

VGS series (OPzV)

GLOBAL OPzV valve regulated Gel type stationary lead acid battery

GLOBAL OPzV valve regulated lead acid batteries are especially suitable for applications high-level of reliability and performance. They are designed and manufactured according to DIN 40742 and characterized by their long float and cycle life.



TECHNICAL CHARACTERISTICS

Installation

Use in horizontal position from 100 Ah up to 1500 Ah cells.

Safety

It has an internal flameproof enclosure to prevent explosions due to temporary overcharging.

Deep Discharge Protection

GLOBAL OPzV batteries have excellent deep discharge recovery. The batteries can be recharged to 95% capacity in 12 hours, even following 30 days connected to a load in the discharged state.

Low Self-discharge

The rate of self-discharge by the OPzV batteries is extremely low by comparison to normal lead batteries.

Very low gassing due to the internal gas recombination

APPLICATIONS

- UPS System
- Renewable Energy [solar & wind power]
- Energy storage system
- Power plant
- Communication Equipments
- IDC
- Security & Fire alarm systems
- Medical Equipments

PRODUCT CHARACTERISTICS

Positive Tubular Plates

Cast from special antimony-free lead alloy and enclosed in extremely strong porous tubular gauntlets. These gauntlets are filled with the active positive material, resulting in an extremely robust and long life assembly.

Negative Plates

Consist of an antimony free lead alloy grid, pasted with active material.

Terminals

Nut inserted structure(99.9% pure copper)

Vent Plugs

Safety pressure relief valve.

Separator

Microporous Separator made from acid and corrosion resistant PVS material Low electrical resistance.

Electrolyte

Electrolyte is fixed in a gel

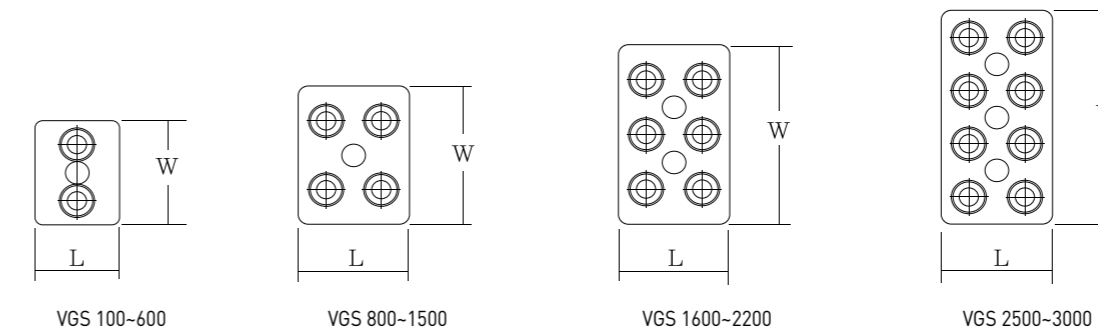
CERTIFICATE



- ISO 9001
- ISO 14001
- OHSAS 18001

SPECIFICATION

Type Designation	GLOBAL Model	Nominal Voltage (V)	Capacity (AH)		Dimension (mm)				Weight (kg)
			10HR 1.80(V/Cell)	1HR (1.67V/Cell)	length (L) ±	width (W) ±	height (H) ±	total height (TH) ±	
2 OpzV 100	VGS 100	2	100	52	103	206	355	392	12.0
3 OpzV 160	VGS 160	2	160	85	103	206	355	392	16.0
4 OpzV 200	VGS 200	2	200	106	103	206	355	392	20.5
5 OpzV 250	VGS 250	2	250	133	124	206	355	392	24.5
6 OpzV 300	VGS 300	2	300	159	145	206	355	392	29.0
5 OpzV 350	VGS 350	2	350	190	124	206	471	511	31.0
6 OpzV 400	VGS 400	2	400	214	145	206	471	511	26.0
7 OpzV 500	VGS 500	2	500	267	166	206	471	511	43.0
6 OpzV 600	VGS 600	2	600	330	145	206	647	687	50.0
8 OpzV 800	VGS 800	2	800	416	210	191	647	687	68.0
10 OpzV 1000	VGS 1000	2	1000	520	210	233	647	687	82.0
12 OpzV 1200	VGS 1200	2	1200	665	210	275	647	687	97.0
12 OpzV 1500	VGS 1500	2	1500	767	210	275	779	837	125.0
13 OpzV 1600	VGS 1600	2	1600	830	215	397	772	812	140.0
15 OpzV 1800	VGS 1800	2	1800	919	215	397	772	812	155.0
16 OpzV 2000	VGS 2000	2	2000	1022	215	397	772	812	160.0
17 OpzV 2200	VGS 2200	2	2200	1086	215	397	772	812	176.0
20 OpzV 2500	VGS 2500	2	2500	1278	212	487	772	812	200.0
24 OpzV 3000	VGS 3000	2	3000	1533	212	576	772	812	240.0



