

# OPzV2-490(2V490Ah)



OPzV series is Valve Regulated Lead Acid battery that adopts immobilized GEL and Tubular Plate technology to offer high reliability and performance. The Battery is designed and manufactured according to DIN standards and with die-casting positive grid and patented formula of active material OPzV series exceeds DIN standard values with more than 25 years floating design life at 25 °C and It is the best solution for cyclic use under extreme operating conditions.

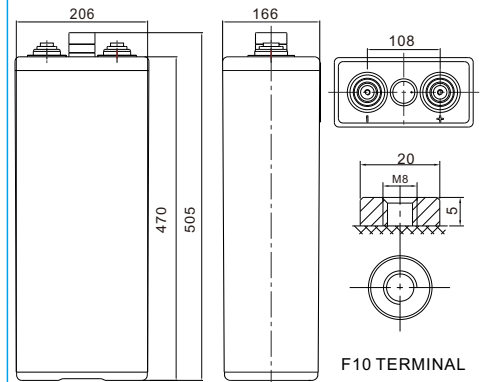


## Specification

<b>Cells Per Unit</b>	1
<b>Voltage Per Unit</b>	2V
<b>Nominal Capacity</b>	490Ah@10hour-rate to 1.80V per cell @25°C
<b>Weight</b>	Approx. 38.0Kg (Tolerance 5%)
<b>Internal Resistance</b>	≤0.7 mΩ(Full Charge Condition @25 °C)
<b>Terminal</b>	Default F10(M8)
<b>Max. Discharge Current</b>	2000A (5 sec)
<b>Design Life</b>	25 years
<b>Max. Charging Current</b>	98.0 A
<b>Reference Capacity</b>	C <sub>3</sub> 367.5Ah C <sub>5</sub> 416.5Ah C <sub>10</sub> 490.0Ah C <sub>20</sub> 524.0Ah
<b>Float Charging Voltage</b>	2.23 V~2.25 V @ 25°C Temperature Compensation: -3mV/°C/Cell
<b>Equalization Charging Voltage</b>	2.30 V~2.35 V @ 25°C Temperature Compensation: -4mV/°C/Cell
<b>Operating Temperature Range</b>	Discharge: -40°C~60°C Charge: 0°C~50°C Storage: -40°C~60°C
<b>Normal Operating Temperature Range</b>	25°C 5 °C
<b>Self Discharge</b>	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 2% at 20°C. Please charged batteries before using.
<b>Container Material</b>	A.B.S. UL94-HB, UL94-V0 Optional.

## Dimensions

Unit: mm



Length	166±2mm (6.54 inches)
Width	206±2mm (8.11 inches)
Height	470±2mm (18.5 inches)
Total Height	505±2mm (19.9 inches)
Torque Value	14~15 N*m

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

F.V/ Time	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR	24HR	48HR	72HR	100HR
1.60V	266.2	173.4	131.8	104.9	88.7	61.3	51.5	27.0	23.2	12.2	8.58	6.43
1.65V	262.0	171.0	130.3	103.7	87.7	60.8	51.0	26.8	22.9	12.1	8.42	6.37
1.70V	255.4	168.1	127.9	101.9	86.2	59.8	50.5	26.5	22.7	12.0	8.34	6.31
1.75V	244.6	163.7	125.4	100.3	85.3	59.3	50.0	26.2	22.5	11.9	8.26	6.25
1.80V	235.2	158.5	122.5	98.0	83.3	58.3	49.0	25.7	22.1	11.6	8.10	6.13
1.85V	210.3	144.5	112.7	90.7	77.4	54.4	46.1	24.2	20.7	10.9	7.61	5.76

### Constant Power Discharge Characteristics : W/Cell(25°C)

F.V/ Time	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR	24HR	48HR	72HR	100HR
1.60V	463.5	318.8	251.3	201.4	171.2	119.4	100.6	53.3	45.3	23.9	16.8	12.6
1.65V	460.4	316.0	249.4	199.9	169.9	118.8	99.9	52.9	45.0	23.7	16.5	12.5
1.70V	452.9	312.2	245.7	197.1	167.6	117.2	99.2	52.4	44.6	23.6	16.4	12.4
1.75V	437.7	305.8	241.9	194.8	166.3	116.5	98.5	52.0	44.3	23.4	16.3	12.3
1.80V	424.6	297.4	237.1	191.0	163.0	114.9	96.8	51.0	43.6	23.0	16.0	12.1
1.85V	383.0	272.6	219.0	177.3	152.0	107.5	91.2	48.0	41.0	21.7	15.1	11.4

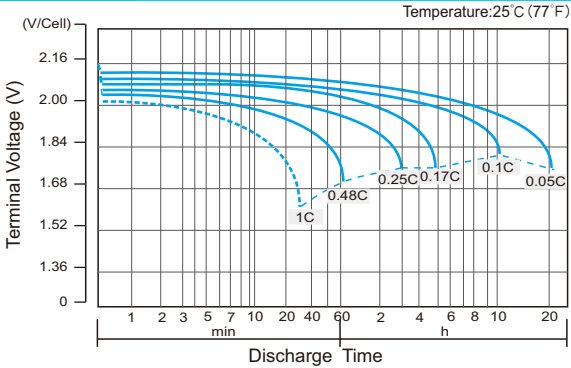
(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.

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.

