



# National Fire Equipment Ltd.

**Model BAT12V33A - 12 Volt - 33 AMP  
General Purpose Battery**

## Specification

Cells Per Unit	6
Voltage Per Unit	12
Nominal Capacity	33Ah@10hour-rate to 1.80V per cell @25°C
Weight Approx.	9.0 Kg (Tolerance±3.0%)
Max. Discharge Current	330A (5 sec)
Internal Resistance	Approx. 9.0 mΩ
Terminal	F7 (M8)/F11 (M6)
Short Circuit Current	800A
Design Life	12 years (Float charging)
Recommended Maximum Charging Current	9.9 A
Reference Capacity	C3 25.6AH C5 28.8AH C10 33.0AH C20 35.0AH
Standby Use Voltage	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
Normal Operating Temperature Range	25°C±5°C
Self Discharge	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



RA series is a general purpose battery with 12 years design life in float service. It meets with IEC, JIS, BS and YDT standards. With advanced AGM valve regulated technology and high purity raw material, the RA series battery maintains high consistency for better performance and reliable standby service life. It is suitable for UPS/ EPS, Telecom, power grid, medical equipment, emergency light and security system applications.



ISO 9001



ISO 14001



OHSAS 18001

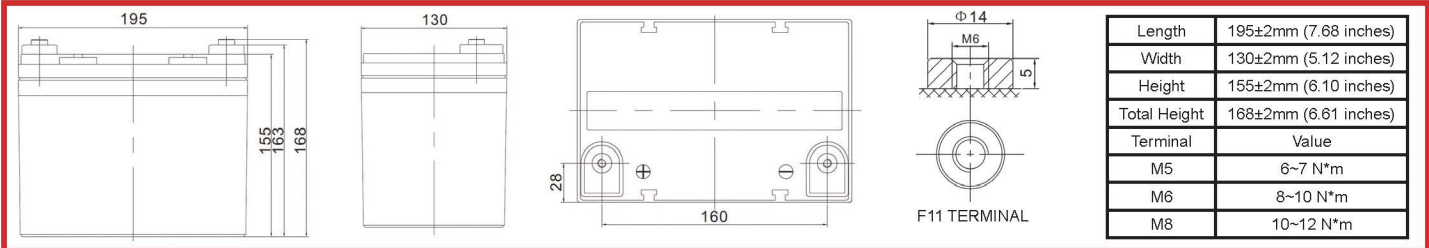


MH 28539



G4M20206-0910-E-16

## Dimensions



## Constant Current Discharge Characteristics : A (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	102.5	78.9	60.6	35.8	20.2	12.0	9.31	7.32	6.23	4.18	3.48	1.82
1.65V	98.8	74.6	57.9	34.3	19.5	11.6	9.02	7.12	6.06	4.14	3.44	1.79
1.70V	94.0	68.7	54.2	32.8	18.8	11.2	8.78	6.92	5.91	4.07	3.39	1.77
1.75V	87.8	62.9	50.5	31.4	18.1	10.9	8.51	6.75	5.76	4.02	3.34	1.75
1.80V	80.0	56.9	46.6	30.0	17.5	10.5	8.25	6.55	5.61	3.95	3.30	1.73
1.85V	70.4	46.5	38.7	25.8	15.7	9.59	7.63	6.09	5.23	3.71	3.11	1.64

## Constant Power Discharge Characteristics : WPC (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	176.5	134.2	105.9	65.0	37.9	22.8	17.8	14.0	12.0	8.17	6.84	3.59
1.65V	174.6	129.2	102.7	63.0	36.8	22.1	17.3	13.7	11.7	8.10	6.77	3.53
1.70V	168.0	121.2	97.7	60.9	35.8	21.5	16.9	13.1	11.5	7.99	6.68	3.50
1.75V	159.7	112.9	92.2	58.8	34.7	20.9	16.5	13.1	11.2	7.89	6.60	3.46
1.80V	148.1	104.0	86.3	56.7	33.6	20.2	16.0	12.8	11.0	7.78	6.52	3.43
1.85V	132.6	86.5	72.7	49.4	30.3	18.6	14.9	11.9	10.3	7.32	6.15	3.26

(Note) The above characteristics data are average values obtained with three charge/discharge cycle no the minimum values.

