

# PRODUCTS AND SERVICES GUIDE





# Environment One Corporation

## E/ONE BACKGROUND

For more than fifty years, Environment One Corporation has manufactured 1 horsepower SPD grinder pumps designed specifically for use in pressure sewer systems. From the 200 Series in the 1970s to the 2000 Series in the 1990s to today's Extreme model, almost two million end users in over forty countries rely on E/One grinder pumps daily.

## SPD GRINDER PUMP FOR WASTEWATER APPLICATIONS

In a low-pressure sewer system, constant, predictable pump output is the foundation for proper hydraulic design. It enables the engineer to minimize retention time, pump wear, and keep scouring action at effective levels.

The system pressures to be overcome by any given grinder pump in a low-pressure sewer system vary dramatically over the course of a day. E/One's progressing cavity pump readily accommodates these pressure variations while maintaining a nearly constant flow without ever operating at "near shut off"—thus avoiding the wear and motor burnout suffered by other pump types.

E/One's SPD pump has a nearly vertical H-Q curve. It is by far the most "forgiving" pump design—providing predictable flow over the full range of

typical system pressures; strengths critical in large-scale, low pressure sewer systems.

E/One's superior high head capability allows a system to have few, if any, lift stations. And, it easily accommodates additional future connections without compromising system performance. E/One grinder pumps offer reliable operation from negative heads to 185 feet of total head.

## SEWER ANYWHERE, IN ANY TERRAIN

Pressure sewer systems are cost-effective and can be installed in any terrain—flat, wet, rocky, even on sites with dramatic elevation changes. They are much more affordable than conventional gravity sewers, which require major excavation, and much safer for communities than septic systems, which can eventually fail, polluting ground and recreational water and endangering public health. Pressure sewer systems can cost as much as 80 percent less to install vs gravity sewers and reduce the number of lift stations required—or even eliminate lift stations altogether.

## SEPTIC TO SEWER CONVERSION PROJECTS

E/One sewer systems have been chosen for septic-to-sewer conversion projects both in the United States and

abroad, especially in coastal areas where the soil is not conducive to septic tank usage and as sea levels rise. At Rincon Point in California, failing septic tanks at oceanfront homes polluted the ocean. Surfers were getting sick and avoided the water after rainstorms. One resident could see the tide rise and fall inside his septic tank. Septic tanks were replaced with the E/One sewer system, resulting in a cleaner ocean.

## PRESSURE SEWER SYSTEM UPGRADES

E/One offers its grinder pump as a replacement for existing pressure sewer systems. E/One grinder pumps use integrated pressure switches instead of floats, which are less susceptible to grease buildup and eliminate nuisance alarms that result from stuck floats. The Upgrade is a one-piece pump that installs quickly and easily into the existing tank.

Environment One's Upgrade, the aftermarket grinder pump that works and goes on working without any preventive maintenance. It's the original grinder pump design, the one others have tried to copy but they just haven't gotten it right. Maybe that's why E/One's Upgrade has been the pump of choice for many pressure sewer upgrade projects in the mountains of Tennessee, the lakes of the Midwest, and many coastal communities. ♦





# **E/ONE** **EXTREME** S E R I E S

THE E/ONE *EXTREME* SERIES GRINDER  
PUMP FOR PRESSURE SEWER SYSTEMS

## **The Best Performing Pump in the Industry**

Featuring the longest average mean time between service calls with zero preventive maintenance and up to 185 feet TDH.

E/One can help you with design assistance and the strongest factory support in the category.

Get our free design software or send us your topo map for analysis.

### **LEADING THE INDUSTRY WE INVENTED.**

Environment One not only pioneered the grinder pump category, but consistently leads the industry both in system deployment and innovation. E/One remains dedicated to Total Quality, Continuous Improvement, and Extreme Customer Satisfaction.



**SEWER SYSTEMS**

Environment One Corporation  
[www.eone.com/sewers](http://www.eone.com/sewers)

A Precision Castparts Company



# Global Pump

Being the largest customer of your own product line provides unique insight into equipment designs that perform well. That is certainly true in the case of Global Pump and its parent company, Mersino Dewatering, Inc. Since Global Pump's inception in 1997, our standard has been to provide nothing less than cost-effective, durable products, and quality services.

Through the years, we have designed and supplied pumps and accessories for a wide variety of applications and industries. The construction and sewer industries heavily utilize our portable trash pumps capable of handling solids up to 4.5 inches. Mines, quarries, and the oil industry, which require the ability to move clean water up high elevations or over long distances, utilize our high-head pumps capable of over 700 feet of head. Our hard metal CD4MCu pumps are commonly used by the environmental and industrial sectors, while municipalities value our Global SafeGuard backup pumps and our trailer-mounted units, which are easy to use and maintain and offer low operating costs. The disaster relief and recovery industry, which urgently demands all hands and equipment on deck when nature calls, relies on Mersino to respond 24/7/365 with our extensive fleet and resources, twelve branches nationwide, and a distributor network throughout North America.

With the exception of our rotary and piston style pumps, the Global Pump product line utilizes an enclosed impeller design which results in greater fuel efficiency than pumps with an open impeller. These fuel savings accumulate over the course of a year of continuous operation and may even add up to



the cost of the brand new pump itself! For example, at a duty point of 2,500 gallons per minute at 105 feet of TDH, our 8-inch Global Standard Trash Pump (8GST) performs at an efficiency of 80 percent! That translates to an 82.8 Brake horsepower requirement and a fuel consumption of approximately 4.5 gallons per hour. How much does your pump cost you per project?

