

What is a Corvus orca ESS?

The Corvus Orca ESS is ideal for applications that need both energy and a high amount of power, moving large amounts of energy at an inexpensive lifetime cost per kWh. The Corvus Orca is suitable for both hybrid electric and all-electric marine applications and for use in the Corvus BOB, an all-in-one, installation-ready battery room solution.

Does Corvus Energy re-invent the Maritime ESS?

Corvus Energy re-invents the maritime ESS with the Orca ESS product line, setting new standards of safety, performance and economics. Richmond, B.C. - June 20, 2016 - Corvus Energy, the world's leading manufacturer of lithium-ion based energy storage systems (ESS), is pleased to announce the introduction of its next generation product line, Orca ESS.

Who is Corvus Energy?

Corvus Energy, the leader in marine Energy Storage Systems (ESS), has worked hard to achieve the highest standards of safety with its Orca(TM) ESS, and is the only supplier to carry DNV, Lloyd's Register, ABS and BV product Type Approvals. Today is the Day of the Seafarer.

What makes Corvus a reliable marine energy storage system?

Corvus combined its industry-leading capabilities in marine battery system development with hands-on experience as the provider of the largest global base of maritime energy storage systems in operation to build the industry's safest, most reliable marine ESS.

What makes orca ESS unique?

Among those innovations, both Orca Energy and Orca Power feature patented technology that delivers cell-level thermal runaway isolation. This unprecedented level of safety is standard across the Orca ESS product line and does not require active cooling techniques, such as liquid cooling for it to be effective.

How does Orca ESS work?

The Orca ESS design is optimized for heat-shedding to maintain a uniform temperature across the cell, which enables the cell to operate at its maximum capability. The design incorporates integrated rack fans and active temperature monitoring between cells, which improves reliability and reduces maintenance costs in the long run.



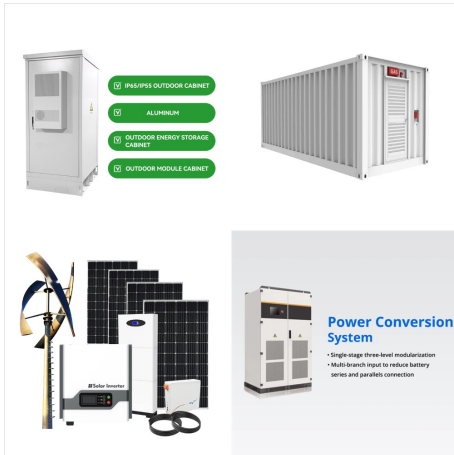
Winning "Innovation of the Year" at the 2017 Electric & Hybrid Marine World Expo, the Corvus Energy lithium-ion-based Orca energy storage system (ESS) stands out amongst other ESSs. "Battery technology is at the heart of electric and hybrid marine propulsion technology. Corvus is a true leader in this area," said awards panel judge Martyn Lasek, ???



The eWolf is equipped with a Corvus Orca ESS, a marine energy storage system used on board more than 700 maritime vessels around the world. The eWolf is outfitted with a 6.2-MWh Corvus Orca system and is capable of operating daily at full capacity using battery power alone. Battery-powered operations require zero fuel and produce zero emissions



The Orca ESS is the first-ever marine battery to get this type approval since the ClassNK rules for marine energy storage systems came into effect in January 2023. The Orca ESS system is suitable for a variety of marine applications and vessel types. To date more than 600 vessels and port applications worldwide have an Orca system installed.



This results in the segments highest performing, safest, reliable and cost-effective product-line which includes: Corvus Orca, Corvus Dolphin, Corvus Moray and Corvus Blue Whale. Orca ESS Solutions: 1. Zero emission in port, 2. All-electric operations. 3. Environmental operations. 4. Fuel efficiency, 5. Redundancy and safer operations



Corvus Energy Storage Solutions (ESS) Corvus Orca Energy Corvus Blue Marlin Corvus Blue Whale Corvus BOB Container Corvus Dolphin Energy and Power Corvus installation. Features and options Corvus Orca Energy Features ???High C-Rates ???up to 3C continuous ???Designed for voltages up to 1200 VDC ???Low installation and commissioning time



