



# OP<sub>z</sub>V Tubular Gel batteries



[ Energy is what we do ]

# OPzV batteries

OPzV batteries are robust energy storage solutions, with a proven technology that has been used for decades in applications that require a safe and reliable battery with long service life. SUNLIGHT OPzV batteries are distinguished by their high tolerance to cycling and long life in standby parallel mode. They are designed and manufactured according to DIN Standards. They cover a wide field of applications some of which are telecommunication centers, control and monitoring systems in power plants and distribution stations, railway stations, signaling, control and regulating systems, data processing systems, airports, emergency lighting, alarm systems, energy supply and several others.

## Advantages

- Compliant to DIN 40742.
- The optimized plate design results in increased capacities over DIN standards.
- Very low maintenance: no water addition.
- Ideal for cycling applications, in accordance to IEC896-2.
- Excellent deep discharge recovery.
- Low self-discharge rate.
- Long designed life time, 15-18 years at 20 °C.
- Suitable for all standard types of installation.



# OP<sub>z</sub>V batteries cell construction

## Positive Plates

SUNLIGHT OP<sub>z</sub>V cells are manufactured with tubular positive plates. The tubular plate design is well proven and known for its high reliability and long service life in float charging operation. The plate composition is of Lead Calcium Tin Alloy.

## Negative Plates

SUNLIGHT negative plates are manufactured with grid design. In this case a lead calcium tin alloy is used.

## Separators

The separators are manufactured from microporous PE, a material of high porosity, low electrical resistance and high acid resistance. The separators are permeable and allow the migration of ions during the charging and discharging process of the battery. Thus the solid particle migration between the plates is prevented and any short circuit avoided.

## Connectors

Plastic coated copper bars are used for inter-cell and inter-row connection of the battery cells.

## Vent Plugs

The Vent Plug is a one way pressure release valve with an integral flame arrestor.

## The Electrolyte

The Electrolyte of the cell is sulfuric acid, immobilized as gel.

## Cell Containers and Covers

Acrylonitrile-butadiene-styrene copolymer (ABS). is used on the lids and containers of SUNLIGHT OP<sub>z</sub>V cells. ABS provides a robust and durable solution on the design of the cells.

## Poles

Specially designed poles, effectively prevent acid leakage and pillar corrosion thus increasing the lifetime of the battery.

## Applications

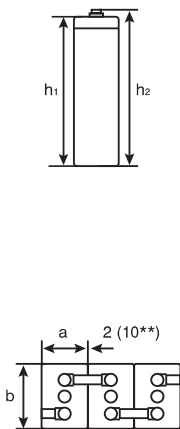
- Telecommunications.
- Control and monitoring systems in power plants and distribution stations.
- Railway stations.
- Signaling, Control and Regulating systems.
- Data processing systems.
- Automation.
- UPS.
- Airports.



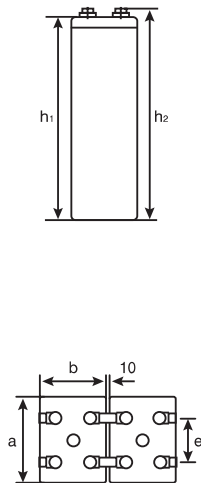
# Technical Characteristics

Type Designation	Positive plate		Nominal Capacity (Ah) C <sub>10</sub> V/cell 1,80	max. cell dimensions in mm					Weight (kg) with electrolyte	Short Circuit Current(A)	Internal Resistance(mΩ)
	No	Size (Ah)		a	b	h1	h2	e			
<b>4 OPzV 200</b>	4	50	200	103	206	354	378	-	19.5	2195	0.95
<b>5 OPzV 250</b>	5		250	124	206	354	378	-	23.5	2737	0.76
<b>6 OPzV 300</b>	6		300	145	206	354	378	-	28.0	3175	0.66
<b>5 OPzV 350</b>	5	70	350	124	206	471	495	-	31.0	3410	0.61
<b>6 OPzV 420</b>	6		420	145	206	471	495	-	36.5	4043	0.51
<b>7 OPzV 490</b>	7		490	166	206	471	495	-	42.0	4607	0.45
<b>6 OPzV 600</b>	6	100	600	145	206	646	670	-	50.0	3796	0.55
<b>8 OPzV 800</b>	8		800	191	210	646	670	80	68.0	5200	0.40
<b>10 OPzV 1000</b>	10		1000	233	210	646	670	110	82.0	6460	0.32
<b>12 OPzV 1200</b>	12		1200	275	210	646	670	140	97.0	7675	0.27
<b>12 OPzV 1500</b>	12	125	1500	275	210	771	820	140	120.0	7510	0.28
<b>16 OPzV 2000</b>	16		2000	397	212	771	820	2x110	165.0	10048	0.21
<b>20 OPzV 2500</b>	20		2500	487	212	771	820	3x110	200.0	12606	0.17
<b>24 OPzV 3000</b>	24		3000	576	212	771	820	4x110	240.0	14964	0.14

