



**BATTERIE TRAZIONE
TRACTION BATTERIES
MOTIVE POWER**

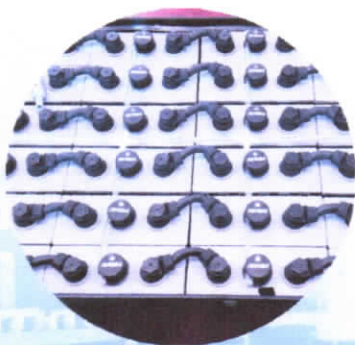




Futura batterie offers complete range of traction and storage batteries as well as charging devices

We offer:

- Lead-acid traction batteries
- Lead-gel batteries
- Single battery cells
- Spare parts (Flex connections with terminals, automatic topping up system, float or continuous flow caps, plugs, etc)
- 50 Hz battery chargers
- High frequency battery chargers



We can offer quick delivery thanks to extensive stock availability.

Our offer for lead acid batteries is organised on 2 platforms:

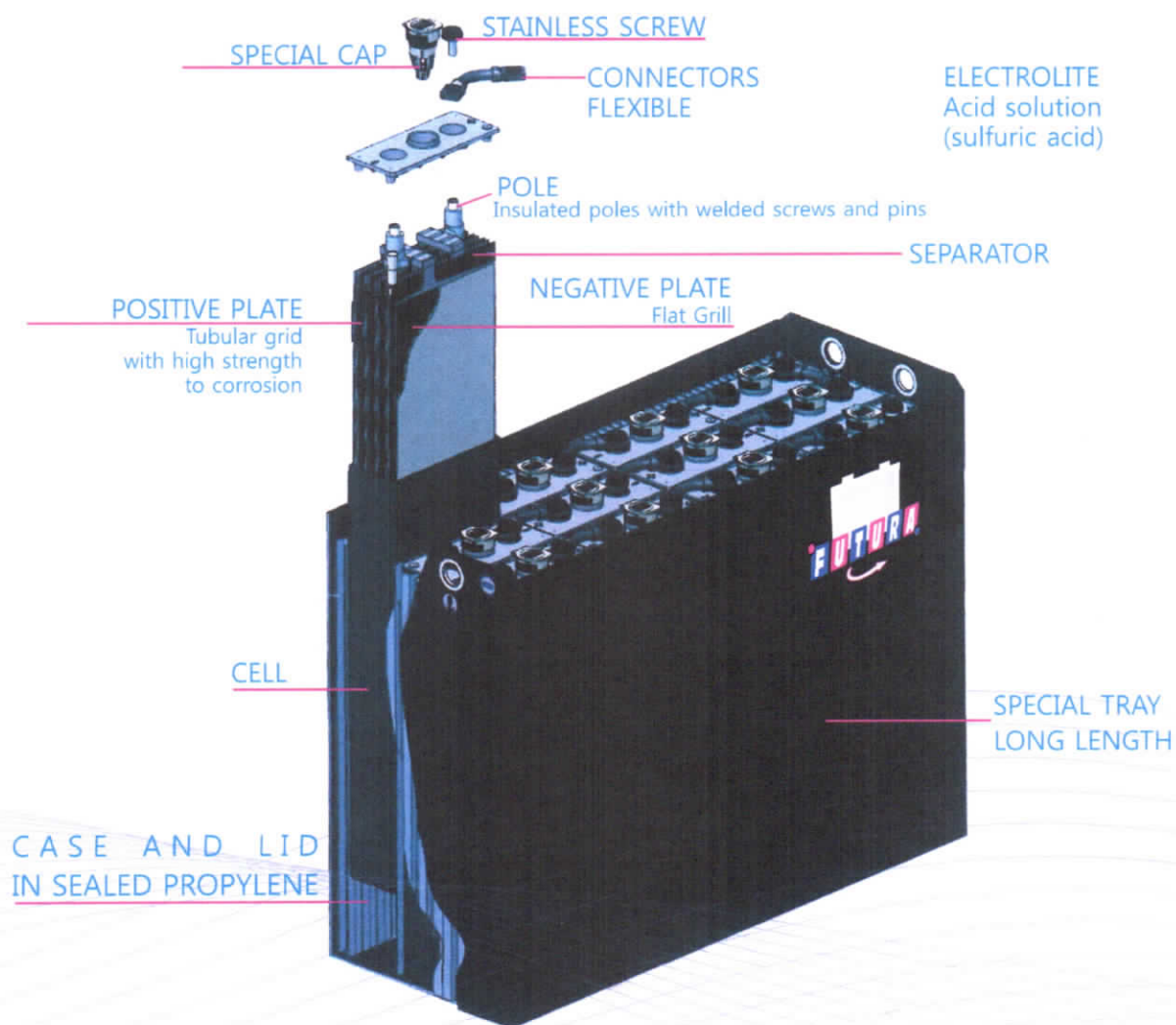
- Futura premium: Are batteries made by assembling elements produced by 3 of the most well known battery brands
- Accuria: is focused on optimise price quality ratio.

