NPP Power Co., Ltd.

NPP
CLEAN ENERGY, SAFE POWER

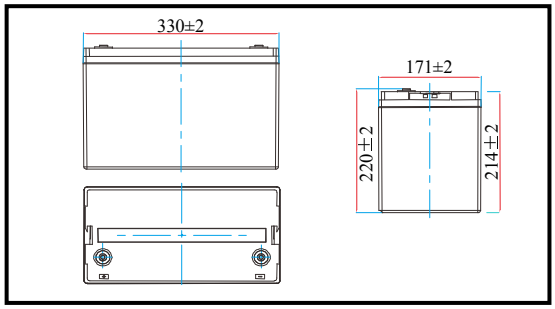
HR12390W (12V390 Watts/cell)

Valve Regulated Lead Acid Battery

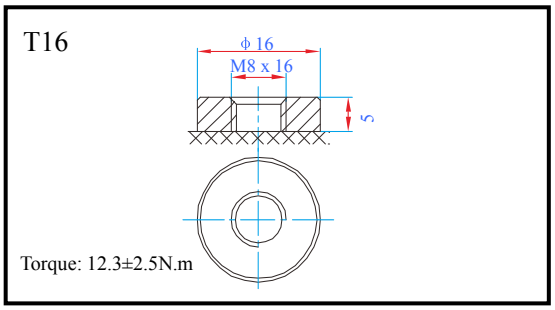
Specifications

Nominal voltage		12V (6 cells per unit)
Rated capacity (15min. rate)		390 Watts/cell /1.67V
Dimensions	Length	330±2mm (12.99inch)
	Width	171±2mm (6.73inch)
	Height	214±2mm (8.43inch)
	Total height	220±2mm (8.66inch)
Approx. weight		32.70kg (72.10lbs)±3%

Outer dimensions (mm)



Terminal type (mm)



Characteristics

Capacity (25°C)	15min. rate	390 Watts/cell /1.67V
	10HR	100Ah/10.8V
Terminal type		T16
Internal resistance (Fully charged, 25°C)		Approx. 4mΩ
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 months	Remaining capacity: 91%
	6 months	Remaining capacity: 82%
	12 months	Remaining capacity: 65%
Nominal operating temperature		25°C± 3°C (77°F± 5°F)
Operating temperature range	Discharge	- 15°C~ 50°C (5°F ~ 122°F)
	Charge	- 10°C~ 50°C (14°F ~ 122°F)
	Storage	- 20°C~ 50°C (-4°F ~ 122°F)
Float charging voltage (25°C)		13.50 to 13.80V Temperature compensation: -18mV/°C/Block
Cyclic charging voltage (25°C)		14.50 to 15.00V Temperature compensation: -30mV/°C/Block
Maximum charging current		31.2A
Maximum discharge current		800A (5 sec.)
Design life		10 years for floating (25°C)
		Eurobat (20°C): 10-12 years, long life.

Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Sulfuric acid	Rubber	Copper

Constant current discharge characteristics unit: Ampere/cell (at 25°C, 77°F)

F.V/Time	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h	6h
1.60V/cell	302.94	216.38	180.63	132.48	95.18	71.80	38.40	27.50	22.20	19.30	16.50
1.67V/cell	288.68	210.14	173.06	127.99	92.15	70.00	38.00	27.30	22.00	19.10	16.30
1.70V/cell	281.56	203.90	169.81	125.74	90.42	68.90	37.80	27.20	21.90	19.00	16.30
1.75V/cell	269.68	196.62	163.32	123.50	88.26	67.60	37.20	27.00	21.70	18.90	16.20
1.80V/cell	254.23	186.21	154.67	117.88	85.01	65.50	36.30	26.20	21.10	18.30	15.70

Constant power discharge characteristics unit: Watt/cell (at 25°C, 77°F)

F.V/Time	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h	6h
1.60V/cell	527.91	410.04	341.61	251.28	183.86	139.00	74.80	54.20	43.70	38.20	32.70
1.67V/cell	503.66	390.00	327.82	243.56	177.37	135.00	74.20	53.70	43.30	37.80	32.40
1.70V/cell	490.43	385.56	321.45	239.16	174.12	133.00	73.70	53.50	43.10	37.70	32.20
1.75V/cell	469.49	372.30	309.78	232.54	169.80	130.00	72.60	53.20	42.80	37.40	32.00
1.80V/cell	443.04	352.92	293.87	224.83	164.39	126.00	70.80	51.60	41.50	36.30	31.10

Note 1: Above characteristics data can be obtained within three charge and discharge cycles.

