RANGE SUMMARY

# SOPzS


**Batteries in the SOPzS range has the highest levels of reliability and has been used in all solar and wind power plant application.**

SOPzS range offers high cycle consistency. Our batteries has increased capacity compared to the requirements of the DIN standard.

Stationary SOPzS batteries are used for energy storage in solar, wind and hybrid power plants. Characteristics of the battery life in the solar system is very different from a classic stationary battery. In solar system the battery is the energy storage, which is used at night, with no power from solar panels. Thus, in practice it is cycling with loading during the day and discharging at night. Bater's response to the needs of solar applications is the development of new types of cells well adapted to the way of working through the use of cores special alloys and a special type of separator improving electrical parameters and life of cell.

## MAIN FEATURES

- **capacity range: 161Ah ÷ 3340Ah ($C_{10}$, $U_{END}$=1.80V/cell @ +20°C) is higher than DIN standard capacity,**
- **dimensions accordance to DIN 40736-1 standard,**
- **service life: 1500 cycles @ +20°C, DOD 80% or 20 year,**
- **high reliability,**
- **low maintenance,**
- **container is made of transparent SAN,**
- **cells equipped with patented BATER recombination plug RecPlug1 results in:**
  - **low explosion risk,**
  - **topping-up interval: a couple of years.**

## TECHNICAL DATA

- operating mode:
  floating and cycles mode with daily cycle,
- recommended charging characteristic „IU" acc. to EN IEC 62485-2:2018-09 and DIN 41773,
- stand-by floating mode recommended float charge voltage:
  2.25 V/cell ÷ 2,30 V/cell @ +20°C acc. to DIN 41773,
- boost charging: 2.4V/cell and 4 x $I_{10}$ max. for 24h and t < +30 °C,
- maximum charging current: IU characteristic acc. to DIN 41773:
  - t < 25 °C unlimited ,
  - t > 25 °C 4x$I_{10}$,
- float voltage compensation in function of temperature: –2 mV/°C ÷ –4mV/°C,
- ventilation requirements: acc. to EN IEC 62485-2:2018-09,
- operating temperature range:
  - recomended:
    +15°C ÷ +25°C,
  - maximum long term operating temperature:
    +30°C (with ventilation assured - reduced service life),
  - maximum short term operating temperature (for hours):
    +50°C (with ventilation assured - reduced service life),
  - minimum long term operating temperature:
    +5°C (operating in lower temperature is not preferred according to possibility battery freezing in discharge case),
- self-discharge <3%/month @ +20 °C acc to EN 60896-21,
- topping-up interval with recombination plug: a couple of years ,
- stands and racks: special BATER racking and bases. Bases are made of steel (square tubes) coated with polyethylene fluidization method. Resistance to electrostatic short circuit above 7kV. We project and produce structures according to customer documentation, or perform individual project for the special rooms or spaces,

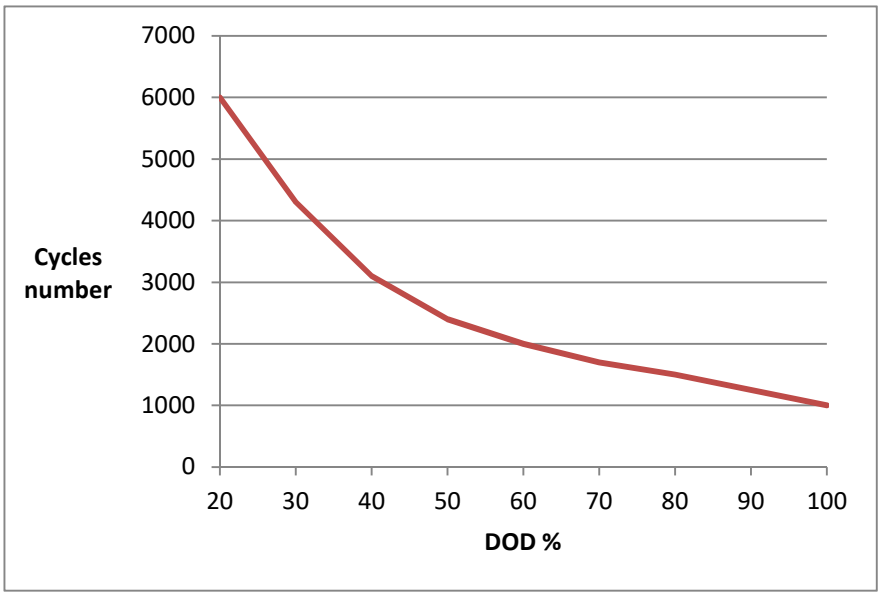
## STANDARDS

- EN 60896
- DIN 40736, DIN 41773, DIN 41774, DIN 41775
- EN IEC 62485-2:2018-09
- ISO 9001 i ISO 14001

**Charging time IU characteristic**

| Charging characteristic "IU" 2.4 V/cell | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Charging current $I_{10}$ (10A/100Ah) | | | | | Charging current $I_5$ (20A/100Ah) | | | | |
| State of charge | 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 |

