Energising Wave and Tidal Industries

Solutions for the wave and tidal power generation industry

Overview

As the world’s leading diversified manufacturer of motion and control technologies and systems, Parker Hannifin is at the forefront of developments in the renewable energy industries. Working with some of the most pioneering renewable energy companies across the globe, Parker provides a host of value-added services such as design support, through consultancy to complete turnkey engineered solutions.

The UK based European renewable energy team is increasingly developing complete sub-assemblies and systems that are tested and quality controlled off-site. These assemblies can then be easily and quickly installed on-site saving customers both time and cost. This engineered approach also results in more efficient and reliable energy generation systems, so in all it the component parts have been engineered as integrated units from the outset.

Wave capture devices

The European Marine Energy Centre (EMEC) has identified six generic forms of wave capture device. Although all subtly different, they each share the philosophy that typifies a Parker solution.

With our broadening range of reference projects, we are able to demonstrate proven success with many of the industries leading companies, offering state-of-the-art, optimised, efficient and reliable solutions.

Whatever your requirements, Parker has the capabilities and product offering to match.

Point absorber

A floating structure which absorbs wave energy in all directions through its movements at/near the water surface.

Overlapping device

Wave are captured in a reservoir above sea level before being returned to the sea through breakwater systems which generate power.

Submerged pressure differential

These devices are attached to the seabed near shore. The waves cause the sea level to rise and fall above the device inducing a pressure differential. This is used to pump hydraulic fluid in the system.

Oscillating wave surge converter (OWSC)

This device extracts energy caused by wave surges. The arm oscillates by wave surges. The arm oscillates by wave surges.

Oscillating water column (OWC)

A partially submerged hollow structure open to the sea below and above sea level before being returned to the sea through breakwater systems which generate power.

Wave energy in all directions through its movements at/near the water surface.

Parker Worldwide

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Your local authorised Parker distributor

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With one of the largest portfolios of products on any hydraulic equipment manufacturer, Parker Hannifin has the power to create and deliver dedicated products and systems to meet your specific requirements. From gear pumps, motors and cylinders through to hose, fittings and filtration technology, Parker is able to provide other product or complete solutions to the ocean and tidal power industry.

Through the careful selection of materials and manufacturing techniques, Parker has the ability to deliver custom-designed solutions optimised for marine environments, therefore maximising system efficiency and extended service life required for the harsh environmental conditions experienced in ocean and tidal power generation.

Capture

With industry-leading, innovative cooling technologies, Parker has also been able to deliver high power densities in a constant frequency while delivering exceptional power quality.

Convert

Over 30 years experience of designing, manufacturing and installing turbine systems in the fields of Variable Speed Drives (VSD), Active Front Ends (AFE) and Grid-Tie inverters, has positioned Parker首位ly at the forefront of the renewable energy industry. With numerous installations across many continents, Parker has delivered solutions into wind, solar and smart grid applications.

Our grid-tie inverter systems seamlessly capture variable power from the kinetic energy source and efficiently route it to the supply grid at a constant frequency while delivering exceptional power quality.

Control

Parker has established dedicated and renewable energy teams in the US and Europe, providing a highly-focused solutions approach to the renewable energy market. Working globally with our customers, Parker is able to assist in the design of systems, sub-systems and even individual component solutions; providing as much or as little support as you require throughout the design stage.

Additional value-added services such as complete engineering design, warranty analysis, project management, maintenance support and spare management allows Parker to seamlessly integrate with your existing teams, enhancing and complementing the skills available to you.

Parker has demonstrated time and again that it is able to significantly reduce supply chain costs, improve productivity and increase profitability. When you partner with Parker, expect to take control.

Parker has the ability to provide other product or complete solutions to the ocean and tidal power industry.

Parker is able to deliver high power densities in a constant frequency while delivering exceptional power quality.

Parker’s systems position mirrored performance under tough operating conditions. Typically cylinders incorporate a manifold with control valves and feature a built-in position sensor.

Parker’s hydraulic, cylinders for wave and tidal power applications deliver reliable performance under tough operating conditions. Typically cylinders incorporate a manifold with control valves and feature a built-in position sensor.

Hydraulic fittings

These high-pressure fittings are used in all fields of hydraulic applications. A wide range of designs and materials makes them particularly suitable for marine and tidal applications. Parker hydraulic fittings can be selected for your application based on material, size and pressure ratings. The end result is a simple, effective solution with ease of assembly as a primary factor.

Subsea power cables

Parker Seacord is a global supplier of subsea power cables and associated termination equipment to the wave energy industry. With its engineering and development staff, we have the ability to create hydraulic connections and specify cable types to supply our customers with the necessary information for choosing the best design, customised to meet specific needs.

Precision hydraulic valves

Proportional valves for accurate and smooth control, high pressure subsea control valves for closed-loop applications. From Parker’s wide range of analogue and digital electronic components, we can help you select the appropriate components and systems for optimum performance at a competitive cost.

Parker pumps and motors

A wide range of heavy-duty gear pumps and motors for long, reliable service life in the hostile environment of a wave or tidal power device. Integrated functions for brake charging, unloading and other value-added features.

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