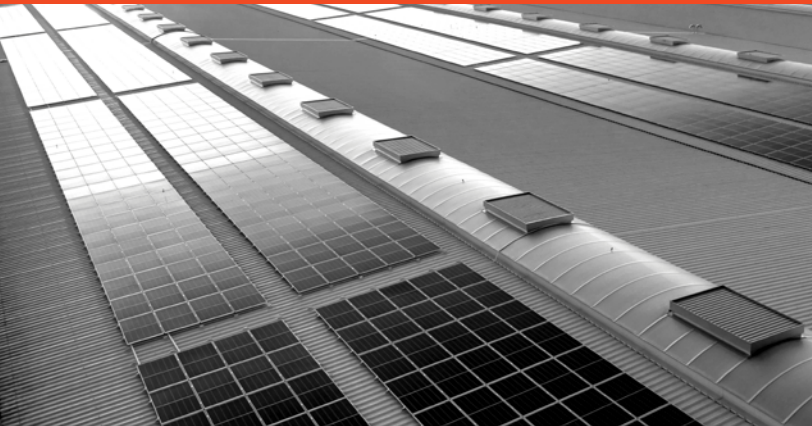
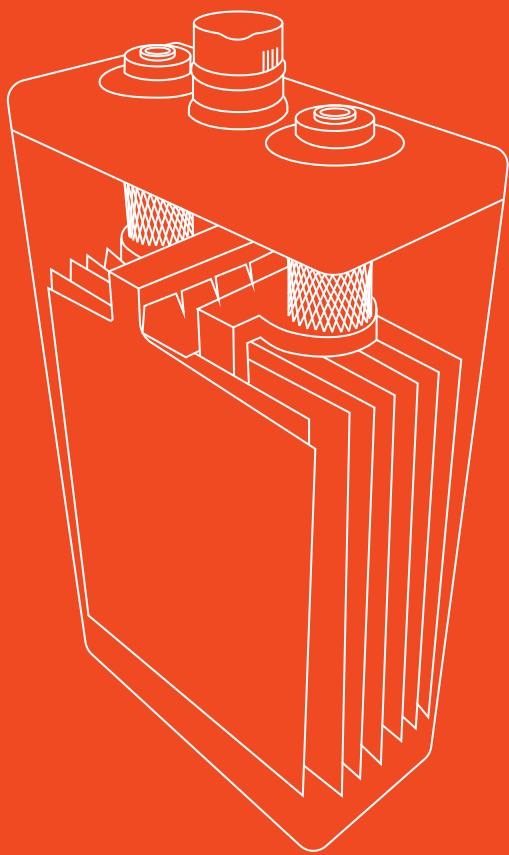
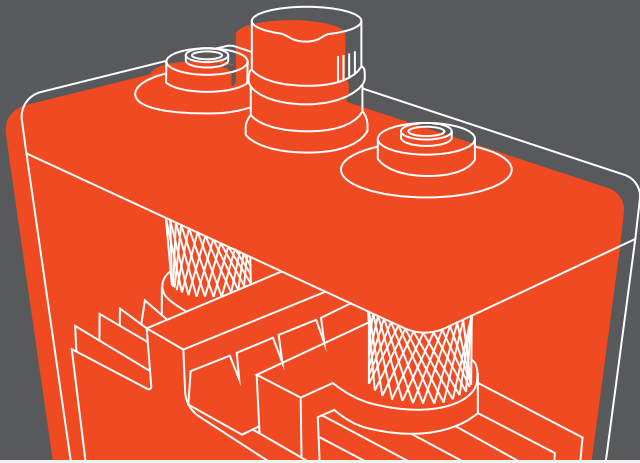


ENERGY STORAGE SOLUTIONS





OPzS BATTERIES

BATTERIES WITH LIQUID ELECTROLYTE

OPzS range is the ideal solution for standby applications that require a high level of safety and reliability.

- ¹ Minimum maintenance
- ² Up to 15 years topping up interval (with the recombination plugs)
- ³ Tubular positive plate for high performances and reliability
- ⁴ Up to 20 years life span
- ⁵ High resistance SAN containers with ABS lids

APPLICATIONS



Telecommunications



UPS systems



Grid



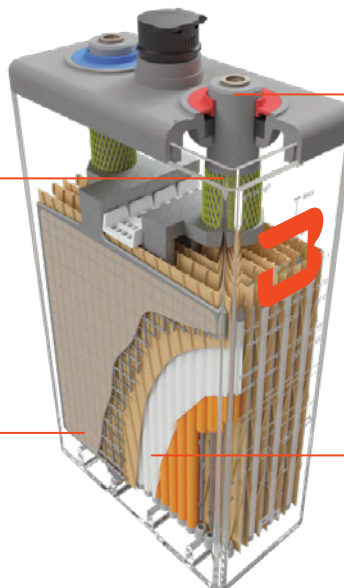
Power generation

POLE

Premium sliding pole design for durability and perfect sealing.

