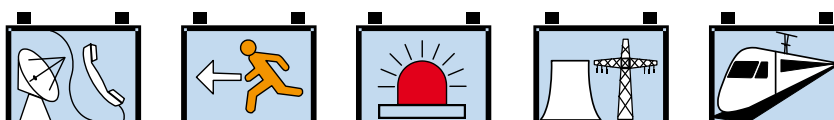




Modular Gel Range VRLA



»Premium quality for uninterrupted communication«





Modular Gel Range Valve Regulated Lead Acid 2 Volt Flat Pasted Plate Battery Gelled Electrolyte Technology 100AH to 4000AH @ C10

EverExceed Modular Gel Range sealed, maintenance free Valve Regulated Lead Acid (V.R.L.A.) batteries are designed for float service or deep cycle (1000+ x 80%) applications. EverExceed advanced gelled electrolyte technology ensures reliable performance, safety, outstanding battery life and value. Battery has a design life of 20 years and complies with BS 6290 Part 4, JIS, EUROBAT (IEC896-2) standards and is a recognized component of UL1989 under the Standby Battery Category.

Applicable Operating temperature range:
-40°C (-40°F) to +70°C (+158°F)

Ideal Operating temperature range:
+20°C (+68°F) to +35°C (+95°F)

Storage time from a fully charged condition:
2 years at 20°C / 68°F. For each 9°C / 15°F rise, reduce the storage time by half.

Applications

Cycling / Float Service	Switchgear
Photovoltaic / Solar / Wind Energy	Cellular Radio
Telecommunications	Control Systems
Cathodic Protection	Engine Starting
Emergency Lighting	UPS system
Boats / Marine / Navigation Aids	

Innovative Features

- ◆ Valve regulated Lead Acid (V.R.L.A.) design;
- ◆ Polymer gel electrolyte in solid gel form will not stratify – greatly extend the deep cycle life;
- ◆ Gel powder from Europe leading supplier to ensure the unique performance of gel battery;
- ◆ Micro porous fiber separator with the special design increase the high porosity and anti-corrosion and decrease the internal resistance;
- ◆ Virgin Pure Lead and thick positive plate technology design for maximum service float life - 20 years design life @20°C(68°F);
- ◆ Proprietary Fixed Orifice Plate Pasting technology applying active materials on both sides of the grid for consistent cell-to-cell performance, higher capacity and uniform grid protection.
- ◆ Thick positive plate design and optimized high tin lead calcium plate alloy that ensure plate have excellent anti-corrosion ability;
- ◆ Unique performance against high temperature;
- ◆ Spill-proof and leak-proof;
- ◆ Operates at a low internal pressure;
- ◆ Each cell has a low pressure safety release venting system;
- ◆ Flame Retardant material V-0 optional.

Specifications

Positive Plate: Lead-Calcium-Tin Flat Plate Grid;

Negative Plate: Flat Pasted Grid;

Electrolyte: Sulfuric acid thixotropic gel;

Container & Cover:

Standard: Reinforced ABS (UL 94HB);

Optional: Flame-retardant reinforced ABS compliant with U.L.94 V-0 with an Oxygen limiting, Index of greater than 28%.

Separators: Microporous duroplastic separator;

Float Voltage: 2.25 VPC +/- 1% at 20°C /25°C;

Cycle service: 2.35 VPC +/- 1% at 20°C /25°C;

Max. Charge Voltage: 2.40 VPC at 20°C /25°C;

Safety One-Way Valve: 1-3PSI self-resealing;

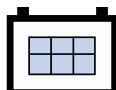
Terminals: Silver plated Integral Copper Insert.

No transport restrictions

Surface transport. Classified as non-hazardous material as related to DOT-CFR Title 49 parts 171-189.

Marine transport. Classified as non-hazardous material as per IMDG amendment 27.

Air transport. Complies with IATA/ICAO, Special provision A67.



