VRLA Battery

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SPB series

Summary

SPB series is the general purpose battetry with 5 years design life for floatservice. It meets IEC standards. With up-dated AGM valve regulated technology and high-prurity raw materials, the battery has reliable standby service life.

It is suitable for UPS/EPS, medicalequipment, emergency light and security systems .

Product Features

- Capacity range:4Ah-250An
- Voltage class:6v/12v
- Long design life(25℃):5 years
- Lowself-discharge rate:≤3%/month
- Good high rate discharge performance
- High sealed reaction efficiency:≥99%
- Wide operation temperature:-20℃~60℃
- Stucture:compact design,shorter internal connectors between cells, thus low internal reisistance
- Plate:Pasted falt type
- Terminal:two or more types terminals are available
- Separator:using improved AGM separator, makes low internal resistance & high assembling pressure to increase cycle life;
- Battery case:made of high strength ABS(UL94-HB)and UL94-V0 is optional;
- Terminal sealing:double sealing technic (mechanical +epoxy glue).

Application

- UPS/EPS
- Emergency Light
- Security System
- Toys
- Medical

Compliant Standards

- GB/T19639-2005
- IEC 60095
- Passed ISO9001,ISO14001,OHSAS18001,CE certificate

Main Parameters

NO.	ITEMS	VOLTAGE	CAPACITY C_{20}	DIMENSION(mm)				GROSS WEIGHT	TERMINAL
	NO	VOLT	AH/20HR	Length	Width	Height	Total Height	(KGS)	TYPE
1	SPB6V-4	6	4	70	47	102	107	0.63	F1
2	SPB6V-4.5	6	4.5	70	47	102	107	0.82	F1
3	SPB6V-5	6	5	70	47	102	107	0.81	F1
4	SPB6V-7	6	7	151	34	95	100	1.1	F1
5	SPB6V-10	6	10	151	34	95	100	1.52	F1
6	SPB6V-12	6	12	151	50	95	100	1.75	F1
7	SPB6V-14	6	14	151	50	95	100	2.2	F1
8	SPB12V-4	12	4	90	70	102	107	1.53	F1
9	SPB12V-4.5	12	4.5	90	70	102	107	1.65	F1
10	SPB12V-7	12	7	152	65	95	100	2	F1/F2
11	SPB12V-9	12	9	152	65	95	100	2.45	F2
12	SPB12V-10	12	10	152	65	113	118	3.1	F1/F2
13	SPB12V-12	12	12	152	100	97	102	3.5	F1/F2
14	SPB12V-12	12	14	152	100	97	102	4.2	F1/F2
15	SPB12V-17	12	17	181	77	167	167	5.4	F13
16	SPB12V-20	12	20	181	77	167	167	6.1	F14
17	SPB12V-22	12	22	181	77	167	167	6.32	F14
18	SPB12V-24	12	24	183	78	167	167	7.15	F14
19	SPB12V-26	12	26	177	167	126	126	9.08	F15
20	SPB12V-33	12	33	196	131	155	180	10.5	F3
21	SPB12V-38	12	38	198	166	170	170	12.9	F3
22	SPB12V-42	12	42	197	166	170	170	13.3	F3/F16
23	SPB12V-45	12	45	197	166	170	170	14.5	F3/F16
24	SPB12V-55	12	55	229	138	210	228	16.5	F4
25	SPB12V-60	12	60	258	169	208	226	16.5	F15
26	SPB12V-65	12	65	348	168	178	178	20.8	F4
27	SPB12V-70	12	70	260	168	209	227	22.0	F4
28	SPB12V-90	12	90	307	169	208	227	27.0	F4/F8
29	SPB12V-100	12	100	329	172	214	243	28.4	F4/F8
30	SPB12V-120	12	120	409	177	207	234	33.5	F9
31	SPB12V-150	12	150	483	170	240	240	41.9	F4/F10
32	SPB12V-200	12	200	522	240	218	223	58.0	F5/F11
33	SPB12V-225	12	225	522	240	218	244	61.4	F5/F11
34	SPB12V-250	12	250	520	268	220	227	74.0	F5/F11

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SPB-H series

Summary

SPB-H series is the general purpose battetry with 10 years design life in float service. With up-dated AGM vale regulated technology and high-purity raw materials,the GFM series battery maintains high consistency for better performance and reliable standby service life.
It is suitable for UPS/EPS, medical equipment, emergency light and security system applications.