CONTAINER

High impact resistant SAN, available also in flame retardant material (UL 94 V-0 rating). Transparent for easy electrolyte level monitoring.



VENT PLUGS

Low maintenance design. Ceramic plug, funnel plug, recombination plug options with or without arrester for even lower maintenance intervals and increased safety.

TUBULAR POSITIVE PLATE

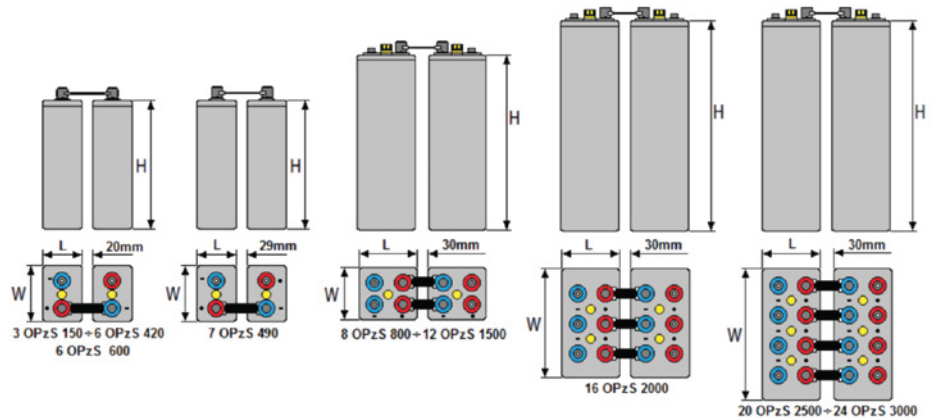
Performance and durability with ultrasonic welding of bottom bar.

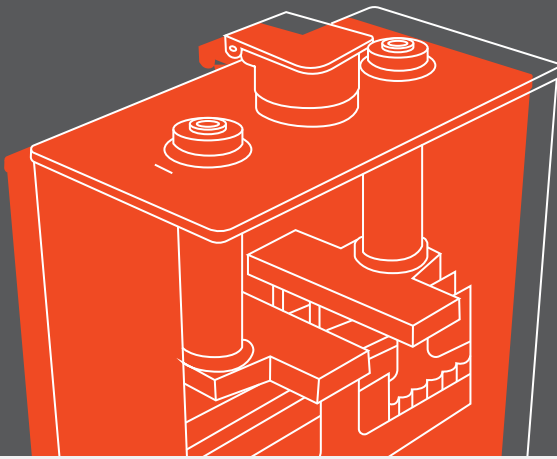
PRODUCT RANGE

CHARGING CHARACTERISTICS "IU" 2.4 V/CELL										
STATE OF CHARGE	CHARGING CURRENT I10 (10A/100AH)					CHARGING CURRENT I10 (10A/100AH)				
	60%	80%	95%	100%	Full of charge	60%	80%	95%	100%	Full of charge
DOD	CHARGING TIME [H]					CHARGING TIME [H]				
20%	<0.5	0.5	1.5	2.6	16	<0.5	<0.5	1	2.5	14
40%	<0.5	2	3.5	4.6	17	<0.5	1	2	3.3	15
60%	2	4	5.5	6.6	18	1	2	3	4.3	16
80%	4	6	8	8.6	20	2	3	4	5.3	17
100%	6	8	10	10.6	24	3	4	5	6.3	18

CELL TYPE	NOM VOLT	CAPACITY					CHARGING CURRENT INOM	LENGTH L	WIDTH W	HEIGHT H	WEIGHT	
		C10 Uend =1.80 V/cell	C5 Uend =1.75 V/cell	C3 Uend =1.75 V/cell	C1 Uend =1.67 V/cell	Cnom Uend =1.80 V/cell					Dry ~5%	Wet ~5%
		[V]	[Ah]								[A]	[mm]
2 OPzS 100	2	107	92	79	60	100	10	103	206	369	6	11
3 OPzS 150	2	161	138	118	90	150	15	103	206	369	11	16
4 OPzS 200	2	215	183	157	119	200	20	103	206	369	13	18
5 OPzS 250	2	268	230	197	148	250	25	124	206	369	16	22
6 OPzS 300	2	322	275	236	178	300	30	145	206	369	18	26
5 OPzS 350	2	388	333	286	218	350	35	124	206	485	20	29
6 OPzS 420	2	465	400	343	263	420	42	145	206	485	24	34
7 OPzS 490	2	543	466	400	307	490	49	166	206	485	28	39
6 OPzS 600	2	656	566	492	355	600	60	145	206	660	35	50
8 OPzS 800	2	875	756	659	473	800	80	210	191	660	46	65
10 OPzS 1000	2	1093	945	824	590	1000	100	210	233	660	57	80
12 OPzS 1200	2	1312	1134	988	709	1200	120	210	275	660	66	93
12 OPzS 1500	2	1670	1457	1235	787	1500	150	210	275	810	88	119
16 OPzS 2000	2	2227	1943	1647	1050	2000	200	212	397	792	106	152
20 OPzS 2500	2	2783	2431	2068	1313	2500	250	212	487	792	145	200
24 OPzS 3000	2	3340	2918	2474	1572	3000	300	212	576	792	170	240

