

# HR VRLA Battery

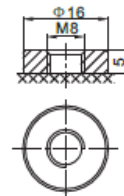
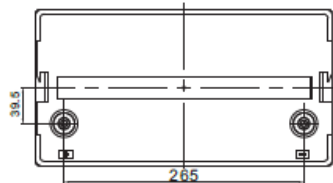
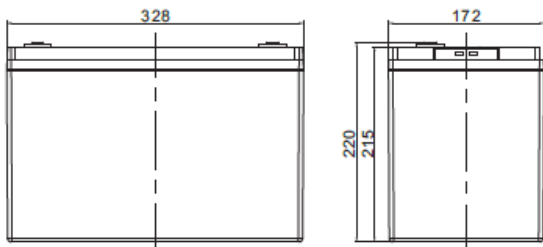
## MB-HV12-380W(12V, 380W)



### Features of HR VRLA Battery

- HR ( High Rate ) series Valve Regulated Lead Acid (VRLA) battery is designed for heavy load discharge
- 15 years design life
- lower I.R, lower self discharge rate ,high power, and longer service life
- The HR series battery offers 30% more power output than the standard series
- It is suitable for high power standby used, such as datacenter, UPS, EPS etc

### Physical Dimension



F12 Terminal

Length	328±2mm (12.9 inches)
Width	172±2mm (6.77 inches)
Height	215±2mm (8.46 inches)
Total Height	220±2mm (8.66 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

### Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	380W@15min-rate to 1.67V per cell @25°C
Weight	Approx. 30.5 Kg (Tolerance±3.0%)
Internal Resistance	Approx. 5.0 mΩ
Terminal	F12(M8)
Max. Discharge Current	1000A (5 sec)
Short Circuit Current	2350A
Design Life	15 years
Max. Charging Current	30.0 A
Reference Capacity	C10 94.4AH C20 100.0AH
Standby Use Voltage	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Equalization Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
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
Self Discharge	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

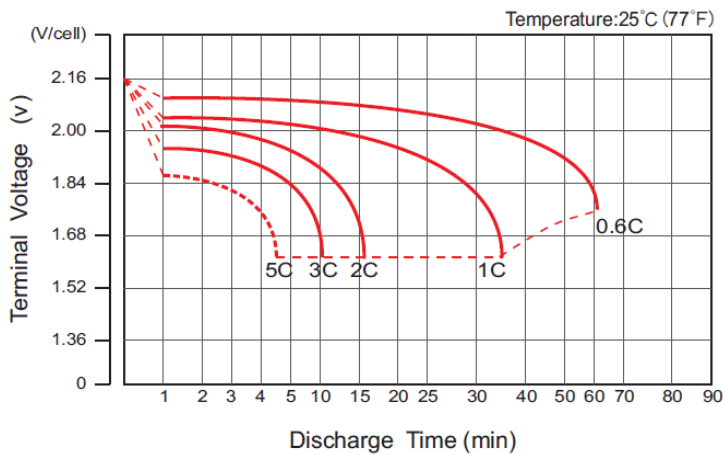
### Constant Current Discharge Characteristics : A (25°C)

F.V/Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	341.7	298.6	269.9	210.1	171.1	126.1	73.0	52.4
1.67V	310.1	273.8	249.4	195.9	160.8	119.3	69.6	50.2
1.70V	296.9	263.2	240.5	190.0	156.3	116.5	68.2	49.3
1.75V	274.1	245.2	225.4	179.7	148.5	111.5	65.9	47.7
1.80V	251.2	227.1	210.4	170.1	141.5	106.8	63.5	46.2
1.85V	215.6	193.4	178.3	146.2	122.8	94.5	57.4	42.1

