
iNCi®
World's Battery Expert
TRACTION
BATTERIES CATALOG
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İNCİ GS YUASA

İnci GS Yuasa Corporate Profile

Conducting production and sales activities in the battery industry, İnci GS Yuasa is an affiliate of İnci Holding and GS Yuasa. It is the largest battery manufacturer in Türkiye with its three factories in Manisa and 1,000 employees. Having adopted perfection as a principle in all its processes, İnci GS Yuasa delivers its products and services to consumers in over 80 countries on 6 continents through its consumer-oriented approach and the state-of-art technologies. İnci GS Yuasa operates in Türkiye with 110 main dealers, 150 energy experts, 260 authorized service centers and 4,400 retail sales points.

İnci Akü is elected as the most valuable battery brand in the list of "2022 Top Valuable Brands of Türkiye" prepared by Brand Finance, the international brand valuation organization. Having established the first R&D center of the industry in Türkiye, Inci GS Yuasa adds value to the sector and its stakeholders through its innovative perspective and technological products as well as its vision to become the most trusted energy storage firm thanks to its sustainable environmental approach.

İnci Traction Batteries

İnci GS Yuasa produces İnci traction batteries in its industrial plant in Manisa, Türkiye with a production capacity of 750,000 cells per year. İnci offers the best solution for battery-powered electric vehicles such as forklifts, transpallets, ride-on floor scrubbers and a whole host of other vehicles, with its long life, safe usage, short charging time and lower energy cost. İnci traction batteries are compatible with BS and DIN norms. World's energy expert İnci, with its Japanese technology, long-lasting products and widespread service network, provides energy to all over the world.


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INNOVATIVE SOLUTIONS

- Specially designed terminals that prevent acid leakage.
- Optional energy saving Air-Mix system.*
- Specially produced durable high-quality trays.
- Optional electrolyte level indicator with LED.

* All cells are produced in accordance with the use of air-mix.

FIELDS OF APPLICATION

- Forklift Trucks
- Transpallets
- Stackers
- Order Pickers
- Cleaning Vehicles
- Belt Conveyors
- Electric / Hybrid Boats
- Other Electric Vehicles

SPECIFICATIONS

Positive Plate: Tubular grid with the gauntlet

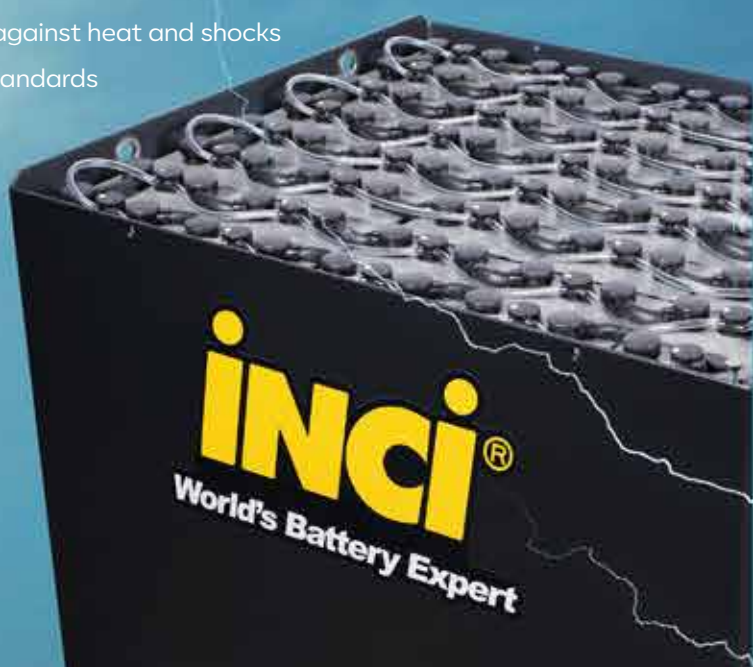
Negative Plate: Flat grid

Electrolyte: 1.280 g/cm³ sulfuric acid

Case and Cover: Polypropylene high endurance against heat and shocks

Cell: In accordance with BS and DIN EN 60254 Standards

Connectors: Totally isolated copper cables



BOLT
Anti-self loosening the stainless bolt.

ELECTROLYTE
1.280 g/cm³ sulfuric acid optimized for high cycle and low corrosion.