Introduction

EverExceed Modular Gel Range VRLA batteries are suitable for renewable energy deep cycle applications.

The positive and negative grids are cast from a calcium / tin lead alloy to reduce grid growth and corrosion. The active material is manufactured from a high purity lead (99.994%) to minimize the negative effects of impurities.

Separator is manufactured utilizing the latest German technology. The base material is a microporous duroplastic exhibiting excellent high temperature stability and mechanical strength, resulting in very good resistance to vibration and mechanical shock. The integrity of the battery will be maintained under extreme conditions. The purpose of the separator is to maintain a constant distance between the positive and negative plates, totally eliminating the possibility of short circuits whilst allowing the active materials to fully react with the gelled electrolyte. The separator also has an open construction, which allows little resistance to the flow of the electrolyte during filling. A compression platform at the bottom of the cell allows expansion and contraction of the plates.

General Features

Valve Regulated (Sealed) Construction

EverExceed Modular Gel Range valve regulated rechargeable lead acid batteries are for safe, maintenance free operation in Vertical or Horizontal position. The acid is immobilized in a specially formulated gel electrolyte and it provides a safe non-spillable battery.

Gas Recombination System

The gasses generated in the normal charge / discharge use of the battery are recombined during normal operation. In normal operation, more than 99% of the gases generated are efficiently recombined.

Maintenance Free

The Battery has been designed and built such that no addition of electrolyte is needed for the life of the battery. There is no need to add water or take specific gravity readings.

Battery Life – Float Service

EverExceed Modular Gel Range is designed for float (Standby) service with design life of 20 years at 20°C (68°F).

Battery Life – Cycle Service

EverExceed Modular Gel Range is designed for more than 5000 charge / discharge cycles, actual quantity will depend on the frequency, depth of discharge (D.O.D.) and ambient temperature.

Safety Valve

If excess pressure builds up within the battery, the safety valve automatically opens and re-closes, releasing the gas at 1-3 PSI. The valve does not allow the ingress of oxygen which is harmful and reduces the life expectation of the battery.

Temperature Range for Normal Operation

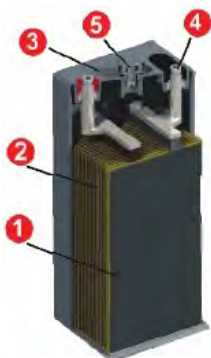
EverExceed Modular Gel Range has a wide operating temperature range. However for maximum life and safety, continuous operation over 45°C is not recommended.

Grid Design and Paste Formation

EverExceed has optimized the grid design and paste formation to maximize the operating and storage life of the Gel battery.

This optimized design provides the following advantages:

- Excellent recovery from deep discharge or over discharge;
- Low self-discharge to ensure maximum storage time when not in use;
- Adequate safety margins in tough operating conditions;
- Excellent cycling capability.



Plates:

calcium / tin lead alloy, optimized for high corrosion resistance.

Separator:

European leading microporous separator

Standard Housing:

Reinforced ABS (UL 94HB) container and cover

Optional Housing:

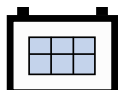
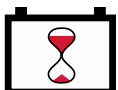
Flame-retardant reinforced ABS container and cover compliant with U.L.94 V-0 with an Oxygen limiting Index of greater than 28%.

Terminals:

Silver plated Copper female insert for easy and safe assembly and maintenance free connection with excellent conductivity.

