CLARK
THE FORKLIFT

Lithium-Ion Technology from CLARK Europe

Li-ion

CLARK Lithium-ion-Power

BUILT TO LAST
CLARK
EST. 1917

LITHIUM-ION TECHNOLOGY FROM CLARK

Lithium-ion batteries from CLARK increase your handling performance and reduce operating costs at the same time

The CLARK lithium-ion batteries (Li-Ion) with high availability and low operating costs are efficient energy bundles that give excellent results : The batteries can be opportunity charged at any time and within a very short period whenever breaks occur and without damaging the battery or shortening its service life. CLARK Li-Ion industrial trucks can therefore be used around the clock. A battery change is not necessary. Thus, Li-Ion-technology guarantees you high efficiency, especially in multi shift operation.

The Li-Ion battery also scores with a constant voltage during the entire operation. Full power is always available to you, even when the battery is 90 % discharged. In addition, it needs a much shorter time to be fully charged. Compared to the lead acid battery, the Li-Ion battery also benefits from a higher energy density. This ensures longer operating times and thus higher handling performance.

In short, CLARK Li-Ion batteries store a lot of energy in a small space. They have an extremely long service life and are optimal for intensive use. With Li-Ion batteries, you not only increase productivity, but also reduce your costs. This means that the purchase costs of Li-Ion batteries pay for themselves within two to three years, depending on their use. Moreover, since you do not need a dedicated charging infrastructure, you gain valuable storage space.

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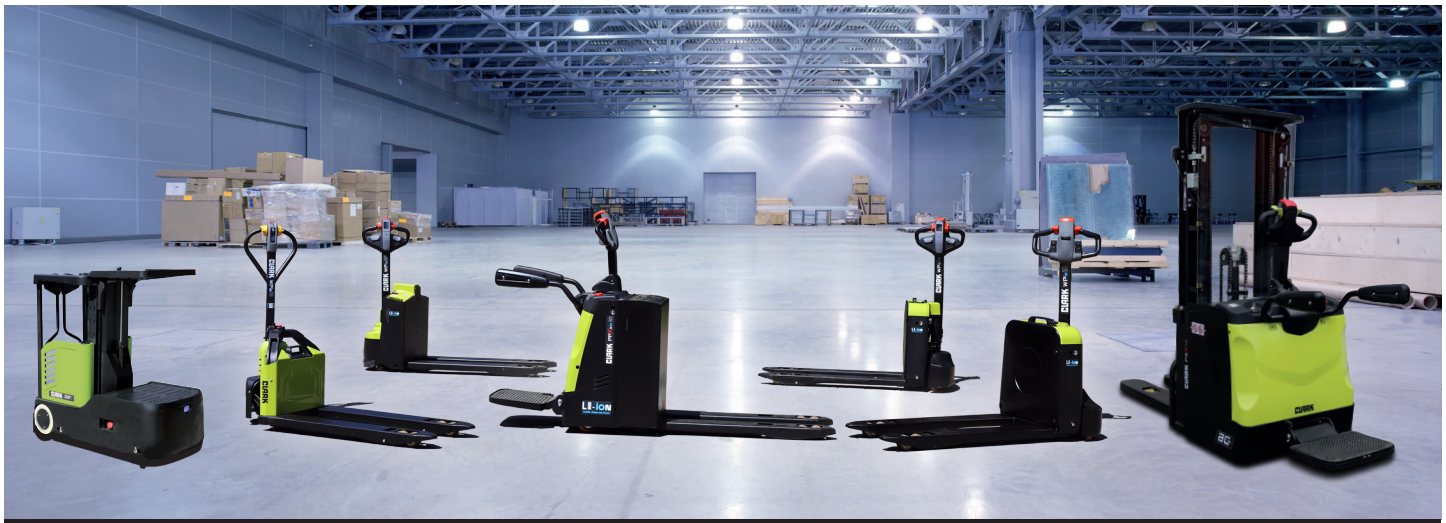
CLARK forklift truck with Li-Ion power. Powerful electric forklift trucks with extensive additional equipment and modern Li-Ion technology.

The CLARK three-wheel and four-wheel electric forklifts in the 48 volt segment are available with extensive additional equipment and a modern Li-Ion battery. The vehicles can be individually adapted to a wide range of operating conditions.