TERMINAL LAYOUTS





SOPZS BATTERIES

BATTERIES WITH LIQUID ELECTROLYTE SPECIALLY DESIGNED FOR SOLAR APPLICATIONS

SOPzS batteries are designed to provide a reliable backup for solar applications. Characteristics of a battery life in a solar setup is very different from a standby power setup. Indeed, in a solar setup, the batteries are loading and stocking energy during the day, and the discharge process happens at night. SOPzS batteries are the perfect answer to those longer discharging processes, thanks to special alloys and separators, designed to improve the lifespan of the battery

- ¹ Minimum maintenance
- ² Up to 15 years topping up interval (with the recombination plugs)
- ³ Tubular positive plate for high performances and reliability
- ⁴ 1500 cycles of life span @80% DoD
- ⁵ High resistance SAN containers with ABS lids

APPLICATIONS



Solar Power



Wind Farms



Telecommunications



Smart-Grids



Residential installations



Traffic signaling systems

POLE

Specially designed pole for perfect sealing.

CONTAINER

High impact resistant Polypropylene, translucent for easy electrolyte level monitoring



VENT PLUGS

Electrolyte basket level marking, for visual control of electrolyte level.

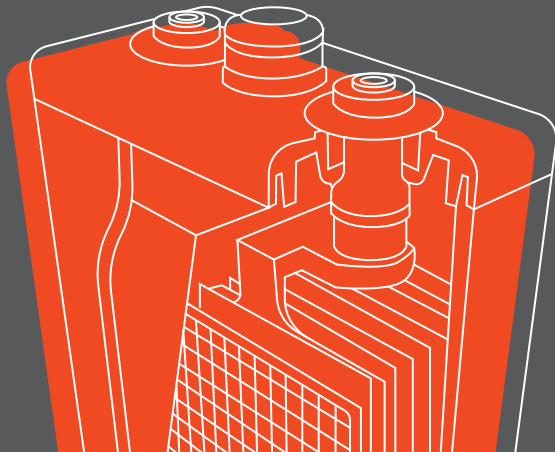
TUBULAR POSITIVE PLATE

Performance and durability with ultrasonic welding of bottom bar

PRODUCT RANGE

CHARGING CHARACTERISTICS "IU" 2.4 V/CELL										
STATE OF CHARGE	CHARGING CURRENT I10 (10A/100AH)					CHARGING CURRENT I10 (10A/100AH)				
	60%	80%	95%	100%	Full of charge	60%	80%	95%	100%	Full of charge
DOD	CHARGING TIME [H]					CHARGING TIME [H]				
20%	<0.5	0.5	1.5	2.6	16	<0.5	<0.5	1	2.5	14
40%	<0.5	2	3.5	4.6	17	<0.5	1	2	3.3	15
60%	2	4	5.5	6.6	18	1	2	3	4.3	16
80%	4	6	8	8.6	20	2	3	4	5.3	17
100%	6	8	10	10.6	24	3	4	5	6.3	18

CELL TYPE	NOM VOLT	CAPACITY					CHARGING CURRENT	LENGTH	WIDTH	HEIGHT	WEIGHT	
		C100 Ue ≈1.85 V/cell	C50 Ue ≈1.85 V/cell	C24 Ue ≈1.83 V/cell	C10 Ue ≈1.80 V/cell	Cnom Ue ≈1.80 V/cell	INOM	L	W	H	Dry ~5%	Wet ~5%
	[V]	[Ah]					[A]	[mm]			[kg]	
3 SOPzS 215	2	212	201	185	161	150	15	103	206	369	11	16
4 SOPzS 285	2	283	268	247	215	200	20	103	206	369	13	18
5 SOPzS 355	2	353	333	310	268	250	25	124	206	369	16	22
6 SOPzS 425	2	423	398	372	322	300	30	145	206	369	18	26
5 SOPzS 525	2	523	493	456	388	350	35	124	206	485	20	29
6 SOPzS 625	2	623	588	545	465	420	42	145	206	485	24	34
7 SOPzS 735	2	733	688	636	542	490	49	166	206	485	28	39
6 SOPzS 915	2	913	863	799	656	600	60	145	206	660	35	50
8 SOPzS 1225	2	1223	1148	1066	875	800	80	210	191	660	46	65
10 SOPzS 1525	2	1523	1428	1327	1093	1000	100	210	233	660	57	80
12 SOPzS 1825	2	1823	1718	1594	1312	1200	120	210	275	660	66	93
12 SOPzS 2175	2	2173	2013	1846	1670	1500	150	210	275	810	88	119
16 SOPzS 2905	2	2903	2688	2474	2227	2000	200	212	397	792	106	152
20 SOPzS 3615	2	3616	3355	3077	2783	2500	250	212	487	792	145	200
24 SOPzS 4350	2	4351	4030	3706	3340	3000	300	212	576	792	170	240