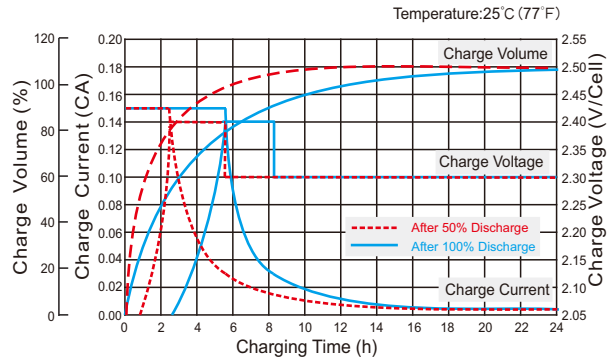
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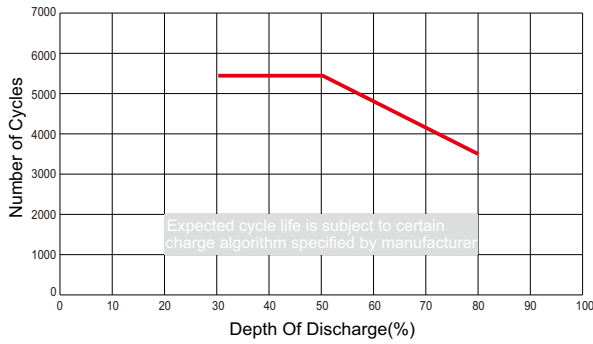
## Discharge Characteristics Curve



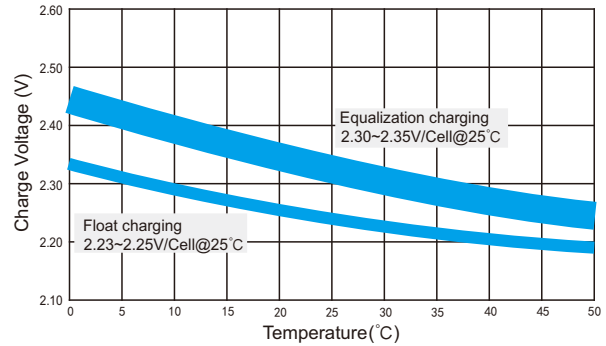
## Charge Characteristic Curve for Cycle Use(IUU)



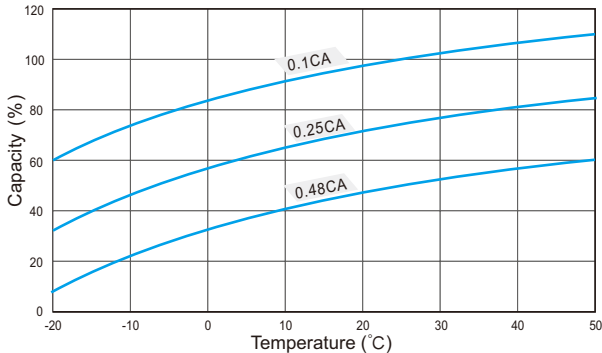
## Cycle Life in Relation to Depth of Discharge



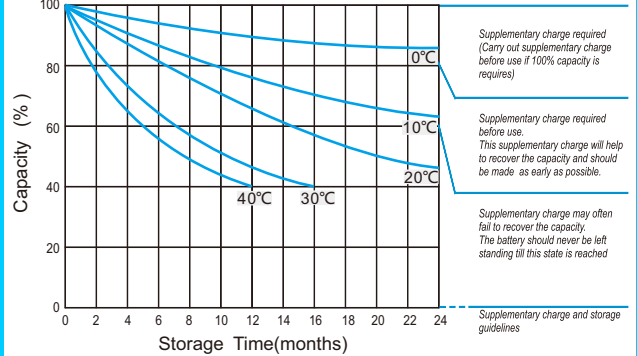
## Relationship Between Charging Voltage and Temperature



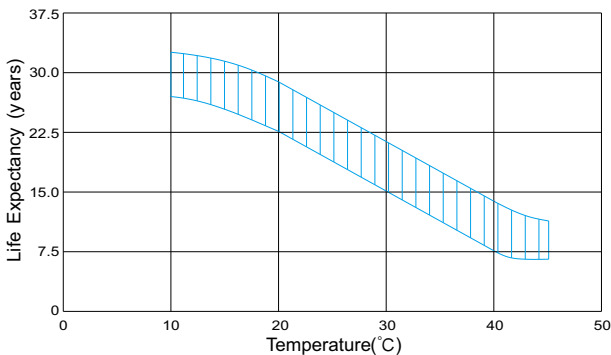
## Temperature Effects on Capacity



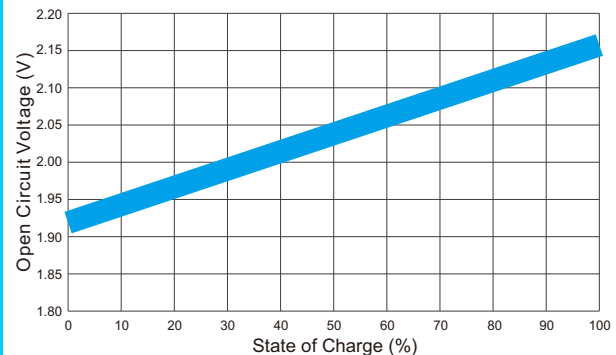
## Storage Characteristics



## Effect of Temperature on Long Term Life



## Relationship of OCV And State of Charge(20°C)



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