

### Sacred Sun World Wide

Our sales growth is due to a complete networks with master distributors through serving global key accounts locally, and regional loyalty sales representative who fully accepted and understood our philosophy and strategy to fulfill Sacred Sun Globalization.



### ■ *Lead Acid Batteries for UPS Application*



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## Sacred Sun UPS Series:

SP-E/SP/SPG/GFMG/GFMJ



- UPS systems are important and have to deliver reliable back-up power. The batteries must operate dependably and consistently through numerous power outages. Sacred Sun offers reliable battery ranges specifically designed for the high power requirements.
- An uninterruptible power supply, UPS is an electrical device that provides emergency power to a load when the input power source, typically the utility mains, fails. A UPS differs from an emergency power system in that it will provide instantaneous protection from input power interruptions by using batteries and associated electronic circuitry. UPS systems are used for traffic control, broadcasting stations, information systems, process control, scientific and medical sites, and security installations.

# Application Selection

Technology	AGM					Flat Plate Gel
Product	SP-E	SP	SPG	GFMG	GFMJ	
Rated Voltage	12V	12V	12V	2V 6V	12V	
Design Life (25°C)	5 years	≥20Ah:10 years <20Ah:5 years	12 years	12 years	12+ years	
Capacity Range	65Ah~200Ah	6.5Ah~245Ah	45Ah~250Ah	105Ah~560Ah	33Ah~200Ah	
Cycle Performance	★★	★★★★	★★★★	★★	★	
Cost Advantage	★★★★★★	★★★★★	★★★★	★★	★	
Service Life	★	★	★★	★★★	★★★★	

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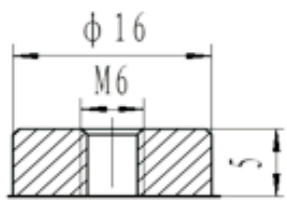
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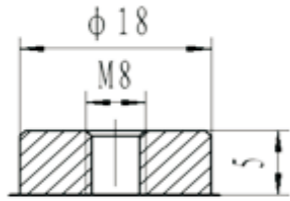
# SP-E Series ▶▶



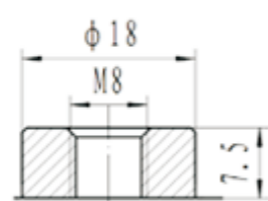
SP-E series VRLA batteries use AGM technology, special economical structure design. It has good high power discharge performance. It is the most economic product used in UPS/EPS standby power supply system. It is suitable for good power supply condition.



SP-28



SP-29



GFM-22

## Product Features

- Rated voltage: 12V;
- Capacity range ( $C_{20}$ ): 65Ah~200Ah (25°C);
- Product technology: AGM, valve regulated technology;
- Self-discharge rate:  $\leq 2\%$ /Month (25°C);
- Use: Float charge standby + less high power discharge;
- Design life: 5 years (25°C);
- Operating temperature range: -15°C~45°C, recommended operation temperature 15~30°C;
- Maximum charge current:  $0.30C_{10}$ , recommended normal limited charging current  $0.15C_{10}$ .

## Standards

- IEC 61056-1/2: 2002;
- GB/T 19639.1-2005;
- JIS C8702-1/2: 2009;
- Passed ISO9001, ISO14001, OHSAS18001, CE, UL and Gost certification.



