

# Blade battery energy storage system design diagram

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 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 a module-free blade battery?

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%, respectively. Although the Blade Battery shows a lot of promise, the blade geometry is not perfect.

Why do all BYD cars have a blade battery?

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 BYD ATTO 3 are all equipped with a Blade Battery.

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%.

Does a module-free blade battery increase volumetric energy density?

Even worse, this low volumetric energy density often requires car designers to make room for a larger pack. 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%, respectively.

BYD make a number of claims around the battery in this design: integrated 8-in-1 assembly > Cell to Body design. structural architecture. high expandability of the e-platform 3.0 creates a larger axle-to-length ratio > A ...

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