**Cycles number vs DOD (Deep Of Discharge)**



## CONSTRUCTION

| | |
|---|---|
| ➢ **positive plate** – the grid of the tubular positive plate consists of several lead spines which are joined together by the upper frame. Spines are being die-casted. These thin lead spines, which are equipped with small concentric vanes, are covered with acid permeable tubes. Between the lead spins and tubes is the active positive material. Tubes are being wet-filled. A special lead alloy which is used for positive plate,<br>➢ **negative plate** – lead grid pasted with active material forms the negative plate. Gride are being die-casted. A special lead alloy which is used for negative grid. Negative plates are wrapped **Sireg** net prevented loss active mass,<br>➢ **separators** – Daramic, poliethylen, low resistance, high acid proof, microporus material.<br>➢ **container** – the cell container is made of transparent SAN,<br>➢ **lid** – is made of grey ABS and equipped with well proven seal for leakage-proof insulation of the terminal construction. Lid and container are being glued and is proof against the escape of gas or leakage of electrolite, |  |
| ➢ **terminals –** are being made from corosion resistant lead aloy with brass inserted designed to give minimum resistance.**,**<br>➢ **terminals sealing –** plastic grommet with special seal, |  |
| ➢ **connector** –fully insulated solid copper with full insulated screw with measurements hole, |  |
| ➢ **standard recombination plug RecPlug1**<br>• elimination of necessity of electrolyte refilling,<br>• increased work safety of cells with liquid electrolyte (electrolyte fumes and gas poisoning compounds are not released to environment),<br>• limiting of ventilation, battery rooms provided with cells with recombination plugs have smaller ventilation requirements. |  |
| ➢ **electrolyte –** sulphuric acid withe a density 1,24kg/dm3 @+20oC/max level/full charged cell. | |