Valves:

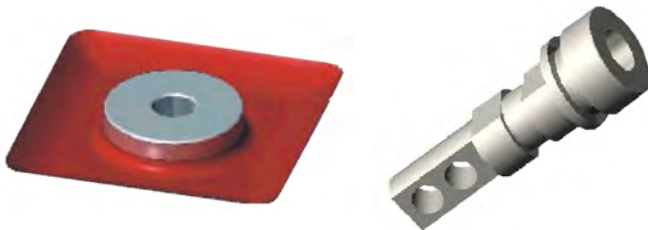
Release gas in case of excess pressure and protects the cell against atmosphere



Modular Gel Range Electrical Specifications & Dimensions

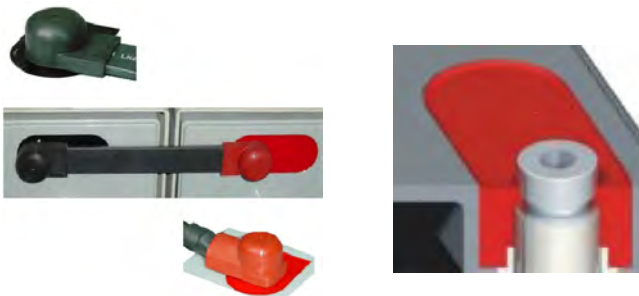
Battery Model	Nom. Voltage (V)	Capacity C10 1.80VPC @ 20°C	Capacity C20 1.75VPC @ 20°C	Capacity C100 1.80VPC @ 20°C	Short Circuit Amps	Internal Resistance Milli-ohms	No. of Term.	Max. Charge Current	Terminal Type	Battery Weight (kg/lb)	Outline Dimensions (mm/inch)			
											Length	Width	Height	Total Height
MGR 2-100G	2	100	113	123	890	1.2	2	20	ST2	6.5 / 14.3	171/6.74	72/2.83	205/8.07	205/8.07
MGR 2-150G	2	150	170	185	1280	1.0	2	30	ST2	8.5 / 18.7	171/6.74	102/4.02	205/8.07	227/8.94
MGR 2-200G	2	200	227	246	1320	0.83	2	40	ST2	13.5 / 29.7	171/6.74	111/4.37	330/13.0	365/14.4
MGR 2-250G	2	250	283	308	1660	0.78	2	50	ST2	15.0 / 33.0	171/6.74	111/4.37	330/13.0	365/14.4
MGR 2-300G	2	300	340	369	1990	0.72	2	60	ST2	16.5 / 36.3	171/6.74	151/5.95	330/13.0	365/14.4
MGR 2-400G	2	400	455	500	2660	0.6	4	80	ST2	25.5 / 56.1	210/8.27	175/6.90	330/13.0	365/14.4
MGR 2-500G	2	500	567	615	3320	0.55	4	100	ST2	28.0 / 61.6	241/9.50	171/6.74	330/13.0	365/14.4
MGR 2-600G	2	600	681	738	3980	0.46	4	120	ST2	40.0 / 88.0	302/11.9	175/6.90	330/13.0	365/14.4
MGR 2-700G	2	700	757	913	4850	0.42	4	140	ST2	43.0 / 94.6	302/11.9	175/6.90	330/13.0	365/14.4
MGR 2-800G	2	800	908	984	5300	0.40	8	160	ST2	50.0 / 110	410/16.2	175/6.90	330/13.0	365/14.4
MGR 2-1000G	2	1000	1136	1230	6550	0.35	8	200	ST2	60.0 / 132	482/19.0	175/6.90	330/13.0	365/14.4
MGR 2-1250G	2	1250	1420	1542	8200	0.28	8	240	ST2	68.0 / 149	482/19.0	175/6.90	330/13.0	365/14.4
MGR 2-1500G	2	1500	1698	1850	9920	0.25	8	300	ST2	98.0 / 215	400/15.8	350/13.8	345/13.6	378/14.9
MGR 2-1800G	2	1800	2042	2220	12300	0.23	16	360	ST2	112 / 246	490/19.3	350/13.8	345/13.6	383/15.1
MGR 2-2000G	2	2000	2269	2460	13400	0.20	16	400	ST2	125 / 275	490/19.3	350/13.8	345/13.6	383/15.1
MGR 2-2500G	2	2500	2833	3080	16540	0.18	16	500	ST2	140 / 308	490/19.3	350/13.8	345/13.6	383/15.1
MGR 2-3000G	2	3000	3395	3690	19980	0.15	16	600	ST2	168 / 369	710/27.9	350/13.8	345/13.6	383/15.1
MGR 2-4000G	2	4000	4519	4920	27500	0.12	16	800	ST2	190 / 418	710/27.9	350/13.8	345/13.6	383/15.1

