

# RF12-200

## (12V200Ah)



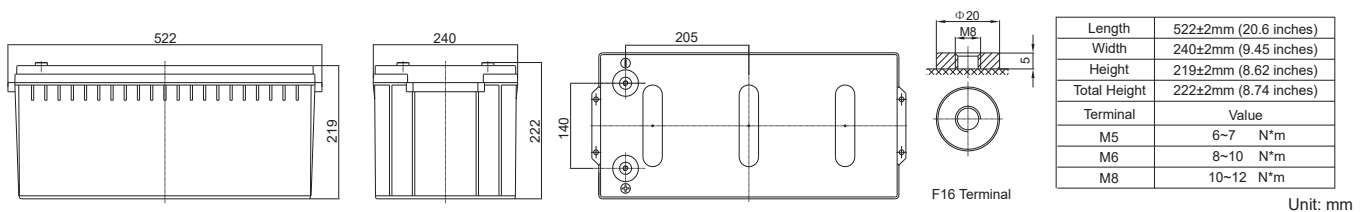
- Non-Spillable Sealed Construction
- Absorptive Glass Mat System (AGM System)
- ABS (Acrylonitrile Butadiene Styrene) container and cover
- Gas Recombination
- Maintenance-Free Operation
- Low Pressure Venting System
- Low Self-Discharge - Long Shelf Life
- Wide Operating Temperature Range
- High Recovery Capability



### SPECIFICATION

|                                    |  |
|------------------------------------|--|
| Cells Per Unit                     | 6  |
| Voltage Per Unit                   | 12   |
| Nominal Capacity                   | 200Ah@10hour-rate to 1.80V per cell @25°C  |
| Weight                             | Approx. 57 Kg (Tolerance ±3.0%)  |
| Internal Resistance                | Approx. 4.2 mΩ   |
| Terminal                           | F16(M8)/F10(M8)  |
| Max. Discharge Current             | 2000A (5 sec)  |
| Short Circuit Current              | 3400A  |
| Design Life                        | 12 years (Float charging)  |
| Max. Charging Current              | 60.0 A   |
| Reference Capacity                 | C3 154.8AH<br>C5 174.5AH<br>C10 200.0AH<br>C20 212.0AH   |
| Standby Use Voltage                | 13.7 V~13.9 V @ 25°C<br>Temperature Compensation: -3mV/°C/Cell   |
| Cycle Use Voltage                  | 14.6 V~14.8 V @ 25°C<br>Temperature Compensation: -4mV/°C/Cell   |
| Operating Temperature Range        | Discharge: -20°C~60°C<br>Charge: -10°C~60°C<br>Storage: -20°C~60°C   |
| Normal Operating Temperature Range | 25°C ±5°C  |
| Self Discharge                     | RESTAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using. |
| Container Material                 | A.B.S. UL94-HB, UL94-V0 Optional.  |