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Pasted High Technology Electrolyte Suspension lead-acid Battery



lead-acid batteries



Recyclable



Tubular plates



Single cell



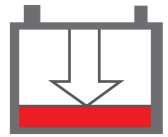
Maintenance free



Nominal Capacity 100-3000Ah



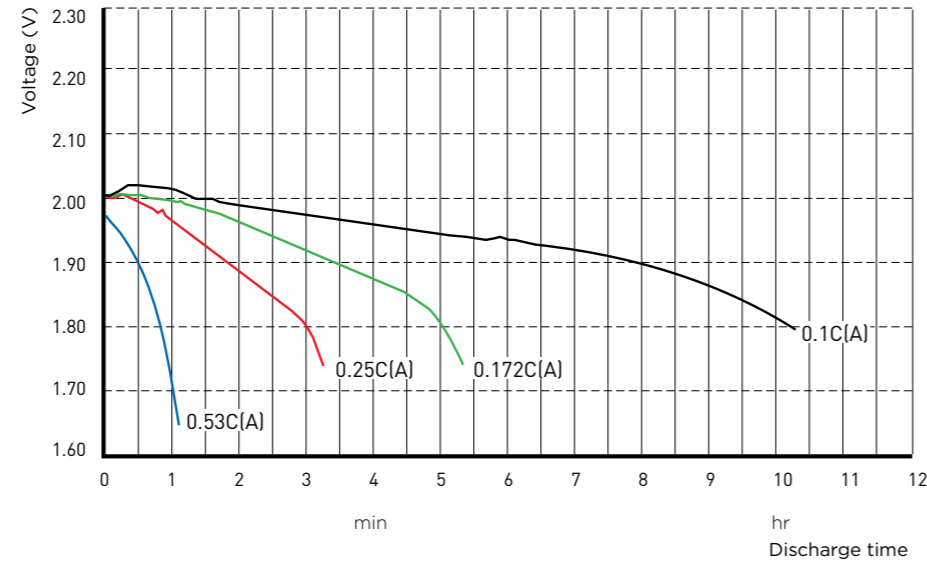
Life time >120years



Safe under deep discharge

DISCHARGE CHARACTERISTICS DIAGRAM

The curves shown in Figure1 illustrate the typical discharge feature of VGS batteries at an ambient temperature of 20°C(77°F). The symbol 'C' means the nominal capacity of the battery measured at a 10-hour discharge rate.



Discharge characteristics diagram
VGS100~3000AH at 20°C(77°F)

CHARGE CHARACTERISTICS

1. New batteries can be used without charging. However, batteries put into service long after the manufacturing date may need to be charged.
2. During charging, the ambient temperature should be in the 0~40°C range. If the surface temperature exceeds 45°C while charging, the charging should be stopped and resumed when the temperature drops below 40°C. Observe polarity when connecting.

TEMPERATURE AND FLOATING CHARGE CHARACTERISTICS

Floating charge voltage set-up depending on temperature

- Floating charge voltage: 2.23V(20°C)
- If the ambient temperature is too high, this may cause deterioration in battery performance, damage or deformation. The charge voltage should be lowered in order to prevent over charging.

Floating charge voltage (V)

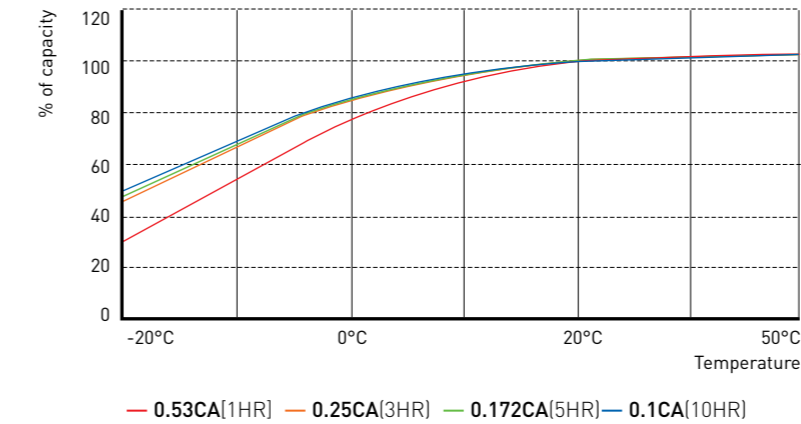
Temperature	-10°C	0°C	10°C	20°C	25°C	30°C	35°C	40°C
Floating use (V)	2.37V	2.32V	2.27V	2.23V	2.22V	2.21V	2.20V	2.19V

When the ambient temperature is higher than 20°C(77°F), the float charge voltage would be adjusted according to the temperature compensation formula listed above.