OPZV BATTERIES

VALVE REGULATED LEAD ACID (VRLA) BATTERIES WITH TUBULAR PLATES FOR STANDBY APPLICATIONS

Maintenance free power solutions for critical standby applications. OPzV Gel batteries can be mounted vertically or horizontally. Additional to their long life span (>18 years), they are a reliable and safe energy solution for any kind of standby applications.

PRODUCT RANGE (ALSO AVAILABLE IN C10=CNOM)

APPLICATIONS



Telecommunications



UPS systems



Grid



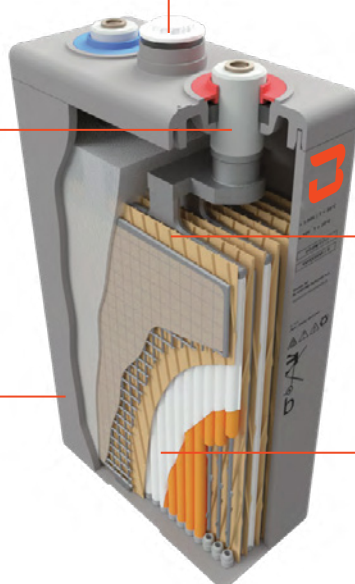
Power generation

POLE

Premium sliding pole design for durability and perfect sealing

CONTAINER

High impact resistant ABS, available also in flame retardant material (UL 94 V-0 rating)



VALVE

Pressure relief valve with flame arrester for increased safety

ELECTROLYTE

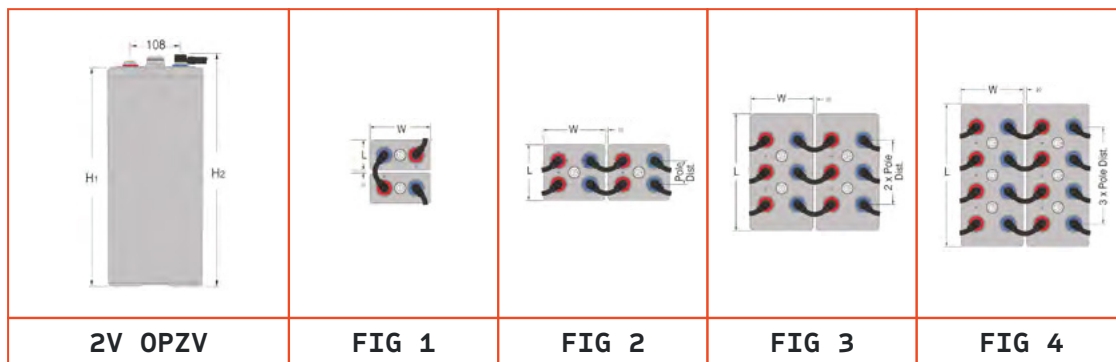
In GEL form, for maintenance-free operation without watering needs

