

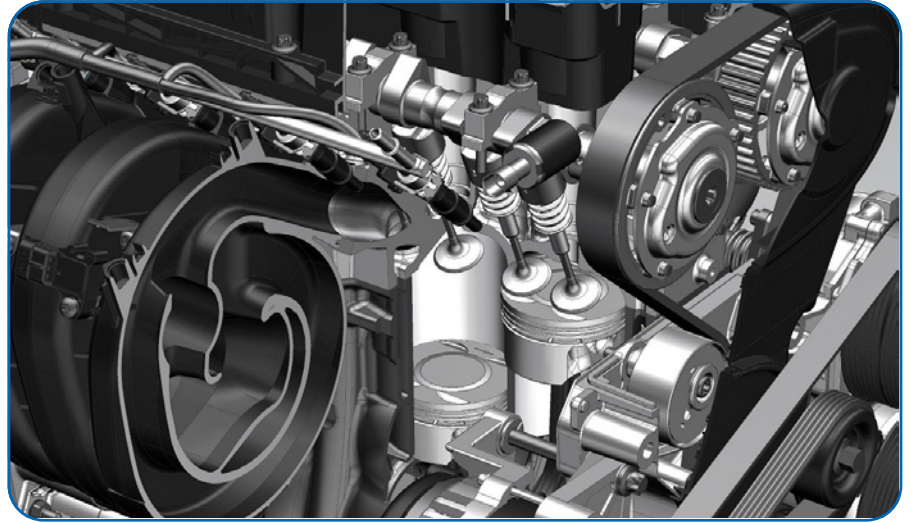
Siemens Digital Industries Software

RELEASES LATEST VERSION OF PARASOLID AND UPDATES SIMCENTER PORTFOLIO

The latest version of *Parasolid* software is now available from Siemens Digital Industries Software. The updates to *Parasolid* include enhancements to Convergent Modeling technology, which can now operate on models containing a mix of facet B-rep surfaces and classic B-rep surfaces, helping to enable more efficient workflows in a wide range of applications. For example, in generative design, where new products are autonomously developed to satisfy design constraints, Convergent Modeling can restore precise, classic mating surfaces to a model that has undergone facet-based topology optimization. In reverse engineering processes, the new technology can be used to add precise analytic surfaces to scanned data of parts for re-manufacture.

The *Parasolid* geometric modelling kernel is used in Siemens' own *Solid Edge* software and *NX* software and is at the core of the *Xcelerator* portfolio's open and flexible ecosystem. *Parasolid* is also used by over 350 other products including many world-leading CAD/CAM/CAE/AEC software applications.

The company also announced new releases of Siemens *Simcenter MAGNET* software and *Simcenter Motorsolve* software for simulating electric motor design and electromagnetic fields at any stage of the design process. Electric traction motors must be durable and NVH-compliant, however, electromagnetic forces induce mechanical vibrations which may lead to failure. The



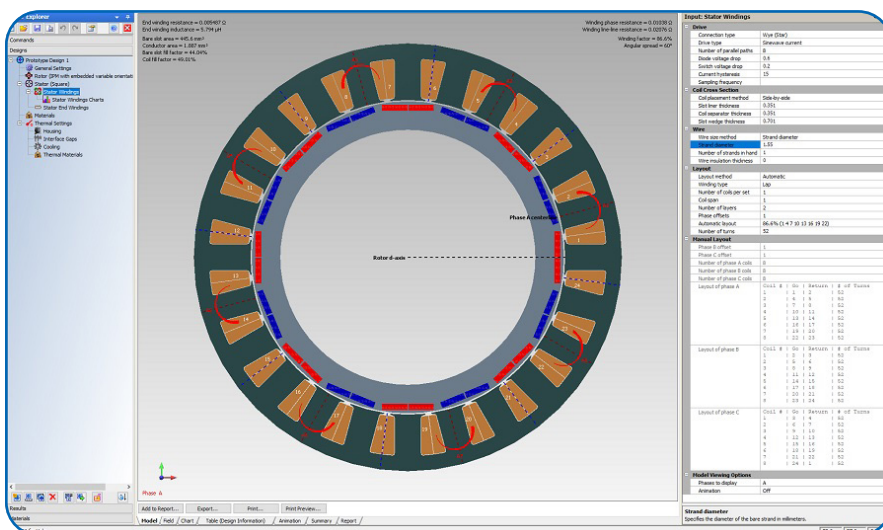
Simcenter MAGNET and *Simcenter Motorsolve* solution calculates the behavior of electromagnetic forces on individual components, providing examination of the structure and materials integrities under multiple operating conditions during any phase of the design process. These new capabilities are important for implementing a realistic digital twin of electric and hybrid electric vehicle powertrains or for any application where NVH constraints are critical, such as aerospace, industrial and medical equipment.

