RES SOPzS OVERVIEW
Advanced Low Maintenance Tubular Plate Batteries for Renewable Energy Storage

RES SOPzS is an advanced cost efficient solution ideal for energy storage for residential solar installations as well as telecom or other infrastructure systems that demand long cycle life and increased watering intervals.

Enhanced tubular plate technology specially designed for renewable energy applications and SUNLIGHT’s solid experience on industrial batteries produce an exceptional combination of benefits in a single battery.

APPLICATIONS

- **Residential Installations**
  Off-grid or smart grid connected power systems electrifying houses, hotels, hospitals, schools or factories.

- **Infrastructure PV systems**
  Remote telecom stations, water pumping, oil & gas distribution, traffic signaling, road lighting, telemetry, security systems.

PRODUCT FEATURES & BENEFITS

- **Long cycle life**
  Tubular positive plates and special low-antimony lead alloy composition provide unique advantages in prolonging cycling operation to a 60% DoD cycle life of 2000 cycles at 20°C.

- **Performance and reliability**
  Optimum design, exclusive use of high quality materials, robust construction and state of the art European manufacturing facilities ensure high capacity performance, efficiency and reliability.

- **Easy maintenance**
  Increased electrolyte volume in large translucent containers and special low antimony alloys ensure rare and easy on site visits for topping up.

- **Operational safety**
  Extensive compliance testing performed under European and Global norms verified by independent 3rd party certification agencies.

- **Complete & flexible energy storage solution**
  Fast delivery of modular battery systems with all the necessary accessories for safe installation in trays.

- **Optimum Total Cost of Ownership (TCO)**
  Significant benefits in terms of cost per cycle and lifetime value maximization.

The ideal energy solution for Renewable Energy Storage applications
**PRODUCT RANGE**

<table>
<thead>
<tr>
<th>2V Cell Type</th>
<th>Capacity (Ah at 20°C)</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Internal Resistance (mOhm)</th>
<th>Short Circuit Current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C12 Uf=1.85V</td>
<td>C48 Uf=1.80V</td>
<td>C24 Uf=1.80V</td>
<td>C12 Uf=1.75V</td>
<td>Length (mm) Width Height 1 Height 2</td>
</tr>
<tr>
<td>RES 2 SOPzS 215</td>
<td>215</td>
<td>199</td>
<td>177</td>
<td>156</td>
<td>198</td>
</tr>
<tr>
<td>RES 3 SOPzS 310</td>
<td>310</td>
<td>288</td>
<td>257</td>
<td>227</td>
<td>198</td>
</tr>
<tr>
<td>RES 3 SOPzS 390</td>
<td>392</td>
<td>365</td>
<td>326</td>
<td>289</td>
<td>198</td>
</tr>
<tr>
<td>RES 4 SOPzS 500</td>
<td>503</td>
<td>470</td>
<td>420</td>
<td>375</td>
<td>198</td>
</tr>
<tr>
<td>RES 5 SOPzS 605</td>
<td>605</td>
<td>567</td>
<td>508</td>
<td>455</td>
<td>198</td>
</tr>
<tr>
<td>RES 4 SOPzS 720</td>
<td>721</td>
<td>688</td>
<td>620</td>
<td>558</td>
<td>198</td>
</tr>
<tr>
<td>RES 5 SOPzS 860</td>
<td>860</td>
<td>823</td>
<td>744</td>
<td>673</td>
<td>198</td>
</tr>
<tr>
<td>RES 6 SOPzS 965</td>
<td>969</td>
<td>933</td>
<td>846</td>
<td>771</td>
<td>198</td>
</tr>
<tr>
<td>RES 7 SOPzS 1270</td>
<td>1271</td>
<td>1206</td>
<td>1084</td>
<td>976</td>
<td>198</td>
</tr>
<tr>
<td>RES 8 SOPzS 1380</td>
<td>1382</td>
<td>1318</td>
<td>1188</td>
<td>1075</td>
<td>198</td>
</tr>
</tbody>
</table>