## Main Parameters Table

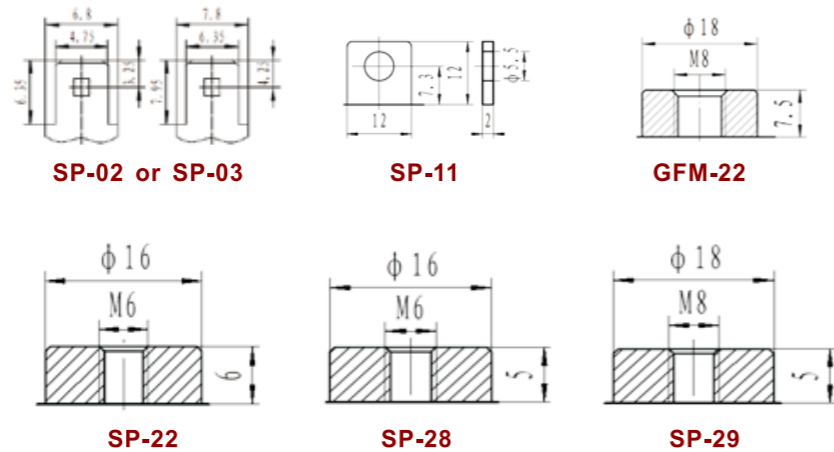
Battery Model	Rated Voltage (V)	Rated Capacity (Ah, 25°C) $C_{20}$ 1.75V/cell	Dimensions (mm)				Weight (kg)	Short Circuit Current (A)	Internal Resistance (mΩ, 25°C)	Terminal Type
			L	W	H	TH				
SP12-65E	12	65	350	167	179	179	20.5	1900	6.3	SP-28
Sp12-80E	12	80	259	168	207.5	212.5	22.4	1920	6.25	SP-28
SP12-100E	12	100	329	172	215.5	223	29.6	2250	5.25	GFM-22
SP12-120E	12	120	407	173	223.5	231	33.5	3000	4.0	GFM-22
SP12-150E	12	150	483	171	219	227	40.5	3100	3.85	SP-29
SP12-200E	12	200	522	234	218	223	57.5	3900	3.05	SP-29

★ Note: Internal resistance is tested in battery fully charged state at 25±5°C ambient temperature. The test equipment is HIOKI-3551 made by Hioki in Japan.

# SP Series ▶▶



SP series VRLA batteries use AGM technology and high-purity raw materials. It has good high power discharge performance, it is power economical products suitable for UPS/EPS.



## Product Features

- Rated voltage: 12V;
- Capacity range ( $C_{20}$ ): 6.5Ah~245Ah (25°C);
- Product technology: AGM, valve regulated technology;
- Self-discharge rate:  $\leq 2\%$ /Month (25°C);
- Use: Float charge standby + less high power discharge mode;
- Design life: 10 years for 20Ah and above batteries, 5 years for 20Ah and below batteries (25°C);
- Operating temperature range: -15°C~45°C, recommended operation temperature 15~30°C;
- Recommended floating charge voltage (25°C): 2.27V/cell, equalizing charge voltage (25°C): 2.45V/cell;
- Maximum charge current:  $0.30C_{10}$ , recommended normal limited charging current  $0.15C_{10}$ .

## Standards

- IEC 61056-1/2: 2002;
- GB/T 19639.1-2005;
- JIS C8702-1/2: 2009;
- Passed ISO9001, ISO14001, OHSAS18001, CE, UL and Gost certification.



