Blade battery aluminum shell manufacturing technology

What is the Blade Battery?

The Blade Battery,developed by BYD,is a next-generation battery pack design. At its core,the Blade Battery features a unique cell geometry with a much lower aspect ratio compared to conventional cylindrical or prismatic cells. According to BYD's patents,the cell depth is 13.5 mm,while the cell length can range from 600 mm to 2500 mm.

What is the range of the cell length in a Blade Battery?

According to BYD's patents,the cell length (X axis) can range from 600 mm to 2500 mmwhile the cell depth (Z axis) is 13.5 mm. The structure of the Blade Battery from cell to pack. At the center of the design of the Blade Battery is the cell geometry,which has a much lower aspect ratio compared with conventional cylindrical or prismatic cells.

How a blade battery is made?

There are generally two manufacturing processes for batteries: winding and stacking processes. The blade battery adopts advanced high-speed stacking process,the length of the stacking pole piece can reach about 1000mm,the stacking alignment tolerance is within ±0.3mm,and the single stacking efficiency is 0.3s/pcs.

How does the Blade Battery differ in structure?

In the Z direction,the structure of the Blade Battery is completely different from conventional module-based battery packs. Instead of modules,the Blade Battery has a unique,blade-like design.

What is a BYD blade battery?

"The Blade Battery - Unsheathed to Safeguard the World",Wang Chuanfu,BYD Chairman and President,said that the Blade Battery reflects BYD's determination to resolve issues in battery safety while also redefining safety standards for the entire industry. BYD are able to make cells to a range of dimensions.

What is the difference between a module and a blade battery?

The Blade Battery differs from conventional module-based battery packsin its structure in the Z direction. It is designed to be completely differentfrom module-based battery packs,with a reduced height that provides more space for passengers and decreases the coefficient of drag.

There is also the same utility as the "blade battery" and CTP technology. CTP (CELLTOPACK) technology is to achieve battery-free group, direct integrated battery pack. In 2019, Ningde Times took the lead in using new CTP technology-free battery packs. It is indicated that the volume utilization rate of CTP battery packs increased by 15% -20% ...

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Provide Global Customers with Battery Intelligent Manufacturing Total Solutions and Services Home; About Us ; Company Profile. Shenzhen Han"s Lithium Battery Smart Equipment Co., Ltd. is a subsidiary of Han"s Group. Founded in 2018, it is a high-tech company specializing in the R& D, production and sales of battery intelligent equipment and smart factories. It is a national ...

In addition to their performance advantages, Blade Batteries streamline the manufacturing process for electric vehicles. Their flat, rectangular design enables efficient assembly and integration into vehicle chassis, ...

Al has been considered as a potential electrode material for batteries since 1850s when Hulot introduced a cell comprising a Zn/Hg anode, dilute H 2 SO 4 as the electrolyte (Zn/H 2 SO 4 /Al battery), and Al cathode. However, establishment of a dense oxide film of aluminum oxide (Al 2 O 3) on the Al surface inhibits the effective conduction and diffusion of Al 3+ ions, ...

The invention discloses a blade aluminum shell battery module, which comprises a U-shaped shell, wherein heat generated during charging and discharging of a blade battery pack is guided to a condensation elbow through an insulating heat-conducting fin, the heat is absorbed and exchanged through cooling liquid in the condensation elbow, the bottom of the blade battery ...

With CTP technology, battery packs are assembled directly from the cells without the need for modules. Many battery manufacturers, such as BYD Auto, CATL, LG Chem, and SVOLT, are exploring...

BYD unveils its second-generation electric vehicle battery, the Blade Battery, a technological marvel that undergoes rigorous testing, making it a standout in the industry. BYD ...

Aero-engine manufacturing is an extremely complex system engineering, of which the core component is the "blade", its manufacturing occupies more than 30% of the workload of the entire engine manufacturing! Not only fan blades, compressor blades, or turbine blades are subjected to terrible work conditions when the engine is working, but there are ...

Shanghai Metal Corporation is manufacturer and supplier of Blade Battery Shell. As a new type of battery technology with high energy density, long life and high safety, blade batteries show a broad application prospect in the field of electric vehicles and energy storage. 3003 aluminium sheet used as battery shell material meets the following requirements:

In September 2020, Tesla announced the 4680 (diameter 46 mm, height 80 mm) cylindrical battery technology for the first time. The 4680 battery adopts a tabless design inside, and the effective contact area between the electrode conductive coating and the battery end cover can reach 100%, which greatly improves the heat dissipation capacity.

Since BYD announced the blade battery for the first time at the 100-person meeting for electric vehicles in

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January 2020 and the blade battery launch conference on March 29, there has been more discussion about blade ...

The blade is made by BYD and is just a pouch cell sandwiched in hard aluminum versus soft of other designs. Has little to do with the battery cell itself, and more to do with how the pack will be constructed. The 4680 is a tabless cylindrical cell. Nothing revolutionary, but a solid evolution of the hard cases cylindrical cell. Kind of like a ...

Power battery aluminum shell manufacturers towards efficient quality production 2024-10-06

BYD"s blade battery is the long cell method (importantly refers to the square aluminum shell), which is a method to further improve the battery pack by increasing the length of the cell (the maximum length is equal to the width of the battery pack) and making the cell flat and elongated. Technology for integrated efficiency. It is not a cell of ...

At HDM, we have developed aluminum alloy sheets that are perfect for cylindrical, prismatic, and pouch-shaped lithium-ion battery cases based on the current application of lithium-ion batteries in various fields. Our aluminum alloy materials are user-friendly, compatible with various deep-drawing processes. HDM"s aluminum alloys offer high strength and excellent laser weldability, ...

The new energy long cell battery shell developed and produced by our company adopts a cold bending forming+high-frequency welding process, which breaks through the constraints of traditional deep drawing/extrusion processes and overcomes the welding technology of ultra-thin aluminum shells. We have successfully developed an ultra-long and ultra-thin aluminum shell ...

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