PowerSafe® VM

RANGE SUMMARY

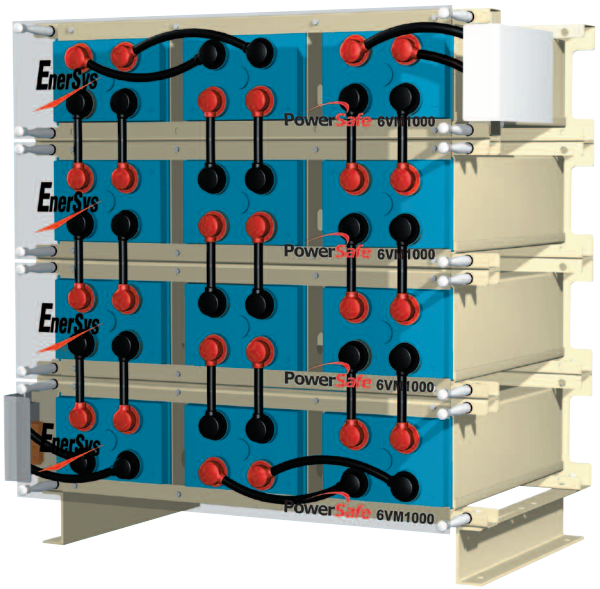
The PowerSafe® VM battery range offers the ideal solution for large capacity, valve regulated lead acid battery requirements. PowerSafe VM batteries' modular design concept, with its integral racking system, provides a cost effective, compact battery solution combined with a quick, simple on site installation process. PowerSafe VM batteries' extra thick positive grids provide excellent performance and service life across an extensive range of applications including, telecommunications, power generation/distribution sites, both low and high rate UPS and emergency lighting.

PowerSafe VM batteries are designed using proven gas recombination technology which removes the need for regular water addition by regulating the emission of hydrogen and oxygen during charging. Oxygen evolved at the positive plates diffuses through microporous separators to the negative plates, and, by a series of chemical reactions within the cell, recombines to form water. Each cell incorporates its own safety valve that allows the controlled release of gas when pressure builds up within the cell.

The use of gas recombination technology for lead acid batteries has completely changed the concept of standby power. This technology provides the user with the freedom to use lead acid batteries in a wide range of applications.

Features & Benefits

- **Capacity range: 200Ah - 5000Ah**
- **Excellent design life**
- **Side or top terminations depending on configuration**
- **Front connections provide excellent maintenance access**
- **UL94 V-0 rated flame retardant container and lid as standard**
- **100% nominal C_{10} capacity check prior to despatch**
- **Proven in service**



EnerSys®
Power/Full Solutions

RESERVE POWER

Construction

- Extra thick lead-tin-calcium positive grids to minimise corrosion and prolong service life
- Balanced lead-calcium negative grids to optimise recombination efficiency
- Separator in low resistance microporous fibre glass material within which the electrolyte is fully absorbed, thus preventing acid spills in the case of accidental damage
- Container and heat sealed lid in UL94 V-0 rated flame retardant polypropylene as standard
- Cells housed in steel modules complete with integral racking system
- Optional seismic Zone 4 UBC 1997 approved racking available upon request
- Terminals with a large surface area copper insert to provide maximum conductivity
- Ring burn terminal seal with secondary epoxy resin seal, 100% factory tested and proven in service
- Self regulating pressure relief valve with integral flame arrestor

Installation & Operation

- Recommended float charge voltage: 2.280Vpc at 20°C, 2.265Vpc at 25°C
- The PowerSafe® VM battery range is designed for horizontal installation and can be installed safely within equipment rooms. A separate dedicated battery room is not necessary
- Six month shelf life at 20°C
- Minimal maintenance: no addition of water required

Standards

- Compliant with international standard IEC 60896-21/22
- Classified as "Long Life" according to Eurobat Guide (1999)
- Approved to be shipped as non-hazardous cargo in accordance with the requirements of IMDG (International Maritime Code for Dangerous Goods) and ICAO (International Civil Aviation Organisation)
- UL recognised component
- All cells are proven to have 100% of rated C_{10} capacity in the factory prior to dispatch
- Manufactured in EnerSys® ISO 9001:2000 and ISO 14001:2004 certified production facilities

