



# RA12-150SHL (12V150Ah) (570w/cell)

HRL is high rate series with 12 years floating design life, especially designed for high rate load discharge applications . By using strong grid and specific paste plate to insure high performance during big current discharge requirement when electricity is off .High Rate series offering extra-durable stable performance under high rate discharge.

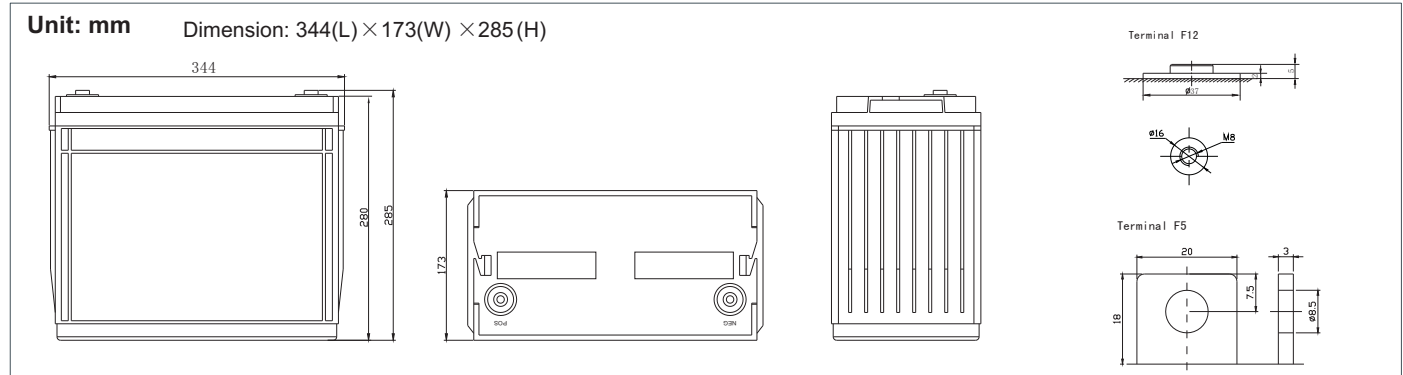


## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	570W@15min-rate to 1.67V per cell @25°C
Weight	Approx. 45.0 Kg(Tolerance ± 1.5%)
Max. Discharge Current	1500A (5 sec)
Internal Resistance	Approx. 3.9 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	45.0 A
Equalization and Cycle Service	14.6 to 14.8 VDC/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	Faston tabF5/F12
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



## Dimensions



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

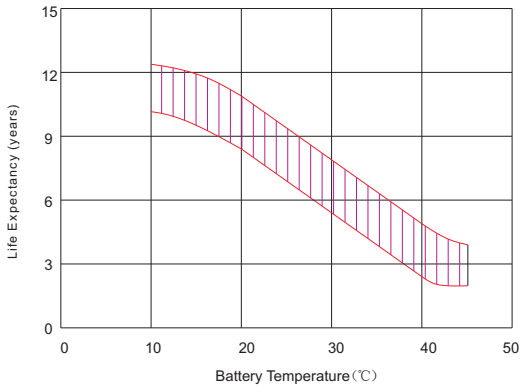
F.V /Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
9.60V	499.7	409.9	383.2	308.8	245.5	173.7	97.26	77.53
10.0V	485.3	388.4	381.3	301.6	231.2	167.2	95.34	74.86
10.2V	470.9	379.1	361.1	289.8	225.0	164.4	93.71	73.52
10.5V	422.8	364.9	329.8	275.0	214.2	158.3	91.52	72.15
10.8V	381.6	350.5	295.3	262.6	207.4	151.8	89.35	70.90
11.1V	325.9	322.7	271.8	250.3	200.0	146.7	86.60	68.06

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

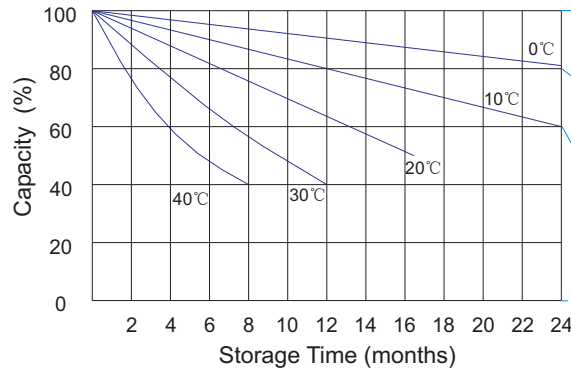
F.V /Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
9.60V	5272	4350	4259	3596	2711	1937	1087	867.6
10.0V	5168	4177	4227	3533	2579	1884	1064	842.3
10.2V	5109	4065	4035	3429	2528	1855	1056	833.4
10.5V	4651	3975	3754	3322	2438	1811	1050	828.7
10.8V	4236	3816	3681	3183	2363	1751	1032	822.4
11.1V	3721	3614	3609	3043	2310	1699	1013	798.0

All mentioned values are average values (Tolerance ±2%).

### Effect of temperature on long term float life



### Storage characteristic



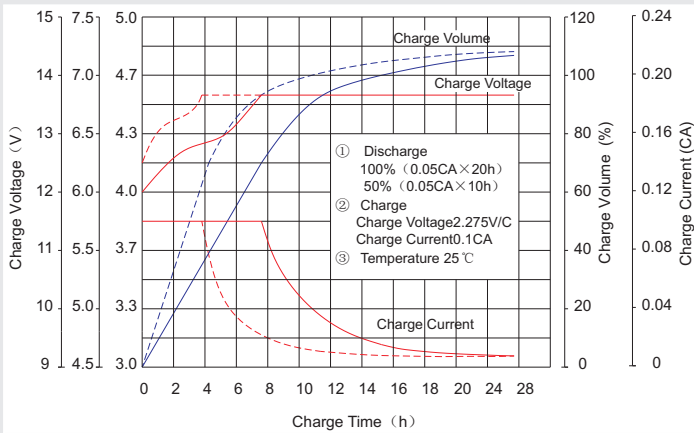
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is requires)

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

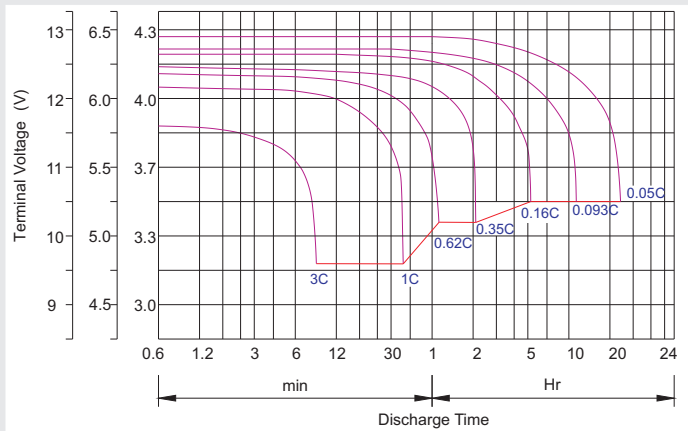
Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached

Supplementary charge and storage guidelines

### Charge characteristic Curve for standby use



### Discharge characteristic Curve



### Capacity Factors With Different Temperature

Battery Type		-20°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 0.3C
Constant Current	-0.2Cx2h+0.1Cx12h
Fast	-0.2Cx2h+0.3Cx4h

Bolt	M5	M6	M8
Terminal	F3 F4 F13 F18 T25 T26	F8 F11 F12-1 F15	F5 F9 F10 F12 F14 F16
Torque	6~7N·m	8~10N·m	10~12N·m

### 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.