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ISO45001

ISO045001:2018

ISO14001

ISO014001:2015

ISO9001

ISO09001:2015

HANGCHA trucks conform to the European Safety Requirements.

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LI-ION TECHNOLOGY

INNOVATIVE **LITHIUM-ION**

HANGCHA

X SERIES

PALLET STACKER WITH INITIAL LIFT

with capacity of 1,200 to 1,600kg

Making Material Handling Easier

X SERIES
PALLET STACKER

X series pallet stackers with initial lift are a new generation of products newly developed by Hangcha for warehousing and logistics applications. Using the advanced permanent magnet brushless drive technology and equipped with a new 48V system, the products have advanced performance, comfortable, safe and reliable operations and low use and maintenance costs, and are ideal tools for loading, unloading and handling palletized goods in warehouses, supermarkets, workshops.

REVOLUTIONARY PERFORMANCE

48V VOLTAGE WITH PERMANENT MAGNET SYNCHRONOUS DRIVE MOTOR

- The electric steering feature enables easier and more flexible operation (Stand-on/Rider model).
- The permanent magnet synchronous drive system has excellent performance and low energy consumption. The 48V power supply system has less heat generated.
- With the VCU control, the truck can be controlled accurately, stably and more efficiently.

Regenerative brake and slope anti-slide function are offered by this truck.

RUGGED ON THE OUTSIDE

The X series pallet stacker with initial lift adopts a professional industrial design of exterior and a series family design. The truck has a smooth vivid profile and a fully ergonomic design, following the latest exterior design trend.

Made of high-strength steel plates that are molded by stamping, the truck exterior is robust, durable and high-grade, and meets environmental protection requirements.

With high power drive motor, provides fast travel speed and good gradeability.

Pedestrian type	
6.0 km/h	8.0 %
Travel speed(laden)	Gradeability(1.2/1.4t laden)

Stand-on type	
9.0 km/h	10 %
Travel speed(laden)	Gradeability(1.2/1.4t laden)

COMFORTABLE EXPERIENCE

- Optimized designing structure can offer a good visibility and easy entrance of the pallet.
- The compact body and big rounded design provide an ideal operation in limited space, and the wedge designed chassis greatly increases the passing ability.
- Customer can choose different width of outside fork and length of forks to fit variable pallet.

RELIABILITY

- With the 4-piovt and low center of gravity design and a high-strength steel frame structure, the frame has a large residual load capacity.
- The lifting cylinders of the arm have been optimized for design, ensuring stability and reliability, with reduced stress and increased durability.
- Using non-contact proximity switch, it can provides long life and reliable operation.
- H-type mast profile section to provide more stable and rigid performance.
- This truck features a newly designed drive system, where the drive motor does not rotate with the steering tiller during turning, thus preventing the cables connected to the drive motor from easily breaking due to bending.

The proportional lifting/lowering speed regulation system enables more stable and accurate operation.

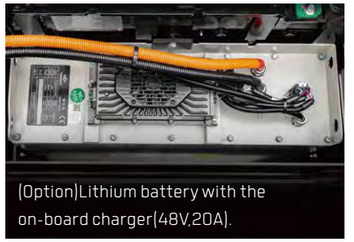
- Newly developed tiller is compact and stylish.

- Displayed turtle speed function applied to move slowly and helps to stack goods in narrow spaces.

- The hydraulic power unit applied to provide low noise, low vibration, smooth lifting and landing reliable operation.
- The battery is reliably fixed and the battery cover is support by soft materials, so that the vibration and noise generated during the operation of the vehicle are reduced.

The power plug is fixed on the truck body to avoid damage from battery installment.

The stamped fork with higher strength and impact resistance, and guided fork prongs, further improve operation efficiency.



(Option)Lithium battery with the on-board charger(48V,20A).

Water-proof plugs and connectors applied to provide a reliable protection to electric system.

For the stand-on model, a function of stopping lifting when the lifting height reaches the limit of 1.8m and resuming the lifting after the guardrails are retracted is provided to facilitate personnel to escape when high position goods fall.

SAFETY

- Turning speed is automatically reduced when steering (Stand-on/Rider model).
- With three braking types: releasing brake, reversing brake and emergency brake, the driving safety has been ensured.
- The applied slope anti-slip function ensures the safety of the operation.

The emergency button on the tiller head can effectively avoid the harm to the driver.

Foot detection sensor - trucks slows down or stops if operator's foot is detected outside of the platform contours (Rider model option).

