

**NPP**<sup>®</sup>

# LEAD ACID BATTERY

FOR THE CUSTOMER BY THE CUSTOMER OF THE CUSTOMER



**NPP**<sup>®</sup>

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## COMPANY INTRODUCTION

NPPower international Inc. is a specialized lead acid battery and power bank manufacturer with sixteen million US dollars gross investment and eighty thousand square meters' floor area. NPP always insists on satisfying diversified demand with all kinds of power bank and valve regulated lead acid battery, including AGM battery, Gel battery, Solar battery, Front terminal battery, Deep cycle battery, etc.

NPP pays close attention to quality control. NPP conducts strict production control from raw material to final product, which ensures high quality of every battery. NPP acquired ISO9001 certificate, ISO14001 certificate, CE certificate and UL certificate.

NPP strives for improving social responsibility. NPP regards environmental protection, energy conservation and emission reduction and preventing pollution as one of long term developing strategy when the company came into existence.

NPP looks customers' satisfaction as its mission, which impels themselves to push technical innovation, strictly control quality and satisfy diversified demand from all over the world.

# Valve Regulated Lead Acid Battery



## APPLICATION

Control systems, Electric toys, Emergency lamp, Power tools, Medical treatment equipment, Alarm system, Emergency light system, Standby power supply, UPS and computer standby power supply, Power system, Telecommunication system, Firefighting equipment standby power supply, Railway system, Power station, Ship equipment, Military equipment, Telephone switching system.

## Lead acid battery is also named as the following :

- UPS battery
- Inverter battery
- SMF battery
- AGM battery
- Deep cycle battery
- Solar battery
- Storage battery
- Rechargeable battery
- Sealed lead acid battery
- Valve regulated lead acid battery

## BATTERY STRUCTURE

**Container/Cover** : Made of UL94HB and UL 94V-0 ABS Plastic;

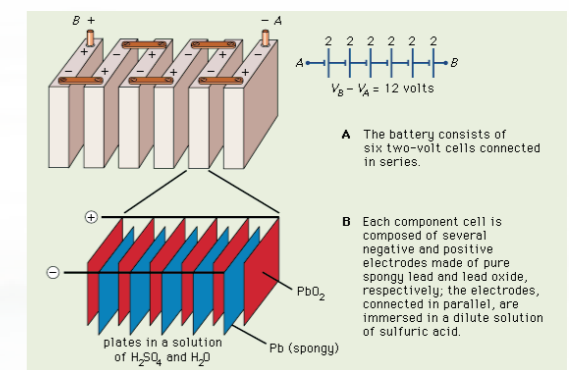
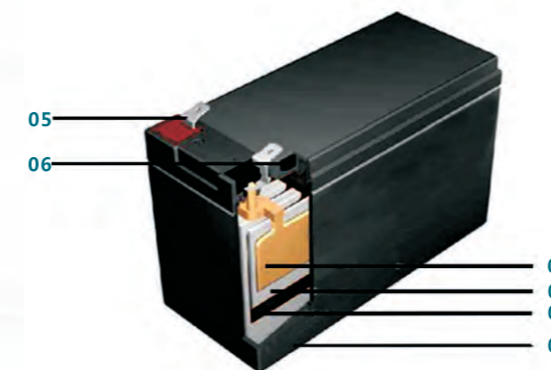
**Negative Plates** : Use the special PbCa alloy grids optimize the recombination efficiency and less gassing;

**Separator** : High quality AGM separator;

**Positive Plates** : PbCa grids minimize corrosion and prolong life;

**Terminal Post** : Cooper material with maximum conductivity, enhance the high current rapidly;

**Vent Valve** : Allows the release of excess gas automatically for safety;





# Deep Cycle & Solar Series

## Deep Cycle & Solar Series

### CHARACTERISTICS

- **Excellent safety performance:** No electrolyte leakage, battery swelling and cracking under normal use.
- **Good discharging performance:** With smooth discharging voltage and mild discharging platform.
- **Good shock-proof performance:** The fully charged and completely fixed battery, with 4mm amplitude and 16.7HZ frequency does have a normal open circuit voltage without leakage, batteries swelling or cracking problem after one-hour vibration.
- **Good impact-proof performance:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking after dropping three times from 20cm height naturally to a 1 cm-thick hardwood board.
- **Good resistance to overdischarge:** In temperature of 25 degrees Celsius (77°F) the fully charged battery discharges with fixed resistance which is equivalent to the one required by 1 CA discharge of the battery for three weeks, and it can restore capacity over 75%.
- **Good resistance to overcharge:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking in temperature of 25 degrees Celsius (77°F) after charging at 0.1 CA for 48 hours, and the capacity maintain over 95%.
- **Good resistance to high current:** The fully charged battery is proved to be without conductive part melted or any appearance deformation after discharging at 2 CA for 5 minutes or 10 CA for 5 seconds.
- **Good deep charge cycle performance:** Good performance in charging, over-discharging and deep-discharging.
- **Good resistance to corrosion and small internal resistance.**
- **Widely working environment:** The battery can be used at widely difference in temperature from subzero 40°C (-104°F) to 60 °C (140 °F)

# Deep Cycle & Solar Series

**Designed life:** The batteries are designed up to 12 years for standby service.

**Application:** The batteries are designed for uninterruptible power supply ,electric toys,railway system,power station,ship equipment,military equipment,firefighting equipment standby power supply.