PLUG
For standard applications, specially designed plug for adequate degassing with the filter that prevents extraneous objects inside the cell. As optional, aquamatic plugs stop water flow automatically with floats inside.

CONNECTORS
Isolated copper connectors in accordance with international standards.

POLE
Special designed terminals that prevent acid leakage.

AIRMIX FUNNEL
Ready for air-mix conversion at any time with the standard implementation.

SEPARATOR
Separator with high porosity, avoiding the short circuit with low electrical resistance.

POSITIVE PLATE
Tubular grid with high corrosion resistance.

NEGATIVE PLATE
Special flat grid design with high electrical conductivity.

SPACER
Creating space between cells to enable heat transfer.

CELL
DIN and BS Cells in accordance with DIN/EN 60254 Standards.

PRISM
Prevents short circuit due to active material cumulation in the bottom of cells.

BOX AND LID
That are resistant against heat and impacts.

TRAY
Specially produced durable tray painted with dipping technique.

Positive Plate

1. Product Features / Product Benefits

» Tubular positive plates produced with "Specially Designed Gauntlet and Bottom Plastic". • Providing long life and high protection against short circuits by minimizing the loss of active material. • Usage of active material made with a special formulation. • High Capacity.

» Tubular grids are inserted into gauntlets that are acid resistant and have low electrical resistance and high permeability. The active material is filled into the gauntlet.

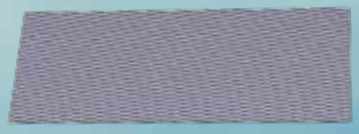
• Non-woven Gauntlet prevents the loss of active material and capacity. • Positive active material that is produced from high purity lead oxides. • Minimum water loss.

Negative Plate

2. Product Features / Product Benefits

» Special flat plate and material formulation.

» Special negative active material for a long life.



Separators

3. Product Features / Product Benefits

» Separators with high ionic conductivity, minimuminternal resistance, mechanically and chemically resistant.

» High protection against short circuits.

Pole

4. Product Features / Product Benefits

» Special designed pole and lids with grommet.

» No acid leakage. Easy to service by unscrewing stainless bolts.

A: Filtered Plugs

B: Float Plugs

A» Plug filter prevents extraneous objects inside the cell. • With special top cover, density and heat controls can be done. • Enable the Hydrogen and Oxygen degassing safely while charging.

B» Special design for aquamatic systems. • Aquamatic system stops water flow automatically at the max electrolyte level and prevents overflow.

Electrolyte

5. Product Features / Product Benefits

• 1.28 g/cm^3 electrolyte density.

• High performance with long life comparing to standard batteries.

A AQUAMATIC SYSTEM

Aquamatic (Top-Up) System is a unique battery water filling system used for traction batteries. In the aquamatic system, water flows through tubes which are connected to plugs in serials. Water flow is stopped with floats in the aquamatic plugs. It replaces manual labour by an automated filling process. It ensures correct water level in batteries, thus avoiding over-filling & spillage or under filling of batteries. Fast filling enhances and allows direct water supply to the battery. Also since there is direct water supply to cell vent, it prevents contamination.

