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grid | power V L

Series OPzS/power.bloc OPzS

Vented lead-acid battery

grid | powerVL Series OPzS

Typical applications:

- Telecommunications
 - Mobile phone stations
 - BTS-stations
 - Off-grid/on-grid solutions
- Power Supply
- Security lighting

Your benefits:

- Very high expected service life – due to optimized low-antimony selenium alloy
- Excellent cycle stability – due to tubular plate design
- Maximum compatibility – design according to DIN 40736-1
- Higher short-circuit safety even during the installation – based on HOPPECKE system connectors
- Extremely extended water refill intervals up to maintenance-free – optional use of AquaGen® recombination system minimizes emission of gas and aerosols¹

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Typical applications:

- Telecommunications
 - Mobile phone stations
 - BTS-stations
 - Off-grid/on-grid solutions
- Power Supply systems
- Security lighting

Your benefits:

- High expected service life – due to optimized low-antimony selenium alloy
- Excellent cycle stability – due to tubular plate design
- Maximum compatibility – dimensions according to DIN 40737-3
- Easy assembly and installation – battery lid with integral handle
- Higher short-circuit safety even during the installation – based on HOPPECKE system connectors
- Extremely extended water refill intervals up to maintenance-free – optional use of AquaGen® recombination system minimizes emission of gas and aerosols¹



¹ Similar to sealed lead-acid batteries

Capacities dimensions and weights

Series OPzS	DIN Type	C ₁₀ /1.80 V Ah	C ₅ /1.77 V Ah	C ₃ /1.75 V Ah	C ₁ /1.67 V Ah	max.* Weight kg	Weight electrolyte kg (1.24 kg/l)	max.* Length L mm	max.* Width W mm	max.* Height H mm	Fig.
grid power vL 2-215	4 OPzS 200	213	182	161	118	17.3	4.5	105	208	420	A
grid power vL 2-270	5 OPzS 250	266	227	201	147	21.0	5.6	126	208	420	A
grid power vL 2-325	6 OPzS 300	320	273	241	177	24.9	6.7	147	208	420	A
grid power vL 2-390	5 OPzS 350	390	345	303	217	29.3	8.5	126	208	535	A
grid power vL 2-470	6 OPzS 420	468	414	363	261	34.4	10.1	147	208	535	A
grid power vL 2-550	7 OPzS 490	546	483	426	304	39.5	11.7	168	208	535	A
grid power vL 2-690	6 OPzS 600	686	590	510	353	46.1	13.3	147	208	710	A
grid power vL 2-805	7 OPzS 700	801	691	596	411	59.1	16.7	215	193	710	B
grid power vL 2-920	8 OPzS 800	915	790	681	470	63.1	17.3	215	193	710	B
grid power vL 2-1035	9 OPzS 900	1026	887	767	529	72.4	20.5	215	235	710	B
grid power vL 2-1150	10 OPzS 1000	1140	985	852	588	76.4	21.1	215	235	710	B
grid power vL 2-1265	11 OPzS 1100	1256	1086	938	647	86.6	25.2	215	277	710	B
grid power vL 2-1380	12 OPzS 1200	1370	1185	1023	706	90.6	25.8	215	277	710	B
grid power vL 2-1610	12 OPzS 1500	1610	1400	1197	784	110.4	32.7	215	277	855	B
grid power vL 2-1880	14 OPzS 1750	1881	1632	1397	914	142.3	46.2	215	400	815	C
grid power vL 2-2015	15 OPzS 1875	2016	1748	1496	980	146.6	46.7	215	400	815	C
grid power vL 2-2150	16 OPzS 2000	2150	1865	1596	1045	150.9	45.9	215	400	815	C
grid power vL 2-2420	18 OPzS 2250	2412	2097	1796	1176	179.1	56.4	215	490	815	D
grid power vL 2-2555	19 OPzS 2375	2546	2213	1895	1242	182.9	55.6	215	490	815	D
grid power vL 2-2690	20 OPzS 2500	2680	2330	1995	1307	187.3	55.7	215	490	815	D
grid power vL 2-2960	22 OPzS 2750	2952	2562	2195	1437	212.5	67.0	215	580	815	D
grid power vL 2-3095	23 OPzS 2875	3086	2678	2294	1503	216.8	65.9	215	580	815	D
grid power vL 2-3230	24 OPzS 3000	3220	2795	2394	1568	221.2	66.4	215	580	815	D
grid power vL 2-3500	26 OPzS 3250	3488	3028	2594	1699	229.6	65.4	215	580	815	D