Terminal Type

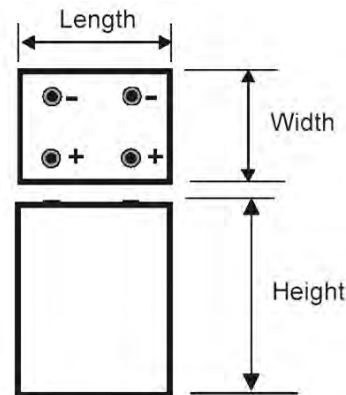


ST1: Copper Insert type terminal with 14 mm Diameter insert. Standing 5mm above the top of the battery case with M6 thread M6 bolt. Flat and Spring washer supplied.

ST2: Copper Insert type terminal with 20 mm Diameter insert. Standing 5mm above the top of the battery case with M8 thread M8 bolt. Flat and Spring washer supplied.



Cell Dimensions for Rack Layout



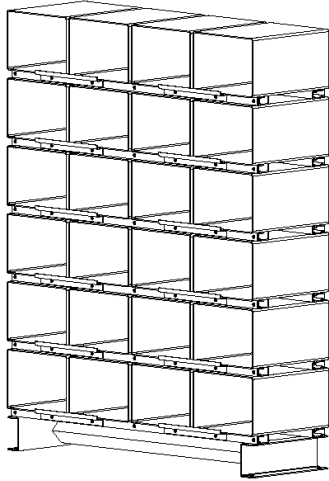
Battery Float Voltage

Ambient Temperature	Recommended Applied Float Voltage VPC
0~9°C	2.33-2.35
10~14°C	2.30-2.33
15~19°C	2.27-2.30
20~24°C	2.27-2.30
25~29°C	2.25-2.27
30~34°C	2.23-2.25
35~40°C	2.21-2.23