Advantages

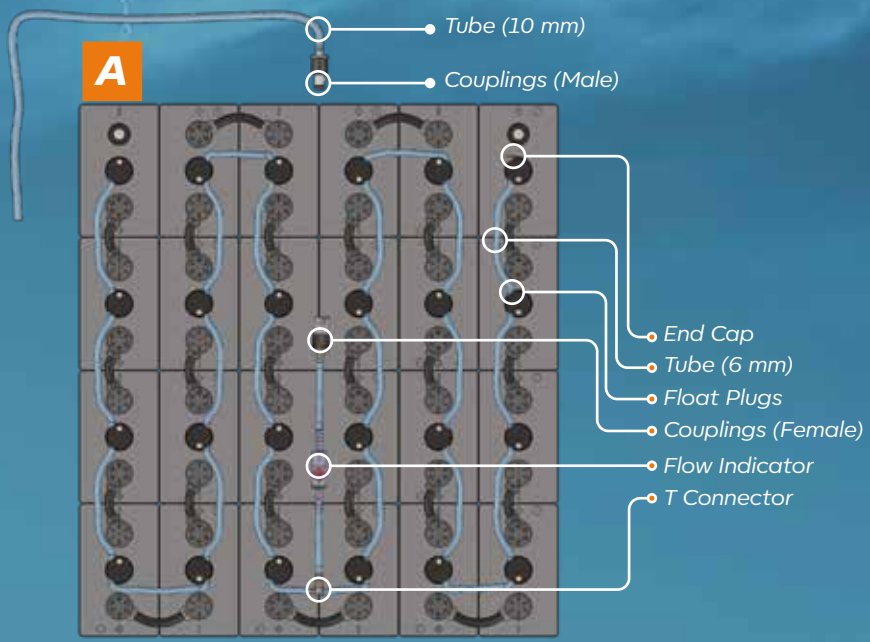
» *Quick, safe, clean refilling.*
» Radically reduced filling time.
» Reduction in labour costs and time consumption.
» Eliminating the danger of over-filling and acid splash.
» Prevents the risk of personal injury and corrosion of the machine body.
» Proper maintenance.
» Longer life.
» Minimized water loss.
» Water-saving.

B AIR MIX SYSTEM

Air-Mix enables airflow inside the cells that allows the circulation of electrolyte thus results in a homogenous mixture in the cell. Also, air-mix cools down the cells during charge, which helps to decrease the charging period.

Advantages

» *Optimized battery charging*
» Energy saving up to 20%
» Less electricity consumption during charging
» Faster charge up to 30%
» Less Battery change.
» Charging with-100°C less heat
» Longer life



DIN Cell Types

Cell Type	Plate Type	Cell Size				
		Max Cell Footprint (mm)		Max Height		Weight (kg) (±5%)
		L	W	H1	H	
2 PzS 120	PzS 60 Ah	47	198	342	370	8.5
3 PzS 180		65				12.0
4 PzS 240		83				15.0
5 PzS 300		101				19.0
6 PzS 360		119				22.0
7 PzS 420		137				25.0
8 PzS 480		155				29.0
9 PzS 540		174				32.4
10 PzS 600		192				35.9
2 PzS 160	PzS 80 Ah	47	198	402	430	9.7
3 PzS 240		65				14.0
4 PzS 320		83				18.0
5 PzS 400		101				22.1
6 PzS 480		119				26.2
7 PzS 560		137				30.7
8 PzS 640		155				34.5
9 PzS 720		174				38.6
10 PzS 800		192				42.6
2 PzS 180	PzS 90 Ah	47	198	477	505	11.4
3 PzS 270		65				16.4
4 PzS 360		83				21.5
5 PzS 450		101				26.4
6 PzS 540		119				31.4
7 PzS 630		137				36.4
8 PzS 720		155				41.4
9 PzS 810		174				46.4
10 PzS 900		192				51.4
2 PzS 210	PzS 105 Ah	47	198	527	555	13.1
3 PzS 315		65				18.7
4 PzS 420		83				24.1
5 PzS 525		101				30.5
6 PzS 630		119				35.4
7 PzS 735		137				41.0
8 PzS 840		155				46.5
9 PzS 945		174				52.1
10 PzS 1050		192				57.4

Cell Type	Plate Type	Cell Size				
		Max Cell Footprint (mm)		Max Height		Weight (kg) (±5%)
		L	W	H1	H	
2 PzS 230	PzS 115 Ah	47	198	547	575	13.8
3 PzS 345		65				19.8
4 PzS 460		83				25.8
5 PzS 575		101				31.7
6 PzS 690		119				38.3
7 PzS 805		137				43.9
8 PzS 920		155				49.7
9 PzS 1035		174				55.6
10 PzS 1150		192				61.6
2 PzS 250	PzS 125 Ah	47	198	567	595	14.6
3 PzS 375		65				20.7
4 PzS 500		83				27.4
5 PzS 625		101				33.1
6 PzS 750		119				39.4
7 PzS 875		137				45.4
8 PzS 1000		155				51.9
9 PzS 1125		174				58.1
10 PzS 1250		192				64.5
2 PzS 280	PzS 140 Ah	47	198	687	715	16.9
3 PzS 420		65				24.7
4 PzS 560		83				30.9
5 PzS 700		101				38.3
6 PzS 840		119				44.9
7 PzS 980		137				52.7
8 PzS 1120		155				60.0
9 PzS 1260		174				67.2
10 PzS 1400		192				74.4
2 PzS 310	PzS 155 Ah	47	198	722	750	18.1
3 PzS 465		65				25.6
4 PzS 620		83				34.3
5 PzS 775		101				42.2
6 PzS 930		119				49.2
7 PzS 1085		137				56.2
8 PzS 1240		155				63.8
9 PzS 1395		174				71.5
10 PzS 1550		192				79.2

