

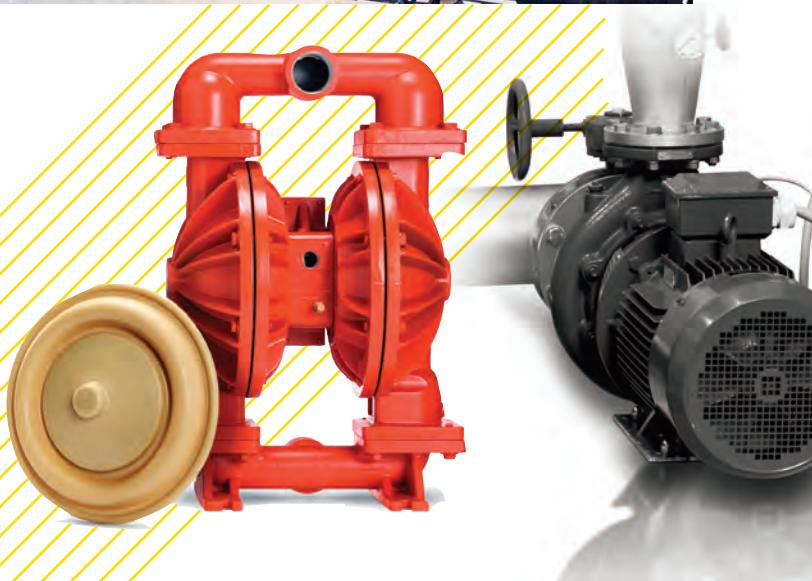


# MPT

MODERN PUMPING TODAY®

PROVIDING SOLUTIONS FOR THE WORLDWIDE PUMP INDUSTRY

2023 PRODUCTS AND SERVICES GUIDE



# Automation24

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

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

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



# Automation24

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

## AN EVER-GROWING RANGE OF PRODUCTS

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

- Safety light curtains for reliable user protection from Datalogic

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

## READY WHEN YOU ARE

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

## WE ARE HERE FOR YOU

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

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



**NEED IT  
TOMORROW?  
NO PROBLEM!**

Expedited delivery services are also available.



Industrial components fast  
at a price you can afford!



All items shown

**IN STOCK**

on our webshop  
**ship the same day**  
you place your order!

Strong brands available at automation24.com



Endress+Hauser

SIEMENS

Weidmüller

WIKA

microsonic

FIBOX

brother  
at your side



PFLITSCH

SIKA

WISKA

Madison

LASCAR electronics

Lovato electric

MENCOM

IBOCO

SELEC



KNIPEX

pmd  
MAKING YOU CAN

ASD Safety Solutions

DATALOGIC  
THE IMAGE OF SYSTEMS

MURR ELECTRONIK

IXON

PROCOMSOL

NOVUS



WIEGMANN

CONTACTCLIP

SCHMIDSRAL  
THE DNA OF SAFETY

LEADERWORK

Beijer

PATLITE

LS ELECTRIC

TERZ

See what our customers are saying:

**Excellent** 4.9 out of 5 Trustpilot

“ Great website. Easy to find what you need. Fast order processing. Excellent sales and support staff. ”

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

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



# Elgin Separation Solutions

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

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

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



Figure 1: BlueProof RB™ pump liner.



Figure 2: Premium heavy duty mechanical seal.

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

## DUROLAST BLUEPROOF RB/NE™ CASING LINER

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

## PREMIUM HEAVY-DUTY MECHANICAL SEAL

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

processing high temperature and highly abrasive material.

## THERMAL SIPHON COOLING TECHNOLOGY

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



Figure 3: Thermal siphon cooling technology.

