

# BG-12400NB

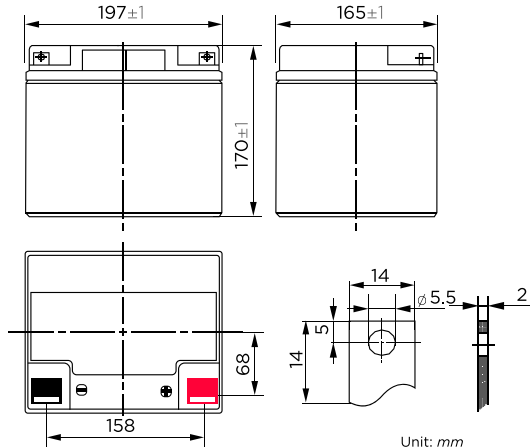
(12V 40Ah/10hr)

Rechargeable Sealed Lead Acid Battery



Technical Specification Sheet

These rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position.



Unit: mm



## Performance Characteristics

|  |  |      |
|--|--|------|
| <b>Capacity 77°F(25°C)</b>                             | 20 hour rate (2.1A, 10.8V)                         | 42Ah |
|  | 10 hour rate (4A, 10.5V)                           | 40Ah |
|  | 5 hour rate (6.8A, 10.5V)                          | 34Ah |
|  | 1 hour rate (25A, 9.6V)                            | 25Ah |
| <b>Internal Resistance</b>                             | Full charged Battery 77°F(25°C): 10mΩ              |      |
| <b>Capacity affected by Temperature (20 hour rate)</b> | 104°F(40°C)  | 102% |
|  | 77°F(25°C)   | 100% |
|  | 32°F(10°C)   | 85%  |
|  | 5°F(-15°C)   | 65%  |
| <b>Self-Discharge 68°F(20°C)</b>                       | Capacity after 3 month storage                     | 90%  |
|  | Capacity after 6 month storage                     | 80%  |
|  | Capacity after 12 month storage                    | 60%  |
| <b>Max. discharge current 77°F(25°C): 400A(5S)</b>     |  |      |
| <b>Charge (Constant Voltage)</b>                       | Float: 13.6-13.8 V/77°F(25°C)                      |      |
|  | Cycle: 14.4-14.7 V/77°F(25°C)<br>Max. Current: 10A |      |

## SPECIFICATION

|                                |       |           |
|--------------------------------|-------|-----------|
| <b>Nominal voltage</b>         | _____ | 12V       |
| <b>Number of cells</b>         | _____ | 6         |
| <b>Length (mm/inch)</b>        | _____ | 197/7.76  |
| <b>Width (mm/inch)</b>         | _____ | 165/6.5   |
| <b>Height (mm/inch)</b>        | _____ | 170/6.69  |
| <b>Total Height (mm/inch)</b>  | _____ | 170/6.69  |
| <b>Approx. Weight (kg/lbs)</b> | _____ | 12.5/27.5 |

## General Features

- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.

## Discharge Constant Current (Amperes at 77°F 25°C)

| End Points Volts/Cell | 5 min | 10 min | 15 min | 30 min | 1h   | 3h   | 5h   | 10h  | 20h  |
|-----------------------|-------|--------|--------|--------|------|------|------|------|------|
| 1.60V                 | 130   | 92.0   | 72.0   | 42.0   | 25.0 | 10.2 | 7.00 | 4.14 | 2.18 |
| 1.65V                 | 123   | 87.4   | 69.3   | 40.7   | 24.2 | 10.1 | 6.90 | 4.09 | 2.17 |
| 1.70V                 | 118   | 82.7   | 66.5   | 39.1   | 23.3 | 10.0 | 6.85 | 4.05 | 2.15 |
| 1.75V                 | 109   | 78.1   | 63.2   | 37.2   | 22.1 | 9.85 | 6.80 | 4.00 | 2.13 |
| 1.80V                 | 100   | 71.0   | 58.0   | 34.9   | 20.8 | 9.71 | 6.70 | 3.95 | 2.10 |

