## **Features**

Truck	Standard	Options
48V permanent magnet synchronous drive motor	•	
Hydraulic power unit	•	
PU drive wheel	•	
1150mm fork length	•	
570mm outside fork width	•	
_ifting height limit: 1.8m	•	
Soft landing	•	
48V/80Ah lithium battery(EVE)	•	
Balance wheels	•	
Double load wheels	•	
Fork lift & lower adopts stepless speed regulating	•	
Different length of forks		0
Different width of outside fork		0
Different mast lifting heights		0
48V/105Ah lithium battery (EVE)		0
48V/125Ah lithium battery (CATL)		0
Load backrest		0
Controls and instruments		
nteractive meter	•	
Multi-function tiller	•	
PIN code access	•	
JSB power supply	•	
Key switch		0
Electric steering(stand-on type)	•	
Systech controller	•	
Safety		
Emergency disconnect switch	•	
Turning deceleration(stand-on type)	•	
Mast protection		0
Horn	•	
Other		
48V3OA charger		0
48V50A charger		0



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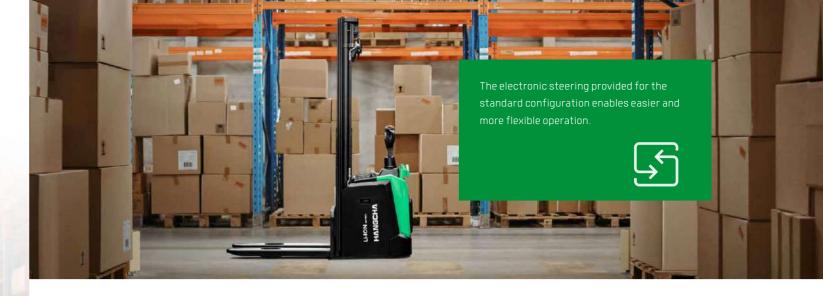


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# X SERIES HI-RANGE **ELECTRIC STACKER**

X series Hi-Range Electric stackers 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







## **HIGH PERFORMANCE**

- With high power drive motor, provides fast travel speed and good gradeability.
- 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 vehicle can be controlled accurately, stably and more efficiently.



Pedestrian type



8.0 % Gradeability (laden)[1.6t]





210 % Gradeability (laden)(1.6t)



The X series Hi-Range Electric stackers adopts a professional industrial design of exterior and a series family design. The vehicle 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 vehicle exterior is robust, durable and high-grade, and meets environmental protection requirements.





## SIMPLE OPERATION

The proportional descending speed regulation system provided for the standard configuration enables more stable and accurate operation.

System Stepless lifting and descending speed regulation is provided for the standard configuration, to and spillage more precise fork control and more stable goods lifting and descending



# **ENJOY YOUR** WORK.

- Optimized designing structure to 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.





The standing driving pedal with shock-absorbing design significantly improves standing driving comfort and reduces long-time driving fatigue.



Customer can choose different width of outside fork and length of forks to fit variable pallet.

## **NEW TILLER**

With the novelly developed compact and stylish tiller, all operations can be completed with one hand.



PIN code access

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



## **MAINTENANCE**

- Maintenance-free permanent magnet synchronous motor.
- 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 convenientmaintenance and long service life





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# **MORE PROTECT**

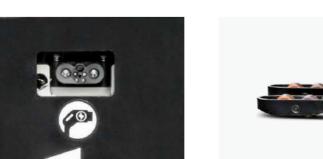
- With the four-point low center of gravity design and a high-strength steel frame structure, the vehicle frame has a large residual load capacity and a long service life.
- Using non-contact proximity switch, it can provides long life and reliable operation .
- H-type mast profile section to provide more stable and rigid
- 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.



Pedestrian type use the new design drive system, the drive motor will not accompany the tiller rotation, it can keep all the cable connect to the drive motor avoid being bent.



With a low noise and low vibration hydraulic power unit to enable stable and reliable lifting and descending.



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



Punch-formed forks to provide more strength and tip guide to provide higher effcient operation.