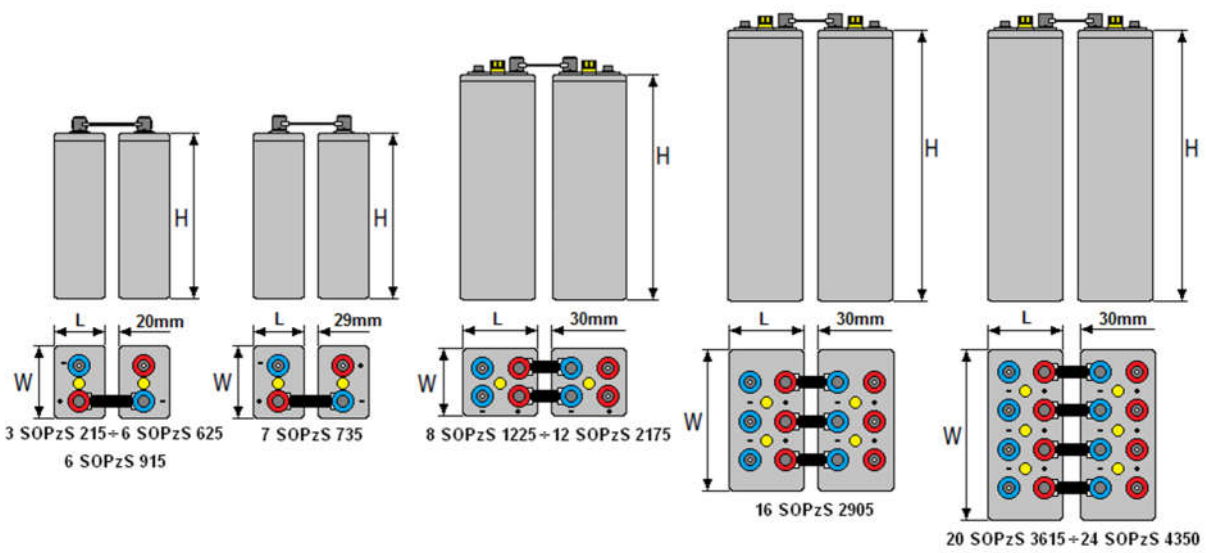
## DIMENSIONS AND TECHNICAL DATA

**@ +20°C**

| No | Cell type | Volt. | Capacity | | | | | Charging current | Lenght | Widht | Hight | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | $C_{100}$ Ue =1.85 V/cell | $C_{50}$ Ue =1.85 V/cell. | $C_{24}$ Ue =1.83 V/cell | $C_{10}$ (2) Ue =1.80 V/cell | $C_{nom}$ (1) Ue =1.80 V/cell | $I_{nom}$ (1) | L | W | H | dry +/-5% | wet +/-5% |
| | | [V] | [Ah] | | | | | [A] | [mm] | | | [kg] | |
| 1 | 3 SOPzS 215 | 2 | 212 | 201 | 185 | 161 | 150 | 15 | 103 | 206 | 369 | 11 | 16 |
| 2 | 4 SOPzS 285 | 2 | 283 | 268 | 247 | 215 | 200 | 20 | 103 | 206 | 369 | 13 | 18 |
| 3 | 5 SOPzS 355 | 2 | 353 | 333 | 310 | 268 | 250 | 25 | 124 | 206 | 369 | 16 | 22 |
| 4 | 6 SOPzS 425 | 2 | 423 | 398 | 372 | 322 | 300 | 30 | 145 | 206 | 369 | 18 | 26 |
| 5 | 5 SOPzS 525 | 2 | 523 | 493 | 456 | 388 | 350 | 35 | 124 | 206 | 485 | 20 | 29 |
| 6 | 6 SOPzS 625 | 2 | 623 | 588 | 545 | 465 | 420 | 42 | 145 | 206 | 485 | 24 | 34 |
| 7 | 7 SOPzS 735 | 2 | 733 | 688 | 636 | 542 | 490 | 49 | 166 | 206 | 485 | 28 | 39 |
| 8 | 6 SOPzS 915 | 2 | 913 | 863 | 799 | 656 | 600 | 60 | 145 | 206 | 660 | 35 | 50 |
| 9 | 8 SOPzS 1225 | 2 | 1223 | 1148 | 1066 | 875 | 800 | 80 | 210 | 191 | 660 | 46 | 65 |
| 10 | 10 SOPzS 1525 | 2 | 1523 | 1428 | 1327 | 1093 | 1000 | 100 | 210 | 233 | 660 | 57 | 80 |
| 11 | 12 SOPzS 1825 | 2 | 1823 | 1718 | 1594 | 1312 | 1200 | 120 | 210 | 275 | 660 | 66 | 93 |
| 12 | 12 SOPzS 2175 | 2 | 2173 | 2013 | 1846 | 1670 | 1500 | 150 | 210 | 275 | 810 | 88 | 119 |
| 13 | 16 SOPzS 2905 | 2 | 2903 | 2688 | 2474 | 2227 | 2000 | 200 | 212 | 397 | 792 | 106 | 152 |
| 14 | 20 SOPzS 3615 | 2 | 3616 | 3355 | 3077 | 2783 | 2500 | 250 | 212 | 487 | 792 | 145 | 200 |
| 15 | 24 SOPzS 4350 | 2 | 4351 | 4030 | 3706 | 3340 | 3000 | 300 | 212 | 576 | 792 | 170 | 240 |