### Specification

Battery Model	Nominal Voltage (V)	Capacity(Ah) 10hrs/25°C (77F)	Approx.Weight		Dimension								Terminal Type
			kg	lbs	Length		Width		Height		Total Height		
					mm	inch	mm	inch	mm	inch	mm	inch	
NPD12-7Ah	12	7.5	2.30	5.07	151	5.94	65	2.56	94	3.70	100	3.94	T2
NPD12-12Ah	12	12	3.65	8.03	151	5.94	98	3.86	94	3.70	100	3.94	T2
NPD12-18Ah	12	18	5.20	12.13	181	7.13	77	3.03	167	6.57	167	6.57	T3-T12
NPD12-20Ah	12	20	5.80	12.76	181	7.13	77	3.03	167	6.57	167	6.57	T3-T12
NPD12-24Ah	12	24	7.80	17.20	166	6.54	126	4.96	174	6.85	181	7.13	T5-T14
NPD12-28Ah	12	28	9.00	19.85	175	6.89	166	6.54	125	4.92	125	4.92	T4-T14
NPD12-35Ah	12	35	11.50	25.30	196	7.72	131	5.16	163	6.42	180	7.09	T6-T14
NPD12-40Ah	12	40	13.50	29.70	197	7.73	166	6.54	174	6.85	181	7.13	T6-T14
NPD12-45Ah	12	45	14.50	31.90	197	7.73	166	6.54	174	6.85	181	7.13	T6-T14
NPD12-50Ah	12	50	16.20	35.72	230	9.06	138	5.43	211	8.31	229	9.02	T5-T14
NPD12-65Ah	12	65	21.00	46.20	350	13.78	166	6.54	179	7.05	179	7.05	T7-T14
NPD12-75Ah	12	75	24.20	53.24	260	10.24	169	6.65	211	8.31	215	8.46	T14
NPD12-80Ah	12	75	25.30	55.66	260	10.24	169	6.65	211	8.31	215	8.46	T14
NPD12-90Ah	12	90	28.50	62.70	306	12.05	169	6.65	208	8.19	230	9.06	T14
NPD12-100Ah	12	100	29.00	63.95	306	12.05	169	6.65	208	8.19	230	9.06	T14
NPD12-100Ah	12	105	30.50	67.10	331	13.03	173	6.81	213	8.39	233	9.17	T16A-T16
NPD12-110Ah	12	110	32.00	70.40	331	13.03	173	6.81	213	8.39	233	9.17	T16A-T16
NPD12-120Ah	12	120	36.00	79.20	407	16.02	174	6.85	209	8.23	233	9.17	T16
NPD12-150Ah	12	150	44.50	97.90	484	19.06	170	6.69	240	9.45	240	9.45	T16
NPD12-200Ah	12	200	62.50	137.50	522	20.55	240	9.45	216	8.50	240	9.45	T16
NPD12-250Ah	12	250	74.50	163.90	520	20.47	268	10.55	220	8.66	243	9.57	T18

**Designed life:** The large-sized batteries are designed up to 20 years for standby service.

**Application:** The batteries are designed for railway system,power station,ship equipment,military equipment,direct current supply,larger-sized uninterruptible power supply,ect.

### Specification

Battery Model	Nominal Voltage (V)	Capacity(Ah) 10hrs/25°C (77F)	Approx.Weight		Dimension								Terminal Type
			kg	lbs	Length		Width		Height		Total Height		
					mm	inch	mm	inch	mm	inch	mm	inch	
NPD2-200Ah	2	200	14.00	30.80	172	6.88	111	4.44	329	13.16	356	14.24	T20
NPD2-300Ah	2	300	19.50	42.90	171	6.73	151	5.94	330	12.99	366	14.41	T20
NPD2-400Ah	2	400	27.00	59.40	210	8.27	176	6.93	329	12.95	366	14.41	T20
NPD2-500Ah	2	500	31.50	69.30	241	9.49	172	6.77	331	13.03	366	14.41	T20
NPD2-600Ah	2	600	38.00	83.60	301	11.85	175	6.89	331	13.03	366	14.41	T20
NPD2-800Ah	2	800	53.00	116.60	410	16.14	175	6.89	330	12.99	365	14.37	T20
NPD2-1000Ah	2	1000	63.00	138.60	475	18.70	175	6.89	330	12.99	356	14.02	T20
NPD2-1500Ah	2	1500	96.50	212.30	401	15.79	351	13.82	342	13.46	369	14.53	T20
NPD2-2000Ah	2	2000	131.00	288.20	491	19.33	351	13.82	343	13.50	369	14.53	T20
NPD2-3000Ah	2	3000	191.00	420.20	710	27.95	352	13.86	342	13.46	369	14.53	T20



