



GERMANY TECHNOLOGY

**24 OPzS 3000**

(2V-3350AH @ C10)

## Specifications:

- ☑ Very high operational reliability under rough operating conditions.
- ☑ Low maintenance due to reduced antimony in the alloy and high electrolyte reserve.
- ☑ 20 years at 20°C (80% remaining capacity from C10).
- ☑ Also designed for cyclic applications.
- ☑ Also available in dry charged condition with separate electrolyte.
- ☑ Low gassing due to PbSb1.6SnSe alloy (EN 50272-2).
- ☑ Conforms to DIN 40 736 and DIN 40 737 T3.
- ☑ Electrolyte: diluted sulphuric acid dN = 1.25 kg/l.
- ☑ Optimized plate design produces increased capacities compared to DIN.
- ☑ Completely recyclable.

## Applications

- ☑ Telecommunications
- ☑ Emergency lighting
- ☑ Microwave radio systems
- ☑ Power generation plants
- ☑ Photovoltaics

**PROVEN HIGH RELIABILITY ENERGY  
STORAGE FOR CRITICAL APPLICATION**

# HIGH PERFORMANCE

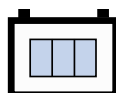


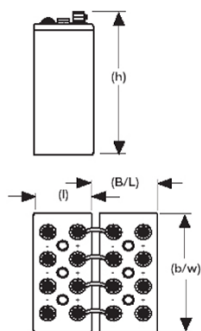
## Innovative Features

- ☑ Tubular positive plates: Robust tubular plates consisting of a lead antimony alloy, optimized for high corrosion resistances.
- ☑ Pasted negative plates: Grid plate construction consisting of low antimony with long-life expander material.
- ☑ Separators: Microporous and robust, for electrical separation of the positive and negative plates and optimized for low internal resistance.
- ☑ Container: High impact, transparent SAN (Styrol-Acryl-Nitril).
- ☑ Safety Vents: Cells incorporate flame retardant ceramic plugs that filter out any drops of electrolyte from the escaping gases preventing any errant spark or flame from entering the battery.
- ☑ Poles: Screw connection for easy and safe assembly and maintenance-free connection with excellent conductivity.
- ☑ Post seals: Extremely high integrity post seal design to prevent electrolyte leakage and terminal corrosion.
- ☑ Connectors: Flexible, fully insulated cable connectors screwed to the terminal with an insulated screw having a probe hole on the top for electrical measurement.

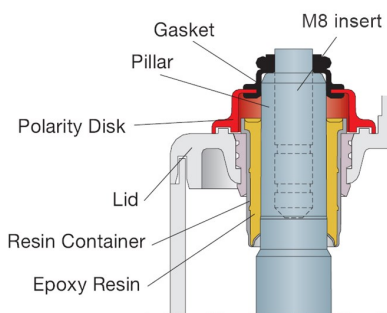
## Standard and Compliance

- ☑ DIN 40736 part 1
- ☑ DIN 40737 part 2
- ☑ IEC 896 part 1

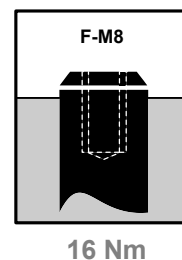




Dimension figure



High Reliability Post Seal



16 Nm

**Container:** SAN (acrylonitrile polystyrene),  
UL 94 V-0 standard

## Tubular OPzS Range Electrical Specifications & Dimensions

| Part number | DIN Type     | Nom. Voltage (V) | C8 AH to 1.75VPC | C10 AH to 1.80VPC | C100 AH to 1.80VPC | Outline Dimensions (mm) |             |            |                        | Weight With acid (kg) | Acid Weight (kg) | Pole Pairs | Internal Resist. acc. to IEC 896-2 mOhms | Short Circuit Current | Terminal |
|-------------|--------------|------------------|------------------|-------------------|--------------------|-------------------------|-------------|------------|------------------------|-----------------------|------------------|------------|------------------------------------------|-----------------------|----------|
|             |              |                  |                  |                   |                    | Length (l)              | Width (b/w) | Height (h) | Installed Length (B/L) |                       |                  |            |                                          |                       |          |
| 2TS243000   | 24 OPzS 3000 | 2                | 3352             | 3350              | 4404               | 215                     | 580         | 815        | 225                    | 242                   | 63.0             | 4          | 0.24                                     | 18600                 | F-M8     |