(1) Nominal and parameters according to DIN 40736

(2) Capacity $C_{10}$ after 10 cycles



## Constant power discharge (in W/cell) @ +20°C

| BATTERY 24V | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Battery type | No. of string x no. of cell | Min. discharge end voltage | | | | | | | | | |
| | | 20,4V | 20,4V | 20,4V | 20,4V | 21,0V | 21,0V | 21,6V | 21,6V | 22,6V | 22,6V |
| | | Discharge time | | | | | | | | | |
| | | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 24h | 50h | 100h |
| 3 SOPzS 215 | 1x12 | 1 172 | 904 | 749 | 635 | 551 | 450 | 371 | 184 | 94 | 49 |
| | 2x12 | 2 345 | 1 807 | 1 498 | 1 270 | 1 102 | 900 | 742 | 367 | 187 | 98 |
| | 3x12 | 3 517 | 2 711 | 2 246 | 1 904 | 1 652 | 1 350 | 1 112 | 551 | 281 | 148 |
| | 4x12 | 4 690 | 3 614 | 2 995 | 2 539 | 2 203 | 1 800 | 1 483 | 734 | 374 | 197 |
| 4 SOPzS 285 | 1x12 | 1 564 | 1 206 | 997 | 846 | 734 | 600 | 494 | 245 | 125 | 66 |
| | 2x12 | 3 127 | 2 412 | 1 994 | 1 692 | 1 469 | 1 200 | 989 | 490 | 250 | 132 |
| | 3x12 | 4 691 | 3 618 | 2 992 | 2 538 | 2 203 | 1 800 | 1 483 | 734 | 374 | 198 |
| | 4x12 | 6 254 | 4 824 | 3 989 | 3 384 | 2 938 | 2 400 | 1 978 | 979 | 499 | 264 |
| 5 SOPzS 355 | 1x12 | 1 958 | 1 504 | 1 253 | 1 057 | 918 | 734 | 617 | 308 | 156 | 83 |
| | 2x12 | 3 917 | 3 007 | 2 506 | 2 114 | 1 836 | 1 469 | 1 234 | 617 | 312 | 166 |
| | 3x12 | 5 875 | 4 511 | 3 758 | 3 172 | 2 754 | 2 203 | 1 850 | 925 | 468 | 248 |
| | 4x12 | 7 834 | 6 014 | 5 011 | 4 229 | 3 672 | 2 938 | 2 467 | 1 234 | 624 | 331 |
| 6 SOPzS 425 | 1x12 | 2 352 | 1 802 | 1 492 | 1 265 | 1 103 | 881 | 739 | 370 | 186 | 100 |
| | 2x12 | 4 704 | 3 605 | 2 983 | 2 530 | 2 206 | 1 762 | 1 478 | 739 | 372 | 199 |
| | 3x12 | 7 056 | 5 407 | 4 475 | 3 794 | 3 308 | 2 642 | 2 218 | 1 109 | 558 | 299 |
| | 4x12 | 9 408 | 7 210 | 5 966 | 5 059 | 4 411 | 3 523 | 2 957 | 1 478 | 744 | 398 |
| 5 SOPzS 525 | 1x12 | 2 782 | 2 160 | 1 778 | 1 516 | 1 313 | 1 070 | 892 | 457 | 232 | 122 |
| | 2x12 | 5 563 | 4 320 | 3 557 | 3 031 | 2 626 | 2 141 | 1 783 | 914 | 463 | 245 |
| | 3x12 | 8 345 | 6 480 | 5 335 | 4 547 | 3 938 | 3 211 | 2 675 | 1 372 | 695 | 367 |
| | 4x12 | 11 126 | 8 640 | 7 114 | 6 062 | 5 251 | 4 282 | 3 566 | 1 829 | 926 | 490 |
| 6 SOPzS 625 | 1x12 | 3 355 | 2 590 | 2 136 | 1 825 | 1 574 | 1 288 | 1 069 | 547 | 275 | 145 |
| | 2x12 | 6 710 | 5 179 | 4 272 | 3 650 | 3 149 | 2 575 | 2 138 | 1 094 | 550 | 290 |
| | 3x12 | 10 066 | 7 769 | 6 408 | 5 476 | 4 723 | 3 863 | 3 208 | 1 642 | 824 | 436 |
| | 4x12 | 13 421 | 10 358 | 8 544 | 7 301 | 6 298 | 5 150 | 4 277 | 2 189 | 1 099 | 581 |
| 7 SOPzS 735 | 1x12 | 3 904 | 3 020 | 2 495 | 2 124 | 1 837 | 1 502 | 1 253 | 638 | 322 | 172 |
| | 2x12 | 7 807 | 6 041 | 4 990 | 4 248 | 3 674 | 3 005 | 2 506 | 1 277 | 643 | 343 |
| | 3x12 | 11 711 | 9 061 | 7 484 | 6 372 | 5 512 | 4 507 | 3 758 | 1 915 | 965 | 515 |
| | 4x12 | 15 614 | 12 082 | 9 979 | 8 496 | 7 349 | 6 010 | 5 011 | 2 554 | 1 286 | 686 |
| 6 SOPzS 915 | 1x12 | 4 847 | 3 748 | 3 127 | 2 614 | 2 255 | 1 789 | 1 502 | 798 | 404 | 214 |
