



MNPC



## NPC Series

VALVE REGULATED LEAD-ACID BATTERIES  
CYCLIC APPLICATION

NPC

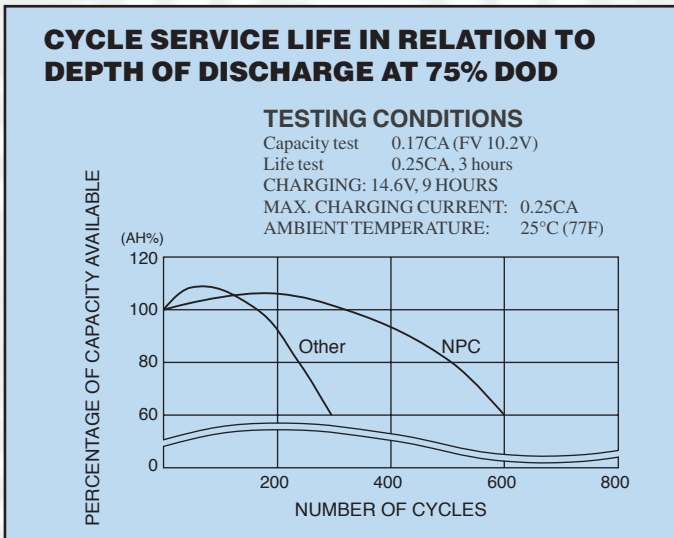
# YUASA NPC SERIES

The low maintenance and valve regulated constructions combine with heavy-duty plates and unique separator systems to make NPC service twice as long as conventional counterparts.

## FEATURES

### 1. Double cycle life

NPC operates 500 charge/discharge cycles or twice as many cycles as conventional cycle use batteries at 75%D.O.D. (depth of discharge).



### 2. Valve-regulated and maintenance-free

Battery electrolyte retained solidly in the separator and the innovative gas recombinant system allows minimum gas emittance freeing the user from maintenance.

### 3. Durability for deep discharge use

Yuasa's state-of-the-art plate barrier prevention and the unique separator systems help endure deep discharge use thus considerably prolonging battery's service life.

### 4. Minimal self-discharge

Cyclic use batteries tend to be left discharged after usage causing plate corrosion leading to shortened life. Self discharge rate of NPC is as small as only 0.1% a day at 20°C and thus extends the storage period allowed.

## Operating temperature range

Charge:	- 15 ~ 50°C	(5 ~ 122°F)
Discharge:	- 15 ~ 50°C	(5 ~ 122°F)
Storage:	- 20 ~ 50°C	(- 4 ~ 122°F)

## Recommended charging method

Current:	Max. 0.25CA
Voltage:	2.4 ~ 2.5VPC

## Applications

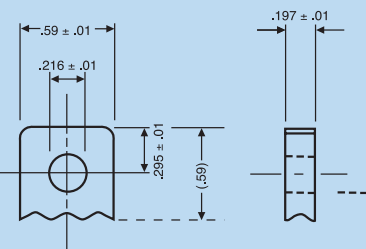
- Wheelchairs
- Golf trolley
- Lawn mowers
- Lights
- Toy cars
- Sprayers
- Photovoltaics
- Robots
- Communications
- Electric tools
- Pumps
- Measuring instruments
- AGV (Automatic guided vehicle)
- Magnetic lifts

## Specifications

NPC Model	Volts	Rated Capacity (20 hr rate) (Ah)	Approx. Dimensions			Weight	Layout	Terminals
			Length	Width	Overall height incl. terminals			
NPC17 - 12	12	17	181mm	76mm	167mm	6.2kg	2	E
NPC24 - 12I	12	24	175mm	166mm	125mm	8.8kg	2	J
NPC30 - 12	12	30	195mm	129mm	179mm	11.25kg	1	F
NPC38 - 12I	12	38	197mm	165mm	170mm	14kg	2	J
NPC65 - 12I	12	65	350mm	166mm	174mm	23kg	2	K

