Let us lead you into the world of everlasting energy and introduce you with OPzS stationary blocks and cells produced in the conventional lead-acid technology.

The batteries are distinguished for:
» High capacity
» Long life time
» Reduced maintenance
» Low self-discharging
» Quick and simple acid level control
» Economical water consumption
» Appropriate dimensions and weight
» The lowest and constant maintenance current.

The individual cells (2V) and blocks (6V and 12V) are in translucent plastic containers made of styrenacrylnitril (SAN), a material which is extraordinary resistant to chemical influences and mechanical damage.

The stationary batteries of the type OPzS are manufactured according to the DIN 40736, EN 60896 and IEC 896-1 regulations.

Application
Stationary batteries of the OPzS type are intended for the supply of telecommunication facilities, computers, emergency lightning, alarm, control and monitoring systems in power plants and distribution stations, at railway stations, airports etc. Due to their extremely low self-discharging they are suitable for plants supplied by solar cells.

Operation
Maintenance
It is recommended that the OPzS batteries are installed in the systems where they are constantly connected to the rectifier.

The battery can be float-charged with voltage of 2.23 to 2.25 V/cell, or, in case of rapid charging after discharge, with voltage of 2.35 to 2.40 V/cell. Rapid charging usually lasts another 3-5 hours after the voltage has already reached 2.35 to 2.40 V/cell. After that, an automatic switchover to the constant maintaining voltage of 2.23 to 2.25 V/cell takes place. Battery maintenance is reduced to a minimum and required only from time to time. At normal operation, only some distilled water has to be added once in a 2-3 year period and, if necessary, the surface of cells has to be cleaned. All stated voltage values are valid for the temperature range from 15 to 25 degrees C. Out of this range, the corrections given by the battery producer are necessary.

For detail information please check our operation manual.
IN ORDER THAT THE BATTERIES WOULD MEET ALL YOUR DEMANDS, WE KINDLY ASK YOU TO ENCLOSE THE FOLLOWING DATA WITH YOUR ORDER:

» kind of consuming device (telephone plant, DC-AC converter, emergency lightning etc.)
» operating energy of the consumer (kW, kVA, cos Φ)
» kind of rectifier, its characteristics, regulating point I (A) or U (V), respectively, float voltage (V) (direct voltage of rapid-charging current Imax (A), float charging voltage)
» outline or dimensions of a battery room
» type of installation (welded, bolted, on wooden or metal racks, in case, on earthquake-proof racks)
» battery maintenance accessories (areometers, thermometers, jug ...)
» battery type: filled up with electrolyte and electrically charged or dry-charge battery.

IN CASE OF PROBLEMS WITH ORDERING WE WILL BE GLAD TO ADVISE AND ASSIST YOU IN THE SELECTION OF THE SUITABLE TYPE OF BATTERY.

CONSTRUCTION

The positive armored plate is of a tubular type, which means that the active substance (PbO2) is contained in special gauntlet made of polyester fibres and hardened by an impregnation compound. Such construction prevents escaping of an active substance during the operation and ensures a long life time. The grids of a positive and a negative plate are made of special low percentage (less than 2 %) antimony alloy with addition agents for improvement of crystalline structure of casting. Negative plates are pasted-type plates with special alloys maintaining porosity of an active substance during the operation. As an electrolyte, a diluted sulphuric acid (H2SO4) with a density of 1.24 ± 0.01 kg/l at 20 degrees C, and at a maximum permitted level is used. Separators separating the positive plates from the negative ones are made of microporous plastic material with a low electric resistance.

The cell containers are made of transparent SAN, while lid of nontransparent SAN or ABS material (SAN for blocks, ABS for 2V cells). In a special process, the lids are tightly sealed to the container. The terminal plugs are sealed with rubber seals. This prevents any escape of electrolyte from the cells. Due to the transparent containers the electrolyte level is clearly visible, the maximum and minimum levels are marked on a self-adhesive acid-proof label on a container side.

A cell plug seals well (ceramic filter), and prevents leakage of any sulphuric acid vapours, however, it lets through hydrogen and oxygen.

Two versions of batteries are being manufactured:

» DRY-CHARGE VERSION:
  a battery has to be filled up with an electrolyte and supplementary charged before use.
  The plates are already formed and in a special process protected against oxidation.
  They can be stored without problems.

