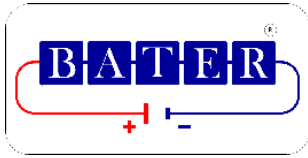


Batteries in the PzS DIN range has the highest levels of reliability and has been used in all type fork lift.

Our PzS range offers high cycle consistency 1500 cycles.

## MAIN FEATURES

- capacity range: 110Ah ÷ 1550Ah- ( $C_5$   $U_e=1.70V/cell @ +30^{\circ}C$ ),
- dimensions and electrical data accordance to EN 60254 (IEC 254 ), DIN 43531, 43535, 43536 standard,
- service life: 1500 cycles DOD 80%,
- high reliability,
- low maintenance,
- battery can be equipped with
  - Battery Filling Systems,
  - Electrolyte Stirring System.



## 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 has an Sb portion 6%.
- **negative plate** – a lead grid pasted with active material forms the negative plate. Grids are being die-casted. A special lead alloy which is used for negative grid has an Sb portion 6%.
- **separators** - Daramic polyethylen, low resistance, high acid proof, microporus material. Negative plates are wrapped prevented loss active mass,
- **terminals** – are being made from corrosion resistant lead alloy with brass inserted designed to give minimum resistance.
- **container** – the cell container is made of PP ,
- **lid** – is made of PP and equipped with well proven seal for leakage-proof insulation of the terminal construction. Lid and container are being welded,
- **connection** –fully insulated flexible copper with full insulated screw with measurements hole,
- **electrolyte**– sulphuric acid with a density  $1,29\text{g}/\text{cm}^3 \pm 0.01$  @+30°C/max level/full charged cell,
- **trays** -special BATER made tray. Trays are made of steel coated with polyethylene fluidization method.. We project and produce structures according to customer documentation.

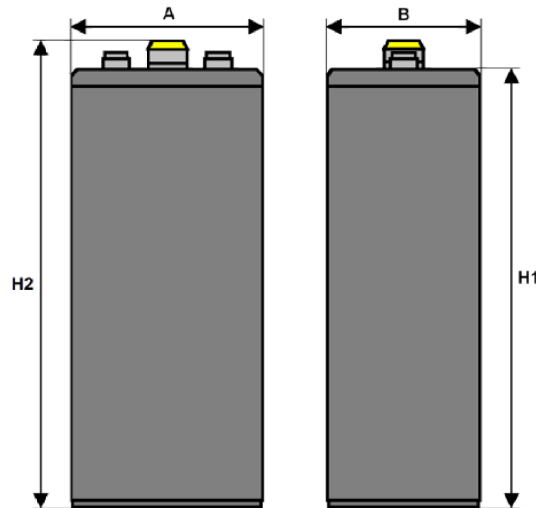
## TECHNICAL DATA

- recommended charge accordance to DIN characteristic:
  - DIN 41774 Wa, WOWa,
  - DIN 41773 IU,
  - DIN 41773, 41774 IUa.

## STANDARDS

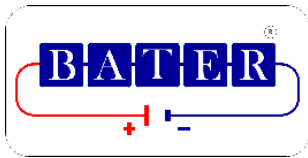
- EN 60254 (IEC 254 ),
- DIN 43531, 43535, 43536,
- DIN 41773, DIN 41774,
- ISO 9001 i ISO 14001