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

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

## ELGIN SEPARATION SOLUTIONS

281.261.5778

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



## Most Durable, Longest Lasting Slurry Pump on the Market Today!



### DuroLast RB™ / NE™ Abrasion Resistant Slurry Pump

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

Onboard Thermal Siphon  
Technology Prevents  
Run-Dry Damage to Pump

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

Natural Resource Recycling • Product Classification • Dewatering • Fluid Recovery  
Waste Management • Material Handling • Liquid/Solid Separation • Crushers • Feeders

**TERRA SOURCE**  
GLOBAL

OUR FLAGSHIP BRANDS

**GUNDLACH**  
CRUSHERS

**JEFFREY RADER**

Pennsylvania  
Crusher

**ELGIN**

# Gorman-Rupp Pumps

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

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

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

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

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

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



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

## PHILOSOPHY

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

## INDUSTRY-LEADING SUPPORT AND WARRANTY

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

## INDUSTRIAL

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

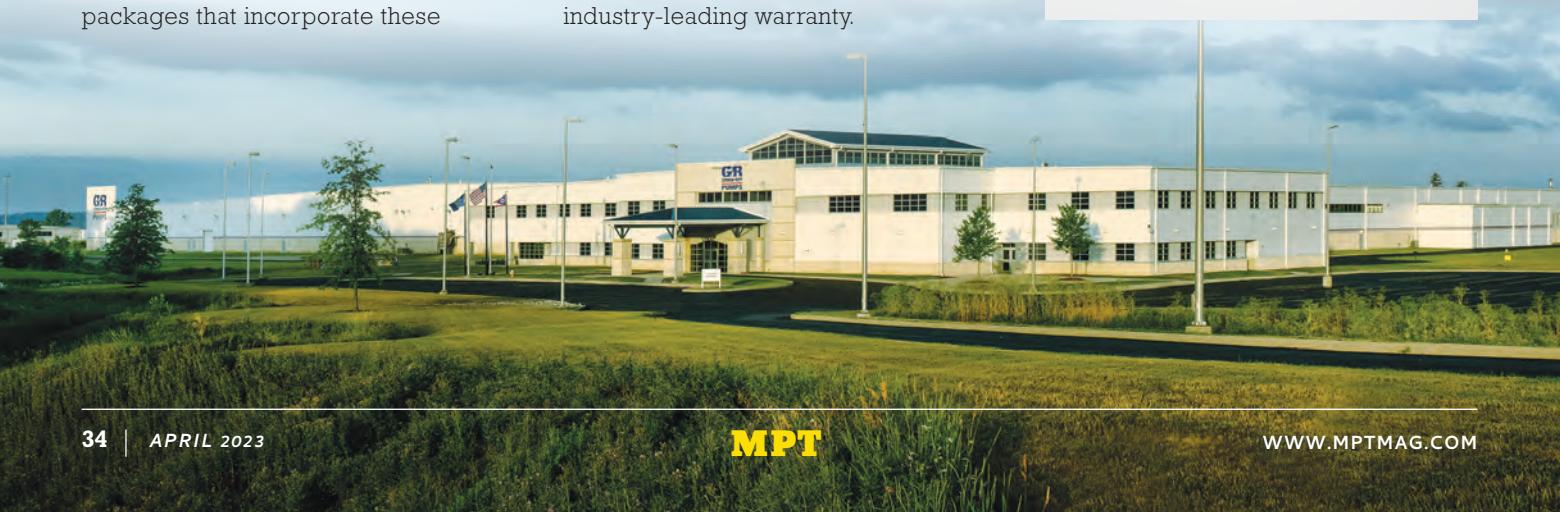
## MUNICIPAL

When you choose Gorman-Rupp, you benefit from one of the largest and highest quality lines of municipal pumps, engine-driven pumps, sewage lift stations and water booster/reuse stations available on the market.

