

# LEAD ACID (DEEP CYCLE) BATTERY

## MG150-12

MG (Deep Cycle GEL ) series is hybrid GEL battery with 12 years floating design life ,it is ideal for standby or frequent cyclic discharge applications under extreme environments` By using strong grids` high purity lead and patented Gel electrolyte, the MG series offers excellent recovery capability after deep discharge under frequent cyclic discharge use, and can deliver 450 cycles at 100% DOD Suitable for solar & wind system, CATV, marine, RV and deep discharge UPS, and telecommunication, etc.

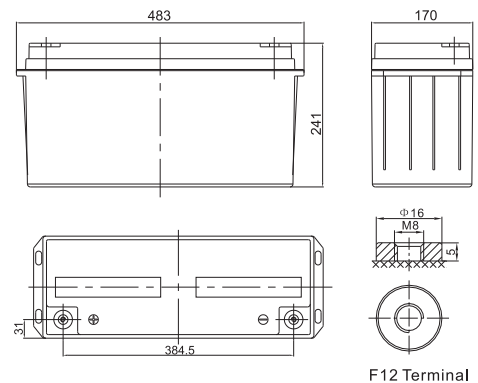


MADE IN VIETNAM / CHINA



### Specification

<b>Cells Per Unit</b>	6
<b>Voltage Per Unit</b>	12
<b>Capacity</b>	150Ah@20hr-rate to 1.75V per cell @25°C
<b>Weight</b>	Approx. 44.5 Kg (Tolerance ± 1.5%)
<b>Internal Resistance</b>	Approx. 4.2 mΩ
<b>Terminal</b>	F12(M8)/F5 (M8)
<b>Max. Discharge Current</b>	1500A (5 sec)
<b>Design Life</b>	12 years (floating charge)
<b>Maximum Charging Current</b>	45 A
<b>Reference Capacity</b>	C3 111.6AH C5 125.5AH C10 143.0AH C20 150.0AH
<b>Float Charging Voltage</b>	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
<b>Cycle Use Voltage</b>	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
<b>Operating Temperature Range</b>	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
<b>Normal Operating Temperature Range</b>	25°C ± 5°C
<b>Self Discharge</b>	Marvel Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charged batteries before using.
<b>Container Material</b>	A.B.S. UL94-HB, UL94-V0 Optional.



Length	483±2mm (19.0 inches)
Width	170±2mm (6.69 inches)
Height	241±2mm (9.49 inches)
Total Height	241±2mm (9.49 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

### Constant Current Discharge Characteristics : A(25°C)

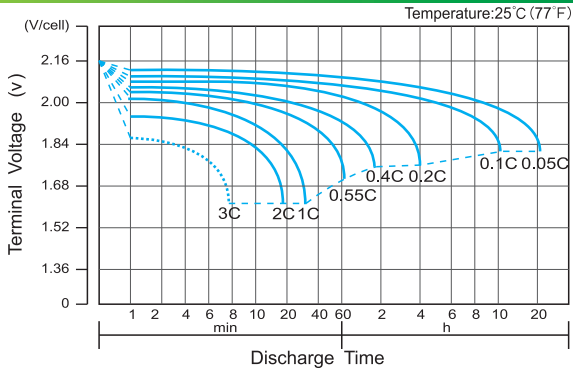
F.V/Time	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	317.8	244.9	143.5	86.2	52.7	39.7	31.4	26.5	18.1	15.3	7.79
1.65V	307.2	237.6	140.5	84.6	51.8	39.1	31.0	26.1	17.9	15.1	7.72
1.70V	293.4	228.0	136.5	82.5	50.6	38.3	30.4	25.7	17.6	14.9	7.63
1.75V	274.9	215.0	131.1	79.5	49.0	37.2	29.6	25.1	17.2	14.7	7.50
1.80V	250.2	197.6	123.7	75.5	46.7	35.6	28.5	24.2	16.7	14.3	7.32
1.85V	216.4	173.6	113.1	69.7	43.5	33.4	26.9	23.0	15.9	13.7	7.05

### Constant Power Discharge Characteristics : WPC(25°C)

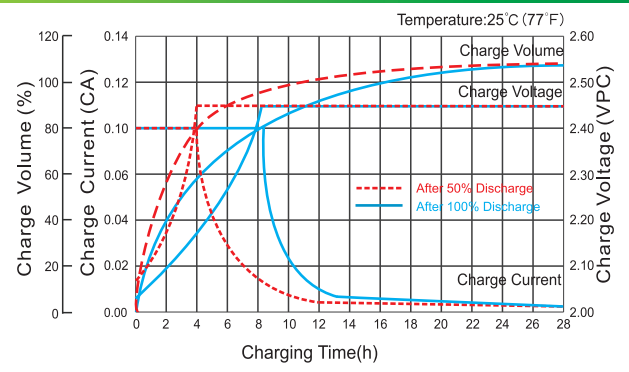
F.V/Time	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	569	451	274	170	105	79.8	63.4	53.7	37.1	31.6	16.2
1.65V	564	446	273	168	104	79.0	62.9	53.3	36.8	31.4	16.0
1.70V	545	432	266	165	102	77.6	61.9	52.5	36.3	31.0	15.9
1.75V	520	413	258	160	99.2	75.7	60.5	51.4	35.6	30.4	15.6
1.80V	481	385	246	152	95.1	72.8	58.4	49.9	34.6	29.6	15.2
1.85V	424	343	228	141	89.1	68.6	55.4	47.5	33.1	28.5	14.7

(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.

