

# OPzV12-120(12V120Ah)

**RITAR®**

Ritar 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 18 years floating design life at 25 °C ,and It is the best solution for cyclic use under extreme operating conditions.

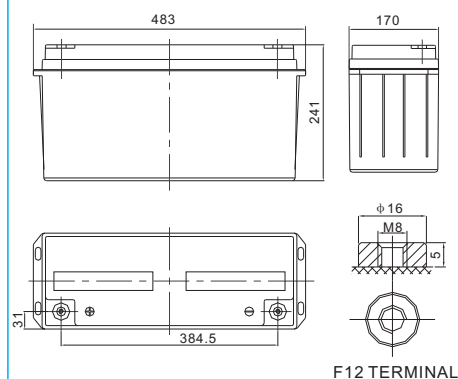
## Specification

<b>Cells Per Unit</b>	6
<b>Voltage Per Unit</b>	12
<b>Nominal Capacity</b>	120Ah@10hr-rate to 1.80V per cell @25°C
<b>Weight</b>	Approx. 45.9 Kg (Tolerance± 1.5%)
<b>Internal Resistance</b>	Approx. 7.5 mΩ
<b>Terminal</b>	F5(M8)/F12(M8)
<b>Max. Discharge Current</b>	1200A (5 sec)
<b>Design Life</b>	18 years (floating charge)
<b>Maximum Charging Current</b>	24.0 A
<b>Reference Capacity</b>	C24 120.8AH C48 127.7AH C72 134.1AH C100 136.8AH C120 139.5AH C240 147.7AH
<b>Float Charging Voltage</b>	13.5 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
<b>Cycle Use Voltage</b>	14.2 V~14.4 V @ 25°C Temperature Compensation: -4mV/°C/Cell
<b>Operating Temperature Range</b>	Discharge: -40°C~60°C Charge: -20°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 25°C. Please charged batteries before using.
<b>Container Material</b>	A.B.S. UL94-HB, UL94-V0 Optional.



## Dimensions

Unit: mm



Length	483±1mm (19.0 inches)
Width	170±1mm (6.69inches)
Height	241±1mm (9.49 inches)
Total Height	241±1mm (9.49 inches)
Torque Value	10~12 N*m

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

F.V/ Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90V	59.04	46.80	33.01	25.03	20.52	17.73	15.96	12.46	10.68	5.608
1.87V	66.00	51.60	35.41	26.54	21.66	18.65	16.92	13.04	11.16	5.859
1.83V	75.60	57.60	38.40	28.29	22.80	19.46	17.52	13.62	11.64	6.112
1.80V	84.00	62.40	39.84	29.09	23.26	19.92	18.00	13.97	12.00	6.301
1.75V	93.60	66.85	41.65	30.27	23.64	20.40	18.36	14.20	12.24	6.427
1.70V	103.2	69.01	42.85	30.85	24.05	20.64	18.60	14.32	12.36	6.488
1.65V	106.5	73.33	44.29	31.68	24.40	20.88	18.84	14.43	12.48	6.552
1.60V	111.0	75.84	45.97	33.01	25.08	21.24	19.08	14.55	12.60	6.616

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

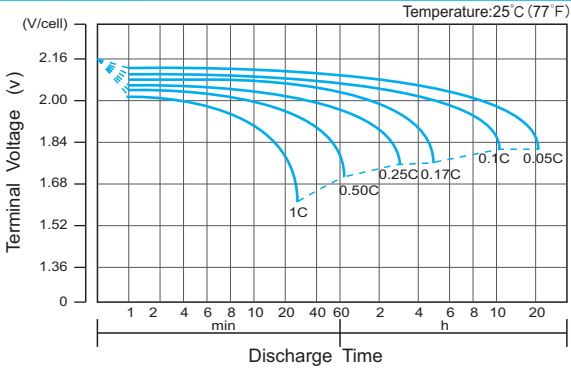
F.V/ Time	30min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.90V	113.0	89.87	63.78	48.49	40.18	34.92	31.56	24.91	21.77	11.43
1.87V	124.4	97.56	67.64	50.80	42.31	36.60	33.36	25.96	22.70	11.92
1.83V	139.3	106.4	72.00	53.42	44.40	38.04	34.44	26.89	23.51	12.34
1.80V	152.2	113.5	74.40	54.62	45.24	38.88	35.28	27.47	24.09	12.65
1.75V	165.1	118.5	76.80	56.31	45.82	39.84	35.88	27.82	24.44	12.83
1.70V	177.0	119.8	78.76	57.24	46.53	40.20	36.24	28.05	24.68	12.96
1.65V	180.0	125.1	80.93	58.53	47.16	40.56	36.60	28.28	24.79	13.02
1.60V	182.2	128.9	82.84	60.44	48.36	40.92	36.84	28.40	24.91	13.08

