



# RA12-55DG (12V55Ah)

RA12-55DG 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..



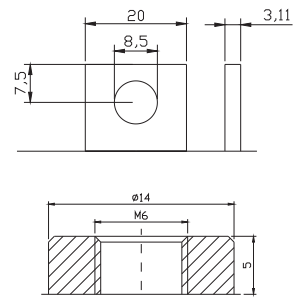
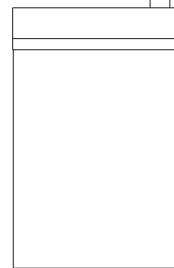
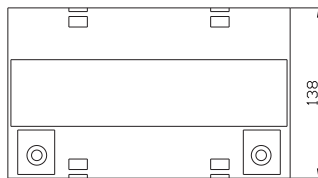
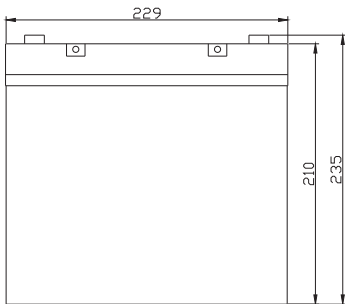
## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	55Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 18.0 Kg
Max. Discharge Current	550 A (5 sec)
Internal Resistance	Approx. 8.6 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	11A
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 F11/F15
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: 229 (L) × 138 (W) × 210 (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	144.09	107.31	83.972	55.217	32.362	19.354	13.365	11.071	9.3207	6.3668	5.2808	2.8178
10.0V	139.92	102.10	82.249	54.305	32.213	19.208	13.313	11.020	9.2659	6.3150	5.2301	2.7665
10.2V	135.77	98.50	80.957	53.825	31.914	19.063	13.211	10.968	9.2111	6.2633	5.1793	2.7153
10.5V	123.35	91.97	77.988	53.940	31.615	18.917	13.160	10.866	9.1014	6.2115	5.1285	2.6641
10.8V	112.63	84.86	72.725	53.529	30.869	18.578	12.801	10.610	8.9369	6.1080	5.0777	2.6128
11.1V	97.28	76.72	65.982	50.595	29.325	17.753	12.238	10.097	8.5531	5.8492	4.9254	2.4591

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	1520.1	1142.8	915.4	619.60	373.96	228.12	159.04	131.96	111.20	76.020	63.106	33.785
10.0V	1490.2	1107.8	900.73	612.50	373.07	226.91	159.10	131.79	110.91	75.654	62.708	33.198
10.2V	1473.1	1078.6	890.59	614.13	370.19	225.54	158.40	131.51	110.53	75.159	62.151	32.584
10.5V	1356.9	1016.3	859.48	615.83	366.86	223.90	157.79	130.28	109.22	74.538	61.542	31.969
10.8V	1250.2	947.8	803.63	611.82	360.09	221.05	153.49	127.32	107.24	73.296	60.933	31.354
11.1V	1110.8	866.92	731.73	581.74	344.68	212.84	146.86	121.16	102.64	70.190	59.105	29.510

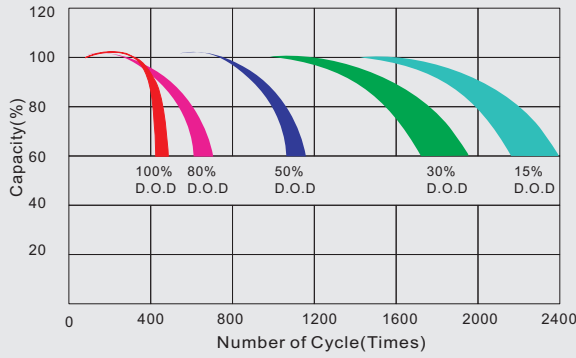
All mentioned values are average values.

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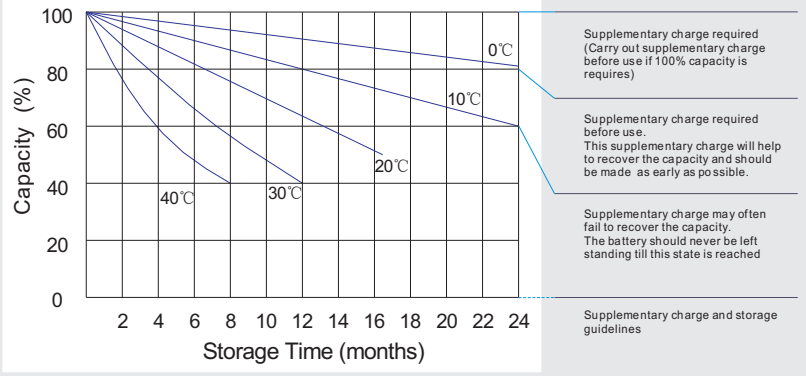
12V55Ah



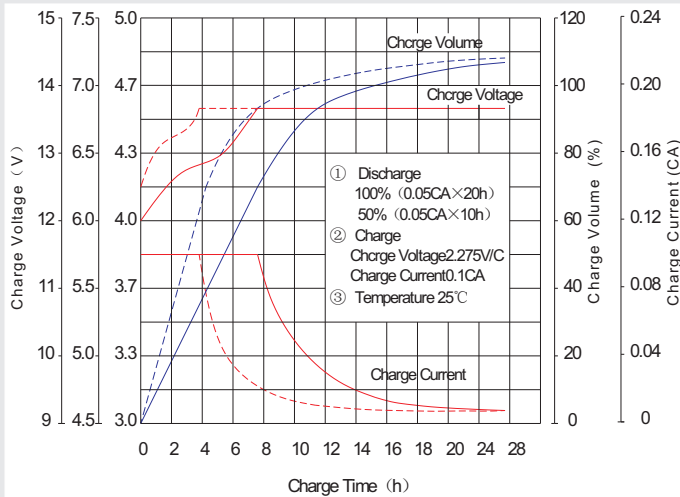
## Life characteristics of cyclic use



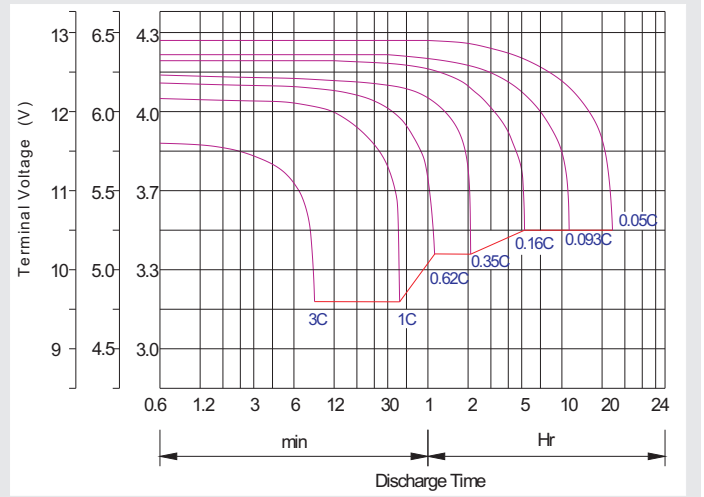
## Storage characteristic



## 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

<b>Cycle service</b>
※ 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