



## VRLA Rechargeable Battery

# HRL33-12



Measures Technology Values Innovation

### FEATURES

- Maintenance free(no water topping-up required).
- No free acid(Non-spillable battery).
- Low self-discharge rate, lower than 3% capacity loss per month.
- Can be used in any orientation(excluding used inverted).
- The battery is designed for high rate usage.
- Absorbent Glass Mat technology for efficient gas recombination.
- The power density at 5 min~15min discharging rate is 30% higher than BP series.

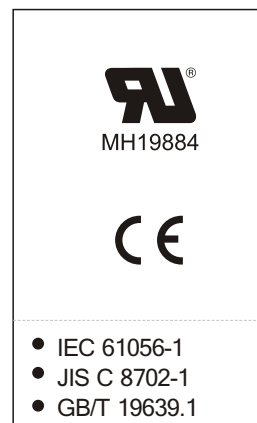
### APPLICATIONS

- Wheelchairs
- Lawn Mowers
- UPS
- Golf-Carts
- Wind Power
- Electronic Medical Equipment



### SPECIFICATIONS

Nominal Voltage	12 V
Nominal Capacity	31Ah @ 10 hour rate F.V.(1.75V/cell)
Approx. Weight	10.0Kg(22.05lbs.)
Terminals	B1 (Fitting M5 bolt & nut) , T2 and I1 are optional
Internal Resistance	≤7mΩ (Fully Charged)
Max. Discharge Current	420 A (5 sec.)
Max. Charge Current	9.30 A
Operating Temperature Range	Charge : 0°C~40°C(32°F~104°F) Discharge : -20°C~50°C(-4°F~122°F) Storage. : -20°C~40°C(-4°F~104°F)
Container Material	Standard: ABS( UL94 HB) HRL33-12 Optional: Flame Retardant ABS(UL94 V-0) HRL33-12FR



DIMENSION(mm/inch)	OUTER DIMENSIONS	TERMINAL TYPE
<ul style="list-style-type: none"> <li>■ Length 175±1.5 (6.89±0.06)</li> <li>■ Width 166±1.5 (6.54±0.06)</li> <li>■ Container Height 125±1.5 (4.92±0.06)</li> <li>■ Total Height 125±1.5 (4.92±0.06)</li> </ul>		<ul style="list-style-type: none"> <li>• Terminal B1 12.0(0.47) 2.0(0.08) 4.5(0.18) 11.0(0.43) 5.5(0.22) [M5 BOLT &amp; NUT]</li> <li>• Terminal T2 3.4(0.13) 6.35(0.25) 7.95(0.31) 0.8(0.03)</li> <li>• Terminal I1 M5x0.8 2.0(0.08) [M5 BOLT &amp; NUT]</li> </ul> <p>Terminal Hardware Initial Torque: B1(2.5Nm±5%),I1(4.0Nm±5%)</p>

Constant power discharge characteristics at 25 °C/77 °F							Unit: W			
Discharge Time	5 Min	10 Min	15 Min	20 Min	30 Min	40 Min	50 Min	60 Min	120 Min	
1.80V	1353.0	924.0	669.0	571.0	434.0	330.0	276.0	243.0	133.8	
1.70V	1617.0	1031.0	728.0	605.0	452.0	342.0	285.0	248.0	136.4	
1.60V	1733.0	1085.0	761.0	627.0	462.0	351.0	290.0	252.0	138.6	
1.50V	1782.0	1106.0	777.0	637.0	468.0	355.0	294.0	255.0	139.3	
1.40V	1815.0	1120.0	786.0	643.0	471.0	357.0	296.0	257.0	139.7	
1.30V	1832.0	1130.0	792.0	647.0	474.0	359.0	298.0	257.0	140.1	

Constant current discharge characteristics at 25 °C/77 °F							Unit: A			
Discharge Time	5 Min	10 Min	15 Min	20 Min	30 Min	40 Min	50 Min	60 Min	120 Min	
1.80V	120.80	81.05	57.87	48.97	36.78	27.75	23.10	20.25	11.15	
1.70V	147.00	90.44	62.98	51.89	38.31	28.76	23.85	20.67	11.37	
1.60V	157.55	95.18	65.83	53.77	39.15	29.52	24.27	21.00	11.55	
1.50V	162.00	97.02	67.21	54.63	39.66	29.86	24.60	21.25	11.61	
1.40V	165.00	98.25	67.99	55.15	39.92	30.03	24.77	21.42	11.64	
1.30V	166.55	99.12	68.51	55.49	40.17	30.19	24.94	21.42	11.68	

All data and artworks shall be changed without prior notice, BB reserves the right to explain and update the information contained herein.