

NPG12-90Ah 12V90Ah

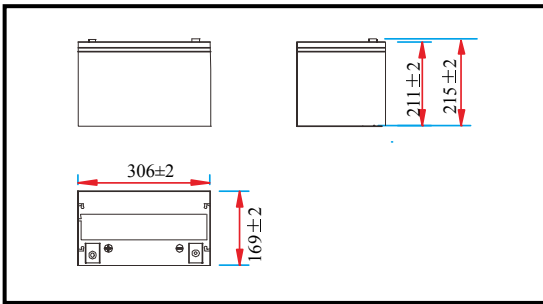
Valve Regulated Lead Acid Battery



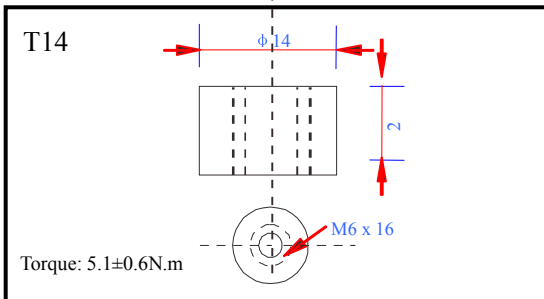
Specifications

| | | |
|-----------------------|------------------------|---------------------|
| Nominal voltage | 12V (6 cells per unit) | |
| Rated capacity (10HR) | 90Ah/10.8V | |
| Dimensions | Length | 306±2mm (12.05inch) |
| | Width | 169±2mm (6.65inch) |
| | Height | 211±2mm (8.31inch) |
| | Total height | 215±2mm (8.46inch) |
| Approx. weight | 28.50kg (62.80lbs)±3% | |

Outer dimensions (mm)



Terminal type (mm)



Characteristics

| | | |
|---|---|--|
| Capacity (25°C) | 10HR (10.8V) | 90Ah |
| | 3HR (10.8V) | 67.5Ah |
| | 1HR (10.5V) | 50Ah |
| Terminal type | | T14 |
| Internal resistance (Fully charged, 25°C) | | Approx. 5.5mΩ |
| Capacity affected by temperature (10HR) | 40°C | 102% |
| | 25°C | 100% |
| | 0°C | 85% |
| | -15°C | 65% |
| Self-discharge (25°C) | 3 months | Remaining capacity: 91% |
| | 6 months | Remaining capacity: 82% |
| | 12 months | Remaining capacity: 65% |
| Nominal operating temperature | | 25°C±3°C (77°F±5°F) |
| Operating temperature range | Discharge | -15°C~50°C (5°F~122°F) |
| | Charge | -10°C~50°C (14°F~122°F) |
| | Storage | -20°C~50°C (-4°F~122°F) |
| Float charging voltage (25°C) | | 13.50 to 13.80V Temperature compensation: -18mV/°C/Block |
| Cyclic charging voltage (25°C) | | 14.50 to 14.70V Temperature compensation: -30mV/°C/Block |
| Maximum charging current | | 18A |
| Maximum discharge current | | 800A (5 sec.) |
| Design life | 12 years for floating (25°C) | |
| | Eurobat (20°C): 10-12 years, long life. | |

Construction

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

Constant current discharge characteristics unit: Ampere/Block (at 25°C, 77°F)

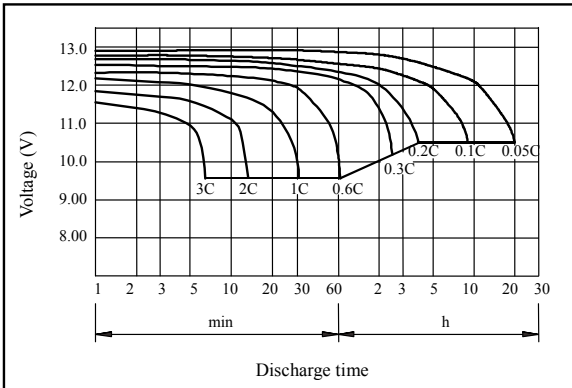
| F.V/Time | 10min | 15min | 30min | 60min | 2h | 3h | 4h | 5h | 8h | 10h | 20h |
|------------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 1.60V/cell | 176 | 144 | 87.3 | 54.0 | 32.9 | 23.4 | 18.4 | 15.6 | 11.0 | 9.16 | 4.86 |
| 1.67V/cell | 170 | 141 | 85.6 | 53.2 | 32.7 | 23.3 | 18.3 | 15.5 | 11.0 | 9.14 | 4.85 |
| 1.70V/cell | 163 | 135 | 82.9 | 51.8 | 32.4 | 23.1 | 18.1 | 15.4 | 10.9 | 9.12 | 4.83 |
| 1.75V/cell | 156 | 131 | 80.9 | 50.2 | 31.9 | 23.0 | 18.0 | 15.3 | 10.8 | 9.06 | 4.80 |
| 1.80V/cell | 147 | 124 | 78.0 | 48.6 | 31.1 | 22.5 | 17.5 | 14.8 | 10.5 | 9.00 | 4.77 |

Constant power discharge characteristics unit: Watt/Block (at 25°C, 77°F)

