



VaultFlex™ Battery Enclosures

from EnerSys® and Purcell® Systems



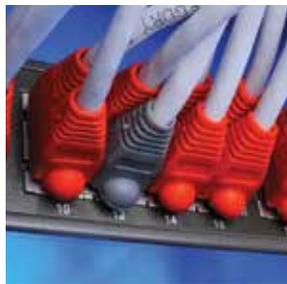
Two industry leaders team up to provide new synergy, efficiency and flexibility

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A one-stop resource for precision-matched batteries and enclosures

About EnerSys®

EnerSys, the global leader in stored energy solutions for industrial applications, manufactures and distributes reserve power and motive power batteries, battery chargers, power equipment, battery accessories and outdoor equipment enclosure solutions to customers worldwide. Motive power batteries and chargers are utilized in electric forklift trucks and other commercial electric powered vehicles. Reserve power batteries are used in the telecommunication and utility industries, uninterruptible power supplies, and numerous applications requiring stored energy solutions including medical, aerospace and defense systems. Outdoor equipment enclosure products are utilized in the telecommunication, cable, utility, transportation industries and by government and defense customers. The company also provides aftermarket and customer support services to its customers from over 100 countries through its sales and manufacturing locations around the world.



As communication equipment has continued to increase in density, so has the amount of power and cooling required per cubic foot of enclosure.

The solution is the new line of modular, thermally managed VaultFlex™ enclosures. Developed by EnerSys and its subsidiary Purcell® Systems specifically for outdoor applications, these enclosures reflect the synergy between the world leader in stored energy solutions and the leading manufacturer of battery enclosures.

VaultFlex enclosures provide a secure thermally managed environment for backup battery systems that ensures the most efficient thermal management solution with the lowest energy consumption. The alliance between EnerSys and Purcell Systems provides a one-stop resource for both batteries and enclosures. Availability through the global EnerSys distribution channel streamlines the process of building and managing a world-class stored energy system.

Benefits include:

- A fast off-the-shelf solution
- Reduced cooling costs
- Extended battery life
- Built-in security features
- Reduced costs for engineering, installation, maintenance and repair
- Reduced capital and operational expenses
- Lower Total Cost of Ownership (TCO)



About Purcell® Systems

Purcell® Systems is a leading global company and has been servicing the telecom market since 2000. The company designs and manufactures innovative, industry-leading, thermally managed, modular outdoor electronic equipment enclosure solutions, and provides system level solutions to a variety of global customers in telecom, cable/MSO, energy/utility, land mobile radio, transportation and U.S. Government/military. The company provides solutions for equipment mounting space, thermal management, copper and fiber cable management and power and battery backup with unmatched speed and flexibility.



Synergistic design extends system life and improves reliability



Engineered to work in harmony

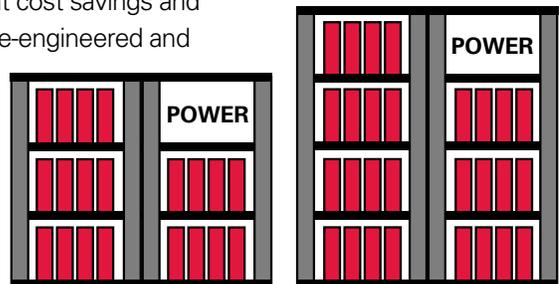
Matching batteries to enclosures, or enclosures to batteries, can be costly and time-consuming, often requiring compromise between power needs and available architecture. Because VaultFlex™ enclosures and EnerSys® PowerSafe® batteries are specifically designed to work together, this process is simplified and, most important, system life and reliability are optimized.

Heating and cooling options

Proper thermal management extends battery life, reducing operational and maintenance costs. VaultFlex enclosures are available with a selection of heating and cooling options including Air Conditioning (AC) and Direct Air Cooling (DAC). Enclosure architecture allows the cabinet to be divided into multiple thermal zones supporting vastly different equipment operating characteristics with the highest reliability and lowest TCO.

Cabinet modularity

The modular design of these thermally-managed outdoor enclosures provides flexibility to meet the exact needs of network operators. Much like prefabricated buildings, containers and shelters, modular design results in significant cost savings and optimum use of space. Pre-engineered and interchangeable modules provide optimal configurations with minimal cost and allow for growth as needs change or grow.



Flexible design

VaultFlex enclosures are offered in a range of sizes to accommodate diverse battery back-up requirements. Constructed of corrosion-resistant aluminum with steel racks and rails, they support a wide range of EnerSys battery chemistries, including PowerSafe® SBS, PowerSafe V Front Terminal, PowerSafe OPzV or PowerSafe mSeries batteries.





