



AGM BATTERY NS Series

NS12-20 (12V 20Ah)



The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and plates 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.

Battery Construction

| COMPONENT | POSITIVE PLATE | NEGATIVE PLATE | CONTAINER | COVER | SAFETY VALVE | TERMINAL | SEPARATOR | ELECTROLYTE |
|--------------|----------------|----------------|-----------|-------|--------------|-------------|------------|---------------|
| Raw material | Lead dioxide | Lead | ABS | ABS | Rubber | Copper/Plug | Fiberglass | Sulfuric acid |

Performance Characteristics

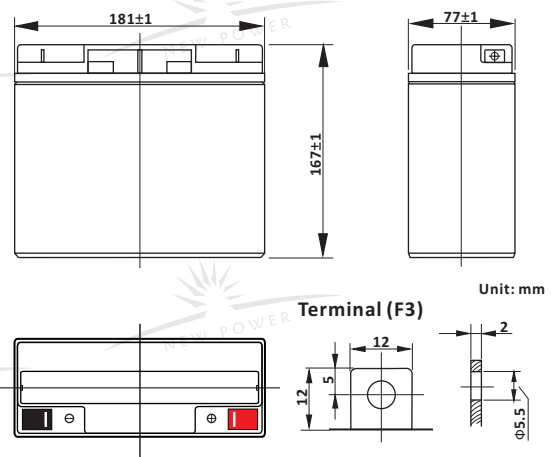
- **Nominal Voltage** 12V
- **Number of Cell** 6
- **Nominal Capacity (77°F /25°C)**
 - 20 Hour rate (1.0A, 10.5V) 20Ah
 - 10 Hour rate (1.75A, 10.5V) 17.5Ah
 - 5 Hour rate (3.4A, 10.5V) 17Ah
 - 1 Hour rate (14A, 9.6V) 14Ah
- **Internal Resistance**
 - Fully charged battery (77°F /25°C) 11mΩ
- **Capacity affected by temperature (10 hour rate)**
 - 104°F (40°C) 102% 32°F (10°C) 85%
 - 77°F (25°C) 100% 5°F (-15°C) 65%
- **Self-Discharge 68°F (20°C)**
 - Capacity after 3 month storage 90%
 - Capacity after 6 month storage 80%
 - Capacity after 12 month storage 60%
- **Max. discharge current 77°F /25°C** 300A(5S)
- **Charge Methods: constant voltage charge 77°F /25°C**
 - Cycle use 14.5 ~ 14.9V
 - Max. Current 5A
 - Standby use 13.6 ~ 13.8V

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.**
- **A recognized component of CE and UL**
- **Computer designed lead, calcium tin alloy grid for high power density.**
- **Long service life, float or cyclic applications.**
- **Maintenance-free operation.**
- **Low self discharge**
- **Design life 5 years**

Dimensions and Weight

| Type | Length | Width | Height | Total Height | Approx. Weight |
|---------------|----------|----------|----------|--------------|----------------|
| SI Units | 181mm | 77mm | 167mm | 167mm | 5.4Kg |
| English Units | 7.13inch | 3.03inch | 6.57inch | 6.57inch | 11.9lbs |



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

| V/cell | 5min | 10min | 15min | 30min | 1h | 3h | 5h | 10h | 20h |
|--------|------|-------|-------|-------|------|------|------|------|------|
| 1.60 | 75.0 | 53.5 | 42.5 | 24.5 | 14.0 | 5.60 | 3.60 | 1.81 | 1.02 |
| 1.65 | 72.7 | 52.5 | 41.7 | 23.9 | 13.7 | 5.48 | 3.54 | 1.79 | 1.02 |
| 1.70 | 70.3 | 51.4 | 40.8 | 23.3 | 13.4 | 5.35 | 3.47 | 1.77 | 1.01 |
| 1.75 | 67.8 | 50.2 | 39.9 | 22.6 | 13.0 | 5.20 | 3.40 | 1.75 | 1.00 |
| 1.80 | 65.1 | 48.9 | 38.9 | 21.8 | 12.6 | 5.05 | 3.30 | 1.72 | 0.98 |

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

| V/cell | 5min | 10min | 15min | 30min | 45min | 1h | 2h | 3h | 5h |
|--------|------|-------|-------|-------|-------|------|------|------|------|
| 1.60 | 145 | 102 | 80.5 | 46.5 | 34.5 | 27.5 | 15.3 | 11.0 | 7.10 |
| 1.65 | 141 | 100 | 79.0 | 45.5 | 33.9 | 27.1 | 15.1 | 10.8 | 7.00 |
| 1.70 | 136 | 97.5 | 77.2 | 44.4 | 33.2 | 26.7 | 14.8 | 10.6 | 6.90 |
| 1.75 | 130 | 95.0 | 75.2 | 43.2 | 32.5 | 26.2 | 14.5 | 10.4 | 6.80 |
| 1.80 | 123 | 92.0 | 73.0 | 41.7 | 31.7 | 25.7 | 14.1 | 10.2 | 6.65 |

(Note: The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.)