# Gel Series Gel Series

## Characteristics

- **Excellent safety performance:** No electrolyte leakage, battery swelling and cracking under normal use.
- **Good discharging performance:** With smooth discharging voltage and mild discharging platform.
- **Good shock-proof performance:** The fully charged and completely fixed battery, with 4mm amplitude and 16.7HZ frequency does have a normal open circuit voltage without leakage, batteries swelling or cracking problem after one-hour vibration.
- **Good impact-proof performance:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking after dropping three times from 20cm height naturally to a 1 cm-thick hardwood board.
- **Good resistance to overdischarge:** In temperature of 25 degrees Celsius (77°F) the fully charged battery discharges with fixed resistance which is equivalent to the one required by 1 CA discharge of the battery for three weeks, and it can restore capacity over 75%.
- **Good resistance to overcharge:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking in temperature of 25 degrees Celsius (77°F) after charging at 0.1 CA for 48 hours, and the capacity maintain over 95%.
- **Good resistance to high current:** The fully charged battery is proved to be without conductive part melted or any appearance deformation after discharging at 2 CA for 5 minutes or 10 CA for 5 seconds.
- **Gel condition:** The effect of sealed reaction is over 99.9%.
- **Minor self-discharge:** The gel battery can be stored almost two years with electrification, which is four times more than traditional AGM battery. It can be put into use without charging immediately.
- **Low rate of loss of coolant:** The rate of loss of coolant of gel battery is half of AGM battery, which can effectively slow up the dry of electrolyte.
- **Good deep discharge cycle performance:** The gel battery specializes in cycle use, which can reach to 100% deep discharge cycle and long service life to five hundred times.
- **Good over-discharge recovery performance:** The gel battery can recover its capacity to 100% after it discharges at 1CA for twenty one days.
- **Widely working environment:** The gel battery can be used at widely difference in temperature from subzero 40°C (-104°F) to 60°C (140°F)



# Gel Series Gel Series

**Designed life:** The batteries are designed up to 15 years for standby service.

**Application:** The batteries are designed for uninterruptible power system, emergency light system, railway system, power station, telecommunication system, solar system, etc.

## Specification

Battery Model	Nominal Voltage (V)	Capacity(Ah) 20hrs/25°C (77°F)	Approx. Weight		Dimension								Terminal Type
			kg	lbs	Length		Width		Height		Total Height		
					mm	inch	mm	inch	mm	inch	mm	inch	
NPG12-18Ah	12	18	5.80	12.76	181	7.13	77	3.03	167	6.57	167	6.57	T3-T12
NPG12-24Ah	12	24	8.80	19.36	166	6.54	126	4.96	174	6.85	181	7.13	T5-T14
NPG12-35Ah	12	35	11.00	24.20	196	7.72	131	5.16	163	6.42	180	7.09	T6-T14
NPG12-40Ah	12	40	13.50	29.70	197	7.73	166	6.54	174	6.85	181	7.13	T6-T14
NPG12-50Ah	12	50	17.30	38.06	230	9.06	138	5.43	211	8.31	229	9.02	T5-T14
NPG12-65Ah	12	65	21.00	46.20	350	13.78	166	6.54	179	7.05	179	7.05	T7-T14
NPG12-75Ah	12	75	24.20	53.24	260	10.24	169	6.65	211	8.31	215	8.46	T14
NPG12-80Ah	12	75	25.30	55.66	260	10.24	169	6.65	211	8.31	215	8.46	T14
NPG12-90Ah	12	90	28.50	62.70	306	12.05	169	6.65	208	8.19	230	9.06	T14
NPG12-100Ah A	12	100	29.00	63.80	306	12.05	169	6.65	208	8.19	230	9.06	T14
NPG12-100Ah	12	105	30.50	67.10	331	13.03	173	6.81	213	8.39	233	9.17	T16A-T16
NPG12-120Ah	12	120	36.00	79.20	407	16.02	174	6.85	209	8.23	233	9.17	T16
NPG12-150Ah	12	150	44.50	97.90	484	19.06	170	6.69	240	9.45	240	9.45	T16
NPG12-200Ah	12	200	62.50	137.50	522	20.55	240	9.45	216	8.50	240	9.45	T16-T18
NPG12-250Ah	12	250	74.50	163.39	520	20.47	268	10.55	220	8.66	243	9.57	T16-T18

**Designed life:** The batteries are designed up to 20 years for standby service.

**Application:** The batteries are designed for railway system, power station, ship equipment, military equipment, direct current supply, large-sized uninterruptible power supply, etc.