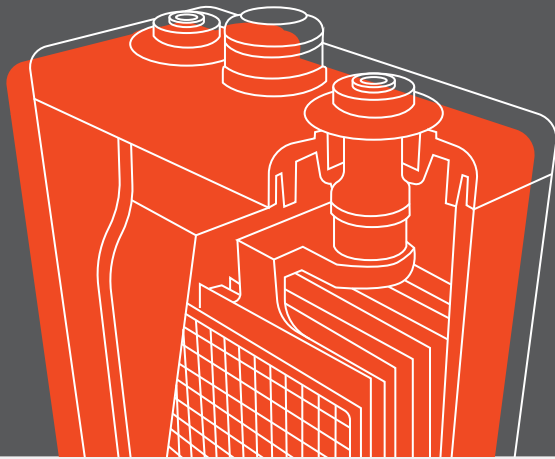
TUBULAR POSITIVE PLATE

Performance and durability with ultrasonic welding of bottom bar

PRODUCT RANGE

MODEL	VOLTAGE	RATED CAPACITY AT 20°C			DIMENSIONS				WEIGHT Wet [kg]	TERMINAL DETAILS	
		C10 /1.80 V[Ah]	C8 /1.75 V[Ah]	C5 /1.75 V[Ah]	Length-L	Width-W	Height-h1	Height-h2		Number of poles	Layout
2 OP2V 100	2	122	119	108	103	206	354	382	13.6	2	Fig 1
3 OP2V 150	2	183	179	162	103	206	354	382	15.8	2	Fig 1
4 OP2V 200	2	244	239	216	103	206	354	382	18.2	2	Fig 1
5 OP2V 250	2	305	298	270	124	206	354	382	21.9	2	Fig 1
6 OP2V 300	2	366	358	324	145	206	354	382	25.9	2	Fig 1
5 OP2V 350	2	435	426	385	124	206	471	499	30.1	2	Fig 1
6 OP2V 420	2	522	512	463	145	206	471	499	35.6	2	Fig 1
7 OP2V 490	2	609	597	540	166	206	471	499	41.0	2	Fig 1
5 OP2V 500	2	625	615	552	145	206	643	671	43.9	2	Fig 1
6 OP2V 600	2	750	738	663	145	206	643	671	48.3	4	Fig 2
7 OP2V 700	2	875	859	773	191	210	644	672	61.1	4	Fig 2
8 OP2V 800	2	1000	982	884	191	210	644	672	65.5	4	Fig 2
9 OP2V 900	2	1125	1106	994	233	210	646	674	76.0	4	Fig 2
10 OP2V 1000	2	1250	1228	1105	233	210	646	674	80.4	4	Fig 2
11 OP2V 1100	2	1375	1353	1215	275	210	645	673	90.8	4	Fig 2
12 OP2V 1200	2	1500	1476	1326	275	210	645	673	95.3	4	Fig 2
11 OP2V 1375	2	1573	1550	1386	275	210	796	824	105.1	4	Fig 2
12 OP2V1500	2	1716	1691	1512	275	210	796	824	110.2	4	Fig 2
14 OP2V 1750	2	2002	1972	1764	399	214	771	799	146.0	6	Fig 3
15 OP2V 1875	2	2145	2113	1890	399	214	771	799	151.1	6	Fig 3
16 OP2V 2000	2	2288	2254	2016	399	214	771	799	156.2	6	Fig 3
18 OP2V 2250	2	2574	2531	2269	487	212	769	797	185.2	8	Fig 4
20 OP2V 2500	2	2860	2813	2521	487	212	769	797	195.3	8	Fig 4
22 OP2V 2750	2	3146	3101	2772	576	212	771	799	221.5	8	Fig 4
24 OP2V 3000	2	3432	3387	3023	576	212	771	799	231.6	8	Fig 4
26 OP2V 3250	2	3718	3672	3273	576	212	771	799	241.8	8	Fig 4





SOPzV BATTERIES

VALVE REGULATED LEAD ACID (VRLA) BATTERIES WITH TUBULAR PLATES FOR RENEWABLE ENERGY APPLICATIONS

For maintenance free operations and maximized cycle life, in renewable energy storage applications, SOPzV batteries are a premium battery range offering a high level of reliability and performance.

- ¹ Up to 3000 cycles @50% DoD
- ² Flexible installation (vertical or horizontal)

APPLICATIONS



Solar Power



Wind Farms



Telecommunications



Smart-Grids



Residential installations



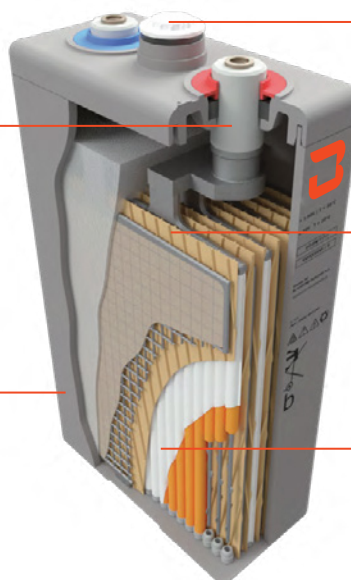
Traffic signaling systems

POLE

Premium sliding pole design for durability and perfect sealing

CONTAINER

High impact resistant ABS, available also in flame retardant material (UL 94 V-0 rating)



VALVE

Pressure relief valve with flame arrestor for increased safety

ELECTROLYTE

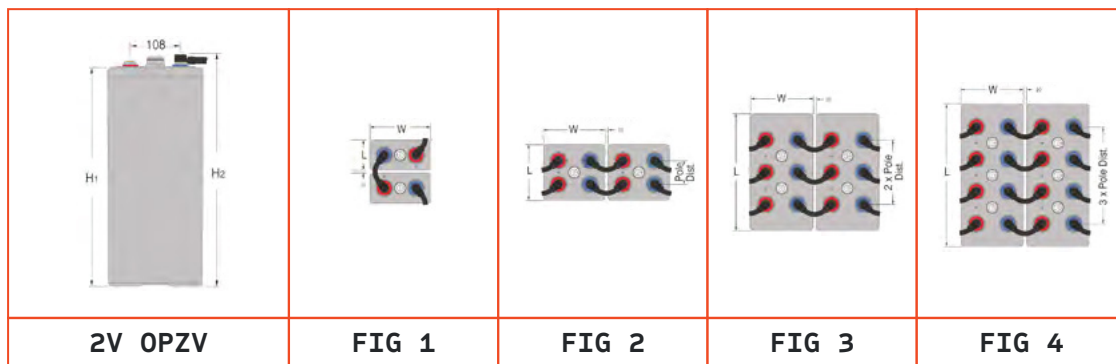
In GEL form, for maintenance-free operation without watering needs

