

## NP2-400Ah 2V400Ah

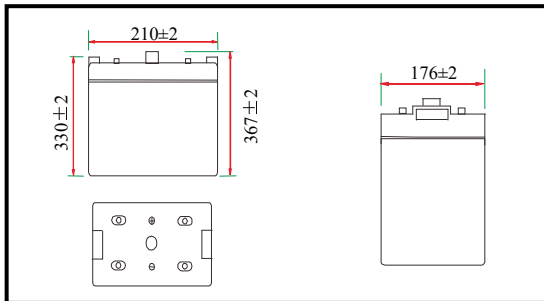
### Valve Regulated Lead Acid Battery



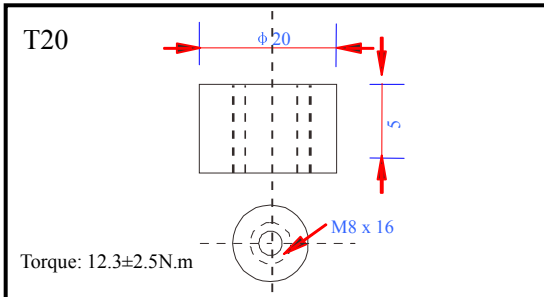
#### Specifications

|                       |                       |                     |
|-----------------------|-----------------------|---------------------|
| Nominal voltage       | 2V (1 cell per unit)  |                     |
| Rated capacity (10HR) | 400Ah/10.8V           |                     |
| Dimensions            | Length                | 210±2mm (8.27inch)  |
|                       | Width                 | 176±2mm (6.93inch)  |
|                       | Height                | 330±2mm (12.99inch) |
|                       | Total height          | 367±2mm (14.45inch) |
| Approx. weight        | 25.50kg (56.20lbs)±3% |                     |

#### Outer dimensions (mm)



#### Terminal type (mm)



#### Characteristics

|   |   |   |
|---|---|---|
| Capacity (25°C)                           | 10HR (1.80V)                              | 400Ah   |
|   | 3HR (1.80V)                               | 300Ah   |
|   | 1HR (1.75V)                               | 220Ah   |
| Terminal type                             |   | T20   |
| Internal resistance (Fully charged, 25°C) |   | Approx. 0.6mΩ   |
| 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)             |   | 2.25 to 2.30V Temperature compensation: -3mV/°C/Block |
| Cyclic charging voltage (25°C)            |   | 2.40 to 2.50V Temperature compensation: -5mV/°C/Block |
| Maximum charging current                  |   | 80A   |
| Maximum discharge current                 |   | 2500A (5 sec.)  |
| Design life                               | 15 years for floating (25°C)              |   |
|   | Eurobat (20°C) >12 years, very long life. |   |

#### Construction

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

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

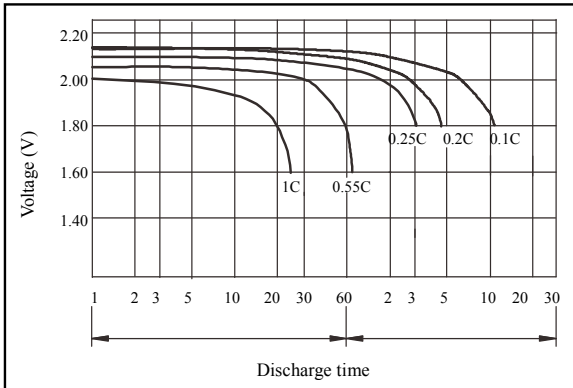
| F.V/Time   | 15min | 30min | 60min | 2h  | 3h  | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-----|-----|------|------|------|------|------|------|
| 1.60V/cell | 556   | 364   | 252   | 147 | 106 | 84.9 | 73.0 | 62.8 | 49.6 | 40.9 | 21.6 |
| 1.65V/cell | 543   | 357   | 244   | 147 | 105 | 84.4 | 72.6 | 62.5 | 49.3 | 40.8 | 21.5 |
| 1.70V/cell | 523   | 346   | 237   | 145 | 105 | 83.8 | 72.1 | 62.0 | 48.9 | 40.7 | 21.5 |
| 1.75V/cell | 505   | 337   | 229   | 143 | 104 | 83.2 | 71.6 | 61.6 | 48.6 | 40.5 | 21.3 |
| 1.80V/cell | 478   | 325   | 222   | 139 | 101 | 80.7 | 69.5 | 59.8 | 47.1 | 40.2 | 21.2 |

