



Regal Rexnord Solutions for Wind Turbines



**SVENDBORG
BRAKES™**

Stromag™

CENTA™

**WARNER
ELECTRIC™**

AMERIDRIVES™

JAURE™

TOLLOK™

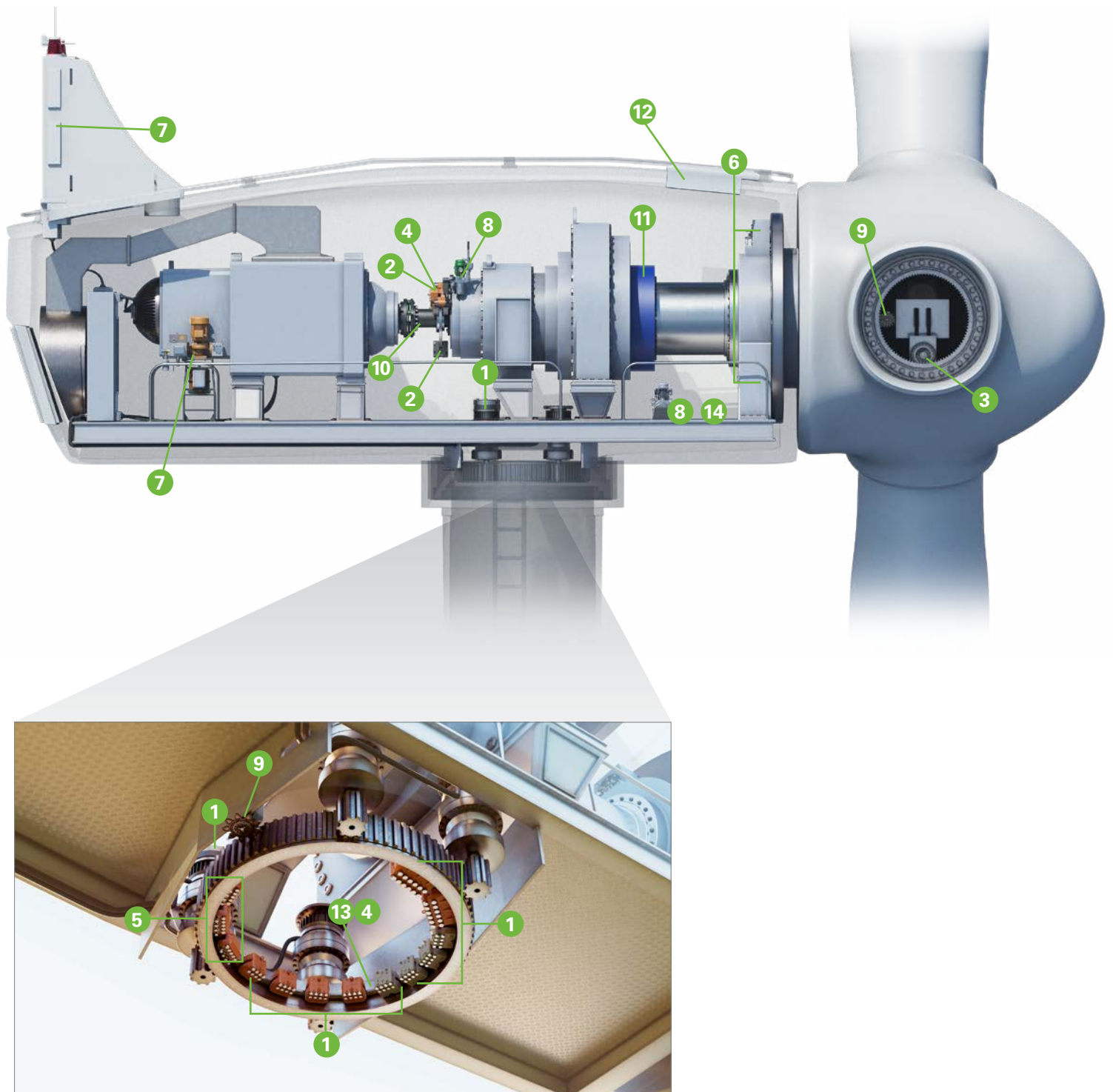
WIND TURBINES

YOUR VISION, OUR EXPERTISE

Explore how Regal Rexnord's innovative solutions help harness the power of wind energy for onshore, offshore, and small wind turbines.

