

SG SERIES

SOLAR GEL DEEP CYCLE

NEWMAX Solar gel batteries are true maintenance-free sealed batteries engineered specially to satisfy the need for frequent deep cycles from PVs and renewable energy storage applications. We are confident that our technology-intensive, long-lasting, and environment friendly SG batteries will provide stability and efficiency for your everyday renewable energy needs.



SG1200H (12V120AH/C₁₀)

ACTIVE CARBON Premium Battery



*** The color and the printed specifications of the products are subject to change without prior notice.

- 01 Longer Life**

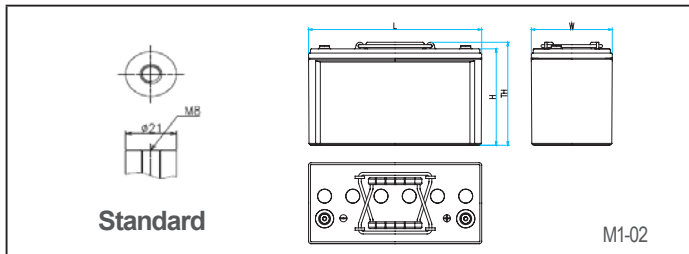
High density, anti-corrosion lead calcium alloy is used in harmony with the GEL electrolyte to reduce the sulfation effect significantly.
- 02 Maintenance Free**






NEWMAX battery has a gas recombining design that doesn't need maintenance until the end of its life.
- 03 Leak Free**

Gel Technology is applied to prevent leakage. They won't spill even if the battery is tipped upside down.
- 04 Safety**

Specially designed anti-explosion filter and safety valves prevent gas leakage when overcharged.

