HANGCHA GROUP CO., LTD.

Factory site: 666 Xiangfu Road,
Hangzhou, Zhejiang, China (311305)

Tel: +86-571-88926755

sales@hcforklift.com **www.hcforklift.com**

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Hangcha Official Website

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ISO45001:2018

ISO14001:2015

ISO9001:2015

HANGCHA trucks conform to the European Safety Requirements.



X SERIES

REACH TRUCK

With capacity of 1,400 to 2,500kg

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Making Material Handling Easier

X SERIES
REACH TRUCK

The X series reach truck is a new-generation product newly developed by Hangcha. The truck body features a stamped design that combines refined styling with structural strength. Powered by an all-new permanent magnet (PM) + VCU control system, it delivers lower energy consumption, higher working efficiency and better active safety. A 5-inch interactive color touchscreen provides rich instrument information and intuitive, convenient operation.

Efficiency Safety Lower Energy

48V
VOLTAGE
WITH
PERMANENT MAGNET
SYNCHRONOUS DRIVE MOTOR



The product has been comprehensively optimized and upgraded from the outside in - styling, body structure and control system - while the model range, working efficiency, aisle adaptability, ergonomics and intelligent configuration have all been extended and improved. With heavy load capacity and high mast lifting, the truck offers strong load-carrying capability, a small aisle footprint, low energy consumption and high efficiency, making it ideal for high-performance applications such as narrow aisles, heavy loads, high capacities and high lifting heights.

COMFORTABLE OPERATION

- **High-precision VCU control:** faster hydraulic response and more precise operation.
- **Reach cushioning damper cylinder (optional):** effectively absorbs reach and retract shocks for better dynamic mast stability.
- **Optimized hydraulic system:** smoother combined operation.



Multi-layer pedal mat:
comfortable underfoot, effectively relieving fatigue during long working hours.



Optimized mast structure:
less sway, higher strength and a wider operating view.

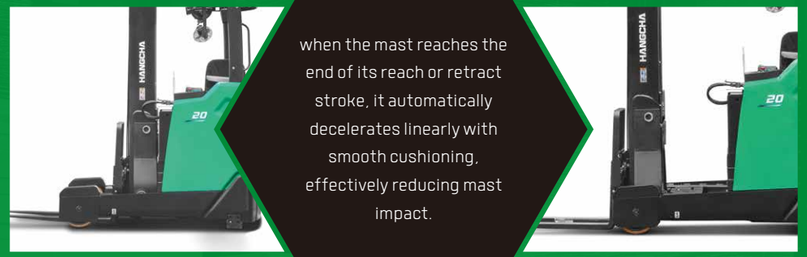




Multi-dimensional adjustment:
the seat, armrest, steering wheel and instrument are all adjustable in multiple dimensions to suit operators of different builds, so everyone can easily find a comfortable operating position.

INTELLIGENT SAFETY

Mast reach cushioning system:



when the mast reaches the end of its reach or retract stroke, it automatically decelerates linearly with smooth cushioning, effectively reducing mast impact.

Intelligent anti-slip control system (optional):
the VCU monitors the speed status of the front and rear wheels in real time and automatically adjusts traction motor output, effectively suppressing wheel slip on wet, slippery or oily floors and improving travel safety.

Load curve control function (optional):
the VCU automatically matches the allowable lift height to the load weight, reduces speed in advance as the limit is approached and disables lifting once the limit is reached, making high-level operation safer.



Rack anti-collision system (optional):
travel speed is automatically reduced when the outriggers approach the rack within a preset distance, eliminating collision risk at the source for more reassuring operation.



Automatic travel speed reduction at corners:
travel speed is automatically reduced when turning, effectively suppressing the risk of tipping, for more stable cornering and safer operation.

LI-ION TECHNOLOGY

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

6 YEARS WARRANTY

HIGH EFFICIENCY AND ENERGY SAVING

Permanent-magnet traction motor:
high energy conversion efficiency and low running losses effectively reduce operating temperature rise and minimize performance degradation at high temperatures, making the truck more energy efficient.



High-power pump motor + low-noise hydraulic system:
standard across the range, significantly increasing lifting speed while effectively controlling noise.



Mast reach speed increased by 100%:
the optimized reach control strategy increases mast reach and retract speed by 100% compared with the previous model, significantly shortening each working cycle and improving overall operating efficiency.

Optimized truck structure:
smaller aisle width required for stacking and lower mast lowered height, comprehensively improving space accessibility and operating flexibility.