A wide range of optional equipment is available, such as different cabs, mini-levers or mechanical levers, attachments as well as additional safety options.



CLARK storage technology with Li-Ion power. Exactly the right vehicle for your application.

Clark offers you a wide range of low lift trucks with Li-Ion battery. In addition, both high lift trucks and multi-function order pickers with Li-ion batteries are available for you to choose from, so that you can use the advantages of lithium-ion technology in a wide range of applications.

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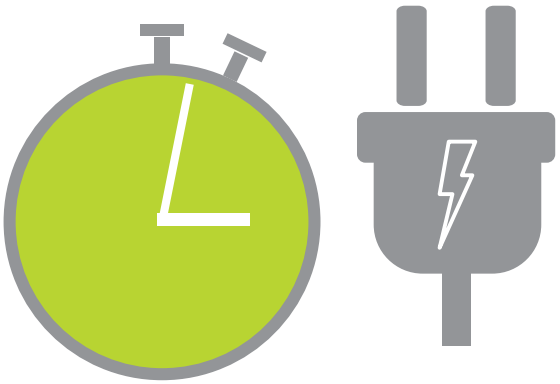
HIGHLIGHTS

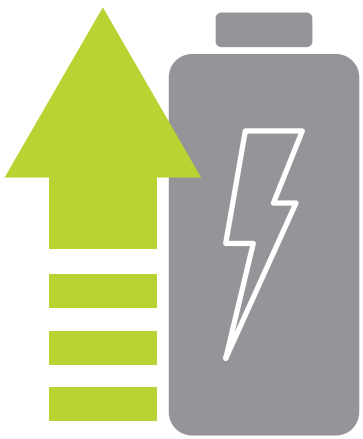
Maintenance costs

The lithium-ion battery, unlike the lead-acid battery, is maintenance-free. No refilling of water, no cleaning or checking of the acid level is necessary. Whereas with lead-acid batteries there is always the risk of injury from leaking battery acid and gases or crushing due to improper procedures when changing the battery, this danger does not exist when using Li-ion batteries.

Opportunity charges

The Li-Ion battery can be charged temporarily without any problems, for example during breaks, without any loss of capacity or damage to the battery. After a short time, 50 % of the charge level is available again. Lead-acid batteries lose part of their capacity when not in use, during opportunity charging or when charging is interrupted. The complete charging process is finished after approx. 2 hours for counterbalance trucks with a Li-ion battery. This takes considerably longer for vehicles with a lead-acid battery.





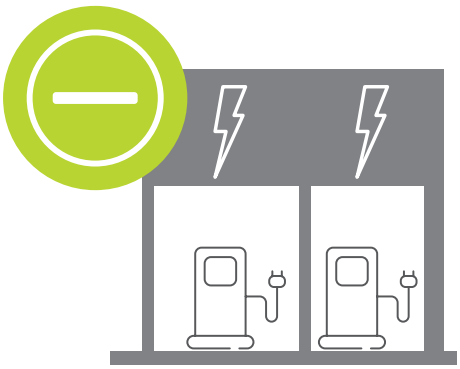
More power

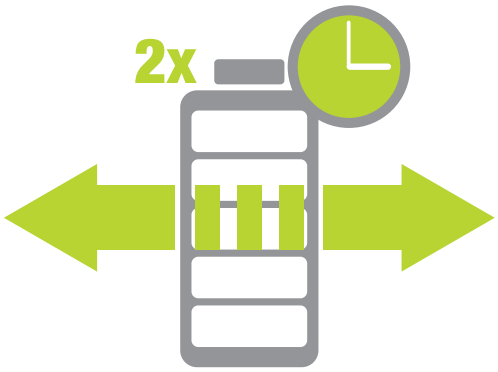
With Li-Ion technology, the energy yield is very high. 90 to 95 % of the energy drawn from the charger is actually absorbed by the battery. This high efficiency is not the only advantage: Li-ion batteries also have no “fatigue”.

While lead-acid batteries deliver less power from approx. 40 % discharge, so that the vehicles slow down, the full power is available at all times with the Li-Ion battery. For you, this means a clear gain in efficiency and thus higher productivity in your logistical processes.