Our decades of expertise, deep application knowledge, and robust testing capabilities are pivotal in supporting the wind industry, ensuring efficient, cost-effective solutions that don't compromise on safety.

Regal Rexnord is not just a provider, but a partner, in your journey towards net-zero emissions.



| Regal Rexnord™ Products | ONSHORE WIND TURBINES | | | OFFSHORE WIND TURBINES | |
|---|-----------------------|--------------|-----------|------------------------|--------------|
| | Geared WTG | Gearless WTG | Small WTG | Geared WTG | Gearless WTG |
| 1 YAW BRAKES | | | | | |
| Svendborg Brakes™ BSAB Series Hydraulic Caliper Brakes | ● | ● | ● | ● | ● |
| Stromag™ CB Series Hydraulic Caliper Brakes | ● | ● | ● | ● | ● |
| Twiflex™ T Series Hydraulic Caliper Brakes | | | ● | | |
| Warner Electric™ ERX Motor Brakes | ● | ● | | ● | ● |
| 2 ROTOR BRAKES | | | | | |
| Svendborg Brakes BSFI/H Series Hydraulic Caliper Brakes | | | ● | | |
| Svendborg Brakes BSAB Series 90 Hydraulic Caliper Brakes | ● | | ● | ● | |
| Svendborg Brakes BSAK Series Hydraulic Caliper Brakes | ● | | | ● | |
| Stromag CB90R Series Hydraulic Caliper Brakes | ● | ● | | ● | |
| Stromag Rotowell 120 Hydraulic Caliper Brakes | | ● | | | ● |
| Twiflex MX Hydraulic or Pneumatic Caliper Brakes | | | ● | | |
| Twiflex GMR Hydraulic or Pneumatic Caliper Brakes | | | ● | | |
| 3 PITCH BRAKES | | | | | |
| Warner Electric ERX Motor Brakes | ● | ● | | ● | ● |
| Stearns™ 370 Electric Motor Brakes | ● | | | | |
| 4 BRAKE PADS & DISCS | | | | | |
| Svendborg Brakes Organic Friction Material | ● | ● | ● | ● | ● |
| Svendborg Brakes Green Friction Material (REACH) | ● | ● | ● | ● | ● |
| Svendborg Brakes Friction Material for Rotor Brake & Sliding Applications | ● | | ● | ● | |
| Svendborg Brakes Steel Rotor Brake Discs | ● | | ● | ● | |
| 5 SLIDING SYSTEMS | | | | | |
| Svendborg Brakes YSXA Yaw Sliding Systems | ● | ● | | ● | ● |
| Stromag Passive or Hybrid Yaw Claw Sliding Systems | ● | | | | |
| 6 ROTOR LOCKS | | | | | |
| Svendborg Brakes LSA Hydraulic Rotor Locks | ● | ● | | ● | ● |
| Svendborg Brakes LSM Manual Rotor Locks | ● | ● | | ● | ● |
| Stromag H Hydraulic Rotor Locks | ● | ● | | ● | ● |
| 7 COOLING SYSTEMS | | | | | |
| Svendborg Brakes Cooling Systems | ● | | | ● | |
| 8 HYDRAULIC POWER UNITS | | | | | |
| Svendborg Brakes Hydraulic Power Units (1-, 2-, 3-Function) | ● | ● | ● | ● | ● |
| 9 LIMIT SWITCHES | | | | | |
| Stromag Geared Cam Limit Switches | ● | ● | ● | ● | ● |
| 10 COUPLINGS | | | | | |
| Ameridrives™ Ameridisc™ High Speed Couplings | ● | | | ● | |
| CENTA™ CENTALINK™ High Speed Couplings | ● | | | ● | |
| Jaure™ LamiLink High Speed Couplings | ● | | | ● | |
| 11 LOCKING DEVICES | | | | | |
| Tollok™ TLK Locking Assemblies | ● | | | ● | |
| 12 LINEAR ACTUATORS | | | | | |
| Thomson Linear™ Elektrak A22 Electric Actuators | ● | ● | | ● | ● |
| Thomson Linear ActionJac Machine and Ball Screw Jacks | ● | ● | | ● | ● |
| 13 SERVICE TOOLS | | | | | |
| Svendborg Brakes DRT gen2 Uptower Yaw Disc Resurfacing Tool | ● | ● | | ● | ● |
| Svendborg Brakes LBS-90 / LBS-120 Yaw Brake Lifting Tool | ● | ● | | ● | ● |
| Svendborg Brakes Groove Tool (Yaw Noise Reduction Tool) | ● | ● | | ● | ● |
| Svendborg Brakes Piston Extractor | ● | ● | ● | ● | ● |
| 14 IIOT & CONDITION MONITORING | | | | | |
| Svendborg Brakes Gateways | ● | ● | ● | ● | ● |
| Svendborg Brakes UCCase/m Condition Monitoring | ● | ● | ● | ● | ● |

