RA12-90 (12V90Ah)

RA12-90 is a general purpose battery with 10 years floating design life, meet with IEC, JIS .BS and Eurobat standard. With heavy duty grid, thickness plates, special additives, RA series battery have long and reliable standby service life. Our RA series batteries keep high consistent for better performance in series usage.

RITAR®

Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	90Ah@10hr-rate to 1.75V per cell @25°C
Weight	Approx. 28.5 Kg
Max. Discharge Current	900A (5 sec)
Internal Resistance	Approx. 5.2 mΩ
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
Normal Operating Temperature Range	25°C±5°C
Float charging Voltage	13.6 to 13.8 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	27 A
Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25°C
Self Discharge	RITAR 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 F12/F15
Container Material	A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.

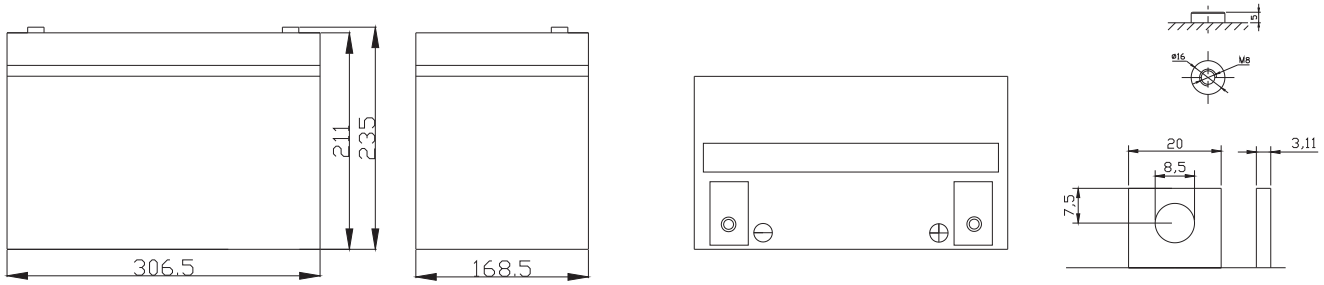
MH28539

G4M20206-0910-E-16

ISO9001:2000 Certificate

Dimensions

Unit: mm Dimension: 306.5(L)×168.5(W)×235(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	283.05	208.40	160.06	103.50	58.500	32.678	23.490	19.440	15.912	11.180	9.4527	4.9990
10.0V	274.87	198.29	156.77	101.79	58.230	32.432	23.400	19.350	15.818	11.089	9.3618	4.9081
10.2V	266.72	191.29	154.31	100.89	57.690	32.187	23.220	19.260	15.725	10.998	9.2709	4.8172
10.5V	239.50	176.52	146.92	98.370	57.150	31.941	23.130	19.080	15.538	10.907	9.1800	4.7263
10.8V	216.17	160.96	135.43	94.050	55.800	31.368	22.500	18.630	15.257	10.725	9.0891	4.6354
11.1V	188.18	143.86	121.48	88.110	53.010	29.975	21.510	17.730	14.602	10.271	8.8164	4.3628

Constant Power Discharge Characteristics: W(25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	2760.8	2060.9	1722.3	1109.6	669.06	375.92	271.08	224.64	184.20	129.73	106.29	56.143
10.0V	2687.0	1968.5	1686.5	1095.8	665.82	374.45	270.54	224.10	183.08	129.18	105.20	55.598
10.2V	2606.1	1902.9	1663.6	1082.9	660.96	371.01	268.92	223.02	182.52	128.09	104.65	55.053
10.5V	2346.8	1758.3	1586.3	1058.3	654.48	367.57	267.30	221.40	180.84	127.00	103.56	54.508
10.8V	2111.0	1596.5	1457.5	1010.1	638.28	362.16	260.82	215.46	178.03	124.28	102.47	53.963
11.1V	1822.2	1417.8	1301.5	946.49	604.80	345.45	247.86	205.20	169.04	119.92	99.204	51.782

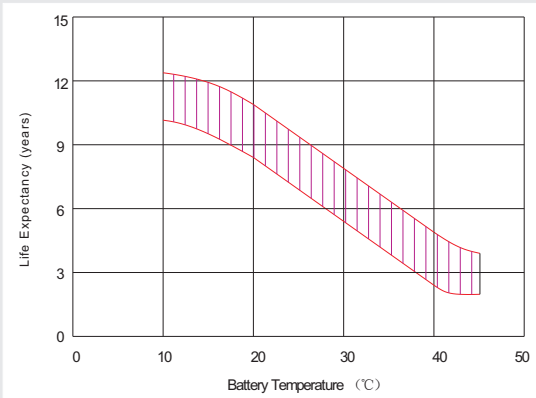
All mentioned values are average values.