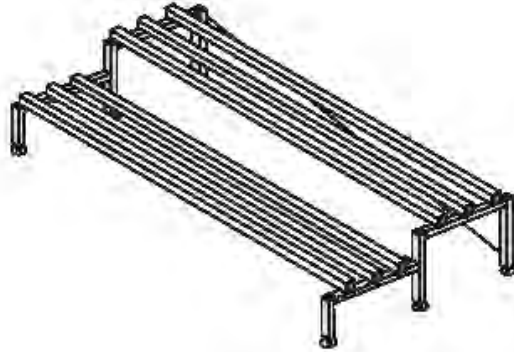


MODULAR GEL RANGE – HORIZONTAL & VERTICAL RACKING SYSTEMS

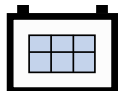
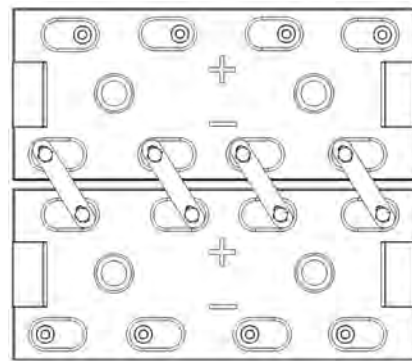
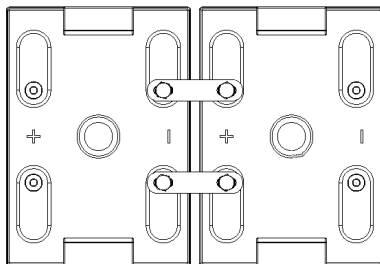
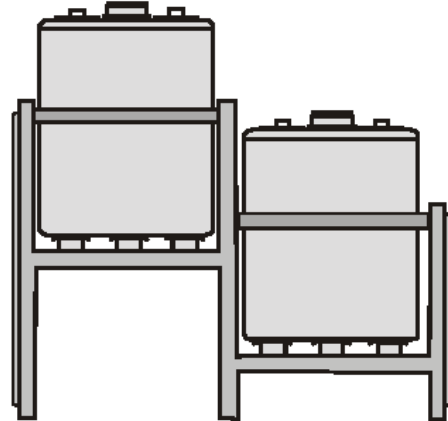
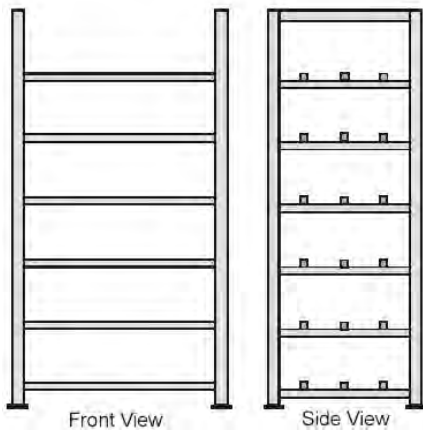
Modular Gel Range batteries can be mounted on / in vertical or horizontal racking system. It is not recommended to mount batteries larger than 1250AH in horizontal position.



