

# GFMHR Series

High-rate Valve-regulated Lead Acid Battery  
GFMHR-1600W



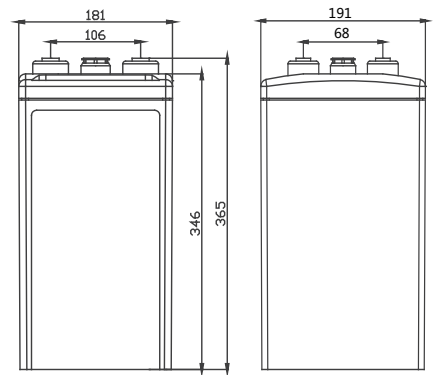
## Main Applications

- ▶ IDC and UPS
- ▶ High power & large current application scenarios
- ▶ Backup power for high precision device
- ▶ Emergency lighting, navigation lights

## Benefits

- ▶ Specifically designed for high power & large current application scenarios with superior high rate, short term power
- ▶ Designed life of 12 years
- ▶ Low annual operating cost
- ▶ High security, reliability and stability

## Dimensions



## Technical Parameters

|   |   |
|---|---|
| Nominal Voltage                                     | 2 V   |
| Capacity  | 530 Ah @ 10hr to 1.80 V per cell @ 25°C (77°F)  |
| Weight  | 29.7 kg (65.5lbs)   |
| Dimensions  | Length: 191 mm (7.52 in)<br>Width: 181 mm (7.13 in)<br>Height: 346 mm (13.62 in)<br>Total height: 365 mm (14.37 in) |
| Internal Resistance (full charged)                  | 0.33 mΩ   |
| Short-circuit Current                               | 9500A   |
| Self Discharge @25°C(77°F)                          | Less than 8% after 90 days storage  |
| Operating Temperature Range                         | Discharge: -40°C ~ 50°C(-40°F ~ 122°F)<br>Charge: -20°C ~ 45°C(-4°F ~ 113°F)<br>Storage: -20°C ~ 40°C(-4°F ~ 104°F) |
| Recommended Operating Temperature                   | 15°C ~ 25°C (59°F ~ 77°F)   |
| Recommended Charging Current                        | 80 A  |
| Charging Voltage @25°C(77°F)                        | Float: 2.25 V/cell<br>Equalize: 2.35 V/cell   |
| Terminal  | M8  |
| Container Materials                                 | ABS/ABS V0 (Optional)   |
| Capacity Affected by Temperature (C <sub>10</sub> ) | 105% @ 40°C (104°F)<br>85% @ 0°C (32°F)<br>60% @ -20°C (-4°F)   |
| Design life @25°C (77°F)                            | 12 years  |

## Certification

- ISO9001: 2008
- ISO14001: 2004
- GB/T 28001-2011

## Technical Features

- ▶ Lower internal resistance and voltage drop, suited for high rate discharge applications and high efficient UPS
- ▶ Lower self-discharge rate, better charge acceptability and higher sealing reaction efficiency
- ▶ Exquisite craftsmanship and good coherence of internal resistance, capacity