### DIMENSIONS



#### Constant Current Discharge Characteristics : A (25°C)

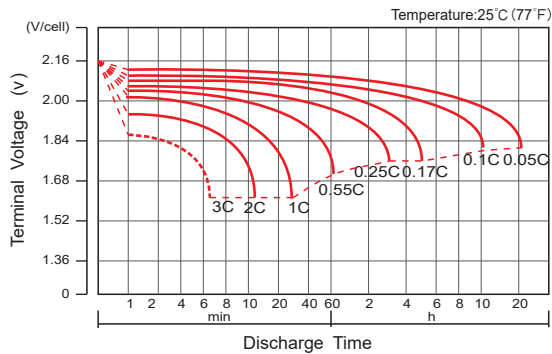
| F.V/Time | 10MIN | 15MIN | 30MIN | 1HR   | 2HR  | 3HR  | 4HR  | 5HR  | 8HR  | 10HR | 20HR |
|----------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 1.60V    | 430.5 | 348.7 | 214.7 | 122.2 | 72.8 | 56.4 | 44.3 | 37.7 | 25.4 | 21.1 | 11.0 |
| 1.65V    | 406.8 | 333.4 | 206.1 | 118.0 | 70.5 | 54.7 | 43.1 | 36.8 | 25.1 | 20.8 | 10.9 |
| 1.70V    | 374.5 | 312.3 | 197.0 | 114.2 | 68.2 | 53.2 | 42.0 | 35.8 | 24.7 | 20.5 | 10.7 |
| 1.75V    | 342.8 | 290.6 | 188.3 | 110.0 | 65.8 | 51.6 | 40.9 | 34.9 | 24.3 | 20.3 | 10.6 |
| 1.80V    | 310.3 | 268.3 | 179.9 | 105.8 | 63.4 | 50.0 | 39.7 | 34.0 | 23.9 | 20.0 | 10.5 |
| 1.85V    | 253.6 | 222.7 | 155.0 | 94.9  | 58.1 | 46.2 | 36.9 | 31.7 | 22.5 | 18.8 | 10.0 |

#### Constant Power Discharge Characteristics : WPC (25°C)

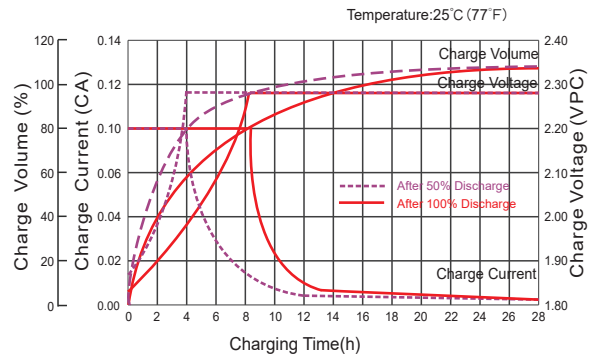
| F.V/Time | 10MIN | 15MIN | 30MIN | 1HR   | 2HR   | 3HR   | 4HR  | 5HR  | 8HR  | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 1.60V    | 731.8 | 609.7 | 389.9 | 229.6 | 138.0 | 107.7 | 85.1 | 72.7 | 49.5 | 41.5 | 21.7 |
| 1.65V    | 704.9 | 591.5 | 378.2 | 223.0 | 134.2 | 104.9 | 83.1 | 71.1 | 49.1 | 41.0 | 21.4 |
| 1.70V    | 660.8 | 562.3 | 365.2 | 217.1 | 130.5 | 102.5 | 81.2 | 69.5 | 48.4 | 40.5 | 21.2 |
| 1.75V    | 615.8 | 530.9 | 352.6 | 210.5 | 126.5 | 99.8  | 79.4 | 68.0 | 47.8 | 40.0 | 21.0 |
| 1.80V    | 567.1 | 497.1 | 340.4 | 203.6 | 122.6 | 97.1  | 77.4 | 66.5 | 47.1 | 39.5 | 20.8 |
| 1.85V    | 471.8 | 418.4 | 296.1 | 183.7 | 113.0 | 90.2  | 72.2 | 62.2 | 44.4 | 37.3 | 19.7 |

(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values. The battery must be fully charged before the capacity test. The C10 should reach 95% after the first cycle and 100% after the third cycle.