C₁₀, C₅, C₃ and C₁ = Capacity at 10 h, 5 h, 3 h and 1 h discharge

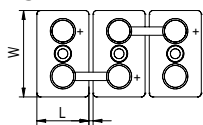
* according to DIN 40736-1 data to be understood as maximum values

Series power.bloc OPzS	DIN Type	C ₁₀ /1.80 V Ah	C ₅ /1.77 V Ah	C ₃ /1.75 V Ah	C ₁ /1.67 V Ah	max.* Weight kg	Weight electrolyte kg (1.24 kg/l)	max.* Length L mm	max.* Width W mm	max.* Height H mm	Fig.
grid power vL 12-50	12 V 1 power.bloc OPzS	50	44	39	28	37.0	15.0	272	205	383	A
grid power vL 12-100	12 V 2 power.bloc OPzS	100	101	88	78	48.0	13.0	272	205	383	A
grid power vL 12-150	12 V 3 power.bloc OPzS	150	151	132	117	67.0	18.0	380	205	383	A
grid power vL 6-200	6 V 4 power.bloc OPzS	200	202	176	155	47.0	13.0	272	205	383	B
grid power vL 6-250	6 V 5 power.bloc OPzS	250	252	220	194	60.0	20.0	380	205	383	B
grid power vL 6-300	6 V 6 power.bloc OPzS	300	302	264	233	67.0	18.0	380	205	383	B

C₁₀, C₅, C₃ and C₁ = Capacity at 10 h, 5 h, 3 h and 1 h discharge

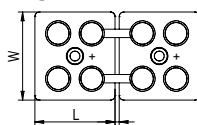
* according to DIN 40737-3 data to be understood as maximum values

Fig. A Series OPzS



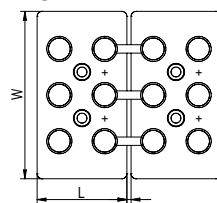
grid | power vL 2-215 -
grid | power vL 2-690

Fig. B Series OPzS



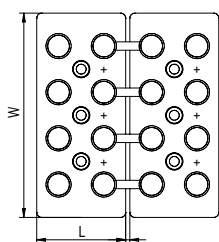
grid | power vL 2-805 -
grid | power vL 2-1610

Fig. C Series OPzS



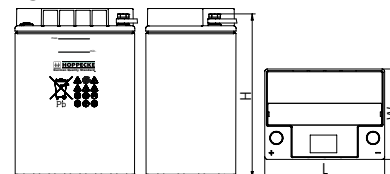
grid | power vL 2-1880 -
grid | power vL 2-2150

Fig. D Series OPzS



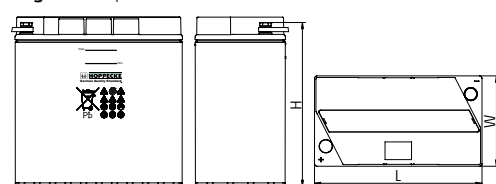
grid | power vL 2-2420 -
grid | power vL 2-3500

Fig. A Series power.bloc OPzS



grid | power vL 12-50 -
grid | power vL 12-150

Fig. B Series power.bloc OPzS



grid | power vL 6-200 -
grid | power vL 6-300

Design life: up to 20 years

Optimal environmental compatibility – closed loop for recovery of materials in an accredited recycling system

Design life: up to 18 years

Optimal environmental compatibility – closed loop for recovery of materials in an accredited recycling system

Safety Data Sheet¹ - Product information

Product Range: HOPPECKE Vented lead acid batteries

1. GENERAL INFORMATION

Manufacturer's Name:

HOPPECKE Batterien GmbH & Co. KG
Bontkirchener Str. 1
59929 Brilon, Germany

Telephone number for information: 02963 61 464

Emergency telephone number:

For transports only

National/International: +49 (0) 178 433 74 34

USA: 01149 178 433 74 34

Date: January 2022

Product:

Vented Lead Acid Battery (VLA)

Brand names:

max.power, sun | power V L,
grid | power V L, grid | power V M, grid | power V H,
grid | power V X

2. HAZARDS IDENTIFICATION

No labelling of the product is required as batteries are articles in the sense of the REACH regulation. Labelling is only required for substances and mixtures of substances.