Siemens' approach to NVH analysis is unique since the *Simcenter Motorsolve* tool uses smart 2.5D technology to generate a 3D nodal force mesh model based on 2D simulations, significantly accelerating analysis with accurate

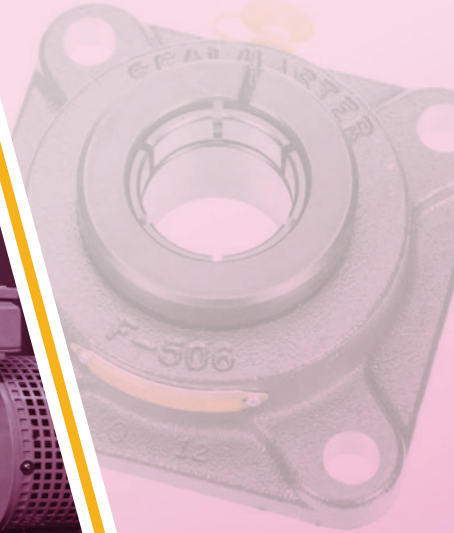
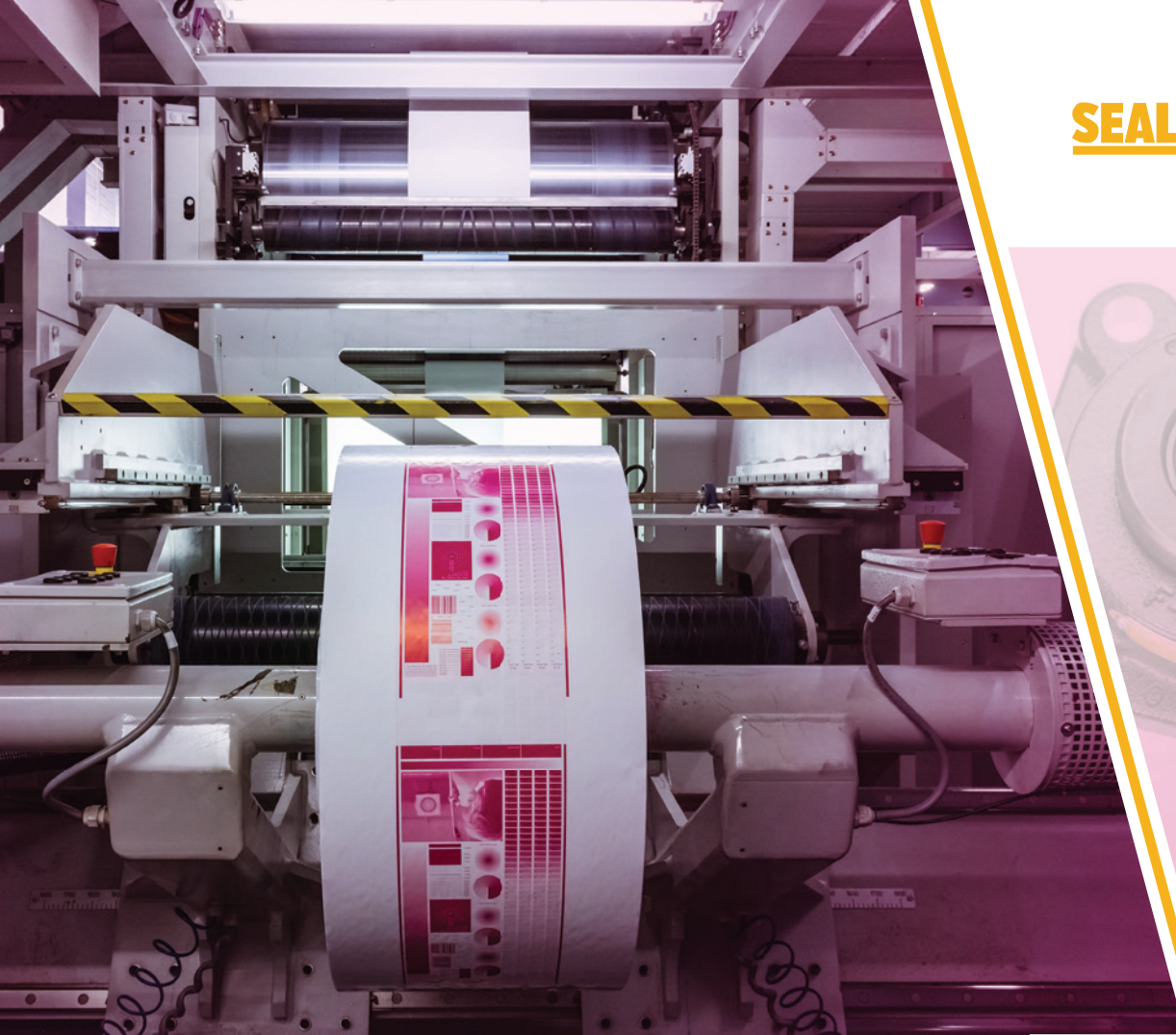
results. Net forces on components can be determined using *Simcenter MAGNET* software, even when they are in contact, including artificial component grouping. *Simcenter SPEED* PC-BDC models can be seamlessly imported into *Simcenter Motorsolve* software for higher-resolution finite element simulations, and *Simcenter 3D* electromagnetic software integration can provide optimal electric motor simulation performance results. Now, design engineers can apply a wider range of real-world conditions in their electro-vibro-acoustic simulation analysis.