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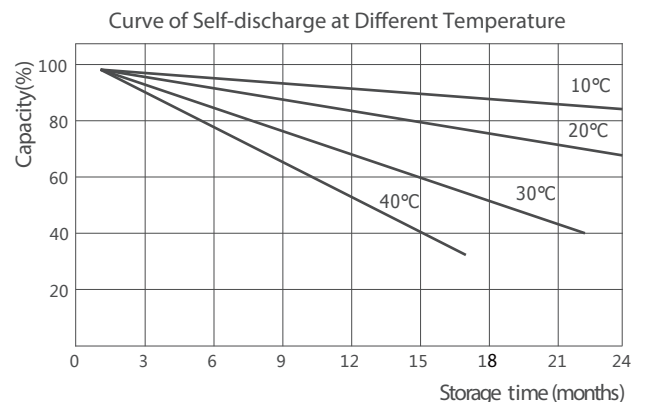
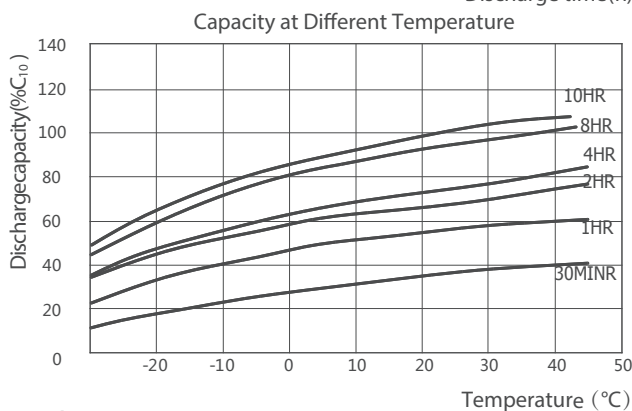
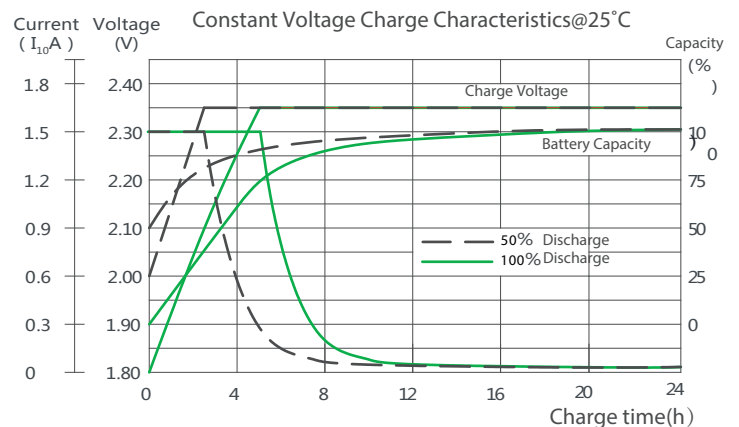
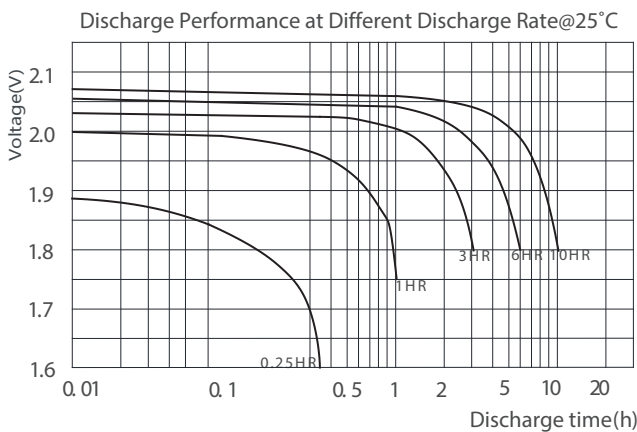
## Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

| F.V/Time | 5min | 10min | 15min | 20min | 30min | 1h  | 2h  | 3h    | 4h    | 5h    | 6h   | 8h   | 10h  |
|----------|------|-------|-------|-------|-------|-----|-----|-------|-------|-------|------|------|------|
| 1.60V    | 1321 | 1126  | 951   | 742   | 592   | 343 | --  | --    | --    | --    | --   | --   | --   |
| 1.67V    | 1245 | 1052  | 891   | 717   | 576   | 335 | 198 | 144.2 | 119.2 | 102.6 | --   | --   | --   |
| 1.70V    | 1193 | 1000  | 837   | 683   | 559   | 327 | 194 | 142.2 | 116.8 | 101.7 | 88.2 | 66.2 | --   |
| 1.75V    | 1008 | 912   | 766   | 625   | 542   | 314 | 188 | 139.4 | 115.6 | 101.1 | 87.0 | 65.6 | 54.1 |
| 1.80V    | 909  | 769   | 677   | 548   | 476   | 281 | 183 | 136.7 | 113.7 | 100.6 | 86.0 | 64.9 | 53.3 |
| 1.85V    | 737  | 632   | 565   | 447   | 397   | 220 | 173 | 127.5 | 105.0 | 95.3  | 82.8 | 62.4 | 52.6 |

## Constant Power Discharge Characteristics Unit: W/cell (25°C, 77°F)

| F.V/Time | 5min | 10min | 15min | 20min | 30min | 1h  | 2h  | 3h    | 4h    | 5h    | 6h    | 8h    | 10h   |
|----------|------|-------|-------|-------|-------|-----|-----|-------|-------|-------|-------|-------|-------|
| 1.60V    | 2189 | 1921  | 1632  | 1326  | 1037  | 639 | --  | --    | --    | --    | --    | --    | --    |
| 1.67V    | 2082 | 1835  | 1600  | 1274  | 1017  | 625 | 372 | 273.0 | 227.2 | 202.1 | --    | --    | --    |
| 1.70V    | 1957 | 1783  | 1511  | 1222  | 1010  | 616 | 368 | 271.9 | 225.1 | 201.5 | 175.4 | 131.8 | --    |
| 1.75V    | 1695 | 1646  | 1416  | 1178  | 996   | 596 | 361 | 266.5 | 222.8 | 200.3 | 172.9 | 130.9 | 106.2 |
| 1.80V    | 1588 | 1382  | 1274  | 1032  | 888   | 537 | 352 | 263.3 | 220.4 | 200.0 | 172.1 | 130.1 | 104.6 |
| 1.85V    | 1348 | 1195  | 1082  | 864   | 756   | 436 | 347 | 255.2 | 212.4 | 197.5 | 171.6 | 129.1 | 103.2 |

## Performance Curve



### \*Declaration:

This information is generally descriptive only and is not intended to make or imply any representation, guarantee or warranty with respect to any cells and batteries. Cell and battery designs/specifications are subject to modification without notice. Contact CHINASHOTO for the latest information.

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