| | 2x12 | 9 694 | 7 495 | 6 254 | 5 227 | 4 510 | 3 578 | 3 005 | 1 596 | 809 | 427 |
| | 3x12 | 14 540 | 11 243 | 9 382 | 7 841 | 6 764 | 5 368 | 4 507 | 2 394 | 1 213 | 641 |
| | 4x12 | 19 387 | 14 990 | 12 509 | 10 454 | 9 019 | 7 157 | 6 010 | 3 192 | 1 618 | 854 |
| 8 SOPzS 1225 | 1x12 | 6 458 | 4 990 | 4 165 | 3 496 | 3 006 | 2 374 | 2 016 | 1 066 | 538 | 287 |
| | 2x12 | 12 917 | 9 979 | 8 330 | 6 991 | 6 012 | 4 747 | 4 032 | 2 131 | 1 075 | 574 |
| | 3x12 | 19 375 | 14 969 | 12 496 | 10 487 | 9 018 | 7 121 | 6 048 | 3 197 | 1 613 | 860 |
| | 4x12 | 25 834 | 19 958 | 16 661 | 13 982 | 12 024 | 9 494 | 8 064 | 4 262 | 2 150 | 1 147 |
| 10 SOPzS 1525 | 1x12 | 8 094 | 6 242 | 5 203 | 4 367 | 3 757 | 2 958 | 2 516 | 1 330 | 671 | 358 |
| | 2x12 | 16 188 | 12 485 | 10 406 | 8 734 | 7 514 | 5 916 | 5 033 | 2 659 | 1 342 | 715 |
| | 3x12 | 24 282 | 18 727 | 15 610 | 13 100 | 11 272 | 8 874 | 7 549 | 3 989 | 2 012 | 1 073 |
| | 4x12 | 32 376 | 24 970 | 20 813 | 17 467 | 15 029 | 11 832 | 10 066 | 5 318 | 2 683 | 1 430 |
| 12 SOPzS 1825 | 1x12 | 9 707 | 7 496 | 6 241 | 5 238 | 4 522 | 3 554 | 3 018 | 1 590 | 806 | 428 |
| | 2x12 | 19 414 | 14 993 | 12 482 | 10 476 | 9 043 | 7 109 | 6 036 | 3 180 | 1 613 | 857 |
| | 3x12 | 29 120 | 22 489 | 18 724 | 15 714 | 13 565 | 10 663 | 9 054 | 4 770 | 2 419 | 1 285 |
| | 4x12 | 38 827 | 29 986 | 24 965 | 20 952 | 18 086 | 14 218 | 12 072 | 6 360 | 3 226 | 1 714 |
| 12 SOPzS 2175 | 1x12 | 12 178 | 9 538 | 7 901 | 6 778 | 5 845 | 4 771 | 3 841 | 1 895 | 943 | 509 |
| | 2x12 | 24 355 | 19 075 | 15 802 | 13 555 | 11 690 | 9 542 | 7 682 | 3 790 | 1 886 | 1 018 |
| | 3x12 | 36 533 | 28 613 | 23 702 | 20 333 | 17 536 | 14 314 | 11 524 | 5 684 | 2 830 | 1 526 |
| | 4x12 | 48 710 | 38 150 | 31 603 | 27 110 | 23 381 | 19 085 | 15 365 | 7 579 | 3 773 | 2 035 |
| 16 SOPzS 2905 | 1x12 | 16 249 | 12 689 | 10 525 | 9 032 | 7 801 | 6 356 | 5 117 | 2 549 | 1 256 | 678 |
| | 2x12 | 32 498 | 25 378 | 21 050 | 18 065 | 15 602 | 12 713 | 10 234 | 5 098 | 2 513 | 1 356 |
| | 3x12 | 48 748 | 38 066 | 31 576 | 27 097 | 23 404 | 19 069 | 15 350 | 7 646 | 3 769 | 2 034 |
| | 4x12 | 64 997 | 50 755 | 42 101 | 36 130 | 31 205 | 25 426 | 20 467 | 10 195 | 5 026 | 2 712 |
| 20 SOPzS 3615 | 1x12 | 20 320 | 15 852 | 13 151 | 11 287 | 9 746 | 7 943 | 6 394 | 3 155 | 1 577 | 850 |
| | 2x12 | 40 639 | 31 704 | 26 302 | 22 574 | 19 493 | 15 886 | 12 787 | 6 310 | 3 154 | 1 699 |
| | 3x12 | 60 959 | 47 556 | 39 452 | 33 862 | 29 239 | 23 828 | 19 181 | 9 464 | 4 730 | 2 549 |
| | 4x12 | 81 278 | 63 408 | 52 603 | 45 149 | 38 986 | 31 771 | 25 574 | 12 619 | 6 307 | 3 398 |
| 24 SOPzS 4350 | 1x12 | 24 343 | 19 027 | 15 788 | 13 542 | 11 702 | 9 768 | 7 669 | 3 800 | 1 889 | 1 020 |
| | 2x12 | 48 686 | 38 054 | 31 577 | 27 084 | 23 405 | 19 536 | 15 338 | 7 601 | 3 778 | 2 040 |
| | 3x12 | 73 030 | 57 082 | 47 365 | 40 626 | 35 107 | 29 304 | 23 008 | 11 401 | 5 666 | 3 060 |
| | 4x12 | 97 373 | 76 109 | 63 154 | 54 168 | 46 810 | 39 072 | 30 677 | 15 202 | 7 555 | 4 080 |

