trak® Xchange

Battery changeover systems for charging stations

Motive Power Systems
Reserve Power Systems
Special Power Systems
Service

Your benefits with HOPPECKE trak® Xchange

- **Customer's tailor-made solutions**
- **High time and costs savings**
- **Safety** – Adherence to technical and safety laws as well as labour protection
- **Optimal space utilisation** – space saving systems
- **Modular and flexible system components** suitable for all vehicle types
- **Manual and automatic powered changing system** for all requirements

Typical applications of HOPPECKE trak® Xchange

- Centralised and decentralised battery charging stations
- All size of battery and truck fleet
- All vehicle types
- All traction batteries

HOPPECKE
POWER FROM INNOVATION

trak® Xchange

Battery changeover systems for charging stations

Battery-powered electrical vehicles, used by industry in shift operation, must be re-supplied with power, quickly and reliably, on completion of their period of duty.

This is usually done in several ways and may in certain circumstances take place several times a day. Either the vehicle is connected to a charger, so that it is out of use for charging during many hours, or else the heavy batteries have to be changed using a crane, a manual changeover truck or fully-automatic powered battery changeover equipment.

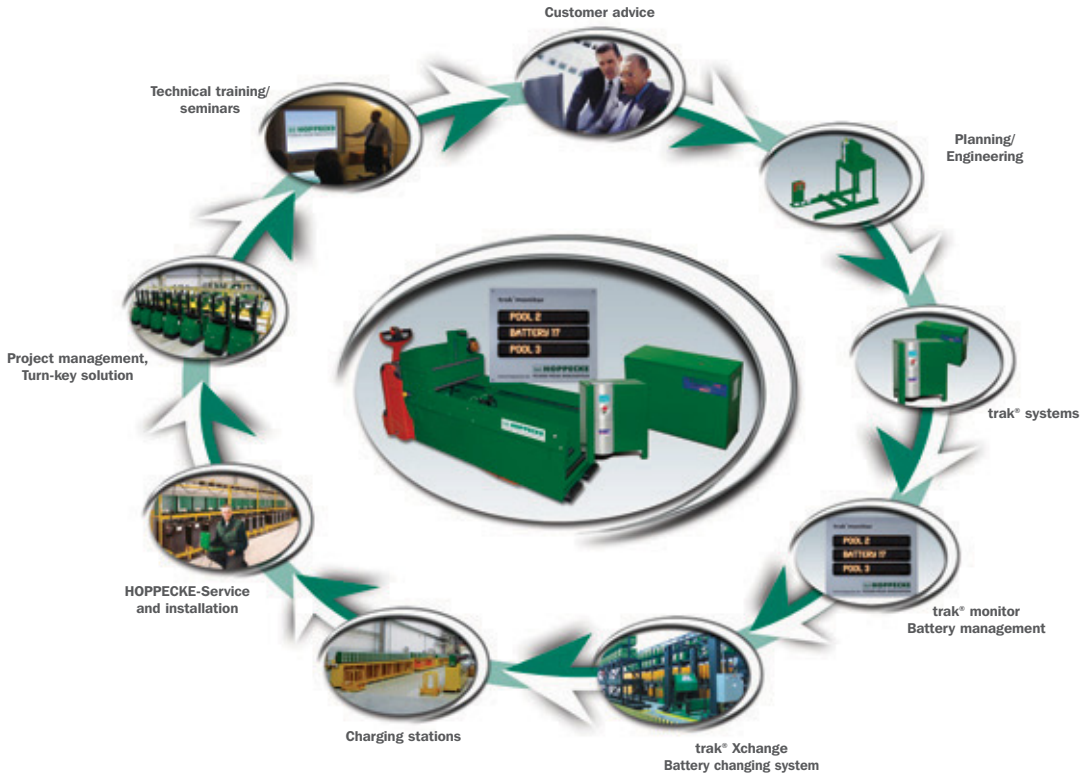
The competent and professional team of the HOPPECKE system division designs, plans and installs battery charging stations and battery changing systems. They always give consideration to supplying the most efficient use of available space, customers' requirements and safety.

HOPPECKE offers 4 options. All options are designed to suit customers' needs and to save time and money. The design of a system is dependant on the numbers of batteries in operation, on the battery dimensions and the truck types in use.

- Transfer Trolley Systems – trak® Xchange TU
- Manual Changing Unit – trak® Xchange MU
- Powered Changing Unit – trak® Xchange PU
- Fully-Automatic Powered changeover equipment – trak® Xchange FU

HOPPECKE's battery changeover systems are ideally suited to remove the dangerous and time-consuming battery changeover at charging stations. They offer quick, safe and effortless battery changing.

The HOPPECKE System Strategy



trak® Xchange TU

trak® Xchange TU - Transfer Trolley System

The trak® Xchange TU and TU-HA system are suitable for 12V and 24V batteries and have been specially designed for powered pallet trucks and low level order pickers with roller bed extraction. With the aid of a height indicator the trak® Xchange TU-HA offers adjustable heights to accommodate differing roll off heights in a single system.