Application

- UPS/EPS
- Emergency Light
- Security System
- Medical

Compliant Standards

- GB/T19368
- IEC 60095
- Passed ISO9001,ISO14001,OHSAS18001,CE certificate

Product Features

- Capacity range:33Ah-250An
- Voltage class:12v
- Long design life(25℃):10 years
- Low self-discharge rate:≤3%/month
- Good high rate discharge performance
- High sealed reaction efficiency:≥99%
- Wide operation temperature:-20℃~60℃
- Stucture:compact design,low internal resistance
- Plate:Pasted falt type
- Terminal:two or more types terminals are convenient higer assembling pressure to increase deep cycle life
- Battery case:made of high strength ABS(UL94-HB)and UL94-V0 is optional;
- Terminal sealing:double sealing technic (mechanical +epoxy glue).

Main Parameters

NO.	ITEMS	VOLTAGE	CAPACITY C10	DIMENSION(mm)				GROSS WEIGHT	TERMINAL
	NO	VOLT	AH/10HR	Length	Width	Height	Total Height	(KGS)	TYPE
1	SPB12V-33	12	33	196	131	152	183	11.6	F3
2	SPB12V-38	12	38	198	166	170	170	13.7	F3
3	SPB12V-42	12	42	197	166	170	170	14.6	F3/F16
4	SPB12V-45	12	45	197	166	170	170	16.0	F3/F16
5	SPB12V-55	12	55	229	138	210	226	18.1	F4
6	SPB12V-60	12	60	258	169	208	226	18.1	F15
7	SPB12V-65	12	65	348	168	178	178	21.1	F4
8	SPB12V-70	12	70	260	168	209	227	23.8	F4
9	SPB12V-90	12	90	307	169	208	227	29.7	F4/F8
10	SPB12V-100	12	100	329	172	214	243	31.5	F4/F8
11	SPB12V-120	12	120	409	177	207	234	40.6	F9
12	SPB12V-150	12	150	483	170	240	240	44.2	F4/F10
13	SPB12V-200	12	200	522	240	218	223	61.7	F5/F11
14	SPB12V-225	12	225	522	240	218	244	67.5	F5/F11
15	SPB12V-250	12	250	520	268	220	227	81.4	F5/F11

VRLA Battery

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SPB 2V series

Summary

SPB 2V series is the generalpurpose battery with 18 years design life in float service. With heavy duty grids, thicker plates, special additives and updated AGM valve regulated technology, the GFM 2V battery provides consistent performance and long service life. The new grid design effectively reduces the internal resistance, whice provides higher specific energy density and excellent high rate discharge characteristics.

It is suitable for communication back-up power and EPS/UPS applications.

Product Features

- Capacity range:200Ah-3000An
- Voltage class:2v
- Long design life:more than 18 years
- Polarity sign:symmetrical and more clear
- Low self-discharge rate:≤3% per month
- High recommbination efficiency:≥99%
- Compact structure and high specific energy
- Wide operation temperature:-20-60℃
- Grid: thicker grid and radiative grid structure:
- Positive plate : Pasted flat type, latest grid alloy
- Separator : AGM separator with high adsorptive and low resistance;
- Battery container:High strenth ABS(UL94-HB)and UL 94-V0 is optional;
- Post sealing:patent multi-layer post sealing with M8 copper insert terminal;
- Safety Valve: sensitive operate pressure and reliable equipped with explosion-proof arrester and acid filter.

Application

- UPS/EPS
- Telecommunication
- Power strage plant
- Utility

Compliant Standards

- GB/T19638-2005
- IEC 60095
- Passed ISO9001,ISO14001,OHSAS18001,CE certificate

Main Parameters

NO.	ITEMS	VOLTAGE	CAPACITY C10	DIMENSION(mm)				GROSS WEIGHT	TERMINAL
	NO	VOLT	AH/10HR	Length	Width	Height	Total Height	(KGS)	TYPE
1	SPB2-200	2	200	172	111	329	365	14.0	F7
2	SPB2-300	2	300	171	151	330	365	19.0	F7
3	SPB2-400	2	400	211	176	329	366	26.0	F7
4	SPB2-500	2	500	242	172	330	365	30.5	F7
5	SPB2-600	2	600	302	175	328	366	37.0	F7
6	SPB2-800	2	800	411	176	327	368	50.0	F7
7	SPB2-1000	2	1000	475	175	329	365	62.0	F7
8	SPB2-1200	2	1200	475	175	327	368	71.0	F7
9	SPB2-1500	2	1500	400	350	343	378	96.0	F7
10	SPB2-2000	2	2000	490	349	338	383	126.5	F7
11	SPB2-3000	2	3000	712	353	340	383	193.0	F7

VRLA Battery

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SPB-F series

Summary

GFM-F(Front Terminal) Series is specially designed for telecom use with 10+ years design life in float service. By adopting a new AGM separator and centralised venting system, the battery can be installed in any position while maintaining high reliability. The dimensions of the GFM-F series is designed for 19” and 23” cabinet installation

It is suitable for UPS/EPS applications.

