

**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**

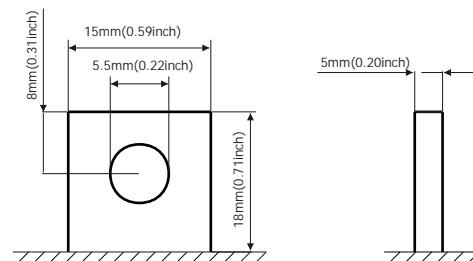
- Alarm System
- Cable Television
- Communication Equipment
- Control Equipment
- Security System
- Medical Equipment
- Toys
- UPS
- Emergency Power System

**General Features**

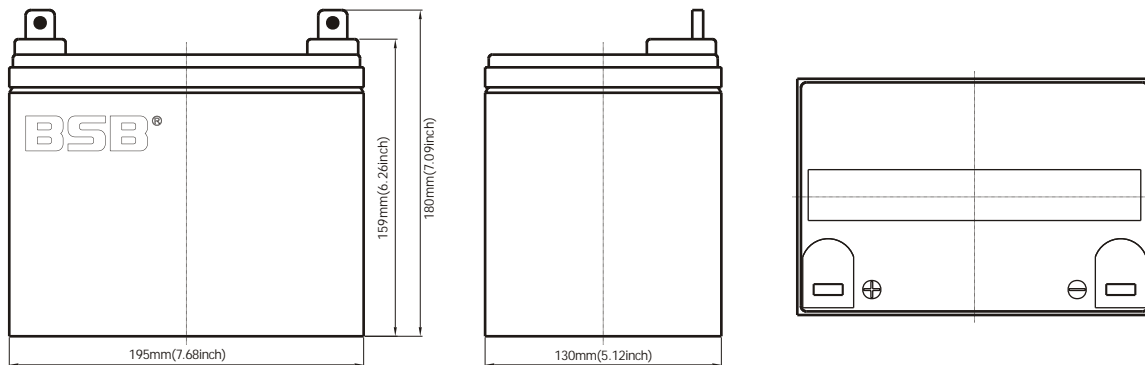
- Sealed and maintenance free operation.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- High quality and high reliability.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.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

