

Engineering reliable power transmission for the marine industry

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Marine propulsion and auxiliary power systems operate in some of the most demanding environments in industry. High torque, continuous operation, vibration, shock loading, restricted installation spaces, and the consequences of equipment failure all place significant demands on drivetrain components. For more than a century, Regal Rexnord has combined engineering expertise with a portfolio of trusted power transmission brands to develop solutions that address these challenges and deliver reliable, long-term performance.

A key area of expertise is torsional vibration, an issue that can have implications across an entire propulsion system if it is not properly understood and controlled. Rather than considering a coupling or shaft in isolation, Regal Rexnord takes a complete-system approach to understanding drivetrain dynamics.

Comprehensive analysis

Regal Rexnord's CENTA™ and Jaure™ brands are long-established leaders in torsional vibration analysis (TVA), providing in-house analysis during the design process. TVA examines the complete marine propulsion system to predict torsional stresses, heat loads, and dynamic behavior across connected equipment. This enables potential issues to be identified before they become operational problems and helps ensure that the coupling and driveshaft system is correctly matched to the application.

TVA can also be undertaken on systems already operating in the field, helping identify potential sources of vibration or stress and providing engineering insight that can support optimization, upgrades, and maintenance decisions. For operators, this approach can help protect critical drivetrain equipment, improve reliability, and reduce the risk of costly unplanned downtime.

CENTA and Jaure form a particularly strong combination within Regal Rexnord's marine offering. Together, the brands provide a broad portfolio of flexible and torsional couplings, which can be integrated with steel or carbon-fiber shafts to meet the specific requirements of a vessel. Technologies such as CENTALINK™, CENTAFLEX™, and Jaure LAMIDISC™ couplings are engineered for demanding applications where torque transmission, vibration control, and durability are critical.

Complete driveline assessment

However, the coupling is only one part of the drivetrain. Regal Rexnord engineers can develop complete intermediate driveshaft solutions that simplify the arrangement between the main engine and gearbox. Depending on the application, systems can incorporate couplings, secondary shafts, intermediate bearings, braking systems, clutches, bulkhead seals, and more creating an integrated package around the requirements of the vessel rather than forcing the application to fit a standardized product.

Shafts can be supplied in thin-wall steel tube or ultra-lightweight carbon-fiber wound construction, providing options for different vessel designs and operating requirements. The company's engineers can also customize individual components where necessary, ensuring that factors such as torque, speed, space constraints, load conditions, and installation requirements are properly considered.

This application-focused philosophy extends across the wider Regal Rexnord portfolio. The company brings together specialist marine technologies from some of the industry's most established brands, including CENTA, Jaure, Stromag™, Svendborg Brakes™, Twiflex™, Wichita Clutch™ and Nicotra Gebhardt™.

A broad portfolio of solutions

The result is a comprehensive range covering torsional couplings, intermediate shafting systems, brakes, clutches, turning gears, HPUs, controls, locking devices, combined clutch/coupling solutions, customized fans, and air-handling systems. These technologies address applications across propulsion, auxiliary power and above- and below-deck systems, where reliability is essential and operating conditions can be particularly severe.

The breadth of the portfolio is complemented by the depth of engineering knowledge behind it. By bringing multiple technologies and specialist brands together, Regal Rexnord can look beyond individual components to consider the performance of the complete power transmission system. This solutions-based approach can reduce complexity for vessel designers and operators while helping optimize equipment performance and lifecycle costs.

For marine operators, the value of this approach extends beyond initial equipment selection. High-performance designs engineered for the application can help reduce maintenance requirements, protect connected equipment, and extend service life. By addressing vibration, loading, and drivetrain dynamics at the design stage, Regal Rexnord aims to improve reliability while reducing the total cost of ownership over the lifetime of the vessel.

Meeting the challenges of the marine industry

This combination of product breadth, specialist engineering, and marine experience makes Regal Rexnord a trusted partner for challenging power transmission applications. Whether the requirement is a torsional coupling, a hydraulic brake, a complete intermediate shafting package, or a broader drivetrain solution, the company can draw on established technologies and application knowledge to develop a solution around the needs of the vessel.

Image captions:

Image 1: Regal Rexnord engineers take a complete-system approach to marine power transmission, helping vessel operators optimize reliability, control vibration, and extend drivetrain life.

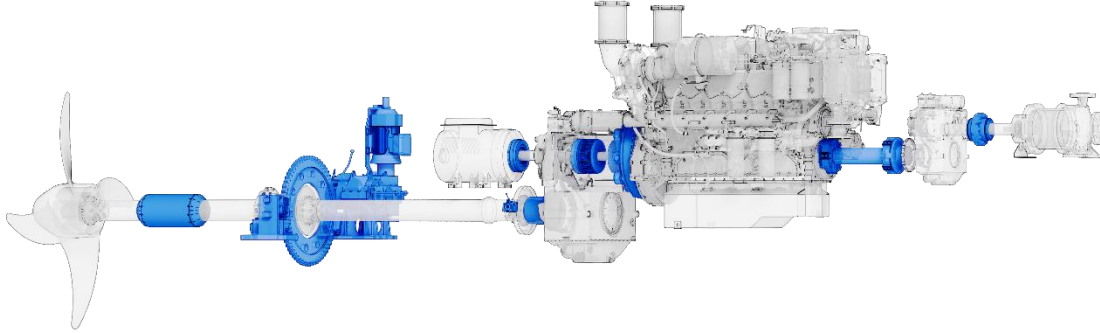


Image 2: Backed by a portfolio of industry-leading brands and innovative technologies, Regal Rexnord engineers customize propulsion systems from a single source.

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About Regal Rexnord

Regal Rexnord's 30,000 associates around the world help create a better tomorrow by providing sustainable solutions that power, transmit and control motion. The Company's electric motors and air moving subsystems provide the power to create motion. A portfolio of highly engineered power transmission components and subsystems efficiently transmits motion to power industrial applications. The Company's automation offering, comprised of controllers, drives, precision motors, and actuators, controls motion in applications ranging from factory automation to precision tools used in surgical applications.

The company's end markets benefit from meaningful secular demand tailwinds, and include factory automation, food & beverage, aerospace, medical, data center, warehouse, alternative energy, residential and commercial buildings, general industrial, construction, metals and mining, and agriculture.

Regal Rexnord is comprised of three operating segments: Industrial Powertrain Solutions, Power Efficiency Solutions, and Automation & Motion Control. Regal Rexnord is headquartered in Milwaukee, Wisconsin and has manufacturing, sales and service facilities worldwide. For more information, including a copy of our Sustainability Report, visit [RegalRexnord.com](https://www.RegalRexnord.com).

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