iNCi Battery Traction Battery Cell: DIN / EN standardized cells are placed in specially designed trays far the custom needs of customers.

BS Cell Types

Cell Type	Plate Type	Cell Size				
		Max Cell Footprint (mm)		Max Height		Weight (kg) (±5%)
		L	W	H1	H	
2 PzB 110	PzB 55 Ah	45	158	402	432	7.9
3 PzB 165		61				11.0
4 PzB 220		77				14.0
5 PzB 275		93				17.1
6 PzB 330		109				20.1
7 PzB 385		125				23.2
8 PzB 440		141				26.2
9 PzB 495		157				29.2
10 PzB 550		173				32.3
2 PzB 130	PzB 65 Ah	45	158	457	487	8.5
3 PzB 195		61				12.2
4 PzB 260		77				15.4
5 PzB 325		93				18.9
6 PzB 390		109				22.5
7 PzB 455		125				26.0
8 PzB 520		141				29.5
9 PzB 585		157				33.4
10 PzB 650		173				37.0
2 PzB 150	PzB 75 Ah	45	158	513	543	9.6
3 PzB 225		61				13.9
4 PzB 300		77				17.4
5 PzB 375		93				21.0
6 PzB 450		109				26.0
7 PzB 525		125				30.0
8 PzB 600		141				33.5
9 PzB 675		157				31.1
10 PzB 750		173				42.2

Cell Type	Plate Type	Cell Size				
		Max Cell Footprint (mm)		Max Height		Weight (kg) (±5%)
		L	W	H1	H	
2 PzB 170	PzB 85 Ah	45	158	570	600	10.6
3 PzB 255		61				14.7
4 PzB 340		77				19.5
5 PzB 425		93				23.8
6 PzB 510		109				28.0
7 PzB 595		125				32.5
8 PzB 680		141				37.0
9 PzB 765		157				38.1
10 PzB 850		173				46.8
2 PzB 200	PzB 100 Ah	45	158	608	638	12.1
3 PzB 300		61				16.8
4 PzB 400		77				21.5
5 PzB 500		93				26.1
6 PzB 600		109				30.8
7 PzB 700		125				36.2
8 PzB 800		141				40.1
9 PzB 900		157				47.0
10 PzB 1000		173				52.1

