

Features

	Standard	Options
Truck		
48V permanent magnet synchronous motor	●	
Key switch	●	
Polyurethane traction wheels	●	
Rubber loading wheels	●	
Side charging	●	
Shock absorbing pedal	●	
Multi-layer pedal mat	●	
USB Power Supply	●	
Speed reduction on turning	●	
Battery side out	●	
Battery lifting out	●	
Adjustable backrest	●	
Multi-function steering wheel	●	
Adjustable steering wheel position	●	
Non-detachable hook device	●	
Password lock + Swap card		○
Reflective panel		○
Multi-function bracket		○
Bumper		○
Spare power outlet		○
Rearview mirror		○
Various tow coupling heights		○
Rubber traction wheels		○
600mm width [only available for 3t model]		○
48V125Ah CATL lithium battery		○
48V105Ah EVE lithium battery		○
48V30A, 48V50A charger		○
Controls and instruments		
EPS (Electric Power Steering) system	●	
Systech controller	●	
Multi-function color instrument panel	●	
Inching switch	●	
Safety		
Emergency power-off switch	●	
Horn	●	
Electromagnetic brake	●	
Fire extinguisher		○
Voice reverse beep alarm		○
Lights		
Front combination headlights (Headlights + Turn signals)	●	
Warning light		○
Combination tail lights		○
Blue light		○

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X SERIES

ELECTRIC TOW TRACTOR

With capacity of 3,000 to 5,000kg

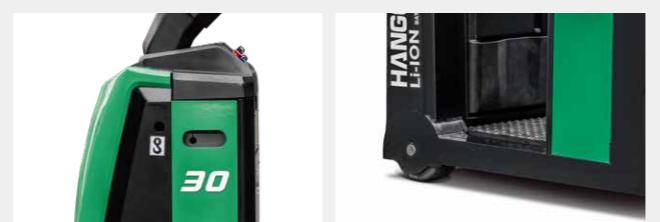
X SERIES ELECTRIC TOW TRACTOR

The X Series electric tow tractor is a new generation of products developed by Hangcha specifically for warehouse logistics applications. It adopts advanced permanent magnet synchronous drive technology and a new 48V system, offering advanced performance, comfortable operation, safety and reliability, and low cost of use and maintenance; it is an ideal tool for fields such as automobile manufacturing and logistics transportation.



APPEARANCE

- The X Series electric tow tractor features a professional exterior design with a family and series-oriented consideration. The whole truck has smooth lines and is dynamic.
- It fully considers ergonomics and conforms to the latest design trends.



TOTAL COMFORT

The pedal adopts a floating shock absorption design, greatly improving the comfort of standing and riding, and reducing fatigue from long-term driving.



The newly developed multifunctional steering wheel is more in line with the driving habits of the tractor; the steering wheel can be infinitely adjusted (height + angle) to suit different operators.



The backrest can be adjusted in height, offering high comfort.



- It has a cup holder, USB interface, tool box, and space for document placement.
- Optional combination tail lights can meet the needs of different working conditions.

MAINTENANCE

- The permanent magnet synchronous motor requires no maintenance.
- The optimized design of the driving wheel and loading wheel assembly makes it easy to replace the wheels.
- The multifunctional interactive instrument can directly view fault information.



The hood can be fully opened, and the components are clear at a glance, making the maintenance of the truck very convenient.



REVOLUTIONARY PERFORMANCE

- Standard EPS(Electric Power Steering) makes the control lighter and more flexible, and the steering angle can automatically return to the neutral position, making operation more convenient.
- Equipped with a **48V permanent magnet synchronous drive system**, it has excellent performance and low energy consumption.



The battery is standard with side charging, which is convenient and fast; the battery can be lifted and removed from the side, making replacement convenient.



Standard non-detachable tow coupling device, which improves the operation efficiency of the truck.



