by corrosion, erosion, cavitation, or electrolysis!

THE SIMSITE® ADVANTAGE

Sims Pump manufactures Simsite® Structural Graphite Composite Engineered Pumps, Impellers, Casing Wear Rings, Guide Bearings, Mechanical Seals and many other

pump components. These unique and patented Simsite® Pumps & Pump Parts are “Technology Upgrades” for new, or existing pumps. SIMS Pump has the ability to make any centrifugal pump Energy Efficient and long lasting. SIMSITE® Pump Products Out-last and Out-perform traditional metallic pumps by many years! All SIMSITE® Pumps and pump components improve performance, longevity, efficiency. They eliminate corrosion, erosion, electrolysis and cavitation problems! SIMSITE® Pumps and Parts are light weight, self-lubricating—the Simsite® advantage—the capability to adjust performance to maximize efficiency and performance—Sims can adjust the design of the impeller to maximize efficiency at the actual rated operating point required by the customer.

INDUSTRIES SERVED

Sims primary customer base consists of Customers who are pumping corrosive products. These customers include the U.S. Navy (Certified) and other navies around the world, the marine and offshore, chemical, power generation, wastewater, and oil and gas industries. Simsite® products are also used in a broad range of industries including, chemical, food processing, paper and pulp, refining, petrochemical, sewage treatment, mining, plating, skiing, steel, farming, water treatment, textile, and utilities.

PRODUCTS

Sims products include a complete range of precision machined and engineered pumps, (vertical and

horizontal) impellers, casing rings, guide bearings and sleeves wet ends, and other replacement parts for all centrifugal pumps. Sims specializes in upgrading impellers and rings, for any centrifugal pump. All products are 100 percent made in the United States!



TECHNICAL SERVICES

Application engineering, service, and support are provided from the corporate headquarters in Hoboken, New Jersey. Sims has hydraulic design, FEA, and CFD capability and SIMS specializes in corrosion resistance, life-cycle extension, efficiency, and troubleshooting centrifugal pumps. All of the Sims design engineers are specialists in pump and impeller design, and in the design of structural composites. The Sims engineering service and support staff can design replacement parts and/or complete pumps to meet your specific needs and performance requirements. ♦

SIMS PUMP VALVE COMPANY, INC.

1314 Park Avenue

Hoboken, New Jersey 07030

201.792.0600 • 201.792.0601 • 201.792.0606

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Sims

Since 1919

*Simsite® Impellers & Rings
Outlast & Outperform
Metallics!!!*

Stop Making Your Pumps an **Annuity** for Repair Companies & Shipyards



SIMSITE® Pumps, Impellers & Rings are Energy Efficient, Light Weight, and Perfectly Balanced for the entire Life of the pump, **NEVER CORRODE**, and Do NOT Support Electrolysis!

Smith & Loveless

EVERLAST™ Pump Stations

Revolutionizing Operations With Above-Ground Access To All Pump Equipment

Wouldn't it be really hard to get good grades in school if you didn't have the tools to succeed academically like text books, paper, and computers? Likewise, for school district maintenance departments and small utilities that manage sewage systems, not having the right operator safety and maintenance tools or resources can make a significant difference on the bottom line.

Just ask Steve Cox, maintenance supervisor for mechanical, electrical, and plumbing at Klein Independent School District near Houston. He's responsible for managing all facility maintenance for a burgeoning school district comprised of 50,000 students, thirty elementary, nine intermediate, and four high schools—and twenty wastewater lift stations. However, as time progressed and employee safety requirements tightened, the specialized maintenance and service protocols required for certain lift stations have become impossible for district staff to handle internally and become too costly.

"Unless it winds up being an electrical issue above ground, which is very rare, we are calling a contractor 95 percent of the time," Cox says.

That's because the district has historically installed typical submersible pumping systems. These systems require protocols that can include multiple personnel and significant amounts of specialized equipment to meet OSHA and other Class 1 Div 1 standards, like hoists, safety harnesses, gas monitoring equipment, and a vac truck.

These items are simply not feasible for Klein I.S.D. to possess. Because of

this, the district is forced to outsource submersible pumping system repairs to outside contractors at a considerable cost.



"When a submersible goes out, it's contractor time," says Cox. "My technician lets them in the gate and that's about it. We don't even have the equipment to pull the pump."

In almost every instance this has required the total draining and cleaning of the wet well with a vac truck, renting of a temporary pump, and a significant cost related to the repair or total replacement of the pump, Cox says.

To become more self-sufficient and minimize operations costs, Klein I.S.D. is in the process of converting as many of these pumping systems to above-grade EVERLAST™ Wet Well Mounted Pump Stations from Smith & Loveless. These systems feature all pumps, piping, valves, and controls installed outside of the wet well, at grade level, making operation and maintenance simpler, safer, and more economical than other systems. Wet Well Mounted Pump Stations require none of the tools or safety protocols associated with

submersibles. Their pre-engineered standard designs promote superior operator knowledge and common troubleshooting practices. Twelve of the district's twenty lift stations have been converted to Wet Well Mounted Pump Stations so far, according to Cox.

Because of the operational advantages afforded by its above-grade Pump Stations, one single full-time Lift Station Technician is now able to operate and maintain all of the district's lift stations. The technician easily and safely inspects each of the district's twelve above-grade stations on a regular basis by simply walking up and opening the lightweight enclosure.