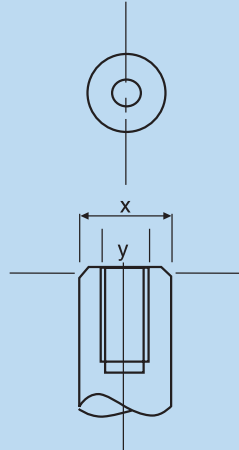
## Terminals

### Bolt fastened terminal F



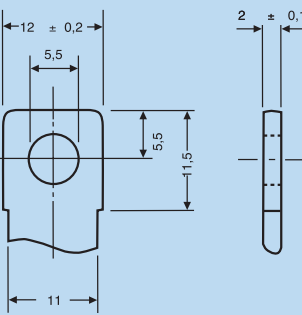
INCH = MM	
.59	15.0
.216	5.5
.295	7.5
.197	5.0

### Terminals J, K & L



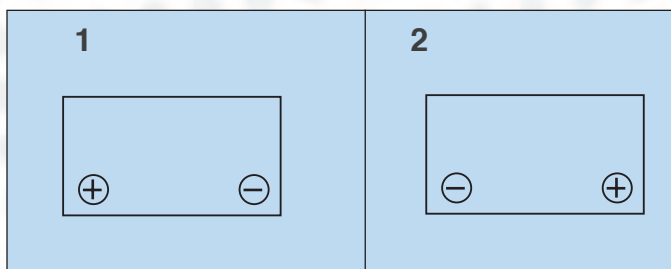
Terminal	x	y
J:	17mm	M5
K:	20mm	M6
L:	20mm	M8

### Bolt fastened terminal E



INCH = MM	
.472	12.00
.453	11.50
.433	11.00
.216	5.50
.079	2.00

## Layouts



## CAUTION

- Avoid short circuit.
- Do not charge in a sealed container.
- Service life and operational characteristics will be affected by temperature.
- AC Ripple reduces service life.

## WARNING!

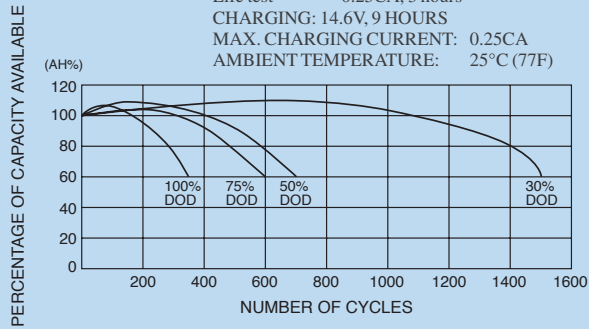
The battery type NPC65-12I must never be installed permanently suspended by their handles; they are not designed for this purpose.

# Performance

## CYCLE SERVICE LIFE IN RELATION TO DEPTH OF DISCHARGE

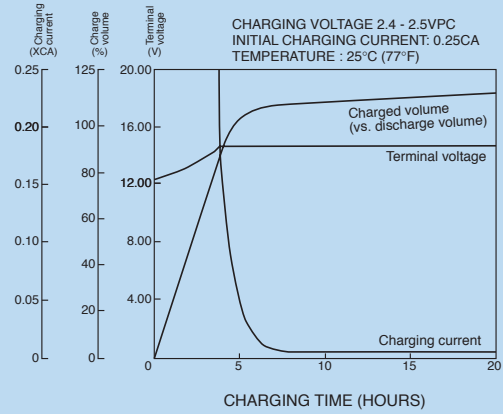
### TESTING CONDITIONS

Capacity test 0.17CA (FV 10.2V)  
 Life test 0.25CA, 3 hours  
 CHARGING: 14.6V, 9 HOURS  
 MAX. CHARGING CURRENT: 0.25CA  
 AMBIENT TEMPERATURE: 25°C (77°F)