## Specification

Battery Model	Nominal Voltage (V)	Capacity(Ah) 20hrs/25°C (77°F)	Approx. Weight		Dimension								Terminal Type
			kg	lbs	Length		Width		Height		Total Height		
					mm	inch	mm	inch	mm	inch	mm	inch	
NPG2-200Ah	2	200	14.00	30.80	172	6.77	111	4.37	329	12.95	356	14.02	T20
NPG2-300Ah	2	300	19.50	42.90	171	6.73	151	5.94	330	12.99	366	14.41	T20
NPG2-400Ah	2	400	27.00	59.40	210	8.27	176	6.93	329	12.95	366	14.41	T20
NPG2-500Ah	2	500	31.50	69.30	241	9.49	172	6.77	331	13.03	366	14.41	T20
NPG2-600Ah	2	600	38.00	83.60	301	11.85	175	6.89	331	13.03	366	14.41	T20
NPG2-800Ah	2	800	53.00	116.60	410	16.14	175	6.89	330	12.99	365	14.37	T20
NPG2-1000Ah	2	1000	63.00	138.60	475	18.70	175	6.89	330	12.99	356	14.02	T20
NPG2-1200Ah	2	1200	69.00	151.80	475	18.70	175	6.89	330	12.99	356	14.02	T20
NPG2-1500Ah	2	1500	96.50	212.30	401	15.79	351	13.82	342	13.46	369	14.53	T20
NPG2-2000Ah	2	2000	131.00	288.20	491	19.33	351	13.82	343	13.50	369	14.53	T20
NPG2-3000Ah	2	3000	191.00	420.20	710	27.95	352	13.86	342	13.46	369	14.53	T20

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# High Rate Series High Rate



## Characteristics

- **Excellent safety performance:** No electrolyte leakage, battery swelling and cracking under normal use.
- **Good discharging performance:** With smooth discharging voltage and mild discharging platform.
- **Good shock-proof performance:** The fully charged and completely fixed battery, with 4mm amplitude and 16.7HZ frequency does have a normal open circuit voltage without leakage, batteries swelling or cracking problem after one-hour vibration.
- **Good impact-proof performance:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking after dropping three times from 20cm height naturally to a 1 cm-thick hardwood board.
- **Good resistance to overdischarge:** In temperature of 25 degrees Celsius (77°F) the fully charged battery discharges with fixed resistance which is equivalent to the one required by 1 CA discharge of the battery for three weeks, and it can restore capacity over 75%.
- **Good resistance to overcharge:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking in temperature of 25 degrees Celsius (77°F) after charging at 0.1 CA for 48 hours, and the capacity maintain over 95%.
- **Good resistance to high current:** The fully charged battery is proved to be without conductive part melted or any appearance deformation after discharging at 2 CA for 5 minutes or 10 CA for 5 seconds.
- **Power range from 13 watts to 890 watts.**
- **Good resistance to corrosion and small internal resistance.**
- **Widely working environment:** Can be used at widely difference in temperature from subzero 40°C (-104°F) to 60 °C (140°F)

**Designed life:** The high rate batteries are designed up to 15 years for high efficient discharge application.

- It's characteristics are high energy density, small footprint and high discharge efficiency.
- They can be used for more than 260 cycles at 100% discharge in cycle service.

**Application:** The batteries are designed for uninterruptible power supply, emergency light system, medical treatment equipment, alarm system, generator, etc.

## Specification

Battery Model	Nominal Voltage (V)	15min. Rate Capacity(Ah) (watts/cell)	Capacity(Ah) 20hrs/25°C (77°F)	Approx. Weight		Dimension								Terminal Type
				kg	lbs	Length		Width		Height		Total Height		
						mm	inch	mm	inch	mm	inch	mm	inch	
HR1219W-FR	12	19	4.5	1.50	3.37	90	3.54	70	2.76	101	3.98	106	4.17	T1-T2
HR1222W-FR	12	22	5	1.62	3.75	90	3.54	70	2.76	101	3.98	106	4.17	T1-T2
HR1224W-FR	12	24	6	1.94	4.41	151	5.94	51	2.01	94	3.70	98	3.86	T1-T2
HR1228W-FR	12	28	7.5	2.30	5.18	151	5.94	65	2.56	94	3.70	100	3.94	T1-T2
HR1234W-FR	12	34	9	2.6	5.51	151	5.94	65	2.56	94	3.70	100	3.94	T1-T2
HR1251W-FR	12	51	14	4.0	9.04	151	5.94	98	3.86	94	3.70	100	3.94	T1-T2
HR1280W-FR	12	80	20	5.8	12.79	181	7.13	77	3.03	167	6.57	167	6.57	T12
HR1290W-FR	12	90	22	6.50	15.44	181	7.13	77	3.03	167	6.57	167	6.57	T12
HR12110W-FR	12	110	28	8.8	19.62	166	6.54	126	4.96	174	6.85	181	7.13	T14
HR12150W-FR	12	150	40	11.5	25.36	196	7.72	130	5.12	63	6.42	169	6.65	T14
HR12160W-FR	12	160	45	14.3	31.31	197	7.8	165	6.5	170	6.7	170	6.7	T14
HR12200W-FR	12	200	55	17.3	37.49	230	9.06	138	5.43	211	8.31	226	8.90	T14
HR12240W-FR	12	240	65	21.3	46.97	350	13.78	166	6.54	179	7.05	179	7.05	T14
HR12280W-FR	12	280	80	24.7	54.46	260	10.24	169	6.65	211	8.31	224	8.82	T14
HR12330W-FR	12	330	100	28.5	64.39	307	12.09	169	6.65	211	8.31	215	8.46	T14
HR12390W-FR	12	390	120	32.7	72.77	331	13.03	173	6.81	213	8.39	233	9.17	T16A-T16
HR12425W-FR	12	425	125	36.5	80.48	407	16.02	174	6.85	209	8.23	233	9.17	T16A-T16
HR12500W-FR	12	500	150	44	99.23	342	13.46	172	6.77	280	11.02	285	11.22	T16A-T16
HR12540W-FR	12	535	160	48	105.84	485	19.1	172	6.77	240	9.4	240	9.4	T16A-T16
HR12700W-FR	12	700	200	64	141.12	522	20.55	240	9.45	216	8.50	236	9.29	T16A-T16
HR619W-FR	6	19	4.5	0.8	1.76	70	2.8	47	1.9	101	4	107	4.2	T1
HR622W-FR	6	22	5	0.9	1.98	70	2.8	47	1.9	101	4	107	4.2	T1
HR628W-FR	6	28	7.5	1.28	2.82	151	5.9	34	1.3	94	3.7	100	3.9	T1
HR634W-FR	6	34	9	1.35	2.98	151	5.9	34	1.3	94	3.7	100	3.9	T1
HR651W-FR	6	51	14	2.00	4.41	151	5.9	50	2.00	94	3.7	100	3.9	T1-T2
HR6700W-FR	6	700	200	32.5	71.66	321	12.6	176	6.9	226	8.9	246	9.7	T16A-T16