For over twenty-four years, Mersino has been the largest end-user of the Global Pump product line. Mersino's direct channel for feedback to the engineering and development teams and in-the-field research and development allows pump designs to continually evolve to meet market demands. This evolution includes maintaining our supreme quality, durability and ease of use—which lend to a project's, and participating parties', profitability and success. For instance, the removable suction spool and placement of the mechanical seal on our SAE-mounted pumps allow for front removal and eliminate

the need for shaft re-alignment after replacement or repair. Anyone who has experienced this repair first-hand in the field will appreciate our easier and faster option, which substantially reduces down-time on a project.

Whether you are involved with construction or mine dewatering, pipeline bypass, water transfer and supply, or emergency response, we have the pumps and expertise to meet your needs. If you dream of a purple pump on a trailer with baskets for fittings and various bells and whistles, our in-house design team can make it a reality! We have the ability to customize a pump to your specific requirements—diesel or electric, trailer or skid, trash-handling or high-head. Our applications specialists will work with you to find the right solution, customized to your situation.

Mersino is a full-service contractor with experience in design, engineering, installation, service, and on-site project management. Global Pump designs, tests, manufactures, services, sells, and rents equipment to customers around the world that is made in the USA. If you are unsure of your project needs or have a list of required dewatering/pumping equipment, the Mersino and Global Pump teams are only a phone call away. ♦

**GLOBAL PUMP**

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GLOBAL MESSENGER SYSTEM FOR REMOTE CONTROL & ACCESS TO REAL-TIME DATA**



# 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.



## 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. ♦





# NOT ALL PARTS ARE CREATED EQUAL.

WHEN YOU NEED THE MOST RELIABLE PARTS IN THE INDUSTRY, ASK FOR GENUINE 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®*



# Hoosier Pattern

For over two decades, Hoosier Pattern has always been on the cutting edge of innovation. We're consistently raising the bar in our industry while maintaining the highest quality for our customers. In 2013, Hoosier Pattern was the first service center to own and operate a 3D sand printer in the United States. As of 2020, we have four 3D sand printers in-house as well as over twenty-five machining centers.

Hoosier Pattern started in 1997 in a 3,500 square foot space with just a couple of machining centers. Today, we operate a 90,000 square foot facility with state-of-the-art technology, allowing us to take on jobs from various customers across multiple industries. Our technology includes:

- Over twenty-five machining centers including vertical and horizontal machining
- CNC lathes
- Five-axis mill
- Plate saws
- Four 3D sand printers for sand molds and cores
- 3D plastic printer
- EDM
- Manual CMM
- Laser scanner

Hoosier Pattern delivers manufacturing capabilities to a wide variety of industrial and commercial pumps. Our customers can request centrifugal pumps, water, sewage pumps, turbine pumps, transfer pumps, fluid flow pumps, and the list doesn't stop there! Our advanced technology allows for pinpoint accuracy and fast turn-around times.

Within two weeks of submitting a product order to Hoosier Pattern, a sand mold of a pump part is made and is ready to ship to the customer's preferred foundry. Hoosier Pattern uses the latest technology from the start, so castings can be made quicker, and products can reach customers sooner.

In addition, Hoosier Pattern has a diverse list of industries we serve, such as consumer appliance, agriculture, and automotive industries.

There is no need to sacrifice design for manufacturability when working with Hoosier Pattern. Complex core designs are 3D printed as one piece, reducing or eliminating assembly errors and foundry casting defects. No internal fins or mismatches. 3D printed foundry molds do not need traditional parting lines and flask sizes. This process gives the foundry the freedom to gate, add risers, and feed the casting in the best possible way to produce the optimal casting.

Complex pump component castings produced quickly and at a known cost are why pump manufacturers turn to 3D printing as the solution to pump casting problems.

Our employees share our vision of excellence in every aspect of their jobs. Our shop reflects that dedication to precision and quality. Our staff is well-trained, well-educated, and stays up-to-date in the latest knowledge of CNC machines, sand printers, plastic printer, laser scanner, accounting software, hardware, and software, allowing us to cater to our customers' needs.

Several of our employees have experience working in foundries—and they are keenly aware of the urgencies that these companies face daily. Our expertise and in-depth knowledge give our team members the advantage of understanding and meeting our customers' needs and expectations. We always strive for excellence in every job. If we promise it, we deliver, no matter what the cost. We know that "every second counts," and we take that seriously as we work on specific deadlines to meet your project's demands.

At Hoosier Pattern, we believe that innovation drives productivity. We have always relied on these practices to deliver on-time and premium-quality products to our customers throughout the United States and worldwide. We understand that industries are evolving, and staying up-to-date with the latest technological advancements is an essential part of our success.

Even though innovation is the driving force behind our product development, our commitment to manufacturing excellence will forever remain our highest priority. ♦







# INTEGRATED FOUNDRY TOOLING SOLUTIONS

3D PRINTING AND TOOLING FOR  
THE FOUNDRY INDUSTRY

## WHY CHOOSE HOOSIER PATTERN?

### STATE-OF-THE-ART FACILITY

90,000 Sq. Ft. Facility  
Over 25 In-House  
Machining Centers  
Laser Scanner  
CNC Lathes

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No Tooling Needed  
Complex Geometric Sand  
Cores & Molds

### INDUSTRIES SERVED

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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 20,000 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 fifteen 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. ♦

## LOVATO ELECTRIC, INC. (USA)

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# LS Electric America, Inc.

