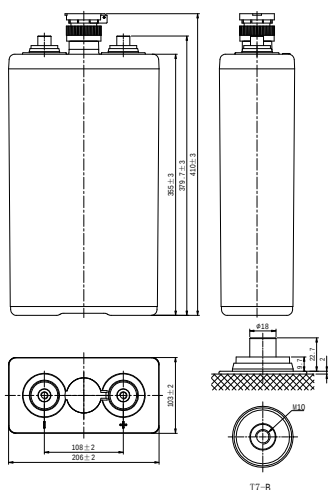


# OPzS SERIES-FLOODED BATTERY

## 4OPzS200 (2V200Ah)



### CHARACTERISTICS

| Item                          | Specifications                |                    |
|-------------------------------|-------------------------------|--------------------|
| Rated Voltage                 | 2V                            |                    |
| Nominal Capacity (20°C)       | C <sub>10</sub> , 1.80V/cell  | 200Ah              |
| Dimension                     | Length                        | 103mm (4.06inches) |
|                               | Width                         | 206mm (8.11inches) |
|                               | Container Height              | 355mm (14.0inches) |
|                               | Total Height                  | 410mm (16.1inches) |
| Approx Weight                 | 17.4kg (38.4lbs)              |                    |
| Dry Weight                    | 12.9kg (28.4lbs)              |                    |
| Terminal                      | T7-B(M10)                     |                    |
| Container Material            | SAN transparent container     |                    |
| Short-circuit current         | 1600A                         |                    |
| Internal Resistance (20°C)    | Approx 1.2 mΩ (Fully charged) |                    |
| Operating Temp. Range         | Discharge                     | -15~55°C (5~131°F) |
|                               | Charge                        | 0~45°C (32~113°F)  |
|                               | Storage                       | -15~45°C (5~113°F) |
| Nominal Operating Temp. Range | 25±5°C (77±9°F)               |                    |
| Max.Charging Current (20°C)   | 0.15C                         |                    |
| Charge voltage (20°C)         | Standby Use                   | Cycle Use          |
|                               | 2.23-2.25V/cell               | 2.40-2.45V/cell    |
| Temp. Coefficient             | -3mV/cell/°C                  | -5mV/cell/°C       |
|                               | 40°C (104°F)                  | 103%               |
| Effect of temp. to Capacity   | 20°C (68°F)                   | 100%               |
|                               | 0°C (32°F)                    | 86%                |
| Self Discharge                | ≤4% per month at 20°C         |                    |

### DISCHARGE TABLE

| Constant Current Discharge (Amperes) at 20°C (68°F)  |       |       |       |      |      |      |      |      |      |      |      |      |      |
|------------------------------------------------------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| F.V/Time                                             | 1h    | 2h    | 3h    | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  | 24h  | 72h  | 100h | 120h |
| 1.85V/cell                                           | 79.4  | 58.0  | 44.7  | 37.0 | 31.9 | 28.0 | 22.8 | 19.1 | 10.5 | 8.81 | 3.16 | 2.37 | 2.03 |
| 1.80V/cell                                           | 92.8  | 63.9  | 48.8  | 40.0 | 34.1 | 29.8 | 24.0 | 20.0 | 10.9 | 9.14 | 3.28 | 2.46 | 2.10 |
| 1.75V/cell                                           | 100.8 | 68.0  | 51.4  | 41.8 | 35.5 | 30.9 | 24.7 | 20.4 | 11.1 | 9.31 | 3.34 | 2.50 | 2.14 |
| 1.70V/cell                                           | 106.2 | 71.0  | 53.1  | 43.1 | 36.5 | 31.7 | 25.1 | 20.8 | 11.3 | /    | /    | /    | /    |
| 1.65V/cell                                           | 110.4 | 72.7  | 54.7  | 44.1 | 37.3 | 32.3 | 25.6 | 21.1 | 11.5 | /    | /    | /    | /    |
| 1.60V/cell                                           | 114.2 | 74.4  | 55.6  | 44.7 | 37.8 | 32.7 | 25.9 | 21.4 | 11.6 | /    | /    | /    | /    |
| Constant Power Discharge (Watts/cell) at 20°C (68°F) |       |       |       |      |      |      |      |      |      |      |      |      |      |
| F.V/Time                                             | 1h    | 2h    | 3h    | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  | 24h  | 72h  | 100h | 120h |
| 1.85V/cell                                           | 148.6 | 109.4 | 84.7  | 70.4 | 61.0 | 53.8 | 44.1 | 37.1 | 20.5 | 17.2 | 6.12 | 4.57 | 3.91 |
| 1.80V/cell                                           | 171.1 | 119.2 | 91.5  | 75.3 | 64.5 | 56.7 | 46.0 | 38.5 | 21.1 | 17.7 | 6.30 | 4.70 | 4.02 |
| 1.75V/cell                                           | 183.5 | 125.7 | 95.7  | 78.2 | 67.0 | 58.5 | 47.0 | 39.1 | 21.4 | 17.9 | 6.39 | 4.77 | 4.08 |
| 1.70V/cell                                           | 191.6 | 130.3 | 98.2  | 80.2 | 68.5 | 59.8 | 47.7 | 39.6 | 21.7 | /    | /    | /    | /    |
| 1.65V/cell                                           | 197.6 | 132.9 | 100.6 | 81.8 | 69.7 | 60.7 | 48.3 | 40.1 | 21.9 | /    | /    | /    | /    |
| 1.60V/cell                                           | 202.8 | 135.3 | 101.8 | 82.6 | 70.3 | 61.3 | 48.7 | 40.4 | 22.0 | /    | /    | /    | /    |