YAW BRAKE SOLUTIONS

SVENDBORG BRAKES™ HYDRAULIC CALIPER BRAKES BSAB SERIES



BSAB series brakes are advanced yaw braking solutions specifically engineered for wind turbines. These brakes utilize applied oil pressure to achieve precise and controlled braking, which is crucial for the optimal performance and safety of wind turbines. The robust design features dual-action multi-piston mechanisms that deliver a formidable clamping force. This ensures not only reliable and efficient braking but also exceptional holding performance, even under the most demanding conditions.

STROMAG™ HYDRAULIC CALIPER BRAKES CB SERIES



The CB series active hydraulic yaw brakes offer exceptional braking efficiency and maintenance simplicity. Designed with a patented central web (pockets), these brakes evenly distribute force across four to six pockets, significantly reducing stress and enabling higher braking forces. User-friendly features include a straightforward pad wear status check and effortless replacement of friction linings, making it a reliable and easy-to-maintain solution for wind turbine applications.

TWIFLEX™ HYDRAULIC CALIPER BRAKES T SERIES



The Twiflex T series hydraulic caliper brakes enhance the safety and efficiency of small-sized wind turbines. Engineered for optimal performance in wind energy applications, these compact and versatile yaw brakes offer reliable performance and long life. Their robust construction and precision engineering provide consistent braking force, contributing to the overall stability and longevity of your wind turbines.

WARNER ELECTRIC™ MOTOR BRAKES ERX SERIES



The ERX series motor brakes are highly customizable, compact, and easy to install in both single and double brake setups. They offer optional enclosure protection, the Warner Electric Sensor (WES) for contactless detection, and redundancy options to meet specific project requirements. ERX brakes are used in wind turbines to ensure controlled stopping and holding. Proprietary nonstick friction materials allow for customization to meet energy, speed, and torque requirements.

YAW SLIDING SYSTEMS

SVENDBORG BRAKES™ ACTIVE OR HYBRID YAW SLIDING SYSTEMS YSAA SERIES



The Svendborg Brakes YSAA Active Yaw Sliding Systems are designed for wind turbine yaw control, ensuring seamless and precise alignment of the turbine with varying wind directions. These sliding systems offer enhanced efficiency and reliability in turbine operation, significantly reducing mechanical stress and maintenance requirements.

***BRANDS
YOU KNOW,
PERFORMANCE
YOU TRUST***

SVENDBORG BRAKES PASSIVE YAW SLIDING SYSTEMS YSXA SERIES



The YSXA Yaw series features yaw slide bearings with both axial and radial support segments, serving as load-carrying components. Available in passive or hybrid models (active and passive), the YSXA series is customized to meet customer performance and dimensional specifications.

STROMAG™ PASSIVE OR HYBRID YAW SLIDING SYSTEMS YAW CLAW



The Stromag Yaw Claw, available in both passive and hybrid yaw sliding system configurations, is engineered to ensure precise and stable positioning of wind turbines in response to wind direction changes. These systems are crucial for optimizing energy capture efficiency. They provide the flexibility of passive or hybrid operation modes, which cater to various operational requirements and reduce mechanical stress on the turbine structure.

ROTOR & PITCH BRAKE SOLUTIONS

SVENDBORG BRAKES™ HYDRAULIC CALIPER BRAKES

BSFI SERIES | BSAB SERIES
BSAK SERIES



Svendborg Brakes rotor brake calipers are specifically designed for dynamic braking on wind turbines. These robust brakes deliver controllable clamping force, ensuring reliable and precise emergency braking and holding performance.