**Construction**

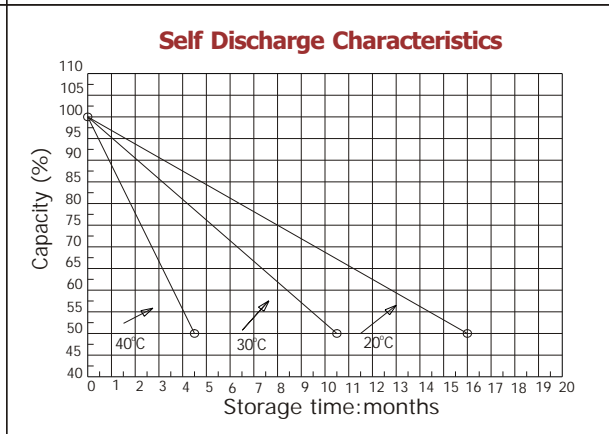
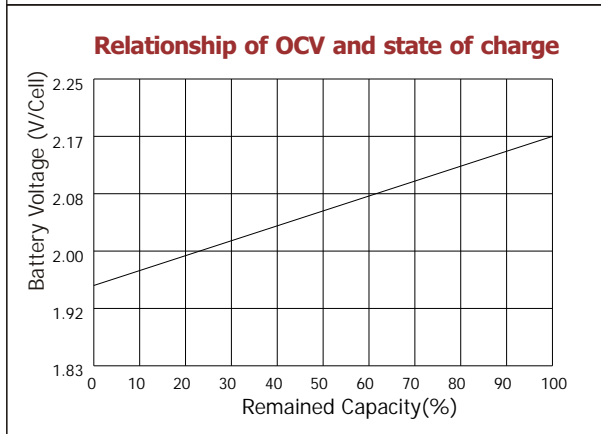
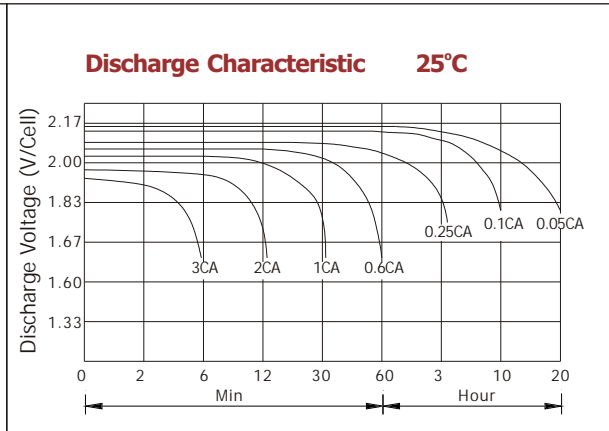
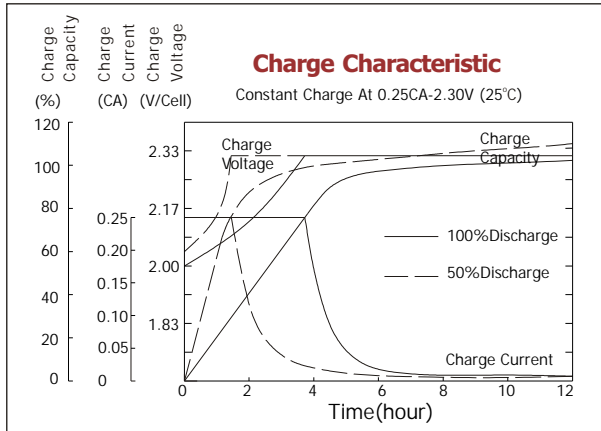
- Component .....Raw material
- Positive .....Lead dioxide
- Negative .....Lead
- Container .....ABS
- Cover .....ABS
- Sealant .....Epoxy Resin
- Safety valve ....EPDR
- Terminal .....Copper
- Separator .....Fibre glass
- Electrolyte .....Sulfuric acid



**Terminal Dimensions**



Battery Model	HR12-140W(140W to 1.67V 15min)			
Designed Floating Life	8 Years			
Capacity(25°C)	20HR(1.85A,1.75V)	10HR(3.5A,1.75V)	5HR(6.3A,1.75V)	1HR(23.6A,1.75V)
	37AH	35AH	31.5AH	23.6AH
Dimensions	Length	Width	Height	Total Height
	195mm(7.68inch)	130mm(5.12inch)	159mm(6.26inch)	183mm(7.2inch)
Approx. Weight	10.3Kg (22.71 lbs)			
Internal Resistance	Full charged at 25°C: 0.01 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: 8.75A		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	165	103	77.6	47.4	24.9	10.9	6.67	3.63	1.96
1.67V	155	97.6	74.7	45.3	24.5	10.50	6.53	3.60	1.90
1.70V	142	94.1	72.9	41.2	23.8	9.80	6.39	3.59	1.87
1.75V	139	91.2	70.6	39.1	22.7	9.81	6.25	3.57	1.82
1.80V	125	87.1	64.1	36.2	21.2	9.10	5.88	3.50	1.77
1.85V	110	82.9	57.6	33.4	19.8	8.77	5.51	3.45	1.74

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

F. V/Time	5MIN	10MIN	15MIN	30MIN	1HR	3HR	5HR	10HR	20HR
1.60V	290	186	142	85.3	44.9	19.4	11.3	7.47	3.92
1.67V	280	181	140	83.5	44.6	18.8	11.2	7.42	3.78
1.70V	264	179	139	78.2	43.8	17.9	11.1	7.37	3.73
1.75V	265	179	138	75.9	43.0	17.5	11.0	7.28	3.64
1.80V	243	176	128	72.4	40.6	17.0	10.6	7.00	3.51
1.85V	220	167	116	67.8	38.1	16.5	10.31	6.86	3.41