The trolleys are fitted with a double roller bed removing the need to have a spare battery slot and aiding quick battery changing. A locking device ensures safe transit of the battery. trak® Xchange TU and TU-HA incorporate a system to overcome tyre wear offering height and tilt adjustment.

■ Number of batteries in operation:
- Without limitation

■ Applications:
- Light-duty operation
- Normal operation

■ Duration of a complete battery change:
- Less than 2 minutes

■ Physical effort:
- Low

■ Battery types:
- Suitable for 12V and 24V batteries

■ Truck types:
- Suitable for powered pallet trucks and low level order pickers with roller bed extraction

■ Required area:
- Used in centralised battery changing area offering area reduction

Locking device for safe transit

Roller bed extraction

trak® Xchange MU

The trak® Xchange MU system is appropriate to users with up to 10 batteries in operation and suitable for batteries up to 750 kg when used with a hand pallet truck or up to 2,500 kg when used with a powered pallet truck.

Both truck types offer adjustable lifting which makes the system suitable for all kind of trucks equipped with roller bed extraction. The manual changing unit incorporates gearing which minimises the physical efforts when moving and replacing batteries. A locking device also ensures safe transit of the battery.

Number of batteries in operation:
- Suitable for users with up to 10 batteries

Applications:
- Light-duty operation
- Normal operation

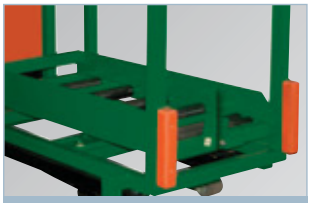
Duration of a complete battery change:
- About 6 minutes

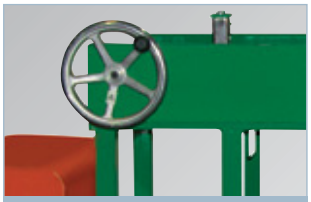
Physical effort:
- Low

Battery types:
- Suitable for batteries up to 750 kg or 2,500 kg depending upon the chosen host truck

Truck types:
- Suitable for all kinds of trucks with roller bed extraction (powered lift adjustment)

Required area:
- Used in decentralised battery changing area


Roller bed extraction


Gear wheel

trak® Xchange PU

The trak® Xchange PU system is appropriate to users with 10 to 20 batteries in operation and for batteries up to 2,500 kg.

The attachment is mounted to a powered pallet truck with adjustable lifting which makes the system suitable for all kinds of trucks equipped with roller bed extraction. The magnetic or vacuum extraction head provides reliable, powerful and consistent battery attachment during the complete battery changing. The vacuum option allows operation with plastic or plastic coated batteries. A locking device ensures safe transit of the battery.

■ Number of batteries in operation:
- Suitable for users with 10 to 20 batteries

■ Applications:
- Light-duty operation
- Normal operation
- Heavy-duty operation

■ Duration of a complete battery change:
- About 5 minutes

■ Physical effort:
- None

■ Battery types:
- Suitable for batteries up to 2,500 kg

■ Truck types:
- Suitable for all kinds of trucks with roller bed extraction (powered lift adjustment)

■ Required area:
- Used in centralised or decentralised battery changing area


Locking device for safe transit


Powered system

trak® monitor

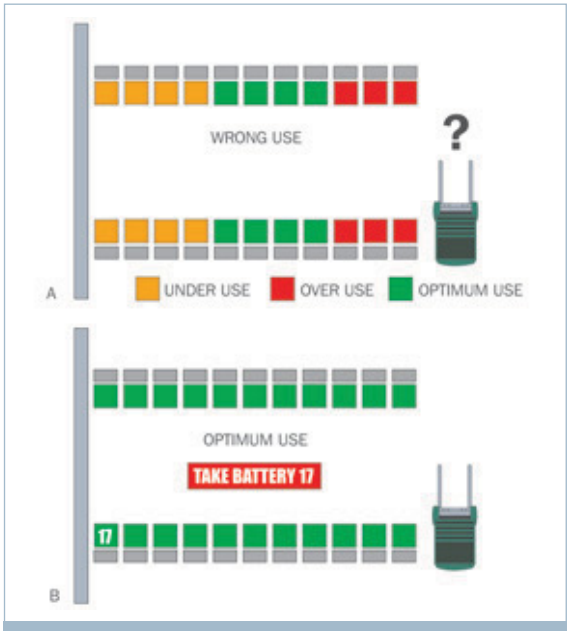
Longer life for traction batteries

trak® monitor is an automatic charging and display system developed specifically for charging rooms.