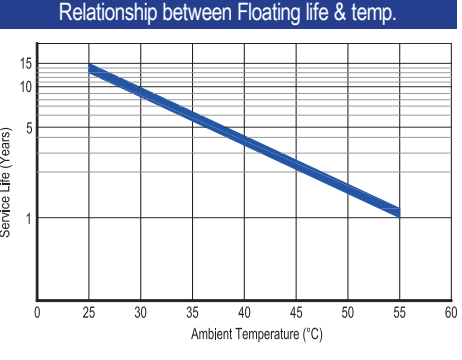
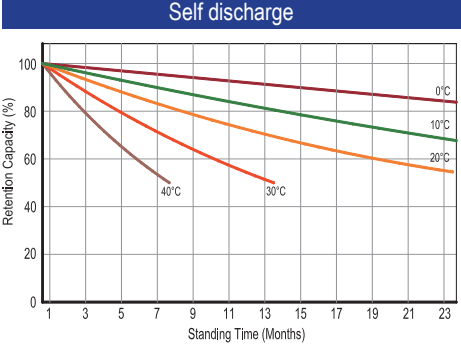
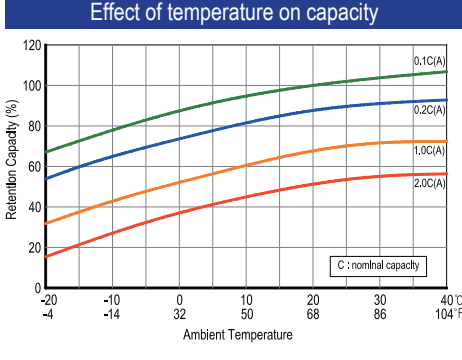
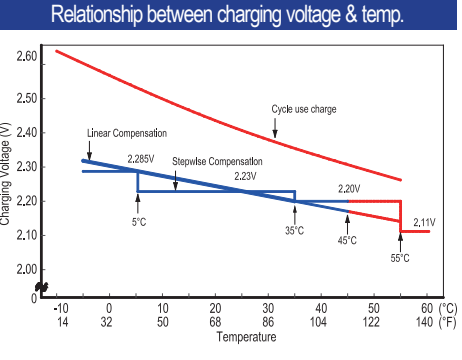
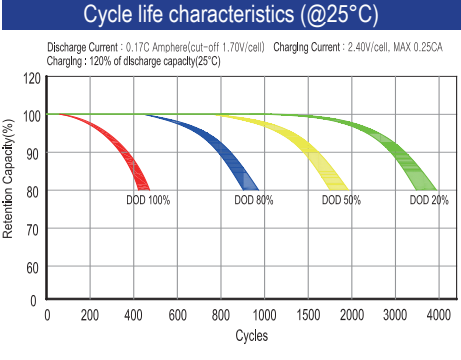
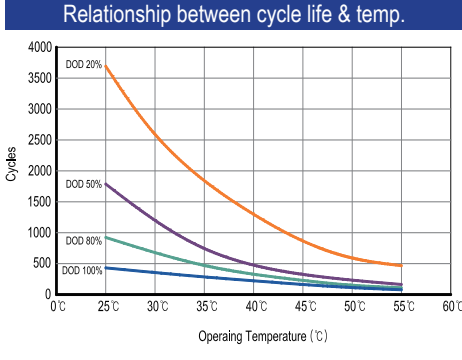
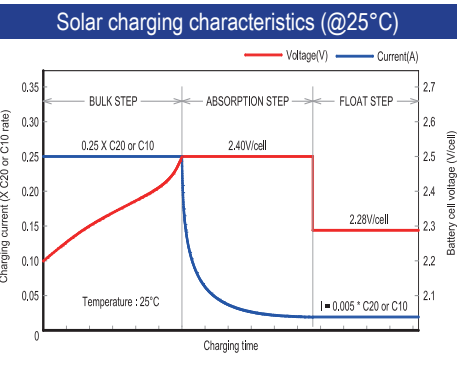
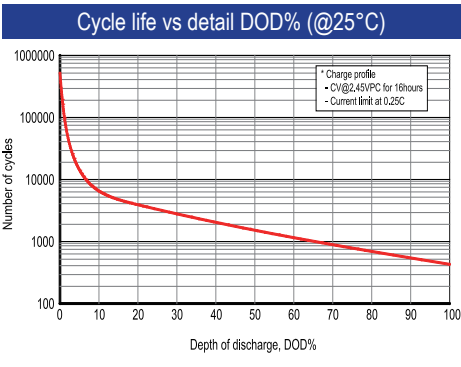
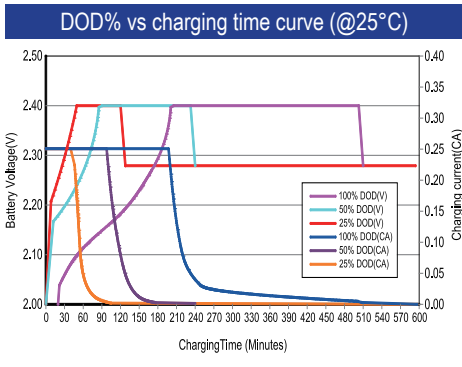
General Features	
◆ Plate	Paste type with Carbon Active Material
◆ Battery type	Sealed VRLA Maintenance Free Type / Non-spillable construction design
◆ Case/cover mat	High-stiffness engineering PP plastic (Heat Deflection Temp. 140°C) RoHS Compliant EU Directive 2002/95/EC
◆ Safety performance	Safety valve & flame arrestor installation for explosion proof.
◆ High quality, high reliability and low self discharge rate	
◆ Exceptional deep discharge recovery performance	
◆ Flexibility design for multiple install positions (Position Free, GEL Technology)	
◆ Designed in accordance with and published in compliance with applicable IEC and BS EN, KS stds.	
•IEC 60896-21/22 Stationary lead-acid batteries – Valve regulated types •BS EN 61427 Secondary cells and batteries for photovoltaic energy systems (PVES) •KS C 8518 Stationary sealed lead-acid batteries – Valve regulated types	