Easy Maintenance

- **VCU central controller:** all truck control software is integrated into the VCU and developed in-house, making program debugging and function iteration easier, with faster response for after-sales fault diagnosis and program upgrades.
- **Software debugging port:** located under the console; simply open the rubber cover to connect a handheld terminal - program calibration and fault detection are quick and easy.
- **Hydraulic quick-couplers (optional):** quick to connect and disconnect, making hydraulic hose removal and installation easier when transporting high masts, while reducing oil contamination.
- **Swivel-openiang seat hood:** rotates open so that the internal motors and hydraulic system are within easy reach for maintenance.



5-inch smart color touchscreen:
rich operating information display with convenient touch interaction; integrated fault analysis quickly locates faults for more efficient maintenance.



Integrated controller layout:
the controllers are integrated under the console and pedals for easy removal, installation and service.

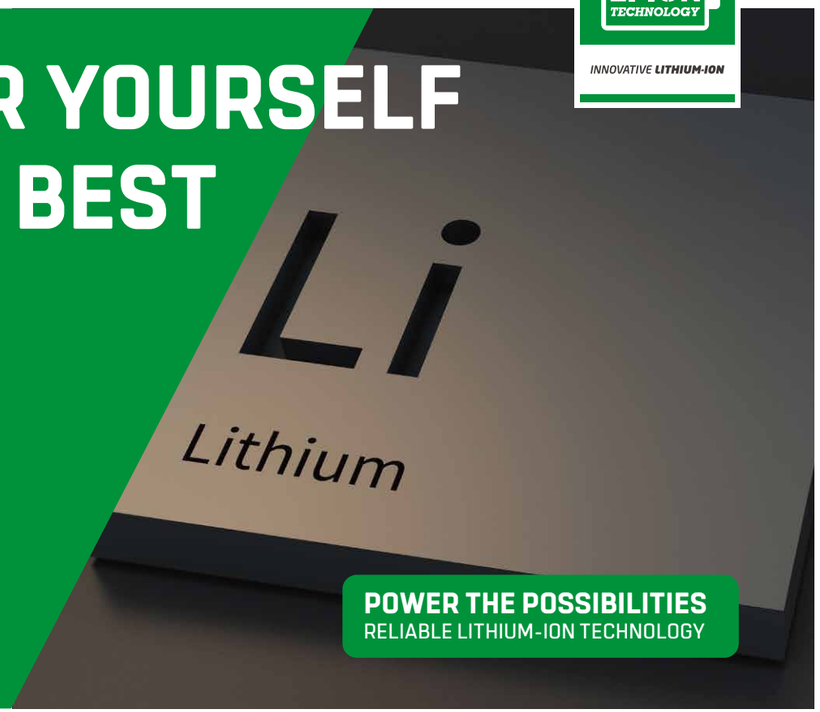


LITHIUM POWERED

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.

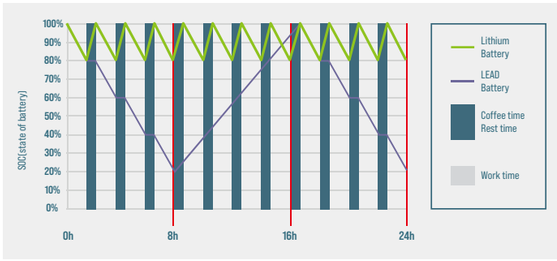
High safety and reliability
Intelligent battery management monitoring every important function, no emission of battery gasses.

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

FEATURES & BENEFITS
THE HANGCHA DIFFERENCE

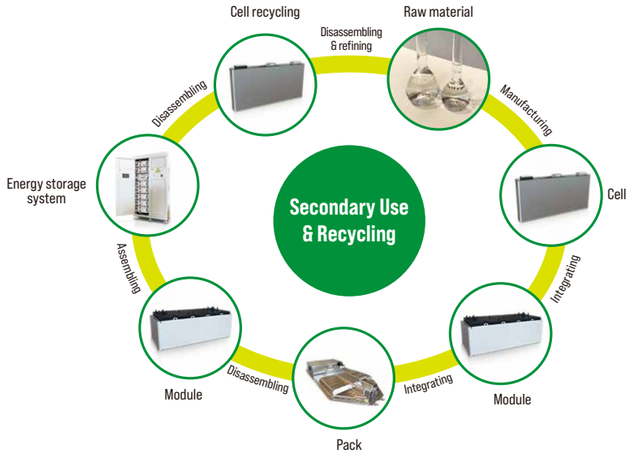
Efficiency

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 × 85% (To avoid over-discharge damaging the battery, the forklift is equipped with low power protection (less than 15%)).
2. Charging time (h) = rated capacity of lithium battery (Ah) × 85% ÷ 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

