



**● NPG GEL Series Battery**

NPG Series batteries are designed with special separator and GEL deep cycle technology to give Extra-durable cyclic performance at extreme temperature.

NPG series Batteries are the DEEP CYCLE batteries with 12 years floating design life at 25 °C. Meet with IEC, BS,JIS and Eurobat standard .

**● Application**

- \*Emergency Power System
- \*Communication equipment
- \*Telecommunication systems
- \*Uninterruptible power supplies
- \*Electric bicycle and wheelchairs, etc.
- \*Power tools
- \*Alarm system
- \*Marine equipment
- \*Fire and Security System



**● General Features**

- \*Safety Sealing
- \*Non-spillable construction
- \*High Reliability and Stability
- \*Sealed and Maintenance-free
- \*Safety and Quality certification
- \*Long Life and low self-discharge design

**● Construction**

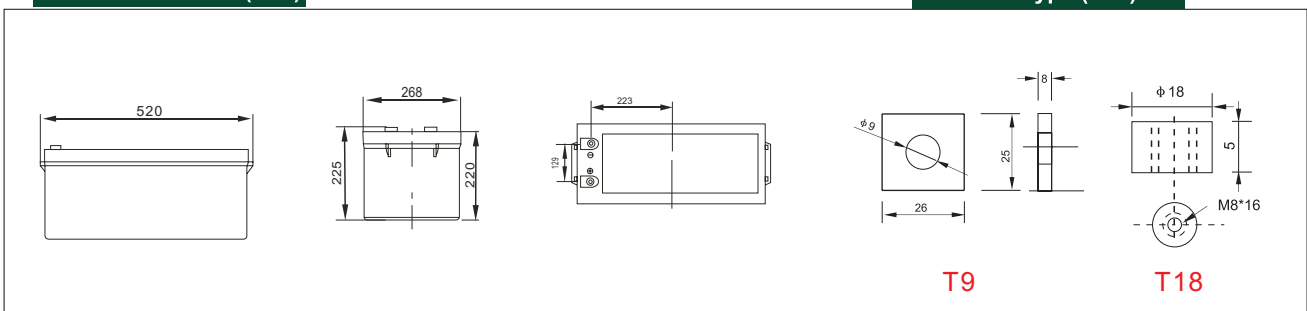
- \*Positive .....Lead dioxide
- \*Electrolyte .....Sulfuric acid thixotropic Gel
- \*Separator .....Macromolecule polymer
- \*Container .....ABS(UL94-HB), Flammability Resistance of UL94-V2 can be available upon request
- \*Negative .....Lead
- \*Safety Valve .....EPDR
- \*Terminal .....Copper

**● Specification**

Battery Model	Nominal Voltage	12V			
	Rated capacity(20 Hour rate)	230Ah			
Dimensions	Length	Width	Height	Total Height	
	520mm (20.47 inches)	268mm(10.55inches)	220 mm(8.66 inches)	225mm(8.86 inches)	
Approx Weight	72.0kg(158.73lbs)±3%				
Capacity 25°C (77°F)	20 hour (11.5A,10.8V)	10 hour (21.2A,10.5V)	5 Hour ( 39.1A,10.2V)	1 Hour (138.0A,9.6V)	
	230.0Ah	212 .0Ah	195.5Ah	138 .0Ah	
Max.discharge current	2300A(5 Sec.)				
Internal Resistance	Full charged at 25 °C: Approx 5.5 mΩ				
Capacity affected by Temp. (20 HR)	40°C (104 °F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)	
	102%	100%	85%	65%	
Self Discharge at 25°C (77°F)	After 3 months storage		After 6 months storage	After 12 months storage	
	91%		82%	64%	
Charge method 25°C (77°F)	Cycle Use			Float Use	
	14.10-14.40V(Initial charging current less than 85A)			13.50-13.80V	