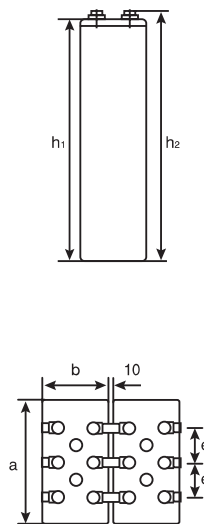
**4 OPzV 200 -  
6 OPzV 600**



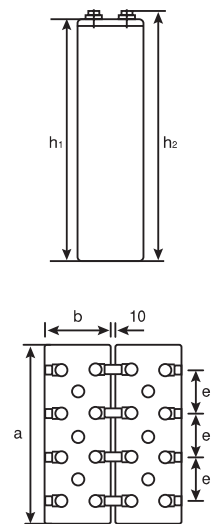
**8 OPzV 800 -  
12 OPzV 1500**



**16 OPzV 2000**



**20 OPzV 2500 -  
24 OPzV 3000**





[www.sunlight.gr](http://www.sunlight.gr)

## SUNLIGHT MANUFACTURING PLANT

The SUNLIGHT Manufacturing Plant is headquartered in Northern Greece. Since 1991, there has been a systematic investment in the development of one of the most modern industrial units of Europe in accordance with the strictest international standards.

In a total area of 142,000 m<sup>2</sup>, with indoor areas of more than 55,000 m<sup>2</sup>, the SUNLIGHT Manufacturing Plant has six high-end production units that are recognized for their high specialization.

Aiming at the production of high added value and quality products, the production and assembly lines of the SUNLIGHT Industrial Unit are used for:

- Cylindrical Zinc-Chloride cells such as R6HD (AA), R14HD (C) and R20HD (D) sizes.
- Advanced Lead-Acid batteries for submarine propulsion.
- Silver-Zinc batteries for combat and exercise torpedoes.
- Stationary and traction Lead-Acid batteries (vented type).
- Sealed Lead-Acid Batteries (VRLA).
- Photovoltaic Power Supply Systems.
- Battery packs for military and commercial applications.
- Assembly of Power Supply Systems for telecommunication applications.
- Assembly of Uninterruptible Power Systems (UPS).
- Assembly of Industrial Rectifiers.
- Assembly of Generating Sets ranging from 5 to 3,000 KVA.

## MANAGEMENT SYSTEMS for QUALITY, ENVIRONMENTAL CONTROL, OCCUPATIONAL HEALTH & SAFETY

The SUNLIGHT Manufacturing Plant has established and maintains management systems for Quality (ISO 9001), Environmental control (ISO 14001) and Occupational Health and Safety (OHSAS 18001).

This document was printed with vegetable inks on unchlorinated, non wood recycled paper.



- **SYSTEMS SUNLIGHT S.A. Headquarters**  
23rd Km. N.R. Athens - Lamia, 145 65 Ag. Stefanos - Attica, Greece  
Tel.: +30 210 62 45 400, Fax: +30 210 62 45 409
- **SYSTEMS SUNLIGHT S.A. Manufacturing Plant**  
Neo Olvio 67 200 Xanthi, Greece  
Tel.: +30 25410 48100, Fax: +30 25410 95446
- **SUNLIGHT INDUSTRIAL S.R.L. (Romania)**  
2-4, Brânduselor Street, Sector 3, Bucharest, Romania  
Tel.: +40 21 3517777, Fax: +40 21 3617333
- **SUNLIGHT INDUSTRIAL EOOD (Bulgaria)**  
P.O. 1715 "MIADOST" 4 - 1 Business Park, Sofia Str., Bldg.11A - Floor 4  
Bulgaria Tel.: +359 2 8079 190, Fax: +359 2 8079 188
- **SUNLIGHT POLSKA Sp.oz.o**  
Szyszkowa 34 str., 02-285 Warsaw, Poland  
Tel.: +48 22 5758227, Fax: +48 22 5758258
- **SUNLIGHT UKRAINE S.R.L.**  
18/14 Hvoiki Str., block 25, office 401, Kiev- 04080 - Ukraine  
Tel.: +380 44 463 5735, Fax: +380 44 463 5735

- **SUNLIGHT INDUSTRIAL doo (Serbia)**  
Bulevar Vojvode Misica 37, II floor - 11000 Beograd-Serbia  
Tel.: +381 11 3063 950, Fax: +381 11 3063 959
- **SUNLIGHT SYSTEMS FRANCE S.R.L.**  
Hyde Park - Le Westminster, 12 Allée Rosa Luxembourg  
95610 Eragny Sur Oise, France  
Tel.: +33 1 344 01634, Fax: +33 1 344 01639
- **SUNLIGHT Batterien GmbH (Germany)**  
Hauptstrasse 13-15, 90537, Feucht, Germany  
Tel.: +49 (0)912873916-20, Fax: +49 (0)912873916-10
- **Branch Office**  
Elbestrasse 10 (TechnoMarl), D-45768 Marl, Germany,  
Tel.: +49 2365 91 51 75, Fax: +49 2365 20 59 10
- **SUNLIGHT SPAIN**  
Avenida Del Mediterraneo 9-2o D 28007 Madrid - Spain  
Tel.: +34 91 43 43 890, Fax: +34 91 43 44 070
- **SUNLIGHT MIDDLE EAST - AFRICA**  
15 El - Hassan Str. Dokki Giza, Egypt  
Tel.: +20 2 33 800 59, Fax: +20 2 33 652 93

Data in this document are subject to change without notice and become contractual only after written confirmation.



SAP Code 0242159 / OCTOBER 2008

comrade design