Travel speed will be automatically reduced after fork lifting 500mm.

- The lifting buffering function can ensure the safety of the truck when the fork is lifted to the top.
- It has an intelligent soft landing that automatically slows down the lowering speed when the fork is less than 100mm above the ground, effectively protecting cargo safety. (Available for duplex mast)

The truck with assembly overhead guard can protect the driver's safety in case of high-position cargo falling. (Rider Model)

MAINTENANCE

- Permanent magnet synchronous motor need no maintenance.
- The fault information can be checked directly via the interactive instruments instead of the manual.
- Rear cover can be completely open, operator can see all the components, so the maintenance is very convenient.
- All shafts installed lubricated shaft sleeve and oil cup, provide convenient maintenance and long service life.

LI-ION TECHNOLOGY

HANGCHA provides Li-ion battery (LiFePO4) with 6 years or 12000 hours warranty.

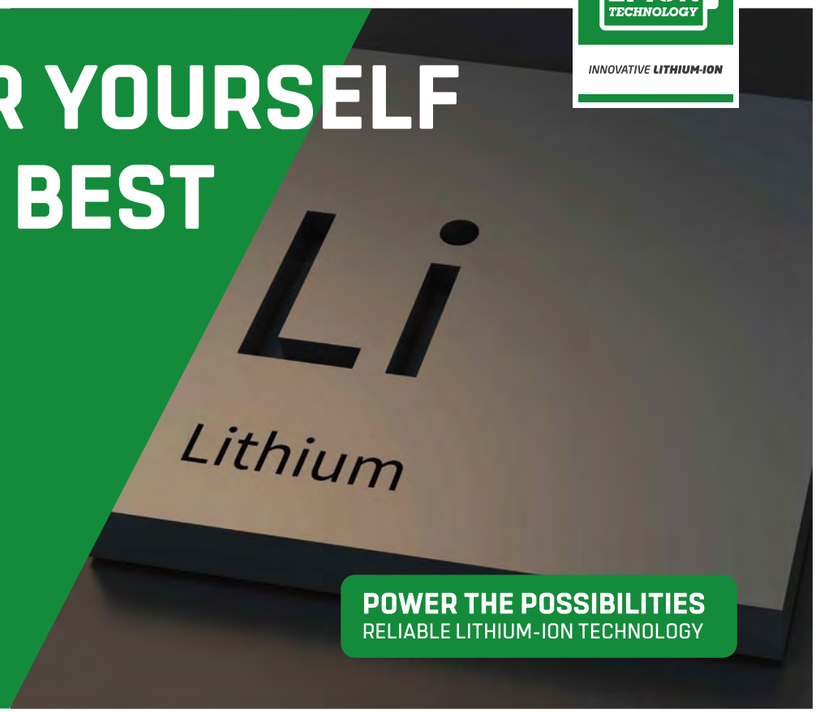
6 YEARS WARRANTY

LITHIUM POWERED

LI-ION TECHNOLOGY

INNOVATIVE LITHIUM-ION

EMPOWER YOURSELF WITH THE BEST



V48 LITHIUM ION

POWER THE POSSIBILITIES
RELIABLE LITHIUM-ION TECHNOLOGY

LITHIUM BATTERY ADVANTAGES

Long service life
4000 full charging cycles with at least 75% residual capacity.

Return on investment
Add flexibility to your operation,cost-saving in the long term, increased efficiencies.

Maintenance free
No topping up of water or checking acid levels.

High energy density
The high energy density of the Li-Ion battery ensures long working times and increases the high availability.

Cold area application
Li-Ion batteries maintain high performance at temperatures below freezing.

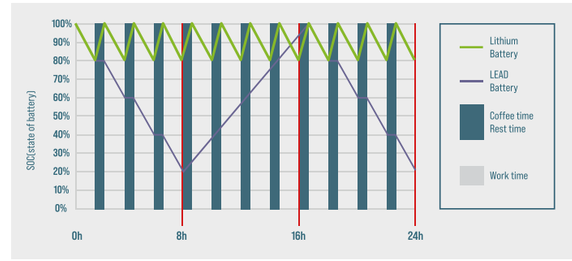
High safety and reliability
Intelligent battery management monitoring every important function, no emission of battery gasses.

Opportunity charging
Full performance during several shifts thanks to effective interim charging.