STROMAG™ HYDRAULIC CALIPER BRAKES

CB SERIES |
ROTOWELL SERIES



The Stromag CB and Rotowell series rotor brake calipers provide compact and robust solutions for efficient braking. The weight-optimized design ensures easy maintenance and reduces the number of calipers needed per turbine, guaranteeing reliable performance in all wind conditions.

TWIFLEX™ HYDRAULIC OR PNEUMATIC CALIPER BRAKES

MX SERIES | GMR SERIES



Twiflex caliper brakes provide reliable rotor braking control. The flexible design allows for positioning around the disc's periphery, accommodating the complex structure and limited space of small wind turbine systems. This ensures optimal performance and safety. With provisions for specific mounting angles and pneumatic operation, these calipers provide the precision and control necessary to support safe and efficient small wind turbine operation.

WARNER ELECTRIC™ & STEARNS™ MOTOR BRAKES

ERX SERIES |
370 SERIES



The Warner Electric ERX series motor brakes are highly customizable, compact, and easy to install in both single and double brake setups. They offer optional enclosure protection, the Warner Electric Sensor (WES) for contactless detection, and redundancy options to meet specific project requirements. The ERX and the Stearns 370 Series brakes ensure controlled stopping and holding in wind turbines. Proprietary nonstick friction materials allow for customization to meet energy, speed, and torque requirements.

ROTOR LOCKS & LOCKING DEVICES

SVENDBORG BRAKES™ AND STROMAG™ HYDRAULIC ROTOR LOCKS

LSA SERIES | H SERIES



Svendborg Brakes and Stromag Rotor Locks, including the LSA and H Series hydraulic driven models, are vital for ensuring safety in wind turbines, especially in high wind conditions. Mounted on the turbine's main rotor shaft, these locks engage by running the lock bolt into the lock disc, effectively handling the high output torque from turbine gearboxes and providing a secure 'locked' status.

**INNOVATING
SOLUTIONS
FOR SAFER
OPERATIONS**

SVENDBORG BRAKES MANUAL ROTOR LOCKS

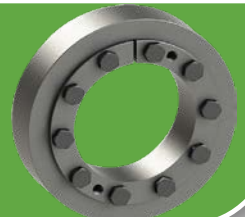
LSM SERIES



Svendborg Brakes LSM rotor locks are an essential safety component for wind turbines, designed to securely lock the rotor shaft in place, particularly during maintenance operations or emergency stops. This rotor lock ensures robust and reliable engagement, crucial for handling the significant torque and forces encountered in wind turbine gear systems.

TOLLOK™ LOCKING ASSEMBLIES

TLK SERIES



Rexnord™ Tollok locking devices feature a wide range of options from simple and compact designs to advanced features such as corrosion-resistant coatings, special bolting, and high-speed applications. The full line of locking assemblies can be tailored to fit customers' everchanging application needs, and are ideal for use in heavy-duty and specially engineered environments such as wind turbines.

COOLING SYSTEMS, HYDRAULIC POWER UNITS, & LIMIT SWITCHES

SVENDBORG BRAKES™ COOLING SYSTEMS



Svendborg Brakes cooling systems are designed to enhance the performance and longevity of wind turbine systems by efficiently managing heat generation during operations. These advanced cooling solutions are vital for maintaining optimal operating temperatures, thereby ensuring consistent performance and preventing overheating in demanding wind energy applications.

SVENDBORG BRAKES HYDRAULIC POWER UNITS



Svendborg Brakes hydraulic power units are engineered to provide reliable and efficient hydraulic energy to wind turbine braking systems. These units are utilized to ensure smooth and precise control of braking operations, playing a key role in the safety and operational efficiency of wind turbines. Available in 1, 2 and 3 function configurations.

STROMAG™ GEARED CAM MECHANICAL LIMIT SWITCHES

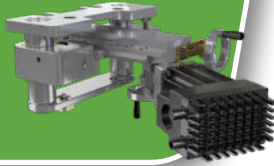


Stromag geared cam limit switches are pivotal for wind turbine efficiency and precision. Designed for streamlined integration, these reliable and sophisticated switches offer exact position control for turbine blades and nacelles. Their pre-adjusted, compact design ensures swift and effortless assembly, making it easy-to-install through simple mechanical and electrical steps. Developed in close collaboration with wind turbine manufacturers, Stromag's limit switches not only simplify installation, but promise tailored, high-quality solutions that enhance the safety and effectiveness of wind turbine operations.

