

# Reserve Power OPzV Batteries

Stand-By Applications



GRID



TELECOM



GENSET



UPS

 **SUNLIGHT**  
Reliable Battery Solutions

# Reserve Power

As a member of a strong and developing business ecosystem, SUNLIGHT relies on its modern infrastructure, continuous innovation and its passion for excellence, to develop and supply reliable battery solutions.

At the core of the company's growth lies its state-of-the-art manufacturing plant in Northern Greece, covering an area of 142.000 m<sup>2</sup>. The company has consistently invested in developing one of the most advanced industrial plants in Europe, running highly specialized production and assembly lines. The plant is fully compliant with the strictest international standards and is certified for Quality, Occupational Health & Safety and Environmental management systems.

The products are developed by SUNLIGHT's R&D team which constantly designs and evaluates new innovative solutions to better meet market needs based on the latest technological trends, industry developments and market feedback.

SUNLIGHT's products and services have gained international recognition by ensuring uninterrupted and reliable operations in a wide range of critical applications for a broad spectrum of industries, such as Telecom and Power networks.



<b>Telecommunications</b>	Backup power systems for base stations, cell towers & radio transmission installations
<b>UPS systems</b>	Critical equipment backup power supply & protection from frequency & voltage fluctuations
<b>Utilities</b>	Power grid stabilization, power quality and reliability improvement
<b>Power generation &amp; distribution</b>	Switches control & switchboards in substations connected to power generation line
<b>Transportation signalling</b>	Signalling systems, communication/control nodes in demanding environmental conditions
<b>Emergency lighting</b>	Lighting in critical situations when main electrical supply is interrupted
<b>Automation and measuring systems</b>	Backup power for measuring & high demanding automation systems

## The complete Reserve Power portfolio consists of:

OPzS OPzV	RES OPzS RES OPzV	RES SOPzS RES SOPzV	RES SLT RES SLT GEL	SP SERIES ACCUFORCE SVT/ SVT GEL FRONT ACCESS	OGI
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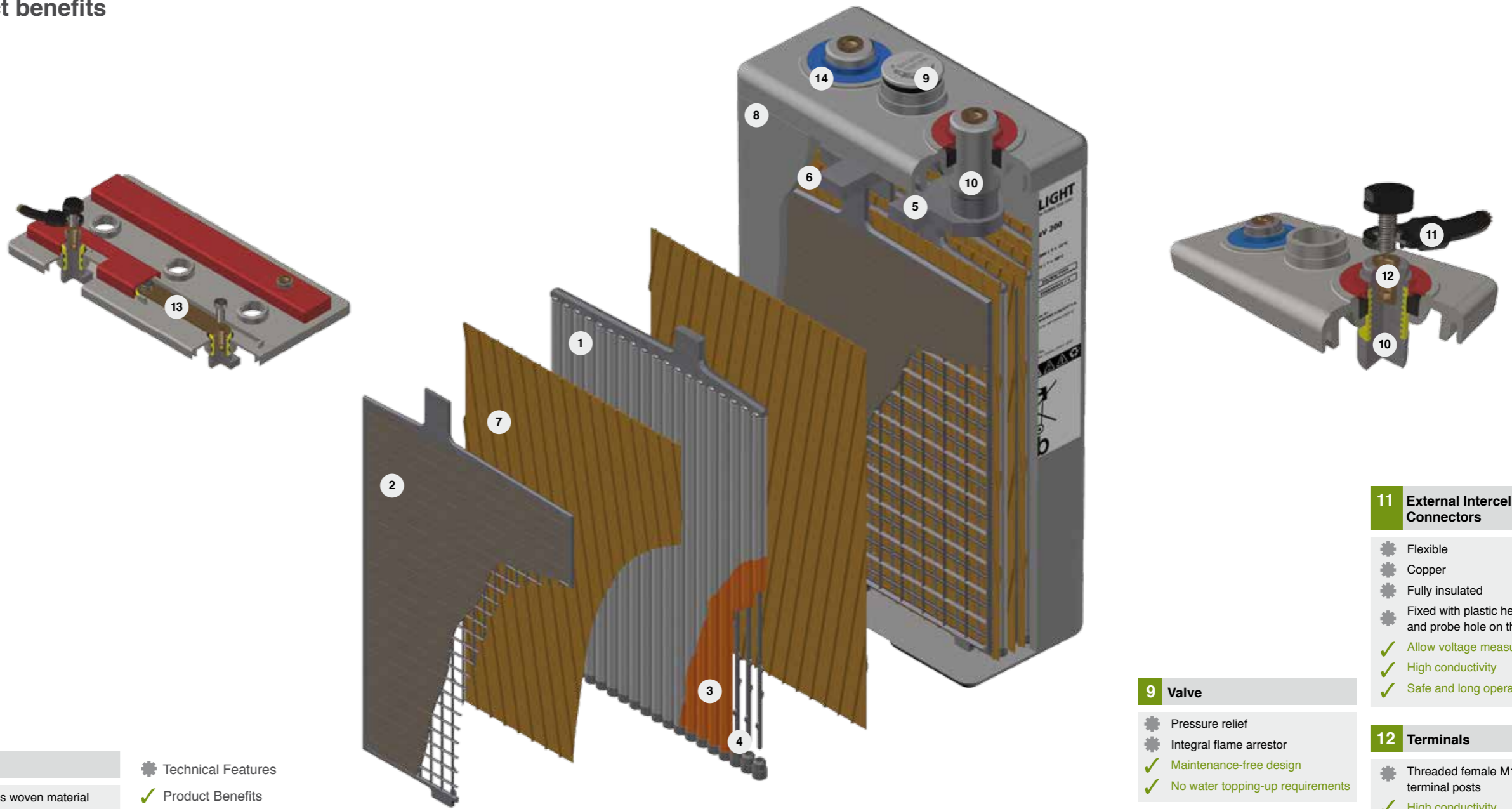
## Valve Regulated Tubular Plate GEL Batteries for Stand-By Applications

