

Features

Truck	Standard	Options
48V permanent magnet synchronous motor	●	
Key switch	●	
Polyurethane traction wheels	●	
Rubber loading wheels	●	
Side charging	●	
Shock absorbing pedal	●	
Multi-layer pedal mat	●	
USB socket	●	
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

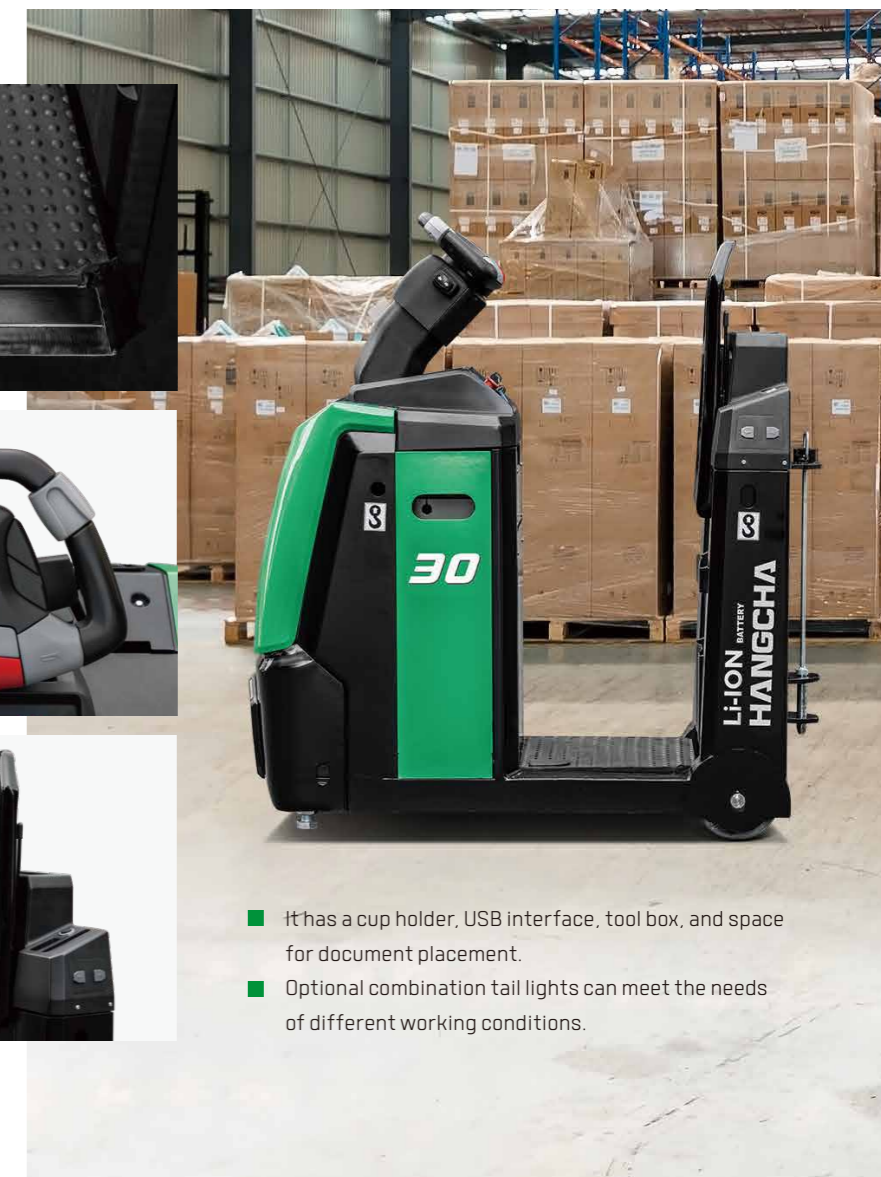
The pedal adopts a floating shock absorption design, greatly improving the comfort of standing and riding, and reducing fatigue from long-term driving.



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.