**PRECISE
POSITIONING**

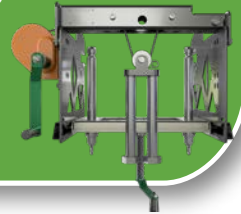
SERVICE TOOLS, FRICTION MATERIALS AND DISCS

SVENDBORG BRAKES™ UPTOWER YAW DISC RESURFACING TOOL DRT GEN2 SERIES



Svendborg Brakes provides innovative tools that fully resurface yaw discs/rings up-tower, even after years of wear and tear. Traditionally, replacing yaw brake discs/rings is both time-consuming and costly. The DRT significantly reduces service downtime and maintenance costs.

SVENDBORG BRAKES YAW BRAKE LIFTING TOOL LBS 90 SERIES LBS 120 SERIES



The LBS 90 + LBS 120 are lifting and installation tools providing new standards in the removal and installation of Svendborg Brakes and Stromag™ yaw brake calipers - safe and fast!

SVENDBORG BRAKES YAW NOISE REDUCTION TOOL



The Svendborg Brakes Anti-Glazing Groove tool leverages expertise in mitigating yaw brake noise. By cutting a specially-shaped groove into the brake disc it is possible to remove existing glazing and prevent it from occurring in the future. The groove tool helps to remove the build-up of powdered material.

SVENDBORG BRAKES PISTON EXTRACTOR



Ensure safe and rapid removal of brake pistons from the yaw brakes (90 and 120 series) during service and repair. The handle rotation turns the threaded spindle, efficiently pulling the piston from the brake yoke.

FRICTION MATERIALS AND DISCS



Our range of brake pads and discs are designed to deliver optimal performance, durability, and safety for both yaw and rotor braking systems. From organic materials offering active friction capabilities to environmentally conscious and sintered options, each product is crafted to meet the specific demands of wind turbine operation. Additionally, our steel rotor brake discs are engineered for maximum longevity and effectiveness. These solutions collectively ensure smoother, safer, and more reliable wind turbine performance.

ENHANCING OPERATIONS AND MAINTENANCE

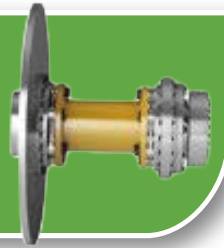
COUPLINGS AND LINEAR ACTUATORS

CENTA™ HIGH SPEED COUPLINGS CENTALINK SERIES



The CENTALINK™ driveshafts compensate for axial, radial, and angular misalignment and consist of links designed for efficiency using flexible bushings for push and pull. This patented design results in a simple, highly flexible, and easy-to-assemble link coupling.

AMERIDRIVES™ & JAURE™ HIGH SPEED COUPLINGS AMERIDISC SERIES | LAMILINK SERIES



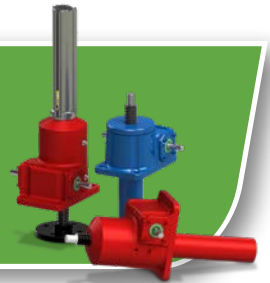
Ideal for wind turbine applications, offer exceptional misalignment capacity and are capable of handling high torque demands. These lightweight and maintenance-free couplings are designed for easy handling and longevity, for the dynamic requirements of wind energy systems.