Rugged construction

The thermally managed outdoor battery enclosures are compliant to hydrogen evacuation criteria per UL/CSA/EN 60950-22 issue 4, earthquake Zone 4 criteria per GR-63 and electrical safety criteria per UL/EN 60950-1 standards. VaultFlex™ enclosures are protected with a one-year limited warranty. EnerSys® offers 24/7 nationwide service, covering product procurement, installation and ongoing support.

Advanced PowerSafe® battery technology

The PowerSafe® family of Valve Regulated Lead Acid (VRLA) batteries from EnerSys provides a wide range of stored energy options. Common to all is optimized recombinant technology for long life and pressure relief valves for optimum safety. PowerSafe SBS batteries feature cells and monoblocs that retain the benefits of EnerSys Thin Plate Pure Lead (TPPL) technology – from high energy density to exceptional cyclic performance in both float and fast charge applications, even in the hottest and harshest operating environments.



Single Bay Enclosures

Exterior

- Cabinet – 0.090 in / 2.5 mm corrosion resistant aluminum
- Battery rack – 0.120 in / 3 mm steel
- Finish – ultra-light gray polyester powder coat
- Insulation – 1 in / 25 mm foil-backed insulation

Door/Side/Top Panels

- Doors – front door; rear access panel
- Door handles – pad-lockable
- Door hinges – hidden hinges

Interior

- Battery rack options accommodate EnerSys® PowerSafe® SBS or V Front Terminal batteries
- 8RU 23" equipment rails optional; mid-mount

Battery Containment

- Two-Tier – supports up to 2 tiers; up to 1 tier with 23" equipment rail option
- Three-Tier – supports up to 3 tiers; up to 2 tiers with 23" equipment rail option
- Four-Tier – supports up to 4 tiers; up to 3 tiers with 23" equipment rail option
- Compliant to earthquake Zone 4 criteria per Telcordia® GR-63 (Zone 0 racks available)

AC Power Termination and Distribution

- Mounting provisions for customer-provided internal or external AC load center

Standards

- Compliant to hydrogen evacuation criteria per UL/CSA/EN 60950-22
- Compliant to earthquake Zone 4 criteria per Telcordia GR-63
- Compliant to electrical safety criteria per UL/CSA/EN 60950-1

Cable Entry

- Ingress/Egress – knockouts left and right side

Mounting Options

- Corrosion inhibiting pad gasket
- Pole mount platform (*two-tier enclosure only*)
- Galvanized steel mounting plinth

DC Power Systems and Distribution

- Top section configurable for 8 RU of 23" rails to mount customer-provided equipment

Battery Breakers

- 100A breaker for each battery string
- Base cabinet is configured for one battery string, additional string kits may be ordered separately

Hydrogen Evacuation

- Passive ventilation

Other Options

- Bonding and grounding – copper isolated up to 11 positions
- -48VDC battery heater mat
- Cabinet alarms – climate unit, door, breaker(s)

- Compliant to outdoor environment criteria per UL/CSA/EN 60950-22
- Compliant to EMC criteria per EN 61000, FCC, ICES
- CE Mark
- RoHS compliant

				Thermal Management Systems	
Enclosure	Exterior Dimensions (W x D x H) (in / mm)	PowerSafe® Batteries Supported	Air Conditioner	Direct Air Cooling	Zoned Cooling
Two-Tier	30" x 29" x 30" 768 x 735 x 762	SBS C11F SBS 100F SBS 112F SBS 170F	450W (1534 BTU) -48 VDC air conditioner	185 CFM / 314 m3/h DC fan with MERV 2 filter	Upper zone: 185 CFM / 314 m3/h DC fan with MERV 2 filter Lower zone: 450W (1534 BTU) -48 VDC air conditioner
Three-Tier	30" x 29" x 45" 768 x 735 x 1143	SBS 190F 12V92F-FT 12V100FC-FT 12V155FS			
Four-Tier	30" x 29" x 60" 768 x 735 x 1533	12V170FS 12V190F			



Dual Bay Enclosure

Exterior

- Cabinet – 0.080 in / 2 mm corrosion resistant aluminum
- Battery rack – 0.120 in / 3 mm steel
- Finish – ultra-light gray polyester powder coat
- Insulation – 1.5 in / 38 mm foil-backed insulation on cabinet walls, roof and floor

Door/Side/Top Panels

- Doors – front door; left and right open
- Door handles – pad-lockable
- Door hinges – hidden hinges

Interior

- Battery rack options accommodate EnerSys® PowerSafe® OPzV, mSeries, V Front Terminal or SBS batteries
- Rack accommodates up to 5291 lbs / 2400 kg of batteries

Battery Containment

- Supports up to ten PowerSafe mSeries, SBS or V Front Terminal 12V battery strings or up to two 2V battery strings in -48V configuration depending on battery size
- Compliant to earthquake Zone 4 criteria per Telcordia® GR-63 (Zone 0 racks available)