Decentralised charging points

In contrast to the lead-acid battery, the Li-Ion battery makes very few demands on the infrastructure: The battery can be charged decentrally. The operator does not need complex charging stations, as no gassing occurs during charging. He thus gains valuable storage space.





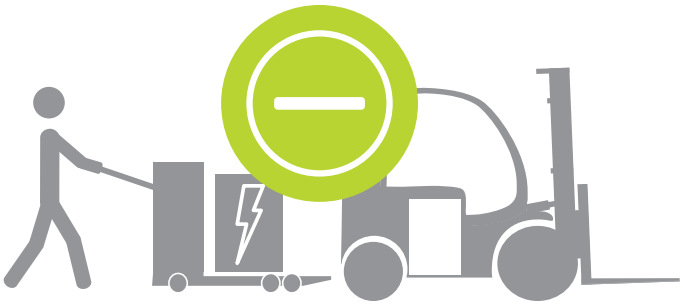
Double life span

With up to 2500 charging cycles, the service life of the Li-Ion battery in counterbalance trucks is at least twice as long, and depending on the application even many times longer, than that of a lead-acid battery.
The environment also benefits from this: after the guaranteed service life, the end of life of the Li-Ion battery is far from being reached. Around 75 % of the original storage volume is still available, so that the battery can be used for up to 10 years or longer, depending on the application.

No battery change necessary

Thanks to the opportunity charging capability and easy recharging of the battery at the charging station, there is no need to change the battery even in multi-shift use.

This not only enables flexible use of the vehicle around the clock, but also means a significant physical relief for the operator and the elimination of further infrastructure that would be necessary for battery replacement.



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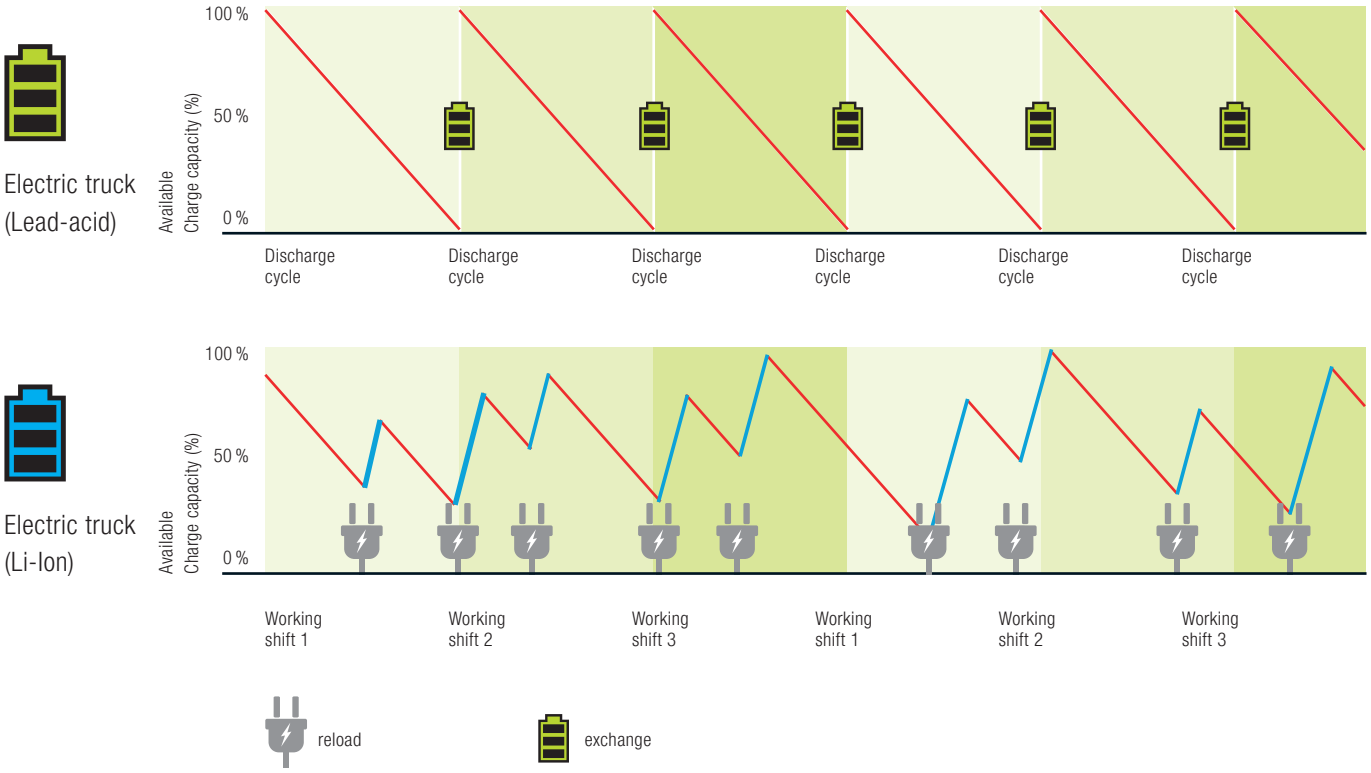