## Main Parameters Table

Battery Model	Rated Voltage (V)	Rated Capacity (Ah, 25°C) $C_{20}$ 1.75V/cell	Dimensions (mm)				Weight (kg)	Short Circuit Current (A)	Internal Resistance (mΩ, 25°C)	Terminal Type
			L	W	H	TH				
SSP12-6.5E	12	6.5	151	65	94	98	2.06	170	32	SP-03
SSP12-7	12	7	151	65	94	98	2.15	190	30	SP-03
SSP12-8	12	8	151	65	94	98	2.4	210	27	SP-03
SSP12-9HR	12	9	151	65	94	98	2.7	230	25	SP-03
SSP12-12	12	12	151	99	94	100	3.6	310	21	SP-11
SSP12-18	12	18	181	76	166	166	5.3	460	16	SP-11
SP12-26 ( R )	12	26	166	175	125	125	8.0	670	12	SP-20
SP12-26 ( F )	12	26	166	175	125	125	8.0	670	12	SP-11
SP12-33	12	33	195	130	158	163	10.5	850	9.7	SP-21
SP12-35	12	35	223	93	175	175	9.5	910	9.3	SP-20
SP12-38	12	38	196	165	165	170	12.0	1310	9.0	SP-28
SP12-40B	12	40	198	166	170	170	13.5	1350	8.8	SP-22
SP12-42	12	42	196	165	165	170	12.9	1400	8.5	SP-28
SP12-50	12	50	257	132	193	198	16.1	1600	7.5	SP-22
SP12-65	12	65	314	166	169	174	20.5	1700	7	SP-22
SP12-70	12	70	324	166	175	175	21.7	2000	6	SP-22
SP12-80	12	80	350	167	179	179	23.2	2600	4.5	SP-28
SP12-100	12	100	330	174	216	225	29.8	3000	4	GFM-22
SP12-120	12	120	407	173	222	231	36	3100	3.8	GFM-22
SP12-150	12	150	483	171	219	227	42.5	3650	3.2	SP-29
SP12-200A	12	200	522	234	218	225	59	3900	3	SP-29
SP12-200B	12	200	497	259	228	237.5	61.9	4000	3	GFM-22
SP12-245	12	245	534	271	225	236	69.6	4600	2.5	SP-29

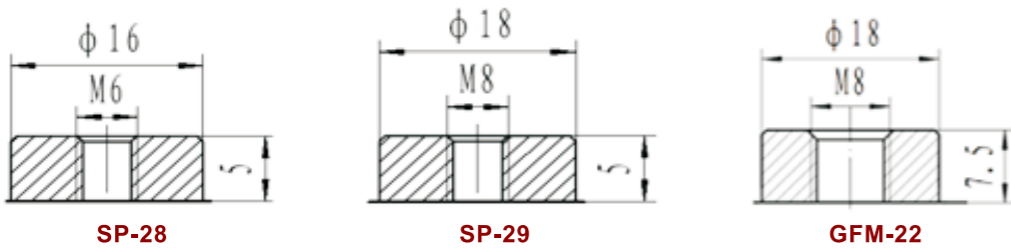
★ Note: Internal resistance is tested in battery fully charged state at 25±5°C ambient temperature. The test equipment is HIOKI-3551 made by Hioki in Japan.



# SPG Series ▶▶



SPG series VRLA batteries use AGM technology, high-purity raw materials. It has good high power discharge performance, floating back up performance, and fast charging performance. It is mainly used in UPS/EPS standby power supply system. It can back up power with poor operation environment.



## Product Features

- Rated voltage: 12V;
- Capacity range ( $C_{10}$ ): 45Ah~250Ah (25°C);
- Product technology: AGM, valve regulated technology;
- Self-discharge rate:  $\leq 2\%$ /Month (25°C);
- Use: Float charge standby + regular high power discharge;
- Design life: 12 years (25°C);
- Operating temperature range: -15°C~45°C, recommended operation temperature 15~30°C;
- Recommended floating charge voltage (25°C): 2.27V/cell, equalizing charge voltage (25°C): 2.45V/cell;
- Maximum charge current:  $0.30C_{10}$ , recommended normal limited charging current  $0.15C_{10}$ .

## Standards

- IEC 61056-1/2: 2002;
- GB/T 19639.1-2005;
- JIS C8702-1/2: 2009;
- Passed ISO9001, ISO14001, OHSAS18001, CE, UL and Gost certification.