Application

- Emergency Light
- Telecommunication
- Photovoltaic/wind Energy

Compliant Standards

- GB/T19638-2005
- IEC 60095
- Passed ISO9001,ISO14001,OHSAS18001,UL,CE certificate

Product Features

- Capacity range:40Ah-200Ah
- Vpotage class:12V
- Long design life (25℃) : 10+years
- Low self-discharge rate : ⩽3%month
- Good high rate discharge perfomance
- Hige sealed reaction efficiency: ⩾99%
- Wide operation temperature range:-20℃-60℃
- Narrow structure:each call has same heat dissipation efficiency.Thus good to prevent “thermal runaway”;
- Plate:Pasted flat type
- Front terminal is convenient for connection and maintenance;
- Centralized vent system:battery internal gas can be vented out of the system.and flame arrester is equipped:
- Terminal cover:avoiding short circuit and dust.the inspection hole is available for maintenance:
- Separator:use improved AGM separtator, makes lower resistance,higher assembling pressure to increase deep cycle life:
- Terminal sealing:double sealing technic(mechanical+epoxy glue).

Main Parameters

NO.	ITEMS	VOLTAGE	CAPACITY C10	DIMENSION(mm)				GROSS WEIGHT	TERMINAL
	NO	VOLT	AH/10HR	Length	Width	Height	Total Height	(KGS)	TYPE
1	SPB12-40F	12	40	277	106	222	222	15.5	F3
2	SPB12-55F	12	55	277	106	222	222	17.3	F4
3	SPB12-70F	12	70	564	114	187	187	25.5	F4
4	SPB12-75F	12	75	564	114	187	187	26.0	F4
5	SPB12-90F	12	90	508	110	238.5	238.5	32.0	F4
6	SPB12-100F	12	100	508	110	238.5	238.5	35.0	F4
7	SPB12-100F	12	100	560	110	233	233	35.6	F4
8	SPB12-100F	12	120	394	110	285	285	34.5	F20
9	SPB12-125F	12	150	551	110	287	287	36.0	F20
10	SPB12-150F	12	180	551	110	287	287	46.4	F20
11	SPB12-150F	12	200	560	110	280	280	43.8	F5
12	SPB12-180F	12	180	560	126	316	316	54.0	F20
13	SPB12-200F	12	200	550	126	330	330	62.0	F5

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SPB-G series

Summary

SPB-G (Front Terminal) Series is specially designed for telecom use with 10+ years design life in float service. By adopting a new AGM separator and centralised venting system, the battery can be installed in any position while maintaining high reliability. The dimensions of the GFM-F series is designed for 19” and 23” cabinet installation

Application

- Telecommunication
- Photovoltaic/Wind Energy
- UPS
- Cable TV

Compliant Standards

- GB/T19638-2005
- IEC 60095
- Passed ISO9001,ISO14001,OHSAS18001,CE certificate

Product Features

- Capacity range:33Ah-3000Ah
- Voltage class:12V
- Long design life:12years for 12V 18years for 2V
- Low self-discharge rate:≤2.5% per month
- High sealed reaction efficiency: ≥98%
- High specific energy density
- Excellent charge acceptance
- Wide operation temperature:-40℃~+60℃
- Grid :patent primary and secibdary grid structure design;
- Positive plate:Pasted flat type,high temperature and humidity formation technice;
- Separator :high porosity AGM separator with good cyclic characteristics and lower resistance;
- Battery cinrainer :High strength ABS(UL94-HB)and UL94-V0 is optional;
- Safety Valve :narrow operate pressure range and equipped with explosion-proof arrester and acid filter.

Main Parameters

NO.	ITEMS	VOLTAGE	CAPACITY C10	DIMENSION(mm)				GROSS WEIGHT	TERMINAL
	NO	VOLT	AH/10HR	Length	Width	Height	Total Height	(KGS)	TYPE
1	SPB12-40G	12	40	277	106	222	222	15.5	F3
2	SPB12-55G	12	55	277	106	222	222	17.3	F4
3	SPB12-70G	12	70	564	114	187	187	25.5	F4
4	SPB12-75G	12	75	564	114	187	187	26.0	F4
5	SPB12-90G	12	90	508	110	238.5	238.5	32.0	F4
6	SPB12-100G	12	100	508	110	238.5	238.5	35.0	F4
7	SPB12-100G	12	100	560	110	233	233	35.6	F4
8	SPB12-100G	12	120	394	110	285	285	34.5	F20
9	SPB12-125G	12	150	551	110	287	287	36.0	F20
10	SPB12-150G	12	180	551	110	287	287	46.4	F20
11	SPB12-150G	12	200	560	110	280	280	43.8	F5
12	SPB12-180G	12	180	560	126	316	316	54.0	F20
13	SPB12-200G	12	200	550	126	330	330	62.0	F5

VRLA Battery

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About VRLA batterry (AGM & GEL)

What is VRLA battery?