**BATTERY DATA.**



Temperature @ +30°C

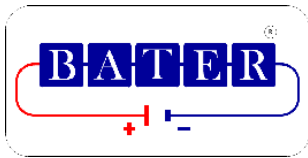
| No | Plate Type | Cell type  | Capacity  | Dimension |       |       |     | Weight |      |
|----|------------|------------|---|-----------|-------|-------|-----|--------|------|
|    |            |            | C <sub>5</sub><br>U <sub>end</sub><br>=1,70<br>V/cell<br>[Ah] | Lenght    | Widht | Hight |     | dry    | wet  |
|    |            |            |   | A         | B     | H1    | H2  | +/-5%  |      |
|    |            |            |   | [mm]      |       |       |     | [kg]   |      |
| 1  | A55        | 2 PzS 110  | 110   | 198       | 47    | 315   | 345 | 6,5    | 8,3  |
| 2  |            | 3 PzS 165  | 165   | 198       | 65    | 315   | 345 | 9      | 11,6 |
| 3  |            | 4 PzS 220  | 220   | 198       | 83    | 315   | 345 | 11,6   | 15   |
| 4  |            | 5 PzS 275  | 275   | 198       | 101   | 315   | 345 | 14,2   | 18,3 |
| 5  |            | 6 PzS 330  | 330   | 198       | 119   | 315   | 345 | 16,8   | 21,8 |
| 6  |            | 7 PzS 385  | 385   | 198       | 137   | 315   | 345 | 19,4   | 25,3 |
| 7  |            | 8 PzS 440  | 440   | 198       | 155   | 315   | 345 | 21,9   | 28,5 |
| 8  |            | 9 PzS 495  | 495   | 198       | 173   | 315   | 345 | 24,5   | 31,7 |
| 9  |            | 10 PzS 550 | 550   | 198       | 191   | 315   | 345 | 27,1   | 35,1 |
| 10 |            | A60        | 2 PzS 120   | 120       | 198   | 47    | 340 | 370    | 6,8  |
| 11 | 3 PzS 180  |            | 180   | 198       | 65    | 340   | 370 | 9,5    | 12,2 |
| 12 | 4 PzS 240  |            | 240   | 198       | 83    | 340   | 370 | 12,2   | 15,7 |
| 13 | 5 PzS 300  |            | 300   | 198       | 101   | 340   | 370 | 14,9   | 19,3 |
| 14 | 6 PzS 360  |            | 360   | 198       | 119   | 340   | 370 | 17,6   | 22,8 |
| 15 | 7 PzS 420  |            | 420   | 198       | 137   | 340   | 370 | 20,3   | 26,1 |
| 16 | 8 PzS 480  |            | 480   | 198       | 155   | 340   | 370 | 23,1   | 29,7 |
| 17 | 9 PzS 540  |            | 540   | 198       | 173   | 340   | 370 | 25,8   | 33,1 |
| 18 | 10 PzS 600 |            | 600   | 198       | 191   | 340   | 370 | 28,5   | 37   |



