PowerSafe® Vb

SINGLE CELL RANGE SUMMARY

PowerSafe® Vb batteries are vented lead-acid batteries designed for industrial applications in power supply with high safety requirements. These single cells are qualified for both short duration discharges with high current and long duration discharges with low current. The main areas of application are DC power supply systems in power stations and substations, UPS systems, industrial systems and emergency power supply systems. They can also be used for engine starting and for energy storage in solar power systems.

The special rod plate design of PowerSafe Vb batteries offers a high energy density and a very long life time in one unique design. This gives better performance and can minimise the use of valuable floor space. A rigid earthquake-proof cell allied with the unique PowerSafe Vb safety pole terminals makes this a superior battery design. A very long topping up interval minimises service requirements to complete the package.

Features & Benefits

- **Capacity range: 275Ah – 2400Ah**
- **Single cells, 2V nominal voltage**
- **Water topping up interval about 5 years in standby operation mode at 20°C**
- **20 year service life thanks to proven rod plate technology and safety pole**
- **High cycling capability in energy storage systems**
- **Rigid cell design, earthquake-proof**

EnerSys®
Power/Full Solutions

RESERVE POWER

Construction

- Positive electrode - rod plate with low antimony lead alloy. Special hanging plate design allows for growth giving superior aging behaviour
- Negative electrode - grid plate with lead alloy
- Separation - microporous separator, combined with fleece pocket for the positive electrode
- Casing material - styrene-acrylonitrile (SAN), impact resistant, transparent, with electrolyte level indication i.e. Max / Min
- Electrolyte - dilute sulphuric acid, density = 1.24 kg/l
- Terminal Design - leak-proof safety pole with solid brass insert and M10 stainless steel bolt
- Connectors - solid copper connector (30mm x 5-10mm) insulated, bolted type, voltage measurement possible
- Vent Plugs - flame arrestor safety vent plugs as standard, ceramic funnel plugs available as option

Installation & Operation

- Float charge voltage: 2.23Vpc at 20°C
- Suitable for all types of installation
- Small floor area required for installation due to high energy density
- For use in earthquake zones special approved racks are available
- If accommodated in battery rooms or cabinets the safety provisions specified in EN 50272-2 must be applied
- Recommended range of operation 0°C to 55°C (preferred value 20°)

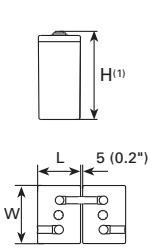
Standards

- Conforms to IEC 60896-11 (2002)
- Manufactured in EnerSys® production facilities that are certified to ISO 9001:2008 (Quality) and ISO 14001:2004 (Environment)

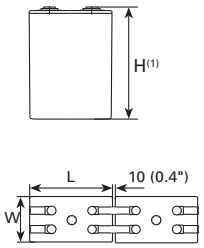
General Specifications

		Nominal Capacity (Ah)		Nominal Dimensions											
Type	Nominal Voltage (V)	10 hr rate to 1.80Vpc @ 20°C	8 hr rate to 1.75Vpc @ 77°F	Length mm	Length in	Width mm	Width in	Height [1] mm	Height [1] in	Typical Weight kg	Typical Weight lbs	Electrolyte Volume S.G. = 1.240 litres	Electrolyte Volume S.G. = 1.240 US gallon	Short Circuit Current (A)	Internal Resistance (mΩ)
Vb 2305	2	275	275	122	4.80	266	10.5	440	17.3	30.1	66.4	7.0	1.8	4195	0.50
Vb 2306	2	330	330	122	4.80	266	10.5	440	17.3	32.2	71.0	6.7	1.8	5034	0.41
Vb 2307+	2	385	385	122	4.80	266	10.5	440	17.3	34.3	75.6	6.5	1.7	5873	0.35
Vb 2308	2	440	440	188	7.40	266	10.5	440	17.3	45.9	101	11.7	3.09	6712	0.31
Vb 2309	2	495	495	188	7.40	266	10.5	440	17.3	48.0	106	11.5	3.04	7551	0.28
Vb 2310+	2	550	550	188	7.40	266	10.5	440	17.3	50.4	111	11.2	2.96	8390	0.25
Vb 2311+	2	605	605	188	7.40	266	10.5	440	17.3	52.9	117	10.8	2.85	9229	0.23
Vb 2312	2	660	660	233	9.17	266	10.5	440	17.3	61.0	134	14.4	3.80	10068	0.21
Vb 2313+	2	715	715	233	9.17	266	10.5	440	17.3	63.3	140	14.1	3.72	10907	0.19
Vb 2314+	2	770	770	233	9.17	266	10.5	440	17.3	65.4	144	13.8	3.65	11746	0.18
Vb 2408	2	916	916	374	14.7	213	8.39	550	21.7	98.1	216	23.4	6.18	10085	0.21
Vb 2409	2	1030	1030	374	14.7	213	8.39	550	21.7	102	226	22.7	6.00	11346	0.18
Vb 2410	2	1140	1140	374	14.7	213	8.39	550	21.7	108	237	22.0	5.81	12606	0.16
Vb 2411+	2	1250	1250	374	14.7	213	8.39	550	21.7	112	247	21.4	5.65	13867	0.15
Vb 2412	2	1370	1370	374	14.7	298	11.7	550	21.7	141	310	33.1	8.74	15128	0.14
Vb 2413	2	1480	1480	374	14.7	298	11.7	550	21.7	146	321	32.4	8.56	16388	0.13
Vb 2414	2	1600	1600	374	14.7	298	11.7	550	21.7	150	331	31.7	8.37	17649	0.12
Vb 2415	2	1710	1710	374	14.7	298	11.7	550	21.7	155	342	31.0	8.19	18909	0.11
Vb 2416+	2	1830	1830	374	14.7	298	11.7	550	21.7	160	353	30.3	8.00	20170	0.10
Vb 2417	2	1940	1940	374	14.7	383	15.1	550	21.7	190	418	43.1	11.4	21431	0.10
Vb 2418	2	2060	2060	374	14.7	383	15.1	550	21.7	195	429	42.3	11.2	22691	0.09
Vb 2419	2	2170	2170	374	14.7	383	15.1	550	21.7	199	439	41.8	11.0	23952	0.09
Vb 2420	2	2290	2290	374	14.7	383	15.1	550	21.7	204	451	41.1	10.9	25213	0.08
Vb 2421+	2	2400	2400	374	14.7	383	15.1	550	21.7	209	461	40.4	10.7	26473	0.08

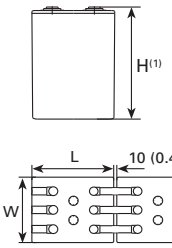
The electrical values shown in the table relate to loadings from a fully charged condition at ambient temperature of 20°C (unless otherwise specified).
[1] Height includes connector.



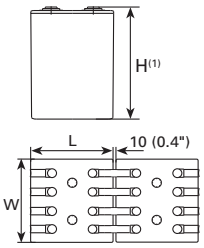
Vb 2305 . . .Vb 2314+



Vb 2408 . . .Vb 2411+



Vb 2412 . . .Vb 2416+



Vb 2417 . . .Vb 2421+

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Publication No. EN-PS-Vbc-RS-003 - January 2012 - Subject to revisions without prior notice. E&OE.