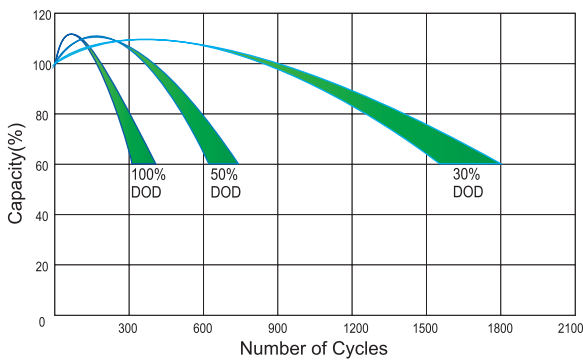
### Discharge Characteristics Curve



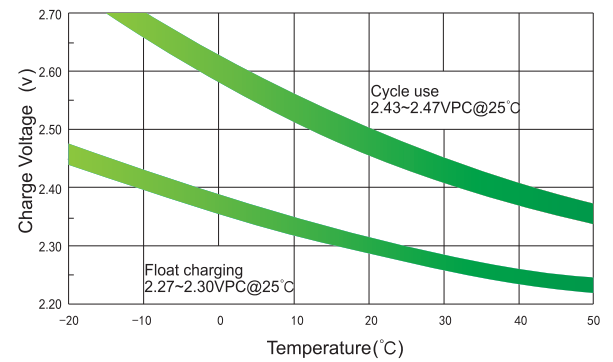
### Charge Characteristic Curve for Cycle Use (IU)



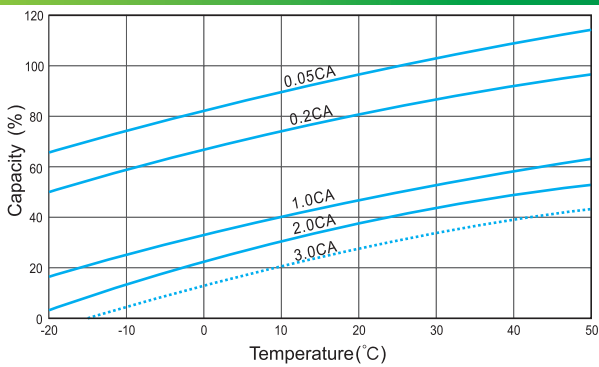
### Cycle Life in Relation to Depth of Discharge



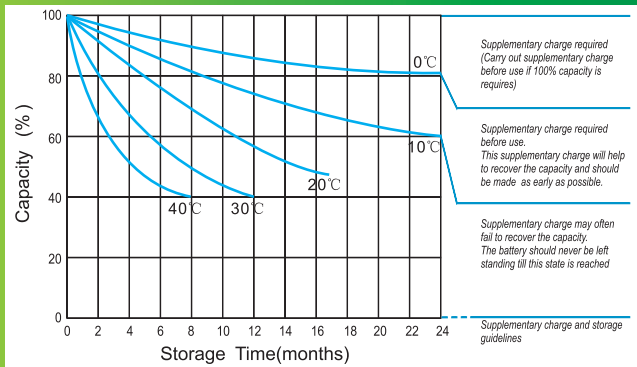
### Relationship Between Charging Voltage and Temperature



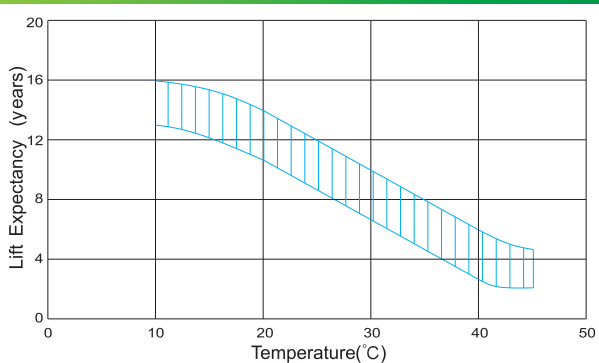
### Temperature Effects on Capacity



### Storage Characteristics



### Effect of Temperature on Long Term Life



### Relationship of OCV And State of Charge (20°C)