Siemens provides the most comprehensive automotive and transportation software portfolio in the industry, combined with an application development platform to accelerate the efforts of engineering teams to innovate with confidence. Automotive manufacturers, suppliers, technology startups and industry leaders apply Siemens comprehensive digital twin to create the most robust digital representation of automotive systems and real-world environments, blurring the boundaries between engineering domains, and between the digital and physical worlds.

"Our *Simcenter MAGNET* and *Simcenter Motorsolve* solution addresses the key challenges electric motor designers face for NVH compliance," stated Roland Feldhinkel, vice president simulation and test solutions,



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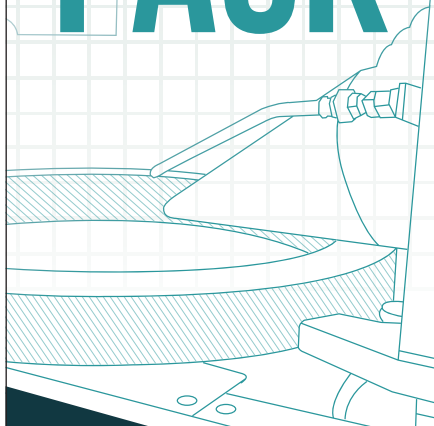
For improved lock reliability compared to older and competitive designs, the new redesigned Sealmaster® Skwezloc® concentric collar locking design achieves improvement through an innovative circumferential groove on its inner ring bore that reduces stress on the inner ring when properly clamped to the shaft. A larger cap screw and collar also improves the clamping force.

By reducing the stress on the inner ring and adding a groove that decouples from the inner ring to improve elasticity, Sealmaster Skwezloc locking collar has a design that accommodates commercial (turned & polished) shaft tolerances. This allows OEM's and end users to specify a lower cost shaft depending on application requirements.

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R+W

INTRODUCES INTELLIGENT COUPLINGS FOR PROCESS RELIABILITY

SASCHA MARKERT, DEVELOPMENT MANAGER, R+W ANTRIEBSELEMENTE GMBH

Accurate measurement of torque and other parameters can be a challenge in machinery applications, as measurements taken at the drive and motor only tell part of the story. To address this challenge, R+W is launching a completely new measurement device in its Intelligent Coupling. This specialized coupling creates entirely new possibilities, providing wireless transmission of mechanical data from directly within the drive train.

The objectives of the Industrial Internet of Things (IIoT) include optimizing operational efficiency, reducing production costs and monitoring equipment condition. Various production processes can be better adapted to given requirements with better data. With modern methods, such as predictive maintenance and artificial intelligence in machines, process reliability

has been significantly increasing in new plants and production facilities. This serves to reduce cycle times and increase product quality.

Collecting accurate data in the field of drive technology is not always a simple task. Data monitoring in a rotating drive train is difficult because a direct networking cable connection is often impossible, or the machine lacks sufficient installation space for the necessary instrumentation. R+W now offers a user-friendly and widely applicable hardware and software solution in its Intelligent Coupling.