48V
VOLTAGE
WITH
PERMANENT MAGNET
SYNCHRONOUS DRIVE MOTOR



Equipped with a multifunctional instrument that offers various modes for users to choose from in different working conditions; it can display various working status parameters.

Standard high-power driving motor, with high traveling speed and strong traction performance.

9.0 km/h
Travel speed (laden)(3.0t)
 4 %
Gradeability (laden)

RUGGED ON THE OUTSIDE

- The design of high-strength frame structure can meet various working conditions and has a long service life.
- Waterproof connectors are used, and all wires and cables are reliably protected, greatly improving the reliability of the electrical system.
- It adopts a three-point chassis design, equipped with a side support system, which is safe and reliable.
- The integrated metal cover can resist external impacts.

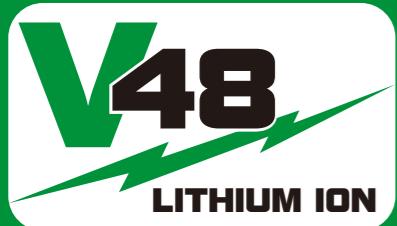


HANGCHA provides Li-ion battery (LiFePO4) with 6 years or 12000 hours warranty.

**6 YEARS
WARRANTY**

LITHIUM POWERED

EMPOWER YOURSELF
WITH THE BEST



Li
Lithium

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.



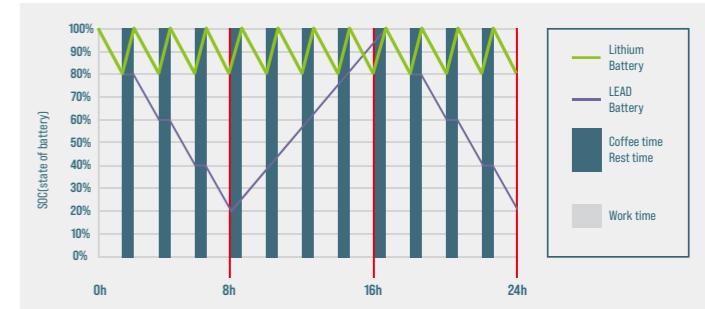
Opportunity charging

Full performance during several shifts thanks to effective interim charging.

FEATURES & BENEFITS THE HANGCHA DIFFERENCE

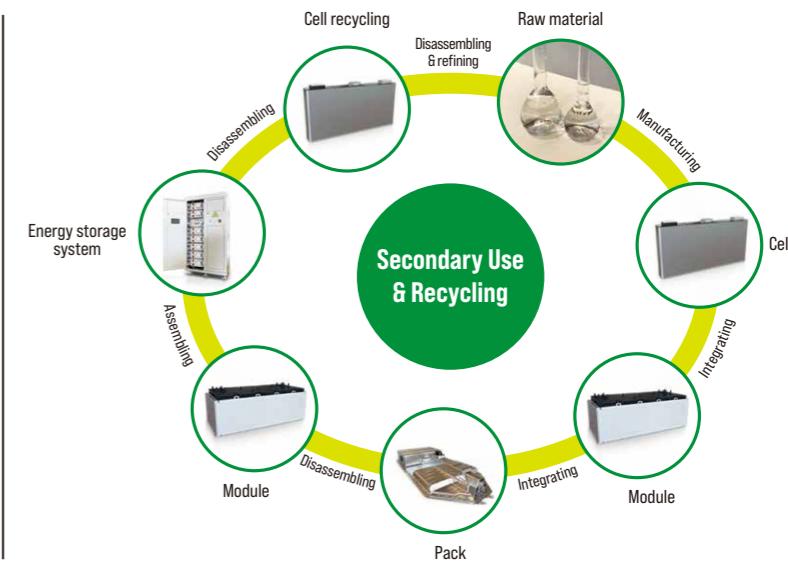
Efficiency

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°C - 65°C

Discharge temperature: -30°C - 65°C

Storage environment temperature: -30°C - 65°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.

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