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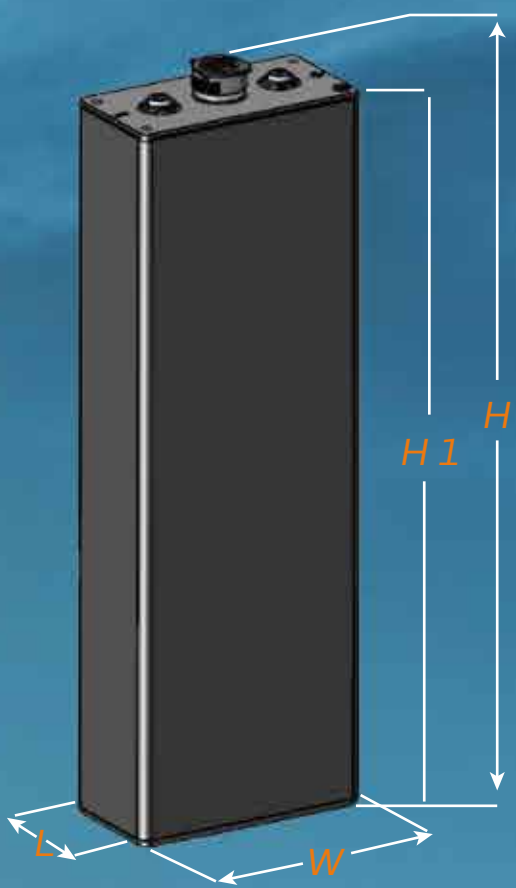
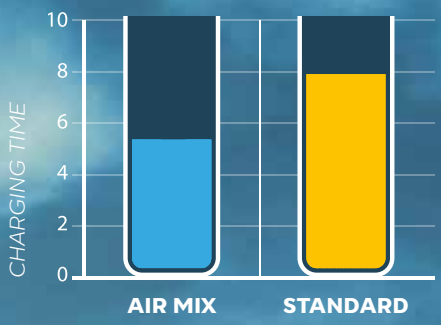
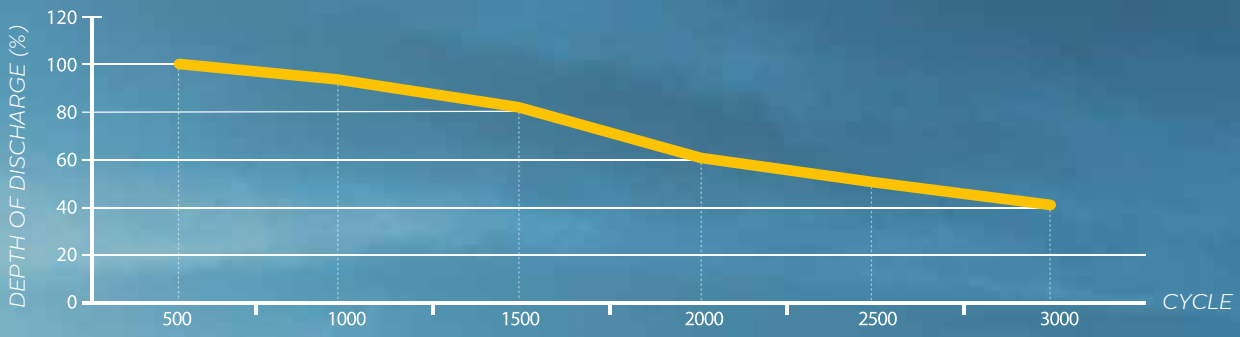


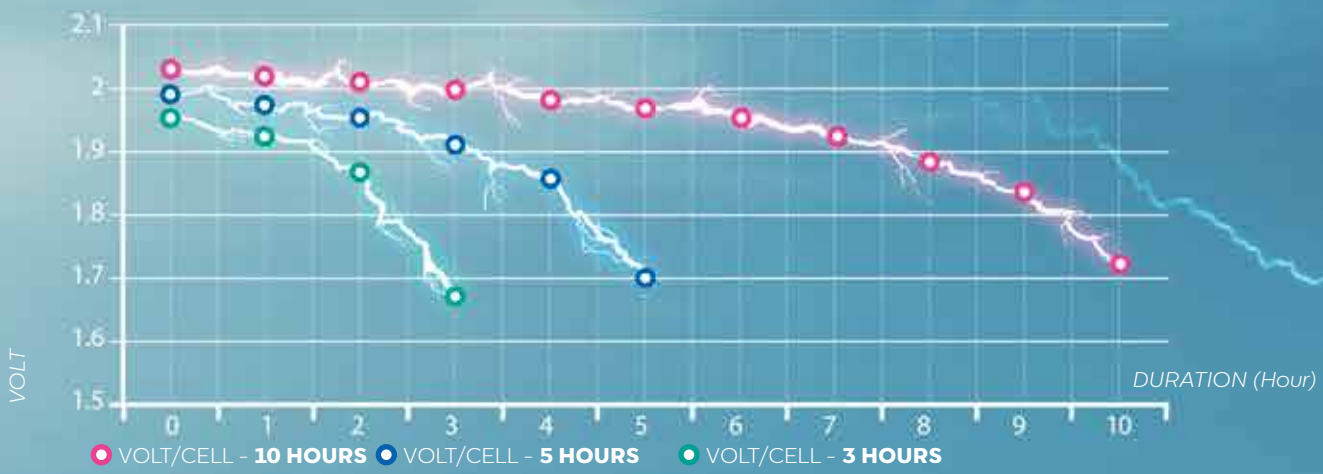
CHARGING SYSTEM



DEPTH OF DISCHARGE / CYCLE CORRELATION



VOLTAGE vs DISCHARGE CURRENT



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