The technician immediately has total access to all mechanical and electrical equipment—including the pump internals after removal of just four bolts. And when desired, remote monitoring and station communication is also available.

This allows the technician to easily follow the manufacturer's operation instructions and minimize downtime. With familiar designs and frequent inspection, the technician has developed a level of operational knowledge that far surpasses any other type of system, and it only continues to improve with every new day and additional lift station conversion. There have been zero repairs or replacements by outside contractors to S&L pumps over the last decade.

"With the S&L [above-ground] stations, we can do just about everything no problem with just one guy," Cox says. "Problems are not a very common occurrence. The S&L stations run very well." ♦

ARE YOU CONFINED BY PUMP O&M?

Immediate Access

No Confined Space

Low O&M Costs

Safest Operation



S&L Above-ground EVERLAST™ Pump Stations are never submerged—in sewage or the associated pit of submersible pump O&M costs and requirements. EVERLAST™ eliminates confined space burdens, operator safety concerns, and inconvenient pump clogs several feet underground. This translates to real savings in O&M labor time and costs—documented to be more than 50% versus submersibles.

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Smith & Loveless Inc.

TECO-Westinghouse Motor Company

TECO-Westinghouse Motor Company (TWMC) is committed to providing the highest quality craftsmanship of AC and DC motors and generators. In addition to motors, TWMC is proud to provide premium variable frequency drives (VFDs) and soft starters, as well as large motor repair services for a myriad of industries including petroleum, chemical, water/ wastewater, mining, marine propulsion, steel, and electric utility production. Ranging from ¼ to 100,000 horsepower, TWMC's durable and dependable machines are used to power projects of all sizes.

In recent advancements, TWMC extended the breadth of products to include the Pro-3200, a next-generation vibration measurement instrument for rotating equipment with anti-friction bearings. An IoT gateway serves as a secure private cloud for Real Time Monitoring, Interactive Data Collection, Diagnostic Analysis and Reporting. With built-in Wi-Fi, this portable device is accessible simultaneously by up to twenty mobile devices via a free mobile app for iOS and Android.

Forthcoming exciting products include multiple permanent magnet/ ECM motors and the offering of packaged drive solutions for fan and pump applications. TWMC maintains stock of low and medium voltage, vertical hollow shaft and solid shaft motors up to 800 horsepower. These Max-VHP® vertical motors meet or



exceed NEMA Premium Efficiency levels, providing an alternative solution to the standard pump motor. For optimal performance, use them with a reliable F510, low voltage Pump and Fan VFD. Customers save as much as 50 percent on power by reducing motor activity by 25 percent!

Scalable, modular medium voltage VFDs with advanced two-phase liquid cooling are manufactured in the US with NEMA 1 and NEMA 3R enclosures and can be easily paired with horizontal, Quick Ship motors from 800 to 3,000 horsepower that are carried in stock. TWMC also carries a product line of gearing solutions that offers customers inventory saving designs that are industry leading in efficiency and cost effectiveness.

TWMC continues to evolve to better serve customers' needs by providing motor and drive solutions that optimize efficiencies. The capacities of the Round Rock factory, synthesized with TECO-Westinghouse's global manufacturing resources has uniquely positioned the company to be internationally recognized with an American tradition for excellence in quality. ♦



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- ✓ Superior Product Reliability



Thordon Bearings Inc.

Thordon Bearings Inc. designs and manufactures a complete range of high performance, long lasting pump bearings that require no oil or grease. We are the world's leading manufacturer of long lasting non-metallic bearings used in vertical pumps and other industrial applications. Our proprietary polymers developed and produced by Thordon deliver high reliability and low maintenance costs, particularly in tough and abrasive operating conditions.

Thordon pump bearings have been used for both open and closed tube vertical pumps in a variety of applications including: power plants, pulp and paper mills, sewage and waste water treatment plants, nuclear power plants, steel mills, oil and chemical refineries, and shipyards. Our vertical pump bearings provide long wear life because of their low inherent coefficient of friction and self-lubricating properties, high abrasion resistance and dry start up capability. Thousands of pump repair shops, OEM's and end users around the world recognize Thordon bearings as the proven choice for performance and value. They are built to last, with no impact to the environment.

We produce several pump bearing grades which offer specific operating advantages in any pump bearing application:

- Thordon XL is excellent for water-lubricated applications and limited dry running performance.
- Thordon SXL is the preferred choice for dry start-up operation,

with a lower dry coefficient of friction, and similar wear life and abrasion resistance properties as Thordon XL.

- Thordon Composite bearings are specially formulated to provide outstanding wear life in highly abrasive operating conditions.

WHY USE THORDON PUMP BEARINGS?

- Long Wear Life and High Abrasion Resistance
- Dry Start Up Capability
- Low Friction—No “Stick-Slip”
- Sizing Flexibility—Easily Installed On-site
- Pollution Free Operation—Wet or Dry
- High Resilience and Impact Resistance
- Reduced Starting Torque
- Easy and Safe to Machine



- ThorPlas-Blue can be used in relatively non-abrasive pump bearing applications with water temperatures up to 80°C as well as offering improved chemical resistance versus other Thordon grades.

- ThorPlas-White, is our new food grade material that expands the applications of our bearings. It is ideal for food equipment and as a component for the treatment and distribution of potable water.