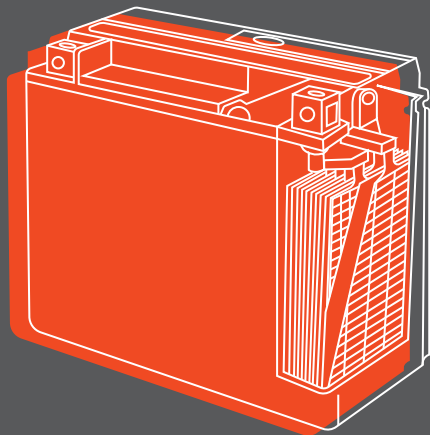
TUBULAR POSITIVE PLATE

Performance and durability with ultrasonic welding of bottom bar

PRODUCT RANGE

MODEL	VOLTAGE	RATED CAPACITY AT 20°C			DIMENSIONS				WEIGHT Wet [kg]	TERMINAL DETAILS	
		C120 /1.85 V[Ah]	C100 /1.85 V[Ah]	C48 /1.80 V[Ah]	Length-L	Width-W	Height-h1	Height-h2		Number of poles	Layout
250PZV145	2	165	162	155	103	206	354	382	13.6	2	Fig 1
350PZV215	2	247	244	232	103	206	354	382	15.8	2	Fig 1
450PZV290	2	329	325	309	103	206	354	382	18.2	2	Fig 1
550PZV360	2	412	406	387	124	206	354	382	21.9	2	Fig 1
650PZV435	2	495	488	465	145	206	354	382	25.9	2	Fig 1
550PZV535	2	585	577	550	124	206	471	499	30.1	2	Fig 1
650PZV640	2	702	693	661	145	206	471	499	35.6	2	Fig 1
750PZV750	2	821	810	773	166	206	471	499	41.0	2	Fig 1
550PZV780	2	850	839	800	145	206	643	671	43.9	2	Fig 1
650PZV935	2	1020	1006	960	145	206	643	671	48.3	4	Fig 2
750PZV1090	2	1187	1171	1117	191	210	644	672	61.1	4	Fig 2
850PZV1245	2	1358	1339	1277	191	210	644	672	65.5	4	Fig 2
950PZV1400	2	1529	1508	1438	233	210	646	674	76.0	4	Fig 2
1050PZV1560	2	1699	1676	1598	233	210	646	674	80.4	4	Fig 2
1150PZV1720	2	1873	1847	1762	275	210	645	673	90.8	4	Fig 2
1250PZV1875	2	2043	2015	1922	275	210	645	673	95.3	4	Fig 2
1150PZV1940	2	2153	2124	2022	275	210	796	824	105.1	4	Fig 2
1250PZV2120	2	2352	2320	2208	275	210	796	824	110.2	4	Fig 2
1450PZV2470	2	2741	2703	2574	399	214	771	799	146.0	6	Fig 3
1550PZV2645	2	2937	2896	2757	399	214	771	799	151.1	6	Fig 3
1650PZV2820	2	3132	3089	2941	399	214	771	799	156.2	6	Fig 3
1850PZV3170	2	3512	3465	3299	487	212	769	797	185.2	8	Fig 4
2050PZV3520	2	3903	3850	3665	487	212	769	797	195.3	8	Fig 4
2250PZV3890	2	4312	4253	4049	576	212	771	799	221.5	8	Fig 4
2450PZV4245	2	4710	4645	4422	576	212	771	799	231.6	8	Fig 4
2650PZV4535	2	5115	5044	4802	576	212	771	799	241.8	8	Fig 4












AGM BATTERIES

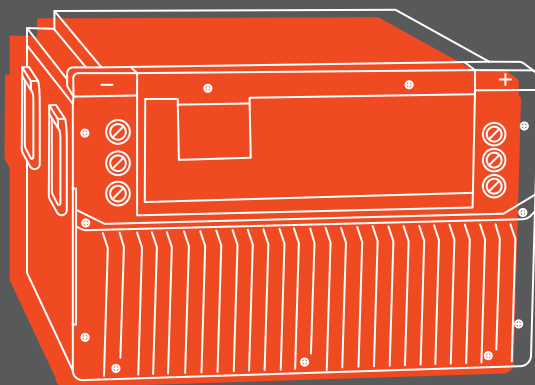
VRLA MAINTENANCE FREE AGM BATTERIES, AVAILABLE IN 6 AND 12V, FROM 7AH TO 250AH

Standard bloc or front access bloc.

AGM batteries provide superior performances, capacities and reliability. Ideal for commercial, residential or industrial applications.