Market-specific	CQD14/16/18-XT12D-I	CQD20-XT12D-I	CQD25-XT12D-I	CQD14/16/18-XT12-I	CQD20-XT12-I	CQD25-XT12-I
CE Standard 2023	○	○	○	○	○	○
Control						
Fingertip control	●	●	●	/	/	/
Mini lever control	○	○	○	/	/	/
Control with a mechanical control lever	/	/	/	●	●	●
4th control valve (sideshift as standard)	●	●	●	●	●	●
Height display / Height preselection / Height limit	○	○	○	○	○	○
Load weight display	○	○	○	/	/	/
Horizontal fork alignment / Central sideshift	○	○	○	/	/	○
Electronic cushioning for mast reach (forward / backward)	●	●	●	●	●	●
Mast damping system (cushioning cylinder)	○	○	○	/	/	/
Lowering anti-collision protection for loaded forks	○	○	○	/	/	/
Rack anti-collision protection system	○	○	○	○	○	○
Lifting cushioning at cylinder changeover	●	●	●	●	●	●
Electronic cushioning at max. lift height	●	●	●	●	●	●
Electronic cushioning at fully lowered position	○	○	○	/	/	/
Drive control limit	●	●	●	●	●	●
Reach speed control limit	●	●	●	●	●	●
Sideshift speed control limit	●	●	●	●	●	●
Drive wheel skid control system	/	○	○	/	/	/
Battery presence detection	●	●	●	●	●	●
Travel speed control at cornering	●	●	●	●	●	●
Front wheel brake (electromagnetic)	○	○	●	○	○	●
180° steering mode	●	●	●	●	●	●
360° steering mode	●	●	●	○	○	○
Load curve control	○	○	○	/	/	/
High-speed travel (14 km/h)	○	○	○	○	○	●
Electronic accessories						
FIMS	○	○	○	○	○	○
Touchscreen display	●	●	●	●	●	●
USB power socket	●	●	●	●	●	●
Reserved 12 V power supply	○	○	○	○	○	○
Reserved 24 V power supply	●	●	●	●	●	●
Fork-mounted video monitoring and positioning laser (wireless power supply)	○	○	○	○	○	○
Fork-mounted video monitoring and positioning laser (wired power supply)	○	○	○	○	○	○
Keyed start	●	●	●	●	●	●
Start with a PIN code or by card	○	○	○	○	○	○
Fingerprint lock	○	○	○	○	○	○
Standard reversing buzzer	○	○	○	○	○	○
Voice reversing alarm	○	○	○	○	○	○
Operating light (in the direction of the fork)	●	●	●	●	●	●
Operating light (in the reverse direction of the fork)	○	○	○	○	○	○
Alarm light (controlled by a separate switch)	●	●	●	●	●	●
Alarm light (steady-on)	○	○	○	○	○	○
Front and rear blue floor spot lights	○	○	○	○	○	○
Three-sided one-line laser projection light	○	○	○	○	○	○
10-inch smart color touchscreen	○	○	○	○	○	○
Hydraulic accessories						
Return oil filter clogging alarm	○	○	○	/	/	/
Ergonomic design						
Steering wheel fore/aft and height adjustment	●	●	●	●	●	●
Instrument angle adjustment	●	●	●	●	●	●
Seat						
Tiancheng seat	●	●	●	●	●	●
Grammer seat	○	○	○	○	○	○
Electrically heated seat	○	○	○	○	○	○
OPS	●	●	●	●	●	●
Other						
Steel overhead guard	●	●	●	●	●	●
Glass overhead guard	○	○	○	○	○	○
PVC ceiling	○	○	○	○	○	○
Cover for load wheels	●	●	●	●	●	●
Battery side roll out[1]	○	○	○	○	○	○
Curved rearview mirror	○	○	○	○	○	○
Left and right rear view mirrors	○	○	○	○	○	○
Load backrest	●	●	●	●	●	●
Electric fan	○	○	○	○	○	○

Note: ● Standard; ○ Optional; / Not available [1] When the CQD14-XT12(D)-I is equipped with the L-size battery, the battery side roll out option is not available.

Battery capacity

Battery Size		CQD14/16-XT12(D)-I	CQD18-XT12(D)-I	CQD20/25-XT12(D)-I
S	48V/304Ah	●	/	/
M	48V/460Ah	○	●	●
L	48V/690Ah	○	○	○
XL	48V/824Ah	/	/	○

Note: ● Standard; ○ Optional; / Not available

Lifting height (mm)	Battery Size	CQD14/16-XT12(D)-I
h3≤9000	S	○
	M	○
	L	○
h3＞9000	M	○
	L	○

Note: ○ Optional; / Not available

Lifting height (mm)	Battery Size	CQD18-XT12(D)-I	CQD20/25-XT12(D)-I
h3≤10000	M	○	○
	L	○	○
	XL	/	○
10000＜h3≤11500	L	○	○
	XL	/	○
11500＜h3≤13000	L	/	○
	XL	/	○
h3＞13000	XL	/	○

Note: ○ Optional; / Not available