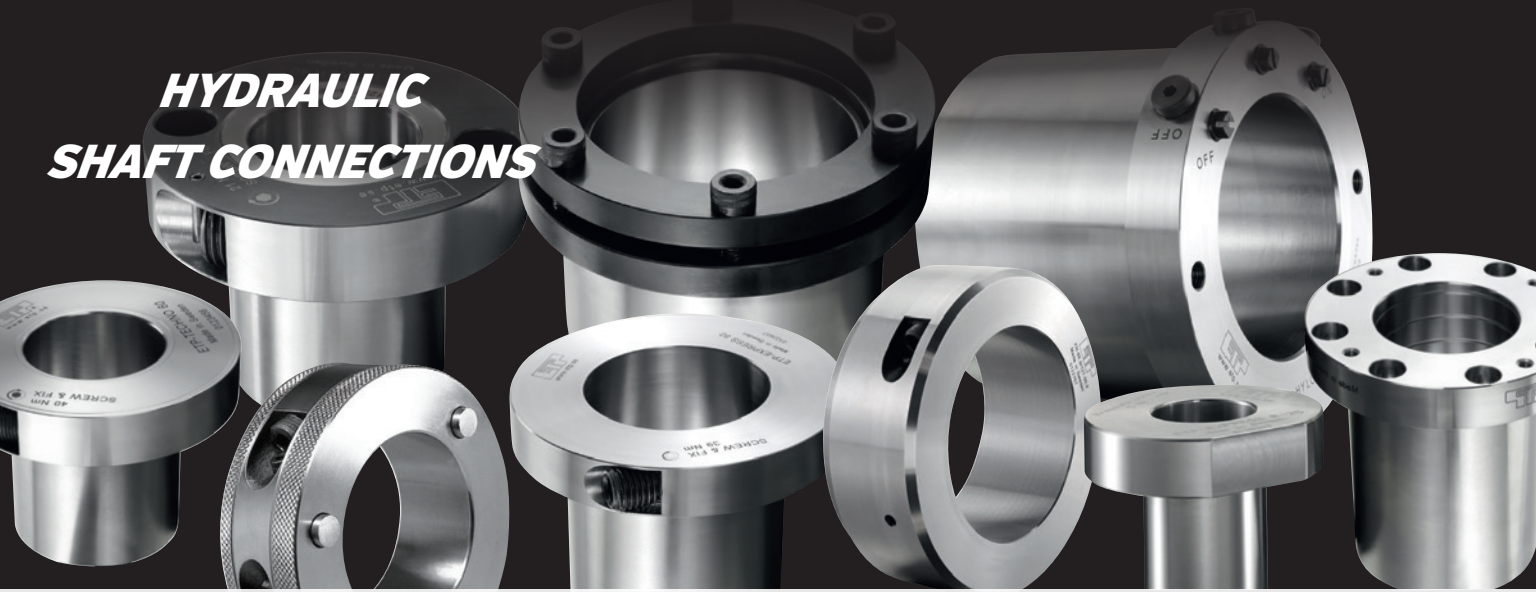
Coupling with smart measurement system

The Intelligent Coupling is an upgraded standard coupling with integral sensors to provide additional measurement functions. The system

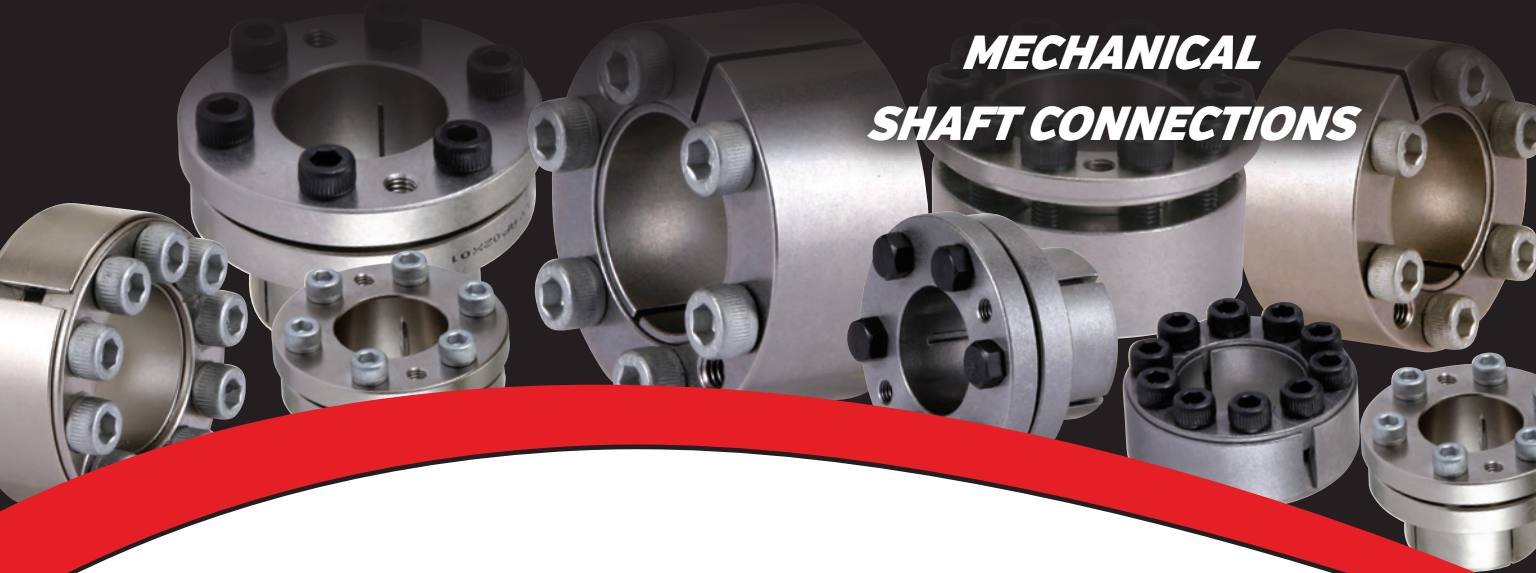


The R+W App displays the data on the dashboard in large views and a variety of other diagrams.

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measures torque, rotational speed and vibration as well as axial forces, at a sample rate of 500 Hz. The data is processed directly within the electronics package and displayed on a wirelessly connected smartphone, tablet, computer or PLC. On the R+W App for mobile devices the data can be monitored graphically in clearly arranged windows. A recording and export function provides the opportunity for further analysis. The mechanical properties of the intelligent coupling are not affected by the integrated electronics. It can continue to compensate for axial, lateral and angular misalignment and transmit torque as any other flexible coupling can.