# Front Terminal Series Front Terminal Series

## Characteristics

- **Excellent safety performance:** No electrolyte leakage, battery swelling and cracking under normal use.
- **Good discharging performance:** With smooth discharging voltage and mild discharging platform.
- **Good shock-proof performance:** The fully charged and completely fixed battery, with 4mm amplitude and 16.7HZ frequency does have a normal open circuit voltage without leakage, batteries swelling or cracking problem after one-hour vibration.
- **Good impact-proof performance:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking after dropping three times from 20cm height naturally to a 1 cm-thick hardwood board.
- **Good resistance to overdischarge:** In temperature of 25 degrees Celsius (77°F) the fully charged battery discharges with fixed resistance which is equivalent to the one required by 1 CA discharge of the battery for three weeks, and it can restore capacity over 75%.
- **Good resistance to overcharge:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking in temperature of 25 degrees Celsius (77°F) after charging at 0.1 CA for 48 hours, and the capacity maintain over 95%.
- **Good resistance to high current:** The fully charged battery is proved to be without conductive part melted or any appearance deformation after discharging at 2 CA for 5 minutes or 10 CA for 5 seconds.
- **Minor self-discharge.**
- **Low rate of loss of coolant.**
- **Good resistance to corrosion and small internal resistance.**
- **Widely working environment:** Can be used at widely difference in temperature from subzero 40°C (-104°F) to 60 °C (140°F)

**Designed life:** The batteries are designed up to 20 years for standby service.

**Application:** The batteries are designed for direct current supply, large-sized uninterruptible power supply, telecommunication system, control system.

## Specification

Battery Model	Nominal Voltage (V)	Capacity(Ah) 10hrs/25°C (77°F)	Approx. Weight		Dimension								Terminal Type
			kg	lbs	Length		Width		Height		Total Height		
					mm	inch	mm	inch	mm	inch	mm	inch	
FT12-55Ah	12	55	16.0	35.20	277	10.91	138	5.43	211	8.31	229	9.02	T14
FT12-75Ah	12	75	25.0	55.00	562	22.13	114	4.49	188	7.40	188	7.40	T14
FT12-100Ah	12	100	32.8	72.16	395	15.55	110	4.33	327	11.30	287	11.30	T14
FT12-105Ah	12	105	32.0	71.00	508	20.00	109	4.29	223	8.78	238	9.37	T16
FT12-125Ah	12	125	41.5	91.30	437	17.20	108	4.25	317	12.48	317	12.48	T18
FT12-150Ah	12	150	48.0	105.60	551	21.69	109	4.29	288	11.34	288	11.34	T16
FT12-155Ah	12	155	49.5	108.90	547	21.54	125	4.92	317	12.48	317	12.48	T18
FT12-180Ah	12	180	55.0	121.00	560	22.05	125	4.92	316	12.44	316	12.44	T18

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# EV Series

## EV Ser



### Characteristics

- **Excellent safety performance:** No electrolyte leakage, battery swelling and cracking under normal use.
- **Good discharging performance:** With smooth discharging voltage and mild discharging platform.
- **Good shock-proof performance:** The fully charged and completely fixed battery, with 4mm amplitude and 16.7HZ frequency does have a normal open circuit voltage without leakage, batteries swelling or cracking problem after one-hour vibration.
- **Good impact-proof performance:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking after dropping three times from 20cm height naturally to a 1 cm-thick hardwood board.
- **Good resistance to overdischarge:** In temperature of 25 degrees Celsius (77°F) the fully charged battery discharges with fixed resistance which is equivalent to the one required by 1 CA discharge of the battery for three weeks, and it can restore capacity over 75%.
- **Good resistance to overcharge:** The fully charged battery is proved to maintain normal open circuit voltage and be without leakage or batteries swelling or cracking in temperature of 25 degrees Celsius (77°F) after charging at 0.1 CA for 48 hours, and the capacity maintain over 95%.
- **Good resistance to high current:** The fully charged battery is proved to be without conductive part melted or any appearance deformation after discharging at 2 CA for 5 minutes or 10 CA for 5 seconds.
- **Good deep charge cycle performance:** Good performance in charging, over-discharging and deep-discharging.
- **Good resistance to corrosion and small internal resistance.**
- **Widely working environment:** The battery can be used at widely difference in temperature from subzero 40°C (-104°F) to 60 °C (140 °F)
- **They have high cycling life, high efficiency and long service life**
- **Designed life:** The batteries are designed up to 8 years for electric vehides.
- **Applocation:** They are used in electric wheelchair, mower, electrombile, etc.