VRLA(Valve Regulated Lead Acid) battery is sealed lead-acid battery.It includes GEL type and AGM type, both have the following characteristics;

•is sealed using special pressure valves and should never be opened
•is completely maintenance-free, needn't topping in service life
•all of its electrolyte are immbliized (absorbed in AGM or fixed in Gel streture)
•uses recombination reaction to prevent the escape of htdrogen and oxygen gases which Normally lost in flooded lead-acid battery
•is non-spillable, and therefore can be operated in virtually any position (except upside-down)

What is GEL battery?

Besides the characteristics of VRLA, GEL battery has;

•using thixotropic gelled electrolyte, it is in a solid state between the separators
•not like traditional AGM electrolyte"starva"design, GEL battery has more 15-25% electrolyte volume than AGM type
•differen type of separator, such as PE PVC etc

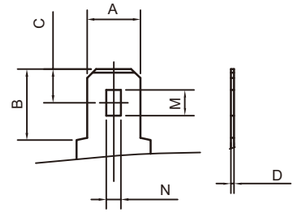
Differences between GEM batteries and absorbed glass mat (AGM)batteries?

• Both are sealed recombinant batteries, Both are sealed valve-regulated leadacid(VRLA), AGM batteries and GEL battrties are both considered"acid-starved"and the electrolyte does not flow like anormal liquid.
• The GEL electrolyte has consistency and appearance of petroleum jelly, Like gelled electrolyte batteries AGM batteries are also considered non-spillable-all of liquid electrolyte is trapped in the sponge-likematted glass fiber separtor material.
• Due to the physocal properties of the gelled electroyte, gel battery has higher internal resistance. ThusAGM batteries has excellent for high current/power discharge and GEL excels in high/lower temperaturestability and lower current/power discharge applications.
• AGM batteries has higher specific energy density than GEL batteries, But GEL batteries hsa longerservice life

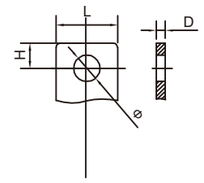
What is the difference berween VRLA batteries and traditional wet/floodedbatteries?

• Wet batteries do not have special pressurized sealing vents, as they do not work on the recombination principle (gases escaped inside the battery during charging).
• It contains liquid electrolyte that can spill/flow and cause corrosion if tipped or punctured. Thereforethey are not air transportable without special containers.
• It can only be installed"upright"and "acid protection"must be maintained at the same time
• As the wet batteries will lose gases during charging it is need maintenance(topping) periodically.
• As the electrolyte can flow, stratification will occur and need more overcharge to mix.

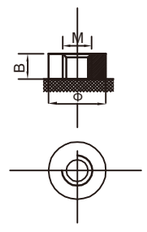
Terminal Drawing



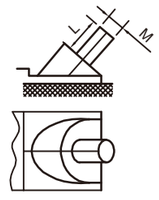
Faston Tab						
Type	A	B	C	D	M	N
	mm	mm	mm	mm	mm	mm
F1	4. 75	6. 35	3. 15	0. 80	2. 30	1. 30
F2	6. 35	7. 80	3. 40	0. 80	2. 50	1. 50



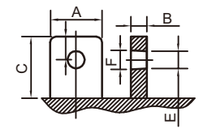
L size terminal				
Type	Φ	D	L	H
	mm	mm	mm	mm
F16	4	2	8	3. 5
F17	6	3	14	5. 7
F18	18	5	8	8
F19	12	2	12	12



Cooper terminal			
Type	Φ	B	M
	mm	mm	mm
F3	16	3	6
F4	16	5	6
F5	16	5	8
F6	18	5	8
F7	20	5	8



Front terminal		
Type	M	L
	mm	mm
F20	8	11. 3



Lead terminal						
Type	A±1	B±0. 5	C±1	D±0. 5	E±0. 2	F±0. 2
	mm	mm	mm	mm	mm	mm
F8	22. 5	6. 6	21. 0	12. 0	8. 1	8. 3
F9	26. 6	8. 0	22. 5	10. 5	7. 8	8. 8
F10	26. 4	8. 2	19. 5	9. 2	8. 0	9. 2
F11	27. 0	8. 3	25. 5	12. 0	9. 0	9. 8
F12	19. 0	16. 0	24. 0	11. 5	9. 0	9. 8
F13	17. 0	7. 0	25. 5	12. 0	9. 0	9. 8
F14	18. 0	6. 0	24. 0	11. 5	9. 0	9. 8
F15	20. 0	7. 0	16. 0	7. 0	6. 8	6. 0