» ELECTROLYTE-CHARGE:
  battery can be installed immediately, because it is already filled up with electrolyte and electrically charged as well. The capacity test has already been performed by the producer.

IMPROVED DESIGN FOR BOLTED VERSION TERMINAL POST

NEW TYPE OF POLE FOR STATIONARY APPLICATIONS HAS A SPECIAL DESIGN WITH EMBRACED INJECTED PLASTIC AROUND PRE-MACHINED LEAD PART IN THE SEALING AREA.

PLANE AND CLEAN SURFACE OF PLASTIC PART IN COMBINATION WITH RUBBER SEALING RING ENSURES PERFECT SEAL. LONG PLASTIC INJECTED PART ALLOWS POLE GROWTH AND MOVING UPWARDS BY THE GROWTH OF POSITIVE PLATE. SUCH CONSTRUCTION ENSURES TIGHT POLE BUSHING WITHOUT ANY CORROSION OR DETERIORATION DURING BATTERY LIFE.
TAB OPzS BLOCKS

TAB OPzS STATIONARY BLOCKS (CELLS) ARE PRODUCED IN THE CONVENTIONAL LEAD-ACID TECHNOLOGY.

Stationary batteries of the OPzS type are intended for the supply of telecommunication facilities, computers, emergency lighting, alarm, control and monitoring systems in power plants and distribution stations, at railway stations, airports etc.

**DESIGN**

OPzS cells (block)*

**POSITIVE ELECTRODE**
- Tubular plate with low antimony alloy (<2%)

**NEGATIVE ELECTRODE**
- Flat with long life expander active material

**SEPARATION**
- Microporous separator

**ELECTROLYTE**
- Sulphuric acid of 1.24 kg/l at 20 °C

**CONTAINER**
- High impact, transparent SAN Lid
- ABS (SAN)* in grey color

**BLOCKS WITH BLIND CELLS**
- 4V, 6V, 8V, 10V

**PLUGS**
- Ceramic plugs according to DIN 40740

**POLE SEALING**
- 100% gas-and electrolyte-tight, sliding pole

**CONNECTOR**
- Flexible insulated copper cable with cross-section of 35, 50, 70, 95 or 120 mm² (35, 50 or 70 mm²)*

**KIND OF PROTECTION**
- IP 25 regarding DIN 40050, touch protected according VBG 4

---

**Uf v/cell**

<table>
<thead>
<tr>
<th>Cell Type</th>
<th>IEC 896-1</th>
<th>Dimensions [mm]</th>
<th>Weight [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ri [mΩ]</td>
<td>Isc [A]</td>
<td>L</td>
</tr>
<tr>
<td>Discharging [h]</td>
<td>10</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

**12V 1 OPzS 50**
- 51 | 40.9 | 38.0 | 28.4 | 20.0 | 613 | 272 | 205 | 392 | 26 | 39

**12V 2 OPzS 100**
- 103 | 81.8 | 75.7 | 56.7 | 9.3 | 1290 | 272 | 205 | 392 | 38 | 50

**12V 3 OPzS 150**
- 154 | 122.6 | 113.7 | 85.1 | 6.9 | 1739 | 380 | 205 | 392 | 53 | 69

**6V 4 OPzS 200**
- 204 | 167.0 | 149.3 | 115.2 | 2.2 | 2703 | 272 | 205 | 392 | 36 | 47

**6V 5 OPzS 250**
- 255 | 208.6 | 186.6 | 143.6 | 1.9 | 3175 | 380 | 205 | 392 | 44 | 61

**6V 6 OPzS 300**
- 307 | 250.5 | 223.7 | 172.0 | 1.6 | 3846 | 380 | 205 | 392 | 52 | 68

---

**12V 2 OPzS 100**

Electrolyte density: 1.24 ± 0.01kg/l at 20 °C.