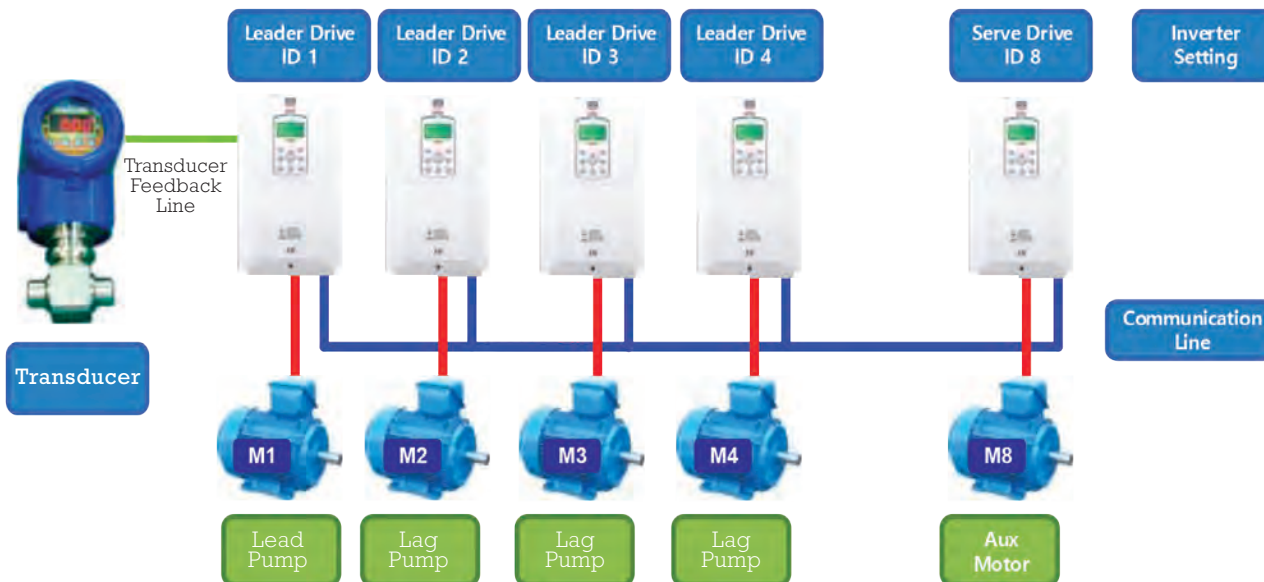
LS Electric is committed to innovation—investing significantly in R&D to deliver cost competitive, industry leading solutions, which exceed our customers' expectations. LS Electric America's mission focuses on variable frequency drives (fractional to 800 horsepower) and electrical power components (contactors, relays, manual motor starters, miniature circuit breakers, molded case circuit breakers, and air circuit breakers), and solutions from agricultural pumping to wind renewables! The H100 VFD features the capability to operate lead-lag pumping applications without the need for external control devices such as a SCADA system or PLC. This feature can reduce pump wear, increase system efficiency, and improve reliability.

## SIMPLE SETUP

- Uses the H100 standard keypad and parameters.
- Dedicated lead-lag macro makes programming easy. Setup in minutes!
- A two-wire RS485 connection is all that is needed between each VFD!
- Setup parameters are shared across the connected VFDs for streamlining and reducing startup time.

## FLEXIBILITY

- Redundant setup eliminates downtime!
- New lead VFD automatically continues operation in case of failure or outage.
- Automatic pump alternation based on operation time or sequencing (FILO/FIFO).
- System can use a single transducer (shared of the network) or have multiple for redundancy.
- Supports up to eight H100 VFDs! ♦



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# MegAlert

Save money, save time, and increase safety

MegAlert manufactures the MotorGuard, GenGuard, and CableGuard patented electrical insulation testing and protection systems designed to detect the first signs of insulation breakdown in critical equipment operating up to 15 KV. The MegAlert system senses when the equipment is offline and then performs a continuous "True Dielectric" I/R test on the winding insulation until the equipment is started again. This allows for corrective action to be taken in time to prevent failures on start up and increase plant uptime. The MegAlert's "hands off" testing capabilities increase personnel safety by eliminating exposure to dangerous arc flash conditions and electrical accidents.

## THE MEGALERT SAFETY ADVANTAGE

At MegAlert, safety and reliability is in our culture. Our mission is to manufacture and provide high quality insulation resistance testing and monitoring devices incorporating leading-edge technologies. This ensures safety for personnel, and reliability for motors and generators based on proven MegAlert patented technology.

With an estimated five to ten arc flash accidents occurring daily—far too often resulting in fatalities—motor and generator safety is more important than ever. Our devices allow for required testing to be done from outside of the cabinet, protecting personnel from exposure to potentially deadly arc flashes. Our devices save lives by enabling electrical workers to operate safely in hazardous conditions.



At MegAlert, we know that lives depend on the quality of our devices. That's why MegAlert's production facilities manufacture products that comply with the highest possible standards and regulations.

## THE MEGALERT RELIABILITY ADVANTAGE

Our products are designed with your need for reliability in mind, ensuring that you experience minimal downtime from your motors and generators. Our devices test automatically when they detect your motor or generator is offline to ensure improvement in plant and machine reliability. Having a highly reliable indicator of a motor or generator's probability for failure on startup is crucial, allowing you to reduce unscheduled downtime and save on potentially disastrous repair costs.

Any successful company requires operational dependability and reliability otherwise it cannot maximize its productivity. MegAlert is dedicated to helping businesses reach optimal



Model GP5000-MU-AS-D1 Motorguard installed in MV MCC.

functionality by installing systems to warn against critical motor failures. By installing our systems on motors and generators within a business, companies can feel confident that their operations are dependable and safe.

Our insulation resistance testers are unique in that they are the only true dielectric insulation resistance testers in the world. Our protection systems save companies valuable time by eliminating critical failures within their machinery, but also save expensive repair costs on potentially disastrous malfunctions.

## THE MEGALERT COST-SAVINGS ADVANTAGE

Our commitment to bringing you products that create a much safer and more reliable work environment comes with the added benefit of cost savings in crucial areas of operation.