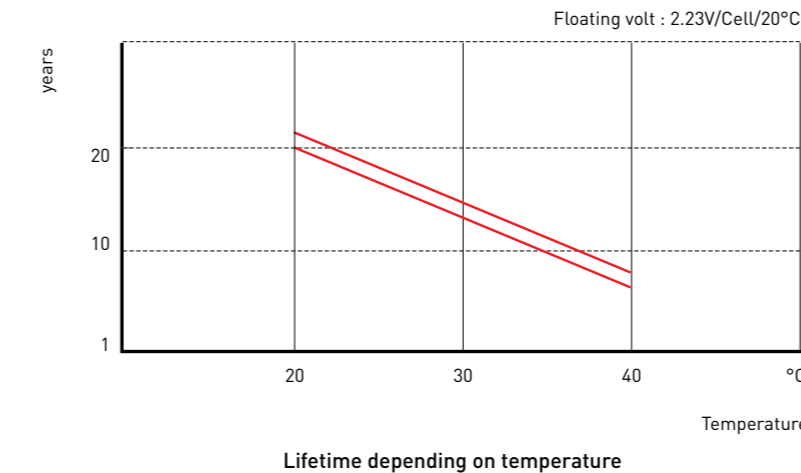
TEMPERATURE CHARACTERISTICS

As the ambient temperature increases, the available capacity of battery increases. As the ambient temperature decreases, the available capacity of battery decreases.

AMBIENT TEMPERATURE	Discharge(H)	Final voltage(V)	% of capacity			
			-20°C	0°C	20°C	50°C
~1 hours	1.67	1.67	27	80	100	105
1~3 hours	1.75	1.75	43	85	100	105
3~5 hours	1.77	1.77	48	87	100	104
5~10 hours	1.80	1.80	48	87	100	104



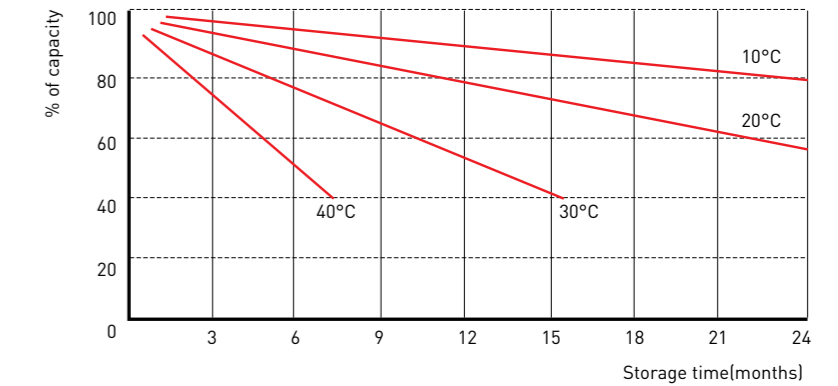
DESIGN LIFE



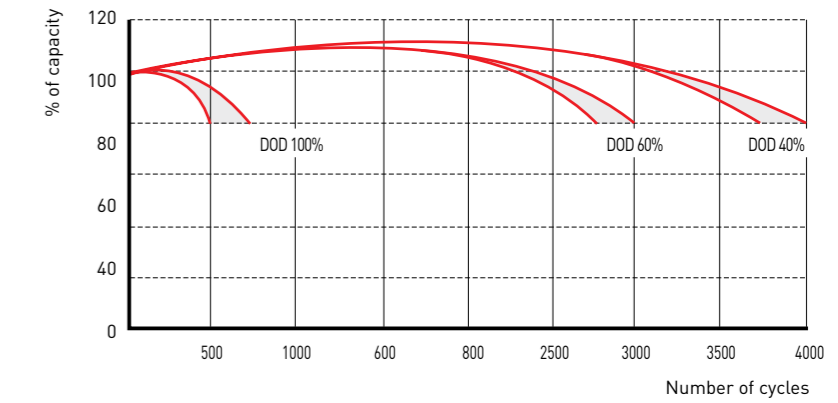
If operation temperature does not meet criteria(20°C), expected(design) life and capacity will be changed.

SELF-DISCHARGE CHARACTERISTICS DIAGRAM

The self-discharge rate of VGS batteries is approximately 2.0% per month when batteries are stored at an ambient temperature of 20°C(77°F). The self-discharge rate varies with ambient temperature.



SERVICE LIFE



Cycle Service life in relation to Depth of Discharge

