



trak | charger HF giant

The large appliance series available with rapid charge or multi charge technology



The future starts now ...

You are looking at the results of 90 years' work. 90 years of passion for innovative solutions for mobile power supplies – 90 years of German engineering skill and the aim of never being satisfied with what we have already achieved.

This is only possible thanks to the employees, who continuously support us along this path. Together with our business partners, we have continued to push the limits forwards and ensure that the impossibilities of yesterday have now become a jointly achieved reality.

Only through our partnership with you, we are able to create the perfect symbiosis of economically optimised solutions and state-of-the-art technological products.

With our structure of nearly 2000 employees at more than 20 locations around the world, we are always close to you and keep our finger on the pulse of pioneering innovations.

Flexibility in the design of your projects and extremely reliable products are our every day aims. With highly available local service we have ensured a thorough understanding of your special challenges for decades.

If you expect more than just a product but a competent partner who is always at your side, HOPPECKE is the right choice for you.



Need to charge quickly?

Up to 95% state of charge in just 2.5 hours.



Specially made for:

- ▶ Heavy-duty or normal operation
- ▶ Single or multi-shift operation
- ▶ Agricultural and construction machinery
- ▶ Special vehicles

When time is money ...

The **trak | charger HF giant** – the bulk charger with rapid charge technology

Modern electric intralogistics requires flexible and reliable charging technology. Only efficient and sustainable charging of the powerful traction batteries can guarantee the highest profitability.

With the new trak | charger HF giant, HOPPECKE offers an investment-friendly solution that has been specially developed for heavy-duty operation. In daily single or multi-shift operation, electric industrial forklifts are often affected by long operating and short charging times. Industrial forklifts that have to move bulky goods weighing several tonnes every day are usually equipped with accordingly powerful and therefore large batteries.

To ensure that they are ready for use again as quickly as possible, the trak | charger HF giant is available with rapid charge. Its quick charge function allows up to 95% of the original state of charge to be restored within 2.5 hours. Thus, the quick intermediate charges can be optimally integrated into your processes and are done, for example, during break times and shift changes. You do not lose time for long charging or even changing batteries during the "real work" and can thus make more efficient use of working hours.

The advantages

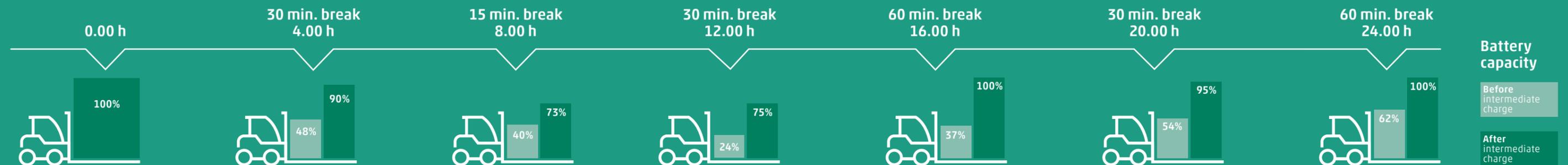
trak | charger HF giant with rapid charge technology

- ▶ Time-optimised charging of large batteries
- ▶ Compact installation possible in the smallest of spaces
- ▶ Special cooling system to protect the components from dust and dirt
- ▶ Automatic transition to recharge mode at the end of charge to compensate for self-discharge
- ▶ Intelligent safety shutdown in the event of battery faults
- ▶ Highest possible operational safety compared to standard chargers due to redundant switching of the power output stages



Capacity course

during a 24-hour operation with opportunity charging during break times





Need to charge simultaneously?

Up to 8 charging bays on minimal space

More space

The **trak | charger HF** giant – the bulk charger with multi charge technology

Deploying larger fleets in electric intralogistics requires a high degree of flexibility to ensure smooth operations. Efficient and space-saving charging of the traction batteries is a crucial factor in this application.

The ideal choice for:

- ▶ Large forklift fleets
- ▶ Limited space for the charging station
- ▶ Single or multi-shift operation
- ▶ Industrial trucks / pallet trucks
- ▶ Electric commercial vehicles

The new **trak | charger HF** giant from HOPPECKE offers more than other chargers. Eight times more, to be precise. The multi charge technology combines up to eight independent HF charging modules in a robust and modularly expandable housing. This means that even with limited space in the battery charging room, you have the option of charging different batteries with different voltages (24 V to 80 V) and capacities (64 Ah to 1550 Ah) simultaneously with just one device - this reduces operating costs and simplifies your processes at the same time.