There are huge benefits to knowing that a motor or generator is beginning to fail before it actually does. One of the main reasons that this is crucial is that it can save a company thousands of dollars in repairs, lost productivity, and insurance liability. At MegAlert, we understand that saving money is an important focus for all companies, and our products save our customers lots of it. Our resistance testers and other MegAlert products are indispensable. ♦

### MEGALERT, INC.

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**BEFORE »**



**« AFTER**



**MEGALERT** manufactures the MotorGuard and GenGuard patented testing and protection systems designed to detect insulation breakdown in critical motors and generators. The system senses when the motor or generator is offline and then performs a continuous dielectric I/R test on the winding insulation until the equipment is started again and will provide an early warning signal in time for corrective action to be taken to prevent a failure.

**Our new Digital megohm meter has an optional 4-20 mA output for remote trending and tracking the I/R readings.**

**» Eliminate Arc Flash Exposure**

**» Reduce Repair costs**

**» Prevent Unexpected Downtime**

**» Tests Equipment up to 15KV**

**» 500-5000 VDC Test Outputs**



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# Mueller Water Products

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

## COMMITTED TO SAFE DRINKING WATER

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

When you invest in water infrastructure, smart really matters, from the products themselves to the people behind them. Using rock-solid materials and ground-breaking technology, our products and services are designed and engineered for the long run. That means lasting value for the communities and contractors who choose solutions offered by the Mueller brands—value that ultimately can translate into cost savings.

## SERVING ALL YOUR WATER DISTRIBUTION NEEDS

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

monitoring water more safely and efficiently than ever before.

Mueller brands provide products and solutions for:

### Flow Control Solutions

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

Products in this category include:

- **Valves:** resilient wedge gate, butterfly, check, plug, cone, air release, knife gate, slide gates, and more
- **Service line connections:** drilling and tapping machines, service brass, and pipe repair
- **Control systems**

### Fire Protection Solutions

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

Products in this category include:

- Valves
- Hydrants
- Hydrant security
- Indicator posts

### Pipeline Management Technology

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

Products in this category include:

- Condition assessment
- Pipeline leak detection
- Correlation

### Metering and Communication Technology

Smart metering paired with the Mi.Net® system allows municipalities to enhance how they serve the community. Our Mi.Net system is a flexible communication network that grows as your needs change.

Products in this category include:

- **Meters:** residential, commercial/industrial, fire service, registers, valves, setters, and boxes
- **Communications:** nodes and data collectors
- **Software:** utility dashboard, customer service dashboard, consumer dashboard, and monitoring services
- **Services:** field operations, network operations center, and network-as-a-service.

## THE MUELLER ADVANTAGE

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

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

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

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

# SINGER®

a MUELLER brand

# Zero Compromise

The **Singer® Pressure Reducing Valve** with integral back up (PR-SM) is two valves in one. With a secondary independent valve chamber and pilot system, it keeps on working without any interruptions if the primary system fails. It's the only control valve that accepts zero compromise.



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## MUELLER

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# SCHENCK USA CORP.

SCHENCK USA CORP. is a subsidiary of SCHENCK CORP. Its parent company is Carl Schenck AG of Darmstadt, Germany; whose shares are ultimately held by Dürr, AG of Bietigheim, Germany.

SCHENCK USA CORP. is the company's new name as a result of the merger of Schenck Trebel Corp. and Schenck RoTec Corporation into one entity that comprises Schenck's Balancing and Diagnostic Systems Group for North America under Schenck RoTec GmbH.

SCHENCK USA CORP. is on four acres in Deer Park, New York, that includes a 22,800-square-foot manufacturing and assembly plant, and 17,000 square feet of office space for sales, service, administration and engineering personnel. The company's Southfield, Michigan, location is also a manufacturing and assembly plant serving the automotive customer base with a local engineering and service support staff.

SCHENCK USA provides a range of balancing and vibration analysis equipment for the production, maintenance and repair of rotating components. The company's engineering staff offers a range of experience for any balancing application and maintains a close presence on the balancing committees of the International Organization for Standardization (ISO) and the Society of Automotive Engineers (SAE), to ensure the latest practices and procedures are applied. The company is ISO 9001:2015 accredited.

The service team is available for the commissioning and calibration of balancing equipment from multiple North American service points, in addition to leveraging a

global service support structure. With the company's recent acquisition of Test Devices Inc., of Hudson, Massachusetts, it has expanded its capacities in the spin testing and balancing services areas.

The company provides production, sales and servicing of balancing, filling, assembly and test systems, vibration and monitoring systems as well as accompanying services for the automotive industry and their suppliers, for the electrical industry, turbomachinery, general industries, and aviation and space.

In order to maintain its current role as a market and innovation leader in these fields, the company is dedicated to the following points:

- Thoroughly understanding customers' needs and exceeding expectations through partnership interactions
- Ensuring high quality by continuously improving the effectiveness of the company's processes, products and services in accordance with its quality management system (QMS)
- Contributing to the global success of SCHENCK by observing and proactively anticipating market developments
- Ensuring a safe workplace for the company's employees and visitors
- Complying with laws and regulations applicable to the company's operations
- Treating vendors fairly in partnership arrangements
- Creating a rewarding and challenging environment of integrity and ethics



- Constitute a positive environment, where the company encourages internal improvement suggestions

## HM-Series Machine Advantages at a Glance

HM-Series machines are designed to:

- meet most balancing requirements in single-unit or in high volume production
- solve many horizontal, hard-bearing balancing tasks
- be fitted to many individual applications because of its modular design
- be well suited for the industrial work in a repair shop due to their sturdy construction
- make fast and accurate balancing possible due to permanent calibration
- have a measuring sequence with digital measured value processing that makes them stable
- enable balancing of a large spectrum of rotors with variable rotor support and adaptable drive
- offer a comprehensive safety package for the protection classes B and C, which will protect operating personnel ♦

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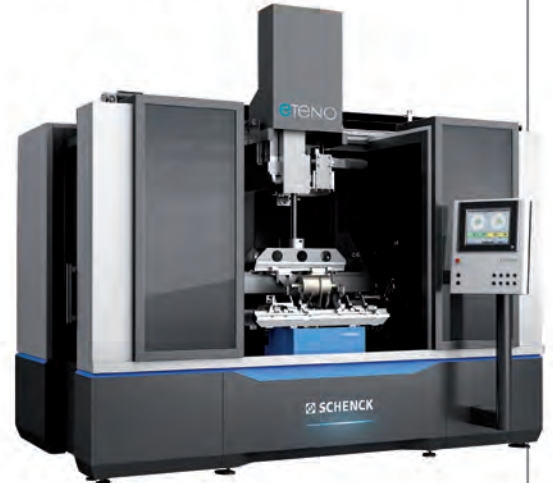
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- TESTING - END OF LINE



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# Sims Pump Valve Company, Inc.



