

Korea LFP, Pioneering the Revolution of the Secondary Battery Market

About the Company

Korea LFP Inc. specializes in manufacturing lithium iron phosphate batteries (LFP batteries) and develops and manufactures customized batteries for a variety of devices, including cordless products/mobility products, industrial machinery, and energy storage systems (ESS). The company started LFP battery R&D in 2016, established the company Jangsoo Battery in 2018, and was established as Korea LFP in 2022. With Jangsoo Battery as its brand, it is leading the LFP battery market in Korea. Korea LFP manufactures and produces LFP batteries that are in line with the current times and offers customers LFP batteries, all produced with its original technology and used in various fields from medical batteries to multi-purpose batteries for industrial use (awning batteries, electric carts, forklifts, etc.).

Background

Korea LFP developed its batteries to address the problems found in the existing battery market. The gro-

wing global supply of renewable energy gave rise to the need of ESS, and the growth of the ESS industry is calling for high-quality LFP batteries that are safe and high performing.

Korea LFP has developed LFP batteries in light of these industry trends. LFP batteries are highly safe, easy to repair in case of failure, and have a long service life. Moreover, the service life is about ten times longer than that of conventional lead-acid batteries, while the price is also economical. In addition, problems such as overcharging and over-discharging can be prevented in advance by deploying the battery management system (BMS).

Against this backdrop, Korea LFP is developing high-performance LFP batteries that are used in various fields, starting with medical batteries. Through these activities, the company aims to grow into a leader of the secondary battery market by providing safe and efficient energy solutions to customers.

About the Product

LFP batteries made by Korea LFP provide safe and

reliable energy solutions and have technical features that allow them to be highly reliable when used in a variety of industries.

First of all, LFP batteries are extremely safe, with a significantly lower risk of fire or explosion. They can be operated reliably in large-scale energy storage and management systems as they are resistant to overcharging, over-discharging, and overheating.

LFP batteries also have a long service life, providing long-term reliability. With an average service life of about ten years, they can be charged and discharged about 2,000 times. Therefore, they provide customers with reliability for long-term use.

In addition, the safety of Korea LFP's batteries is further enhanced by the application of the battery management system (BMS) developed and designed with the company's own technology. The BMS extends the battery life and ensures stable operation by detecting and preventing problems such as overcharging and over-discharging.

Applications include electric scooters, electric wheelchairs, electric forklifts, electric cleaning vehicles, guide motors, golf carts, vehicle starters, solar street lights, electric cars for kids, electric bicycles, and energy

storage systems (ESS). Korea LFP delivers outstanding performance and reliability to provide customers with reliable energy solutions fit for the diverse environments of today's world.

Competitive Edge and Business Strategy

The company's LFP batteries are performing well in the Korea market, where demand for batteries is increasing significantly in line with the growing demand for electric mobility and industrial applications. Based on these market trends, the company is gaining a leading position in the Korean renewable energy market as it grows based on high demand from the electric mobility and industrial sectors.

Based on these achievements, Korea LFP successfully exported to Japan in 2023, a feat that can be considered as an international recognition of the company's technology and quality. Korea LFP aims to expand its business by tapping into the experience and know-how gained in Korea and explore opportunities in the global market. At the same time, Korea LFP is investing in new product development and technological innovation to



Figure 1. Jangsoo Battery: Main products



Figure 2. Jangsoo Battery Applications

grow more competitive in the global market and target a wider market by providing high-quality products. The company is also focused on improving the quality and performance of its products by closely collaborating with partners. Through these efforts, Korea LFP aims to grow more competitive in the global market and achieve sustainable growth.

Future Plans

In anticipation of the global growth of renewable energy supply and the rapid growth of the ESS industry, Korea LFP is focused on the research, development and commercialization of LFP batteries known for their high safety and long life. More specifically, the company is positioning LFP battery technology as a key element of its environmental, social and governance (ESG) management strategy to achieve ESS fire prevention and greenhouse gas reduction goals.

LFP batteries, thanks to their chemical composition, offer high safety in the event of overcharging, over-discharging, and overheating, and are characterized by a significantly lower risk of fire or explosion. These features satisfy the essential safety requirements for ESS applications that require large-scale energy storage and management. In addition, LFP batteries have a long service life of more than 2,000 to 5,000 cycles, which contributes significantly to long-term operational cost savings.

In terms of environmental sustainability, LFP batteries are composed of low toxicity materials and therefore have a low negative impact on the environment as waste. Such features are in line with ESG management objectives and are an important advantage, especially when integrated with renewable energy sources. The wide operating temperature range and high charge and discharge efficiency enable ESS to operate efficiently under different climatic conditions and energy demand scenarios.

As for future plans, Korea LFP in the short-term plans to launch the process of developing and obtaining certifications for its LFP battery pack used on 100KWh ESS that are resistant to thermal runaway. Such a battery pack includes a battery management system (BMS) and a battery cell box with an added active cell balancing function. In the medium to long term, Korea LFP plans to focus on marketing and promoting products for commercialization, while continuously monitoring market response and improving the products. In addition, Korea LFP plans to lay the foundation for market diversification and stable growth by continuously developing its existing businesses in the medical and industrial battery segments.



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** The opinions expressed in this article are the author's own and do not reflect the views of KOTRA.*