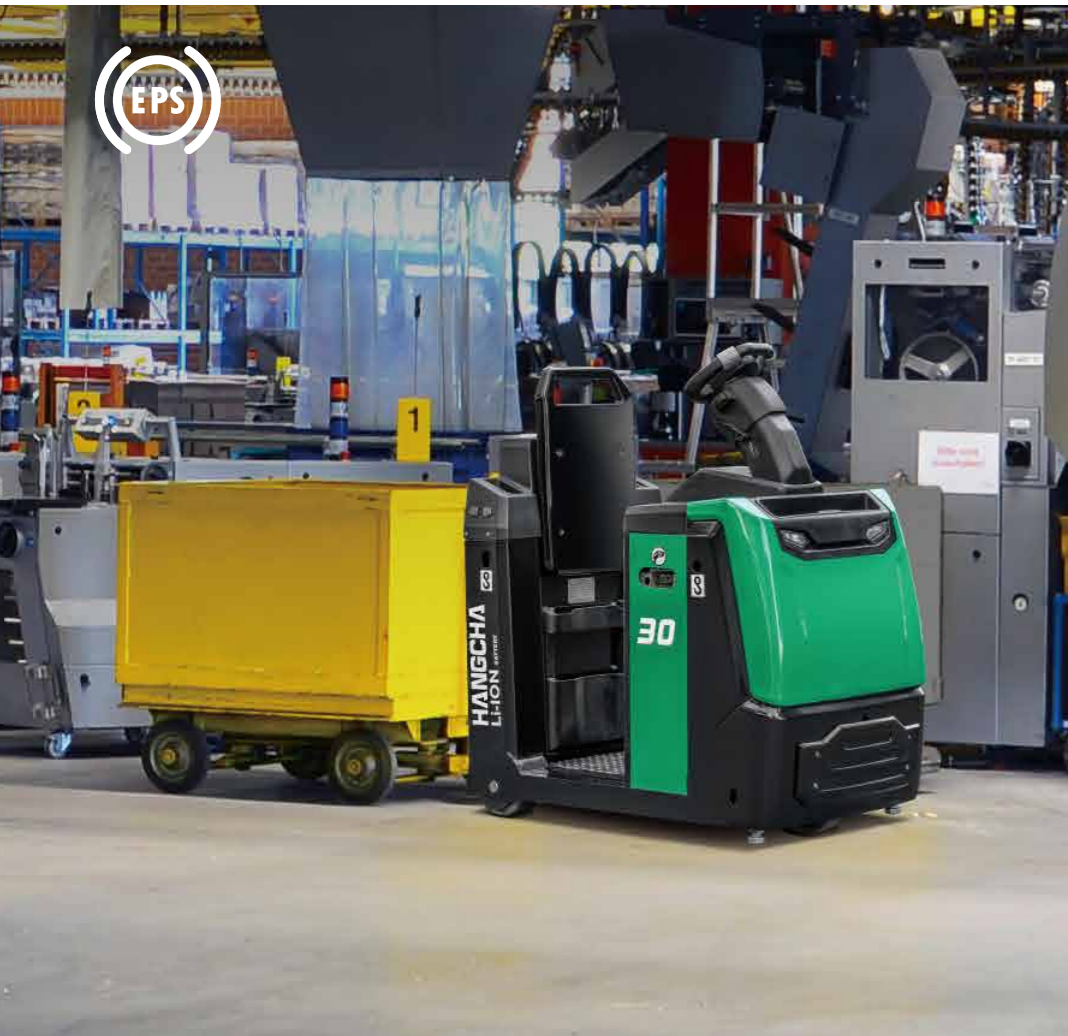
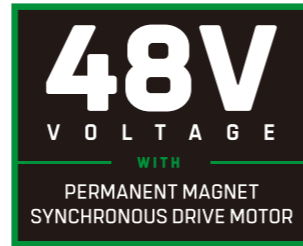


The hood can be fully opened, and the components are clear at a glance, making the maintenance of the truck very convenient.



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.



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)



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.