The large touchscreen display shows the charging status of the unit at any time in different colours. This allows you to identify the current status of the unit and the charge directly and at a glance. If something unexpected should occur during charging, HOPPECKE offers the fastest pre-emptive shutdown available on the market, thus ensuring greater work safety and smooth operation.

The **trak | charger HF** giant in the multi charger version with up to 8 charging points.

The advantages

trak | charger HF giant with multi charge technology

- ▶ Simultaneous charging of up to 8 batteries with different voltage / capacity
- ▶ Compact installation possible in the smallest of spaces
- ▶ Automatic recharging of batteries independent of their depth of discharge
- ▶ Special cooling system to protect the components from dust and dirt
- ▶ Intelligent safety shutdown in the event of battery faults
- ▶ Highest possible operational safety compared to standard chargers due to redundant switching of the power output stages



Your benefit with HOPPECKE high frequency technology

The **trak | charger HF** series

First class overall efficiency

In a system with our batteries and controlled by our monitoring systems, you can achieve energy savings of up to 30% in comparison with conventional solutions.

Precise and plannable charging times through power conversion independent of the mains voltage

Thanks to the automatic grid compensation of the high frequency technology, your batteries have a controlled charging characteristic, which enables precise charging times.

A secure investment for the future

Gentle and optimal charging of lead-acid batteries with different voltages and capacities.

Lower operating costs

The high quality reactive current compensation as standard and the high efficiency of over 93% ensure a considerable reduction of your energy consumption. Energy savings for each charging cycle of approx. 14% in comparison with conventional 50 Hz chargers can be achieved.

Easy and economical integration

Quick and easy commissioning avoids large and cost-intensive electrical installations.

Higher vehicle availability

Your batteries can be charged to 95% of their original state of charge within 2.5 hours to ensure greater availability of your vehicles.

Higher operational safety

Due to the parallel power output stages, vehicles can still be charged, even if a module fails.

Great versatility

Accessory components and options can be retrofitted or enabled at any time. Therefore the system can grow with your requirements, without interrupting operations.

Greater transparency thanks to lifetime documentation

Thanks to the large data memory, the entire service life of the battery charging system can be fully tracked – for simple and paperless evaluation.



NEW

trak | charger HF giant

Perfect in every detail

Compact and modular

Thanks to its linear design and maximum power density, the trak | charger HF giant is particularly space-saving and compact to install. It is the ideal solution for saving a lot of space when planning new construction.

The trak | charger HF giant's modular design allows for immediate adaption to changing operating conditions, such as faster and flexible charging or higher safety requirements due to redundancy. Its special internal configuration ensures charging functionality even in the event of a module failure.

Operation is done via intuitive touchscreen control, which displays all functions in a visually appealing and concise design. The 360° display provides a quick overview of the readiness and availability of your charging station - even from a distance.

A rolling side panel allows for quick and easy expansion of the trak | charger HF giant with optional accessories, such as the battery controller trak | collect, the management system trak | monitor or the electrolyte circulation system trak | air.

Rolling panel
For easy accessory attachment (also retrofitted) and maintenance

- trak | air** **Accessory**
- ▶ Reduces charging time by up to 2.5 hours
 - ▶ Reduces energy and maintenance costs by up to 30%
 - ▶ 75% less water consumption
 - ▶ Greater life expectancy of the batteries by avoiding under- and overcharging

Accessory



Flexible retrofitting at any time, even during operation!

- trak | collect**
- ▶ Intelligent battery controller for lead-acid traction batteries
 - ▶ Measures battery condition in real time for increased operational safety and productivity
 - ▶ For comprehensive analysis and early troubleshooting
 - ▶ For planning and efficient control of logistical processes

Accessory



- trak | monitor**
- ▶ Collects all power and consumption data on a central computer
 - ▶ For optimal control of battery changing
 - ▶ Avoids unnecessary charging
 - ▶ Maximum transparency for decisions based on real-time data



- Touchscreen control**
- ▶ Intuitive operation and menu navigation
 - ▶ All relevant data on the condition of the charger, parameterisation, runtime analyses as well as customer data
 - ▶ Country-specific and metric settings
 - ▶ All data can be stored on external media via download function



- Dual-chamber cooling system**
- ▶ Additional casing of the electronic components for more efficient cooling
 - ▶ Improved protection of sensitive components against aerosols and conductive dusts
 - ▶ Highly effective lacquer coating of the circuit boards for increased operational reliability
 - ▶ Modern control electronics and new power output stages for extra energy-saving operation



High performance for heavy duty applications

The **trak | uplift quadro** – custom-made for the most demanding applications

Electrically transporting heavy loads, driving fast, and lifting – the electric drive is moving more and more into areas that were previously reserved for combustion engines. For such power-intensive tasks, however, a conventional PzS traction battery can quickly reach its limits. The trak | uplift quadro is specially tailored to the requirements and challenges of high-tonnage vehicles, high-current applications as well as applications with dynamic load profiles.

