

**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**

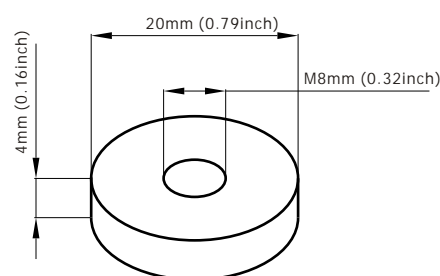
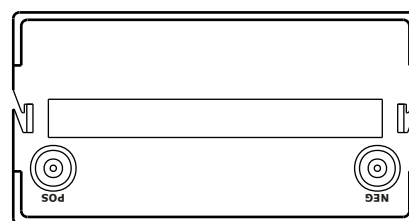
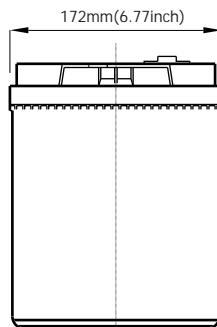
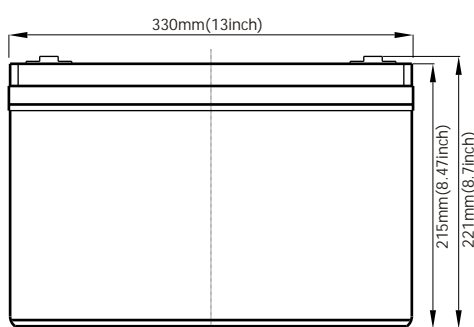
- Alarm System
- Cable Television
- Communication Equipment
- Control Equipment
- Security System
- Medical Equipment
- Toys
- UPS
- Emergency Power System

**General Features**

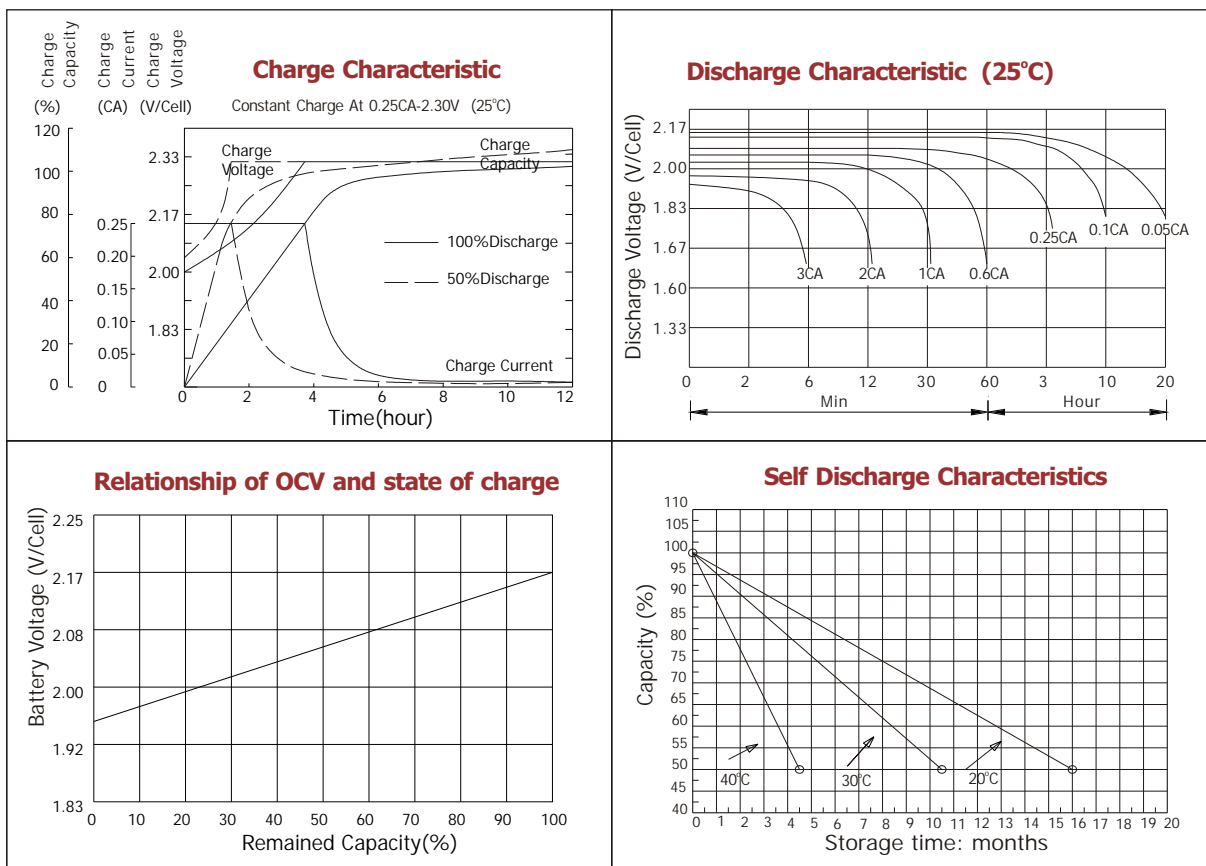
- Sealed and maintenance free operation.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- High quality and high reliability.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.
- 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	HR12-390W(390W to 1.67V, 15min)			
Designed Floating Life	8 Years			
Capacity(25°C)	20HR(6.1A,1.75V)	10HR(11.8A,1.75V)	5HR(20.7A,1.75V)	1HR(77.6A,1.75V)
	122AH	118AH	103.5AH	77.6AH
Dimensions	Length	Width	Height	Total Height
	330mm(13.00inch)	172mm(6.77inch)	215mm(8.47inch)	221mm(8.7inch)
Approx. Weight	35Kg (77.18 lbs)			
Internal Resistance	Full charged at 25°C: 0.0048 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: 28.75A		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	461	287	216	132	81.7	35.9	21.9	11.9	6.45
1.67V	433	272	208	126	80.7	34.5	21.5	11.8	6.23
1.70V	396	262	203	115	78.2	32.2	21.0	11.8	6.13
1.75V	389	254	197	109	74.5	31.1	20.5	11.7	5.97
1.80V	348	243	179	101	69.8	29.9	19.3	11.5	5.85
1.85V	307	231	161	92.9	65.0	28.8	18.1	11.3	5.76

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	809	518	395	238	148	63.6	37.1	24.5	12.9
1.67V	780	505	390	233	147	61.6	36.9	24.4	12.8
1.70V	735	500	387	218	144	58.9	36.4	24.2	12.7
1.75V	739	498	383	211	141	57.5	36.1	23.9	12.6
1.80V	676	491	356	202	133	55.8	35.0	23.6	12.4
1.85V	614	466	322	189	125	54.1	33.9	23.3	12.3