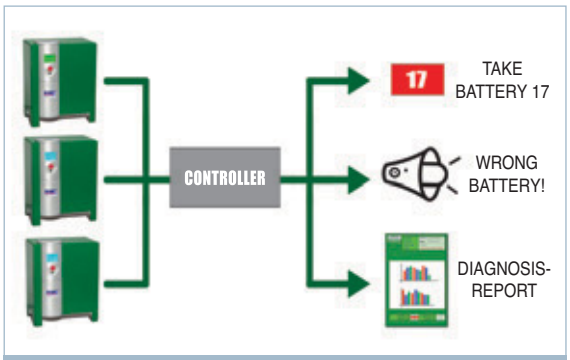
The trak® monitor display is linked directly to the charger and shows the charging point number of the first battery to be used. The next batteries to be used are placed in an electronic queue so when the indicated battery has been removed, the display switches to the next fully charged battery. The vehicle operator is immediately able to see which battery he needs to take and place on his vehicle for the battery changeover, ensuring that the battery will be fully charged. An audible warning system alerts the operator if an incorrect battery is taken.

This procedure leads to systemised utilisation of the traction batteries and to maximise battery life which can offer considerable savings in cost.

Further benefits from trak® monitor result in the avoidance of over or under use of batteries. This offers a major reduction in the time and cost of battery maintenance associated with the over and under use of batteries.



A: Battery usage without trak® monitor
B: trak® monitor directs driver to take right battery every time



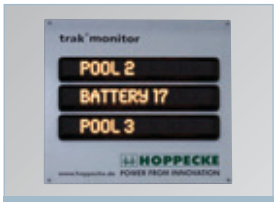
Audible warning when wrong battery is selected

Higher productivity is also obtained through the even and optimal capacity utilisation of the traction battery. trak® monitor ensures that capacity levels are maintained at their optimum, therefore visits to the charging station are less frequent.

By using an industrial serial standard interface and a real-time clock, it is possible to turn trak® monitor into a highly sophisticated maintenance tool.

By connecting a PC, easy access to stored data is obtained via graphic user interface. Analysis of the data gives a clear picture of battery utilisation, charging times and waiting times (battery charged but not in use). Misuse such as removal of batteries on charge or out of sequence can also be investigated, so that the necessary action may be taken.

By linking stored data from the trak® monitor system with data from the trak® power chargers themselves, a comprehensive and effective management tool is obtained.



trak® monitor LED version

trak® monitor LCD version

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Reserve Power Systems

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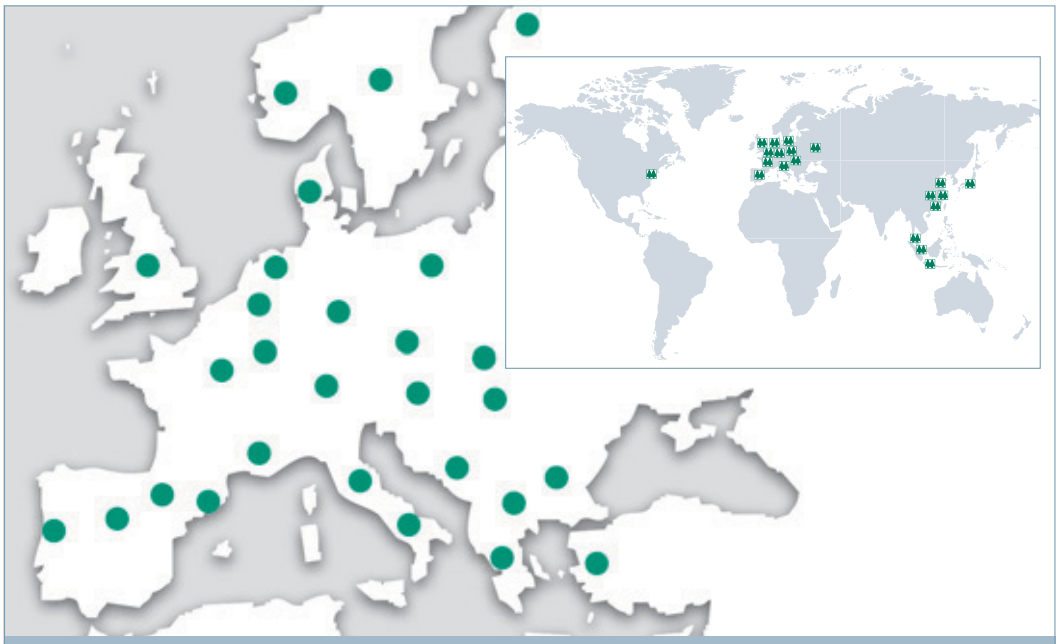
Service



HOPPECKE subsidiaries and factories - European sales and service network

Industrial batteries - Complete energy systems - Full Service

- Low-maintenance and no-maintenance batteries
- Innovative battery chargers based on the latest technology
- Battery accessories
- Battery management systems and software
- Battery changeover systems
- Battery/charger servicing
- Battery recycling
- Applications engineering and technology
- Battery room design
- Technical training and seminars
- Leasing
- Power by the hour

Your partner for sustainable energy solutions!

Further information on www.hoppecke.com

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