For one hundred years, Sims Pump Valve 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 and 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 outlast and outperform traditional metallic pumps by many years! All Simsite® pumps and pump components improve performance, longevity, and 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.

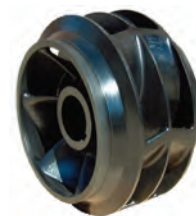
## INDUSTRIES SERVED

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

[simsite@simsite.com](mailto:simsite@simsite.com) • [www.simsite.com](http://www.simsite.com) • [www.impellerstore.com](http://www.impellerstore.com)

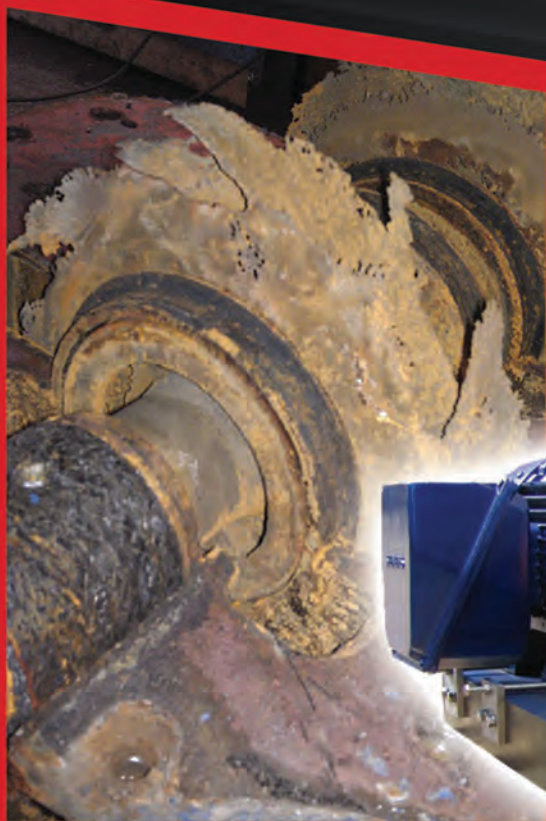


# **Sims**

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!



# Vaughan Company

Your source for reliable chopper pumps and pump systems

## OUR COMMITMENT TO YOU—RELIABILITY

As a pump user, you count on your equipment performing well every day. Who wants to worry about pump operations, especially when the pump is submerged in a greasy sump or stinky manure pit, or is otherwise difficult to reach?

Whether you operate a treatment plant that needs a cost-effective means of mechanical hydraulic mixing of sludge tanks, or you're a dairy farmer or corrections facility manager who needs to avoid clogged pumps to keep the water flowing, Vaughan has you covered.



## WE CHOP—AND MIX—IT ALL

We could simply tell you, "trust us, our pumps can chop—and mix—it all," but here's a real-world story that shows how our pumps can handle the most demanding challenges.

The three standard pumps in the main lift station serving the waste water treatment plant in Morgan's Point, Texas, often became clogged with shop rags, lumber, plastic bottles, gloves, and wet wipes when rainfall exceeded two inches. The city spent about \$100,000 to maintain and service those pumps over seven years. After the city installed a Vaughan Company SE-Series Submersible Chopper Pump, they have experienced over 100 inches

of rainfall with no plugging incidents or other issues. And, during Hurricane Harvey, the Vaughan pumps ran continuously for seventy-two hours with no plugging incidents and no problems while pumping more than 2.5 million gallons of unscreened sewage through the lift station.

"I just wish we had purchased these pumps years ago to eliminate the maintenance headaches we endured, and the costs we incurred keeping our previous pumps in operation," says Brian Schneider, city administrator for Morgan's Point.

## WHY YOU SHOULD CARE THAT WE'RE FAMILY OWNED AND MADE IN THE USA

Adding to exceptional pump reliability and performance, with Vaughan Company you get the advantages of buying from a family-owned, made-in-the-USA company. We source nearly all of our materials in the United States and manufacture 100 percent of our pumps here. We support American jobs and American companies, and by sourcing U.S. materials and making our pumps here, we reduce the costs incurred from international suppliers.

## A HISTORY OF CONTINUAL IMPROVEMENT BENEFITING OUR CUSTOMERS

In the 1950s, company founder Jim Vaughan invented the world's first chopper pump to solve the problem of clogged manure pumps for local farmers in Washington. Nearly sixty years later, Vaughan Company is still making the world's most reliable chopper pumps and pump systems—and providing unique solutions for farmers, treatment plant operators, and other pumping professionals.

Today, we continue to live Jim's philosophy of "what could make this better?" From in-house 3D computer modeling to computational fluid dynamics (CFD) analysis, Vaughan Company is committed to continuous product improvement to maximize pump performance for our customers.

Further, all of us at the Vaughan Company understand the importance of exceptional customer service, take time to understand your needs, and work closely with you to tailor pump solutions that solve your unique challenges.