The battery must be fully charged before the capacity test. The C<sub>10</sub> should reach 95% after the first cycle and 100% after the third cycle.



**National Fire  
Equipment Ltd.**

TORONTO: (905) 761-6355  
Toll Free: (800) 267-8508

OTTAWA: (613) 723-6071

VANCOUVER: (604) 420-1131  
Toll Free: (800)-667-2138

BURNABY: (604)-299-4498

EDMONTON: (780) 455-3870  
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CALGARY: (403) 236-5661

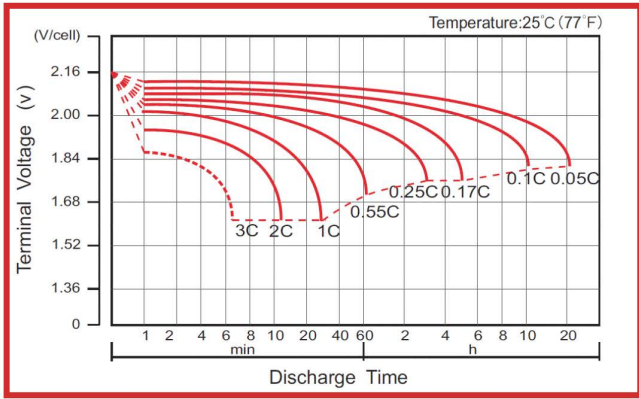
MONCTON: (506) 859-7277  
Toll Free: (877) 816-3473

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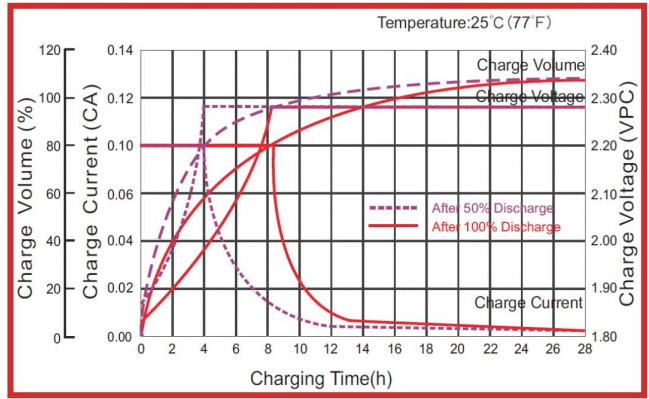
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(Note) All below information shall be changed without prior notice, the manufacture reserves the right to explain and update the latest information.

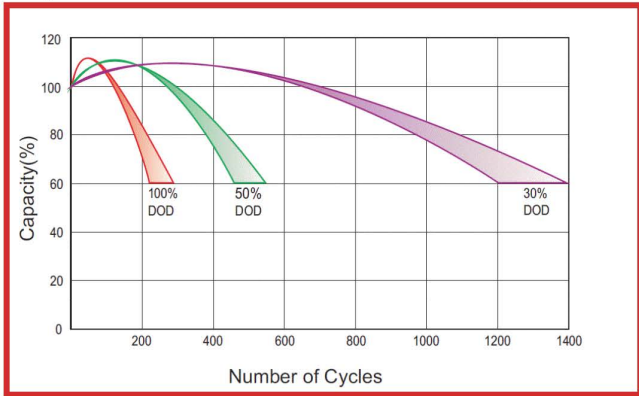
### Discharge Characteristics Curve Charge



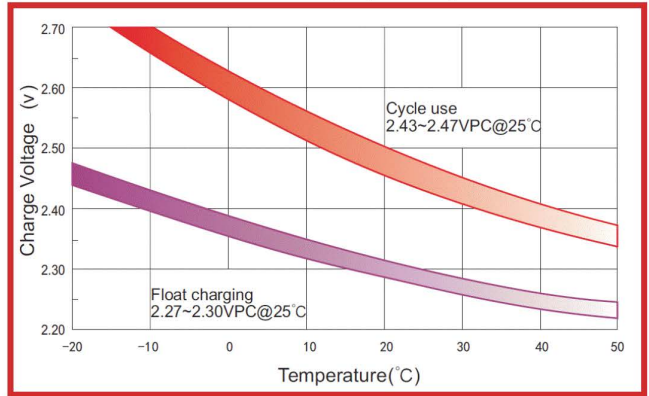
### Charge Characteristic Curve For Standby Use