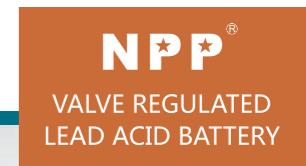
### Specification

Battery Model	Nominal Voltage (V)	Capacity(Ah) 20hrs/25°C (77F)	Approx. Weight		Dimension								Terminal Type
			kg	lbs	Length		Width		Height		Total Height		
					mm	inch	mm	inch	mm	inch	mm	inch	
EV12-12Ah	12	12	4.00	8.82	151	5.94	100	3.94	99	3.90	103	4.06	T2
EV12-20Ah	12	20	7.00	15.44	180	7.09	77	3.03	170	6.69	172	6.77	T12
EV12-35Ah	12	35	12.00	26.46	223	8.78	106	4.17	170	6.69	174	6.85	T14
EV12-40Ah	12	40	13.50	29.77	223	7.73	120	6.54	170	6.69	174	6.85	T14

# Cautions



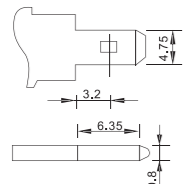
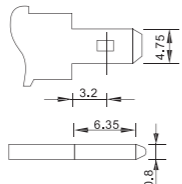
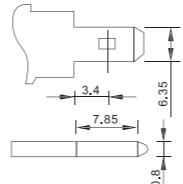
- Never charge the battery in a sealed container.
- Never disassemble the battery.
- Never short-circuit battery terminals.
- Never incinerate batteries, for they may explode.
- Do not press and/or bend the terminals, or overheat them.
- Do not mix old and new batteries together, neither use batteries of different types or brands.
- Do not dispose of with household waste.
- Be sure to use the specified charger for battery, and follow the charging instructions correctly.
- Be sure to charge the batteries between the temperatures 0°C/32° to 45°C/113°.
- Be sure to position batteries securely, protecting them from abnormal shocks and/or vibration.
- Be sure to keep sufficient space between batteries for ventilation (where possible >10mm).
- Be sure to install batteries in a cool and well ventilated place.
- The surrounding temperature must remain between -20°C/4° to 50°C/122° during storage.
- Recharge the batteries at least every 6 months during storage.
- Be sure to consult NPP engineers any time you are to use NPP VRLA batteries for your products, or preparing your technical specifications of NPP VRLA batteries.

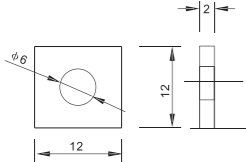
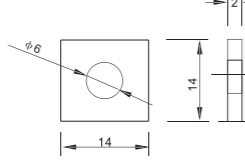
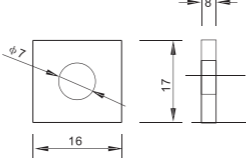


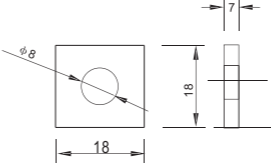
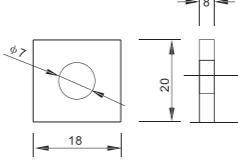
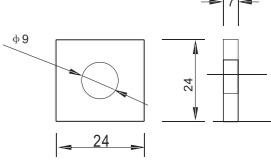
# Valve Regulated Lead Acid Battery

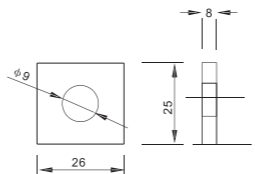
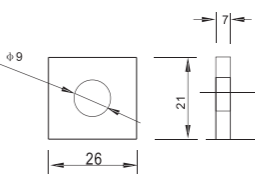
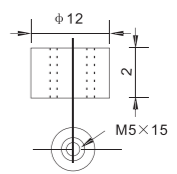
**NPP**<sup>®</sup>  
VALVE REGULATED  
LEAD ACID BATTERY

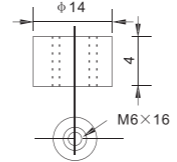
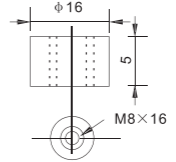
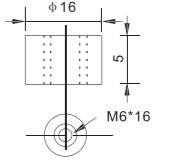
## Terminal mm

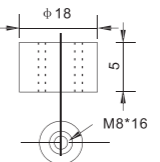
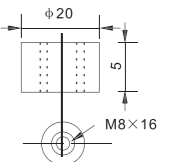
T0 Terminal	T1 Terminal	T2 Terminal
 <p>Applied for 6V1.2Ah, 12V1.2Ah, 12V2.3Ah, 6V4Ah etc.</p>	 <p>Applied for 6V1.2Ah, 12V1.2Ah, 12V2.3Ah, 6V4Ah etc.</p>	 <p>Applied for 12V4Ah, 12V7Ah, 12V9Ah, 12V12Ah etc.</p>