Thordon bearings are designed

to work under the most extreme conditions: abrasive, corrosive, high impact load, high humidity and especially in areas where bushings are difficult to maintain.

Thordon polymer bearings have been used in a wide range of industries and various applications. With each and every day, we are discovering new and innovative applications where our bushings succeed in preventing accelerated wear. Some of these applications include linear bearings of a paper cutter, motor scraper elevator found in earth moving equipment, and shaft keeper plates commonly found in the dairy industry. Our materials are fully customizable, self-lubricating, and offer longer bearing wear life than the traditional bearings they replace resulting in improved reliability and reduced life cycle costs.

Thordon's bearings, and bearing systems, are the proven, cost-effective, environmentally-responsible solution for rigorous and demanding bearing

applications. They are available worldwide through a network of local distributors who are factory trained specialists in our products. By providing engineered, customizable solutions, our bearings save companies both time and money. ♦

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WE COVER IT...
FROM DESIGN TO RELIABILITY, TO
ZERO IMPACT ON
THE ENVIRONMENT.

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Bearings

Upper
Lineshaft
Bearing

Bowl
Bearings

Lineshaft
Bottom
Bearing

● ThorPlas-Blue ● Composite ● XL
● ThorPlas-White ● SXL ● PT80

Long Lasting High Performance Vertical Pump Bearings

With over 40 years of experience manufacturing and supplying bearings, Thordon bearings are the proven choice to provide longer wear life. Thordon's vertical pump bearings have allowed hundreds of various industrial facilities improve reliability by reducing downtime.

- Abrasion resistance
- Dry start up
- Extended wear life
- Easy to design, machine & install



Certified to
NSF/ANSI 61
Certified to
NSF/ANSI 51

Thordon Bearings Inc. is on the Approved Materials List of Top 10 Global Pump OEMs

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Wilo USA

Wilo USA is a subsidiary of Wilo SE, which is headquartered in Dortmund, Germany. Wilo is one of the leading manufacturers of pumps and pump systems for heating, cooling and air-conditioning technology, for water supply and for sewage and drainage. The company is represented worldwide in over ninety countries by more than sixty subsidiaries, including twenty-one production sites, and employs more than 7,700 people globally.

PIONEERING FOR YOU

Our claim, "Pioneering for You," is short and to the point. In just three words, it explains what has driven us and our business, our thoughts and our actions since the company's founding.

As one of the world's leading manufacturers and suppliers in the pump and pumping systems industry, "Pioneering for You" symbolizes our aspiration to continuously improve our technical knowledge and competence in order to further cement our status as an innovation and technology leader.

It is our direct promise to our customers and partners to maintain a continuous focus on practical applications and to confront new challenges every day. After all, it is our customers' needs and desires that form the basis for our actions and products.

ONE COMPANY, THREE GREAT BRANDS

In March 2017, Wilo USA acquired U.S. pump manufacturers, Scot Pump and Weil Pump, and component manufacturer, Karak Machine Corporation, now named Wilo Machine. The three companies have headquarters and production facilities in Thomasville, Georgia; Cedarburg, Wisconsin; and Fort Lauderdale, Florida.

The deal was a strategic step in Wilo USA's future growth through expanded sales channels and a larger customer base and reinforces their overall commitment to the North American market. Additionally, the new machining facility further expands the ability to deliver high-quality products made in the United States. Together, the three names create Wilo USA's brand family united under one company dedicated

to quality, American-made products, and outstanding customer service.

ABOUT SCOT PUMP

Scot Pump manufactures pumps with the highest quality castings and components in Cedarburg, Wisconsin. The company initially provided pumps to the agricultural industry, and while still a leading supplier for that sector, today Scot specializes in manufacturing close-coupled centrifugal pumps for the OEM, HVAC, military, and industrial markets.

Scot's manufacturing facility is in the heartland of the some of America's finest automated foundries, where quality castings in gray iron, bronze, stainless steel and aluminum are all readily available. Scot has a distributor network around the United States and Canada which supports the aftermarket and replacement demands by stocking most of the common parts and pumps they offer. Additionally, Scot has developed a reputation with OEMs for short lead times and excellent customer service.



ABOUT WEIL PUMP

During its long and distinguished history, Weil Pump has been at the forefront in the design and manufacture of high-quality centrifugal pumps for construction, industrial, commercial, and municipal applications that engineers can specify and contractors can sell and install with confidence. All castings are poured in the USA, and all parts are machined and assembled in Weil's manufacturing facility. In addition to pumps, Weil manufactures removal systems and controls, ensuring one source accountability/reliability and trouble-free start-up and operation.

Weil pumps have the lowest lifecycle cost of any pump available. The insistence on high quality, rugged designs ensures the least maintenance over the lifetime of the pump. The pump requiring the fewest number of removals is the best value—and no one beats Weil for dependable in-pit operating time. Additionally, Weil's national network of local sales representatives are second to none. Weil's agents are exclusive and their interests and efforts do not stop with the sale. ♦

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

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

P1000 DRIVE: THE FLEXIBLE, INTUITIVE SOLUTION FOR FAN AND PUMP APPLICATIONS

Yaskawa's P1000 variable frequency drive provides simple, reliable, cost-effective control for variable-torque loads through 1000 HP. Specific application features, energy savings, and network connectivity make the P1000 a great choice for industrial fans and pumps.