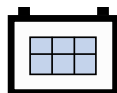
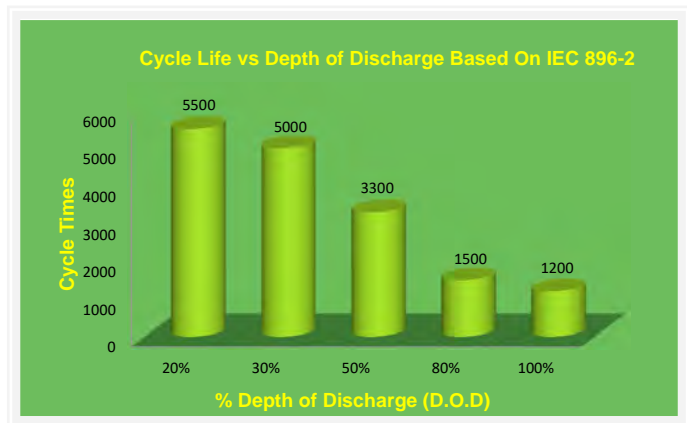
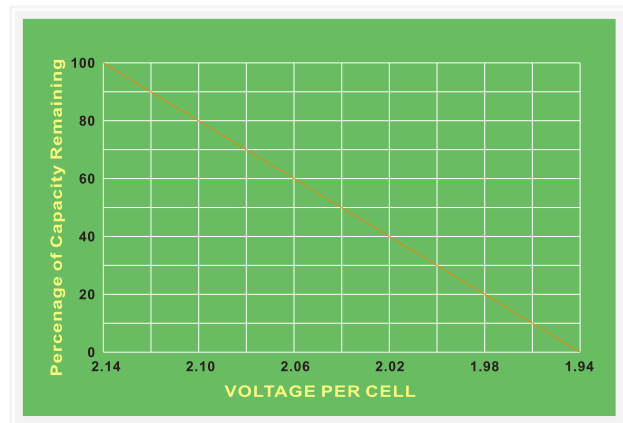
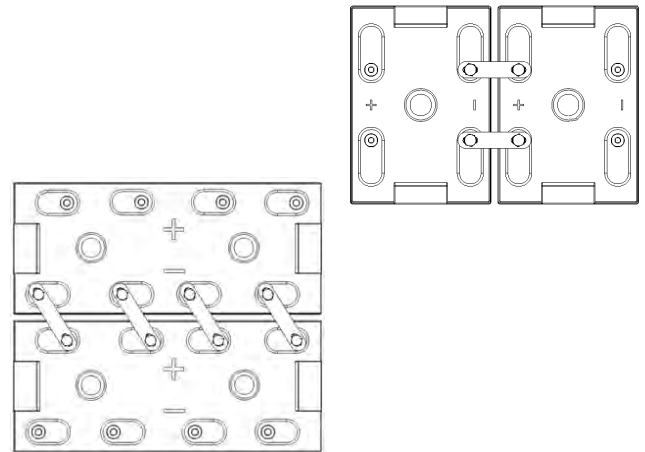
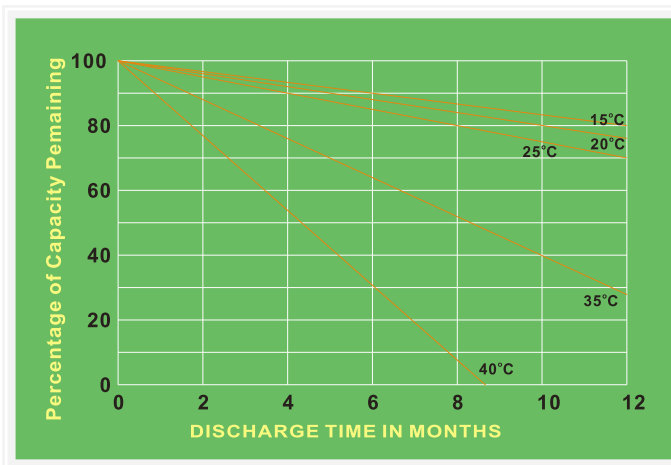
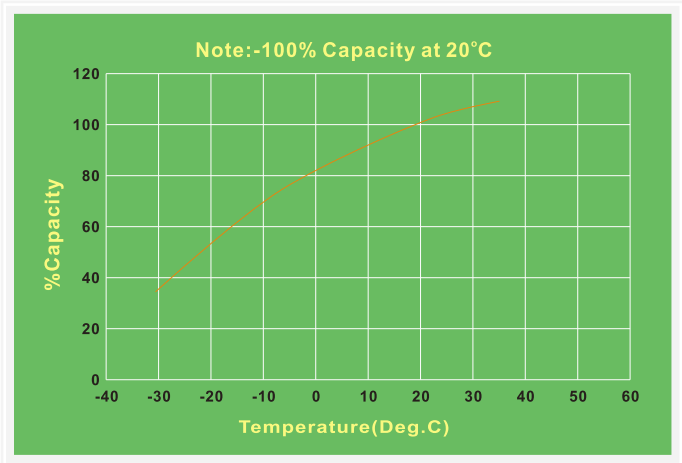
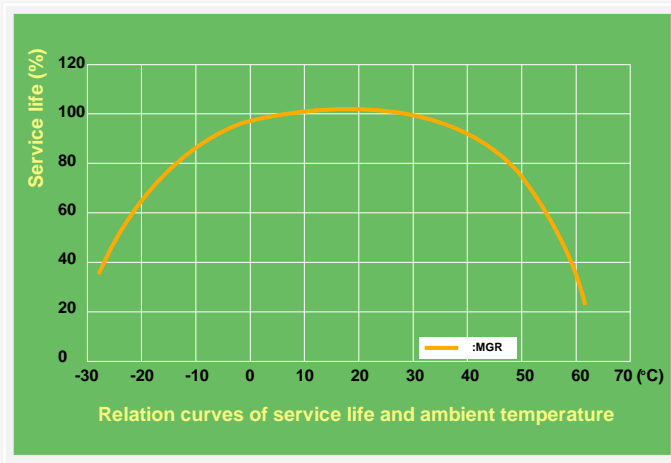
Typical rack for horizontal configuration of Modular Gel Range batteries



Typical rack for vertical configuration of Modular Gel Range batteries



MODULAR GEL RANGE PERFORMANCE CURVES



EverExceed[®]
power your applications



***Supplied Worldwide by
EverExceed Corporation***