## RANGE SUMMARY

# PzS

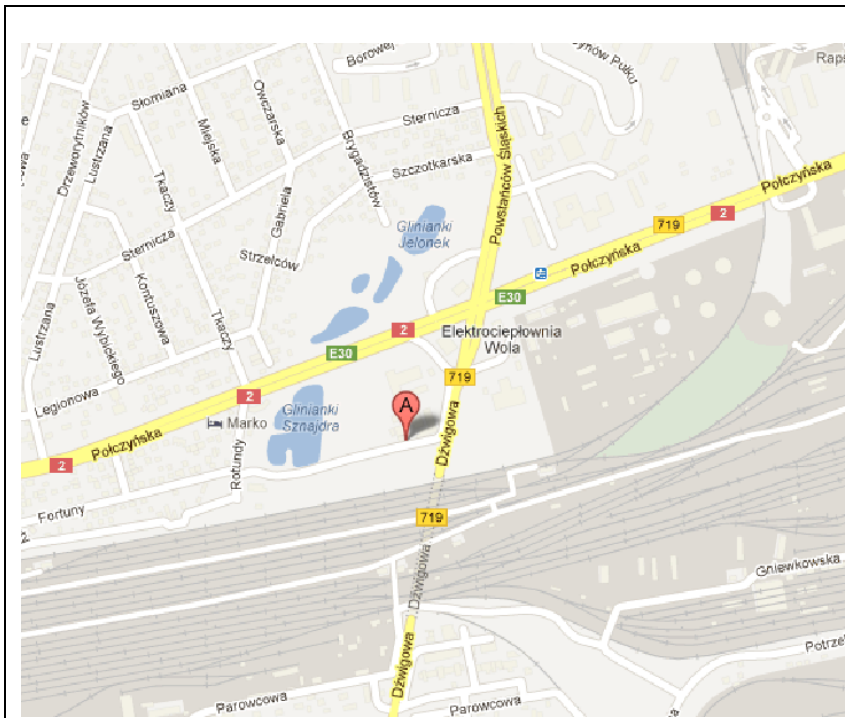
| No | Plate Type | Cell type   | Capacity  | Dimension |       |       |     | Weight |      |
|----|------------|-------------|---|-----------|-------|-------|-----|--------|------|
|    |            |             | C <sub>5</sub><br>U <sub>end</sub><br>=1,70<br>V/cell<br>[Ah] | Lenght    | Widht | Hight |     | dry    | wet  |
|    |            |             |   | A         | B     | H1    | H2  | +/-5%  |      |
|    |            |             |   | [mm]      |       |       |     | [kg]   |      |
| 19 | A80        | 2 PzS 160   | 160   | 198       | 47    | 405   | 435 | 8,4    | 10,5 |
| 20 |            | 3 PzS 240   | 240   | 198       | 65    | 405   | 435 | 11,7   | 14,7 |
| 21 |            | 4 PzS 320   | 320   | 198       | 83    | 405   | 435 | 15     | 19,1 |
| 22 |            | 5 PzS 400   | 400   | 198       | 101   | 405   | 435 | 18,4   | 23,2 |
| 23 |            | 6 PzS 480   | 480   | 198       | 119   | 405   | 435 | 21,7   | 27,6 |
| 24 |            | 7 PzS 560   | 560   | 198       | 137   | 405   | 435 | 25,1   | 31,8 |
| 25 |            | 8 PzS 640   | 640   | 198       | 155   | 405   | 435 | 28,4   | 35,8 |
| 26 |            | 9 PzS 720   | 720   | 198       | 173   | 405   | 435 | 31,8   | 40,1 |
| 27 |            | 10 PzS 800  | 800   | 198       | 191   | 405   | 435 | 35,1   | 44,2 |
| 28 |            | A90         | 2 PzS 180   | 180       | 198   | 47    | 470 | 500    | 9,3  |
| 29 | 3 PzS 270  |             | 270   | 198       | 65    | 470   | 500 | 13     | 17,1 |
| 30 | 4 PzS 360  |             | 360   | 198       | 83    | 470   | 500 | 16,7   | 21,7 |
| 31 | 5 PzS 450  |             | 450   | 198       | 101   | 470   | 500 | 20,4   | 26,2 |
| 32 | 6 PzS 540  |             | 540   | 198       | 119   | 470   | 500 | 24,1   | 31,2 |
| 33 | 7 PzS 630  |             | 630   | 198       | 137   | 470   | 500 | 27,8   | 36,1 |
| 34 | 8 PzS 720  |             | 720   | 198       | 155   | 470   | 500 | 31,5   | 40,8 |
| 35 | 9 PzS 810  |             | 810   | 198       | 173   | 470   | 500 | 35,2   | 45,7 |
| 36 | 10 PzS 900 |             | 900   | 198       | 191   | 470   | 500 | 38,9   | 50,1 |
| 37 | A105       |             | 2 PzS 210   | 210       | 198   | 47    | 511 | 541    | 10,8 |
| 38 |            | 3 PzS 315   | 315   | 198       | 65    | 511   | 541 | 15,1   | 19,2 |
| 39 |            | 4 PzS 420   | 420   | 198       | 83    | 511   | 541 | 19,4   | 24,6 |
| 40 |            | 5 PzS 525   | 525   | 198       | 101   | 511   | 541 | 23,7   | 30,1 |
| 41 |            | 6 PzS 630   | 630   | 198       | 119   | 511   | 541 | 28     | 35,6 |
| 42 |            | 7 PzS 735   | 735   | 198       | 137   | 511   | 541 | 32,3   | 41,1 |
| 43 |            | 8 PzS 840   | 840   | 198       | 155   | 511   | 541 | 36,6   | 46,6 |
| 44 |            | 9 PzS 945   | 945   | 198       | 173   | 511   | 541 | 40,9   | 52,5 |
| 45 |            | 10 PzS 1050 | 1050  | 198       | 191   | 511   | 541 | 45,2   | 57,7 |