## Discharge Constant Power (Watts at 77°F 25°C)

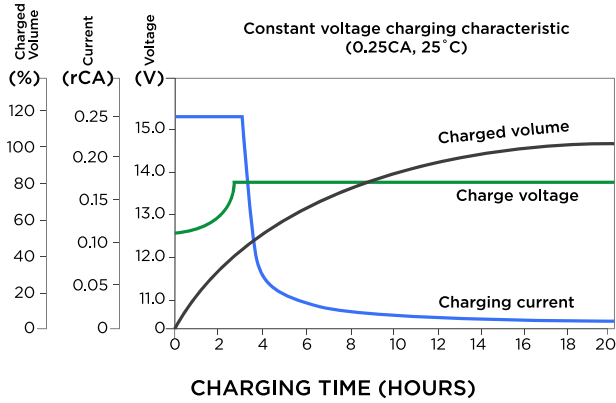
| End Points Volts/Cell | 5 min | 10 min | 15 min | 30 min | 45 min | 1h   | 2h   | 3h   | 5h   |
|-----------------------|-------|--------|--------|--------|--------|------|------|------|------|
| 1.60V                 | 232   | 155    | 113    | 69.4   | 54.2   | 44.5 | 28.5 | 19.3 | 13.7 |
| 1.65V                 | 218   | 146    | 107    | 65.9   | 51.7   | 42.6 | 27.6 | 18.8 | 13.5 |
| 1.70V                 | 203   | 137    | 101    | 62.3   | 49.1   | 40.7 | 26.7 | 18.3 | 13.2 |
| 1.75V                 | 189   | 128    | 94.0   | 58.7   | 46.5   | 38.7 | 25.6 | 17.7 | 12.9 |
| 1.80V                 | 175   | 119    | 88.1   | 55.1   | 43.8   | 36.6 | 24.5 | 17.1 | 12.6 |

## Battery Construction

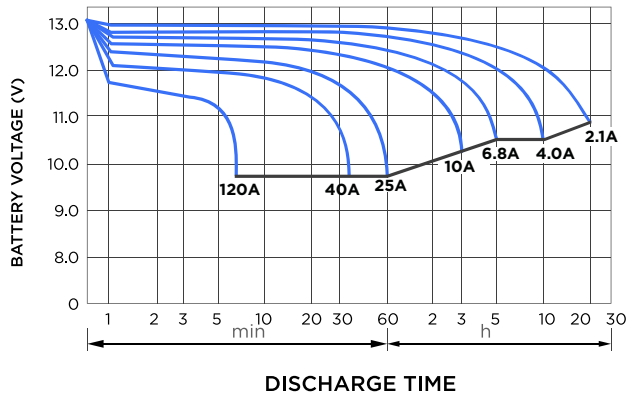
| Component    | Positive plate | Negative plate | Container | Cover | Safety valve | Terminal | Separator  | Electrolyte   |
|--------------|----------------|----------------|-----------|-------|--------------|----------|------------|---------------|
| Raw material | Lead dioxide   | Lead           | ABS       | ABS   | Rubber       | Copper   | Fiberglass | Sulfuric acid |



