

# NP Series

## NP Series Lead-Acid Maintenance Free Batteries ( 12V/4-200Ah )

### System Introduction

NP Series is a long life design (12 years) sealed lead acid maintenance free batteries. With low calcium alloy steel design, it can be greatly increase the reliability and life time.



### System Feature

Fully sealed structure to adapt different application of control room and public area without maintenance requirement

- ◆ Advance technology to eliminate frequency maintenance.
- ◆ Three layer sealed structure can ensure the battery stability.

Advance VRLA technology, enhance the battery reliability and quality

- ◆ AGM structure and super-thick grids of the state-of-the-art technology to expand life of battery.
- ◆ High quality safe valve design.

Advance production capability and material

- ◆ High Level assembly production quality control to ensure battery obturation.
- ◆ High Capability of storage time upto half a year without maintenance.

Special design for UPS, Inverter and Power supply systems

- ◆ Advanced welding and assemblage technology improve anti-knock to avoid fake welding and usage.
- ◆ Special chemical reaction technology for battery internal structure.

### Specification

#### Environment

- ◆ Working Temp: -30°C ~ 45°C , Normally use batteries with 10°C ~ 30°C

With lower working temperature, battery actual capacity will be reduced; with higher working temperature, battery lifetime will be greatly reduced (Every 10°C raised, Battery lifetime reduces 30%)

Working Temp	-20°C	-10°C	0°C	10°C	25°C	40°C
C20 Actual Discharge Capacity	58%	72%	85%	92%	100%	109%

Note: Specs are subject to change without notice.

- ◆ Storage Temp: -20°C ~ 40°C , Normally controlled within 0°C ~ 40°C

#### Designing Lifetime

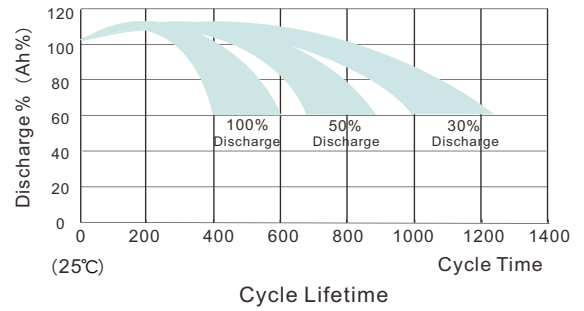
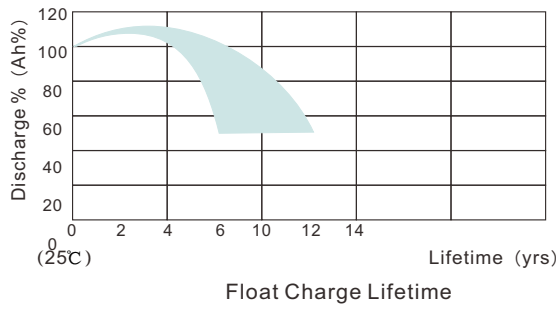
- ◆ Float Charge Lifetime:

NP Series less than 24Ah: 3 ~ 5 years(20°C - 25°C)

NP Series more than 33Ah: 5 ~ 12 years(20°C - 25°C)



◆ Cycle Lifetime:



Charging Feature

- ◆ Float Charge: float charge voltage is 2.25 ~ 2.30Vdc/cell (25°C) . Float charge correction factor is -3mVdc/°C .
- ◆ Cycle Use: Boost Charge Voltage is 2.40~2.50Vdc/cell, 25°C) . Boost Charge voltage temp. correction factor is -4mVdc/°C. Charging current no more than (0.3C/A)
- ◆ Equalized Charge: Equalized Charge/pulse charge voltage is 2.30 ~ 2.35Vdc/cell @25°C

Discharge Feature

◆ End Discharge Voltage:

Discharge Current	< 0.2 C (A)	< 0.5 C (A)	< 1 C (A)	< 3 C (A)	> 3 C (A)
End Discharge Voltage	10.8Vdc	10.5Vdc	10.2Vdc	9.9Vdc	9.6Vdc

Note: Application for >3 C(A), please contact us for more information.

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◆ Individual Battery Constant Current (A) Discharge Chart (25°C , 10.5Vdc End Voltage)