Technical Features	
	<p>Premium ActiveCarbon™</p> <p>In every Newmax battery, proprietary micro carbon additive is used in the active material for both positive and negative plates to enhance charge acceptance and cycle endurance. ActiveCarbon™ works to strengthen charge pathways to improve performance consistency and enhance performance at partial state of charge (PSoC) environment.</p>
	<p>MaxPress™ Grid Technology</p> <p>Patent pending grid compressing technology which increases the density of the lead grain of the grids. The grain density is typically 400% greater than that of the conventional casting method. This up-to-date grid technology enables our batteries to survive even the toughest deep discharge and PSoC applications.</p>
	<p>ThixoPure™ GEL Technology</p> <p>Application of refined pure thixotropic colloidal silica GEL technology to battery electrolyte has greatly increased the cycle life by both preventing plate stratification and providing extra temperature protection against heat and cold. We are the first Korean company to successfully commercialize the GEL technology in the VRLA battery industry.</p>
	<p>FlexSealing™ Anti Explosion Filter</p> <p>Patent pending proprietary cap filtering and sealing technology. Battery cell caps are sealed simultaneously using specially designed o-rings and explosion filters to prevent leakage and gassing more effectively than ever before.</p>
	<p>Highly Resistive Heat Protection Case</p> <p>Specially formulated heat and flame resistant polypropylene case material is used to effectively block ambient heat thus preventing heat related malfunctions such as thermal runaway. This proprietary high rigidity case material has heat deflection rating of 140°C and complies to RoHS Compliant EU Directive 2002/95/EC. Additional UL94-V0 protection option also available.</p>

Operating temperature range		
Discharge	Charge	Storage
-20°C ~ 60°C	0°C ~ 50°C	-20°C ~ 60°C

Battery Model	SG 1200H (12V120AH / 10 HOUR RATE)			
	C ₁₀ (1.80VPC)	C ₅ (1.70VPC)	C ₃ (1.65VPC)	C ₁ (1.60VPC)
Nominal Capacity (@25°C)	120Ah	109Ah	100Ah	79Ah
Dimensions (mm/inch)	Length	Width	Height	Total Height
	524(20.63)	241(9.49)	215(8.46)	221(8.70)
Weight (kg/lbs)	32.5kg(71.65lbs)±3%			
Internal resistance (mΩ)	≤3.60mΩ(25°C, 77°F)			
Max. discharge current (5 sec.)	960 A	Max. discharge current(continuous)		360 A
Capacity affected by Temperature	@30°C(86°F)	@25°C(77°F)	@10°C(50°F)	@-10°C(14°F)
	105%	103%	95%	78%
Self-discharge (@25°C,77F)	After 1 month ≤2%		After 3 month ≤6%	After 6 month ≤12%
Max. short duration discharge current (0.1sec)	2,280A±10%			
Recommended charging (@25°C) Solar system	1 st Bulk Step	2 nd Absorption Step		3 rd Floating Step
	0.20~0.25C CC	2.40V/cell CV,(cut-off A : 0.005C)		2.28V/cellCV



Constant current discharge ratings –Amperes per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	107	105	103	100	85.1	76.9	60.9	28.4	18.7	12.5	11.0	5.95
1.80V	157	150	133	120	101	87.4	68.2	30.7	20.4	13.3	12.0	6.49
1.75V	182	168	146	129	105	92.9	71.5	31.0	20.9	13.6	12.0	6.49
1.70V	206	183	157	137	109	96.0	73.9	32.0	21.6	14.0	12.0	6.50
1.65V	230	199	168	145	115	98.7	76.2	33.1	22.0	14.2	12.1	6.53
1.60V	258	218	181	155	122	103.5	78.9	34.2	22.8	14.5	12.2	6.60

Constant power discharge ratings –Watts per cell @ 25°C

V/cell	Minutes						Hours					
	5	10	15	20	30	40	1	3	5	8	10	20
1.85V	199	194	191	185	160	145	115	54.5	36.1	24.3	21.4	11.6
1.80V	282	270	240	218	185	162	128	58.6	39.0	25.8	23.3	12.6
1.75V	318	299	261	233	191	172	134	59.1	40.0	26.2	23.3	12.6
1.70V	350	313	280	246	198	176	137	60.8	41.2	27.1	23.3	12.6
1.65V	385	343	295	258	206	179	143	62.7	42.2	27.6	23.5	12.7
1.60V	420	366	312	272	218	187	145	64.5	43.2	27.7	23.8	12.8

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