All measures and weights are within standard production tolerances. Electrical values are approximative. Technical modifications are reserved without prior notice.
**CHARGING**

**OPzS cells (block)**

- **IU - CHARACTERISTIC**
  - Imax without limitation
- **FLOAT CHARGE**
  - \( U = 2.23 \text{ V/cell} \pm 1 \% \)
- **below 10 °C or above 30 °C**
- \( \frac{\Delta U}{\Delta T} = -0.004 \text{ V/K} \)
- **CHARGING TIME UP TO 92 \%**
  - 6h with 1.5*110 current
- **2.23 V/cell, 50 \% C10 discharged**

**DISCHARGE CHARACTERISTICS**

**OPzS cells (block)**

- **REFERENCE TEMPERATURE**
  - 20 °C
- **INITIAL CAPACITY**
  - 100 \%
- **DEPTH OF DISCHARGE**
  - Normally up to 80 \%
  - More than 80 \% DOD or discharges beyond final discharge voltages (dependent on discharge current) have to be avoided

**MAINTENANCE**

**OPzS cells (block)**

- **EVERY 6 MONTH**
  - Check battery voltage, pilot block voltage, temperature
- **EVERY 12 MONTH**
  - Take down battery voltage, block voltage, temperature

---

**UF V/cell**

<table>
<thead>
<tr>
<th>Discharging [h]</th>
<th>1.80</th>
<th>1.77</th>
<th>1.75</th>
<th>1.67</th>
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<td>2295</td>
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**IEC 896-1**

<table>
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<tr>
<th>Dimensions [mm]</th>
<th>Weight [kg]</th>
<th>Nº of poles</th>
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<td>H</td>
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<td>487</td>
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<tr>
<td>17390</td>
<td>212</td>
<td>576</td>
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</table>

**OPERATIONAL DATA**

**OPzS cells (block)**

- **DESIGN LIFE**
  - Up to 20 years (18 years) at 20 °C
- **WATER REFILLING INTERVAL**
  - More than 2 years at 20 °C
- **IEC 896-1 CYCLES**
  - 1500 (1200)*
- **SELF-DISCHARGE**
  - Approx. 2 \% per month at 20 °C
- **OPERATIONAL TEMPERATURE**
  - -20 °C to 55 °C, recommended 10 °C to 30 °C
- **VENTILATION REQUIREMENT**
  - according to EN 50272-2
- **MEASUREMENTS ACCORDING**
  - DIN 40 737 part 1
- **TESTS ACCORDING**
  - IEC 896-1
- **SAFETY STANDARDS**
  - VDE 0510 part 2 and EN 50272-2
- **TRANSPORT**
  - No dangerous goods during road transport

---

**Electrolyte density:**

\[ 1.24 \pm 0.01 \text{ kg/l at 20 °C} \]

All measures and weights are within standard production tolerances.

Electrical values are approximative.

Technical modifications are reserved without prior notice.

---

**TAB OPzS CELLS**

**OPzS 300 150**

- Number of positive plate
- Capacity at 1h hour discharging

---

**Design opzS cells (block)**

- **POE_TIvE ELECTRODE**
  - Tubular plate with low antimony alloy (<2 %)
- **NEGATIVE ELECTRODE**
  - Flat with long life expander active material
- **SEPARATION**
  - Microporous separator
- **ELECTROLYTE**
  - Sulfuric acid of 1.24 kg/l at 20 °C
- **CONTAINER**
  - High impact, transparent SAN Lid
  - ABS (SAN)* in grey color
- **BLOCKS WITH BLIND CELLS**
  - 4V, 6V, 8V, 10V
- **PLUGS**
  - Ceramic plugs according to Din 40740
- **POLE SEALING**
  - 100 % gas-and electrolyte-tight, sliding-pole connector
  - Flexible insulated copper cable with cross-section of 35, 50, 70, 95 or 120 mm² (35, 50 or 70 mm²)*
- **KIND OF PROTECTION**
  - iP 25 regarding Din 40050, touch protected according VBG 4
TAB OGi BLOCK BATTERIES ARE ROBUST VENTED LEAD-ACID BATTERIES DESIGNED FOR INDUSTRIAL APPLICATIONS IN POWER SUPPLY WITH HIGH SAFETY REQUIREMENTS.

TAB OGi block batteries can be used for both long duration discharge (10 hours) and short duration discharge (few minutes). The main areas of application are DC power supply systems in power stations, UPS systems, industrial systems and emergency power supply systems. They can also be used for engine starting and PV power systems.