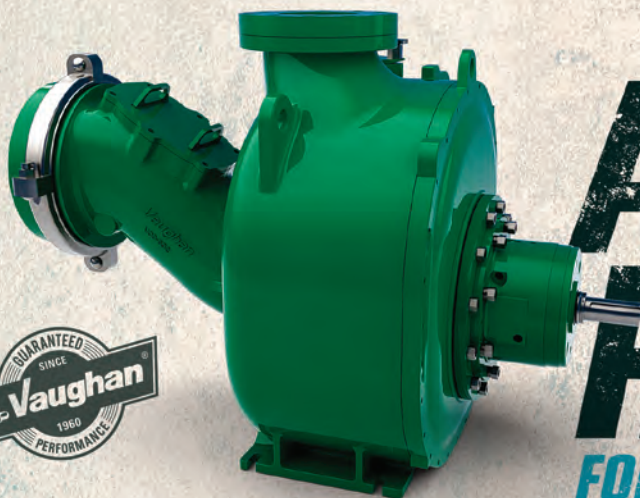
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Unmatched Reliability



# Blacoh Industries SENTRY XP pulsation dampeners to 15,000 psi

With innovations in design, Blacoh's new generation SENTRY XP 316L stainless steel dampeners offer better performance and more options for high pressure applications.

The PTFE bellows in the new XP is oriented with the inside wetted and an internal support disk allowing PTFE models to be rated up to 15,000 psi. The cap and disk are the only wetted components in the new bellows design. In applications that require Alloy 20 or Hastelloy C, the larger non-wetted housing is constructed of 316L stainless steel and only the smaller wetted components use the more costly alloy.

The new generation XP also boasts an improved sealing feature. The seal is created by a taper in the body coming in contact with a matching tapered cap. The taper design allows the cap and body to come together with zero clearance.

SENTRY XP pulsation dampeners are engineered for high performance and reliability with 316L stainless steel solid shell housings and ACME threaded caps. XP models are offered with pressure ratings from 2,000 to 15,000 psi using PTFE bellows and Buna-N or EPDM bladders. Choose from a wide range of inlet options, including Blacoh's exclusive flow-through inlet design that effectively removes both hydraulic and acoustic pulses in high pressure

applications for exceptionally smooth pressure and flow. ATEX and CRN available on specific models. Like all Blacoh products, SENTRY XP pulsation dampeners are proudly made in the USA. ♦



## LARGER VOLUME HIGH PRESSURE XP DAMPENERS

- ✓ NEW SIZES AVAILABLE IN 30, 36, 60, 90, AND 120 CUBIC INCH
- ✓ SUITABLE FOR USE IN HIGH PRESSURE APPLICATIONS UP TO 15,000 PSI
- ✓ MULTIPLE BLADDERS AND PTFE BELLOWS AVAILABLE FOR COMPATIBILITY WITH A WIDE VARIETY OF PROCESS FLUIDS

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# Carver Pump

Over eighty years of pump experience

Since our inception, we've become recognized as one of the leading centrifugal pump companies, building to the most demanding engineering specifications and military standards in the world.

Carver Pump's quality management system is certified by Intertek to conform to ISO 9001:2015. Our commitment to quality includes not only our hardware, but also superior customer service, leading-edge R&D, and continuous improvement in everything we do.

Whether the job is refueling fighter jets on the deck of an aircraft carrier, supplying paint to an auto assembly line, or bringing water to the fountain in a city park, we put our reputation on the line everyday with every pump we build.

## CUSTOM-ENGINEERED SOLUTIONS

Our specialty is addressing the most challenging performance requirements using advanced design tools: the latest solid modeling software for analyzing structural problems, and exceptional hydraulic design capabilities.

We've refined our expertise by delivering tens of thousands of pumps into a wide variety of applications, routinely developing new products for very specific

usage—for example, our tank-mounted 855 Series and new naval ship systems. Many of our standard products can be highly customized for specific OEM applications, such as parts-washing systems and boiler/heat-exchanger cleaning systems.

Whether the challenge is pump efficiency, difficult suction conditions or extreme environments, we'll engineer the best solution to meet your goals for reliability, quality, and performance.

## THE LATEST TECHNOLOGY

Every new pump design undergoes a series of rigorous tests using computer simulation, as well as in-laboratory testing. Using the latest finite element analysis (FEA) and computational fluid dynamic (CFD) software and advances in processing speed, we optimize our designs and troubleshoot before building a prototype. ♦

### CARVER PUMP

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## BUILT FOR PURPOSE



We build pumps for handling water, oil, chemicals and slurries for both the public and private sectors. We offer a full industrial product line with horizontal, vertical, single, and multistage pumps. Our pumps are engineered to handle high flows, high pressures, extreme temperatures, aggressive materials and/or entrained solids.



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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. ♦

## CHECK-ALL VALVE MFG. CO.

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

## 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.  
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check valves Check-All®.



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email us at [sales@checkall.com](mailto:sales@checkall.com)



Proudly manufactured  
in the USA

# ImpellerStore

Simsite® impellers and casing rings are the best impellers and casing rings in the marketplace! The reason our impellers are so good is because they are not