## Main Parameters Table

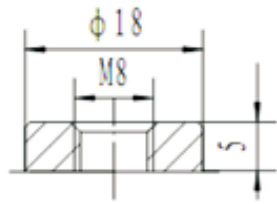
Battery Model	Rated Voltage (V)	Rated Capacity (Ah, 25°C)	W/pc 10min at 1.60V /cell	Dimensions (mm)				Weight (kg)	Short Circuit Current (A)	Internal Resistance (mΩ, 25°C)	Terminal Type
		$C_{10}$ 1.75V/cell		L	W	H	TH				
SPG12233W	12	45	233	196	165	165	170	14	1800	6.5	SP-28
SPG12280W	12	55	280	228	138	208	213	17.2	1900	6.3	SP-28
SPG12310W	12	65	310	350	167	179	179	22	2550	4.7	SP-28
SPG12320W	12	70	320	259	168	207.5	212.5	21.8	1900	6.3	SP-28
SPG12350W	12	75	350	259	168	207.5	212.5	24.0	2000	4.5	SP-28
SPG12375W	12	86	375	350	167	179	179	24.6	2700	4.4	SP-28
SPG12440W	12	90	440	305	168	207.5	212.5	26.6	3000	3.95	SP-28
SPG12470W	12	100	470	330	174	216	225	29.9	2850	4.2	GFM-22
SPG12535W	12	120	535	407	173	223.5	231	37.2	3100	3.8	GFM-22
SPG12620W	12	135	620	345	172	273	278	41.7	3300	3.6	SP-29
SPG12650W	12	150	650	483	171	219	227	45.7	4100	2.9	SP-29
SPG12830W	12	200	830	522	234	218	225	62.5	4400	2.7	SP-29
SPG121000W	12	250	1000	534	271	225	236	77.2	5200	2	SP-29

★ Note: Internal resistance is tested in battery fully charged state at 25±5°C ambient temperature. The test equipment is HIOKI-3551 made by Hioki in Japan.

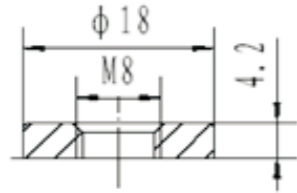
# GFMG Series ▶



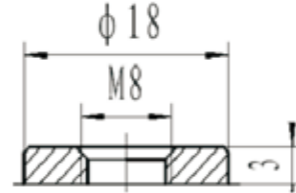
GFMG series VRLA battery is large capacity high power battery using AGM technology, wide & low structure design, with less electrolyte stratification. It has good floating and high power discharge performance. Mainly used in UPS/EPS and other standby power systems.



GFM-23



GFM-30



GFM-31

## Product Features

- Rated voltage: 2V/6V;
- Capacity range ( $C_{10}$ ): 105Ah~560Ah (25°C);
- Design life: 12 years (25°C);
- Self-discharge rate:  $\leq 1\%$ /Month (25°C);
- Product structure: Wide & low structure, less electrolyte stratification, good high power discharge performance;
- Use: Float charge standby + some high power discharge;
- Operating temperature range: -15°C~45°C, recommended operation temperature 15~30°C;
- Recommended floating charge voltage (25°C): 2.25V/cell, equalizing charge voltage (25°C): 2.35V/cell;
- Maximum charging current:  $0.15C_{10}$ , recommended limited charging current  $0.10C_{10}$ .

## Standards

- GB/T 19638.2-2005;
- IEC 60896-21/22: 2004;
- Passed ISO9001, ISO14001, OHSAS18001, CE, UL and Gost certification.

## Main Parameters Table

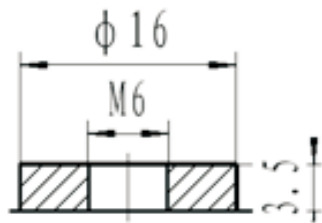
Battery Model	Rated Voltage (V)	Rated Capacity (Ah, 25°C) $C_{10}$ 1.80V/cell	Dimensions (mm)				Weight (kg)	Short Circuit Current (A)	Internal Resistance (mΩ, 25°C)	Terminal Type
			L	W	H	TH				
GFMG-200	2	200	110	208	242	260	13.5	3200	0.58	GFM-23
GFMG-275	2	275	142	205	242	260	18.1	3600	0.52	GFM-30
GFMG-300	2	300	142	205	242	260	18.6	4100	0.48	GFM-30
GFMG-320	2	320	195	206	220	240	22.8	4500	0.47	GFM-23
GFMG-400	2	400	195	208	253	258	25.6	5100	0.42	GFM-23
GFMG-455	2	455	296	203	222	240	32.6	5200	0.4	GFM-30
GFMG-515	2	515	296	203	222	240	34.7	5400	0.38	GFM-30
GFMG-560	2	560	296	203	222	240	36.1	5700	0.36	GFM-30
3GFMG-105	6	105	195	206	220	240	22.4	945	2.62	GFM-23
3GFMG-125	6	125	278	178	238	258	25.5	1000	2.63	GFM-30
3GFMG-160	6	160	278	178	238	258	30.6	1200	2.35	GFM-30
3GFMG-200	6	200	250.5	125.5	362	365	33.7	1400	1.55	GFM-31