Discharge Time	5 m	10m	15m	30m	1h	2h	3h	4h	5h	8h	10h	20h
5 Ah /12V	15.80	11.00	8.70	5.29	3.15	1.88	1.35	1.05	0.87	0.58	0.47	0.25
7Ah/12V	22.10	15.38	12.20	7.41	4.40	2.63	1.89	1.47	1.21	0.82	0.64	0.35
9Ah/12V	28.4	19.8	15.7	9.52	5.66	3.39	2.46	1.90	1.56	1.06	0.86	0.45
12Ah/12V	37.8	26.3	20.9	12.70	7.55	4.52	3.24	2.52	2.04	1.41	1.15	0.60
17Ah/12V	53.6	37.3	29.6	17.99	10.7	6.4	4.6	3.57	2.90	1.99	1.63	0.85
26Ah/12V	84.24	56.94	46.8	28.08	16.26	9.40	7		4.70		2.42	1.30
38Ah/12V	116.6	77.3	59.02	36.5	21	13.38	9.79		6.46		3.9	1.975
65Ah/12V	167.8	131	106.8	66.7	35.75	21.92	16.67		11.05		6.65	3.38
100Ah/12V	262	201	162	101	55	35.3	25.5		17.0		10.2	5.3
120Ah/12V	317	243	193	122	66	42	31.1		20.4		12.18	6.3
150Ah/12V	390	293.8	229.1	146.4	82.5	52.2	38.6		25.5		15.2	7.8
200Ah/12V	464.3	364	290	182	110.0	71.5	51.0		34		20.2	10.6

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◆ Individual NP Constant Power (W) Discharge Chart (25°C , 10.5Vdc End voltage)

Discharge Time	5 m	10m	15m	30m	1h	2h	3h	4h	5h	8h	10h	20h
5 Ah /12V	172.8	122.4	97.8	60	36	21.66	15.6	12.18	10.08	6.78	5.76	2.976
7Ah/12V	241.8	171	136.8	84	50.28	30.36	21.9	17.04	14.16	9.6	7.86	4.14
9Ah/12V	310.8	220.2	176.4	108	64.2	39	28.14	21.96	18.18	12.42	10.14	5.34
12Ah/12V	414.6	293.4	234.6	144.0	86.4	52.02	37.56	29.28	24.24	16.56	13.56	7.14
17Ah/12V	587.4	415.8	333	204.0	122.4	73.2	53.22	41.46	34.38	23.52	19.2	10.14
26Ah/12V	937.8	650.4	542.28	330.72	193.38	112.68	84.18		56.7		29.28	15.78
38Ah/12V	1310.4	907.2	721.2	463.92	253.32	162	119.04		76.2		46.5	24.36
65Ah/12V	1878	1400.4	1122	702	416.76	265.02	195.72		125.4		78.42	40.8
100Ah/12V	2802	2232	1824	1151	639	406.08	293.4		195.72		119.4	64.86
120Ah/12V	3240	2550	2052	1330.2	773.4	480.9	357.6		234.12		145.2	75.9
150Ah/12V	3930	3024	2447.4	1513.8	888.6	600	448.08		288.72		182.7	94.56
200Ah/12V	4746.6	3840	3126	1974	1194	798	592.2		388.2		235.8	125.6

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## Self-Discharge

At normal condition (20°C ~ 30°C) , batteries can store upto 3 months. Self-discharge loss is less than 3%/month.

## Note

- ◆ Please note that maintenance free doesn't mean 100% non-maintenance. It means user don't need to add solvent regularly. User still needs to do proper maintenance to keep battery lifetime.
- ◆ Please Keep UPS working area to be clean and tidy to prevent any possible factor that will affect the UPS service life.
- ◆ In some good Mains Power Input condition areas, user should discharge & charge the battery every 3-6 month. (Start the UPS without Mains Power Input and let UPS work under Battery Mode until batteries are fully discharged, and then charge the battery in full cycle). This periodic operation can ensure the battery service life.

Model	Rated Voltage	Rated Capacity	Size (mm)				Net Weight (kg)
	(V)	C <sub>20</sub> (Ah)	W	D	H	Gross Height	
Np12005	12	5	90	70	101	106	1.6
Np12007	12	7	151	65	94	98	2.05-2.1
NP12009	12	10	151	65	94	98	2.45-2.55
NP12012	12	12	151	98	95	101	3.6
NP12017	12	17	181	77	167	167	5.1
Np12026	12	24	166	175	125	127	8
NP12038	12	38	198	166	170	170	12.2
NP12065	12	65	314	167	169	174	22.4
NP12100	12	100	330	174	217	226	29.0
NP12120	12	120	375	174	227	227	33.8
NP12150	12	150	483	172	240	223.5	41.5
NP12200	12	200	522	234	218	227	58

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Model	Rated Voltage	Rated Capacity	Size (mm)				Net Weight (kg)
	(V)	C <sub>20</sub> (Ah)	W	D	H	Gross Height	
NP12024A	12	24	166	125	161	174	7.6
NP12038A	12	38	197	166	162	169	12
NP12065A	12	65	324	168	170	175	19
NP12100EA	12	100	330	173	215	220	27.5
NP12100A	12	100	330	173	215	220	29
NP12120A	12	120	408	177	224	225	32
NP12150A	12	150	483	170	236	240	42.5
NP12200A	12	200	520	239	219	222	58
NP12230A	12	230	549	259	228	233	63

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