Exceptional quality is the hallmark of Yaskawa products. Yaskawa drives have demonstrated extremely high reliability with an average MTBF (mean time between failure) of twenty-eight years or more.

User-friendly configuration tools, including a multi-language LCD display with a real-time clock, parameter storage, fan and pump application presets, and a portable USB copy unit make programming and configuration simple. DriveWizard® computer software delivers configuration, monitoring, and trending functions



YASKAWA



Standard P1000 Drive



18-Pulse Drive Package

enhanced by direct connectivity through the P1000's standard USB port.

A significant quantity of control points are included as standard. For applications requiring more functionality, the P1000 offers three expansion ports for additional I/O, feedback, and network communications, including DeviceNet, EtherNet/IP, Modbus TCP/IP, Profibus-DP, PROFINET, BACnet, and Lonworks.

Energy efficiency is maximized with variable speed control, and the P1000's integrated 12 pulse version reduces harmonic demand from the power system, contributing to a cleaner environment. Additionally, all materials used in the P1000 comply with the directive for Restriction of Hazardous Substances (RoHS).

P1000 Drives are also available in Bypass and Configured packages. The P1000 Configured package provides a P1000 in a NEMA 1, NEMA 12, or NEMA 3R enclosure, with space for several commonly used options, such as reactors, RFI filters, circuit breakers, etc. Custom engineered 18-pulse packages are also available. The P1000 bypass package provides a P1000 Drive in a NEMA 1, 12, or 3R (UL Type) enclosure, with a 3-contactor style bypass, allowing motor operation from either the drive or across the line. These packages have been designed for flexibility in providing commonly requested features and options to provide a customized drive solution.

The P1000 drive is available in 200-240VAC Three Phase 50/60 Hz (up to 175 horsepower), 380-480VAC Three Phase 50/60 Hz (up to 1000 horsepower), and 500-600VAC Three Phase 50/60Hz (up to 250 HP) ratings. All ratings are available in a Flange configuration that allows for mounting the drive with its heatsink out

the back of any Type 12 enclosure. In addition, the P1000 is designed for use around the world, and carries agency certifications for all major geographical regions. ♦

Proven Worldwide



23 million inverters, 15 million servo axes and 360,000 robots in the field are proof positive that Yaskawa has the engineering expertise, innovative technology and unsurpassed quality to inspire complete customer confidence.



The Yaskawa P1000 variable frequency drive provides simple, reliable, cost-effective control for variable-torque loads through 1000 HP. Specific application features, energy savings, and network connectivity make the P1000 a great choice for industrial fans and pumps.

No matter how you add it up, nobody equals Yaskawa. Call us today.



For more info: <http://budurl.me/YAI1146>

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YASKAWA

Blacoh Industries

Prevent. Ensure. Protect.

When pumping systems experience water hammer, pulsation, vibration, or non-steady flow, Blacoh can solve the problem, improve pump efficiency, increase longevity of system components, and prevent damage and leaks. Since 1976, Blacoh Industries has produced high quality system-wide solutions including pulsation dampeners, bladder and compressor style surge vessels, back pressure and pressure relief valves, calibration columns, diaphragm seals and leak containment systems.

WHAT IS A PULSATION DAMPENER AND WHY IS IT NECESSARY?

Any type of fluid pump (air operated double diaphragm pumps, metering pumps, hose, or centrifugal pumps) will ultimately create uneven pulses in a system and an unsteady fluid flow

due to the pump's fluctuating nature. Over time, this results in wear on the pump and system components, which can lead to sudden cracks in the pump, broken pipes and equipment damage, and inconsistent dosing in metering applications.

A pulsation dampener placed at a pump's discharge is designed to absorb and give pressure when needed to smooth out the flow and eliminate up to 99 percent of the pulsation and vibration in a system. These units protect a system from the beginning and are offered in a comprehensive range of materials in sizes from 4 cubic inches to 10 gallons, with each unit configured to meet your application needs.

For metering pumps, Blacoh's new Hybrid Valve is the first combination pulsation dampener and back pressure valve in one. The

combination eliminates common issues with installation, saves on space, and reduces the number of leak points. The quick-opening effect of a normal back pressure valve can create too much gain within the back-pressure valve resulting in inefficiency and chatter. The Hybrid Valve has been designed so that there is no chatter. Blacoh has also adapted this same unique engineering technology into their new back pressure and pressure relief valves.

In larger scale applications, the Blacoh Surge Control division provides customized engineering solutions with pressure vessels up to 40,000+ gallons for surge protection, pressure regulation, storage, and pump control.

Blacoh Industries is a woman-owned business and ISO 9001:2015 certified. Visit www.blacoh.com to learn why we say, "Don't Pump Without Us." ♦

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Check-All Valve Mfg. Co.

Since 1958, Check-All Valve Mfg. Co. has manufactured a complete line of in-line spring-loaded piston-type check valves. With worldwide service, Check-All Valve serves a wide range of industries including the chemical, petrochemical, pharmaceutical, food and beverage, water treatment, OEM, MRO, and many others. Lightweight, efficient, and rugged, every Check-All valve is designed and built to perform to exact needs and specifications. The company is ISO 9001-2008 certified and manufactures product lines compliant with CE/PED requirements, Canadian Registration Number guidelines, 3A Sanitary Standards, and others.