FEATURES & BENEFITS
THE HANGCHA DIFFERENCE

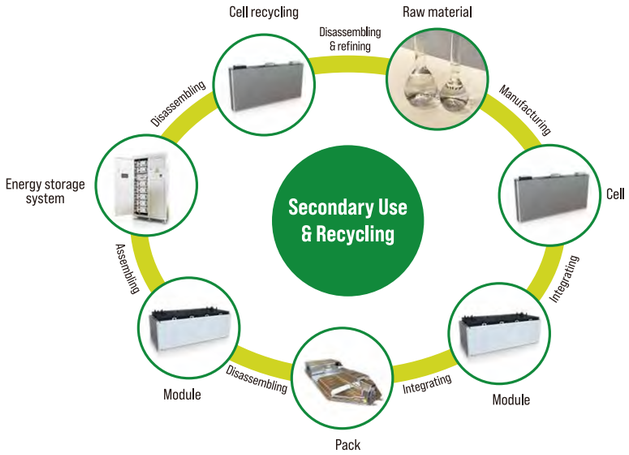
Efficiency

By quick opportunity charging any downtime, such as a lunch break, can be efficiently used and the battery is recharged in a very short period of time. Interim charging does not affect the battery service life.



Safety

/ Intelligent battery management monitoring every important function.
/ Higher user safety, thanks to acid-free use.
/ User friendly due to avoided battery change.
/ No emission of battery gasses.



QUESTION 1

Q: What are the characteristics of lithium batteries, especially when used in high and low temperature environments?

Charging temperature:	-30℃-65℃
Discharge temperature:	-30℃-65℃
Storage environment temperature:	-30℃-65℃

After the truck key switch is closed, the instrument battery condition needs to be checked:
1. Confirm that there is no battery system alarm message on the instrument panel.
2. Please check the remaining power before use. It is recommended to use the SOC between 50% and 100%.
3. If the SOC is lower than 20%, it is not recommended to continue using it. Please charge it as soon as possible.

QUESTION 2

Q: What is the charging time and usage time calculation of forklift lithium battery?

1. Available power of lithium battery (kWh) = rated voltage × rated power × 90% (To avoid over-discharge damaging the battery, the forklift is equipped with low power protection (less than 10%)).
2. Charging time (h) = rated capacity of lithium battery (Ah) × 90% ÷ charger output current (A).
3. The power consumed for charging (kWh) = the available power of the lithium battery ÷ 93% (the charging efficiency of the charger is calculated as 93%).
4. Usage time (h) = available power of lithium battery ÷ energy consumption data.

For specific energy consumption values, please refer to the technical table on the sharing platform.

QUESTION 3

Q: How does Hangcha BMS work to ensure the safety of the lithium battery?

HANGCHA BMS (battery management system) can monitor the cells at all times. As a result, hangcha lithium power is the reliable solution.

Battery Safety Management:
Overcharge/over discharge protection
Overcurrent/over-temperature/low- temperature protection
Multi-level fault diagnosis protection
Double fault monitoring

Battery Parameter Detection:
Battery voltage detection and analysis
Battery current detection and analysis
Battery temperature detection and analysis

Equilibrium Management:
Equalization based on voltage mode
Equalization based on time mode
Equalization based on battery cell SOC
Active/passive equalization optional

Other Features:
Low cost,low power consumption
Historical data record
Flexible cascade expansion
CRC data validation

Features

Truck	Standard	Options
48V permanent magnet synchronous drive motor	●	
Hydraulic power unit	●	
PU wheel	●	
1150mm fork length	●	
570mm outside fork width	●	
Wheel arms lifting limitation	●	
Lifting damping system	●	
Multi-function tiller	●	
48V/80Ah lithium battery(EVE)	●	
Additional wheels	●	
Dual load wheels	●	
USB power supply	●	
Fork lift & lower adopts stepless speed regulating	●	
Different length of forks		○
Different width of outside fork		○
Key switch		○
48V/105Ah lithium battery (EVE)		○
48V/125Ah lithium battery (CATL)		○
Load backrest		○
Lithium battery(48V/80Ah,EVE) with the on-board charger(48V,20A)		○
Lithium battery(48V/105Ah,EVE) with the on-board charger(48V,20A)		○
Controls and instruments		
Electric steering (Stand-on and Rider model)	●	
Systech controller	●	
Interactive meter	●	
Non contact interlock switch	●	
Safety		
Emergency disconnect switch	●	
Horn	●	
PIN code access	●	
Turning deceleration(Stand-on and Rider model)	●	
Mast protection		○