Measurement directly in the drivetrain

Like the purely mechanical version, the Intelligent Coupling can be easily integrated into most drivetrains. The installation options are not limited by a permanent cable connection. The use in confined spaces or in mobile applications is made possible via an integrated rechargeable battery, with an inductive power supply also possible. Data can be sent to the connected device in near real time using a Bluetooth Low Energy connection. The R+W App displays the data as an average value with min/max memory on the dashboard. Various scalable chart types track the detailed progress of the data. Data from multiple couplings can also be illustrated simultaneously. For

further analysis, the data can be saved and downloaded as a CSV file.

Quick and easy data acquisition

With the Intelligent Coupling R+W offers a smart alternative to a torque transducer, with reasonable accuracy and a comparatively low cost. Another advantage is the relatively small space required for installation of the coupling, since no complex auxiliary construction is needed for installation, beyond the coupling itself. The intelligent coupling can be quickly and easily mounted into driveline designs or integrated into existing systems.

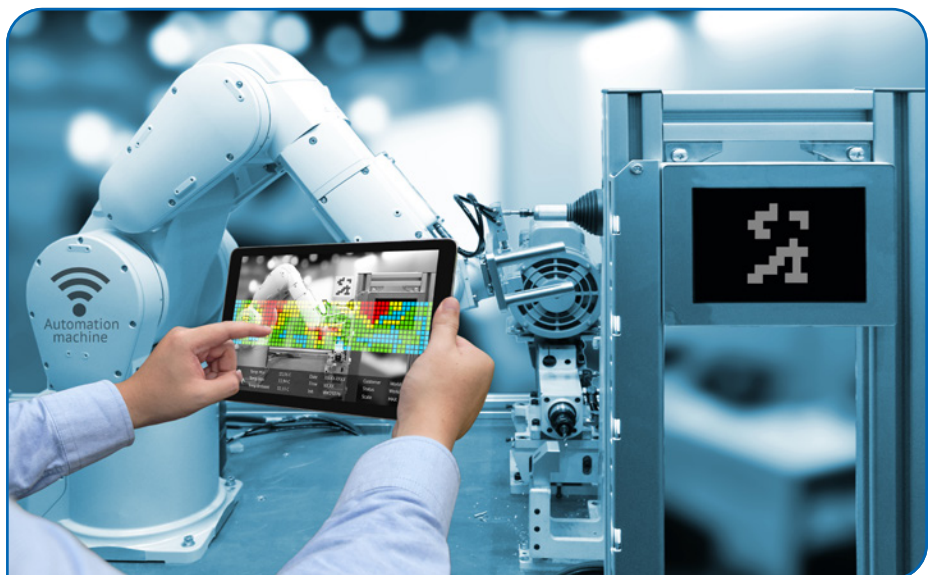
Enhanced transparency in the drivetrain

The combinable, time-dependent measurements can be used, among other things, to achieve a better assessment of the dynamic behavior of rotating drive components. By determining torques and axial forces, failure and downtime can be reduced or prevented entirely, increasing plant availability and reliability.

The entire potential for this development is far from fully realized. New functions and various algorithms for evaluating the data ensure that the intelligent coupling becomes even smarter and sets new standards in the drive technology market.

For more information:

R+W America
Phone: (630) 521-9911
www.rw-america.com



Measurement of torque and speed directly in the drivetrain by an already integral component: the coupling.

Regal

INTRODUCES KLAMPLOC ADAPTER LOCK FOR SEALMASTER SPHERICAL BEARINGS

Regal Beloit Corporation has announced the release of the new Klamploc adapter lock for Sealmaster mounted unitized spherical roller bearings (USRB). The Klamploc adapter lock was designed to simplify the installation process while improving shaft lock reliability. It accomplishes these goals with two unique design features.

The first feature includes key installation steps that are written on the lock collar. Regal always recommends fully reading the installation instructions prior to attempting an installation. Often, after bearings are removed from their boxes prior to installation, the boxes and the installation sheets get discarded by users. Or, the sheets might be reviewed ahead of time, but the installation specifications do not get memorized or are unavailable when needed at a job site. Because the Klamploc adapter has installation steps clearly marked on its collar, the installer can simply read the specs from the bearing itself.

The second key design feature is a split collar with a cap screw to close the split. With the Klamploc adapter, there are neither parts to remove and then install nor parts to bend on the bearing. Other market options require one or more parts to be removed before installation. This not only introduces additional non-value-added steps, but it also creates a situation where these parts, often small, can be lost.