**DRAWINGS**

![Diagram 1](image1)
![Diagram 2](image2)

**CERTIFIED QUALITY**

- Manufactured at SUNLIGHT’s European production facilities, certified with ISO 9001, ISO 14001, BS OHSAS 18001.
- Compliant with IEC 61427 requirements for photovoltaic energy systems and IEC 60896-11 requirements for vented lead-acid batteries.
- Compliant with the safety requirements of EN 50272-2.
TECHNICAL FEATURES AND BENEFITS

Positive Plates
- Tubular plate design
- Special low antimony lead alloy
- Red Lead in-house production by 99.9% Pure Lead
- Dry Filling process
- Long cycle life
- Wide operational temperature range
- Less water consumption
- Excellent cycling properties
- Quality and homogeneity
- High capacity performance
- Reduced corrosion
- Reduced self-discharge rate
- Increased tolerance even in cases of poor charging conditions

Negative Plates
- Paste mixture ensures high adherence and cohesion
- Pasted negative plates of grid design
- Optimized low antimony lead alloy
- Robust construction
- Long life expander
- Stability
- Increased cyclic performance
- Long battery life

Separators
- Manufactured from microporous silica-based PVC 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

Gauntlet
- Highly microporous material
- Fine pore structure
- Low electrical resistance
- Effective active material retention
- Eliminates active mass shedding

Pole Bridge
- Terminal bridge manufactured with Cast On Strap process
- Consistent and uniform pole bridge composition
- Increased robustness and durability
- Perfect connection for pole-bridge-plate block as a whole

Pole Terminal
- Advanced design of pole post and its sealing to the lid
- Rubber ring with optimized hardness and acid resistance
- Operational safety
- Perfect sealing
- Low maintenance requirements
- Better current conductivity
- Positive plate’s expansion is safely absorbed
- Prevention of top lid cracks and acid leakages

Vent Plug
- Electrolyte basket level marking, specially designed lid, anti-surge baffle
- Allows optimum cell gassing
- Electrolyte basket level marking allows visual control of electrolyte level
- Anti-surge baffle prevents spillage of electrolyte through ventilation openings during operation of the battery
- Allows optimum cell gassing
- Electrolyte basket level marking allows visual control of electrolyte level
- Anti-surge baffle prevents spillage of electrolyte through ventilation openings during operation of the battery

Electrolyte
- High purity sulphuric acid with nominal density of 1.24 +/- 0.01 kg/l (20°C)
- Low self discharge rates
- Excellent performance on deep discharges

Container / Lid
- Large volume container
- High impact resistant, translucent Polypropylene for the container
- Lid welding, trimming and tightness control
- Reduced on site visits for topping up
- Easy visual electrolyte level monitoring
- Long term leakage free operation
- Unsurpassed mechanical strength
- Robust and durable battery construction

Bottom Bar
- Ultrasonic welding
- Secured fit to the gauntlet
- Long battery life

Electrolyte
- High purity sulphuric acid with nominal density of 1.24 +/- 0.01 kg/l (20°C)
- Low self discharge rates
- Excellent performance on deep discharges
ADDED VALUE SERVICES

Turn-key solutions design and implementation
Installation & maintenance services
360° Technical Support 24x7
Training and consulting
Collection and Recycling Services

Why SUNLIGHT?

30 years of Experience in Battery Business

- TOP 3 in the global advanced technology battery sector
- TOP 10 in the global industrial battery sector
- Global design and deployment experience on demanding requirements for Renewable Energy Storage solutions

“One Stop Shop”

- From single components/products to turn-key solutions
- Robust high quality products & services portfolio
- Lifetime value maximization & TCO approach

Extensive Global Know-how

- Strategic co-operation with TOP market players and systems integrators worldwide
- Established global partners network serving active clientele in more than 100 countries
- More than 40 MW of off-grid Power Supply Systems installed worldwide

Exceptional Customer Service

- Peace of mind through worldwide pre-sales & after-sales support
- Highly experienced engineering team for design & development
- Global project management competence