

Corvus Blue Whale

The Corvus Blue Whale is ideal for large vessels or applications that require a large amount of energy. The design is a result of the knowledge gained from having the largest global base of installed ESS combined with industry-leading research and development capabilities.

The Blue Whale design is optimized for energy density and incorporates the unsurpassed safety features of the industry leading Corvus Orca ESS. To maximize space efficiency, Blue Whale requires minimal battery room service aisles.



Applications

The Corvus Blue Whale ESS is designed for use in large vessels and large installations (>10MWh total system energy) where the operational profile calls for slow charge and discharge rates and requires the ability to sail emission-free over longer periods of time, including during emissions-free port stays. Blue Whale is ideal for applications that require a large amount of energy at a cost-effective kWh price.

Typical Vessel Types:

- Cruise ships
- Merchant
- Ro-Ro/Pax
- Sightseeing/Workboats
- Yacht
- Inland Vessels

Features

- Industry leading volumetric and gravimetric room energy density
- Designed for voltages up to 1140 VDC
- Low installation and commissioning time
- Very cost-efficient for large installations
- Enhanced reliability with contained power connections
- Weight and volume reduced ~30% and ~50 % compared to Orca Energy
- Flexible and modularized design
- No service aisles required
- Passive single-cell Thermal Runaway protection
- Scalable capacity and voltage according to vessel requirements
- Industry-proven Battery Management System (BMS)
- Remote monitoring capabilities
- Enhanced EMI immunity design for maritime environments



Technical Specifications | Corvus Blue Whale

Performance Specifications

C-Rate - Peak (Discharge / Charge)	1C / 1C for 20 minutes
C-Rate - Continuous (Discharge / Charge)	0,7C / 0,7C

System Specifications

Single Module Size / Increments	44.35 kWh / 80 VDC
Single Pack Range	310-4967 kWh / 560 - 1120 VDC
Max Gravimetric Density - Room	105 Wh/kg 9,6 kg/kWh
Max Volumetric Density - Room	58 Wh/l

Example Pack - 6 Strings (14 modules/string)

Energy	3726 kWh
Voltage	Max: 1226 VDC Nom: 1109 VDC Min: 840 VDC
Dimensions	Height: 2755 mm Width: 1390 mm Length: 10 047 mm
Weight	37 296 kg

Example System - 4 Packs of 6 Strings (14 modules/string)

Energy	14 902 kWh
Voltage	Max: 1226 VDC Nom: 1109 VDC Min: 840 VDC
Dimensions	Height: 2755 mm Width: 5560 mm Length: 10 047 mm
Weight	149 184 kg

Safety Specifications

Thermal Runaway Anti-Propagation	Passive cell-level thermal runaway isolation with exhaust gas system
Fire Suppression	Per SOLAS, class and Corvus recommendation
Disconnect Circuit	Hardware-based fail-safe for over-temperature and over-voltage
Short Circuit Protection	Fuses included on the module and string level
Emergency Stop Circuit	Hard-wired
Ground Fault Detection	Integrated
Disconnect Switchgear Rating	Full load

General Specifications

Class Compliance [Pending]	Lloyds Register, Bureau Veritas, ABS
Type Approval	DNV, RINA
Ingress Protection	System: IP44
Cooling	Forced air
Vibration and Shock	UNT38.3, DNV-CG-0339, IEC 60068-2-6
EMC	IEC 61000-4, CISPR16-2-1

2024-07-25

