



### 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

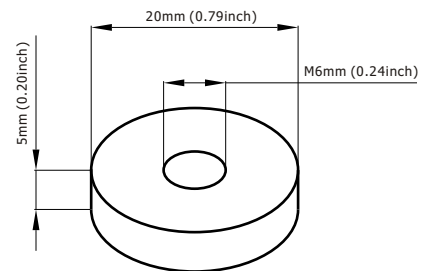
- Alarm System
- Cable Television
- Communication Equipment
- Control Equipment
- Security System
- Medical Equipment
- Toys
- UPS
- Emergency Power System

### General Features

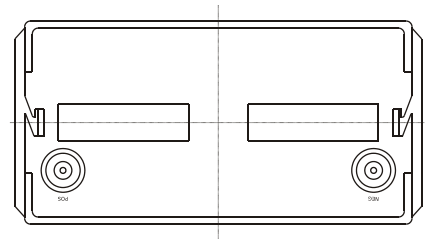
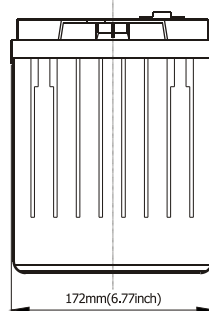
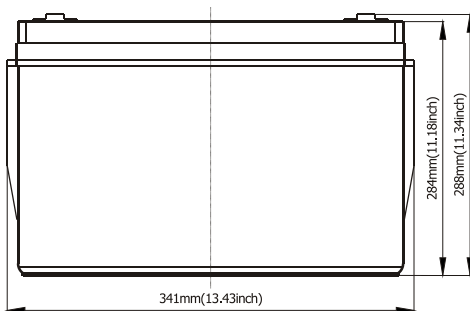
- Sealed and maintenance free operation.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- High quality and high reliability.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.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

### Construction

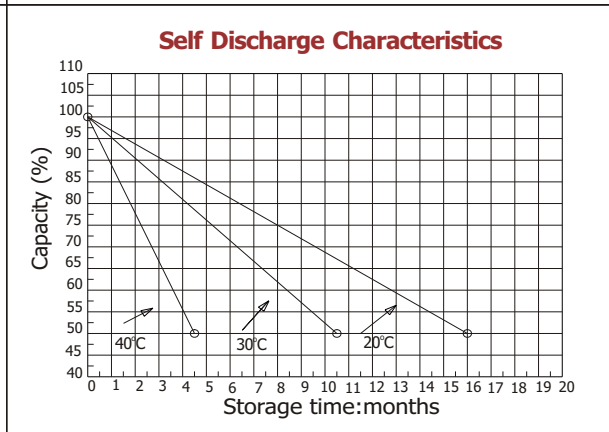
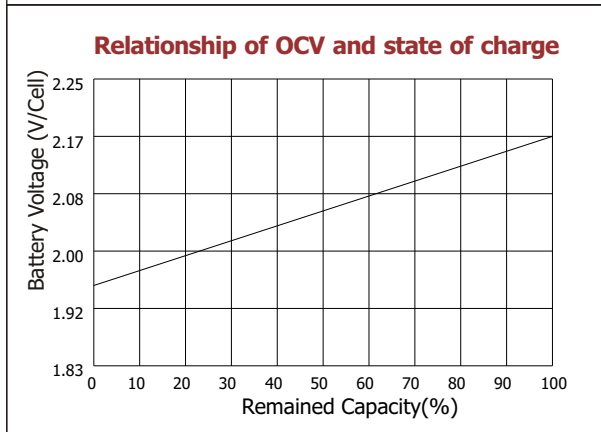
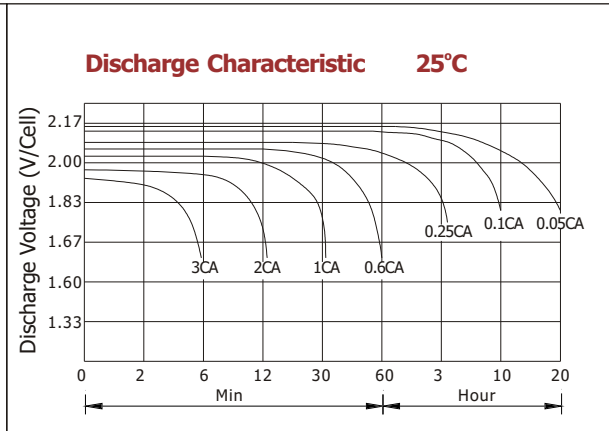
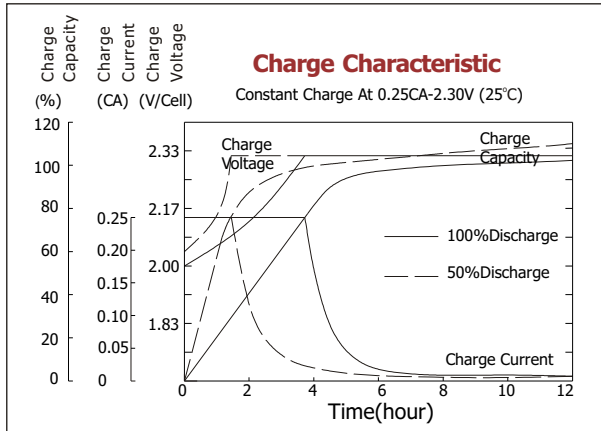
- Component .....Raw material
- Positive .....Lead dioxide
- Negative .....Lead
- Container .....ABS
- Cover .....ABS
- Sealant .....Epoxy Resin
- Safety valve ....EPDR
- Terminal .....Copper
- Separator .....Fibre glass
- Electrolyte .....Sulfuric acid



Terminal Dimensions



Battery Model	HR12-500W (500W to 1.67V, 15min)			
Designed Floating Life	8 Years			
Capacity(25°C)	20HR(8A,1.75V)	10HR(15.5A,1.75V)	5HR(27.9A,1.75V)	1HR(104.4A,1.75V)
	160AH	155AH	139.5AH	104.4AH
Dimensions	Length	Width	Height	Total Height
	181.5mm(7.15inch)	75.5mm(2.97inch)	167mm(6.57inch)	167mm(6.57inch)
Approx. Weight	46.5Kg (102.53 lbs)			
Internal Resistance	Full charged at 25°C: 0.0088 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: 38.75A		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	591	368	277	169	110	48.4	29.6	16.1	8.70
1.67V	555	349	267	162	109	46.5	28.9	15.9	8.39
1.70V	508	336	261	147	105	43.4	28.3	15.9	8.26
1.75V	498	326	252	140	100.4	42.0	27.7	15.8	8.04
1.80V	446	311	229	129	94.0	40.3	26.0	15.5	7.83
1.85V	393	296	206	119	87.6	38.9	24.4	15.3	7.72

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	1037	664	506	305	199	85.8	49.9	33.1	17.4
1.67V	1000	647	500	298	198	83.1	49.7	32.9	16.7
1.70V	942	641	496	279	194	79.4	49.1	32.7	16.5
1.75V	948	639	492	271	191	77.5	48.7	32.2	16.2
1.80V	867	629	456	258	180	75.2	47.1	31.8	16.0
1.85V	787	597	413	242	169	73.0	45.6	31.4	15.8