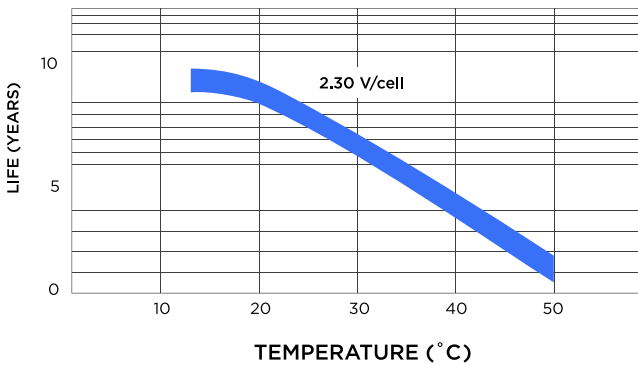
### Charge characteristic curve



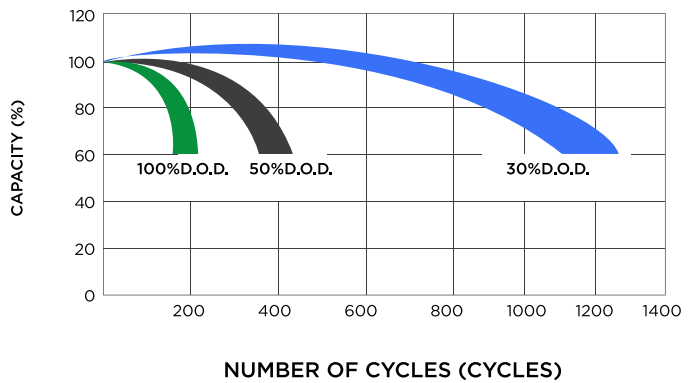
### Discharge characteristic (25°C)



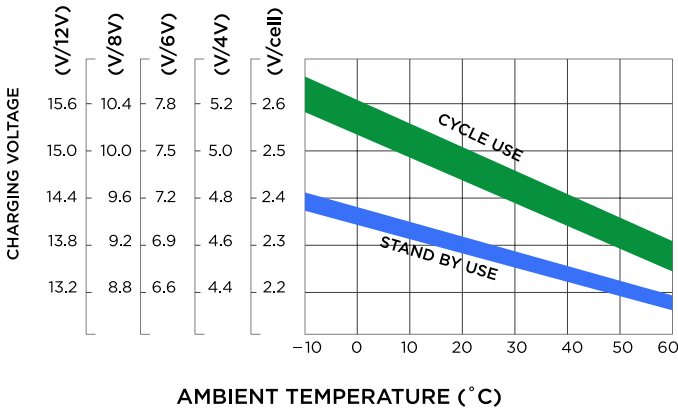
### Temperature effects on float life



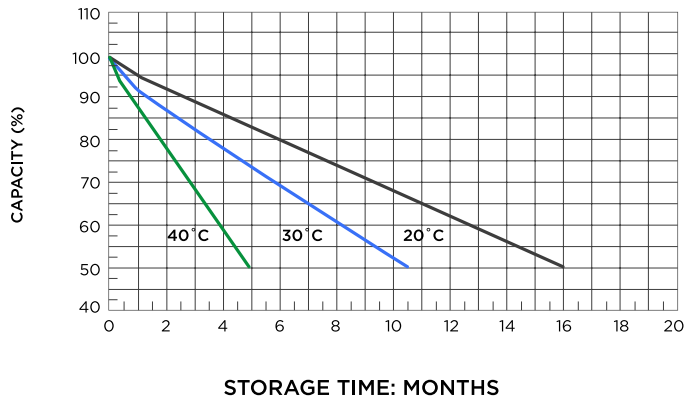
### Cycle service life in relation to depth of discharge



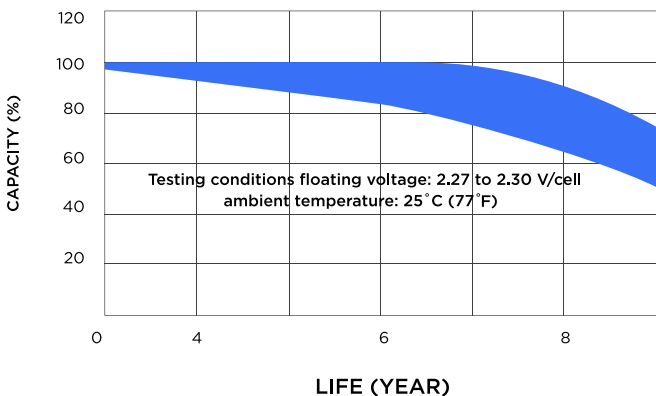
### Relationship between charging voltage and temperature



### Self-discharge characteristic



### Life characteristics of standby use



### Temperature effects on capacity