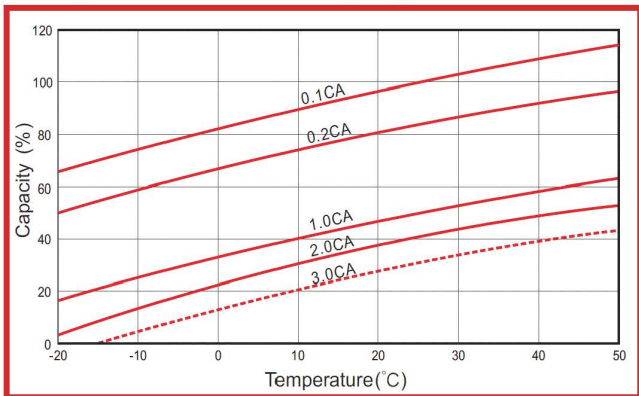
### Cycle Life In Relation To Depth Of Discharge



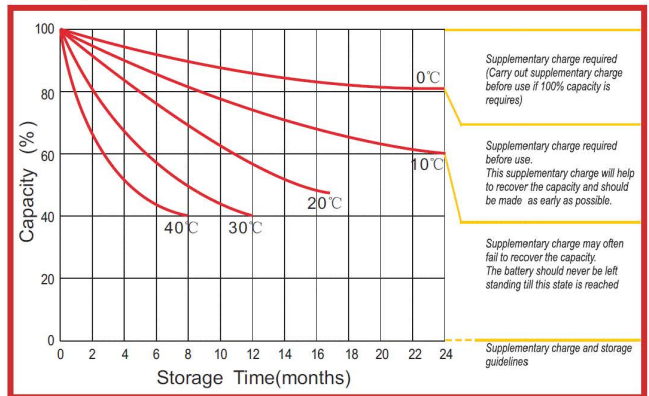
### Relationship Between Charging Voltage And Temperature



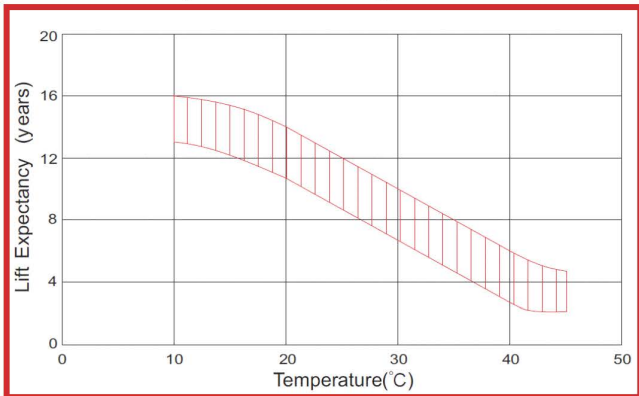
### Temperature Effects On Capacity



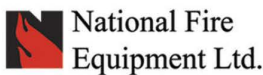
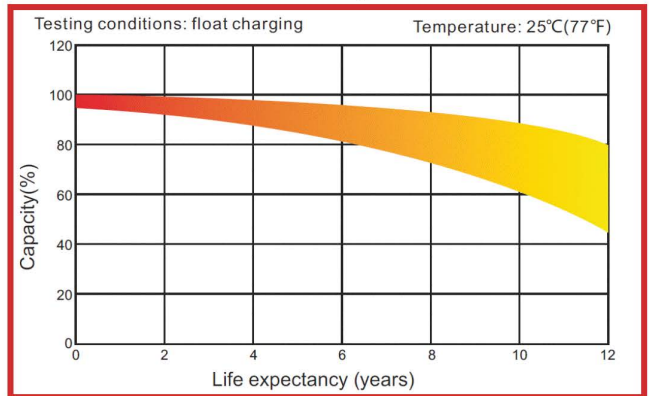
### Storage Characteristics



### Effect Of Temperature On Long Term Life



### Life Characteristics Of Standby Use



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