3. HAZARDOUS INGREDIENTS/IDENTIFY NOTIFICATION

Components	CAS Number
Inorganic Lead	7439-92-1
Electrolyte (Sulfuric Acid - H ₂ SO ₄ /H ₂ O)	7664-93-9

4. FIRST AID MEASURES

Inhalation

Sulfuric Acid: Remove to fresh air immediately. Consult a physician.

¹ Batteries are considered as articles under REACH regulation 1907/2006/EC and, as such, do not require the publication of a safety data sheet. However, there is a requirement to provide safety information on products. This document, which fulfils this requirement, is commonly called an MSDS, but, in Europe, is more correctly referred to as 'Instructions for the Safe Handling of Lead-Acid Batteries'. As the product contains a SVHC substance, this notification in the form of product information is obligatory.

Lead: Remove from exposure, gargle, wash nose and lips; consult physician.

Ingestion

Sulfuric Acid: Give large quantities of water. Consult a physician.

Lead: Consult physician immediately.

Skin

Sulfuric Acid: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely.

If symptoms persist, seek medical attention. Wash contaminated clothing before reuse. Discard contaminated shoes.

Lead: Wash immediately with soap and water.

Eyes

Sulfuric Acid and Lead: Flush immediately with large amounts of water for least 15 minutes while lifting lids. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash Point (Method Used):

non flammable

Flammable Limits:

*Hydrogen Gas

Extinguishing Media:

Class ABC extinguisher,

Limits:

LEL = 4.1% (Hydrogen Gas) UEL = 74.2%

NOTE: CO₂ may be used, but not directly on the cell. The thermal shock may cause cracking of the battery case and/or cases.

Hydrogen gas may be generated during battery charging.

Special Fire Fighting Procedures: If batteries are on charge, turn off power. Use positive pressure, self-contained breathing apparatus in fighting fire. Water applied to electrolyte generates heat and causes it to splatter. Wear acid resistant clothing. Ventilate area well.

Unusual Fire and Explosion Hazards: Hydrogen and oxygen gases are generated in cells during normal battery operation or when on charge. (Hydrogen is flammable and oxygen supports combustion). These gases enter the air through the vent caps during battery overcharging. To avoid risk of fire or explosion, keep sparks and other sources of ignition away from the battery. Do not allow metal objects to simultaneously contact both positive and negative terminal of batteries. Ventilate area well.

6. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled: Electrolyte material is corrosive. Contains sulfuric acid. Neutralize any spilled material. Reference 1996 North American Emergency Response Guidebook, #154.

Waste Disposal Method: Lead-acid batteries are completely recyclable. For information on returning batteries to HOPPECKE Batterien GmbH & Co. KG for recycling, contact your HOPPECKE Representative. Dispose of any collected material in accordance with local, state or applicable federal regulations.

Precautions to be Taken in Handling and Storing: Store away from reactive material as defined in Section V, Reactivity Data. Place cardboard between layers of stacked batteries to avoid damage and short circuit. Do not allow metallic materials to simultaneously contact both terminals.

Other Precautions: If battery case is broken, avoid direct contact with internal components. Keep away from ignition sources during charging.

7. HANDLING AND STORAGE

Handling:

Unless involved in recycling operations, do not breach the casing or empty the contents of the battery. There may be increasing risk of electric shock from strings of connected batteries.

Keep containers tightly closed when not in use. If battery case is broken, avoid contact with internal components. Keep away from combustible materials, organic chemicals, reducing substances, metals, strong oxidizers and water.

Storage:

Store batteries in cool, dry, well-ventilated areas with impervious surfaces. Batteries should also be stored under roof for protection against adverse weather conditions. Separate from incompatible materials. Avoid damage to containers. Keep away from fire, sparks and heat. Keep away from metallic objects could bridge the terminals on a battery and create a dangerous short-circuit.