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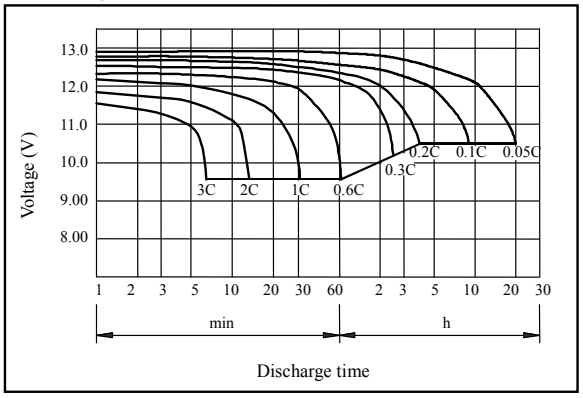
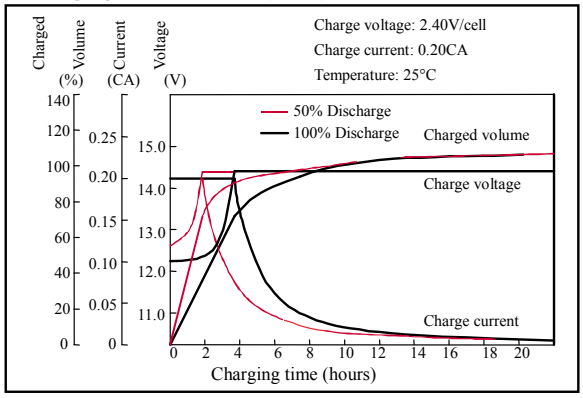
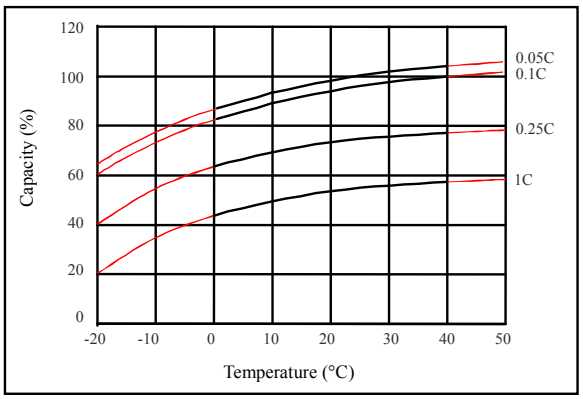
Discharge characteristics (25°C)



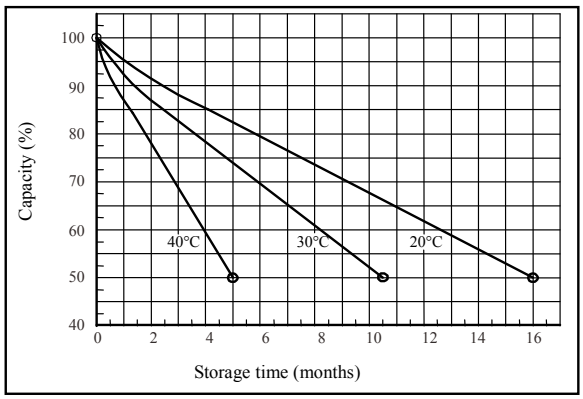
Charging characteristics (25°C)



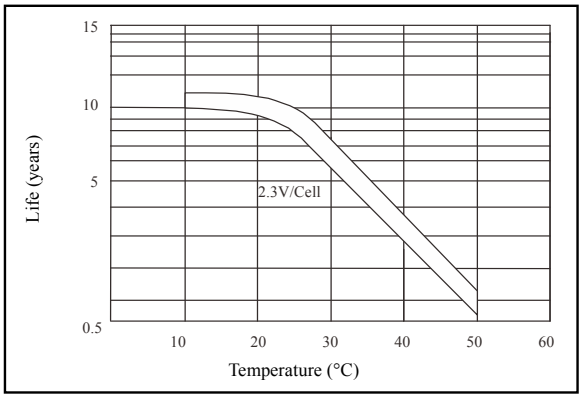
Temperature effects on capacity



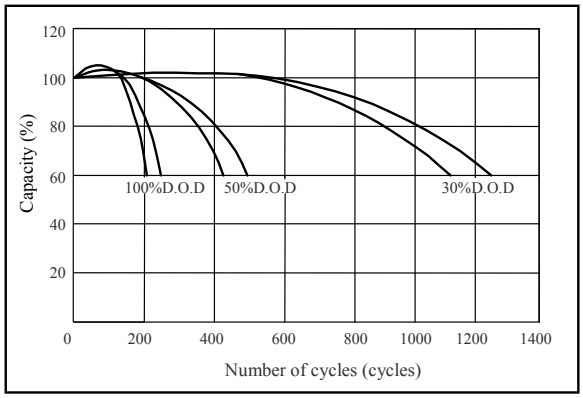
Self-discharge characteristics



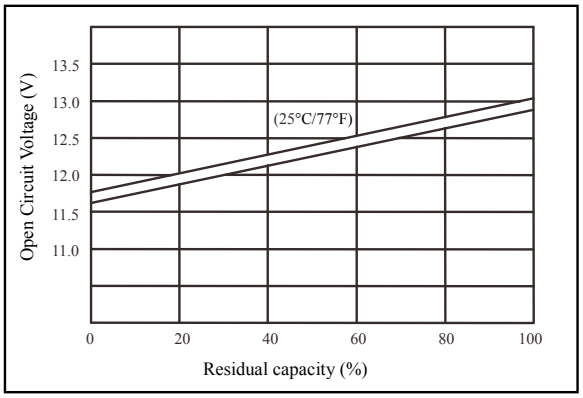
Floating life on temperature



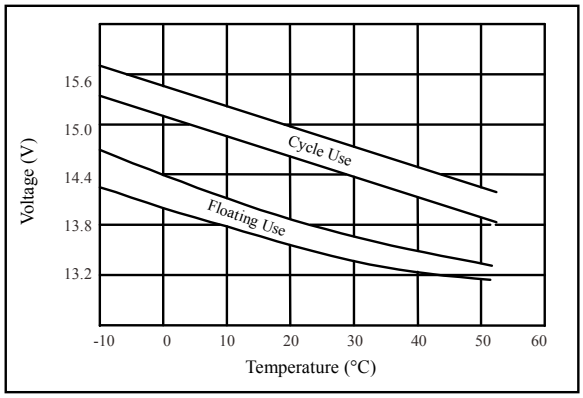
Cycle life on D.O.D (25°C)



Relationship for OCV and capacity (25°C)



Relationship for charging voltage and temperature



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