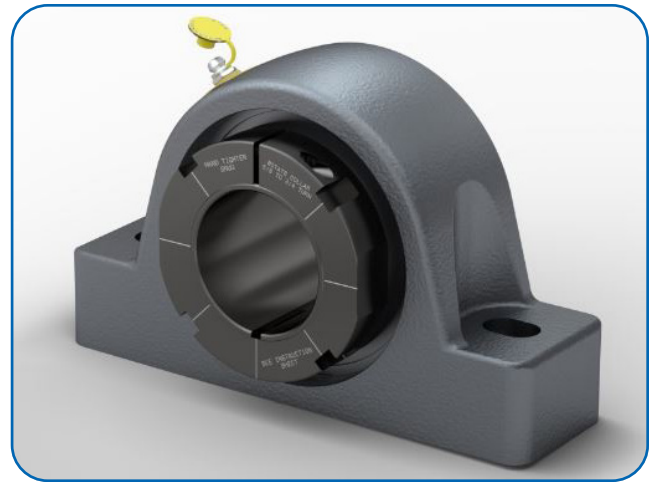
“Other market options require a tab to be bent down to achieve the final lock, but bent tabs can be subjective,” said Jason Annes, senior product manager, Regal Beloit. “With the Klamploc adapter, the final lock of the collar is achieved by simply tightening the screw to the specified torque, eliminating the competition’s several steps.”

In addition to offering simplified final locking, the split Klamploc collar has a benefit unique to the industry. When tightening the collar cap screw,

the split collar compresses and grips the adapter sleeve, which can provide additional clamp force to the shaft when combined with the properly set adapter lock.

Sealmaster USRB bearings with the Klamploc adapter lock have launched in bore sizes of 5 inches and below. Sizes above 5 inches will be launched in 2020. Additionally, a spanner installation tool is available. This tool, when used with a half-inch drive breaker bar, speeds up the installation process further by tightening the collar in one step, rather than using several blows from a hammer and drift.

USRB bearings with Klamploc adapter lock include the Sealmaster



sealing, which helps to keep contaminants out of the bearing in the toughest and dirtiest situations. USRB bearings can be found in aggregate process, unit material handling, air handling, agriculture, metals and mining, and other industrial applications.

For more information:

Regal Beloit Corporation
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SKF

INDUCTION HEATER MAKES HOT-MOUNTING BEARINGS FASTER AND SAFER

The TWIM 15 induction heater has been designed to simplify the hot-mounting process. Alberto Herrera, product development manager at SKF, says: "All the operator has to do is to place the bearing in the center of the heater and connect a temperature probe to the top of inner ring or workpiece bore. With the push of a button, the TWIM 15 will heat the bearing to the target temperature for hot-mounting."

Induction heaters introduce heat into a component using alternating magnetic fields. These fields create currents in the bearing or workpiece, which heats up owing to its natural resistance to electric currents (the so-called Joule effect). The resulting increase in temperature causes the material to expand, allowing the bearing to be mounted without any friction or force. As soon as the bearing is



correctly positioned and the temperature decreases, it contracts to its original form and creates the right interference fit on the shaft.

This process reduces risks of damage to the bearing, shaft and operator compared with other methods for heating bearings such as oil baths or open flame. However, some induction heaters can cause overheating, which can damage the bearing.

The TWIM 15 is fitted with a temperature probe, smart electronics and an advanced operating software, enabling the heater to optimize the heating process accordingly, ensuring that the bearing is heated safely and reliably.

The TWIM 15 is more versatile and convenient to use than other bearing heaters. It features a flat induction plate that does not require the use of a support yoke and it can heat a wide variety of bearings and components, including sensitive parts such as bearings with reduced clearance.

Brian Jagmohan, product marketing manager at SKF, says: "Bearings can fail prematurely if they are not installed correctly. Getting the temperature right during hot-mounting is a key part of avoiding untimely failures. What sets the TWIM 15 apart from other induction heaters is its performance and versatility. It is simple to use yet offers superior safety and reliability."

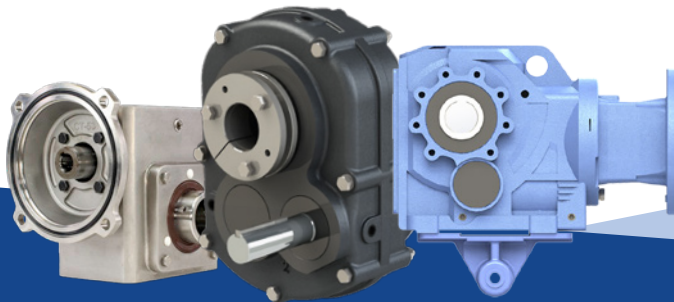
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Miki Pulley

OFFERS PARAFLEX PIN-HUB COUPLINGS
IN NORTH AMERICA

Miki Pulley has introduced its “Paraflex” Pin-Hub Couplings for direct sale to OEM’s in North America. Key features of these couplings include high allowable misalignment, extremely low backlash and resonance dampening.

With a pin-bushing type design, these Paraflex Couplings are available in two models. The CPU model has a maximum torque of 25 Nm and allows angular misalignment up to 4°. The CPE model has a maximum torque of 10 Nm and allows angular misalignment up to 1°. Available bore sizes range from 3.0 mm to 22 mm.