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

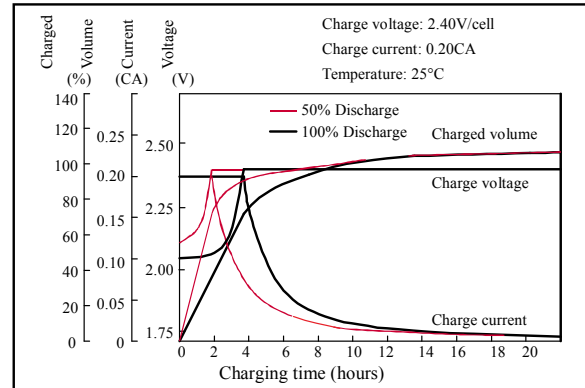
| F.V/Time   | 15min | 30min | 60min | 2h  | 3h  | 4h  | 5h  | 6h  | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|
| 1.60V/cell | 1017  | 681   | 479   | 284 | 208 | 166 | 144 | 124 | 98.6 | 81.4 | 43.2 |
| 1.65V/cell | 993   | 667   | 464   | 283 | 207 | 165 | 143 | 123 | 98.1 | 81.3 | 43.1 |
| 1.70V/cell | 956   | 647   | 450   | 280 | 205 | 164 | 142 | 122 | 97.4 | 81.0 | 43.0 |
| 1.75V/cell | 924   | 631   | 436   | 276 | 204 | 163 | 141 | 121 | 96.7 | 80.6 | 42.7 |
| 1.80V/cell | 875   | 608   | 421   | 269 | 198 | 158 | 137 | 118 | 93.8 | 80.0 | 42.4 |

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

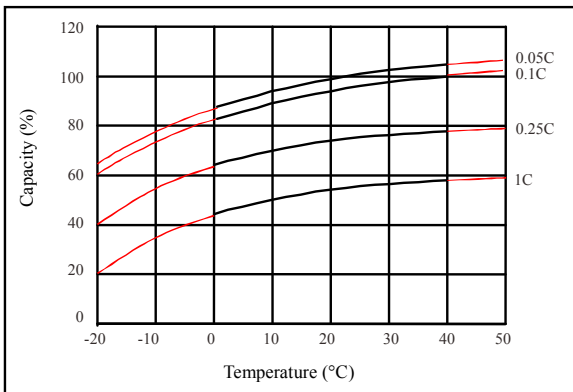
### ● Discharge characteristics (25°C)



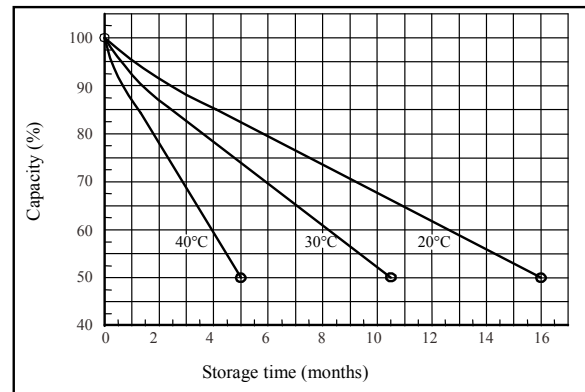
### ● Charging characteristics (25°C)



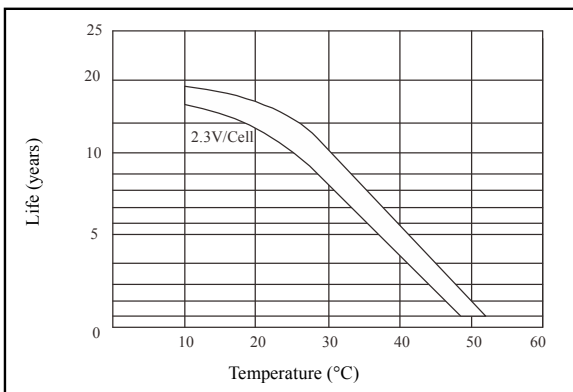
### ● Temperature effects on capacity



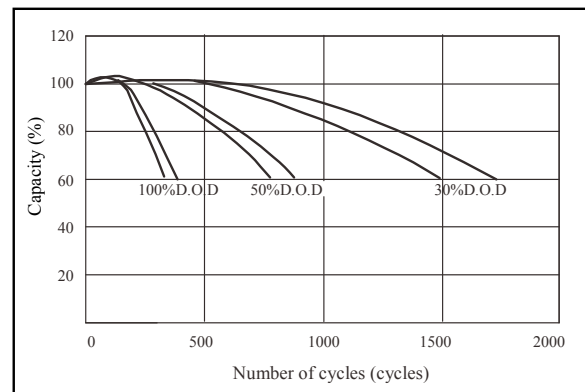
### ● Self-discharge characteristics



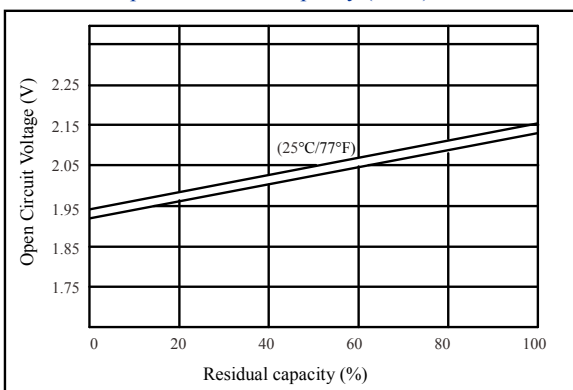
### ● Floating life on temperature



### ● Cycle life on D.O.D (25°C)



### ● Relationship for OCV and capacity (25°C)



### ● Relationship for charging voltage and temperature

