



### HR Series

HR(High-Rate) Series of valve regulated lead acid (VRLA) batteries have been developed with high efficiency active materials to stimulate inside the battery with higher power output when the battery is discharged to a extent level of discharging. Along with high-density structure design for relatively smaller Inner resistance which will significantly improve the performance for high rate discharging when high power output service is needed.

### Application

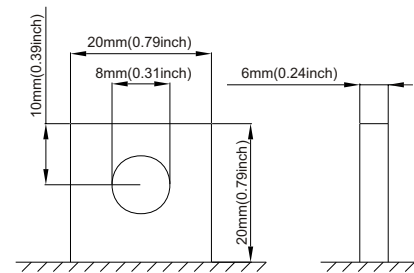
- Alarm System
- Cable Television
- Communication Equipment
- Control Equipment
- Security System
- Medical Equipment
- Toys
- UPS
- Emergency Power System

### General Features

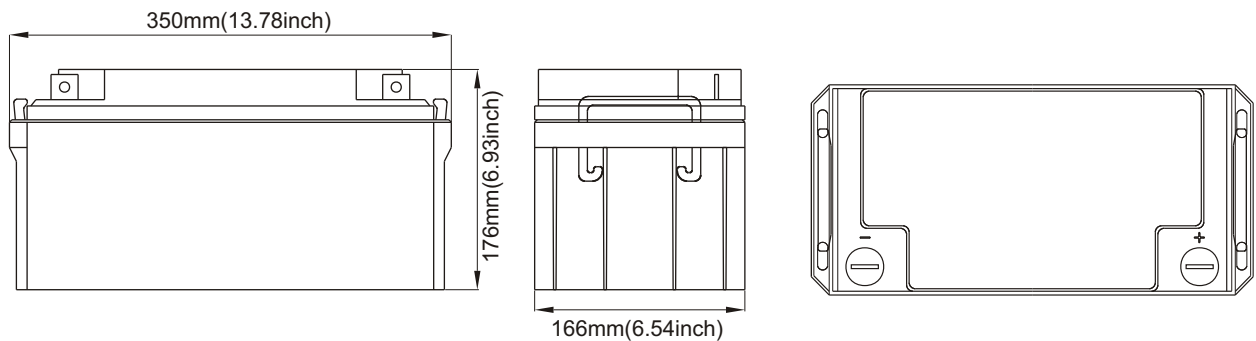
- Sealed and maintenance free operation.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- High quality and high reliability.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.
- Flexibility design for multiple install positions.