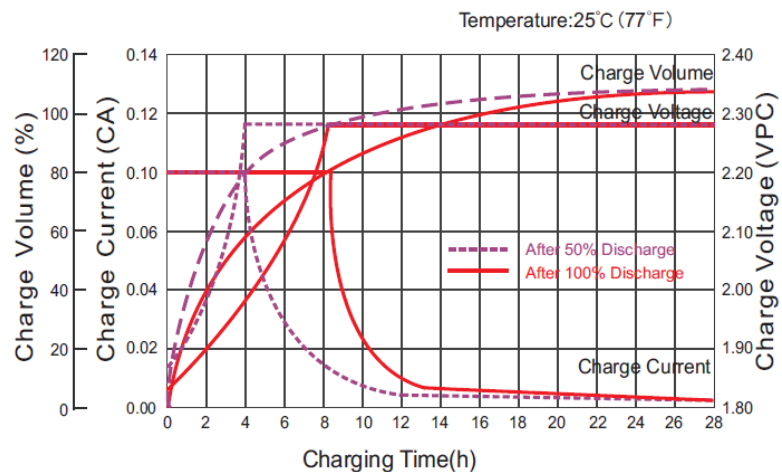
### Constant Power Discharge Characteristics : WPC (25°C)

F.V/Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	627.9	556.1	507.6	400.5	328.8	245.0	137.1	99.1
1.67V	584.4	521.7	479.1	380.0	313.8	235.0	131.9	95.8
1.70V	565.2	506.0	465.7	371.1	307.1	230.2	129.7	94.5
1.75V	530.4	478.2	442.3	355.1	294.7	222.6	126.2	91.9
1.80V	493.7	448.9	417.7	339.3	283.6	214.8	122.4	89.4
1.85V	430.0	387.7	358.6	294.9	248.5	191.6	111.4	82.2

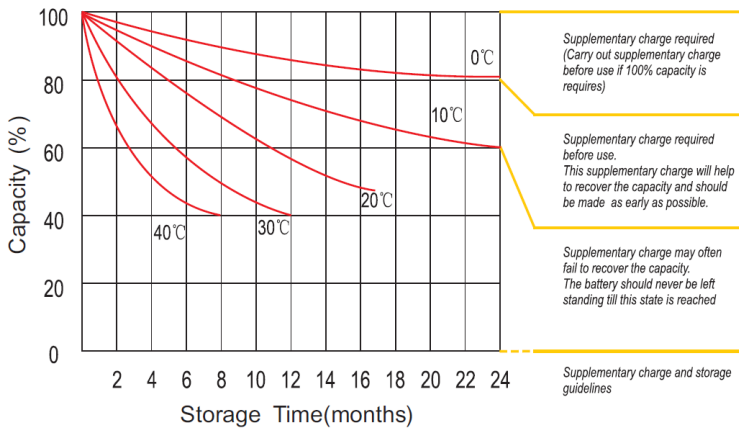
### Discharge Characteristics Curve



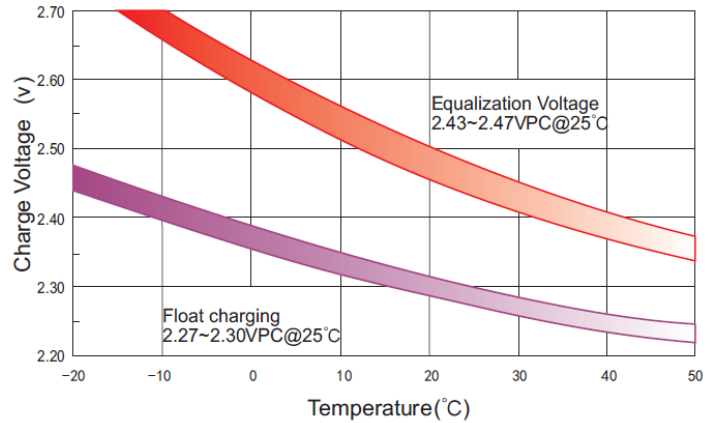
### Charge Characteristic Curve For Standby Use



