

# SG 1000H (12V100AH/C<sub>10</sub>)

Power Solar Gel Premium Battery



## Solar Gel Deep Cycle

### Solar gel Series

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.

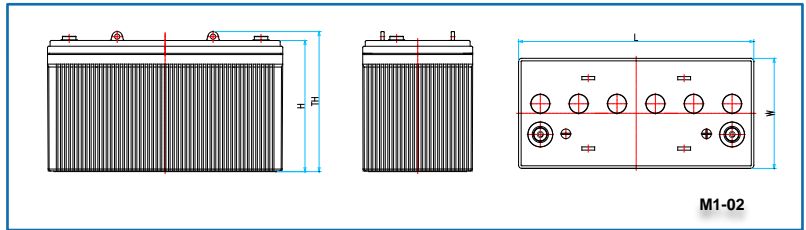
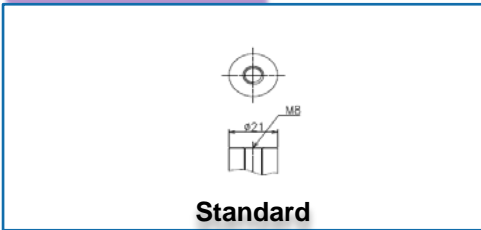
### General feature

- ❖ Plate Paste type
- ❖ Battery type Sealed and Maintenance free operation / Non-spillable construction design
- ❖ Case/cover material High-stiffness engineering plastic PP (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 standards
  - 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



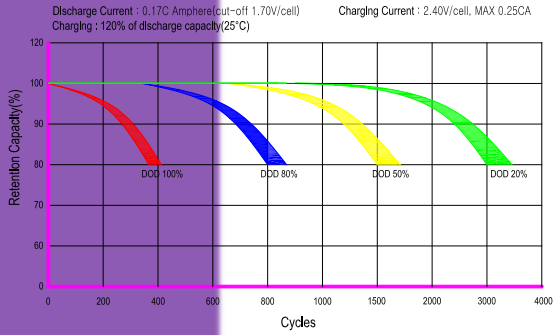
\*\*\* The color and the printed specifications of the products are subject to change without prior notice.

- 01 Long Life**  
High density, anti-corrosive 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 re-combining 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.

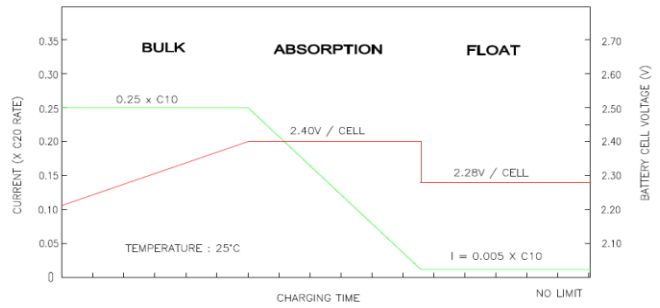


Battery model	SG 1000H (12V100AH / 10 HOUR RATE)			
Capacity (@25°C)	10HR (1.80VPC)	5HR (1.70VPC)	3HR (1.67VPC)	1HR (1.60VPC)
	100Ah	92Ah	88Ah	68Ah
Dimensions (mm/inch)	Length	Width	Height	Total Height
	370(14.57)	172(6.77)	205(8.07)	219(8.62)
Weight (kg/lbs)	32.5kg(71.65 lbs) ± 3%			
Internal resistance (mΩ)	≤3.60mΩ (25°C, 77°F)			
Max. discharge current (5sec)	800 A	Max. discharge current(continuous)		300 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, 77°F)	After 1 month 3%		After 3 month 8%	After 6 month 15%
Max. short duration discharge current (0.1sec)	2,000A ± 10%			
Recommended charging (@25°C) Solar system	<b>1st Bulk step</b>	<b>2nd Absorption step</b>		<b>3rd Floating step</b>
	0.20~0.25C CC	2.40V/cell CV, (cut-off A : 0.005C)		2.28V/cell CV