## Constant power discharge (in W/cell) @ +20°C

| Battery 48V | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Battery type | No. of string x no. of cell | Min. discharge end voltage | | | | | | | | | |
| | | 40,8V | 40,8V | 40,8V | 40,8V | 42,0V | 42,0V | 43,2V | 43,2V | 45,2V | 45,2V |
| | | Discharge time | | | | | | | | | |
| | | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 24h | 50h | 100h |
| 3 SOPzS 215 | 1x24 | 2 345 | 1 807 | 1 498 | 1 270 | 1 102 | 900 | 742 | 367 | 187 | 98 |
| | 2x24 | 4 690 | 3 614 | 2 995 | 2 539 | 2 203 | 1 800 | 1 483 | 734 | 374 | 197 |
| | 3x24 | 7 034 | 5 422 | 4 493 | 3 809 | 3 305 | 2 700 | 2 225 | 1 102 | 562 | 295 |
| | 4x24 | 9 379 | 7 229 | 5 990 | 5 078 | 4 406 | 3 600 | 2 966 | 1 469 | 749 | 394 |
| 4 SOPzS 285 | 1x24 | 3128 | 2 412 | 1 994 | 1 692 | 1 468 | 1 200 | 988 | 490 | 250 | 132 |
| | 2x24 | 6254 | 4 824 | 3 988 | 3 384 | 2 938 | 2 400 | 1 978 | 980 | 500 | 264 |
| | 3x24 | 9382 | 7 236 | 5 984 | 5 076 | 4 406 | 3 600 | 2 966 | 1 468 | 748 | 396 |
| | 4x24 | 12 508 | 9 648 | 7 978 | 6 768 | 5 876 | 4 800 | 3 956 | 1 958 | 998 | 528 |
| 5 SOPzS 355 | 1x24 | 3 917 | 3 007 | 2 506 | 2 114 | 1 836 | 1 469 | 1 234 | 617 | 312 | 166 |
| | 2x24 | 7 834 | 6 014 | 5 011 | 4 229 | 3 672 | 2 938 | 2 467 | 1 234 | 624 | 331 |
| | 3x24 | 11 750 | 9 022 | 7 517 | 6 343 | 5 508 | 4 406 | 3 701 | 1 850 | 936 | 497 |
| | 4x24 | 15 667 | 12 029 | 10 022 | 8 458 | 7 344 | 5 875 | 4 934 | 2 467 | 1 248 | 662 |
| 6 SOPzS 425 | 1x24 | 4 704 | 3 605 | 2 983 | 2 530 | 2 206 | 1 762 | 1 478 | 739 | 372 | 199 |
| | 2x24 | 9 408 | 7 210 | 5 966 | 5 059 | 4 411 | 3 523 | 2 957 | 1 478 | 744 | 398 |
| | 3x24 | 14 112 | 10 814 | 8 950 | 7 589 | 6 617 | 5 285 | 4 435 | 2 218 | 1 116 | 598 |
| | 4x24 | 18 816 | 14 419 | 11 933 | 10 118 | 8 822 | 7 046 | 5 914 | 2 957 | 1 488 | 797 |
| 5 SOPzS 525 | 1x24 | 5 563 | 4 320 | 3 557 | 3 031 | 2 626 | 2 141 | 1 783 | 914 | 463 | 245 |
| | 2x24 | 11 126 | 8 640 | 7 114 | 6 062 | 5 251 | 4 282 | 3 566 | 1 829 | 926 | 490 |
| | 3x24 | 16 690 | 12 960 | 10 670 | 9 094 | 7 877 | 6 422 | 5 350 | 2 743 | 1 390 | 734 |
| | 4x24 | 22 253 | 17 280 | 14 227 | 12 125 | 10 502 | 8 563 | 7 133 | 3 658 | 1 853 | 979 |
| 6 SOPzS 625 | 1x24 | 6 710 | 5 179 | 4 272 | 3 650 | 3 149 | 2 575 | 2 138 | 1 094 | 550 | 290 |
| | 2x24 | 13 421 | 10 358 | 8 544 | 7 301 | 6 298 | 5 150 | 4 277 | 2 189 | 1 099 | 581 |
| | 3x24 | 20 131 | 15 538 | 12 816 | 10 951 | 9 446 | 7 726 | 6 415 | 3 283 | 1 649 | 871 |
| | 4x24 | 26 842 | 20 717 | 17 088 | 14 602 | 12 595 | 10 301 | 8 554 | 4 378 | 2 198 | 1 162 |
| 7 SOPzS 735 | 1x24 | 7 807 | 6 041 | 4 990 | 4 248 | 3 674 | 3 005 | 2 506 | 1 277 | 643 | 343 |
| | 2x24 | 15 614 | 12 082 | 9 979 | 8 496 | 7 349 | 6 010 | 5 011 | 2 554 | 1 286 | 686 |
| | 3x24 | 23 422 | 18 122 | 14 969 | 12 744 | 11 023 | 9 014 | 7 517 | 3 830 | 1 930 | 1 030 |
| | 4x24 | 31 229 | 24 163 | 19 958 | 16 992 | 14 698 | 12 019 | 10 022 | 5 107 | 2 573 | 1 373 |
| 6 SOPzS 915 | 1x24 | 9 694 | 7 495 | 6 254 | 5 227 | 4 510 | 3 578 | 3 005 | 1 596 | 809 | 427 |