## RANGE SUMMARY

# PzS

| No | Plate Type  | Cell type   | Capacity  | Dimension |       |       |     | Weight |      |
|----|-------------|-------------|---|-----------|-------|-------|-----|--------|------|
|    |             |             | C <sub>5</sub><br>U <sub>end</sub><br>=1,70<br>V/cell<br>[Ah] | Lenght    | Widht | Hight |     | dry    | wet  |
|    |             |             |   | A         | B     | H1    | H2  | +/-5%  |      |
|    |             |             |   | [mm]      |       |       |     | [kg]   |      |
| 46 | A115        | 2 PzS 230   | 230   | 198       | 47    | 545   | 575 | 11,6   | 14,7 |
| 47 |             | 3 PzS 345   | 345   | 198       | 65    | 545   | 575 | 16,2   | 20,7 |
| 48 |             | 4 PzS 460   | 460   | 198       | 83    | 545   | 575 | 20,9   | 26,7 |
| 49 |             | 5 PzS 575   | 575   | 198       | 101   | 545   | 575 | 25,5   | 32,6 |
| 50 |             | 6 PzS 690   | 690   | 198       | 119   | 545   | 575 | 30,1   | 38,9 |
| 51 |             | 7 PzS 805   | 805   | 198       | 137   | 545   | 575 | 34,8   | 44,5 |
| 52 |             | 8 PzS 920   | 920   | 198       | 155   | 545   | 575 | 39,4   | 50,4 |
| 53 |             | 9 PzS 1035  | 1035  | 198       | 173   | 545   | 575 | 44     | 56,6 |
| 54 |             | 10 PzS 1150 | 1150  | 198       | 191   | 545   | 575 | 48,7   | 62,5 |
| 55 |             | A125        | 2 PzS 250   | 250       | 198   | 47    | 570 | 600    | 12,5 |
| 56 | 3 PzS 375   |             | 375   | 198       | 65    | 570   | 600 | 17,5   | 22,3 |
| 57 | 4 PzS 500   |             | 500   | 198       | 83    | 570   | 600 | 22,5   | 28,5 |
| 58 | 5 PzS 625   |             | 625   | 198       | 101   | 570   | 600 | 27,5   | 34,8 |
| 59 | 6 PzS 750   |             | 750   | 198       | 119   | 570   | 600 | 32,5   | 41,5 |
| 60 | 7 PzS 875   |             | 875   | 198       | 137   | 570   | 600 | 37,4   | 47,7 |
| 61 | 8 PzS 1000  |             | 1000  | 198       | 155   | 570   | 600 | 42,4   | 54,2 |
| 62 | 9 PzS 1125  |             | 1125  | 198       | 173   | 570   | 600 | 47,4   | 60,1 |
| 63 | 10 PzS 1250 |             | 1250  | 198       | 191   | 570   | 600 | 52,4   | 66,6 |
| 64 | A140        |             | 2 PzS 280   | 280       | 198   | 47    | 685 | 715    | 14,8 |
| 65 |             | 3 PzS 420   | 420   | 198       | 65    | 685   | 715 | 20,7   | 26,3 |
| 66 |             | 4 PzS 560   | 560   | 198       | 83    | 685   | 715 | 26,6   | 34,3 |
| 67 |             | 5 PzS 700   | 700   | 198       | 101   | 685   | 715 | 32,5   | 41,7 |
| 68 |             | 6 PzS 840   | 840   | 198       | 119   | 685   | 715 | 38,5   | 49,2 |
| 69 |             | 7 PzS 980   | 980   | 198       | 137   | 685   | 715 | 44,4   | 56,9 |
| 70 |             | 8 PzS 1120  | 1120  | 198       | 155   | 685   | 715 | 50,3   | 64,4 |
| 71 |             | 9 PzS 1260  | 1260  | 198       | 173   | 685   | 715 | 56,2   | 71,5 |
| 72 |             | 10 PzS 1400 | 1400  | 198       | 191   | 685   | 715 | 62,1   | 80,2 |
| 73 |             | A155        | 2 PzS 310   | 310       | 198   | 47    | 720 | 750    | 15,2 |
| 74 | 3 PzS 465   |             | 465   | 198       | 65    | 720   | 750 | 21,3   | 27,6 |
| 75 | 4 PzS 620   |             | 620   | 198       | 83    | 720   | 750 | 27,4   | 35,8 |
| 76 | 5 PzS 775   |             | 775   | 198       | 101   | 720   | 750 | 33,5   | 43,6 |
| 77 | 6 PzS 930   |             | 930   | 198       | 119   | 720   | 750 | 39,6   | 51,5 |
| 78 | 7 PzS 1085  |             | 1085  | 198       | 137   | 720   | 750 | 45,7   | 59,4 |
| 79 | 8 PzS 1240  |             | 1240  | 198       | 155   | 720   | 750 | 51,8   | 67,3 |
| 80 | 9 PzS 1395  |             | 1395  | 198       | 173   | 720   | 750 | 57,9   | 75,6 |
| 81 | 10 PzS 1550 |             | 1550  | 198       | 191   | 720   | 750 | 64     | 83,9 |