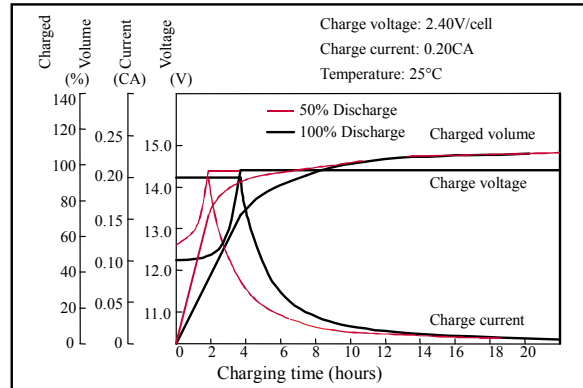
| F.V/Time | 10min | 15min | 30min | 60min | 2h | 3h | 4h | 5h | 8h | 10h | 20h |
|------------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|
| 1.60V/cell | 1895 | 1581 | 980 | 616 | 381 | 275 | 216 | 184 | 131 | 109 | 58.3 |
| 1.67V/cell | 1839 | 1543 | 960 | 606 | 379 | 274 | 215 | 183 | 130 | 109 | 58.2 |
| 1.70V/cell | 1763 | 1486 | 931 | 591 | 375 | 272 | 213 | 182 | 129 | 109 | 58.0 |
| 1.75V/cell | 1687 | 1436 | 908 | 573 | 370 | 270 | 212 | 181 | 128 | 108 | 57.6 |
| 1.80V/cell | 1592 | 1360 | 875 | 554 | 360 | 264 | 205 | 175 | 124 | 107 | 57.2 |

Note 1: Above characteristics data can be obtained within three charge and discharge cycles.

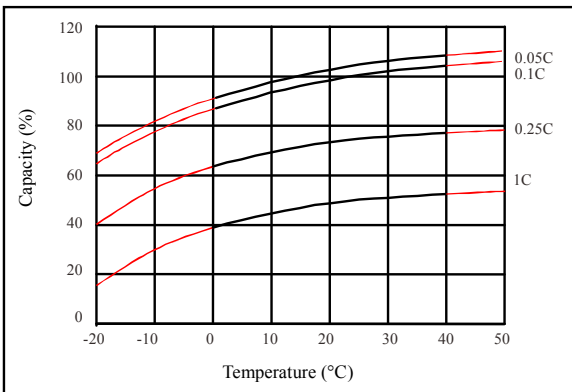
● Discharge characteristics (25°C)



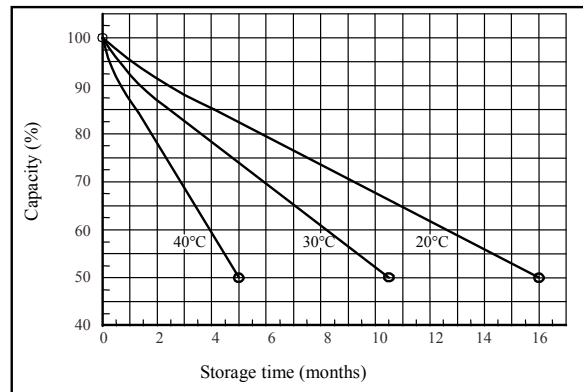
● Charging characteristics (25°C)



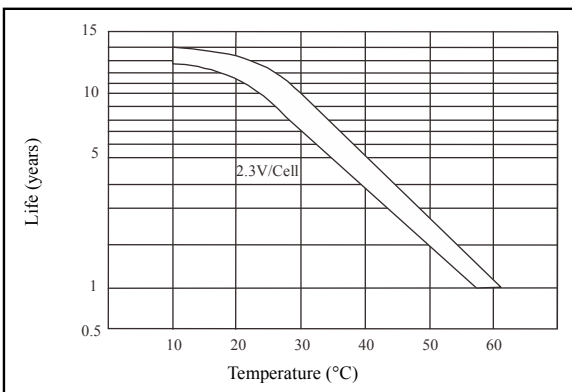
● Temperature effects on capacity



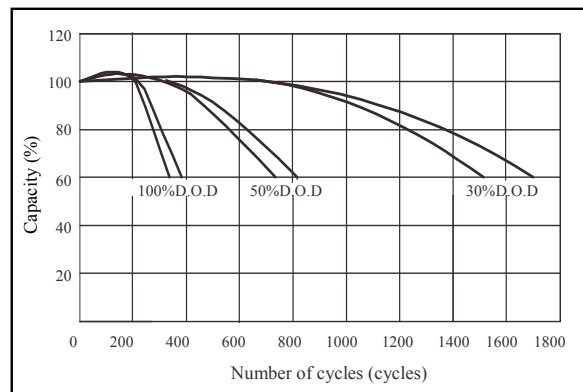
● Self-discharge characteristics



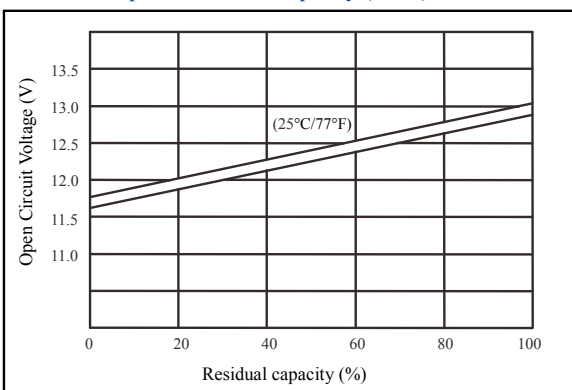
● Floating life on temperature



● Cycle life on D.O.D (25°C)



● Relationship for OCV and capacity (25°C)



● Relationship for charging voltage and temperature