Cable Entry

- Ingress/Egress – knockouts on sides

Mounting Options

- Corrosion inhibiting pad gasket

Battery Breakers

- 2V applications: Two string configurations have (2) 250A breaker(s). Single string configurations have (1) 500A breaker.
- 12V applications: 100A breaker(s)
- Base cabinet is configured for one battery string, additional string kits may be ordered separately

Hydrogen Evacuation

- Passive ventilation

Other Options

- 500W -48VDC heater
- Cabinet alarms – climate unit, door, breaker(s)

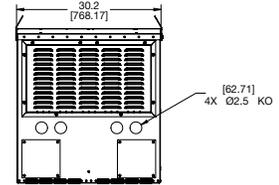
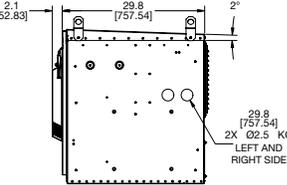
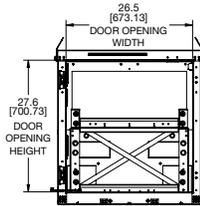
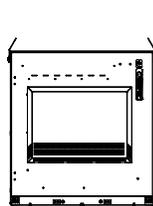
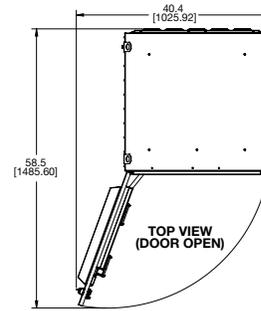
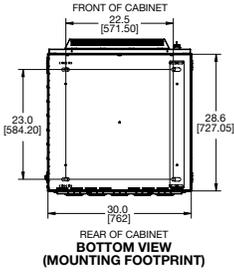
Standards

- Compliant to hydrogen evacuation criteria per UL/CSA/EN 60950-22
- Compliant to earthquake Zone 4 criteria per Telcordia GR-63
- Compliant to electrical safety criteria per UL/CSA/EN 60950-1
- Compliant to outdoor environment criteria per UL/CSA/EN 60950-22
- Compliant to EMC criteria per EN 61000, FCC, ICES
- CE Mark
- RoHS compliant

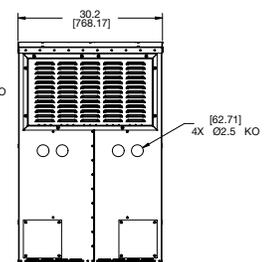
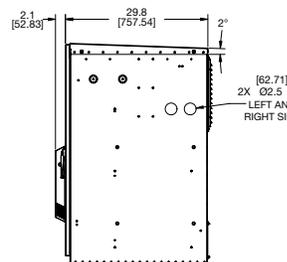
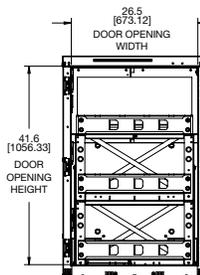
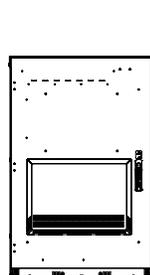
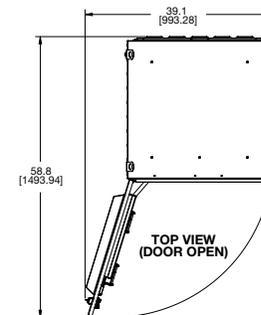
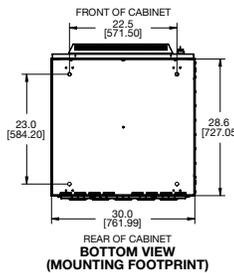
Exterior Dimensions (W x D x H) (in / mm)			Thermal Management Systems			
Enclosure	PowerSafe® Batteries Supported	Air Conditioner	Free Cooling System	Heater		
Dual Bay	Up to ten -48V Strings SBS 112F SBS 170F SBS 190F 12V155FS 12V170FS 12V190F	One -48V String OPzV 800†† OPzV 1000†† OPzV 1200†† DDm100-21† Up to two -48V Strings OPzV 600 SBS EON 900	400W (1364 BTU) @ 25/45°C (inside temp/ outside temp)	175 CFM / 300 m3/h DC fan F5 filter	500w -48/DC	