With the trak | uplift quadro, logistical processes can run smoothly and operating costs can be reduced. The trak | uplift quadro is more energy-efficient and requires 7% less energy for each charging process than a conventional lead-acid battery - thus ensuring a reduction in power consumption. Furthermore, the trak | uplift quadro can be charged much faster, requiring at least 12% less time for a full charge. The result: batteries are available more quickly.

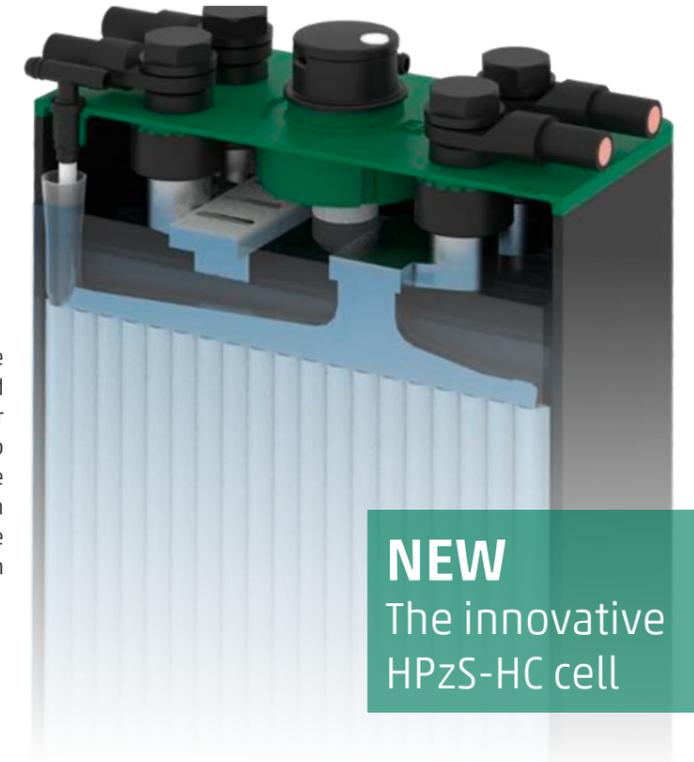
In addition, due to its lower electrical resistance, the trak | uplift quadro generates approx. 8% less heat under high load than a classic PzS battery. Because the temperature of a battery plays a major role in its service life and availability, the service life of the trak | uplift quadro increases thanks to the lower heat generation. In addition, heat generation is reduced by the high voltage level of the battery and the resulting low currents, which reduces the load on the electrical components in the vehicle.

Compared to a classic lead-acid traction battery, this new generation of batteries ensures trouble-free logistical processes in heavy-duty applications.



Innovative cell design for demanding challenges

Thanks to the innovative cell design, the trak | uplift quadro has the property of maintaining high voltages and providing the required battery capacity while simultaneously delivering high currents. For the user, this means longer driving times for their vehicles, as up to 75% more usable capacity is available, and in many cases, there are even fewer battery changes. As a result, you benefit from both a better return on investment and a reduction in the maintenance effort and costs of your industrial trucks. Logistics managers win twice with the trak | uplift quadro!



NEW
The innovative
HPzS-HC cell

Perfect partners Systematic energy solutions

The combination of trak | charger HF giant and trak | uplift quadro offers you a system solution that is specifically tailored to your requirements. Accelerated processes can ensure the highest possible economic efficiency in value-adding activities.

Our HF bulk chargers and high-current traction batteries guarantee maximum system and energy availability. In doing so, we ensure a cost-efficient solution as well as compliance with all legal standards and regulations.