| | 2x24 | 19 387 | 14 990 | 12 509 | 10 454 | 9 019 | 7 157 | 6 010 | 3 192 | 1 618 | 854 |
| | 3x24 | 29 081 | 22 486 | 18 763 | 15 682 | 13 529 | 10 735 | 9 014 | 4 788 | 2 426 | 1 282 |
| | 4x24 | 38 774 | 29 981 | 25 018 | 20 909 | 18 038 | 14 314 | 12 019 | 6 384 | 3 235 | 1 709 |
| 8 SOPzS 1225 | 1x24 | 12 917 | 9 979 | 8 330 | 6 991 | 6 012 | 4 747 | 4 032 | 2 131 | 1 075 | 574 |
| | 2x24 | 25 834 | 19 958 | 16 661 | 13 982 | 12 024 | 9 494 | 8 064 | 4 262 | 2 150 | 1 147 |
| | 3x24 | 38 750 | 29 938 | 24 991 | 20 974 | 18 036 | 14 242 | 12 096 | 6 394 | 3 226 | 1 721 |
| | 4x24 | 51 667 | 39 917 | 33 322 | 27 965 | 24 048 | 18 989 | 16 128 | 8 525 | 4 301 | 2 294 |
| 10 SOPzS 1525 | 1x24 | 16 188 | 12 485 | 10 406 | 8 734 | 7 514 | 5 916 | 5 033 | 2 659 | 1 342 | 715 |
| | 2x24 | 32 376 | 24 970 | 20 813 | 17 467 | 15 029 | 11 832 | 10 066 | 5 318 | 2 683 | 1 430 |
| | 3x24 | 48 564 | 37 454 | 31 219 | 26 201 | 22 543 | 17 748 | 15 098 | 7 978 | 4 025 | 2 146 |
| | 4x24 | 64 752 | 49 939 | 41 626 | 34 934 | 30 058 | 23 664 | 20 131 | 10 637 | 5 366 | 2 861 |
| 12 SOPzS 1825 | 1x24 | 19 414 | 14 993 | 12 482 | 10 476 | 9 043 | 7 109 | 6 036 | 3 180 | 1 613 | 857 |
| | 2x24 | 38 827 | 29 986 | 24 965 | 20 952 | 18 086 | 14 218 | 12 072 | 6 360 | 3 226 | 1 714 |
| | 3x24 | 58 241 | 44 978 | 37 447 | 31 428 | 27 130 | 21 326 | 18 108 | 9 540 | 4 838 | 2 570 |
| | 4x24 | 77 654 | 59 971 | 49 930 | 41 904 | 36 173 | 28 435 | 24 144 | 12 720 | 6 451 | 3 427 |
| 12 SOPzS 2175 | 1x24 | 24 355 | 19 075 | 15 802 | 13 555 | 11 690 | 9 542 | 7 682 | 3 790 | 1 886 | 1 018 |
| | 2x24 | 48 710 | 38 150 | 31 603 | 27 110 | 23 381 | 19 085 | 15 365 | 7 579 | 3 773 | 2 035 |
| | 3x24 | 73 066 | 57 226 | 47 405 | 40 666 | 35 071 | 28 627 | 23 047 | 11 369 | 5 659 | 3 053 |
| | 4x24 | 97 421 | 76 301 | 63 206 | 54 221 | 46 762 | 38 170 | 30 730 | 15 158 | 7 546 | 4 070 |
| 16 SOPzS 2905 | 1x24 | 32 498 | 25 378 | 21 050 | 18 065 | 15 602 | 12 713 | 10 234 | 5 098 | 2 513 | 1 356 |
| | 2x24 | 64 997 | 50 755 | 42 101 | 36 130 | 31 205 | 25 426 | 20 467 | 10 195 | 5 026 | 2 712 |
| | 3x24 | 97 495 | 76 133 | 63 151 | 54 194 | 46 807 | 38 138 | 30 701 | 15 293 | 7 538 | 4 068 |
| | 4x24 | 129 994 | 101 510 | 84 202 | 72 259 | 62 410 | 50 851 | 40 934 | 20 390 | 10 051 | 5 424 |
| 20 SOPzS 3615 | 1x24 | 40 639 | 31 704 | 26 302 | 22 574 | 19 493 | 15 886 | 12 787 | 6 310 | 3 154 | 1 699 |
| | 2x24 | 81 278 | 63 408 | 52 603 | 45 149 | 38 986 | 31 771 | 25 574 | 12 619 | 6 307 | 3 398 |
| | 3x24 | 121 918 | 95 112 | 78 905 | 67 723 | 58 478 | 47 657 | 38 362 | 18 929 | 9 461 | 5 098 |
| | 4x24 | 162 557 | 126 816 | 105 206 | 90 298 | 77 971 | 63 542 | 51 149 | 25 238 | 12 614 | 6 797 |
| 24 SOPzS 4350 | 1x24 | 48 686 | 38 054 | 31 577 | 27 084 | 23 405 | 19 536 | 15 338 | 7 601 | 3 778 | 2 040 |
| | 2x24 | 97 373 | 76 109 | 63 154 | 54 168 | 46 810 | 39 072 | 30 677 | 15 202 | 7 555 | 4 080 |
| | 3x24 | 146 059 | 114 163 | 94 730 | 81 252 | 70 214 | 58 608 | 46 015 | 22 802 | 11 333 | 6 120 |
| | 4x24 | 194 746 | 152 218 | 126 307 | 108 336 | 93 619 | 78 144 | 61 354 | 30 403 | 15 110 | 8 160 |