† Only Zone 0 rack option available
 † Designed to meet listed standards

Two-Tier



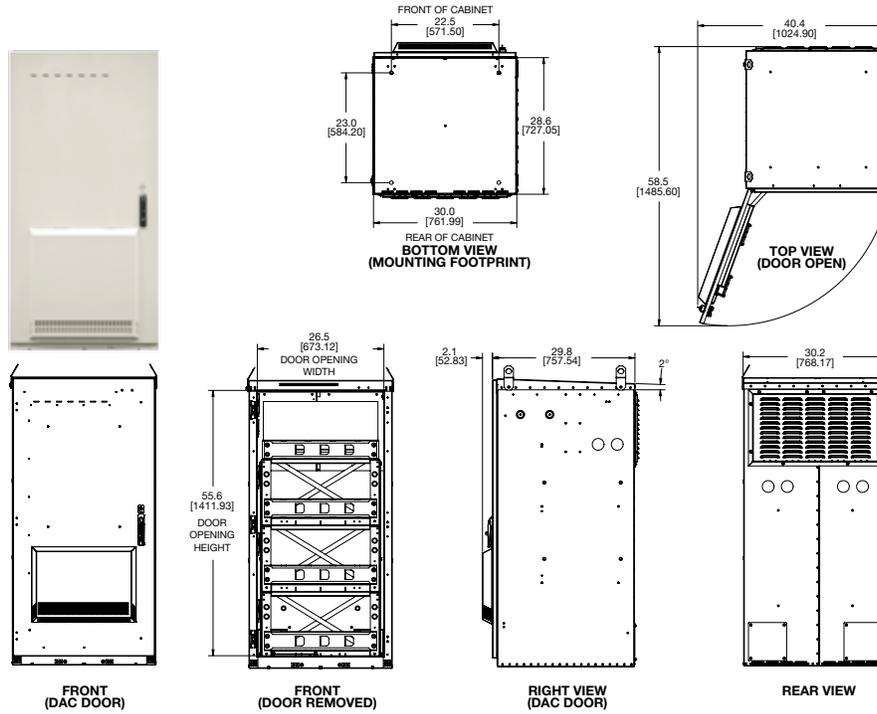
Three-Tier



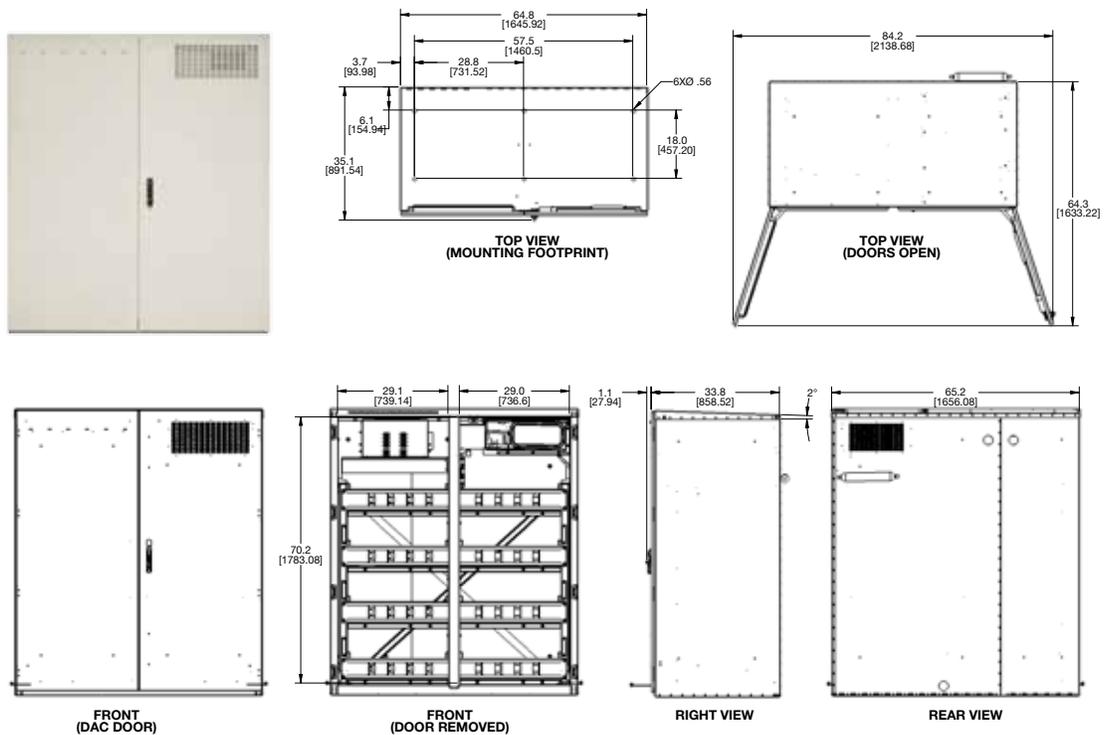
Note: All measurements shown as: inches [mm]



Four-Tier



Dual Bay



Note: All measurements shown as: inches [mm]



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