SUNLIGHT's OPzV batteries are characterized by **maintenance-free, long service life, excellent reliable performance** even in harsh conditions (high operating temperatures or unstable power network), thus providing a premium **efficient and cost effective energy solution**.

Optimum design, according to DIN international standards, exclusive use of high quality raw materials, robust construction and state of the art manufacturing processes make this OPzV range the **ideal solution for stand-by applications requiring high level of safety and reliability**.



Technical features & product benefits



**1 Positive Plates**

- ⚙️ Tubular plate design
- ⚙️ Optimized Lead Calcium Tin Alloy reducing hydrogen evolution
- ⚙️ Red Lead in-house production by 99.9% Pure Lead
- ⚙️ Dry Filling with Red Lead
- ✓ Long service life
- ✓ Excellent cycling properties
- ✓ Quality and homogeneity
- ✓ High capacity performance
- ✓ Reduced self-discharge rate

**2 Negative Plates**

- ⚙️ Pasted negative plates of grid design
- ⚙️ Optimized Lead Calcium Tin Alloy
- ⚙️ Robust construction
- ✓ Stability
- ✓ Reduced corrosion

**3 Gauntlet**

- ⚙️ Highly porous woven material
- ⚙️ Increased diameter with high Positive Active Mass (PAM)
- ✓ High capacity performance
- ✓ Better utilization of active material
- ✓ Restricts the expansion of the active material
- ✓ Eliminates active mass shedding
- ✓ Reduces corrosion of spine

**4 Bottom Bar**

- ⚙️ Ultrasonic welding
- ✓ Growth of positive spine into bottom bar's cavity is easily accommodated

- ⚙️ Technical Features
- ✓ Product Benefits

**5 Terminal Bridge**

- ⚙️ Manufactured with high quality, robust materials following certified processes
- ✓ Consistent and uniform pole bridge composition
- ✓ Increased robustness and durability
- ✓ Perfect connection for poles-bridge-plate block as a whole

**6 Electrolyte**

- ⚙️ Immobilized in GEL form sulphuric acid with nominal density of 1,26 kg/l (20°C)
- ⚙️ State of the art GEL filling equipment
- ⚙️ High purity silica for GEL formation
- ⚙️ Effective diffusion of GEL
- ✓ Operation without acid stratification or dendrite growth
- ✓ High performance on deep discharges
- ✓ Low self discharge