# OPzS SERIES-FLOODED BATTERY

## 4OPzS200 (2V200Ah)



### APPLICATIONS

- Telecommunications
- Buoy lighting
- Standby power
- Railway signalling
- Emergency lighting systems
- Alternative power (solar, wind)
- Maritime standby power on ships and ashore

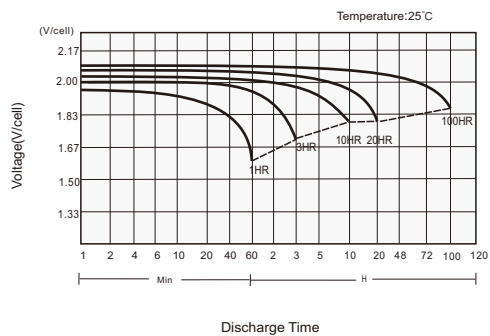
### GENERAL FEATURES

- 20 years design life (20°C)
- Positive electrodes-die-cast tubular plates with low antimony lead alloy for longer life
- Transparent SAN Containers to allow electrolyte level and cell condition to be monitored visually
- Excellent standby and cycling behaviour - long life

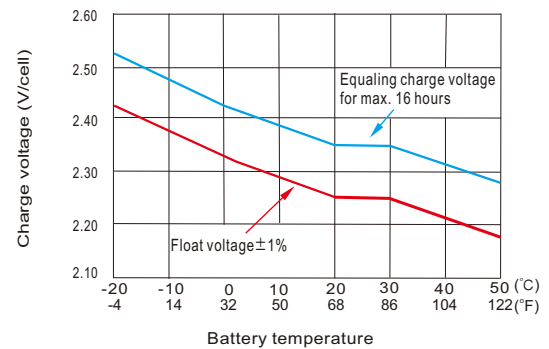
### STANDARDS

- Acc.to IEC60896, DIN 40736 standards
- Manufactured in DESA, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

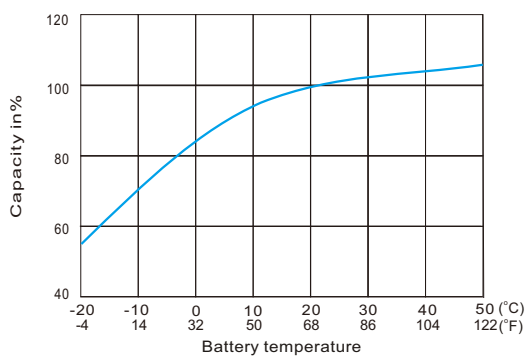
#### Discharge Characteristics



#### Charge Voltage vs Ambient Temperature Curve



#### Discharge Capacity vs Ambient Temperature Curve (I<sub>10</sub>A)



#### Self Discharge Characteristics