APPLICATIONS





-  [Solar Power](#)
-  [Wind Power](#)
-  [Smart Home](#)
-  [Smart Buildings](#)
-  [Data Centers](#)
-  [Telecommunications](#)
-  [E-Mobility Charging Facilities](#)

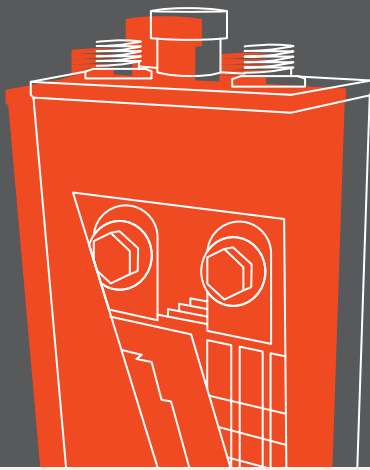


SODIUM METAL CHLORIDE BATTERIES

Improved safety, space reduction, long life span (>4500 cycles @80%DOD), no emission, no dangerous materials, long autonomy, high energy density, operating temperature from -40°C to +75°C.

APPLICATIONS

-  [Telecommunications](#)
-  [UPS systems](#)
-  [Grid](#)
-  [Power generation](#)













NICD BATTERIES

AVAILABLE IN DIFFERENT RANGES, IN STANDARD, SOLAR AND LOW MAINTENANCE VERSIONS

Exceptional lifetime at high temperatures, no electrolyte freezing below 0 °C, Ni-Cd features the widest operational temperature range of - 40 °C to + 50 °C and 20+ years in constant operation.

Abuse-proof single-cell design, tightly fixed electrode stack, strong internal connections and improved construction of critical parts.

APPLICATIONS

-  Utilities
-  Oil and Gas
-  UPS
-  Transportation
-  Emergency lighting
-  Telecommunication
-  Ship equipment
-  Security systems
-  Renewable energy storage
-  Power stars generators



GAZ SAFETY TERMINAL

Redundant leak protection minimizes carbonate formation

ELECTRODE EDGE

Connected to terminal by fastening or welding, which provides high mechanical stability

DISTANCE PLATE

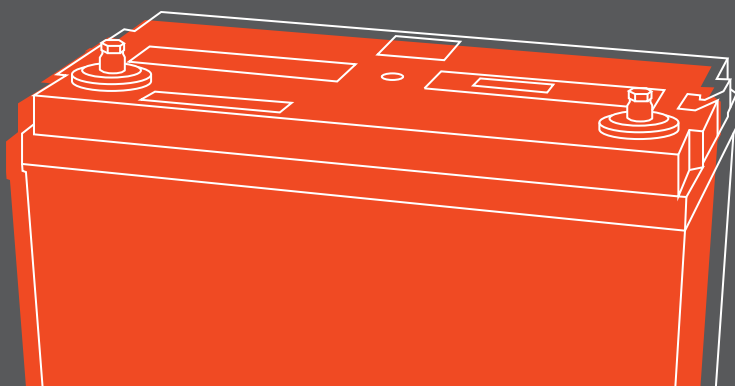
Prevents movement of the electrode stack.

HORIZONTAL POCKETS

Pocket electrode assembled from interlaced perforated steel strips which contain the active material

LITHIUM BATTERIES

In a world where clean energy has become of utmost importance, battery energy storage systems are an absolute necessity. Our lithium batteries are scalable, and available in different formats to match any kind of requirements.



6 AND 12V STANDARD BLOCS

ALSO AVAILABLE IN 24V

- ¹ The perfect solution for lead acid batteries replacement
- ² Switch to the LFP technology with 6 and 12v standard blocs batteries, to replace lead acid batteries from 7Ah to 250Ah



APPLICATIONS



Solar Power



Wind Power



Smart Home



Smart Buildings



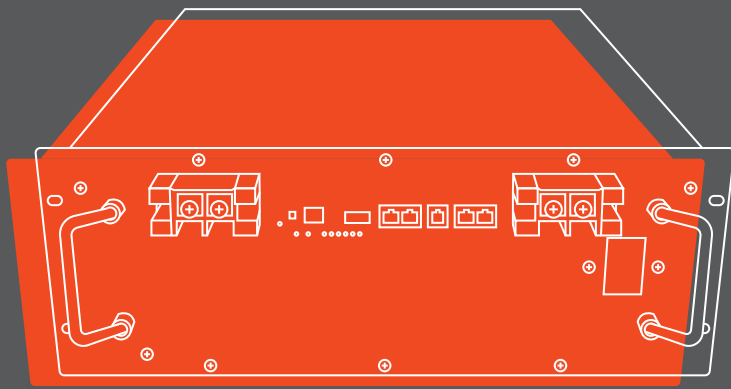
Data Centers



Telecommunications



E-Mobility Charging Facilities



48V LITHIUM BATTERIES 19' FORMAT (RACK MOUNTED)