**7 Separators**

- ⚙️ High porosity grade material
- ⚙️ Allow migration of ions during charge/discharge
- ⚙️ More acid in the surrounding area of the plates
- ✓ Secured protection against short circuits
- ✓ High temperature stability
- ✓ Mechanical strength
- ✓ Low internal resistance

**8 Container / Lid**

- ⚙️ Heavy Duty ABS Material
- ⚙️ Optionally flame retardant (Class V0) ABS material
- ⚙️ Thick wall container
- ⚙️ Sealing between container - lid with polyurethane resin
- ⚙️ 100% leakage quality control with high precision equipment
- ✓ Unsurpassed mechanical strength
- ✓ Robust and durable battery construction

**9 Valve**

- ⚙️ Pressure relief
- ⚙️ Integral flame arrestor
- ✓ Maintenance-free design
- ✓ No water topping-up requirements

**10 Sliding Poles**

- ⚙️ Premium sliding design with brass insert and rubber seal in the lid
- ⚙️ Hardness and acid resistance
- ✓ Effectively prevents top lid cracks and acid leakages
- ✓ Positive plate's expansion is safely absorbed
- ✓ Optimum current conductivity
- ✓ Perfect sealing
- ✓ Available also with taller poles with extra space for measurements
- ✓ Safe and long operational life

**11 External Intercell Connectors**

- ⚙️ Flexible
- ⚙️ Copper
- ⚙️ Fully insulated
- ⚙️ Fixed with plastic head safety bolt and probe hole on the top
- ✓ Allow voltage measurements
- ✓ High conductivity
- ✓ Safe and long operational life

**12 Terminals**

- ⚙️ Threaded female M10 terminal posts
- ✓ High conductivity
- ✓ Maximum torque retention
- ✓ Easy installation

**13 Internal Monoblock Intercell Connectors**

- ⚙️ Copper bars premium design
- ✓ High conductivity
- ✓ Safe and long operational life

**14 Pole Washers**

- ⚙️ Color coded pole washers
- ✓ Easy polarity recognition

## The ideal energy solution for stand-by applications

### Long cycle life

Tubular positive plates, GEL form electrolyte and a unique sliding pole design, offer a design life of up to 18 years for 2V cells and 15 years for 6V & 12V blocks as well as more than 1500 cycles at 80% Depth of Discharge.

### Outstanding performance and reliability

Products of optimum design with use of high quality raw materials, European state-of-the-art production facilities and cumulative experience on advanced submarine battery manufacturing ensure remarkable performance, exceeding values as defined by the DIN international standards.

### Reduced maintenance cost

Maintenance-free design without water topping-up requirements.

### Space optimization

Vertical and horizontal installation. Racks designed for easy installation, battery maintenance and optimal space utilization.



### Operational safety

Extensive compliance testing performed under European and Global norms and verified by independent 3rd party certification agency.

### Complete battery solution

Complete and ready to install systems with all the necessary accessories. Also flame retardant containers and battery management systems are available upon request.

### Flexibility

Design and production of customized products and services, high volume orders handling capability, fast delivery.

### Peace-of-mind

24x7 experienced pre-sales and after sales support, through SUNLIGHT Global Partners Network.