**● Outer dimensions (mm)**

**● Terminal Type (mm)**

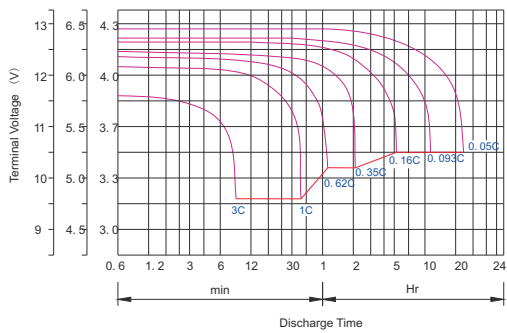


**Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C (77°F)**

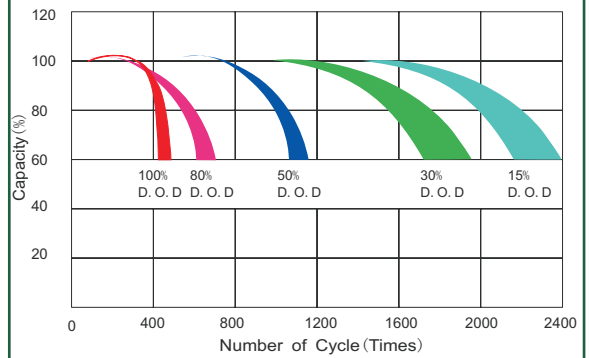
Time		5min	10min	15min	30min	1hr	2hr	3hr	4hr	5hr	8hr	10hr	20hr
9.60V	A	678.0	446.0	360.0	241.0	127.0	74.0	54.4	42.3	34.9	24.8	22.2	12.0
	W	6994.0	4768.0	3859.0	2594.0	1371.0	813.0	605.3	476.1	397.0	283.7	256.6	139.5
10.20V	A	656.0	403.0	339.0	231.0	119.0	71.0	52.9	41.3	34.3	24.1	21.8	11.6
	W	7010.0	4499.0	3793.0	2589.0	1350.0	815.0	612.6	479.8	399.6	282.2	256.0	136.5
10.50V	A	635.0	360.0	296.0	216.0	116.0	69.0	51.6	40.6	33.9	23.9	21.4	11.6
	W	6934.0	4099.0	3383.0	2484.0	1338.0	800.0	601.6	475.3	396.9	281.2	252.9	137.6
10.80V	A	612.0	340.0	276.0	199.0	112.0	67.0	50.4	40.0	33.0	23.3	21.2	11.4
	W	6866.0	3916.0	3474.0	2305.0	1300.0	788.0	593.8	472.2	390.2	275.8	251.5	136.1
11.10V	A	591.0	318.0	254.0	178.0	108.0	66.0	48.7	38.9	32.2	22.6	20.1	10.8
	W	6707.0	3685.0	2961.0	2080.0	1269.0	775.0	578.2	463.7	383.8	271.2	242.7	130.8



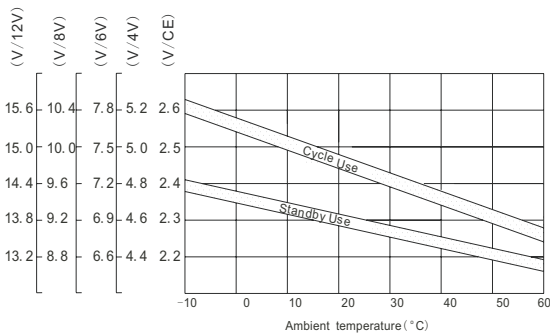
Discharge characteristic Curve



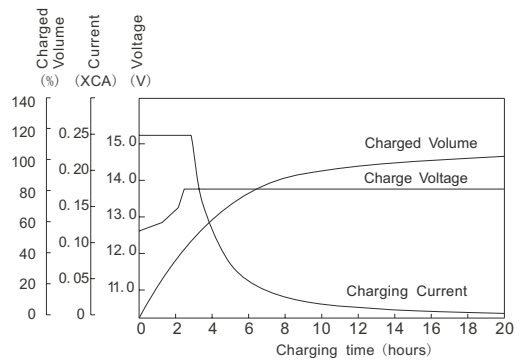
Cycle service life in relation to depth of discharge



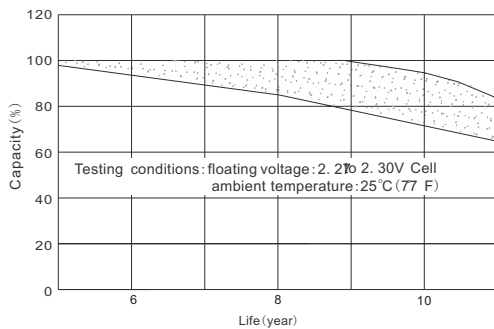
Relationship between charging voltage and temperature



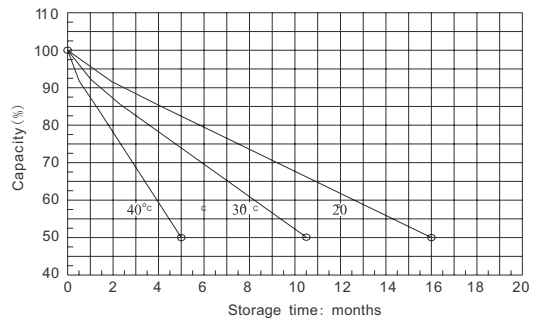
Constant voltage charging characteristic (0.25CA, at 25°C)



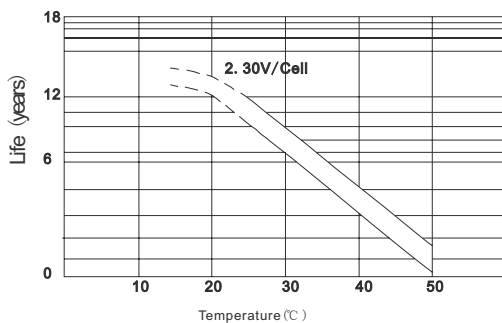
Life characteristics of standby use



Self-discharge characteristic



Temperature effects on float life



Charge characteristic Curve for standby use