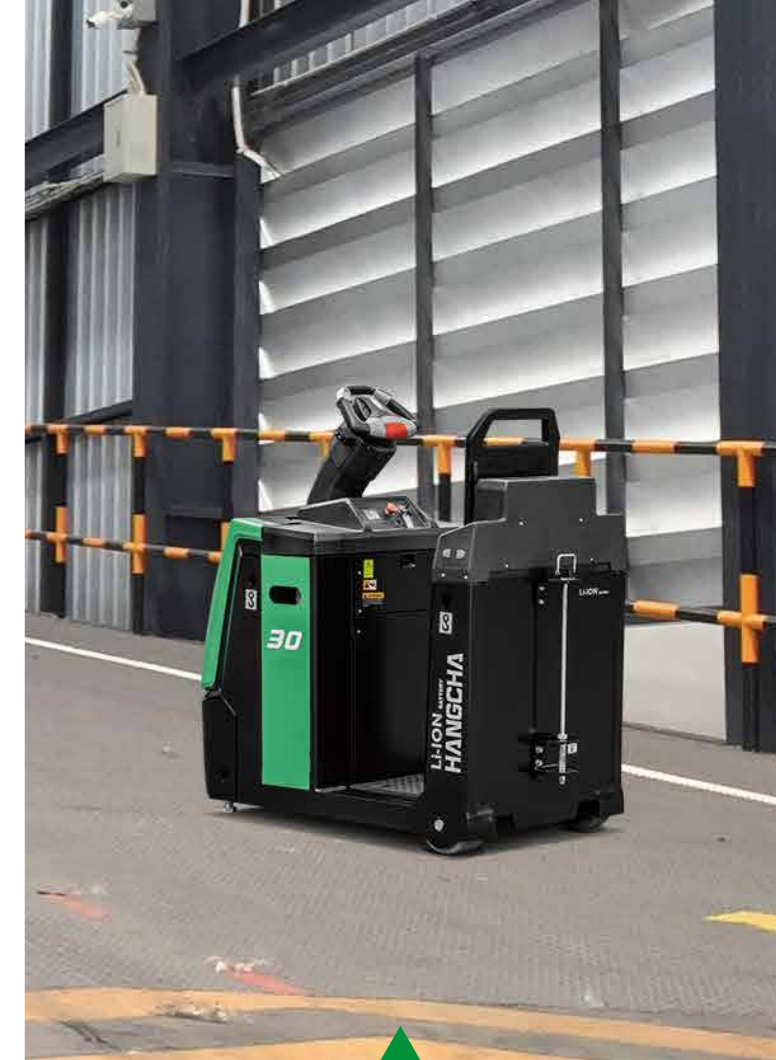
RUGGED ON THE OUTSIDE

- 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.



SAFETY

- It has release braking, reverse braking, and emergency braking functions to ensure driving safety.
- Standard cornering deceleration improves driving safety.
- It has a pedal safety switch to effectively prevent misoperation.



It has a anti-slip function to ensure operation safety.



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



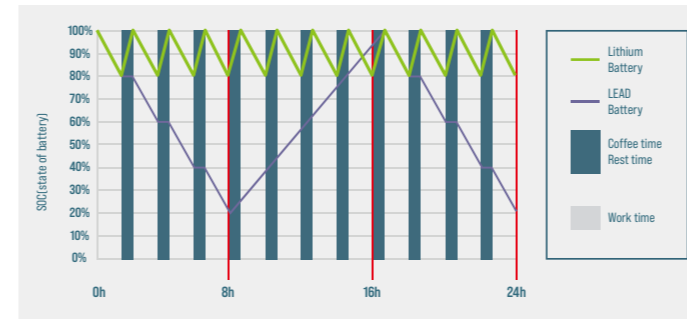
LITHIUM BATTERY ADVANTAGES

- Long service life**
4000 full charging cycles with at least 80% residual capacity.
- Cold area application**
Li-Ion batteries maintain high performance at temperatures below freezing.
- Return on investment**
Add flexibility to your operation, cost-saving in the long term, increased efficiencies.
- High safety and reliability**
Intelligent battery management monitoring every important function, no emission of battery gasses.
- Maintenance free**
No topping up of water or checking acid levels.
- Opportunity charging**
Full performance during several shifts thanks to effective interim charging.
- High energy density**
The high energy density of the Li-Ion battery ensures long working times and increases the high availability.

