



# OPzV2-2500 (2V2500Ah)

Ritar OPzV series is a 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 patent formula of active material. OPzV series exceeds DIN standard values with more than 20 years floating design life at 25°C and is even more suitable for cyclic use under extreme operating conditions.

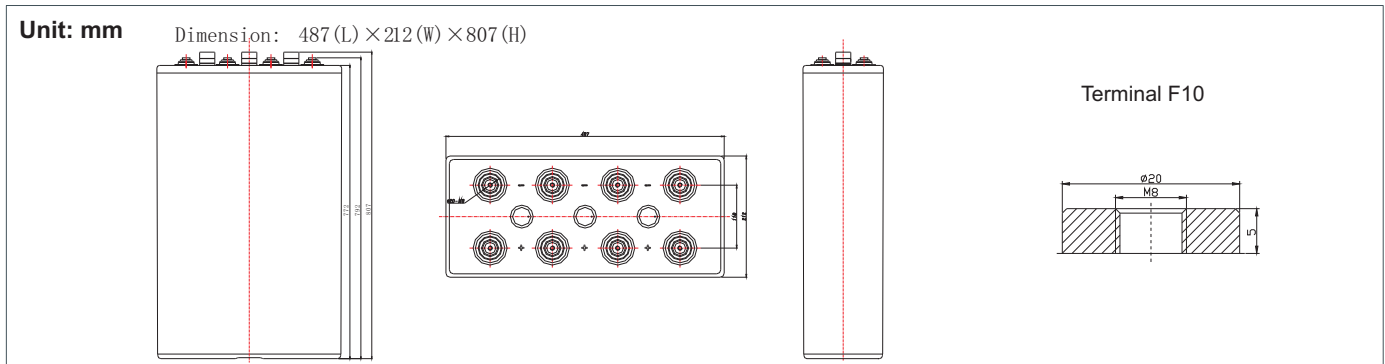


## Specification

Voltage Per Unit	2V(single cell)
Capacity	2500Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 190.0 Kg
Max. Discharge Current	10000 A (5 sec)
Internal Resistance	Approx. 0.20 mΩ
Operating Temperature Range	Discharge: -40°C~70°C Charge: 0°C~50°C Storage: -20°C~60°C
Optimal Operating Temperature Range	25°C ± 5°C
Float charging Voltage	2.25 to 2.3 VDC/unit Average at 25°C
Maximum Charging Current	500 A
Cycle Service	2.37 to 2.40 VDC/unit Average at 25°C
Self Discharge	Self-discharge ratio less than 2% per month at 25°C. Please charge batteries before using.
Terminal	Thread insert & Bolt (F10-M8)
Container Material	A.B.S. (UL94-HB), and UL94-V0 is optional



## Dimensions



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

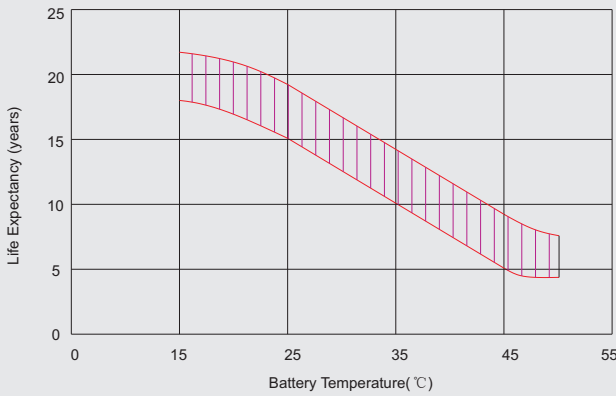
F.V/ Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90	1230	975.0	687.5	521.4	427.5	369.4	332.5	259.5	222.5	116.8
1.87	1375	1075	737.5	552.9	451.3	388.6	352.5	271.6	232.5	122.1
1.83	1575	1200	800.0	589.3	475.0	405.4	365.0	283.7	242.5	127.3
1.80	1750	1300	830.0	606.3	484.5	415.0	375.0	291.0	250.0	131.3
1.75	1950	1393	867.5	630.5	492.5	425.0	382.5	295.9	255.0	133.9
1.70	2150	1438	892.5	642.6	501.1	430.0	387.5	298.3	257.5	135.2
1.65	2218	1528	922.5	660.0	508.3	435.0	392.5	300.7	260.0	136.5
1.60	2313	1580	957.5	687.5	522.5	442.5	397.5	303.1	262.5	137.8