### Optimum Total Cost of Ownership (TCO)

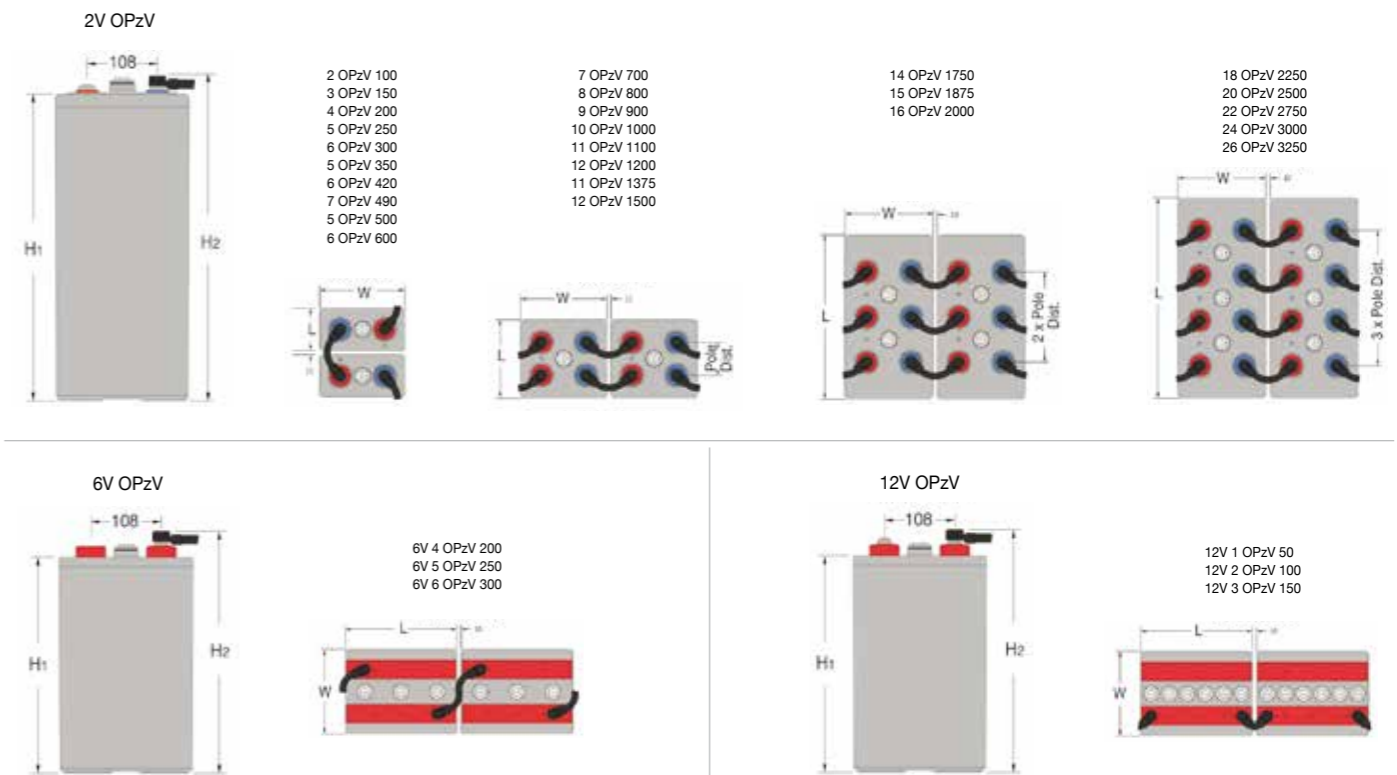
Maximum lifetime value and cost efficiency.



- "Very Long Life" according to Eurobat 2015 classification
- Tested according to **IEC 60896-21** and fully compliant to **IEC 60896-22**
- Optimized for deep discharge recovery according to **DIN 43539T5 Part 5**
- Full conformity to **DIN 40742** specifications for OPzV cells and **DIN 40744** for OPzV blocks
- Compliant to the safety requirements of **IEC 62485-2** for stationary batteries
- Manufactured in SUNLIGHT's European production facilities, certified with **ISO 9001**, **ISO 14001**, **BS OHSAS 18001**