Our ReliaSource® packaged lift and booster stations ship complete from the factory with pumps, motors, and controls and are 100 percent tested before they leave the facility to ensure product efficiency and operation. ■

## GORMAN-RUPP PUMPS

P.O. Box 1217  
Mansfield, Ohio 44901



# SLICE IT. DICE IT. PASS IT.

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

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

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



**ERADICATOR®  
PLUS**

**GORMAN-RUPP®  
PUMPS**

*The Pump People®*

# Industrial Flow Solutions

## TURNING FLOW PROBLEMS INTO FLOW SOLUTIONS

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



### INDUSTRY-LEADING EXPERIENCE AND SUPPORT

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



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

The OverWatch® Direct In-Line Pump

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

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



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

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

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

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



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

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

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

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

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

### CONTACT IFS TODAY

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



INDUSTRIAL  
FLOW  
SOLUTIONS™

Turning flow problems into flow solutions.

## OverWatch®



Direct In-Line Pump System

## DERAGGER™



Intelligent Controls Systems & Advanced Network Monitoring

## BJMPumps®



Submersible Pumps

## STANCOR®



Submersible Pumps

New Haven, CT USA

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

# Mueller Water Products

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 that provides critical water data.

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

## SERVING ALL YOUR WATER DISTRIBUTION NEEDS

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

Mueller brands provide products and solutions for:

### FLOW CONTROL SOLUTIONS

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

Products in this category include:

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

### FIRE PROTECTION SOLUTIONS

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

Products in this category include:

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

### Pipeline Management Technology

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

Products in this category include:

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

### Metering and Communication Technology

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

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

Products in this category include:

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

### THE MUELLER ADVANTAGE

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

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

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

For more information, visit

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

# SUSTAINABLE BRASS

## IS NOT A PIPE DREAM ANYMORE

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

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

[MUELLERWP.COM](http://MUELLERWP.COM)



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

**MUELLER**

# Vaughan Chopper Pumps

## THE VALUE OF MADE IN AMERICA

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

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

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

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

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

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

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

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

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

### BENEFITS OF BUYING AMERICAN MADE

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

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



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

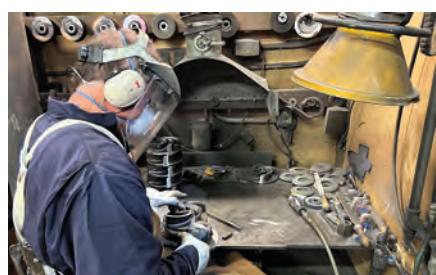
### PRODUCTS THAT SUPPORT AMERICA

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

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

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

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



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



WE STIR UP  
EVERYTHING.  
BUT TROUBLE.

 **Rotamix**®

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

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

**Vaughan**  
Unmatched Reliability

SEE ROTAMIX  
IN ACTION



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

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# Yaskawa

## THE YASKAWA QUALITY EXPERIENCE



# YASKAWA

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

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

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

### FP605 INDUSTRIAL FAN AND PUMP DRIVE

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

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

### FLEXIBILITY

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

### DRIVES FOR EVERY ENVIRONMENT

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

### FLEXIBLE SOLUTIONS

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

### SUSTAINABILITY

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

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

### EASE OF USE

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

### QUICK AND EASY SET-UP

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

# MAKING THE COMPLICATED SIMPLE

SUSTAINABLE, FLEXIBLE, EASY

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

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

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

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

**Life getting too complicated?  
Contact Yaskawa for help today.**



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

IT'S PERSONAL

**YASKAWA**



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

# Check-All Valve Mfg. Co.

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

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

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

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

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

## CHECK-ALL VALVE MFG. CO.

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

**Check All your value needs at Check-All®**

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

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

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

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

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# EDE Electric Motor Testing

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

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

## PROJECT MANAGEMENT SOLUTIONS

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

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

## PRECISION CALIBRATION AND TOOLS

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

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

## TECHNICAL SUPPORT: CALIBRATION, SERVICE, REPAIR

EDE provides a NIST traceable calibration. Our equipment is

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

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

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



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

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# Hoosier Pattern

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

and employ over sixty employees with current technology including:

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

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

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

## WE DELIVER A PATTERN OF EXCELLENCE



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

### WE EXCEED EXPECTATIONS

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



# KROHNE

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

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

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

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

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

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

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

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

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

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

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# Pedrollo

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

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

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

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

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

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

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

## ITALIAN PREMIUM QUALITY WATER PUMPS SINCE 1974



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# Sulzer Pumps Solutions, Inc.

