



# RA12-70DG (12V70Ah)

RA12-70DG is GEL Deep cycle battery, with 12 years floating design life, superiorly designed for frequent cyclic discharge applications under extreme temperature. By using strong grid to insure reliable performance under frequent cyclic discharge use. 400 cycles could be available at 100% DOD. Offering extra-durable cyclic performance, high efficiency of recovery, that is more suitable for solar, mobility, E-toll, marine, deep discharge UPS etc..



## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	70Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 22.5 Kg
Max. Discharge Current	700 A (5 sec)
Internal Resistance	Approx. 7.7 mΩ
Operating Temperature Range	Discharge: -40°C~60°C Charge: -20°C~50°C Storage: -40°C~60°C
Normal Operating Temperature Range	25°C±5°C
Float charging Voltage	13.6to 13.8 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	14A
Equalization and Cycle Service	14.2 to 14.4VDC/unit Average at 25°C
Self Discharge	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using.
Terminal	Terminal F5/F11
Container Material	A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.



MH28539



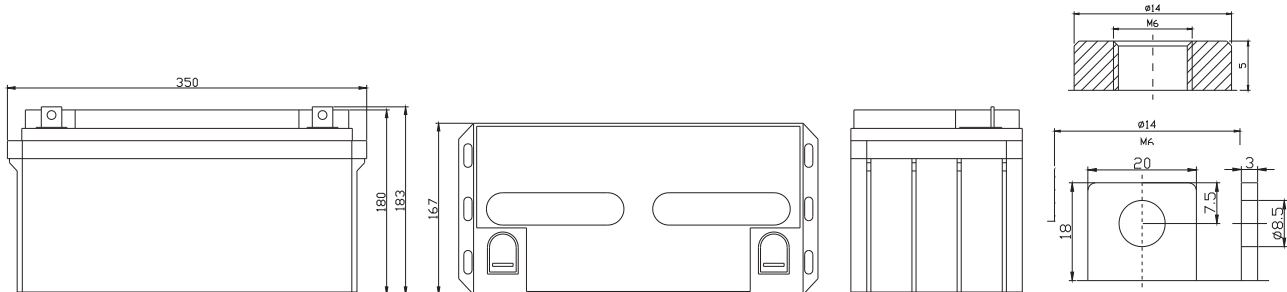
G4M20206-0910-E-16



ISO9001:2000 Certificate

## Dimensions

Unit: mm Dimension: 350(L) × 167(W) × 180(H)



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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	183.38	136.58	106.87	70.277	41.188	24.632	17.010	14.090	11.863	8.1032	6.7211	3.5862
10.0V	178.08	129.95	104.68	69.115	40.998	24.447	16.944	14.025	11.793	8.0373	6.6564	3.5210
10.2V	172.80	125.36	103.04	68.504	40.618	24.262	16.814	13.960	11.723	7.9714	6.5918	3.4558
10.5V	157.00	117.06	99.26	68.650	40.238	24.076	16.749	13.829	11.584	7.9056	6.5272	3.3906
10.8V	143.35	108.00	92.56	68.128	39.287	23.644	16.293	13.503	11.374	7.7738	6.4626	3.3254
11.1V	123.81	97.64	83.977	64.393	37.323	22.595	15.576	12.851	10.886	7.4444	6.2687	3.1298

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	1934.7	1454.5	1165.1	788.58	475.95	290.33	202.41	167.96	141.52	96.752	80.317	42.999
10.0V	1896.6	1410.0	1146.4	779.54	474.82	288.79	202.49	167.74	141.16	96.287	79.811	42.253
10.2V	1874.9	1372.7	1133.5	781.62	471.15	287.05	201.60	167.38	140.68	95.657	79.102	41.470
10.5V	1726.9	1293.5	1093.9	783.79	466.91	284.97	200.82	165.81	139.00	94.867	78.326	40.688
10.8V	1591.2	1206.3	1022.8	778.69	458.29	281.33	195.35	162.04	136.49	93.286	77.551	39.905
11.1V	1413.7	1103.3	931.30	740.40	438.68	270.88	186.91	154.21	130.63	89.333	75.224	37.558