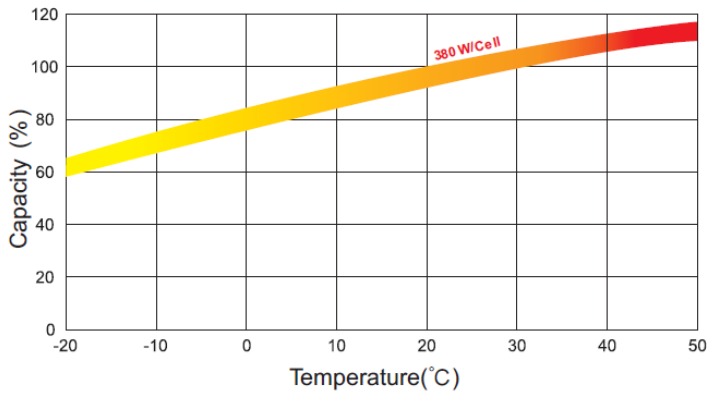
### Storage Characteristics Charge



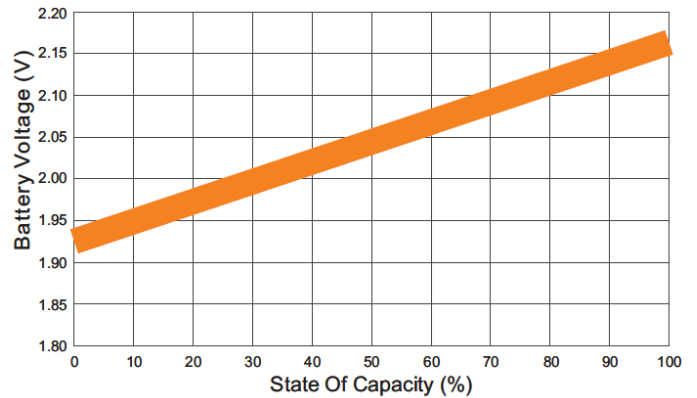
### Relationship Between Charging Voltage And Temperature



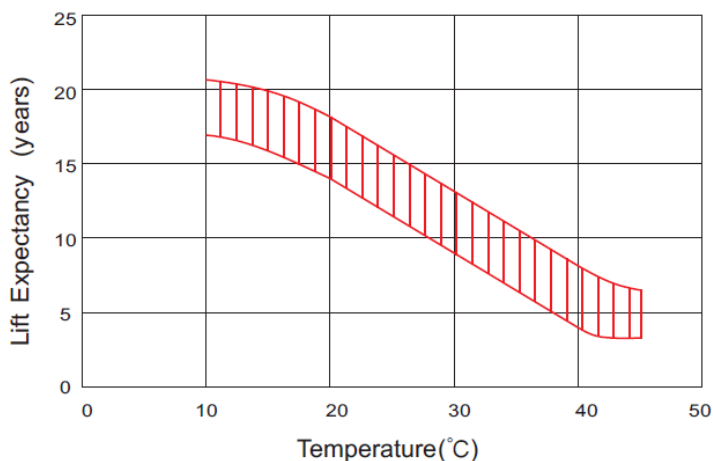
### Temperature Effects On Capacity



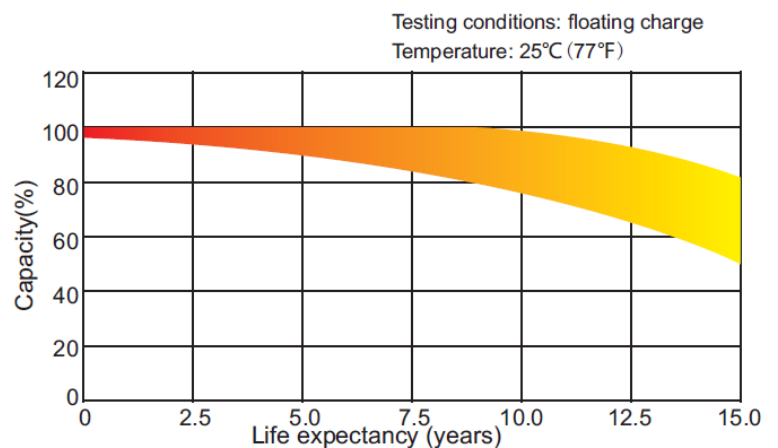
### Relationship of OCV And State of Charge(20°C)



### Effect Of Temperature On Long Term Life



### Life Characteristics Of Standby Use



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