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

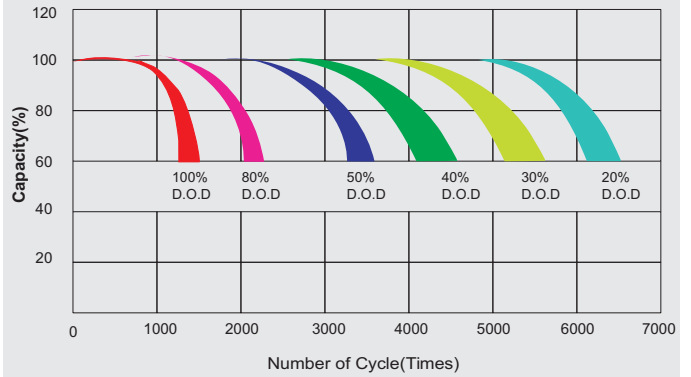
F.V/ Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90	2354	1872	1329	1010	836.7	727.5	657.5	519.0	453.5	238.1
1.87	2590	2033	1410	1058	881.9	762.5	695.0	540.8	472.9	248.3
1.83	2902	2216	1500	1113	924.6	792.5	717.5	560.2	489.9	257.2
1.80	3171	2364	1550	1138	942.2	810.0	735.0	572.3	502.0	263.5
1.75	3440	2470	1600	1173	954.8	830.0	747.5	579.6	509.3	267.4
1.70	3688	2495	1641	1193	969.8	837.5	755.0	584.4	514.1	269.9
1.65	3751	2605	1686	1219	982.4	845.0	762.5	589.3	516.5	271.2
1.60	3796	2686	1726	1259	1008	852.5	767.5	591.7	519.0	272.4

All mentioned values are average values.

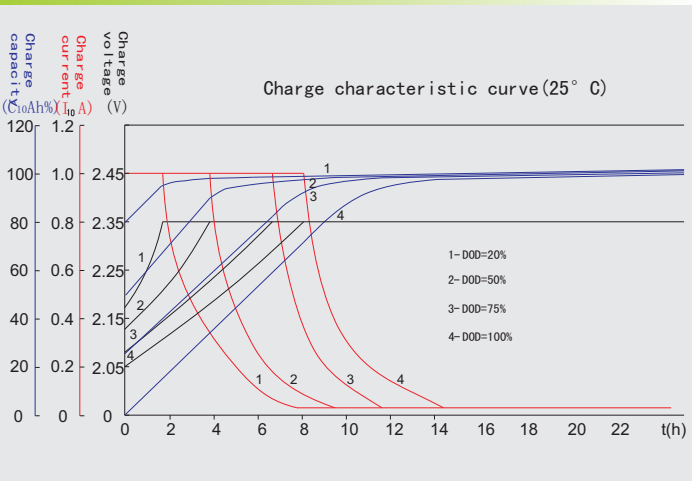
### Effect of temperature on long term float life



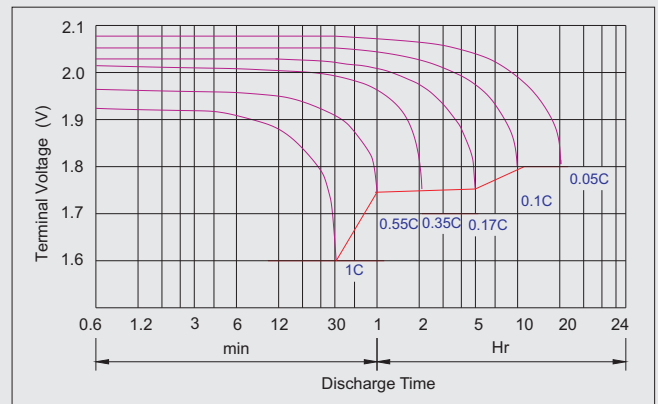
### Life characteristics of cyclic use



### Charge characteristic Curve for cyclic use



### Discharge characteristic Curve



### Long time discharge capacity for solar/wind application

Model	Capacity	C24 (Ah)	C48 (Ah)	C72 (Ah)	C100 (Ah)	C120 (Ah)	C240 (Ah)
		F.V=1.85VPC					
OPzV2-2500		2732	3050	3080	3130	3181	3235

### Capacity factors vs temperature (OPzV series)

Temperature	-30°C	-20°C	-10°C	0°C	10°C	20°C	25°C	30°C	40°C	45°C	50°C
Capacity	60%	75%	83%	89%	92%	99%	100%	103%	105%	107%	109%

### Discharge Current VS. Final Voltage

Discharge current	Final voltage (V)
$I_{dis} \leq 0.1I_{10}$	1.90
$0.1I_{10} < I_{dis} \leq I_{10}$	1.85
$I_{10} < I_{dis} \leq 4I_{10}$	1.80
$4I_{10} < I_{dis} \leq 6I_{10}$	1.75
$6I_{10} < I_{dis} \leq 10I_{10}$	1.70
$I_{dis} > 15I_{10}$	1.60

**Charge the batteries at least once every one year, if they are stored at 25°C.**

Charging Method:

Constant Voltage	-0.2Cx2h+2.35~2.40V,24h,Max. Current 0.2CA
Constant Current	-0.2Cx2h+0.1CAx12h

### Maintenance & Cautions

#### Float Service:

※ Every month, recommend inspection every battery voltage.

※ Every three months, recommend equalization charge for one time.

Equalization charge method:

Discharge: 40~50% rate capacity discharge.

Charge: Max. current 0.2CA, constant voltage 2.35-2.40V/Cell charge 24h.

※ Effect of temperature on float charge voltage: -3mV/°C/Cell.

※ Service life will be directly affected by the number of discharge

cycles, depth of discharge, ambient temperature and charging method.