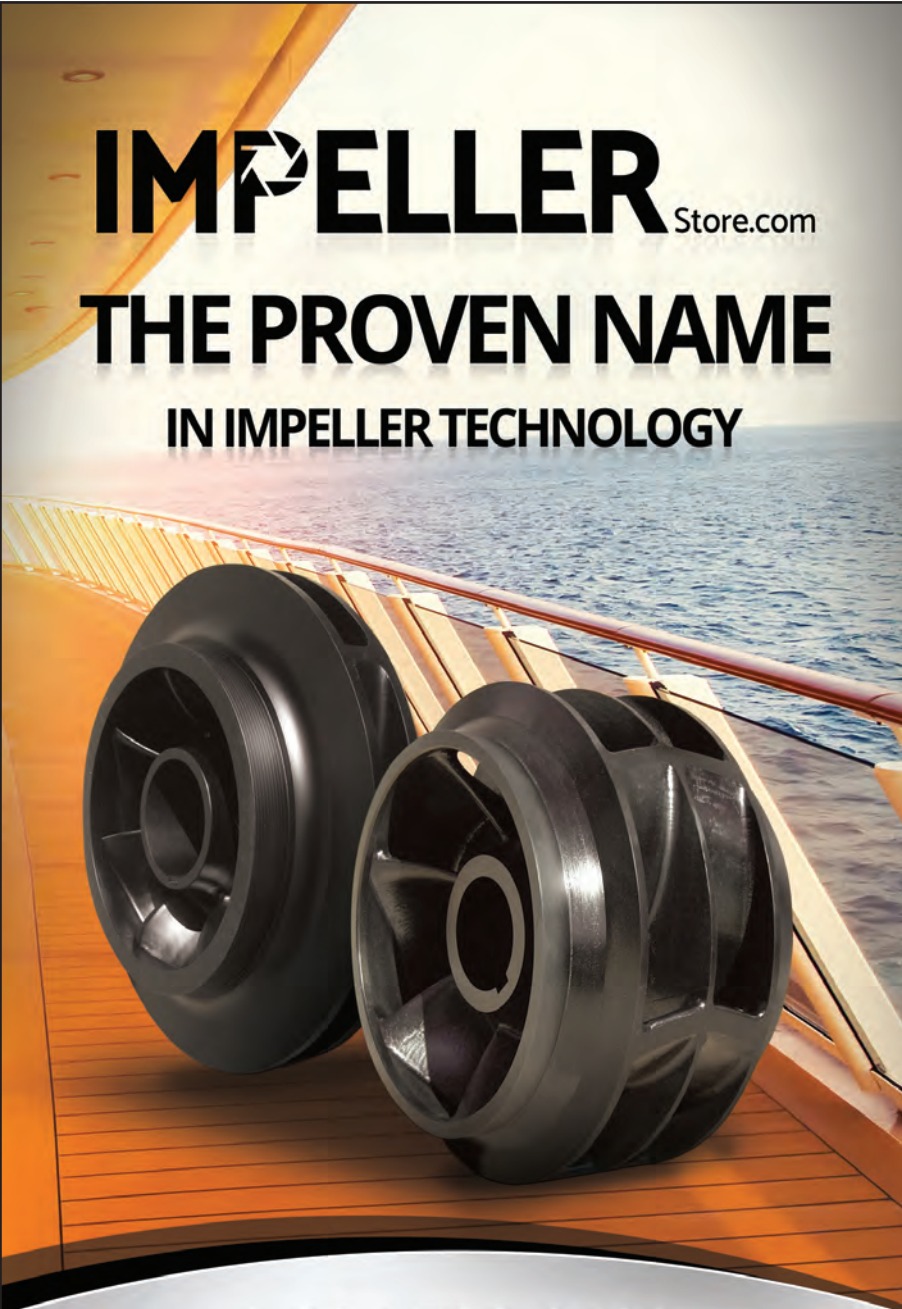
cast or molded. ImpellerStore manufactures high quality, precision machined, upgraded, efficient impellers and rings from Simsite®, a unique and patented structural

composite. ImpellerStore products are completely different from any other impellers and casing rings in the marketplace because they are fully machined from a solid block of Simsite®, which never corrodes in sea water, brackish water, river water, chlorinated water, wastewater, or many other chemicals.

Our ImpellerStore Simsite® impellers and casing rings are truly unique, because they are completely (100 percent) machined on the inside as well as the outside. The five-axis to eight-axis precision machining makes our ImpellerStore Simsite® impellers perfectly balanced both mechanically and hydraulically—if an impeller is machined from one center position, there is no imbalance! Therefore, they do not experience performance degradation like metallic products.

ImpellerStore Simsite® impellers and rings are excellent for new, repair, or retrofit applications. They are lightweight and virtually indestructible. Wear of other pump parts including the pump casing are greatly reduced because of the Simsite® impeller's perfect balance, light weight, self-lubricating, sealing, and corrosion, erosion, and cavitation resistance. This means far less expense for replacement of parts, reduced downtime, and years of trouble-free performance.

ImpellerStore Simsite® impellers and rings are designed for superior hydraulic performance because the Impellers are computer engineered, designed, and precision machined. The impeller vane geometry can be engineered to maximize efficiency and performance. Problems such as recirculation, radial thrust, and cavitation can be minimized or eliminated by upgrading to Simsite® impellers and rings. Impeller vane shapes can easily be modified to provide the best vane shape for specific applications and performance requests. ♦



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# KROHNE

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

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

If you buy a KROHNE product, you will get a measuring device that performs

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

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

For calibration we only use direct comparison. For example, we calibrate our Coriolis mass flowmeters with a gravimetric weighing system. Our

calibration rigs are the most accurate for measuring device production with reference accuracies 5 to 10 times better than that of the meter under test.

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

In North America, we have a brand-new manufacturing and calibration facility in Beverly, Massachusetts. We serve our markets through a network of representatives, distributors, and direct sales personnel. You can find your local contact on the web at [us.krohne.com/en/company/krohne-usa/people-sales-contacts](http://us.krohne.com/en/company/krohne-usa/people-sales-contacts).

Our mission is to provide unparalleled application expertise, on-time delivery, and cost-effective quality products so that we can exceed our valued customers' expectations. We offer a technically proficient, KROHNE-trained sales force that gets involved in all aspects of technical sales and applications support.

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

Reach us by email at [info@krohne.com](mailto:info@krohne.com) or by phone at 800.FLOWING (356.9464). Our website is [us.krohne.com](http://us.krohne.com). ♦



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# Pumps 2000

Pumps 2000 was established in Australia in 1989 to offer pumps capable of handling abrasive, solid-laden, and corrosive fluids in underground mining environments, and to create an alternative to the heavy, maintenance-intensive diaphragm pumps that were used predominantly in mines. These pumps featured low weight, as well as improved pump life and performance.