Charging:

There is a possible risk of electric shock from charging equipment and from strings of series connected batteries, whether or not being charged. Shut-off power to chargers whenever not in use and before detachment of any circuit connections. Batteries being charged will generate and release flammable hydrogen gas. Charging space must be ventilated. Prohibit smoking and avoid creation of flames and sparks nearby.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Common Name	OSHA PEL	ACGIH TLV	Range Percent by Weight
Lead	0.05 mg/m ³	0.15 mg/m ³	54-62% wt
Electrolyte	1.00 mg/m ³	1.00 mg/m ³	26-40% wt

Percentages of components are dependent both on the model of the battery and state of charge/discharge of the battery. Inorganic lead and electrolyte (sulphuric acid) are the primary components of every battery manufactured by HOPPECKE Batterien GmbH & CO. KG.

Other ingredients may be present dependent upon battery type. Contact your HOPPECKE Batterien GmbH & CO. KG representative for additional information.

Under normal use and handling the customer has no contact with the internal components of the battery or the chemical hazards. Under normal use and handling these batteries do not emit regulated or hazardous substances. Warning: Battery terminals posts and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands thoroughly after working with batteries and before eating, drinking or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Article

Electrolyte (Sulfuric Acid):

See enclosed MSDS electrolyte

Lead:

See enclosed MSDS lead

10. REACTIVITY DATA

Stability: Stable

Condition to Avoid: Prolonged overcharging, sources of ignition

Incompatibility (Materials to Avoid): Sulfuric Acid: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, strong oxidizers and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas. Combination of Sulfuric acid with combustibles and organic materials may cause fire and explosion. Avoid strong reducing agents, most metals, carbides, chlorates, nitrates, and picrate.

Hazardous Decomposition Products: Sulfuric Acid: Excessive overcharging or fire may create sulfur trioxide, carbon monoxide, sulfuric acid mist and sulfur dioxide.

Lead Compounds: Contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.

Hydrogen gas may be generated in an overcharged condition, in fire or at very high temperatures. CO, CO₂, and sulfur oxides may emit in fire. Hazardous polymerization will not occur.

The above reactions can only occur if the battery is damaged and the ingredients can leak out.

11. TOXICOLOGICAL INFORMATION

Electrolyte (Sulfuric Acid):

See enclosed MSDS electrolyte

Lead:

See enclosed MSDS lead

12. ECOLOGICAL INFORMATION

Electrolyte (Sulfuric Acid):
See enclosed MSDS electrolyte

Lead:
See enclosed MSDS lead

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Lead-acid batteries are completely recyclable. For information on returning batteries to HOPPECKE Batterien GmbH & Co. KG for recycling, contact your HOPPECKE Representative. Dispose of any collected material in accordance with local, state or applicable federal regulations.

14. TRANSPORT INFORMATION

Transport regulations for hazardous substances contained

If the batteries/cells are unfilled (UU unfilled uncharged, UG / UC unfilled charged), this material does not have to be declared as a dangerous good during transport (road / train / sea / air).

Cargo freights ADR/RID and GGVSEB (trans border/national):

ADR/RID-GGVS/E class	8
UN-Number	UN 2794
Label	8
Technical name	batteries, wet, filled with acid
Specifics	If the conditions of special provision 598 are met, the product is not subject to the further provisions of ADR.

Maritime transports IMDG/GGVSee:

IMDG/GGVSee-class	8
UN-Number	UN 2794
Label	8
Technical name	batteries, wet, filled with acid

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA-class	8
UN/ID-Number	UN 2794
Label	8
Technical name	batteries, wet, filled with acid

15. REGULATORY INFORMATION

Electrolyte (Sulfuric Acid):
See enclosed MSDS electrolyte

Lead:
See enclosed MSDS lead

16. OTHER INFORMATION

The information given above is provided in good faith based on existing knowledge and does not constitute an assurance of safety under all conditions. It is the user's responsibility to observe all laws and regulations applicable for storage, use, maintenance or disposal of the product. If there are any queries, the supplier should be consulted.

However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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