New Energy Blade Battery Packaging Technology

What is a blade battery?

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. According to BYD's patents, the cell depth (Z axis) is 13.5 mm while the cell length (X axis) can range from 600 mm to 2500 mm.

What are the benefits of a blade battery?

Efficiency and extended rangeare other benefits of the Blade Battery,offering greater power density for optimal performance and efficiency,including faster charging. BYD CTP (Cell to Pack) technology makes the difference,with the Blade Battery increasing space utilization by 50%.

What makes BYD a module-free battery pack?

This story is contributed by Xinghua Meng and Eric Y. Zheng With cell-to-pack technology,BYD designed the module-free battery pack using the Blade Cell. The geometry of the Blade Cell is a key to the realization of the module-free battery pack. With the module-free pack design,VCTPR and GCTPR can be enhanced to over 60% and 80%.

Why is BYD's blade battery revolutionary?

BYD's blade battery is revolutionary in several ways. We are happy to explain why this is the case, as well as the importance of the so-called Nail Penetration Test. One of the most important parts of an electric vehicle is the battery system. After years of study, research and development, BYD has come up with the Blade Battery.

Will BYD introduce new blade batteries in 2025?

"I think in the coming years,2025,BYD will introduce the new generation of our remarkable blade battery," Cao said during the interview. According to BYD's executive,the new batteries promise to "enhance the driving distance of our vehicles." Cao added that they will also have a longer life cycle for various reuse cases.

What is a BYD blade pack?

The BYD Blade pack design is the first cell to pack design that encompasses everything this means. Not having a module and the overhead of a module is difficult to achieve. LFP cells make this design easier in some ways and this gives a new lease of life for LFP chemistry.

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The module-free Blade Battery, however, takes advantage of its blade cells to increase the volumetric energy density by up to 50%, suggesting a potential VCTPR and GCTPR of 62.4% and 84.5% ...

With cell-to-pack technology, BYD designed the module-free battery pack using the Blade Cell. The geometry of the Blade Cell is a key to the realization of the module-free battery pack. With the module-free pack design, VCTPR and GCTPR can be ...

The transition from old to new battery packaging reflects broader trends in technology, safety, and environmental responsibility. As demand for batteries grows--particularly with the rise of electric vehicles and renewable energy storage--innovative packaging solutions are essential. These advancements not only enhance

BYD is launching a new Blade EV battery next year to power its next wave of vehicles. China"s EV giant confirmed the advanced batteries will unlock even more driving range for its next-gen ...

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The progressive nature of BYD and the BYD SEAL goes beyond the Cell-to-Body technology and Blade Battery. For example, the new sports sedan uses the innovative 8-in-1 electric drivetrain. This integrates eight key ...

It incorporates the thermal electric separation technology of Dragon Armor Battery, enhancing safety. With the combination of 800V and 4C fast-charging technology, it stands as the fastest charging PHEV product in the industry. This revolutionary battery product designed specifically for the next generation of hybrid vehicles will commence production in ...

As a new battery product, blade battery has gradually improved its competitiveness at home and even abroad. How do its raw materials, cells, modules, management system and safety design...

One of the biggest advantages of the Blade battery is that it is designed using cell-to-pack technology (CTP). It means each cell can be directly packed without the need for ...

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Blade Battery technology represents a paradigm shift in energy storage for electric vehicles. Unlike traditional

lithium-ion batteries, which are cylindrical or prismatic in shape, Blade Batteries are flat and rectangular. This unique design offers several advantages, including enhanced safety, increased energy density, and simplified manufacturing processes.

Currently the LFP (LiFePO4) cobalt-free chemistry allows to build EV batteries that are extremely safe, durable, simple, affordable and with good performance. Since - unlike NCM or NCA - LFP battery cells are extremely safe and won"t burn or explode even if punctured, the battery packs don"t require much safety equipment and can adopt a simple CTP (cell-to ...

BYD CTP (Cell to Pack) technology makes the difference, with the Blade Battery increasing space utilization by 50%. This improves energy density and allows more batteries in a compact space, with a longer driving range. The "honeycomb-like aluminum" design of the Blade Battery also provides greater rigidity and safety. The BYD TANG, BYD HAN and ...

LFP became a major R& D focus, leading to the "Blade" battery, an innovation in lower cost, safer EV battery packs. As Chen explains it, "The blade battery originates from a concept called CTP - cell to pack. CTP technology directly integrates the battery cells into the pack, without the use of modules. BYD is, I believe, the pioneer to ...

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