<table>
<thead>
<tr>
<th>Tab OGi Block Batteries</th>
<th>Dimensions (mm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry</td>
<td>Wet</td>
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</table>

**Table:**

<table>
<thead>
<tr>
<th>Cell Type</th>
<th>Capacity (Ah)</th>
<th>Voltage (V)</th>
<th>Dimensions</th>
<th>Weight</th>
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<tr>
<td>12V 1 OGi 25</td>
<td>29.0</td>
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<td>12V 2 OGi 50</td>
<td>55.0</td>
<td>180</td>
<td>L167 W113 H107</td>
<td>32.7</td>
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<td>80.0</td>
<td>180</td>
<td>L167 W113 H107</td>
<td>32.7</td>
</tr>
<tr>
<td>12V 4 OGi 100</td>
<td>105.0</td>
<td>180</td>
<td>L167 W113 H107</td>
<td>32.7</td>
</tr>
<tr>
<td>12V 5 OGi 125</td>
<td>135.0</td>
<td>180</td>
<td>L167 W113 H107</td>
<td>32.7</td>
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<tr>
<td>12V 6 OGi 150</td>
<td>165.0</td>
<td>180</td>
<td>L167 W113 H107</td>
<td>32.7</td>
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<tr>
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<td>187.2</td>
<td>180</td>
<td>L167 W113 H107</td>
<td>32.7</td>
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<tr>
<td>6V 8 OGi 200</td>
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<td>2V 3 OGi 75</td>
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<td>180</td>
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<td>32.7</td>
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</tbody>
</table>
**Electrolyte density:**
1.24 ± 0.01 kg/l at 20 °C.

All measures and weights are within standard production tolerances. Electrical values are approximative. Technical modifications are reserved without prior notice.

**Design**

**Positive Electrode**
- Robust-grid plate with circular bars in a corrosion-resistant PbSe alloy < 2 % Sb

**Negative Electrode**
- Flat plate with long life expander and low antimony alloy

**Separation**
- Microporous separator

**Electrolyte**
- Sulphuric acid of 1.24 kg/l

**Container**
- High impact, transparent SAN lid
- SAN in dark grey colour

**Blocks with Blind Cells**
- 6V, 6V, 8V, 10V

**Plugs**
- Ceramic plugs or optional ceramic funnel plugs according to DIN 40740

**Pole Sealing**
- 100 % gas-and electrolyte-tight, sliding-pole

**Pole**
- M10, brass insert

**Connector**
- Flexible insulated copper cable, with cross-section of 35, 50, 70, 95 or 120 mm²

**Kind of Protection**
- IP 25 regarding DIN 40050, touch protected according VBG 4

**Charging**

**IU - Characteristic**
- Imax without limitation

**Float Charge**
- \( U = 2.23 \text{ V/cell} \pm 1 \%\), between 10°C and 55°C
- \( dU/dt = -0.004 \text{ mV/K} \) below 10 °C in the monthly average

**Boost Charge**
- \( U = 2.35 \text{ to } 2.40 \text{ V/cell} \), time limited

**Charging Time Up to 92 %**
- 6h with 1.5*110 initial current, 2.23 V/cell, 50 % C10 discharged

**Discharge Characteristics**

**Reference Temperature**
- 20 °C

**Initial Capacity**
- 100 %

**Depth of Discharge**
- Normally up to 80 %
- More than 80 % DOD or discharges beyond final discharge voltages (dependant on discharge current) have to be avoided

**Maintenance**

**Every 6 Month**
- Check battery voltage, pilot block voltage, temperature

**Every 12 Month**
- Take down battery voltage, block voltage, temperature

**Operational Data**

**Operational Life**
- Up to 15 years at 20 °C
- Up to 7.5 years at 30 °C
- Up to 4 years at 40 °C

**Water Refilling Interval**
- More than 3 years at 20 °C

**IEC 896-1 Cycles**
- 1000

**Self-Discharge**
- Approx. 3 % per month at 20 °C

**Operational Temperature**
- -20 °C to 55 °C, recommended 10 °C to 30 °C

**Ventilation Requirement**
- according to EN 50272-2

**Measurements According**
- DIN 40 737 part 3

**Tests According**
- IEC 896-1

**Applicable Standards**
- VDE 0510 part 2

**Transport**
- No dangerous goods during road transport

---

**6V 7 OGi 175**

- Rated voltage
- Number of positive plate
- Capacity at 10-hour discharging

- Electrolyte density:
  1.24 ± 0.01 kg/l at 20 °C.
TAB UPS BATTERIES ARE ROBUST AND FOR HIGH DISCHARGE - PERFORMANCES OPTIMISED LEAD-ACID BATTERIES.

The main application for TAB UPS are Uninterruptable Power Supplies (UPS) in the size of 50 to 250 kVA. The battery is perfectly suited to start diesel engines for the auxiliary power supply.

