



CASE STUDY

Custom Lithium-ion Battery Packs for Forklifts

Learn from our customer's experiences with FREY lithium-ion battery and how you will also have the same peace of mind for the longest time!

BUSINESS NEEDS

"After 13,000 hours, capacity still over 80%!"

In 2015, the world top beverage packaged company China region needed the fleet of forklifts to work 3-shifts a day to deal with its market growth spike in China. They were looking for a lithium solution to lower the cost by eliminating fleet amount, reducing battery maintenance cost.

"Not a single issue reported since the day of service!"

In 2018, Doosan China was looking for a reliable lithium manufacturer for their OEM forklifts to keep them on top of the market. Because the battery will be the OEM part, they require much higher standards than the replacement market does.

"The constant discharge rate can truly meet 2C!"

In 2015, Toyota Beijing Dealer was looking for a high power lithium solution for its 3Ton Toyota Forklift. Most of the lithium battery manufacturer made the lithium battery pack with standard output rate of 1C, but they were looking for 2C rating.

Why Forklift OEMs Choose FREY as their Lithium-ion Battery Partner?

- 10 years' experience in industrial heavy-duty electric vehicles and machines
- Built with **In-house** made industrial leading **high-power** output **nanometer** LFP cells
- Long cycle life of **over 3,000 times** at **80%** depth of discharge
- Frey battery-driven lift trucks operate more efficiently, loading heavier and running longer than average lithium-ion battery driven counterpart.
- Extremely safe, the packs are made **explosion-proof**
- **In-house** designed BMSs for massive packs and small to medium packs
- **Custom gauge** of various critical metrics, software integration, GPS monitoring
- Military-level rugged case design with **IP67** level available
- **Competitive Price** compared with battery pack assemblers

RESULTS

- FREY Lithium Battery put into service in **2016**
- Daily working hours are more than **20 hours**
- Up until June 2021, each forklift has an average service hour of **13,000 hours**, a service life of over **5 years**
- Remaining capacity still over **80%**

- FREY Lithium battery put into service since 2018
- Daily working hour is more than 10 hours
- Up until June 2021, each forklift has average **9,870** service hours.
- **Not A single operational issue** was reported ever since
- Remaining capacity over **85%**

- FREY customized the lithium battery with constant discharge rate of **2C**, with peak rate of **10C**. It meets customer's requirement
- Until June 2021, the average service of each battery is over **5 years**

All the data is obtained from FREY Remote Cloud System