Acid density  $d_N = 1.250 \text{ kg/l}$

## Tubular OPzS Range Discharge Data Amperes at 20°C

| End Point Volts/Cell | Discharge Time in Minutes |        |        |        |        | Discharge Time in hours |          |        |        |        |        |        |         |         |
|----------------------|---------------------------|--------|--------|--------|--------|-------------------------|----------|--------|--------|--------|--------|--------|---------|---------|
|                      | 5 min                     | 10 min | 15 min | 20 min | 30 min | 1 hour                  | 1.5 hour | 2 hour | 3 hour | 4 hour | 5 hour | 8 hour | 10 hour | 20 hour |
| 1.90                 | 1026                      | 1021   | 998    | 969    | 923    | 799                     | 728      | 658    | 555    | 481    | 432    | 323    | 277     | 149     |
| 1.87                 | 1133                      | 1128   | 1099   | 1067   | 1012   | 871                     | 790      | 711    | 596    | 514    | 459    | 343    | 293     | 158     |
| 1.85                 | 1240                      | 1235   | 1200   | 1165   | 1100   | 942                     | 852      | 764    | 636    | 546    | 486    | 362    | 308     | 167     |
| 1.83                 | 1390                      | 1380   | 1345   | 1300   | 1220   | 1030                    | 924      | 825    | 675    | 575    | 510    | 375    | 319     | 174     |
| 1.80                 | 1620                      | 1605   | 1555   | 1500   | 1400   | 1160                    | 1035     | 911    | 737    | 622    | 546    | 395    | 335     | 184     |
| 1.75                 | 2000                      | 1970   | 1900   | 1810   | 1675   | 1360                    | 1190     | 1030   | 814    | 681    | 593    | 419    | 350     | 192     |
| 1.70                 | 2375                      | 2330   | 2230   | 2115   | 1930   | 1540                    | 1325     | 1130   | 871    | 723    | 626    | 462    | 358     | 197     |
| 1.65                 | 2755                      | 2690   | 2555   | 2415   | 2175   | 1710                    | 1435     | 1205   | 911    | 753    | 650    | 439    | 362     | 199     |

## Tubular OPzS Range Discharge Data Watts at 20°C

| End Point Volts/Cell | Discharge Time in Minutes |        |        |        |        | Discharge Time in hours |          |        |        |        |        |        |         |         |
|----------------------|---------------------------|--------|--------|--------|--------|-------------------------|----------|--------|--------|--------|--------|--------|---------|---------|
|                      | 5 min                     | 10 min | 15 min | 20 min | 30 min | 1 hour                  | 1.5 hour | 2 hour | 3 hour | 4 hour | 5 hour | 8 hour | 10 hour | 20 hour |
| 1.90                 | 1605                      | 1605   | 1575   | 1535   | 1480   | 1315                    | 1220     | 1125   | 977    | 869    | 795    | 604    | 528     | 282     |
| 1.87                 | 2020                      | 2010   | 1965   | 1905   | 1700   | 1580                    | 1445     | 1310   | 1110   | 969    | 876    | 661    | 572     | 311     |
| 1.85                 | 2295                      | 2285   | 2225   | 2165   | 2045   | 1755                    | 1595     | 1435   | 1205   | 1035   | 931    | 700    | 601     | 329     |
| 1.83                 | 2540                      | 2525   | 2470   | 2390   | 2250   | 1905                    | 1715     | 1535   | 1270   | 1085   | 972    | 722    | 619     | 341     |
| 1.80                 | 2915                      | 2895   | 2815   | 2730   | 2555   | 2125                    | 1905     | 1685   | 1380   | 1170   | 1035   | 756    | 647     | 359     |
| 1.75                 | 3500                      | 3465   | 3355   | 3220   | 2990   | 2435                    | 2140     | 1870   | 1500   | 1260   | 1115   | 796    | 670     | 372     |
| 1.70                 | 4045                      | 3995   | 3835   | 3670   | 3370   | 2705                    | 2345     | 2015   | 1585   | 1320   | 1160   | 816    | 684     | 381     |
| 1.65                 | 4555                      | 4490   | 4290   | 4105   | 3730   | 2960                    | 2505     | 2125   | 1640   | 1370   | 1200   | 825    | 688     | 384     |

## Long Duration Discharge Capacity (Ah) at 20°C

| Part No.  | DIN Type     | End Point Volts/Cell | C <sub>24</sub> | C <sub>48</sub> | C <sub>72</sub> | C <sub>96</sub> | C <sub>100</sub> | C <sub>120</sub> | C <sub>240</sub> |
|-----------|--------------|----------------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| 2TS243000 | 24 OPzS 3000 | 1.85                 | 3708            | 4141            | 4326            | 4347            | 4360             | 4378             | 4460             |
|           |              | 1.80                 | 3745            | 4182            | 4369            | 4390            | 4404             | 4422             | 4505             |

Actual battery performance data may be +/-5% of figures shown above.