RA12-90

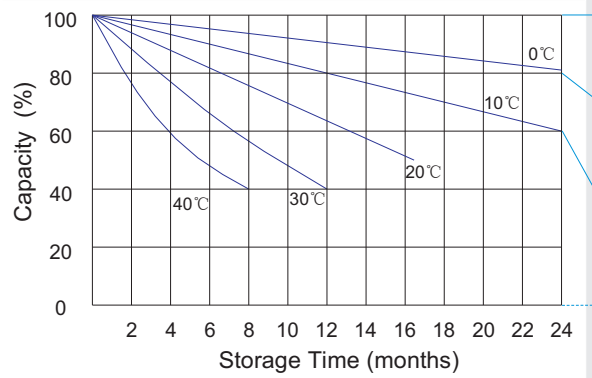
12V90Ah

RITAR®

Effect of temperature on long term float life



Storage characteristic



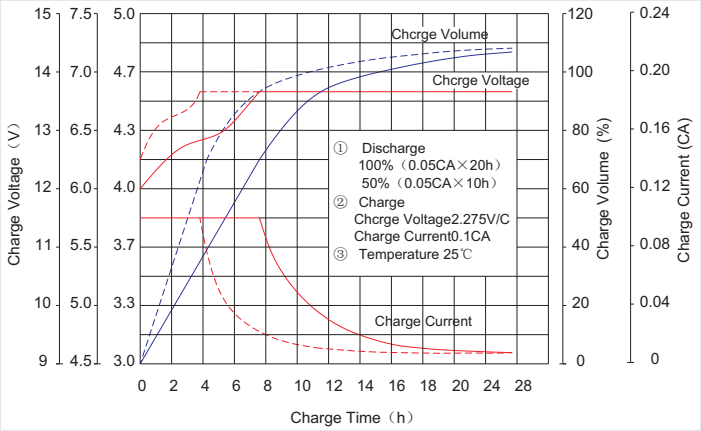
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is requires)

Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

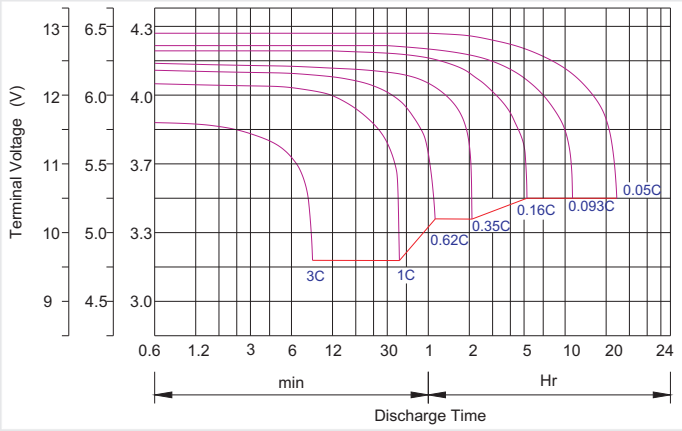
Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached

Supplementary charge and storage guidelines

Charge characteristic Curve for standby use



Discharge characteristic Curve



Capacity Factors With Different Temperature

Battery Type		-20℃	-10℃	0℃	5℃	10℃	20℃	25℃	30℃	40℃	45℃
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

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

Maintenance & Cautions

Float Service:

※ Every month, recommend inspection every battery voltage.

※ Every three months, recommend equalization charge for one time.

Equalization charge method:

Discharge: 100% rate capacity discharge.

Charge: Max. current 0.3CA, constant voltage 2.4-2.45V/Cell charge 24h.

※ Effect of temperature on float charge voltage: -3mV/℃/Cell.

※ Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage.

SHENZHEN RITAR POWER CO.,LTD.

URL:www.ritarpower.com

Address: Rm405,Tower C, Huahan Building,Langshan Rd16, Nanshan District, ShenZhen, 518057, China

Tel:+86-755-33981668 Fax:86-755-8347-5180

2008 - Version 1