



# OPzV2-2000 (2V2000Ah)



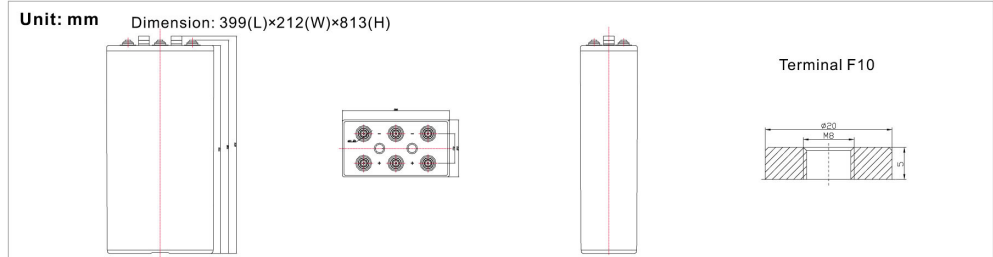
Power OPzV series is a Valve Regulated Lead Acid battery that adopts immobilized GEL and Tubular Plate technology to offer high reliability and performance. The Battery is designed and manufactured according to DIN standards and with die-casting positive grid and patent formula of active material. OPzV 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

<b>Voltage Per Unit</b>	2V (single cell)
<b>Capacity</b>	2000Ah @ 10hr-rate to 1.80V per cell @ 25°C
<b>Weight</b>	Approx. 150 Kg
<b>Max. Discharge Current</b>	7000 A (5 sec)
<b>Internal Resistance</b>	Approx. 0.22 mΩ
<b>Operating Temperature Range</b>	Discharge: -40°C~70°C Charge: 0°C~50°C Storage: -20°C~60°C
<b>Optimal Operating Temperature Range</b>	25°C ± 5°C
<b>Float charging Voltage</b>	2.25 to 2.3 VDC/unit Average at 25°C
<b>Maximum Charging Current Limit</b>	400 A
<b>Cycle Service</b>	2.40 to 2.45 VDC/unit Average at 25°C
<b>Self Discharge</b>	Self-discharge ratio less than 2% per month at 25°C. Please charge batteries before using.
<b>Terminal</b>	Thread insert & Bolt (F10-M8)
<b>Container Material</b>	A.B.S. (UL94-HB), and UL94-V0 is optional



## Dimensions



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

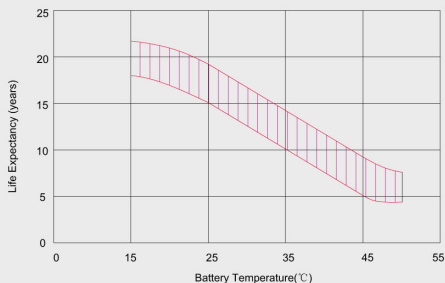
F.V/ Time	30m in	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90	984.0	780.0	550.0	417.1	342.0	295.5	266.0	207.6	178.0	94.00
1.87	1100	860.0	590.0	442.3	361.0	310.9	282.0	217.3	186.0	98.00
1.83	1260	960.0	640.0	471.4	380.0	324.3	292.0	227.0	194.0	102.0
1.80	1400	1040	664.0	485.0	387.6	332.0	300.0	232.8	200.0	106.0
1.75	1560	1114	694.0	504.4	394.0	340.0	306.0	236.7	204.0	108.0
1.70	1720	1150	714.0	514.1	400.9	344.0	310.0	238.6	206.0	108.0
1.65	1774	1222	738.0	528.0	406.6	348.0	314.0	240.6	208.0	110.0
1.60	1850	1264	766.0	550.0	418.0	354.0	318.0	242.5	210.0	110.0

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

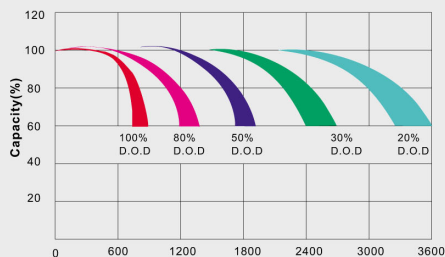
F.V/ Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90	1883	1497	1063	808.0	669.3	582.0	526.0	415.2	362.8	190.0
1.87	2072	1626	1128	846.2	705.5	610.0	556.0	432.6	378.3	198.0
1.83	2322	1773	1200	890.4	739.7	634.0	574.0	448.1	391.9	206.0
1.80	2537	1891	1240	910.5	753.8	648.0	588.0	457.8	401.6	210.0
1.75	2752	1976	1280	938.7	763.8	664.0	598.0	463.7	407.4	214.0
1.70	2951	1996	1313	954.8	775.9	670.0	604.0	467.5	411.3	216.0
1.65	3001	2084	1349	974.9	785.9	676.0	610.0	471.4	413.2	216.0
1.60	3037	2149	1381	1007	806.0	682.0	614.0	473.4	415.2	218.0

All mentioned values are average values.

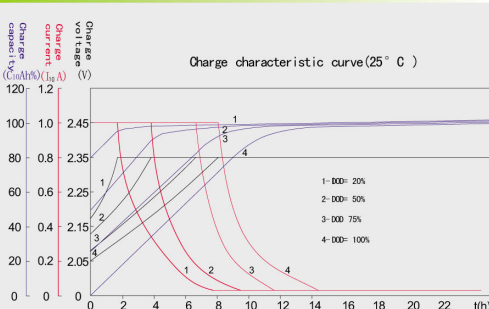
### Effect of temperature on long term float life



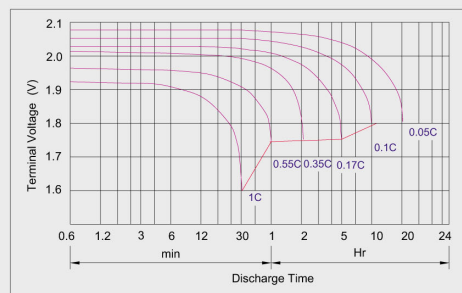
### Life characteristics of cyclic use



### Charge characteristic Curve for standby 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					
OPzV2-2000		2185	2440	2460	2490	2545	2588

### 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)
$I_{dis} \leq 0.11I_0$	1.90
$0.11I_0 < I_{dis} \leq 1I_0$	1.85
$1I_0 < I_{dis} \leq 4I_0$	1.80
$4I_0 < I_{dis} \leq 6I_0$	1.75
$6I_0 < I_{dis} \leq 10I_0$	1.70
$I_{dis} > 15I_0$	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

<b>Float Service:</b>
※ Every month, recommend inspection every battery voltage.
※ Every three months, recommend equalization charge for one time.
<b>Equalization charge method:</b>
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.