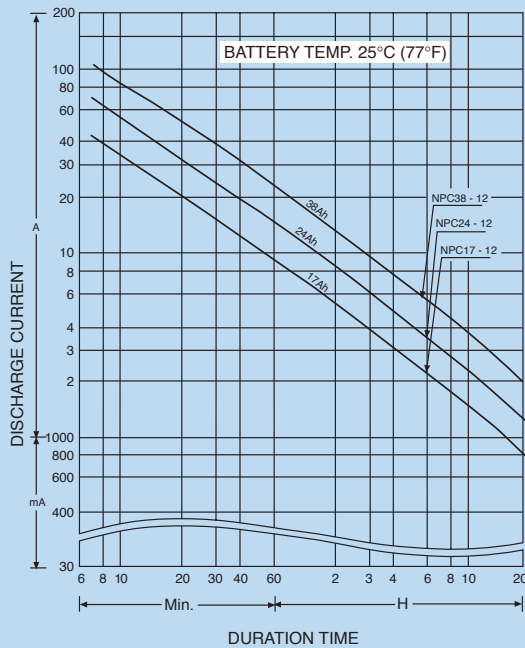
## CONSTANT CURRENT, CONSTANT VOLTAGE CHARGING CHARACTERISTICS

CHARGING VOLTAGE 2.4 - 2.5VPC  
 INITIAL CHARGING CURRENT: 0.25CA  
 TEMPERATURE: 25°C (77°F)



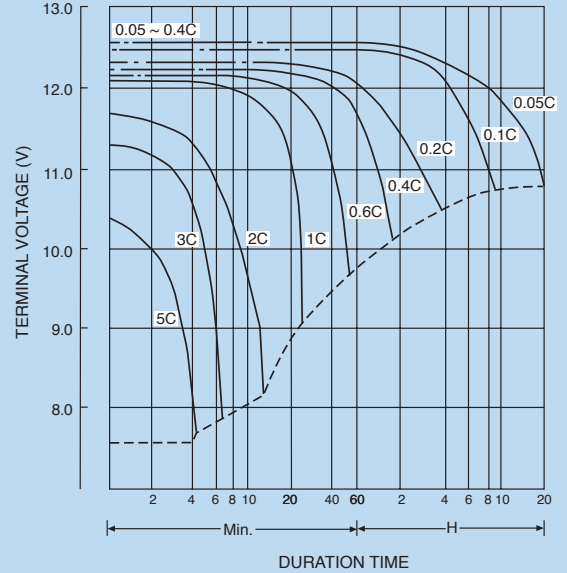
## DISCHARGE CURRENT VS. DURATION TIME

BATTERY TEMP. 25°C (77°F)

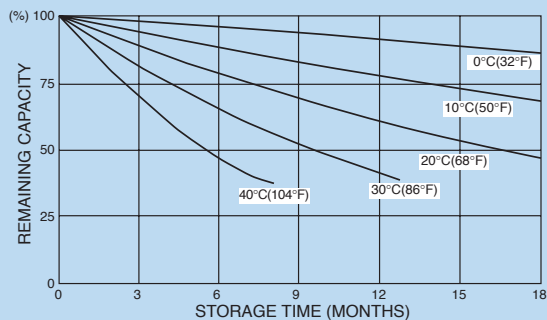


## DISCHARGE CHARACTERISTICS AT VARIOUS CURRENTS (25°C (77°F))

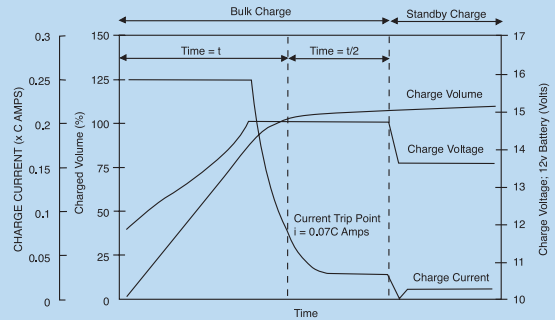
FOR 12V BATTERY



## SELF DISCHARGE CHARACTERISTICS



## CYCLIC RECHARGE REGIME



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