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

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

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

vacuum to 10,000 PSI. Standard or exotic materials are available and you can choose from a wide variety of spring settings and seat materials for any valve. Most options are available with fast delivery. Specially designed valves are another option that Check-All Valve performs on a regular basis. Check-All Valve Mfg. Co. is staffed to supply you with a quality product as well as personal technical services. ♦

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FCI's products are specified by name in many of the world's most demanding environments for flow instrumentation. They are recognized for their reliability, accuracy and repeatability in harsh conditions, where their total performance ensures users of both their end-product's quality and operational safety. FCI offers a broad range of application solutions from off-the-shelf devices to custom-engineered systems.

FCI flow switches are ideal for pump protection and flow assurance to prevent pump run-dry conditions, which can damage pump components, degrade pump performance over time and reduce their useful lifecycle. These flow switches feature a no-moving parts thermal dispersion flow sensor and plant rugged design that makes them ideal for a wide range of point-level process applications. Their versatile design also allows them to measure flow or level or temperature.

Flow conditioners developed by FCI's Vortab Company provide a low-pressure loss solution to correct flow profile irregularities that also affect the operation of pumps and the accuracy of flow instrumentation. In today's crowded plants, elbows, valves, blowers and other devices in the pipeline often disrupt flowing media and affect other equipment.

For efficient and low maintenance operation, pumps require a repeatable, uniform upstream flow profile of the liquid entering the pump. When elbows, valves, or other equipment are installed too closely to a pump, they can cause swirl and velocity profile distortions, resulting in uneven force placed on the pump impeller. Such disturbances can create excess noise and cavitations, resulting in reduced bearing life. Vortab Flow Conditioners correct these flow profile problems to keep pumps running longer and reduce maintenance costs.

FCI's flow meters are designed with advanced thermal dispersion mass flow sensors. They combine precision flow measurement accuracy with a rugged design that is compatible with caustic, corrosive, humid and high temperature environments. They are highly reliable, easy to install, require virtually no maintenance, and are designed for long-life.

All FCI products are tested and calibrated to rigorous standards at FCI's world-class, fully NIST traceable flow calibration laboratories to ensure instrument accuracy with the customers' actual fluid and process conditions. FCI is ISO9001:2008 and AS9100 certified and meets MIL-STD-45662A and ANSI/NCSSL-Z-540 requirements. ♦

Pump Flow Assurance

Flow Switches and Level Alarms

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GEMÜ Valves

GEMÜ Valves is one of the leading manufacturers of valves, measurement and control systems. The globally focused, family owned enterprise was established in 1964 with the Atlanta, Georgia, manufacturing facility opening in 1988. Today, GEMÜ continues to be a market leader with its innovative products and customized solutions. With several manufacturing centers and a presence all over the world, GEMÜ is committed to the pursuit of quality and excellence in the development, production, and manufacturing of their products. GEMÜ specializes in the following sectors with products and services: pharmaceutical, biotechnology, and cosmetics; food and beverage; microelectronics and semiconductor; water treatment; processing and power generation.

GEMÜ is proud to assume a leading role in the development and introduction of optimized valve design, superior sealing concepts, material development and instrumentation technology. Innovative technology is evident in leading edge instrumentation, including process controllers, valve positioners, flow measurement,

and valve communication / control modules for network control systems.

Automation options include Communication and Control Modules that facilitate commissioning and optimize diagnostic benefits of control network architecture. Unprecedented precision, repeatability, and reliability in communication and control are provided as a result of advanced sensor and microprocessor based control technology.

GEMÜ's ground breaking design and leading edge manufacturing technology provides engineered solutions to complex process challenges. GEMÜ's overriding philosophy is to ensure that each and every customer contact is a quality experience. ♦



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Helwig Carbon Products, Inc. is the premier American owned manufacturer of carbon brushes, brush holders, constant force spring assemblies, mechanical carbons, quick disconnect terminals and mounts, and sliding contacts.

Our carbon brushes and holders are designed for maximum performance on large industrial motors: commutator and slipring, fractional horsepower motors, tachometers, synchronous motors, and permanent magnetic motors. We serve several industries, including power generation (coal, wind, and hydro), steel, paper, motor repair, elevator, railroad, transit, aviation, and OEM. Helwig Carbon has attained many major OEM approvals and delivered 98 percent on-time.

One of the fastest growing areas in the pumping industry is bearing protection. When VFD drives control pump motors, you get significant energy savings and longer pump life. The downside is the induced shaft currents that are created in the pump motor will discharge through the motor bearings and cause frosting, fluting, noise, and eventual failure. This downtime can be costly. These induced currents can be mitigated by installing a Bearing Protection Kit (BPK) with a silver graphite brush on the motor or pump. This engineered solution will provide a path of least resistance for the induced currents and lead them to ground without going through the bearings. You will experience longer pump life, less costly downtime, fewer returns, and satisfied end users with a Helwig Carbon Products BPK.

Helwig Carbon also makes mechanical carbons for pump applications. These components are used for vanes, rotors, seals, bushings, and bearings in a variety of pumps. These precision machined carbon components maintain tight tolerances. Carbon graphite bushings

are self-lubricated and can operate at high temperatures. A wide variety of grades and sizes are in stock, plus

we can manufacture custom parts quickly. For more information, visit www.helwigcarbon.com. ♦

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Hoosier Pattern

Hoosier Pattern prides itself on being innovative and consistently raising the bar within the industry while maintaining the level of quality they are known for. Back in 2013, Hoosier was the first top service center to own and operate their own 3D sand printer in the United States. As of summer 2018, Hoosier will be the only service provider to own and operate two 3D sand printers under their roof along with maintaining a third printer in their facility as well.