**Table:**

<table>
<thead>
<tr>
<th>Cell Type</th>
<th>C10 (Ah)</th>
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<th>Discharging (min)</th>
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<th>1.60</th>
<th>IEC 896-1</th>
<th>Dimensions (mm)</th>
<th>Weight (kg)</th>
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<tbody>
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100 W is the average power per plate at the 10 min rate Uf=1.63.

Electrolyte density: 1.28 ± 0.01 kg/l at 20 °C.

All measures and weights are within standard production tolerances.

Electrical values are approximative.

Technical modifications are reserved without prior notice.
**DESIGN**

**POSITIVE ELECTRODE**
- Robust plate with circular bars in a corrosion-resistant PbSe alloy < 2 % Sb

**NEGATIVE ELECTRODE**
- Flat plate with long life expander and low antimony alloy

**SEPARATION**
- Microporous separator

**ELECTROLYTE**
- Sulphuric acid of 1.28 kg/l

**CONTAINER**
- High impact, transparent SAN lid

**BLOCKS WITH BLIND CELLS**
- 4V, 6V, 8V, 10V

**PLUGS**
- Ceramic plugs or optional ceramic funnel plugs according to DIN 40740

**POLE SEALING**
- 100 % gas-and-electrolyte-tight, sliding-pole

**POLE**
- M10, brass insert

**CONNECTOR**
- Flexible insulated copper cable, with cross-section of 35, 50, 70, 95 or 120 mm²

**KIND OF PROTECTION**
- IP 25 according to DIN 40050, touch protected according VBG 4

**CHARGING**

**IU - CHARACTERISTIC**
- Imax without limitation

**FLOAT CHARGE**
- U = 2.25 to 2.27 V/cell ± 1 %, between 10 °C and 55 °C

**BOOST CHARGE**
- U = 2.35 to 2.40 V/cell, time limited

**CHARGING TIME UP TO 92 %**
- 6h with 1.5*110 initial current, 2.23 V/cell, 50 % C10 discharged

**DISCHARGE CHARACTERISTICS**

**REFERENCE TEMPERATURE**
- 20 °C

**INITIAL CAPACITY**
- 100 %

**DEPTH OF DISCHARGE**
- Normally up to 80 %

**SELFDISCHARGE**
- Approx. 3 % per month at 20 °C

**MAINTENANCE**

**EVERY 6 MONTH**
- Check battery voltage, pilot block voltage, temperature

**EVERY 12 MONTH**
- Take down battery voltage, block voltage, temperature

**OPERATIONAL DATA**

**OPERATIONAL LIFE**
- Up to 12 years at 20 °C
- Up to 6 years at 30 °C
- Up to 3 years at 40 °C

**WATER REFILLING INTERVAL**
- More than 3 years at 20 °C

**TRANSPORT**
- No dangerous goods during road transport

---

**6V 7 UPS 700**

- Rated voltage
- Number of positive plates
- Power _Watt/cell
- 10 min _ Of=1,63 V/cell

---

**CONNECTIONS DIMENSIONS**
The batteries are distinguished for:
» HIGH CAPACITY
» LONG LIFE TIME
» REDUCED MAINTENANCE
» LOW SELF-DISCHARGING
» QUICK AND SIMPLE ACID LEVEL CONTROL
» ECONOMICAL WATER CONSUMPTION
» APPROPRIATE DIMENSIONS AND WEIGHT
» THE LOWEST AND CONSTANT MAINTENANCE CURRENT.

The stationary batteries of the type TOPzS are manufactured according to the DIN 40736, EN 60896 and IEC 896-1 regulations. Individual cells (2V) are made from translucent PP containers. The stationary batteries of the type OPzS are manufactured according to the DIN 40736, EN 60896 and IEC 896-1 regulations.

APPLICATION
Stationary batteries of the TOPzS type are specially designed for solar systems. Due to their extremely low self-discharging and tubular positive plates they are suitable for off-grid solar systems.

CONSTRUCTION
The positive armored plate is of a tubular type, which means that the active substance (PbO2) is contained in special gauntlet made of polyester fibres and hardened by an impregnation compound. Such construction prevents escaping of an active substance during the operation and ensures a long life time. The grids of a positive and a negative plate are made of special low percentage (less than 2%) antimony alloy with addition agents for improvement of crystalline structure of casting. Negative plates are pasted-type plates with special alloys maintaining porosity of an active substance during the operation.