FEATURES & BENEFITS THE HANGCHA DIFFERENCE

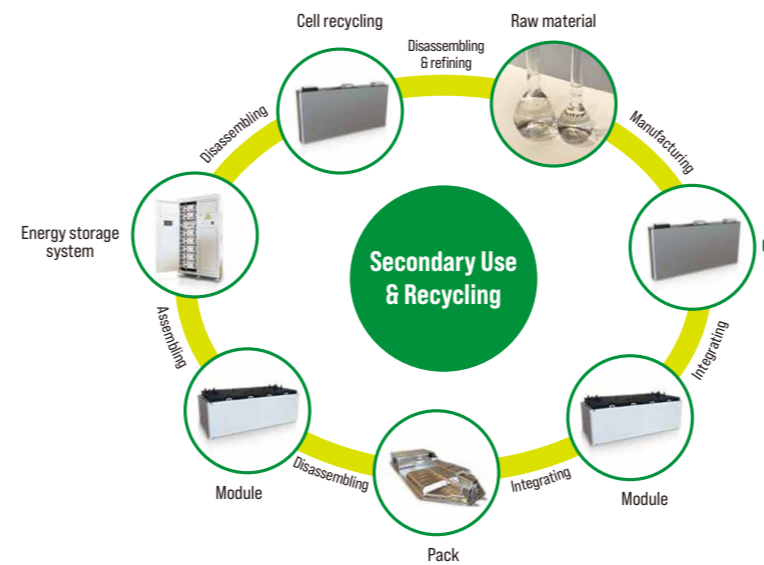
Efficiency

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: 0°C - 65°C
Discharge temperature: -30°C - 65°C
Storage environment temperature: -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.

QUESTION 2 Q: What is the charging time and usage time calculation of forklift lithium battery?

- 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%]).
- Charging time (h) = rated capacity of lithium battery (Ah) * 90% * charger output current (A).
- The power consumed for charging (kWh) = the available power of the lithium battery * 93% (the charging efficiency of the charger is calculated as 93%).
- 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 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
Flexible cascade expansion
CRC data validation

Technical data

		HANGCHA GROUP CO., LTD.			
Distinguishing mark	1.1	Manufacturer			
	1.2	Manufacturer's type designation	QDD30-XT1S-I QDD50-XT1S-I		
	1.3	Drive: electric [battery type, mains, ...], diesel, petrol, fuel gas	Electric		
	1.4	Operator type: hand, pedestrian, standing, seated, order-pick	Standing		
	1.5	Rated capacity/rated load	kg	3000	
Weight	1.7	Rated drawbar pull	F (N)	600	1000
	1.9	Wheelbase	y (mm)	963	980
	2.1	Service Weight	kg	730	880
Tyres, chassis	2.3	Axle loading, unladen front/rear	kg	420/310	540/340
	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane	PU [Traction wheel] / Rubber [Load wheel]		
	3.2	Tyre size, front	mm	Ø250-80	Ø250-100
	3.3	Tyre size, rear	mm	Ø200-100	Ø200-100
	3.5	Wheels, number front/rear (* = driven wheels)		1X/2	1X/2
	3.7	Tread, rear	b11 (mm)	658	658
	Dimensions	4.8	Seat height/stand height	h7 (mm)	150
4.12		Coupling height	h10 (mm)	300	300
4.17		Overhang	l5 (mm)	125	125
4.19		Overall length	l1 (mm)	1287	1287
4.21		Overall width	b1/b2 (mm)	800	800
4.32		Ground clearance, centre of wheelbase	m2 (mm)	70	70
4.35		Turning radius	Wa (mm)	1185	1185
Performance	5.1	Travel speed, laden/unladen	km/h	9/10.5	8/12.5
	5.5	Drawbar pull	N	600	1000
	5.6	Max. drawbar pull, laden/unladen	N	2500/2500	3200/3200
	5.8	Max. gradeability, laden/unladen	%	4/15	4/15
Electric-engine	6.1	Drive motor rating S2 60 min	kW	2.2	3.2
	6.4	Battery voltage/nominal capacity	(V)/(Ah)	48/80	48/105
	6.5	Battery weight	kg	60	80
Additional data	8.1	Type of drive control		Permanent magnet synchronous	Permanent magnet synchronous