T3 Terminal	T4 Terminal	T5 Terminal
 <p>M5 BOLT&amp;NUT Applied for 12V15Ah, 12V17Ah, 12V18Ah, 12V20Ah</p>	 <p>M5 BOLT&amp;NUT Applied for 12V24Ah, 12V28Ah(T)</p>	 <p>M6 BOLT&amp;NUT Applied for 12V24Ah(S), 12V38Ah(S), 12V55Ah</p>

T6 Terminal	T7 Terminal	T8 Terminal
 <p>M6 BOLT&amp;NUT Applied for 12V33Ah, 12V38Ah(T)</p>	 <p>M6 BOLT&amp;NUT Applied for 12V65Ah(S), 12V65Ah(T)</p>	 <p>M8 BOLT&amp;NUT Applied for 12V100Ah(D)</p>

T9 Terminal	T10 Terminal	T12 Terminal
 <p>M8 BOLT&amp;NUT Applied for 12V120Ah(S), 12V120Ah(T), 12V200Ah, 12V250Ah, 2V100Ah</p>	 <p>M8 BOLT&amp;NUT Applied for 12V150Ah</p>	 <p>M5x15 Applied for 12V15Ah, 12V17Ah, 12V18Ah, 12V20Ah, 12V24Ah, 12V60Ah</p>

T14 Terminal	T16 Terminal	T16A Terminal
 <p>M6x16 Applied for 12V33Ah, 12V55Ah, 12V70Ah, 12V100Ah(S)</p>	 <p>M8x16 Applied for 12V100Ah, 12V100Ah(S), 12V105Ah</p>	 <p>M6x16 Applied for 12V100Ah, 12V38Ah(T), 12V65Ah, 12V70Ah, 12V90Ah</p>

T18 Terminal	T20 Terminal
 <p>M8x16 Applied for 12V160Ah, 12V200Ah, 12V230Ah, 12V250Ah</p>	 <p>M8x16 Applied for 12V65Ah(T), 12V100Ah, 12V120Ah(T), 12V150Ah, 2V battery</p>