ALSO AVAILABLE IN 24V

- ¹ More than 6000 cycles @80% DoD
- ² Expandable up to 30 modules in parallel
- ³ Available from 50Ah to 300Ah

APPLICATIONS



Solar Power



Wind Power



Smart Home



Smart Buildings



Data Centers



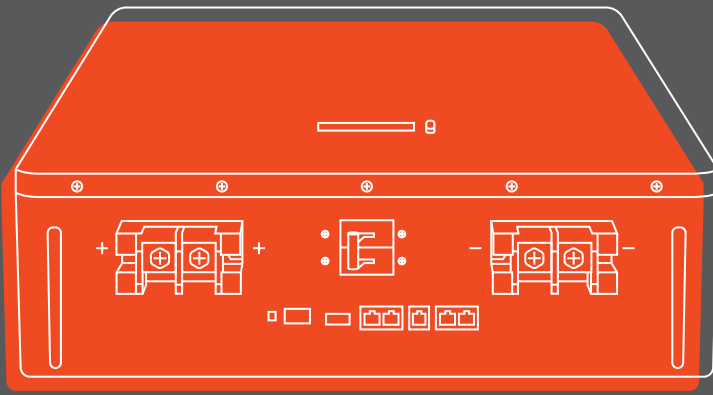
Telecommunications



E-Mobility Charging Facilities

BATTERY TECHNOLOGY	BATTERY TECHNOLOGY					
MODEL	LFP48-50	LFP48-100	LFP48-130	LFP48-160	LFP48-200	LFP48-300
RATED VOLTAGE (V)	51.2					
RATED CAPACITY (Ah)	50	100	130	160	200	300
ENERGY (kWh)	2.56	5.12	6.66	8.19	10.24	15.36
DIMENSIONS (MM)	485*390*132	485*442*177	560*442*177	640*405*225	485*503*267	485*700*267
WEIGHT (kg)	29	48	56	85	96	120
VOLTAGE RANGE (V) DC	44.8 to 58.4					
PEAK CURRENT	100	150	150	180	150	150
CONTINUOUS CURRENT	50	100	100	150	100	100
MAX CHARGE CURRENT (A)	50	100	100	100	100	100
MAX DISCHARGE CURRENT (A)	50	100	120	150	180	280





48V WALL MOUNTED BATTERIES

The Powerwall battery’s Battery Management System (BMS) features closed-loop communications pre-configured for industry-leading inverters that report SOC and other critical real-time data, optimizing the value of storage and functionality within the balance-of-system device.

- 1 Wall mounted LFP batteries are a flexible and scalable energy storage solution
- 2 Expandable up to 30 modules in parallel
- 3 More than 6000 cycles @80% DoD

APPLICATIONS



Solar Power



Wind Power



Smart Home



Smart Buildings



Data Centers



Telecommunications



E-Mobility Charging Facilities

BATTERY TECHNOLOGY	LITHIUM IRON PHOSPHATE (LiFePO4)				
MODEL	LFP48-100WM	LFP48-150WM	LFP48-200WM	LFP48-240WM	LFP48-300WM
RATED VOLTAGE (V)	51.2				
RATED CAPACITY (Ah)	100	150	200	240	300
ENERGY (kWh)	5.12	7.68	10.24	12.8	15.36
DIMENSIONS (mm)	650*490*147	885*594*143	820*490*147	920*530*176	600*190*950
WEIGHT (kg)	56	82	90	106	130
VOLTAGE RANGE (V) DC	44.8 to 58.4				
PEAK CURRENT	150	150	150	250	270



CHARGERS AND ACCESSORIES

RECTIFIERS/CHARGERS

The battery charging rectifier, is an energy converter for industrial use designed to ensure a constant power supply in association with the batteries.

The series of rectifiers and battery chargers for industrial use is based on total control 6- or 12-pulse thyristor bridges. We can supply a wide range of systems with voltage output from 24 V DC to 220 V DC and current output up to 1000 A.

The equipment is installed inside stand-alone, self-supporting cabinets. Is designed, manufactured and tested in compliance with the applicable IEC regulations.



UPS

(Uninterruptible power supply)

UPS is an electrical device that provides emergency power to the load when the main power (input power) fails. The protection is instantaneous due to the energy stored in batteries.

They are usually used in IT, datacenter, healthcare, industries and telecommunication applications to protect the devices against power disturbance. There are three general categories of UPS : "Offline", "Line-interactive" and "On-line double conversion".



INVERTERS

Converter range DC / AC, AC / DC and DC / DC with 400Hz frequency conversion.

The wide input voltage tolerance is the distinctive element that allows our converters to work with a wide variety of input voltages and makes these systems suitable for photovoltaic sector, telecommunications, industrial automation and especially for critical applications.





BARBILLON

POWER YOUR SOLUTIONS

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