Customers are the driving force behind everything Hoosier does and this expansion is no different. This will allow Hoosier to take on jobs that once had to be turned away due to capacity restrictions. The current turnaround time for printed sand of ten days will remain standard; however, the possibility to turn printed parts around sooner—if needed—for customers has greatly increased.

On top of the addition of the third sand printer in house, Hoosier has recently added a five-axis machining center as well as three Doosan DNM 650's to the machining side of the shop. All of these additions allow Hoosier to maintain current customers as well as take on new customers with more complex projects. ♦



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Lovato Electric Where Technology Meets Tradition

For nearly 100 years, Lovato Electric has been designing and manufacturing low voltage electrical devices for industrial applications.

Established in 1922 in Bergamo, Italy, Lovato Electric is a private company, managed by the same family of entrepreneurs for four generations.

Among the first companies in Italy to obtain ISO 9001 certification in 1992, Lovato Electric has a range of over 10,000 products complying with the strictest requirements of international standards including UL and CSA.

Manual motor protectors, contactors, overload relays, electro-mechanical starters, softstarters, variable speed drives, pushbuttons and selector switches, signal towers, limit switches, cam switches, disconnect switches, miniature circuit breakers, time relays, protection relays, level control relays, general purpose relays, micro PLCs, power supplies, battery chargers, metering, automatic power factor controllers, automatic transfer switch controllers, engine and



generator controllers, supervision, and energy management software are the types of products and solutions designed and produced by Lovato Electric.

To provide competitive products and services in the industrial automation and energy management fields is our company's mission.

Our thirteen branches abroad and a network of over ninety

importers guarantee the availability of Lovato Electric products in more than 100 countries all over the world.

Lovato Electric, Inc. (USA) is headquartered in Chesapeake, Virginia, and supports the U.S. market through authorized distributor partners. ♦

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Proco Products, Inc.

Proco Products, Inc. is the global leader in the design and supply of expansion joints for piping/ducting systems. For over thirty years, Proco has prided themselves on offering the most complete line of products to suit a variety of applications. Some of these products include rubber and molded PTFE expansion joints, braided flexible hose assemblies, and low torque sealing gaskets.

Also available from Proco Products, Inc. are the Series 700 ProFlex® rubber duckbill check valves. These valves are commonly used in the water and sewage industry. Rubber check valves are a cost effective way to control back pressures from sewage treatment plants, outfalls and tidal operations. All Proco check valves are manufactured completely of barnacle resistant rubber with a top-quality fungicide.

Recently, Proco was proud to receive NSF/ANSI Standard 61 certification on its Rubber Expansion Joints and ProFlex™ Check Valve product line. NSF/ANSI Standard 61 standards were developed by the National Sanitation Foundation (NSF) and the American National Standards Institute (ANSI) to establish stringent requirements for the control of equipment that comes

into contact with potable water or products that support the production of potable water.

Proco is involved in several technical and trade organizations, such as the FSA (Fluid Sealing Association—Rubber Expansion Joint Division and Non-Metallic Ducting Expansion Joint Division). One of Proco's own, Rob Coffee, Vice President of Sales and Marketing, is now serving as president of the FSA and serves on technical committees to ensure its continued development of proper expansion joint design for industries served. Other associations that Proco is proud to be a member of are NAHAD (National Association of Hose and Accessory Distributors), WEF (Water Environment Federation), AWWA (American Water Works Association), IDCO (Industrial Distributor Co-op), and the Cooling Tower Institute.

Proco Products, Inc. operates worldwide through a global agent and distribution network providing a wide range of products and services. This allows them to service the customer during all phases of a project regardless of location. Proco's main goal is to provide superior service to the demanding marketplace. Quality and service will always be Proco's highest priority. ♦

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Scalewatcher

Developed and patented in the Netherlands by Mr. Jan P. de Baat Doelman, Scalewatcher technology was introduced to the European

market in the 1980s. With immediate market success, Mr. Doelman brought the technology to the United States and applied and received a

patent in 1991. From that moment on, Scalewatcher North America has been on the forefront of environmentally-sensitive water treatment. Located in Oxford, Pennsylvania, Scalewatcher North America continues to lead the industry in descaling products that do no harm to the environment.

Scalewatcher North America focuses on the elimination of scale and the problems associated with scale build up. Industries know the costs involved in keeping their capital investments running smooth. Scalewatcher is there to help. Scaled cooling towers, chillers, and associated equipment can negatively impact a company's bottom line, and not just in cash. The caustic chemicals used to remove scale only create more problems with the environment. Your company can "GO GREEN" and stay within your budget.

If our product does not work for your application, we will buy it back! With our "Performance Guarantee," you never have to worry about losing cash on a product that does not work.

Scalewatcher North America Inc. manufactures its products in Oxford, Pennsylvania, so you know its MADE IN THE USA! We can treat pipe sizes from 1/2 inch up to and including 120 inches. Cooling towers, chillers, evaporative condensers and boilers can all benefit from Scalewatcher water treatment. If it scales up, we can break that scale bond and show you cost savings on maintenance. No plumbing required!