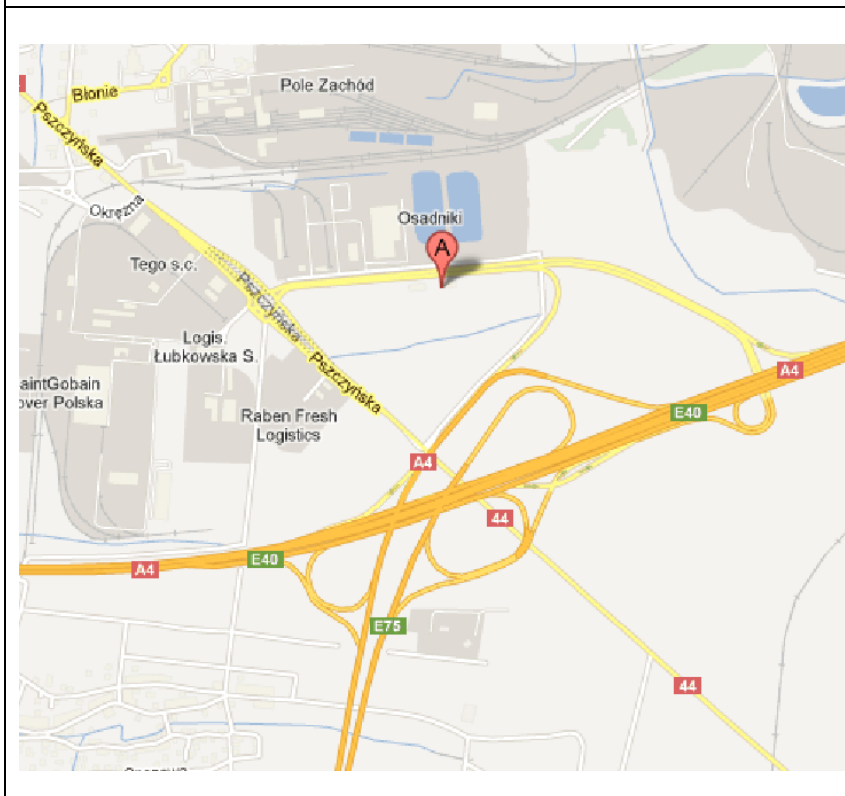
**Head quater**

**BATER sp.z o.o.**

ul. Dźwigowa 63,  
01-376 Warszawa  
tel.: +48 22 664 87 87  
fax: +48 22 664 87 87  
e-mail: [biuro@bater.pl](mailto:biuro@bater.pl)  
[www.bater.pl](http://www.bater.pl)

**Mechanical factory**

ul. Dźwigowa 63,  
01-376 Warszawa  
tel.: +48 22 664 87 87 w.41  
fax: +48 22 664 87 87  
GPS  
52°13'3.9"N, 20°54'51.516"E



**Battery factory Bater Gliwice**

ul. Pszczyńska 311,  
44-100 Gliwice  
tel.: +48 32 232 12 40  
fax: +48 32 232 12 40 w. 29  
e-mail: [biuro@bater.pl](mailto:biuro@bater.pl)  
GPS  
50°16'08.32"N, E 18°43'11.4