Both options have near-zero defected elements rate and reliable operation during battery's life.



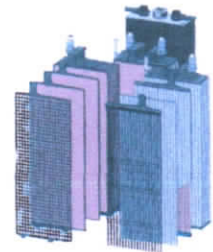


Traction Batteries





Features



1. POSITIVE PLATE



Features

All positive plates are produced with a particular design and background plastic

Advantages

Long life with minimal loss of active material.
Short circuit protection

1. NEGATIVE PLATE



Features

Active plate with innovative formula

Advantages

Longer life

3. SEPARATORS



Features

High conductivity separators mechanically and chemically resistant

Advantages

Short circuit protection

4. POLES



Features

All cells are produced with special insulated poles

Advantages

Provide a high short circuit protection preventing contact between plates positive and negative



5. CAPS (FILTER CAPS AND FLOATS)

FILTER CAPS

Protect cells from dust with system filter. Allow density control and heat and increased security during charging

FLOATING CAPS

They are compatible with the BFS topping up and stabilize the density reducing control time and costs

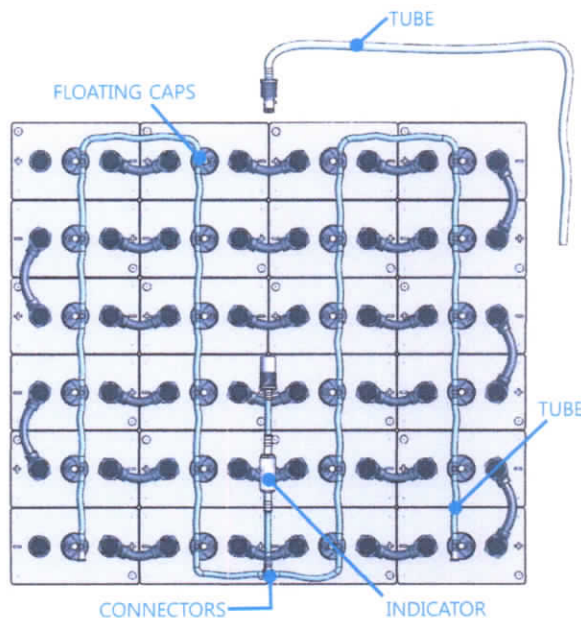




Automatic topping up system BFS



The BFS system is a filling system used for traction batteries. It replaces laborious manual work with an automatic filling process, ensuring the appropriate water level in the batteries by avoiding excesses or other and preventing contamination.



AUTOMATIC TOPPING UP SYSTEM
48V BATTERY EXAMPLE

Advantages:

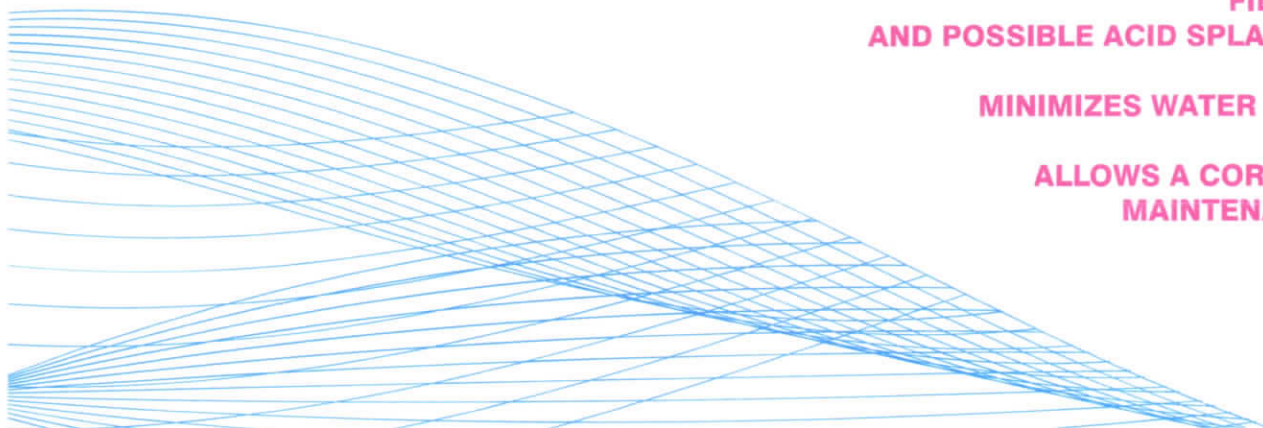
**REDUCES TOPPING UP TIME AND
REDUCES TIME LOSSES**

LONGER CELL LIFE

**ELIMINATES THE RISKS OF EXCESS
FILLING
AND POSSIBLE ACID SPLASHES**

MINIMIZES WATER LOSS

**ALLOWS A CORRECT
MAINTENANCE**





	CAPACITY (c5)	HEIGHT TANK (mm)
2PZS160	160	400
3PZS240	240	400
4PZS320	320	400
5PZS400	400	400
6PZS480	480	400
7PZS560	560	400
8PZS640	640	400
2PZS180	180	470
3PZS270	270	470
4PZS360	360	470
5PZS450	450	470
6PZS540	540	470
7PZS630	630	470
8PZS720	720	470
2PZS210	210	510
3PZS315	315	510
4PZS420	420	510
5PZS525	525	510
6PZS630	630	510
7PZS735	735	510
8PZS840	840	510
2PZS230	230	540
3PZS345	345	540
4PZS460	460	540
5PZS575	575	540
6PZS690	690	540
7PZS805	805	540
8PZS920	920	540

	CAPACITY (c5)	HEIGHT TANK (mm)
2PZS250	250	570
3PZS375	375	570
4PZS500	500	570
5PZS625	625	570
6PZS750	750	570
7PZS875	875	570
8PZS1000	1000	570
2PZS280	280	685
3PZS420	420	685
4PZS560	560	685
5PZS700	700	685
6PZS840	840	685
7PZS980	980	685
8PZS1120	1120	685
2PZS310	310	710
3PZS465	465	710
4PZS620	620	710
5PZS775	775	710
6PZS930	930	710
7PZS1085	1085	710
8PZS1240	1240	710

PZS LIST





Technical Characteristics



Discharge characteristics

Nominal voltage	2V
Nominal capacity (c5)	See PzS price list
Discharge rate Cn (Ah)	
Rated current capacity in /A/	$I_n = C_n(Ah)/5(h)$
Final discharge voltage Ur	1,7 V
Final charge voltage	2,60 ÷ 2,70 V
Electrolyte density under charged conditions	$1,28 \pm 0,01 \text{ g/cm}^3$ a 30 °C

Self-discharge features

Self-discharging traction batteries, temperature +30°C after a condition of full charge for 30 days, does not have to be greater than 1 %.

Temperature effects on capacity

The capacity of traction batteries is considered for temperatures of 30°C. If during a capacity test, the degrees are different from 30°C, the capacity must be equalized to 30°C using the following formula:

$$Ca = \frac{C}{1 + 0,006(T_{cp.} - 30^\circ C)}$$

Ca - Real capacity.

C - Measured capacity

Tcp. - Average temperature during the test

The actual capacity can be calculated in these ways:

- As the temperature rises above 30°C, the measured capacity must be increased by 0.6% for each grade
- As the temperature drops below 30°C, the measured capacity must be decreased by 0.6% for each degree.

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