Why keep adding chemicals when Scalewatcher can reduce your chemical dependency?

Break the cycle now and save on energy, water, and maintenance costs with Scalewatcher products!

For more information, call 800.504.8577 and visit www.scalewatcher.com. ♦

**Be Scalewatcher™
Green**

**eco-friendly hard water conditioning
no salt, no chemicals, no maintenance**

**Easily installed and
truly maintenance free**

- Removes scale from pipe work
- Removes scale from heat exchangers and steam boilers
- Saves energy by keeping heating elements scale free
- Increases life of capital equipment
- Reduces cleaning costs, chemicals & labor
- Saves 50% on cooling tower make up water
- Saves irrigation water
- Provides short term payback

Applications:
Residential • Commercial • Industrial

Dealer territories available.
Scalewatcher North America Inc., Oxford PA
Call Toll Free (800) 504-8577 or by email: sales@scalewatcher.com
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Schenck USA

The All-Rounders: VIBROPORT 80 and VIBROTEST 80

VIBROPORT 80 and VIBROTEST 80 are the newest generation of portable measuring instruments. They are designed with powerful diagnostics

and analysis, balancing and condition monitoring capability, these all-purpose instruments are easy to use flexible enough for a broad range of

applications with modules for specific requirements. The two instruments can perform all of the same functions.

VIBROPORT 80: With its large screen, VIBROPORT 80 is perfect for in house measurements. The large screen also allows two-plane polar plots to be easily viewed.

VIBROTEST 80: A more compact, lightweight version of the VIBROPORT 80, this instrument is ideal for field analysis/balancing. It provides fast and easy route-based data collection, monitoring the condition of machines, and balancing.

The VIBROPORT 80 and VIBROTEST 80 come in several ready to use starter packages with optional additional modules available to add on at any time to meet your monitoring requirements.

ANALYZER PACKAGE: The analyzer package includes powerful vibration analysis for general machine condition. This package merges the two main modules for typical applications in the machinery diagnostics day to day business: Overalls Module and the FFT-Analyzer with the Report and EXaminer Software (ReX).

BALANCER PACKAGE: The balancing package makes field balancing easy. Unbalance occurs in nearly all types of rotating machinery. With one or two plane field balancing, machines can be balanced by means of the Balancer Module and Overalls Module with the Report and EXaminer Software (Rex).

DATA COLLECTOR PACKAGE: The Data Collector package allows for efficient machine management via route-based inspection. One of the important principles of condition monitoring is data acquisition and monitoring to alarm limits. With the Data Collector Module and Overalls Module with Report and Route Management software (ReO) you can upload a route and will be prompted to go from one machine to another in a systematic and efficient way to collect data. ◆



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SDT Ultrasound Solutions

SDT provides ultrasound solutions that give our customers a better understanding about the health of their assets. We help them anticipate equipment failures, reduce energy costs, and improve product quality while contributing to the overall reliability of their facility.

Our LUBExpert solution helps manufacturers grease bearings right by guiding them during the grease replenishment task. LUBExpert was awarded the prestigious Plant Engineering Maintenance Product of the Year in 2017.

Optimize your lubrication tasks by applying the right grease, at the right asset, at the right time, in the right amount, with the right indicators of bearing condition.

The SDT270 uses vibration and ultrasound in tandem to identify leaks, detect bearing failures, identify faulty steam



“We are the world's favorite ultrasound company.”

traps, reveal electrical faults, and assure tightness integrity of closed volumes.

The SDT340 with UAS4.0 is a cloud connected condition monitoring solution that measures ultrasound and vibration at up to 256k resolution to identify micro impacting and friction in rotating and non-rotating assets.

UAS4.0 is a concurrent networkable software to manage data from SDT340 or any other asset condition monitoring instrument; including wireless sensors. Tear down the data silos and pull all your asset condition information into a single hub.

SDT Ultrasound Solutions are the de facto standard for asset condition monitoring the world over. ♦

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SEPEX Inc.

SEPEX is a leading worldwide specialist in progressive cavity (PC) pump technology. We take a consultative approach to offering innovative products customized solutions. Each pump we supply meets the specific needs of an industry, a company, an application, and the product being pumped. For more than forty years, SEPEX has been delivering optimal, economical pumping solutions to customers in environmental, chemical, food and beverage, oil and gas, pulp and paper, and numerous other industries.

SEPEX Inc. is an ISO-9001-2015 certified, 82,000 square feet manufacturing facility situated on ten acres of land in Enon, Ohio. We have a larger presence in North America than any other progressive cavity pump manufacturer! We are also represented in more than seventy countries through a dense network of subsidiaries, branch offices, distributors, and agents. We expand consistently by developing innovative, market-driven products and services, by expanding our enterprise purposefully on an international basis, and by opening additional market segments. In growing our capabilities, new opportunities will emerge to the benefit of our customers.

As we continue to focus on the core competencies that have made SEPEX what it stands for today, we are also fully invested in the digitalization of PC pump technology and our customer experience. Today's business models based upon Industry 4.0 drive this initiative. Our activities in smart pump development, virtual and augmented reality service apps, and online pump management programs are all evidence of this effort. We've also recently launched new products such as the BNA pump designed to meet American Petroleum Institute standards, the BTVE pump with laser-level controls for high-viscosity sludge handling in wastewater applications, the 2-stage Smart Conveying Technology pump for easy maintenance with even high-pressure capabilities, and BRAVO Chemical Metering Systems for fully integrated treatment processes. ♦

SEPEX INC.

