



OPzV2-3000 (2V3000Ah)

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.

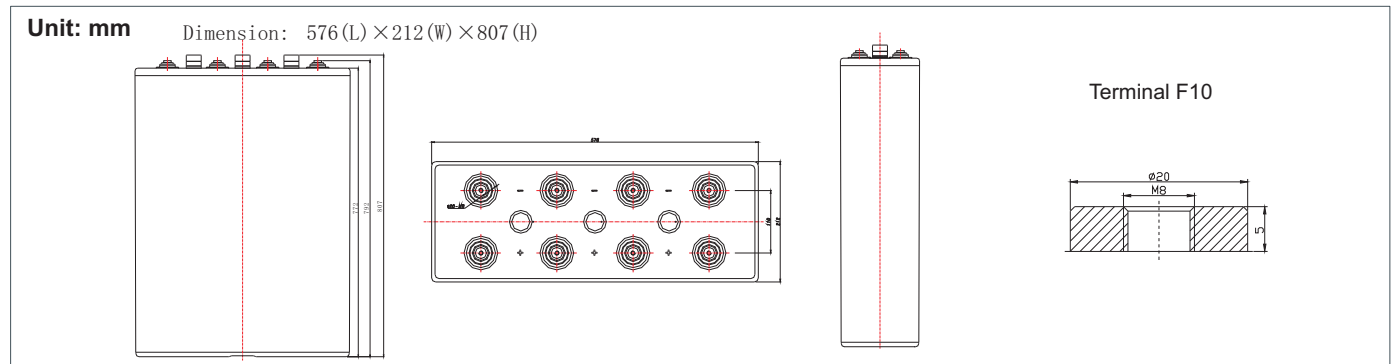


Specification

Voltage Per Unit	2V(single cell)
Capacity	3000Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 225.0 Kg
Max. Discharge Current	12000 A (5 sec)
Internal Resistance	Approx. 0.19 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	600 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	



Dimensions



Constant Current Discharge Characteristics : A(25°C)

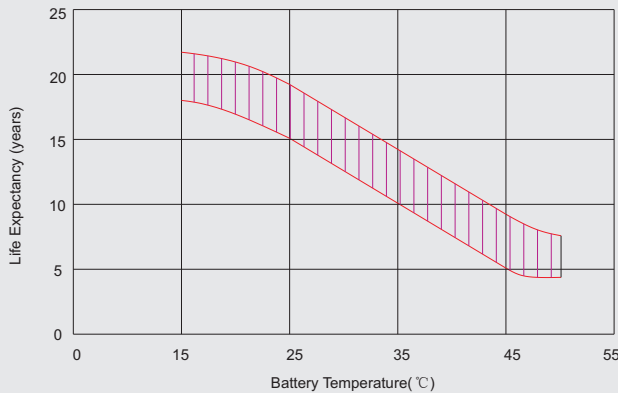
F.V/ Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90	1476	1170	825.0	625.7	513.0	443.3	399.0	311.4	267.0	140.2
1.87	1650	1290	885.0	663.5	541.5	466.3	423.0	325.9	279.0	146.5
1.83	1890	1440	960.0	707.1	570.0	486.5	438.0	340.5	291.0	152.8
1.80	2100	1560	996.0	727.5	581.4	498.0	450.0	349.2	300.0	157.5
1.75	2340	1671	1041	756.6	591.0	510.0	459.0	355.0	306.0	160.7
1.70	2580	1725	1071	771.2	601.4	516.0	465.0	357.9	309.0	162.2
1.65	2661	1833	1107	792.0	609.9	522.0	471.0	360.8	312.0	163.8
1.60	2775	1896	1149	825.0	627.0	531.0	477.0	363.8	315.0	165.4

Constant Power Discharge Characteristics : W(25°C)

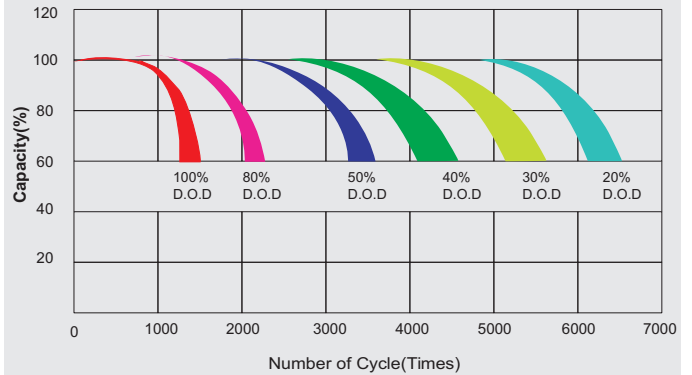
F.V/ Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90	2825	2246	1595	1212	1004	873.0	789.0	622.7	544.2	285.7
1.87	3108	2439	1691	1269	1058	915.0	834.0	648.9	567.5	297.9
1.83	3482	2659	1800	1336	1110	951.0	861.0	672.2	587.8	308.6
1.80	3805	2837	1860	1366	1131	972.0	882.0	686.8	602.4	316.2
1.75	4128	2964	1921	1408	1146	996.0	897.0	695.5	611.1	320.8
1.70	4426	2994	1969	1432	1164	1005	906.0	701.3	616.9	323.9
1.65	4501	3127	2023	1462	1179	1014	915.0	707.1	619.8	325.4
1.60	4556	3223	2071	1511	1209	1023	921.0	710.0	622.7	326.9

All mentioned values are average values.

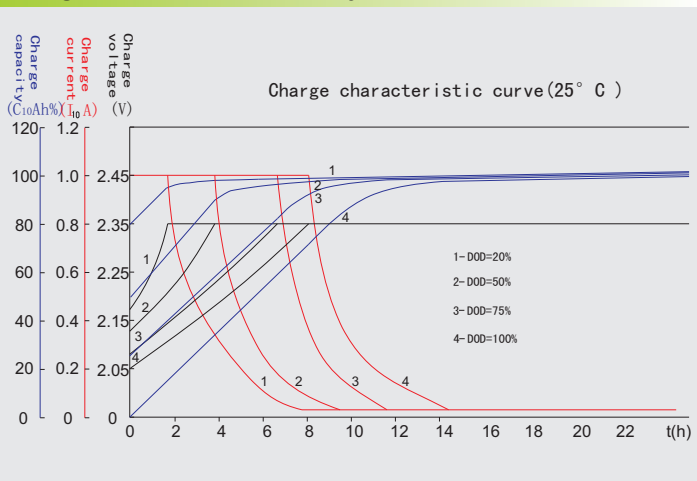
Effect of temperature on long term float life



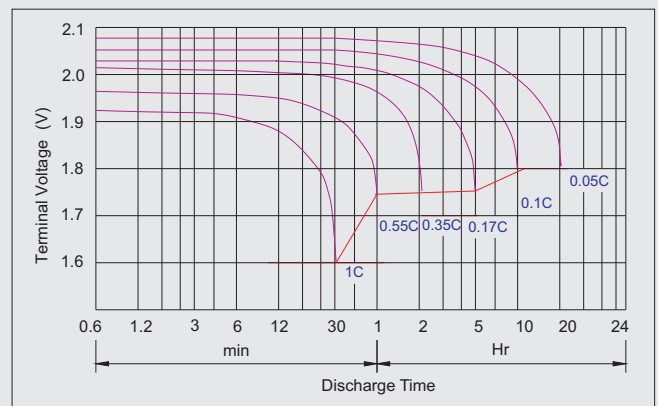
Life characteristics of cyclic use



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					
OPzV2-3000		3180	3279	3690	3750	3816	3881

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.