Richmond, B.C ??? February 23, 2017 ??? Corvus Energy, the world's leading manufacturer of lithium-ion based energy storage systems (ESS) for maritime industries, is pleased to announce the availability of Orca LQ ??? a liquid cooled variant of its ground breaking, next-generation Orca ESS. Expanding the ESS product line, this latest option



The Corvus Orca ESS received DNV Type Approval for Cyber Security, indicating that Corvus' control and monitoring system meets stringent DNV safety, quality, and performance requirements related to cyber security. Corvus is pursuing cyber security Type Approvals for its full product range. Learn more about Corvus Energy digital services



"Once again we reinvent energy storage for ships," states Geir Bjorkeli, CEO of Corvus Energy. "When we launched the Corvus Orca Energy in 2016, we set a new standard for performance, safety and economics in a maritime ESS. "The Corvus Orca Energy became an enormous success when launched and is now on more than 140 vessels worldwide.



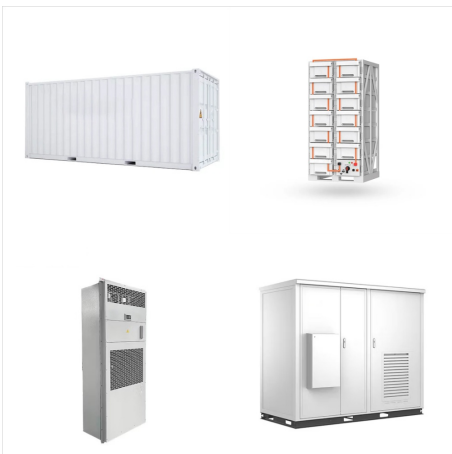
Corvus Orca Energy The Orca Energy ESS represented a shift in the maritime industry when launched in 2016. No other Energy Storage System can compete with the installation count of the Orca Energy system. Outstanding results and the highest level of safety has set the new industry-standard for maritime batteries.



The less strict "Propagation Test 2" allows fire suppression to be used during the test series. Corvus Energy conducted more than 20 thermal runaway tests during the Orca ESS development program. Orca ESS has been proven to pass the strict Propagation Test 1, universally considered the toughest guideline to meet in the Maritime ESS industry.



The Corvus Orca ESS, the most installed marine energy storage system worldwide, set the industry standard for maritime energy storage reliability and safety. The Blue Whale design incorporates the unsurpassed safety features of the Orca, and additionally provides key advances required to meet the energy demands of large vessels.



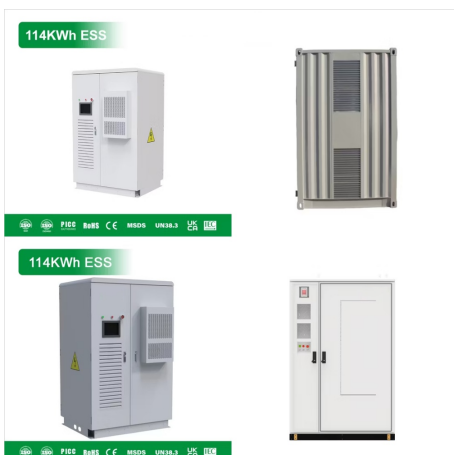
Corvus Orca Energy The Orca Energy ESS represented a shift in the maritime industry when launched in 2016. No other Energy Storage System can compete with the installation count of the Orca Energy system. Outstanding results and the highest level of safety has set the new industry-standard for maritime batteries.



The solution will use two Corvus Orca BOBs (the containerized version of the company's Corvus Orca ESS) ??? with a total energy storage capacity of 2,990kWh. The all-electric Crowley eWolf tug and its shoreside charging infrastructure is scheduled to begin service in 2023 in San Diego harbor. The maritime technology company is also supplying



Corvus Orca Energy Designed and built specifically for the maritime industry, the Orca ESS product line from Corvus Energy represented a shift in maritime Energy Storage when launched in 2016. No other ESS can compete with the installation count that Orca Energy represents. Outstanding results and the highest level of safety has set the new



Corvus Orca The Corvus Orca ESS represented a shift in the maritime industry when launched in 2016. No other Energy Storage System can compete with the installation count of the Corvus Orca. Offering outstanding results and the highest level of safety, it set the new industry standard for maritime batteries.