Reloading processes in comparison: Lithium-ion battery versus lead-acid battery

By changing the recharging behaviour of vehicles with Li-Ion batteries, you significantly and substantially reduce the effort around the battery!

Thanks to the high energy efficiency of the Li-Ion battery, which is guaranteed by perfect energy management, you can use your industrial trucks continuously and at the same time, save the effort required for example for a battery change. As shown in the illustration above for a multi-shift operation, charging processes can take place during short breaks in use.

In contrast to the lead-acid battery, which needs 8 to 10 hours for a charging process, with Li-Ion technology and the possibility of flexible quick and opportunity charging, you can avoid battery changes and thus downtimes. The advantage of Li-Ion technology: a lot of energy is absorbed in a short time. That means 60 minutes of recharging produces a good 100 minutes or more of use.

When several vehicles are used, short intermediate stops can also be staggered so that one vehicle is always available and ready for use. During the night, all vehicles can be fully charged as usual and are available at the beginning of the shift, charged and ready for operation - without time-consuming water refilling or further maintenance work around the battery.

Especially customers with intensive applications benefit from the flexible charging strategy of the Li-Ion battery. For operations in multi-shift operation in distribution and industry or also in the food, beverage and pharmaceutical industries, where clean operation is essential, CLARK electric forklifts with Li-Ion battery are an indispensable component to increase the efficiency of your operation.

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CLARK lithium-ion chargers for Counterbalance truck

The chargers supplied by CLARK have an extremely stable housing construction with wall bracket for easy mounting. An LED display informs the operator about the battery's charge status. The connection to the charger is made via a charging cable, which is within easy reach on the vehicle battery

Intelligent Battery Management System (BMS)

The battery management system present in the CLARK Li-Ion batteries communicates with the vehicle and the charger via a CAN bus interface. It informs the operator via display about the state of charge and the remaining runtime. In addition, the intelligent BMS ensures that the Li-Ion battery is neither deep discharged nor overcharged, thus contributing to a long battery life and efficient use of the industrial truck.

Lithium iron phosphate technology (LiFePO4)

The CLARK batteries are based on the safe lithium iron phosphate technology (LiFePO4). With LiFePO4 batteries, no oxygen is released during the chemical reaction within the cells. This means that there is no risk of spontaneous combustion or explosion of the battery. The battery is therefore very safe.

Vehicles with a lithium iron phosphate battery also perform efficiently in winter at low ambient temperatures and in summer. The service life of the Li-Ion battery is at least twice as long as the service life of the lead acid battery, with up to 2500 charging cycles, and depending on the use, even many times longer. And even after that, the battery can still be used for 10+ years for further uses

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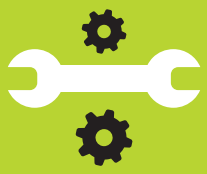
GLOBAL PRESENCE

CLARK products are in operation all around the world.



RELIABLE SPARE PARTS SERVICE

Over 120,000 items in our Duisburg Spare Parts Centre in Germany.

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COMPREHENSIVE DEALER NETWORK

Over 550 sales & distribution partners in more than 90 countries ensure a high level of availability of our products and services.

EXCELLENT QUALITY

CLARK is the forerunner in high-quality standards and innovative product developments.

ONE PURPOSE · ONE BRAND · ONE LEGACY · ONE CENTURY · CLARK

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