

OPzV Deep Cycle Tubular GEL Battery

OPzV12-200

CSBattery OPzV series Tubular GEL battery is with 25 years floating design life, it is a Valve Regulated Tubular Gel 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 25 years floating design life at 25°C and is even more suitable for cyclic use under extreme operating conditions.

12V
200Ah

GEL
Technology

Tubular
Plate



Applications

- Solar & Wind Power system
- Nuclear power station
- Telecom backup power supply
- energy saving requirements
Emergency Power System

General Features

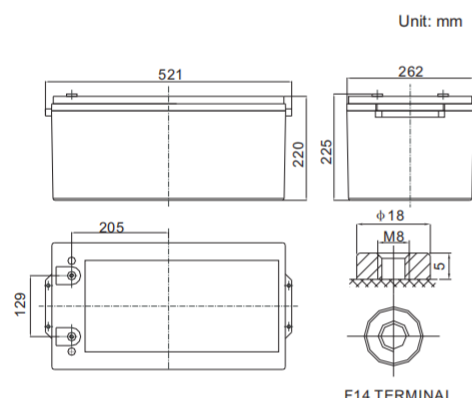
- ✓ It can discharge at -40°C~70°C, Charge at 0-50°C
- ✓ Long life expectancy of 20+ years in floating condition
- ✓ Adopts quality silicon nano gel electrolyte
- ✓ Excellent deep discharge recovery capability
- ✓ Deep cycle performance: up to 3300

Complied Standards



Dimensions & Weight

Technical Specifications



Length	521±2mm (20.5 inches)
Width	262±2mm (10.3 inches)
Height	220±2mm (8.66 inches)
Total Height	225±2mm (8.86 inches)
Torque Value	10~12 N*m

Cells Per Unit	6
Voltage Per Unit	12
Nominal Capacity	200Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 73.0 Kg (Tolerance±1.5%)
Internal Resistance	Approx. 5.0 mΩ
Terminal	F14(M8)
Max. Discharge Current	2000A (5 sec)
Design Life	18 years (floating charge)
Maximum Charging Current	40.0 A
Reference Capacity	C24 201.4AH C48 212.8AH C72 223.4AH C100 228.0AH C120 232.6AH C240 246.2AH
Float Charging Voltage	13.5 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.2 V~14.4 V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -40°C~60°C Charge: -20°C~50°C Storage: -40°C~60°C
Normal Operating Temperature Range	25°C ± 5°C
Self Discharge	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 25°C. Please charged batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

Battery Discharge Table

Discharge Constant Current per Cell (Amperes at 25° C)

F.V/ Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90V	98.40	78.00	55.02	41.71	34.20	29.55	26.60	20.76	17.80	9.347
1.87V	110.0	86.00	59.02	44.23	36.10	31.09	28.20	21.73	18.60	9.764
1.83V	126.0	96.00	64.00	47.16	38.00	32.43	29.20	22.70	19.40	10.19
1.80V	140.0	104.0	66.40	48.49	38.76	33.20	30.00	23.28	20.00	10.50
1.75V	156.0	111.4	69.42	50.44	39.40	34.00	30.60	23.67	20.40	10.71
1.70V	172.0	115.0	71.42	51.42	40.09	34.40	31.00	23.86	20.60	10.81
1.65V	177.4	122.2	73.82	52.80	40.66	34.80	31.40	24.06	20.80	10.92
1.60V	185.0	126.4	76.62	55.02	41.80	35.40	31.80	24.25	21.00	11.03

Discharge Constant Power per Cell (Watts at 25° C)

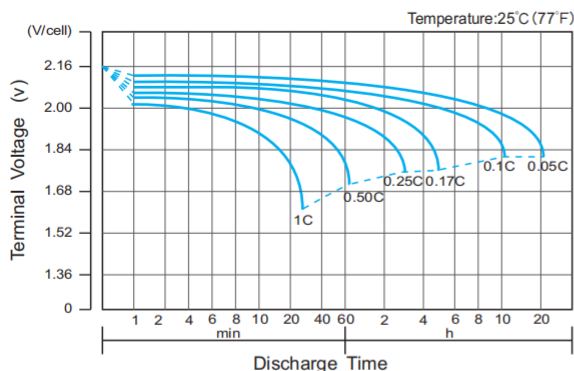
F.V/ Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90V	188.4	149.8	106.3	80.81	66.96	58.20	52.60	41.52	36.28	19.04
1.87V	207.3	162.6	112.7	84.67	70.52	61.00	55.60	43.26	37.83	19.86
1.83V	232.1	177.3	120.0	89.04	74.00	63.40	57.40	44.81	39.19	20.57
1.80V	253.6	189.1	124.0	91.04	75.41	64.80	58.80	45.79	40.16	21.08
1.75V	275.2	197.6	128.0	93.85	76.37	66.40	59.80	46.36	40.74	21.39
1.70V	295.0	199.6	131.3	95.41	77.56	67.00	60.40	46.76	41.13	21.59
1.65V	300.1	208.4	134.9	97.56	78.59	67.60	61.00	47.14	41.32	21.70
1.60V	303.7	214.9	138.1	100.7	80.59	68.20	61.40	47.33	41.52	21.79