511 Speedway Drive • Enon, Ohio 45323
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JWC Environmental

JWC, the leader in wastewater treatment, has made a new addition to its comprehensive offering of wastewater sewage grinders! This new product is a giant leap forward for the company's existing line industry leading Channel Monster® grinders. The patent-pending innovations of the Channel Monster FLEX offers the new features that wastewater professionals are asking for. This includes a modular and adaptive architecture, higher flow capacity, and lower total cost of ownership. These innovations have been combined with JWC's other unique and proven technologies such as Wipes Ready® cutters and perforated screening drums to become the most efficient and effective high-flow wastewater grinder available today.

The Channel Monster FLEX is constructed with separate FLEX grinder and Solids Diverter modules brought together with a unique FLEX Frame. This modular design allows for the flexibility of servicing the cutting element and screening drum elements separately. The cutting element of any sewage grinder is the portion that typically needs overhaul in time. With the cutter assembly being a separate module in the Channel Monster FLEX, a customer can receive a pre-assembled cutter module when required and replace it in the field. This eliminates the need for shipping a full unit back to the factory for repair or being required to perform extensive repairs by replacing various parts.

The capabilities of the Channel Monster FLEX can also be expanded with changes in the surrounding community it serves. If peak flows increase or decrease at a given lift station a Channel Monster FLEX customer can now upgrade the unit in the field to handle changes in flow by ordering a larger or smaller Solids Diverter module.

The Channel Monster FLEX has been optimized to maximize flow capacity while minimizing any solids and wipes bypass. This translates to up to 20



percent more flow capacity in the same channel width when compared to earlier Channel Monster product. The Channel Monster FLEX achieves these high flows while still utilizing a perforated screening drums, instead of horizontal screening bars. This screening drum construction plus maintaining an extremely tight drum to cutter interface minimizes the opportunity for material

bypass and insures all debris include wipes are rags are shredded.

The Channel Monster FLEX is also available with an optional 10 horsepower (7.5kw) drive motor giving the highest cutting force of any high-flow sewage grinder on the market today. With flow capabilities from 3.0 to 40 millions of gallons per day and numerous combinations of grinder heights and screening drum diameters plus customized installation frames make the Channel Monster FLEX extremely versatile for both in-channel installations or wall mounting within wet wells. ♦

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CCI Piping Systems has been protecting your infrastructure since 1995, proving itself time and again with innovative solutions, creative ideas, and a firm commitment to our customers. It is our belief that a high standard of quality in the manufacture and distribution of pipe protection products can be achieved reliably, honorably, and profitably. We also believe that in order to truly achieve success, we must continue to deliver the most up-to-date technology at the most competitive prices in order to assist our customer in meeting their product and industry needs.

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Continental Pump Co.

We are a family-owned progressive cavity pump company that has been in business since 1946, George Heath Jr. is the second generation owner. Our 22,000 square foot facility is located in the Midwest, sixty miles west of Saint Louis, Missouri. We house over two million dollars in inventory for quick order processing and shipping.

Our pumps, drive units, and replacement parts are compatible with numerous progressive cavity pump brands. Our sales staff is knowledgeable and offers great customer service and support. Our loyalty to our distributors is unmatched, and we stand behind our products.

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InfoSight

In industrial environments, accurately tracking assets means knowing what you have, where it is, and its condition. InfoSight Corporation's metal tags withstand physical challenges including heat, abrasion, and exposure to ultraviolet light and enable error-proof tracking that can be maintained throughout an asset's lifespan.

InfoSight's tags can be used to track a wide variety of assets. One application is for plants that are required to have Leak Detection and Repair Programs. InfoSight's LDAR Tag System gives plants control over each LDAR component's unique ID number and tag supply. Customers order blank tags and print new ones only as needed. Additionally, InfoSight's unique LDAR tag design allows the attached tag to be read from either side.

InfoSight's durable metal tags can be applied directly to the asset or attached using a flexible wire type tie. The software included with InfoSight's laser tag printers allows the user to design tags that include alphanumeric messages, barcodes, and logos. A scan of the barcoded tag can confirm that the operator is checking the correct asset, update service records to show the completed work, or access notes and technical information via a customer's IT system.

InfoSight tags make asset identification and tracking simple. ♦

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"We BARCODE Difficult Stuff™"

INTRODUCING...

TwinTag™

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TG Water LLC

TG Water LLC is a distributor of products and services to water treatment industries. TG Water LLC has teamed up with global suppliers and experts to deliver leading technologies. Their targeted audience consists of a multitude of industrial and food processing industries, as well as domestic water systems and municipalities.

TG Water LLC provides an unmatched depth and breadth of knowledge and experience for providing solutions to water treatment problems. ♦



TG Water was established to provide products and services to water treatment industries.


TG Water has teamed up with global suppliers and experts to deliver leading technologies of MBBR, Reverse Osmosis, Membrane Filtration, chemical products, UV and Ozone. Their targeted audience consists of a multitude of industrial and food processing industries, as well as domestic water systems and municipalities.

TG Water has created a unique combination of engineering and sales. They provide an unmatched depth and breadth of knowledge and experience for providing solutions to water treatment problems.

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TG WATER LLC
 12195 Highway 92
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