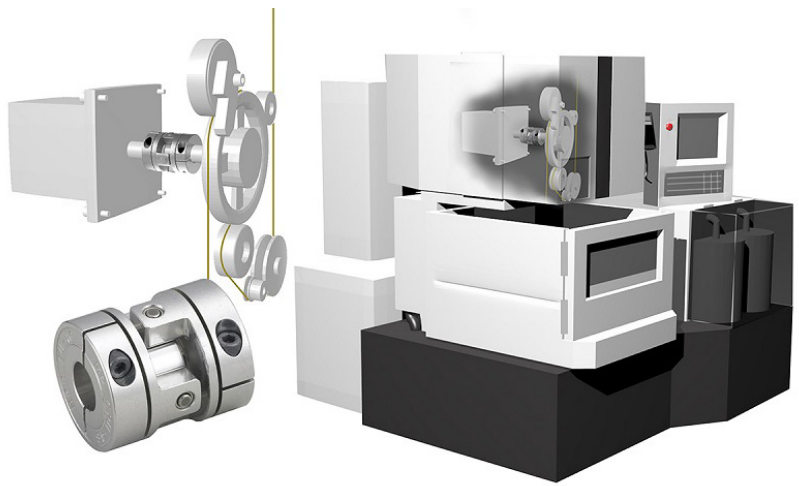
An important feature of these Paraflex Couplings from Miki Pulley is ease of installation. Clamp style hubs made of sintered aluminum slip easily onto two connecting shafts with the coupling locked into position with recessed tightening screws.

Handling system speeds up to 6,000 rpm depending on model, Paraflex Couplings are RoHS compliant. They operate in temperature environments from -30°C to +100°C. They are ideal for automated packaging systems, chip mounters, electric discharge machines and similar applications.

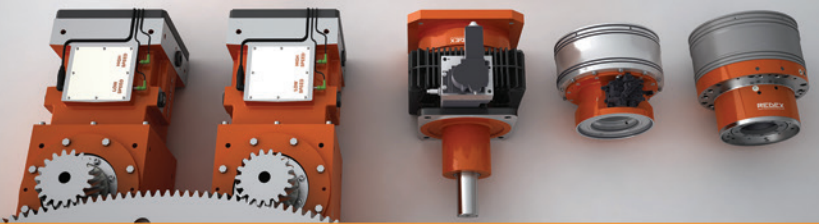
In addition to the Paraflex Coupling line, Miki Pulley designs and manufactures a complete line of motion control components. These include clutches, brakes, flexible shaft couplings, shaft hub locking devices and speed control devices.

For more information:

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Applied Motion Products offers an extended line of stepper motors with IP65 ratings that are dustproof and resistant to water pressure impact, making them ideal for use in wet and dusty applications.

Utilizing advanced seal protection technology, the IP65-rated step motors feature sealed laminations, an oil shaft seal, internal corrosion-resistant film coating, gaskets for mechanical joints and an integral 10 ft. shielded cable that offers protection against the ingress of dust and resistance to low-pressure water jets. For improved protection in high-humidity environments, an advanced coating is available as an option.

These IP65-rated step motors are available in NEMA sizes 23, 24 and 34. A double-shaft version is available with an optional IP65-rated encoder



for applications requiring feedback. The step motors operate with Applied Motion Products stepper drives that offer advanced current control for optimal smoothness and torque. In addition to communication options including EtherNet/IP and Modbus, the stepper drives offer stored program execution using the Q programming language.

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Forest City Gear

ADDS FINISH GRINDING CAPACITY

Forest City Gear has expanded its capacity for very high precision finish grinding of external, internal, straight and helical gears and special profiles with the addition of its second Kapp VUS 55P Form Grinding Machine.

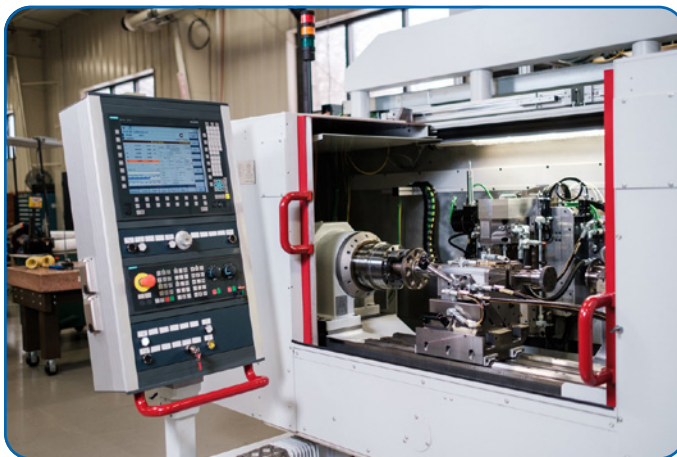
The new Kapp Form Grinder gives Forest City Gear the ability to rough and finish grind internal gears with an ID grinding diameter as small as 1.250", and external gears with an OD grinding diameter as large as 19.685". Additionally, the new machine is equipped with a high speed, 35,000 rpm external grinding spindle, so it can use smaller diameter grinding wheels to more productively grind gears positioned close to shoulders where an interference condition might exist for larger wheels.