### Construction

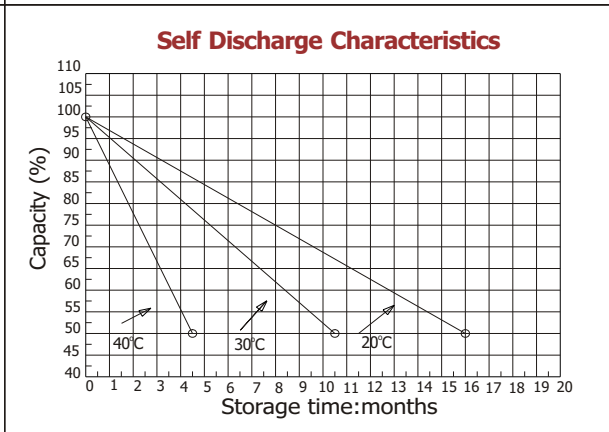
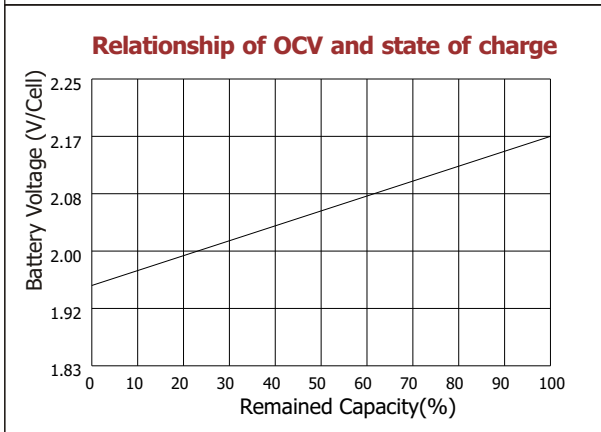
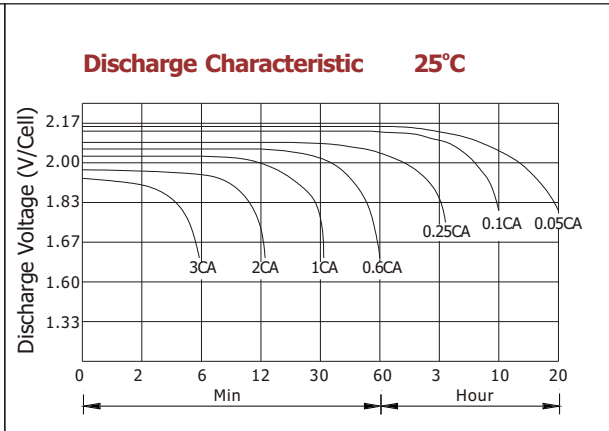
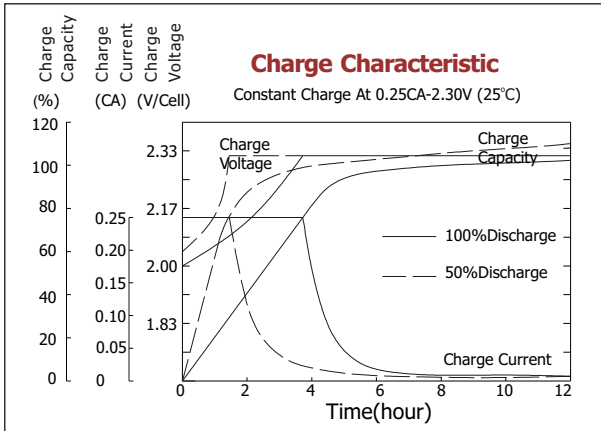
- Component .....Raw material
- Positive .....Lead dioxide
- Negative .....Lead
- Container .....ABS
- Cover .....ABS
- Sealant .....Epoxy Resin
- Safety valve ....EPDR
- Terminal .....Copper
- Separator .....Fibre glass
- Electrolyte .....Sulfuric acid



Terminal Dimensions



Battery Model	HR12-235W (235W to 1.67V, 15min)			
Designed Floating Life	8 Years			
Capacity(25°C)	20HR(3.7A,1.75V)	10HR(7.2A,1.75V)	5HR(12.6A,1.75V)	1HR(47A,1.75V)
	74AH	72AH	63AH	47AH
Dimensions	Length	Width	Height	Total Height
	350mm(13.78inch)	166mm(6.54inch)	176mm(6.93inch)	176mm(6.93inch)
Approx. Weight	22.7Kg (50.05 lbs)			
Internal Resistance	Full charged at 25°C: 0.009 Ohm			
Self Discharge	3% of capacity declined per month at (25°C)			
Capacity Affected by Temp.(20HR)	40°C	25°C	0°C	-15°C
	102%	100%	85%	65%
Charge Voltage(25°C)	Cycle use		Float use	
	14.4-15V(-30mV/ °C), max. Current: 17.5A		13.6-13.8V(-20mV/ °C)	



**Constant current discharge ratings-amperes at 25°C**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	278	173	130.3	79.5	49.7	21.8	13.35	7.27	3.93
1.67V	261	164	125.4	76.0	49.1	21.0	13.07	7.20	3.79
1.70V	239	158	122.4	69.1	47.6	19.6	12.79	7.17	3.73
1.75V	234	153	118.5	65.7	45.4	18.9	12.51	7.14	3.63
1.80V	209	146.1	107.6	60.8	42.5	18.2	11.76	7.00	3.54
1.85V	185	139.2	96.8	56.0	39.6	17.5	11.01	6.90	3.44

**Constant power discharge ratings-watts at 25°C**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	487	312	238	143.2	301.4	38.7	22.6	14.93	7.84
1.67V	470	304	235	140.2	89.2	37.5	22.5	14.84	7.56
1.70V	443	301	233	131.3	87.5	35.8	22.2	14.75	7.47
1.75V	446	300	231	127.4	86.1	35.0	22.0	14.56	7.28
1.80V	408	296	214	121.4	81.1	34.0	21.3	14.37	7.09
1.85V	370	281	194	113.7	76.3	32.9	20.6	14.19	6.81