Type	Positive Plates		Number of Poles	Rated Capacity (Ah at 20°C)				Dimensions (mm)				Poles Distance (mm)	Weight (kg)	Internal Resistance (mOhm)	Short Circuit Current (A)	
	Number	Size (Ah)		C10 1.80 Vpc	C5 1.75 Vpc	C3 1.75 Vpc	C1 1.75 Vpc	Length	Width	Height 1	Height 2					
Cells	2V 2 OPzV 100	2	50	2	112	101	90	62	103	206	354	382	-	13.6	1.650	1240
	2V 3 OPzV 150	3		2	168	152	134	93	103	206	354	382	-	15.7	1.110	1840
	2V 4 OPzV 200	4		2	224	202	179	124	103	206	354	382	-	18.3	0.830	2460
	2V 5 OPzV 250	5		2	280	253	224	155	124	206	354	382	-	21.8	0.670	3040
	2V 6 OPzV 300	6	70	2	336	303	268	185	145	206	354	382	-	26.4	0.565	3620
	2V 5 OPzV 350	5		2	405	365	320	212	124	206	471	499	-	30.0	0.570	3580
	2V 6 OPzV 420	6		2	486	438	384	252	145	206	471	499	-	35.3	0.485	4200
	2V 7 OPzV 490	7		2	567	512	447	292	166	206	471	499	-	40.8	0.430	4740
	2V 5 OPzV 500*	5	100	2	575	520	449	275	145	206	643	671	-	43.8	0.530	3850
	2V 6 OPzV 600	6		2	690	623	539	330	145	206	643	671	-	48.2	0.445	4600
	2V 7 OPzV 700*	7		4	805	727	630	389	191	210	644	672	80	61.2	0.365	5600
	2V 8 OPzV 800	8		4	920	831	720	445	191	210	644	672	80	65.5	0.325	6300
	2V 9 OPzV 900*	9	125	4	1035	935	809	498	233	210	646	674	110	75.9	0.295	6900
	2V 10 OPzV 1000	10		4	1150	1039	899	554	233	210	646	674	110	80.4	0.265	7700
	2V 11 OPzV 1100*	11		4	1265	1143	987	602	275	210	645	673	140	90.8	0.245	8350
	2V 12 OPzV 1200	12		4	1380	1247	1076	657	275	210	645	673	140	95.1	0.225	9050
	2V 11 OPzV 1375*	11	125	4	1485	1348	1169	718	275	210	796	824	140	105.0	0.230	8850
	2V 12 OPzV 1500	12		4	1620	1470	1275	784	275	210	796	824	140	110.1	0.210	9700
	2V 14 OPzV 1750*	14		6	1890	1715	1488	918	399	214	771	799	2x110	146.0	0.180	11350
	2V 15 OPzV 1875*	15		6	2025	1838	1595	983	399	214	771	799	2x110	151.0	0.167	12200
	2V 16 OPzV 2000	16	125	6	2160	1960	1701	1049	399	214	771	799	2x110	156.1	0.157	13000
	2V 18 OPzV 2250*	18		8	2430	2207	1917	1190	487	212	769	797	3x110	185.2	0.137	14900
	2V 20 OPzV 2500	20		8	2700	2452	2130	1322	487	212	769	797	3x110	195.3	0.123	16600
	2V 22 OPzV 2750	22		8	2970	2695	2332	1423	576	212	771	799	3x140	221.2	0.115	17750
	2V 24 OPzV 3000	24	125	8	3240	2940	2544	1552	576	212	771	799	3x140	231.4	0.108	18900
	2V 26 OPzV 3250	26		8	3458	3150	2714	1638	576	212	771	799	3x140	241.5	0.103	19800
Blocks	6V 4 OPzV 200	4	50	2	206	190	169	117	272	205	332	372	-	55.2	2.70	2270
	6V 5 OPzV 250	5		2	257	237	211	146	380	205	332	372	-	62.8	2.22	2760
	6V 6 OPzV 300	6		2	309	285	253	173	380	205	332	372	-	69.0	1.89	3240
	12V 1 OPzV 50	1	50	2	51	47	42	30	272	205	332	372	-	43.8	19.01	640
	12V 2 OPzV 100	2		2	102	94	84	59	272	205	332	372	-	50.5	9.50	1290
	12V 3 OPzV 150	3		2	153	141	126	88	380	205	332	372	-	73.3	6.80	1800

Cells type according to DIN 40742:2015 except.\*  
 Monoblocks type according to DIN 40744:2015  
 Height 2 includes installed connectors and bolts  
 All dimensions and weights shown are subject to manufacturing tolerances





Manufactured in Europe  
delivered in more than **100** countries



Manufacturing Plant in Xanthi, Northern Greece

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