★ Note: Internal resistance is tested in battery fully charged state at 25±5°C ambient temperature. The test equipment is HIOKI-3551 made by Hioki in Japan.

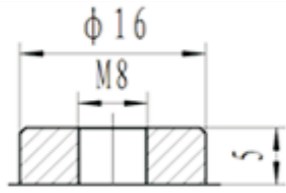
# GFMJ Series ▶▶



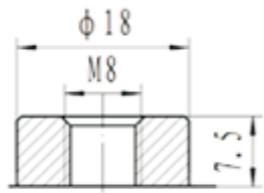
GFMJ series VRLA battery uses Germany Flat Plate Gel Technology with raw material imported from Europe, sufficient-electrolyte design. It has good cycle, high-low temperature, and high power discharge performance, good charge acceptance ability. It can be used in harsh high-low temperature environment, and poor power supply conditions of UPS/EPS standby power systems.



SP-27



GFM-24



GFM-22

## Product Features

- Rated voltage: 12V;
- Capacity range ( $C_{10}$ ): 33Ah~200Ah (25°C);
- Design life: 12+ years (25°C);
- Use: Floating charge standby + regular high power discharge;
- Self-discharge rate:  $\leq 2\%$ /Month (25°C);
- Operating temperature range: -20°C~55°C, recommended operation temperature 15~30°C;
- Recommended floating charge voltage (25°C): 2.23V/cell, equalizing charge voltage (25°C): 2.33V/cell;
- Maximum charging current:  $0.2C_{10}$ , recommended limited charging current  $0.15C_{10}$ .

## Standards

- IEC 60896-21/22: 2004;
- IEC 61427-2005;
- DIN 43539-T5: 1984;
- YD/T 1360-2005;
- GB/T 22473-2008;
- Passed ISO9001, ISO14001, OHSAS18001, CE, UL and Gost certification.



## Main Parameters Table

Battery Model	Rated Voltage (V)	Rated Capacity (Ah, 25°C) $C_{10}$ 1.80V/cell	Dimensions (mm)				Weight (kg)	Short Circuit Current (A)	Internal Resistance (mΩ, 25°C)	Terminal Type
			L	W	H	TH				
6GFMJ-33	12	33	198	166	170	170	14	1010	8.5	SP-27
6GFMJ-50	12	50	276	174	169	198	21	1525	7.64	GFM-24
6GFMJ-65	12	65	310	174	209	236	30	1540	7.35	GFM-24
6GFMJ-85	12	85	414	174	218	228	37	2060	5.85	GFM-24
6GFMJ-100	12	100	513	163	218	228	44	2950	3.91	GFM-24
6GFMJ-120	12	120	513	232	218	228	52.3	2980	3.86	GFM-24
6GFMJ-150	12	150	513	232	218	228	63.8	3020	3.65	GFM-24
6GFMJ-200	12	200	513	296.5	218	228	82.8	3050	3.2	GFM-24
6GFMJ-200II	12	200	497	259	228	238	72.6	3050	2.82	GFM-22

★ Note: Internal resistance is tested in battery fully charged state at 25±5°C ambient temperature. The test equipment is HIOKI-3551 made by Hioki in Japan.