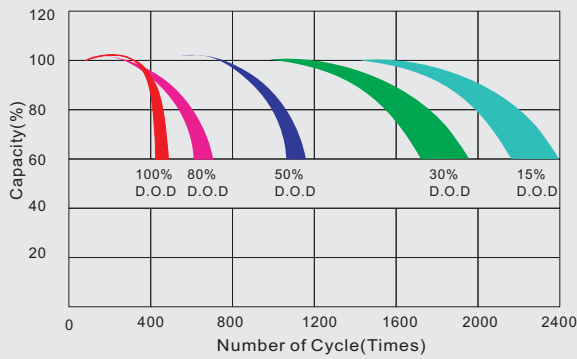
All mentioned values are average values.

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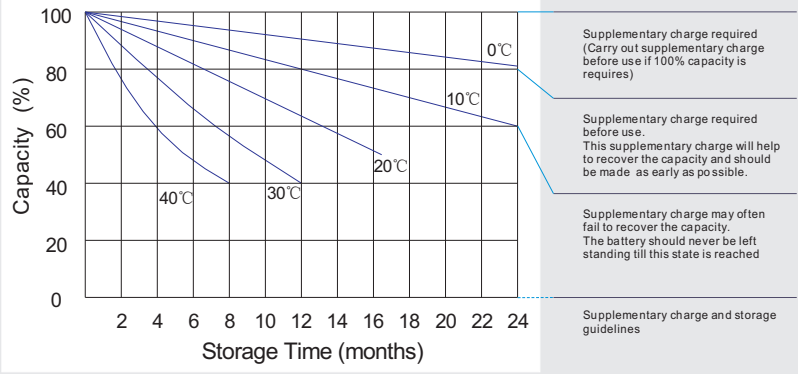
12V70Ah



## Life characteristics of cyclic use



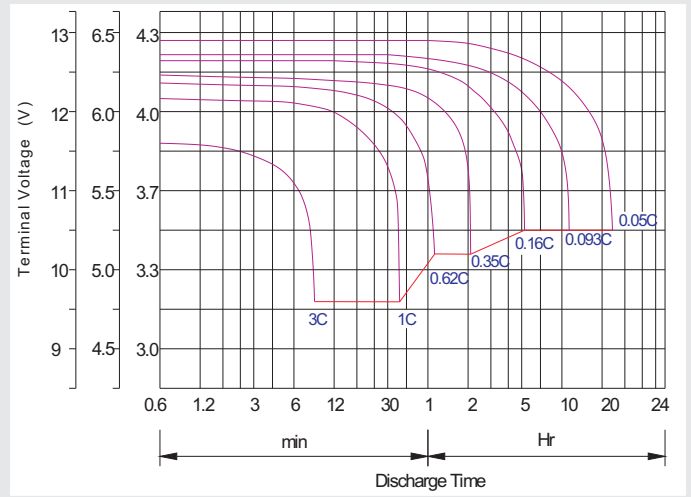
## Storage characteristic



## Charge characteristic curve for cyclic use



## Discharge characteristic curve



## Capacity Factors With Different Temperature

Battery Type		-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL Battery	6V&12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM Battery	6V&12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
	2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

## Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/cell	1.75V	1.70V	1.60V
Discharge Current (A)	(A) ≤ 0.2C	0.2C < (A) < 1.0C	(A) ≥ 1.0C

## Maintenance & Cautions

### Cycle service

- ※ Avoid battery over discharge, especially battery series connection use.
- ※ Charged with recommend voltage, ensure battery can be full recharged.
- In general, recharge capacity should be 1.1-1.15 times discharge capacity.
- ※ Effect of temperature on cycle charge voltage: -4mV/°C/Cell.
- ※ There are a number of factors that will affect the length of cyclic service.
- The most significant are depth of discharge, ambient temperature, discharge rate, and the manner in which the battery is recharged.
- Generally speaking, the most important factors is depth of discharge.

**Charge the batteries at least once every six months, if they are stored at 25°C.**

### Charging Method:

Constant Voltage	-0.2Cx2h+2.4~2.45V/Cellx24h, Max. Current 0.3CA
Constant Current	-0.2Cx2h+0.1CAx12h
Fast	-0.2Cx2h+0.3CAx4.0h