General Specifications

		Nominal Capacity (Ah)		Nominal Dimensions									
PowerSafe VM® Battery Type	Nominal Voltage (V)	10 hr rate to 1.80Vpc @ 25°C	8 hr rate to 1.75Vpc @ 77°F	Length mm	Length in	Depth[1] mm	Depth[1] in	Height[2] mm	Height[2] in	Typical Weight[3] kg	Typical Weight[3] lbs	Short Circuit Current (A)	Internal Resistance (mΩ)
12VM-200	12	200	200	665	26.2	330	13.0	218	8.6	108	238.1	2746	4.370
12VM-300	12	300	300	893	35.2	330	13.0	218	8.6	158	348.3	3882	3.090
12VM-400	12	400	400	843	33.2	516	20.3	218	8.6	204	449.7	4050	2.950
12VM-500	12	500	500	957	37.7	516	20.3	218	8.6	239	526.9	5180	2.310
12VM-600	12	600	580	1071	42.2	516	20.3	218	8.6	281	619.5	6090	1.970
6VM-850	6	850	840	801	31.5	516	20.3	218	8.6	203	447.5	7980	0.750
6VM-1000	6	1000	1000	915	36.0	516	20.3	218	8.6	245	540.1	9275	0.640
6VM-1000A	6	1000	1000	801	31.5	584	23.0	218	8.6	235	518.1	7212	0.832
6VM-1100	6	1100	1080	972	38.3	516	20.3	218	8.6	255	562.2	9673	0.620
6VM-1200	6	1200	1200	915	36.0	584	23.0	218	8.6	269	593.0	8219	0.730
6VM-1300	6	1300	1300	972	38.3	584	23.0	218	8.6	287	632.7	8571	0.700
6VM-1360	6	1360	1360	1145	45.1	516	20.3	218	8.6	316	696.6	10453	0.570
6VM-1500	6	1500	1500	915	36.0	558	21.0	278	10.9	359	791.4	10733	0.560
6VM-1600	6	1600	1600	1145	45.1	584	23.0	218	8.6	369	813.5	11057	0.540
6VM-1700	6	1700	1640	972	38.3	558	21.0	278	10.9	386	850.9	11215	0.535
4VM-2000	4	2000	2000	791	31.1	558	21.0	278	10.9	307	676.8	17467	0.229
2VM-2600	2	2600	2600	676	26.6	584	23.0	218	8.6	196	432.1	17391	0.115
2VM-3000A	2	3000	3000	801	31.5	584	23.0	218	8.6	235	518.1	22222	0.090
2VM-3000	2	3000	3000	638	25.1	558	21.0	278	10.9	236	520	21978	0.091
2VM-3600	2	3600	3600	915	36.0	584	23.0	218	8.6	269	592.9	25000	0.080
2VM-4000	2	4000	4000	791	31.1	558	21.0	278	10.9	307	676.8	26667	0.075
2VM-4500	2	4500	4500	915	36.0	558	21.0	278	10.9	359	791.4	32780	0.061
2VM-5000	2	5000	4920	972	38.3	558	21.0	278	10.9	386	850.9	34483	0.058

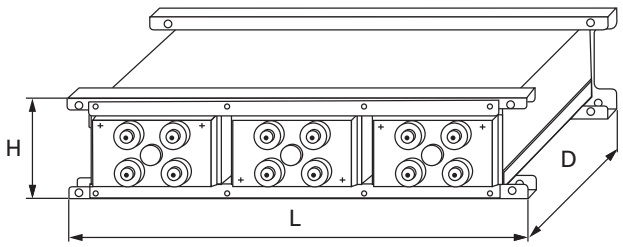
NOTES:

(1) The depth shown in the table is for the module only. Add 86mm to obtain the overall depth including the front panel.

(2) To calculate the total height of a battery stack multiply the module height by the number of modules in the stack and add 100mm for the base support except for the VM -1500, 1700, 2000, 3000, 4000, 4500 and 5000 modules where 120mm must be added.

(3) The typical weight of the module excludes the connectors, terminal plates, front panels and base support.

(4) The excellent flexibility afforded by the modular construction design provides for further combinations of capacity, voltage or footprint in addition to those illustrated in the above tabulation, eg 2VM-3200, 2VM-4800, 4VM-1000, 4VM-1700 etc.



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