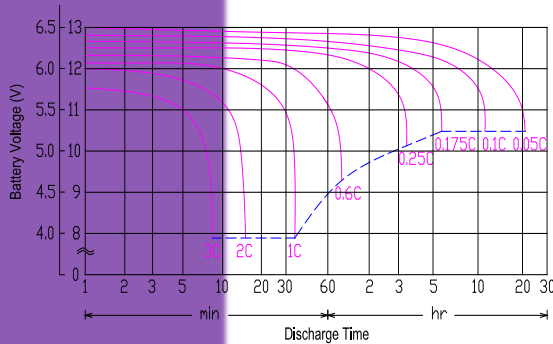
**Cycle life characteristics**



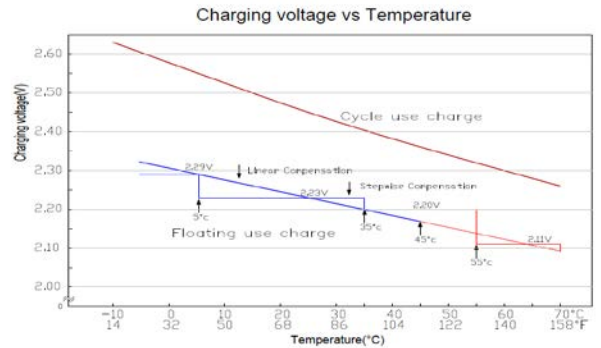
**Solar charging characteristics**



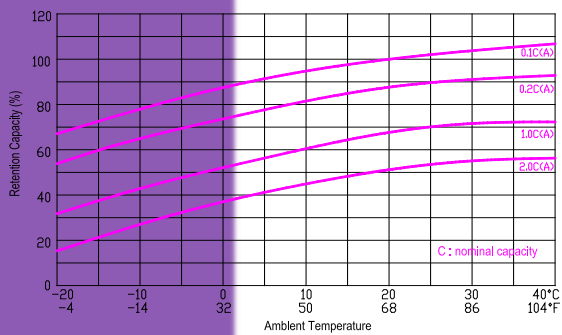
**Discharge time vs current**



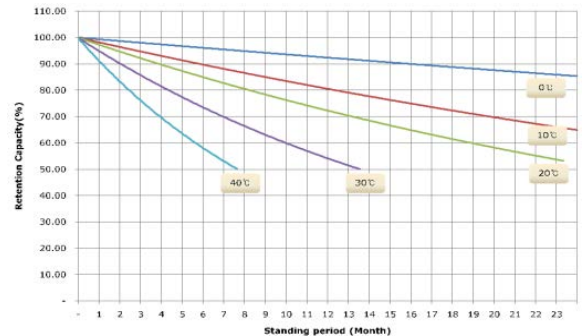
**Charge voltage and Temperature**



**Effect of temperature on capacity**



**Self discharge**



**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
1.90V	222	182	171	139	115	98	65.1	26.0	16.4	11.3	9.6	5.3
1.85V	264	215	196	159	128	110	66.7	27.0	17.0	11.8	10.0	5.5
1.80V	308	240	211	169	132	113	67.2	28.1	17.4	12.2	10.1	5.7
1.75V	332	253	219	174	135	116	67.7	29.1	17.9	12.5	10.5	5.8
1.70V	359	266	227	178	136	117	68.0	29.6	18.9	12.9	11.0	6.0
1.65V	370	271	231	181	138	118	68.3	30.7	19.2	13.4	11.4	6.2
1.60V	381	277	232	182	138	118	68.8	31.2	19.8	13.8	11.7	6.4

**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
1.90V	430	353	331	270	228	194	128	51.2	32.3	22.5	19.2	10.5
1.85V	513	416	380	309	253	216	131	53.2	33.5	23.6	20.0	10.9
1.80V	598	465	409	328	260	223	132	55.3	34.3	24.4	20.2	11.4
1.75V	645	491	425	338	265	229	133	57.3	35.4	25.0	21.1	11.6
1.70V	696	515	441	344	269	231	134	58.4	37.2	25.9	21.9	12.0
1.65V	718	526	447	350	272	232	135	60.4	37.8	26.9	22.7	12.4
1.60V	738	537	450	353	272	232	135	61.4	39.0	27.5	23.3	12.8