THOMSON LINEAR™ ELECTRIC ACTUATOR ELECTRAK A22



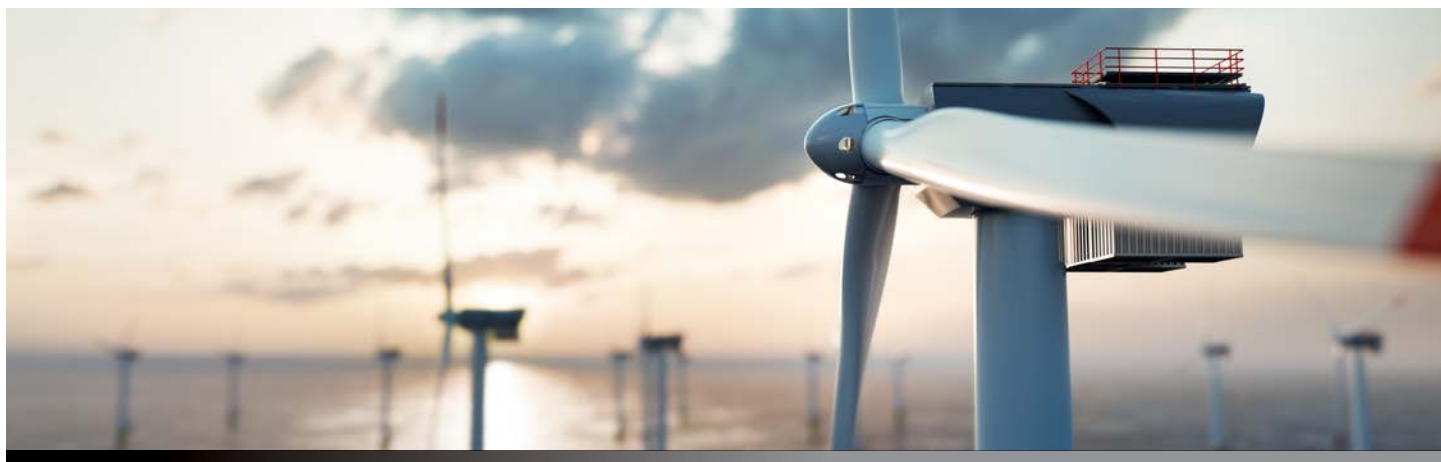
Enhance the efficiency and reliability of your wind turbine with the Thomson Linear ElectrAK Actuator. This electric actuator stands out as a cleaner, more efficient alternative to traditional hydraulic and pneumatic systems. It expertly converts rotary motion into precise linear motion, enabling exceptional control in pushing, pulling, raising, lowering, rotating, and positioning applications.

THOMSON LINEAR MACHINE AND BALL SCREW JACKS ACTIONJAC SERIES



Designed to excel in challenging environments, Thomson ActionJac™ Screw Jacks offer the perfect blend of durability and precision. Crafted from premium-quality materials and adhering to stringent manufacturing standards, these screw jacks are designed to meet the highest demands while ensuring a long, reliable lifespan. Offering high configurability and easy integration, the ActionJac series presents a plethora of models and mounting options, facilitating the creation of state-of-the-art jack systems for wind applications.

SERVICE AND AFTERMARKET SOLUTIONS



YOUR TRUSTED PARTNER FOR WIND SERVICE AND AFTER MARKET SOLUTIONS

With over 40 years' experience delivering trailblazing products to over 200,000 wind turbines globally, Regal Rexnord provides deep domain expertise to wind farm operators and maintenance personnel. Regal Rexnord can help keep your wind turbines running and reduce your maintenance costs.

IIOT AND CONDITION MONITORING

In the advanced landscape of wind turbine technology, Svendborg Brakes™ IIoT offerings are pivotal. The Connectivity Gateways act as essential conduits, enabling robust data transmission between wind turbines and control networks. Complementing this, the UCCase/m condition monitoring system offers an advanced diagnostic approach, utilizing sensor data for predictive maintenance and operational optimization.



OPTIMIZED SERVICE TOOLS FOR WIND TURBINE MAINTENANCE

Svendborg Brakes offers a suite of specialized service tools designed for precision, efficiency, and safety. Engineered to address specific maintenance needs for wind turbines, these tools streamline operations and reduce downtime. From uptower yaw disc resurfacing to noise reduction and yaw caliper installation, each tool provides for cutting-edge wind turbine maintenance capabilities.

- Uptower Yaw Disc Resurfacing Tool
- Yaw Brake Caliper Lifting Tool
- Groove Tool Yaw Noise Reduction Tool
- Brake Piston Extractor

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Regal Rexnord

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The proper selection and application of products and components, including assuring that the product is safe for its intended use, are the responsibility of the customer. To view our Application Considerations, please visit <https://www.regalrexnord.com/Application-Considerations>.

To view our Standard Terms and Conditions of Sale, please visit <https://www.regalrexnord.com/Terms-and-Conditions-of-Sale> (which may redirect to other website locations based on product family).

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The Regal Rexnord logo, featuring a stylized green and blue icon followed by the text "RegalRexnord™" in a bold, blue, sans-serif font.