2 ? The Statue City Cruises ferries will be equipped with Corvus Orca ESS, the most installed marine energy storage system worldwide, used onboard over 700 maritime vessels ???



Corvus Energy has been selected by Stena Line and Callenberg Technology Group to supply a 1MWh capacity Orca Energy ESS as a retrofit for the M/V Stena Jutlandica. Stena Line will be the first in Sweden to operate a ferry with zero emissions while berthing and in port.



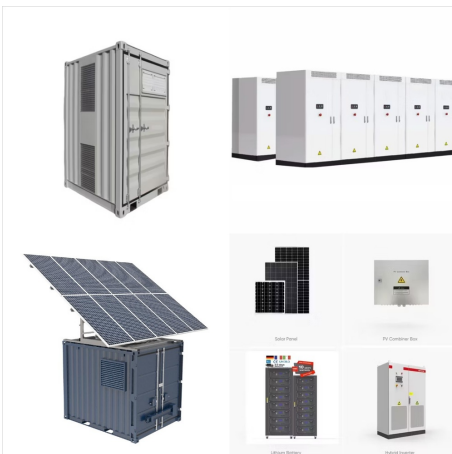
Corvus Energy, the leading provider of marine battery and fuel cell systems, is pleased to announce that their Corvus Orca Energy Storage System has received Type Approval from the Japanese class society, ClassNK.



Following the successful launch of Orca ESS at the Electric & Hybrid Marine World Expo in 2016, Corvus has won over 30 new projects totalling over 25MWh that will utilize Orca ESS. In total, 100+ projects utilize Corvus ESS, now totalling over 75MWh and 1.5 million operating hours.



Corvus will supply its recently released, next generation Orca Energy solution to provide power to the vessel for peak shaving, research operations and crew comfort. Orca Energy is part of the ???



Bergen, Norway and Vancouver, Canada, November 16, 2023. Corvus Energy, the leading provider of Battery Energy Storage Solutions and Fuel Cell Systems for the marine sector, is thrilled to announce that they have been awarded Type Approval from DNV (Det Norske Veritas) for their Cyber Security Notation on the Control and Monitoring system of their Orca ???



Corvus Orca BOB plug-and-play battery room The Corvus Orca BOB containers will each contain almost 1.5 MWh of energy storage capacity and be capable of "fast-charging" the Crowley eWolf tug. The Corvus ???



The Orca ESS product line, which will make its public debut at the Electric & Hybrid Marine World Expo in Amsterdam, June 21-23, has been developed based on experience from more than 50 vessels currently utilizing a Corvus ESS, totaling over 35MWh installed and 1 million operating hours, Corvus Energy said.



Corvus Orca Energy. Designed and built specifically for the maritime industry, the Orca ESS product line from Corvus Energy represented a shift in maritime Energy Storage when launched in 2016. No other ESS can compete with the . installation count that Orca Energy represents. Outstanding results and the highest level of safety has set the new



The Blue Whale design incorporates the unsurpassed safety features from the Corvus Orca ESS, the world`s most installed marine ESS, along with additional design benefits, such as optimized energy density and a flexible, modular design architecture, that make it better equipped to meet the energy demands of large vessels. Corvus Energy



For the Kirby Green Diamond, Corvus Energy supplied a 1,243 kWh Corvus Orca ESS, (ESS) for maritime, offshore, subsea and port applications. Corvus Energy offers a full portfolio of ESS suitable for almost every vessel type, providing high-power energy storage in the form of modular lithium-ion battery systems. The purpose-built, field



Orca Power ESS can charge at peak rates of 13C and continuous rates of 5C, meaning that Orca Power ESS batteries can be quickly charged from shore charging stations and via energy recovery systems. An example of a shore station ESS that takes advantage of quick discharge/charge using a Corvus ESS is the all-electric Norled ferry, Ampere. The