As an electrolyte, a diluted sulphuric acid (H2SO4) with a density of 1.24 ± 0.01 kg/l at 20 degrees C, and at a maximum permitted level is used. Separators separating the positive plates from the negative ones are made of microporous plastic material with a low electric resistance.

In a special process, the lids are tightly sealed with thermo welding to the container. The terminal plugs are sealed with rubber seals. This prevents any escape of electrolyte from the cells.

Due to the transparent containers the electrolyte level is clearly visible, the maximum and minimum levels are marked on a self-adhesive acid-proof label on a container side.

Two versions of batteries are being manufactured:
» DRY-CHARGE VERSION: a battery has to be filled up with an electrolyte and supplementary charged before use. The plates are already formed and in a special process protected against oxidation. They can be stored without problems.
» ELECTROLYTE-CHARGE: battery can be installed immediately, because it is already filled up with electrolyte and electrically charged as well. The capacity test has already been performed by the producer.
### DESIGN

**POSITIVE ELECTRODE**  
» Tubular positive plate with low antimony alloy (<2 %)

**NEGATIVE ELECTRODE**  
» Flat plate with long life expander

**SEPARATION**  
» Microporous separator

**ELECTROLYTE**  
» Sulfuric acid of 1.24 kg/l

**CONTAINER**  
» Transparent PP

**LID**  
» PP in green colour

**POLE SEALING**  
» 100 % gas-and electrolyte-tight, rubber seal

**POLE**  
» M10, brass insert

**CONNECTOR**  
» Flexible insulated copper cable, with cross-section of 35, 50, or 70 mm²

**POLE SCREW**  
» M10, steel, insulated

### CHARGING

**IU - CHARACTERISTIC**  
» Imax without limitation

**FLOAT VOLTAGE**  
» U = 2.23 V/cell ± 1 %

**BOOST CHARGE**  
» U = 2.35 to 2.40 V/cell

### DISCHARGE CHARACTERISTICS

**REFERENCE TEMPERATURE**  
» 20 °C at C10 (1.80 V/cell) and 25 °C at C100 (1.85 V/cell)

**INITIAL CAPACITY**  
» 100 %

**DEPTH OF DISCHARGE**  
» Normally up to 80 %

» More than 80 % DOD or discharges beyond final discharge voltages (dependent on discharge current) have to be avoided

### MAINTENANCE

**EVERY 6 MONTH**  
» Check battery voltage

**EVERY 12 MONTH**  
» Take down battery voltage

### OPERATIONAL DATA

**OPERATIONAL LIFE**  
» Up to 15 years

**IEC 896-1 CYCLES**  
» 1200

**SELF-DISCHARGE**  
» Approx. 3 % per month at 20 °C

**OPERATIONAL TEMPERATURE**  
» -20 °C to 55 °C, recommended 10 °C to 30 °C

**TESTS ACCORDING**  
» IEC 896-1, EN 60896-1, EN 61427

**SAFETY STANDARD, VENTILATION**  
» EN 50272-2

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### CELL TYPE

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<th>Weight (kg)</th>
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<th>C100</th>
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<td>W</td>
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Electrolyte density: 1.24 ± 0.01 kg/l at 20 °C.

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**OPERATION-MAINTENANCE**

For more detail information please check our operation manual.

**TRANSPORT**

Batteries are not subject to ADR (road transport).
TAB OPzV BATTERIES

TAB OPzV range of valve regulated lead acid stationary batteries combine the benefits of recombination technology (i.e. virtually no maintenance due to very low gas emissions) plus the advantages of conventional vented batteries with positive tubular plates (i.e. long life and excellent cycling capability).

TAB OPzV VALVE REGULATED LEAD ACID BATTERIES ARE THE IDEAL ENERGY SOURCE FOR MANY DIFFERENT STANDBY APPLICATIONS.