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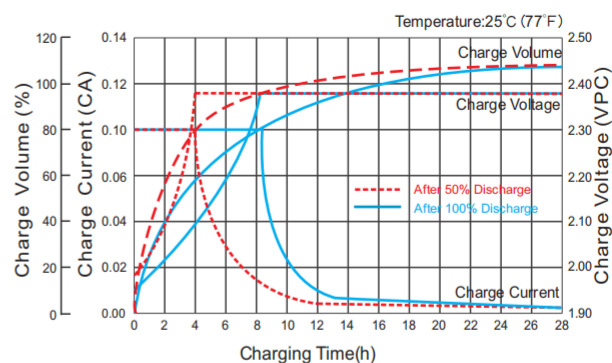
OPzV12-200

Performance Characteristics

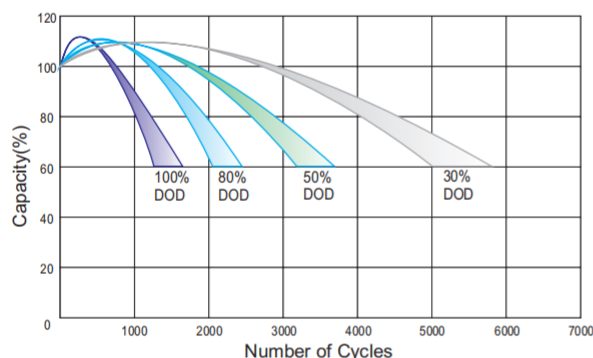
Discharge Characteristics Curve



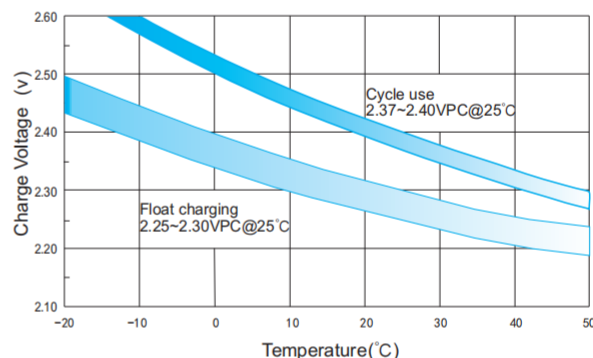
Charge Characteristic Curve for Cycle Use(IU)



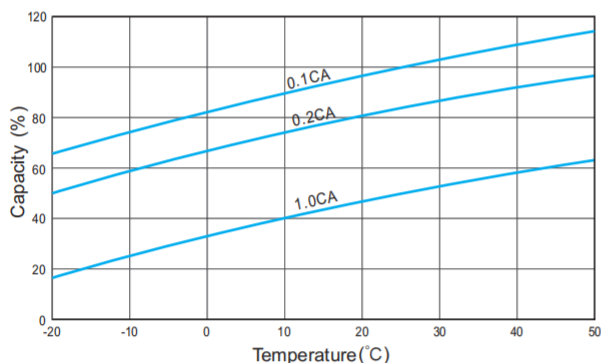
Cycle Life in Relation to Depth of Discharge



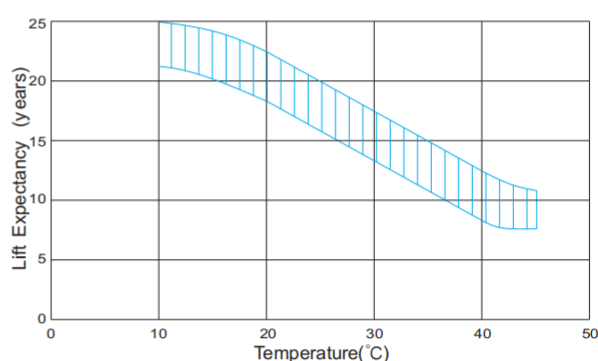
Relationship Between Charging Voltage and Temperature



Temperature Effects on Capacity



Effect of Temperature on Long Term Life



Battery Discharge Capacity

Long time discharge capacity for solar/wind application

Capacity	C24(Ah)	C48(Ah)	C72(Ah)	C100(Ah)	C120(Ah)	C240(Ah)
Model	F.V=1.85VPC					
OPzV12-200	222.6	250.0	251.6	122.0	259.2	263.6

Note: The above data are average values, and can be obtained within 3 charge/discharge cycles. These are not minimum values. Cell and battery designs/specifications are subject to modification without notice. Contact **CSBattery** for the latest information.

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