



# RA12-120 (12V120Ah)

RA12-120 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.



## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	120Ah@10hr-rate to 1.75V per cell @25°C
Weight	Approx. 35.5 Kg
Max. Discharge Current	1200A (5 sec)
Internal Resistance	Approx. 4.5 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	36A
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 F5/F12
Container Material	A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.



MH28539



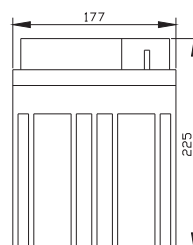
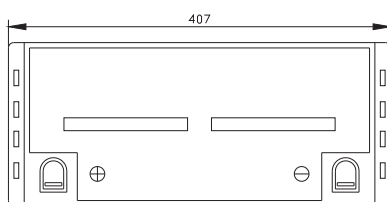
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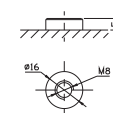
ISO9001:2000 Certificate

## Dimensions

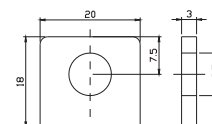
Unit: mm Dimension: 407(L)×177(W)×225(H)



Terminal F12



Terminal F5



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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	417.92	308.74	224.64	138.00	78.000	43.571	31.320	25.920	21.216	14.906	12.604	6.6653
10.0V	406.75	293.76	220.03	135.72	77.640	43.243	31.200	25.800	21.091	14.785	12.482	6.5442
10.2V	383.28	283.39	216.58	134.52	76.920	42.916	30.960	25.680	20.966	14.664	12.361	6.4230
10.5V	344.17	261.50	206.21	131.16	76.200	42.588	30.840	25.440	20.717	14.543	12.240	6.3018
10.8V	320.26	238.46	190.08	125.40	74.400	41.824	30.000	24.840	20.342	14.300	12.119	6.1806
11.1V	278.78	213.12	170.50	117.48	70.680	39.967	28.680	23.640	19.469	13.694	11.755	5.8170

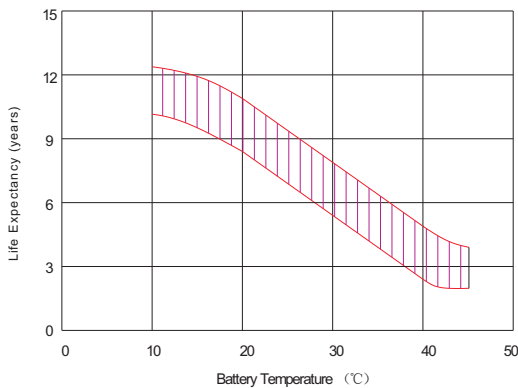
## Constant Power Discharge Characteristics: W(25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.6V	3980.4	3000.6	2209.3	1557.4	892.08	501.23	361.44	299.52	245.61	172.97	141.72	74.857
10.0V	3899.0	2866.0	2163.4	1537.9	887.76	499.26	360.72	298.80	244.11	172.24	140.27	74.130
10.2V	3680.6	2770.5	2134.0	1519.9	881.28	494.68	358.56	297.36	243.36	170.79	139.54	73.404
10.5V	3314.3	2560.0	2034.9	1485.4	872.64	490.09	356.40	295.20	241.11	169.34	138.09	72.677
10.8V	3073.5	2324.4	1869.7	1417.7	851.04	482.88	347.76	287.28	237.37	165.70	136.63	71.950
11.1V	2653.0	2064.3	1669.5	1328.4	806.40	460.61	330.48	273.60	225.39	159.89	132.27	69.043

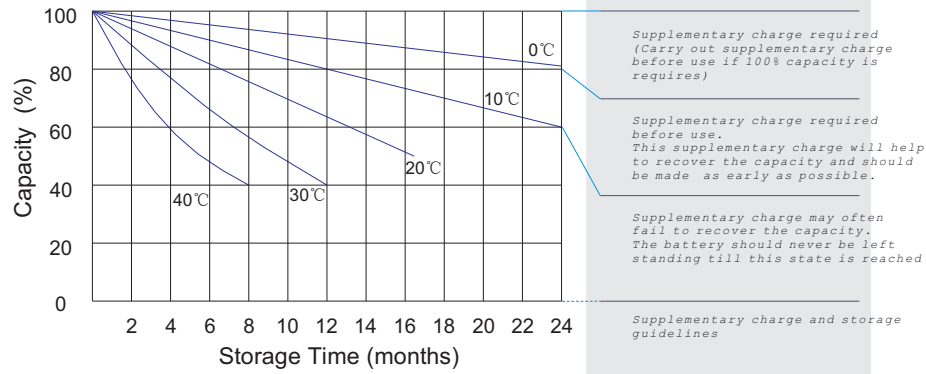
All mentioned values are average values.



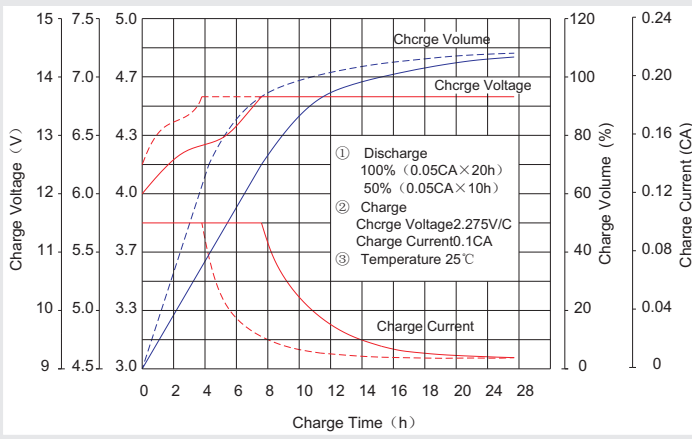
### Effect of temperature on long term float life



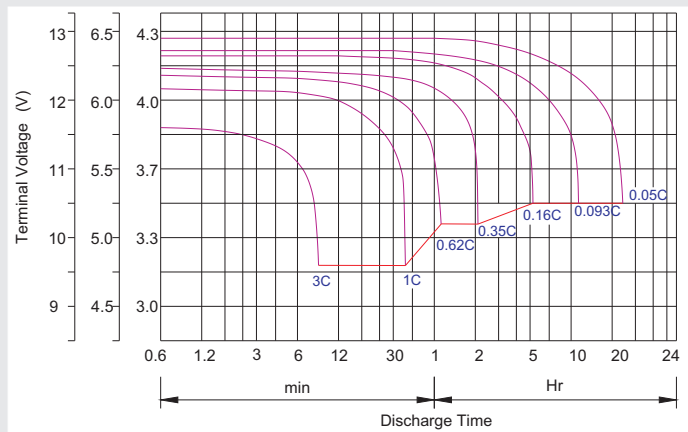
### Storage characteristic



### Charge characteristic Curve for standby 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

**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/°C/Cell.

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