FEATURES
» SAFE
» VERSATILE
» RELIABLE
» MINIMAL GASSEING
» DEEP DISCHARGE RESISTANCE

DIN 40742

| Nomin. Cap. | 10 hrs to 5 hrs to 3 hrs to 1 hrs to kg L W H1/H2 (A) (mOhm) Poles |
|-------------|----------------|----------------|----------------|----------------|--------------|--------------|
| 4 OPzV 200  | 200 204 172 150 106 19 | 103 206 354/380 | 1660 | 1.22 | 2 |
| 5 OPzV 250  | 250 255 215 188 133 23 | 124 206 354/380 | 208 | 0.98 | 2 |
| 6 OPzV 300  | 300 306 258 225 159 28 | 145 206 354/380 | 2450 | 0.85 | 2 |
| 5 OPzV 350  | 350 357 300 263 185 31 | 124 206 471/496 | 2770 | 0.75 | 2 |
| 6 OPzV 420  | 420 429 360 315 222 36 | 145 206 471/496 | 3350 | 0.61 | 2 |
| 7 OPzV 490  | 490 500 420 368 259 41 | 166 206 471/496 | 3900 | 0.52 | 2 |
| 6 OPzV 600  | 600 612 516 450 312 49 | 145 206 643/668 | 4060 | 0.51 | 2 |
| 8 OPzV 800  | 800 816 688 600 416 65 | 210 191 644/669 | 5390 | 0.38 | 4 |
| 10 OPzV 1000 | 1000 1020 860 750 520 80 | 210 233 646/671 | 6750 | 0.30 | 4 |
| 12 OPzV 1200 | 1200 1251 1032 900 624 93 | 210 275 645/670 | 8120 | 0.26 | 4 |
| 12 OPzV 1500 | 1500 1530 1260 1116 744 115 | 210 275 796/821 | 8810 | 0.23 | 4 |
| 16 OPzV 2000 | 2000 2040 1680 1488 992 155 | 214 399 771/796 | 11510 | 0.17 | 6 |
| 20 OPzV 2500 | 2500 2550 2100 1860 1240 200 | 214 487 769/794 | 14400 | 0.14 | 8 |
| 24 OPzV 3000 | 3000 3060 2520 2232 1488 235 | 214 576 771/796 | 17260 | 0.12 | 8 |

According to DIN 40742, IEC 60896-2

FEATURES
» SAFETY
» VERSATILE
» RELIABLE
» MINIMAL GASSEING
» DEEP DISCHARGE RESISTANCE

TECHNICAL DATA

- TUBULAR POSITIVE PLATES
  - Special grid construction, pressure cast from antimony free alloy, with highly porous gauntletts that retain the active material.
- PASTED NEGATIVE PLATES
  - Service lives consistent with the positive plates.
- ELECTROLYTE
  - Gel structure.
- SEPARATORS
  - Extremely high porosity and low internal resistance.
- CONTAINERS AND LIDS
  - Made of plastic (ABS) material. Also available in ABS flame retardant material as an option (according to IEC 707 FV0).
- TERMINALS
  - Female treated terminal (M10) perfect contact and low resistance with flexible cable connectors.
- POST SEALS
  - Prevents electrolyte leakage and terminal corrosion.
- CONNECTORS
  - Flexible, fully insulated cable connectors screwed (with 20 ±1 Nm) to the terminal with an insulated screw having a probe hole on the top for electrical measurement.
- ONE WAY RELIEF VALVE
  - Opens at low pressure.

INSTALLATION

- Cells are normally installed in an upright position on steel stands.

CHARGING

- FLOAT VOLTAGE
  - Standby use 2.25 V/cell.
- BOOST RECHARGE
  - Maximum voltage of 2.35 - 2.40 V/cell with a maximum current of 0.25 C10 (A).

OPERATIONAL DATA

- OPERATIONAL LIFE
  - Up to 20 years.
  - IEC 896-1 CYCLES
  - 1200 SELF-DISCHARGE
  - Approx. 2 % per month at 20 °C.
- TESTS ACCORDING
  - IEC 896-1, EN 60896-1, EN 61427.

OPERATIONAL DATA

- WEIGHT
- DIMENSIONS
- ISC R₁
- Nº of poles

CONNECTIONS

- TERMINALS
  - Female treated terminal (M10) perfect contact and low resistance with flexible cable connectors.
- POST SEALS
  - Prevents electrolyte leakage and terminal corrosion.
- CONNECTORS
  - Flexible, fully insulated cable connectors screwed (with 20 ±1 Nm) to the terminal with an insulated screw having a probe hole on the top for electrical measurement.
- ONE WAY RELIEF VALVE
  - Opens at low pressure.

TECHNICAL DATA

- TYPICAL SPECIFICATIONS
  - DIN 40742
  - IEC 60896-2

CONTACTS

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