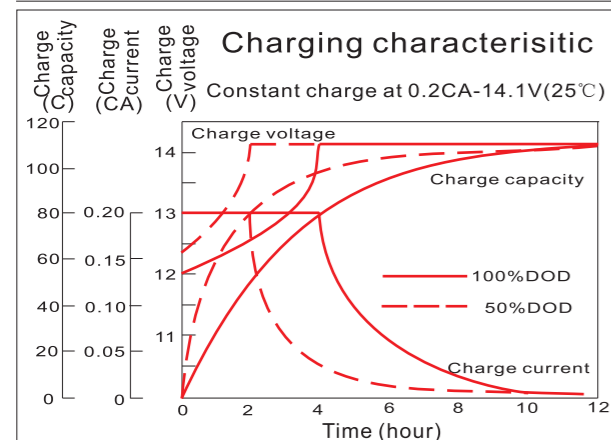




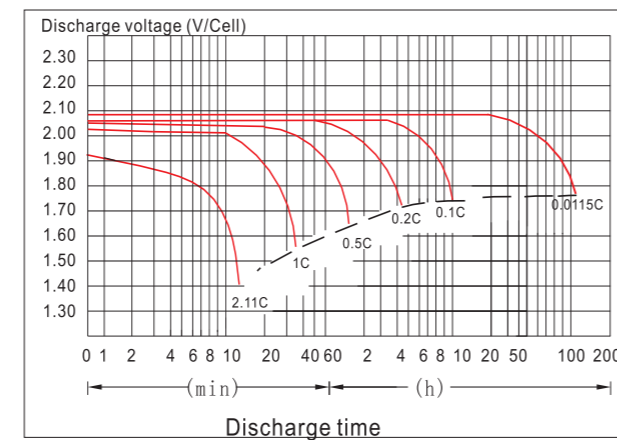
# Valve Regulated Lead Acid Battery

## Battery Performance Characteristics Curves

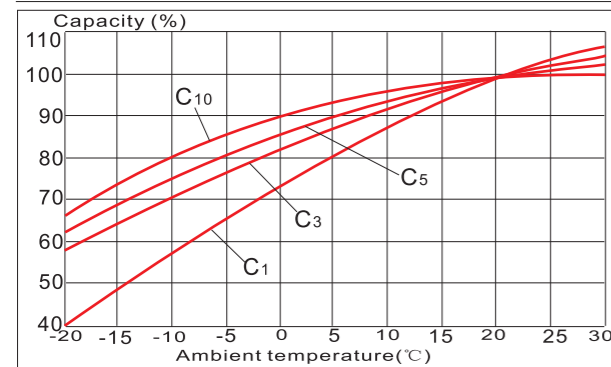
Curves of charging characteristics



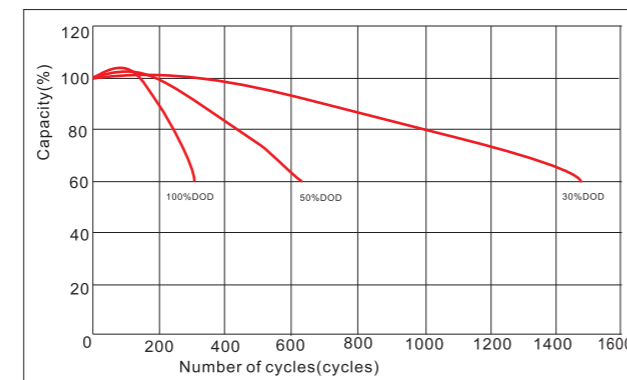
Discharge characteristics at different discharge rate(20°C)



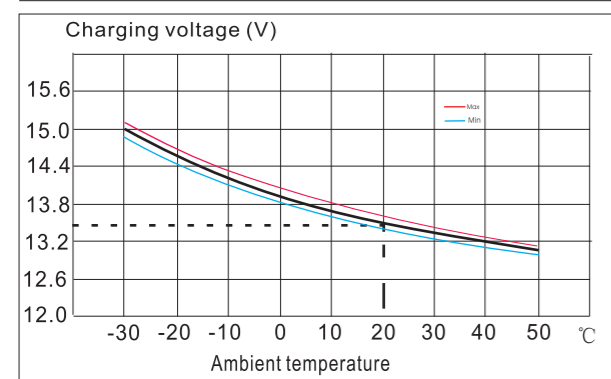
Curves of discharge capacity and ambient temperature



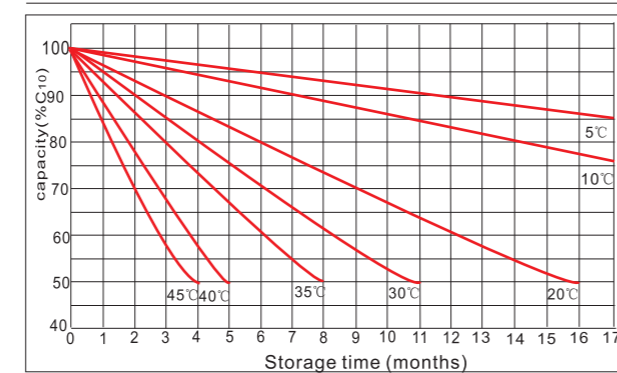
Curves of cycle life



Curves of float voltage and ambient temperature



Curves of self-discharge and storage time



# Charging and Discharging

## 1. Charging

Charge Voltage & Charge Current

Ambient Temperature: 25°C

Usage	For Standby Use			For Cycle Use		
	2V Battery	6V Battery	12V Battery	2V Battery	6V Battery	12V Battery
Charge Voltage (V)	2.25~2.30	6.75~6.90	13.5~13.8	2.40~2.50	7.25~7.50	14.5~15.0
Max Charge Current (A)	0.2C	0.3C	0.3C	0.2C	0.3C	0.3C

Note:

- C : means Ah value of battery's rated capacity.
- When ambient temperature is below 15°C or above 35°C, the recommend compensation factor is  $\pm 3\text{mV}/^\circ\text{C}/\text{cell}$  (Standby charge) or  $\pm 5\text{mV}/^\circ\text{C}/\text{cell}$  (Cycle charge) starting from the standard center point 25°C.
- Battery in charging should be in the temperature of -10°C - 50°C

## 2. Discharging

Discharge Current & End Voltage

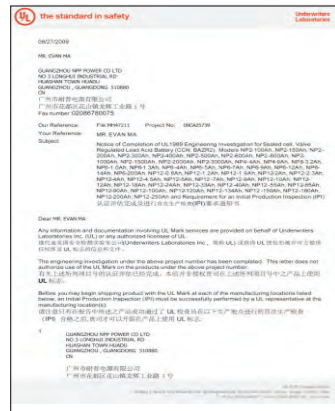
Ambient Temperature: 25°C

Discharge Current (A)	End Voltage (V)		
	2V battery	6V battery	12V battery
0.05C	1.75	5.25	10.25
0.1C <sub>10</sub> ~0.25C <sub>10</sub>	1.80	5.40	10.80
0.55C <sub>10</sub>	1.75	5.25	10.50
1C <sub>10</sub> ~3C <sub>10</sub>	1.60	4.80	9.60

Note:

- C : means Ah value of battery's rated capacity.
- End voltage should vary with the change of discharge current.
- Battery voltage must higher than it's corresponding end voltage when discharge.
- Charge battery after discharged immediately.
- Battery in discharging should be in the range of -15°C - 50°C

# HONOR



UL-MH47211  
UL认证



CE Certificate  
CE 认证



Solar product certification  
太阳能产品认证证书



ISO9001-2008认证  
ISO9001 Certificate



OHSAS18001-2007认证  
OHSAS18001 Certification



ISO14001-2004认证  
ISO14001 Certificate



Production License for Industrial Products  
工业产品生产许可证



TLC Certificate  
泰尔认证



Quality License for Export Products  
出口产品质量许可证



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