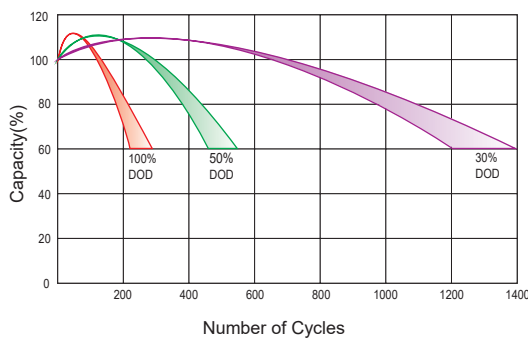
### Discharge Characteristics Curve



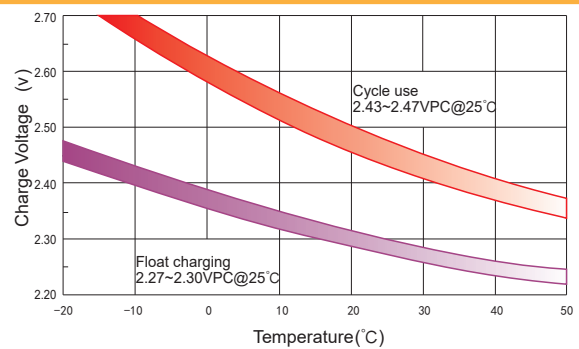
### Charge Characteristic Curve For Standby Use



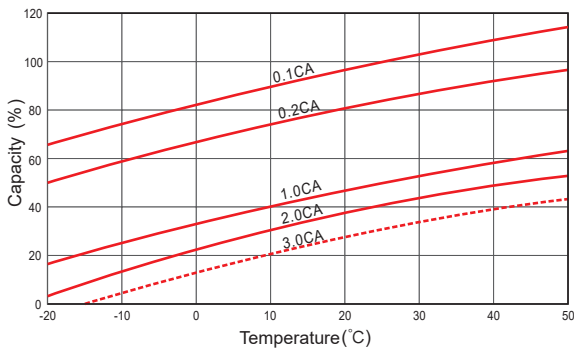
### Cycle Life In Relation To Depth Of Discharge



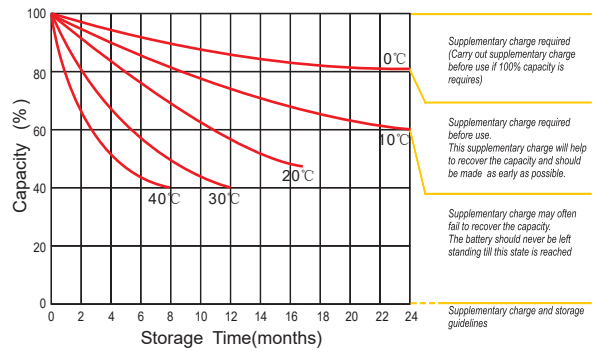
### Relationship Between Charging Voltage And Temperature



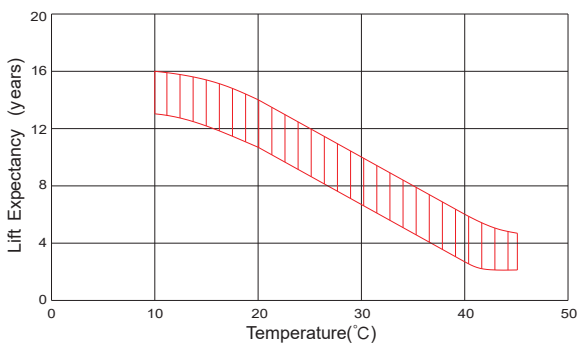
### Temperature Effects On Capacity



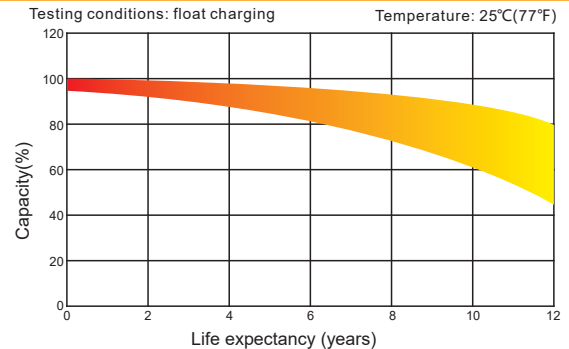
### Storage Characteristics



### Effect Of Temperature On Long Term Life



### Life Characteristics Of Standby Use



(Note) All above information shall be changed without prior notice, Restar reserves the right to explain and update the latest information.

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