## BATTERY STANDS

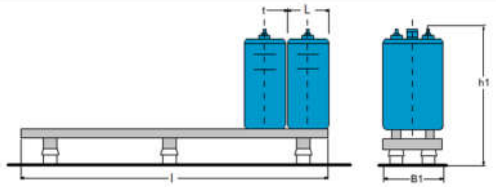
BATER is a manufacturer of all types of corrosion resistant stands for SOPzS batteries. The stands are made of square tube and covered with polyethylene by fluidization. We design housing in accordance with customer's documentation or carry out our own project individually according to the target room dimension.

## CONSTRUCTION

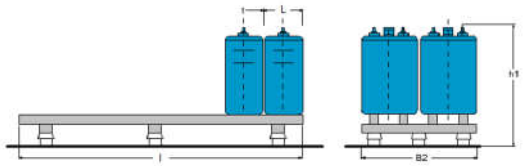
- purpose: to put together any type of battery cells on one or more levels,
- construction: made of closed metal profiles. Produced sets are fully welded,
- corrosion protection: protected against electrolyte by a coating made of high quality polyethylene thicker than 1 mm, immersed in fluidized bed reactor on our modern technological line,
- resistance to electrostatic short circuit above 7kV,
- separation from the ground: insulators made of ABS plastic with adjustable height,
- location of cells: on carrier brackets, which spacing can be adjusted to their width. Versatile design of stands enables the use of additional stands brackets for cells of more than 200kg.

## DIMENSIONS AND TECHNICAL DATA OF BATTERY STANDS

| No | Cell type | B1 | B2 | h1 | t | l = N x (L+ t)<br>(N – cells number) |
|---|---|---|---|---|---|---|
| 1 | 3 SOPzS 215 | 250 | 500 | 610 | 20 | |
| 2 | 4 SOPzS 285 | 250 | 500 | 610 | 20 | |
| 3 | 5 SOPzS 355 | 250 | 500 | 610 | 20 | |
| 4 | 6 SOPzS 425 | 250 | 500 | 610 | 20 | |
| 5 | 5 SOPzS 525 | 250 | 500 | 725 | 20 | |
| 6 | 6 SOPzS 625 | 250 | 500 | 725 | 20 | |
| 7 | 7 SOPzS 735 | 250 | 500 | 725 | 29 | |
| 8 | 6 SOPzS 915 | 250 | 500 | 940 | 20 | |
| 9 | 8 SOPzS 1225 | 250 | 470 | 940 | 30 | |
| 10 | 10 SOPzS 1525 | 320 | 550 | 940 | 30 | |
| 11 | 12 SOPzS 1825 | 320 | 640 | 940 | 30 | |
| 12 | 12 SOPzS 2175 | 320 | 640 | 1090 | 30 | |
| 13 | 16 SOPzS 2905 | 400 | 880 | 1070 | 30 | |
| 14 | 20 SOPzS 3615 | 470 | 1060 | 1070 | 30 | |
| 15 | 24 SOPzS 4350 | 620 | 1240 | 1070 | 30 | |




Single-row stands




Double-row stands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