Pumps 2000 America was established in 2007 to market Pumps 2000 products and solutions throughout the world. Today, our pumps continue to be used in coal and hard-rock mining throughout the world, as well as in general industry, marine, building and construction, food processing, chemicals, and pollution control applications.

Pumps 2000 pumps are assembled and tested at our facility in Pittsburgh, Pennsylvania. From this location, we

also provide comprehensive technical support to our distributors, agents, and end-users across North and South America, and operate a service facility and warehouse to ensure fast delivery of pumps and spares.

Several patented features make it possible for Pumps 2000 to offer market-leading low life-cycle cost, while handling difficult applications. A number of products are currently under development. The use of injection molding has given Pumps 2000 greater freedom in material composition and has led to the development of lubrication-free pumps and our own plastic blends. Our unique combination of in-house R&D and manufacturing enables us to offer pumps and pumping systems which are technically superior and significantly higher quality than our competitors.



All Pumps 2000 products are certified in accordance with ATEX Manufacturing processes are in accordance with ISO 9000 quality management systems standards. Our pumps also comply with ISO/IEC 80079-34 quality standards related to potentially explosive atmospheres.

Pumps 2000's experienced team is always ready to assist you with solving your pumping needs. Please contact us with your inquiry. ♦



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**
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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 they're MADE IN THE USA! We can treat pipe sizes from ½ 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](http://www.scalewatcher.com). ♦



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no salt, no chemicals, no maintenance**

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# SEEPEX Inc.

SEEPEX is a leading worldwide specialist in pump technology that provides progressive cavity pumps, macerators, systems, accessories, and services. We take a consultative approach to offering innovative products and 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, SEEPEX has been offering customers in environmental, chemical, food and beverage, oil and gas, pulp and paper, and numerous other industries, optimal, economical pumping solutions.

SEEPEX Inc. is an ISO-9001-2008 certified, 82,000 square feet manufacturing facility situated on ten acres of land in Enon, Ohio, USA. We have a larger presence in North America than any other progressive cavity pump manufacturer! Our large in-house inventory enables us to ship 80 percent of parts orders in twenty-four hours.

## MAINTAIN-IN-PLACE WITH SMART CONVEYING TECHNOLOGY (SCT)

SCT is SEEPEX's unique maintain-in-place design. It has been around for over a decade and continues to provide customers with lower maintenance times, reduced

costs, and operating efficiencies compared to other pumping methods. SCT is an easy, cost effective, drop in solution for the replacement of all older or obsolete pump brands. SCT pumps eliminate the need to remove any pipework for maintenance, do not require special tools, and have lighter components for easier and safer lifting.

The SCT design offers easy access to the split stator and quick release rotor, reducing maintenance time by up to 85 percent compared to traditional PC pump designs. The SCT design also allows for the stator to be adjusted and tightened as wear progresses. SCT stators last on average twice as long as traditional stators, save time and money on parts and maintenance, and improve performance efficiency.

## MAKE THE SEEPEX SWITCH

Customers who make the SEEPEX SWITCH and replace any brand of conventional progressive cavity (PC) pump or retrofit a SEEPEX pump with a SEEPEX maintain-in-place Smart Conveying Technology (SCT) PC pump will receive a three-year performance guarantee on wear parts. ♦

**SEEPEX.**  
**ALL THINGS FLOW**

**3 YEAR WEAR PARTS  
PERFORMANCE GUARANTEE.  
SEEPEX SWITCH.**



**SCT** SMART CONVEYING TECHNOLOGY (SCT)  
PROGRESSIVE CAVITY PUMP

SEEPEX is so confident in the high quality of our products that we offer a 3 Year Performance Guarantee on wear parts when you make the **SWITCH** to a SEEPEX SCT pump. This is the only industry **guarantee that includes wear parts: rotors, stators, seals and universal joints.**

**USE PROMO CODE: 0456**

For a limited time get the **3 Year Wear Parts Performance Guarantee** when you:

- **Replace: SWITCH** any brand of progressive cavity pump for a SEEPEX SCT pump
- **Retrofit: SWITCH** an existing SEEPEX pump to SCT
- We will help to coordinate installation.

**PRESSURE  
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# Westerberg & Associates, Corp.

For thirty years, W&A has worked to offer quality consulting, training, and products to meet the needs of our customers across the country. Our goal is to provide excellent service—whether through our books, manufactured products, representative products, seminars or speeches, customer satisfaction remains our priority. Nick Westerberg has been in the industrial community for thirty years, teaching, consulting, and servicing industrial equipment.

## DOC'S PUMP JOURNAL

Doc's Pump Journal is the handbook everyone involved with pumping will want to have in their library! This book, with over 700 pages, will make your pumping life much easier. Doc's Pump Journal includes information on hydraulic principals, simple sizing equations, packing, seals, bearing,

foundations, grout, piping, alignments, reliability, pump types, and more... and you don't need a PhD to read it!

## DOC'S STEAM JOURNAL

Nothing can replace experience: It is the best, sometimes the hardest, teacher—but the lessons of experience last a lifetime. In Doc's Steam Journal, readers will find over 500 pages of resources, graphs, charts, and images to help in a variety of situations, as well as specific information on steam generation, steam traps, manufacturers, installation, assessment, and engineering. Doc's Steam Journal is the resource you will go back to again and again throughout your career!

## THE ARMADILLO PALM GUIDE™

The W&A Armadillo Palm Guide™ face is one of the toughest "rodents"

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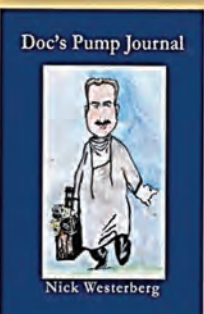
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