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

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

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

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

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

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

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

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# Trillium Flow Technologies

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

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

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

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

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

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

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

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

WEMCO® is a registered trademark of FLSmidth. ■



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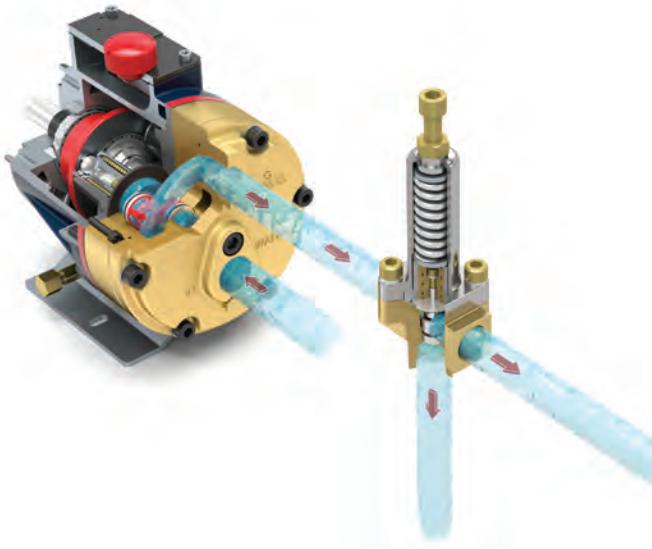
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# Wanner Engineering, Inc.

## HYDRA-CELL® SEAL-LESS DESIGN ADVANTAGES



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

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

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

**However large or small,**

# HYDRA-CELL PUMPS

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



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

**Contact us today for details.**

  
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# Alabama Laser

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

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

Additional laser and advanced machining services include laser cutting (sheet and tube), laser welding, laser etching, waterjet cutting, punching and forming, EDM, robotic welding, CNC milling, CNC screw machining, and powder coating. ■

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

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# Ebac Industrial Products

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

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

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



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## Helwig Carbon

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

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

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

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

## Sun-Star Electric, Inc.

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

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

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

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



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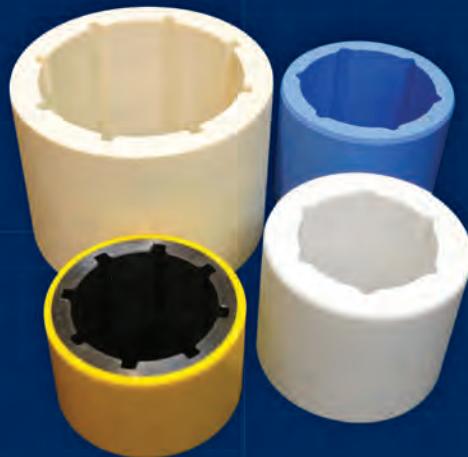
# Thordon Bearings

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

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

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

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



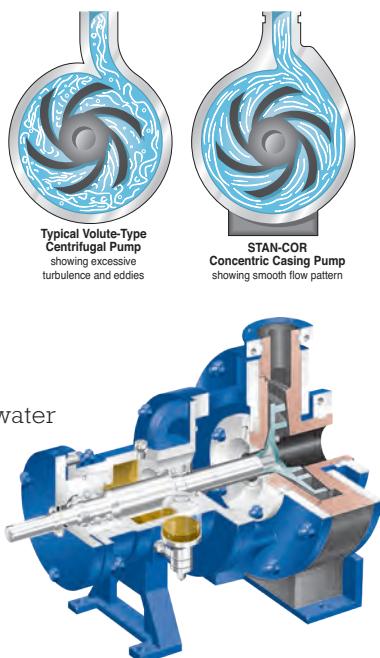
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# Wanner Engineering, Inc.

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