The advantages at a glance

- ▶ Up to 75% longer driving times - thanks to high voltage levels in heavy-duty operation.
- ▶ Lower energy costs - thanks to approx. 7% more energy efficiency
- ▶ Longer service life - thanks to less heat build-up
- ▶ Universally applicable - thanks to dimensions and weight according to IEC and charger compatibility

Specially designed for:

- ▶ Industrial trucks
- ▶ Special vehicles
- ▶ Agricultural machinery
- ▶ Construction machinery

Thanks to the modularity and flexibility of our system components, we can help you reduce your investment, maintenance and energy costs and optimise your fleet.

You are a fleet operator and would like to use the existing space of your charging station as efficiently as possible or expand it? You already operate a heavy-duty fleet with combustion engines and would like to switch to electric operation? Contact us. We will take care of the assessment and planning and will be happy to advise you. Of course, we also handle the complete installation, maintenance and repair. HOPPECKE system solutions offer the right application for every need. From batteries to chargers and monitoring systems to our comprehensive services - everything is perfectly matched.

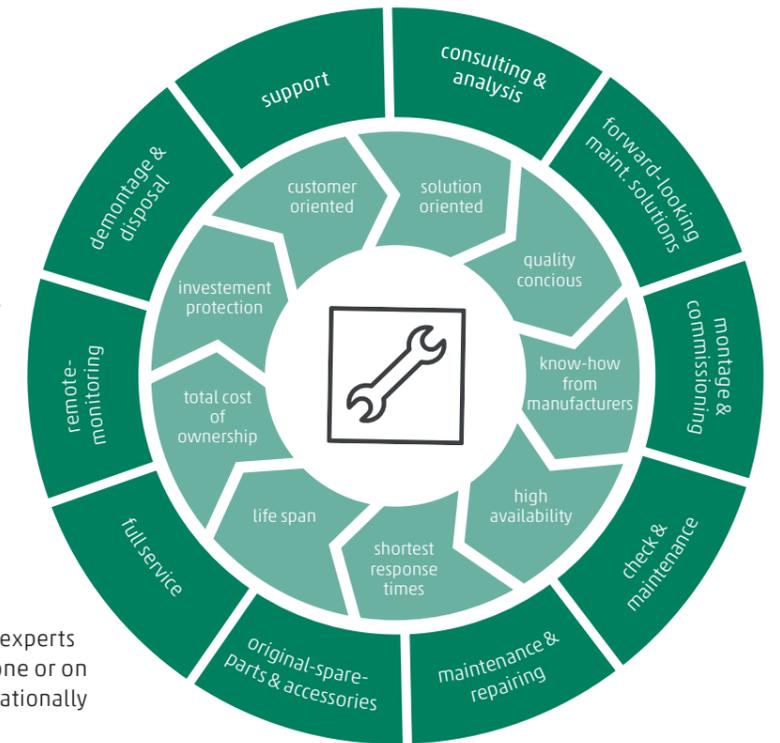


The system solution for optimal performance



Our service makes the difference

Under the heading "Lifecycle Services" we offer you far more than just products. From the initial idea, to consultation, installation and ongoing service up to disassembly and recycling, you have HOPPECKE professionals at your side, who make processes simple and transparent and ensure the smooth operation of your company in every situation.



Hotline and technical support

Extensive European service network with more than 250 experts at 15 locations, who are always available - by telephone or on site. International Key Account Management for internationally operating partners.

Analysis and advice

Technological and application advice on site. Process, optimisation, safety and efficiency analyses by certified HOPPECKE professionals. Target group oriented instruction and training for every application.

Monitoring

By linking your systems to the HOPPECKE Remote Service Portal, you integrate our technicians directly into your system environment. In this way, your systems are optimally monitored; HOPPECKE professionals respond proactively to any abnormalities and remedy these immediately.

Installation and commissioning, disassembly and recycling

Our installation teams are professionals in their field and not only ensure simple installation and maintenance according to schedule, but also provide complete turnkey solutions. I. e. complete installation, acceptance and handover to you.

And of course, when the time comes, proper and legally compliant disassembly, including recycling and documentation (certified according to ISO 9001/2008, ISO 14001 and ISO 50001).

Testing, maintenance and repair

With regular servicing, you extend the service life, reduce down times and ensure permanent functional safety. This ensures smooth operation, compliance with all legal regulations and protects your investment.



HOPPECKE Batterien GmbH & Co. KG
Bontkirchener Str. 1
59929 Brilon
Tel.: +49 (0) 2963 61-475
Fax: +49 (0) 2963 61-270
E-Mail: motivepower@hoppecke.com