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

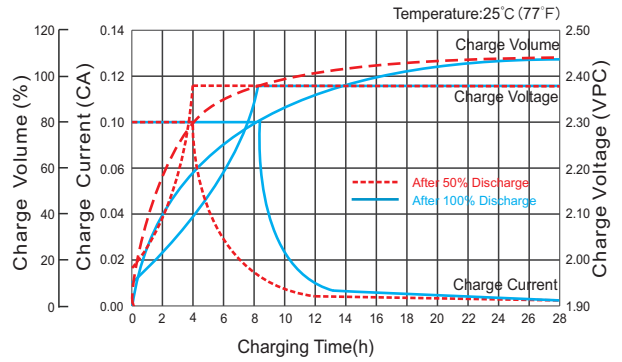
# OPzV12-120(12V120Ah)



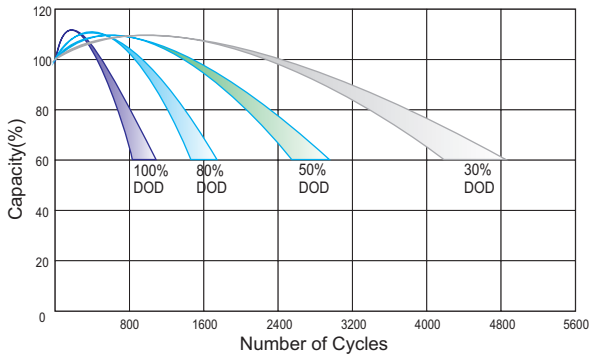
## Discharge Characteristics Curve



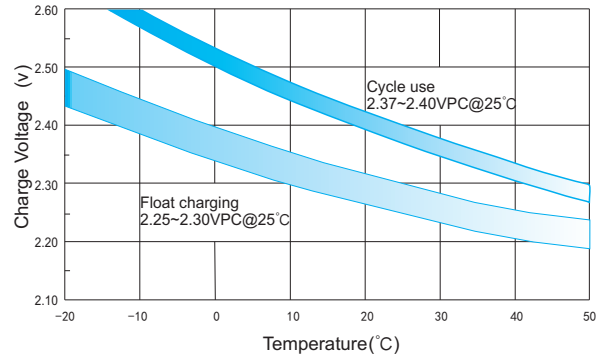
## Charge Characteristic Curve for Cycle Use(IU)



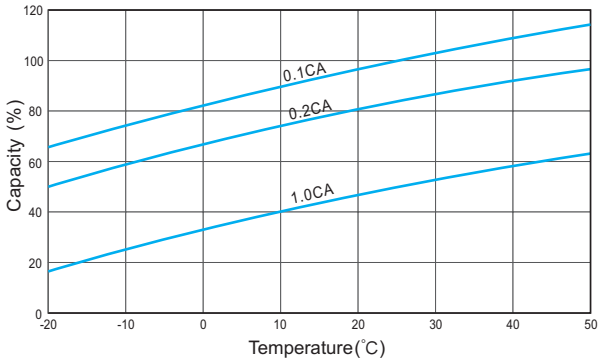
## Cycle Life in Relation to Depth of Discharge



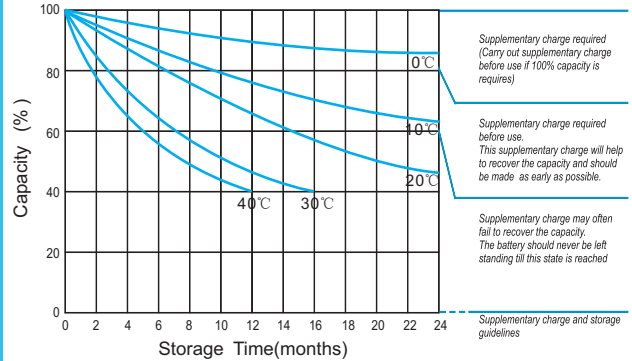
## Relationship Between Charging Voltage and Temperature



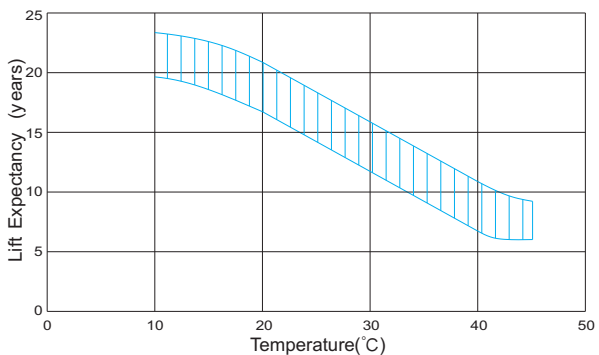
## Temperature Effects on Capacity



## Storage Characteristics



## Effect of Temperature on Long Term Life



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