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



# **ADVANCED SAFETY FEATURES**



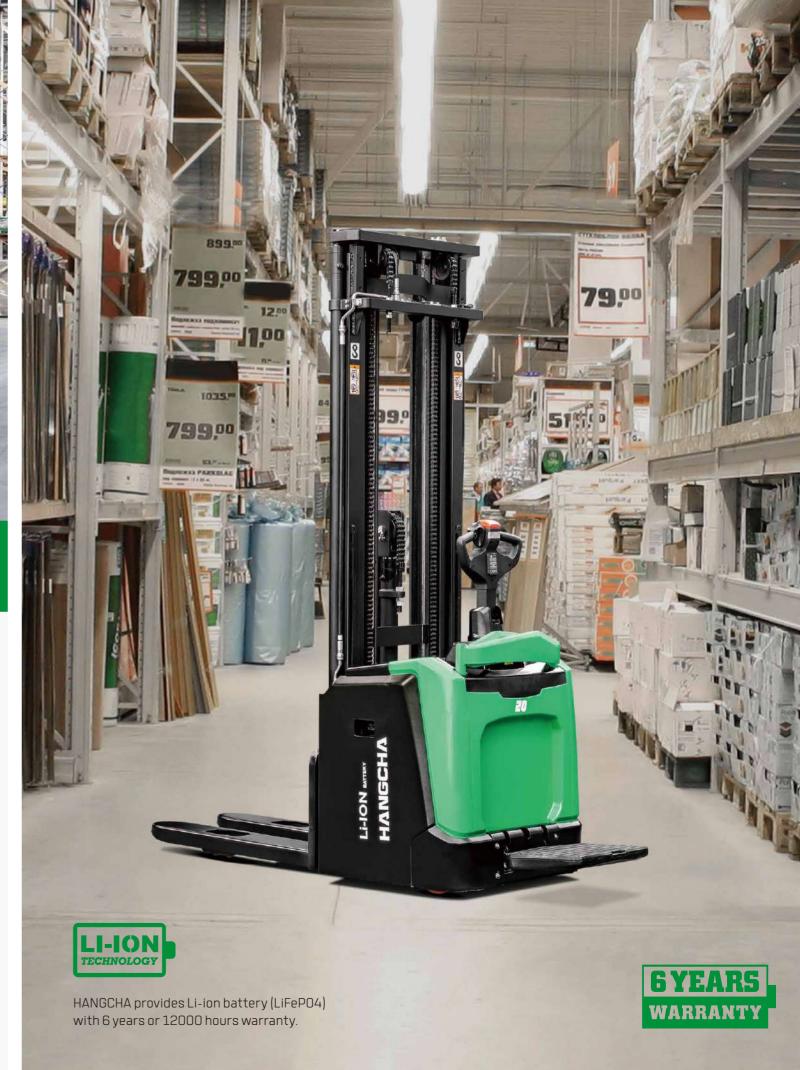




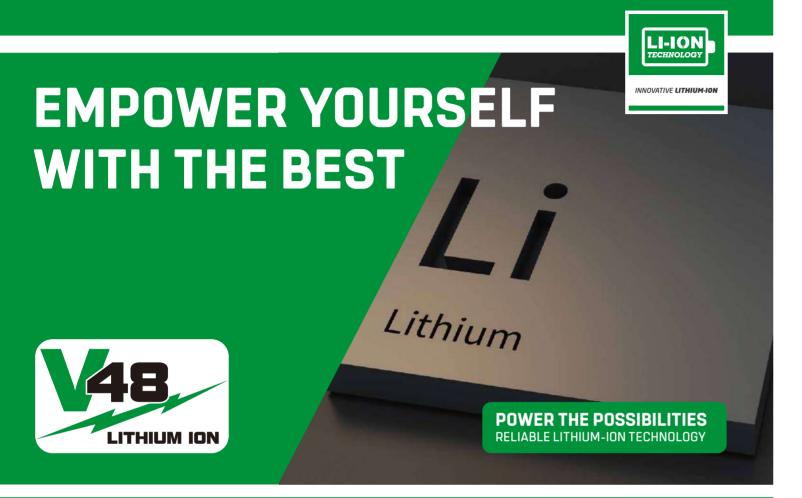




- Travel speed will be automatically reduced after fork lifting 500mm.
- Turning speed is automatically reduced when steering only for stand-on.
- A lifting soft landing is provided for the standard configuration so as to ensure the safety of the vehicle when the fork is lifted to the top.
- 4 It has 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.
- For the standard configuration, 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.



# LITHIUM POWERED



## LITHIUM BATTERY ADVANTAGES



## Long service life

4000 full charging cycles with at least 80% 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.



The high energy density of the Li-lon battery ensures long



## Cold area application



Intelligent battery management monitoring every important



## Opportunity charging

Full performance during several shifts thanks to effective interim charging.



## High energy density

working times and increases the high availability.



Li-lon batteries maintain high performance at temperatures

## High safety and reliability

function, no emission of battery gasses.

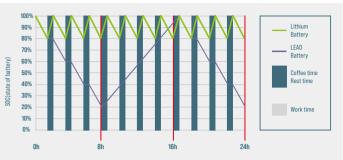




**FEATURES & BENEFITS** 

# **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.

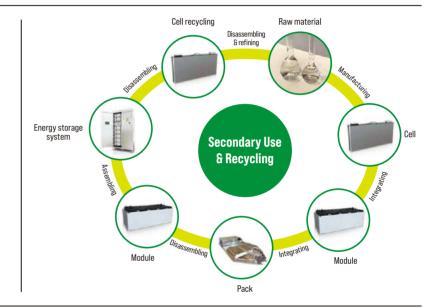


# Safety

/ 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.





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

0°C -65°C Charging temperature Discharge temperature -30°C -65°C -30°C -60°C

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.



## 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.



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

HANGCHA BMS (battery management system) can monitors the cells at all time. 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 CRC data validation