In addition, the new machine is equipped with a specific wheel dressing unit, enabling Forest City Gear to run dressable Ceramic and VitCBN grinding wheels for both internal and external gears to meet all types of profile requirements. The combination of on-board dressing and optional on-board measuring systems both speeds and automates the entire grinding process.

"While our first Kapp VUS 55P continues to be a dependable grinding workhorse, this new model gives us more versatility to meet the requirements of our increasingly diverse mix of high precision projects," says Forest City Gear Grinding Lead Person Kevin Chatfield. "With quality and delivery standards higher than ever across all the industries we serve, this machine is a great addition."

For more information:

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ABB

OFFERS BALDOR-RELIANCE EC TITANIUM INTEGRATED MOTOR DRIVE

Motor standards have been in place for decades, yet there is a growing demand to achieve greater efficiencies as regulations continue to tighten on the total system for fans, pumps and compressors. Equipment manufacturers are turning to new motor technologies to achieve the highest system efficiency possible from wire to air while using sustainable materials.

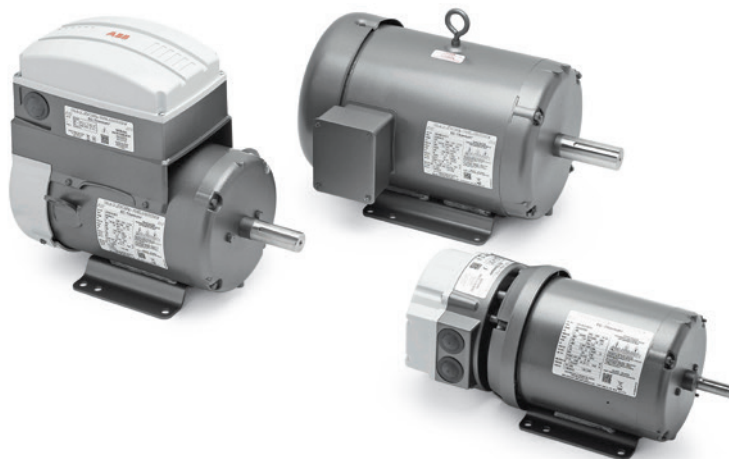
ABB's Baldor-Reliance EC Titanium product line utilizes Ferrite Assisted Synchronous Reluctance (FASR) technology with non-rare earth magnet materials to meet and exceed IE5 efficiency. Suitable for constant and variable torque applications, the EC Titanium offers excellent performance across a wide speed load range and above base speed conditions.

"The EC Titanium product line is economic and efficient, even at partial loads where most fans operate," says Mark Gmitro, global product manager for variable speed motors, ABB. "The real advantage is that efficiency stays high at any speed; including operation above base speed, allowing for greater

fan design optimization."

The near unity power factor of the EC Titanium enables the use of smaller drives, reducing the footprint and weight of the integrated system. Additionally, the integrated motor drive solution saves considerable control panel space and reduces wiring costs by placing the drive on top of or on the opposite drive end of the motor.

Integrated motor drive models are ABB Ability ready with built in capability allowing building operators to have greater connectivity and transparency of their equipment.



The Baldor-Reliance EC Titanium product line is offered in standard NEMA dimensions and can be provided with IEC mounting compatibility. Ratings are available as a motor only option from 1 to 20hp (0.75–15 kW), as an integrated motor with a top mount drive in ratings of 1 to 10hp (0.75–7.5 kW), or axial mounted drive in ratings 1 to 7.5 hp (0.75–5.5 kW).

For more information:

ABB
Phone: (800) 435-7365
www.abb.com/motors

Gates

RELEASES SUPER FLEX POLAR BELT FOR EXTREME CONDITIONS

Gates has expanded its thermoplastic polyurethane (TPU) drive belt product line with the introduction of the Super Flex Polar belt. Designed specifically for indoor and outdoor applications operating in temperatures as low as -30°C and -22°F, the Super Flex Polar is the optimal conveying solution. The belt is available in a wide range of lengths and widths to accommodate the requirements of most original equipment manufacturers (OEMs) and distributors. Using the extrusion

process, the new belt has helically-wound steel cords that allow for improved flexibility and work efficiently in tight, confined, temperature-specific spaces where small pulley diameters are critical.

"Through our passion to continually develop innovative and high-quality products, we've added a unique TPU resin to this product line to offer full power capacity down to -30°C," said Heinz Watzinger, Gates TPU product manager.

"This belt can be used with new equipment, or as a replacement, in any extreme cold working environment to meet a wide variety of needs. And, our product doesn't require a special order, which is novel in the marketplace."

All Gates TPU belts are made from an abrasion-resistant polyurethane material providing thermoplastic flexibility, as well as long-lasting and energy efficient belt system solutions for the most demanding applications. The Super Flex Polar is designed for a diverse range of industries and markets, including offshore plants, glass, ceramics, packaging and textiles.

For more information:

Gates Corporation
Phone: (303) 744-5800
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