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ISO45001:2018



ISO14001:2015



ISO9001:2015



HANGCHA trucks conform to the European Safety Requirements.

AUTHORIZED DEALER



# XC SERIES

4-W ELECTRIC FORKLIFT TRUCK  
WITH LITHIUM POWER

With capacity of 1,500 to 3,800kg



# TOTAL COMFORT

The dashboard in the driver's cab is placed on the right side of the instrument rack, accessible and easy to operate. Comfortable acceleration control and regenerative braking function can effectively reduce the driver's fatigue.

With the standard multi-way valve manipulator handle, the manipulation force is **reduced by 20%**, and the standard lifting sensor and the new type of load-sensing multi-way valve allow comfortable operation and better inching performance.



Optional fingertip integrated operating system and Mini-lever operating system, the combined operating armrest integrates the emergency cut-off, horn and switches, etc., is electrically controlled through the CAN bus and is highly reliable.



The whole truck, continuing the advantages of XC series specialized platform, has a large operating space more than **50% larger** than that of the traditional electric truck.

The wide-view mast with optimized design is unlikely to obstruct the operator's line of sight. The enlarged opening size of the fork carriage enables a wider view.

## SOFT LANDING

The intelligent sensing enables soft landing. When the fork is 100 - 60mm away from the ground, the descending will automatically slow down, so that the goods and pallet will not hit the ground and the goods and ground can be protected effectively.

100-60mm



The color-screen instruments are designed to have graphic interfaces featuring intuitive reading and friendly human-computer interfaces.



Owing to the low center of gravity and good stability, the driver feels comfortable during turning.



The whole truck boasts silence, no pollution, energy saving and other advantages, and meets the environmental protection requirements.



The ergonomically designed tilt-adjustable small-diameter steering wheel makes the driver feel good. The seat can be adjusted back and forth by 210mm. The operator can choose the best driving position.



## MAIN ACCESSORIES

- The main electrical components such as the motor controller, contactor, power plug, emergency cut-off switch, dashboard, accelerator, are all products of well-known foreign brands.
- The emergency cut-off switch equipped for the standard configuration complies with European safety regulations.
- Electronic and hydraulic overload protection devices.



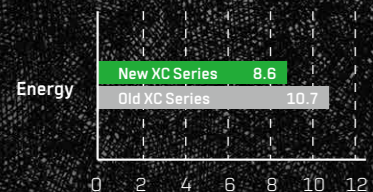
The truck has passed CE certification.



# ADVANCEMENT

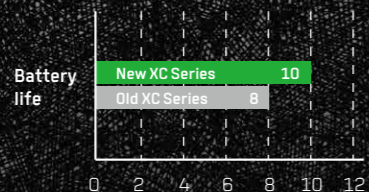
The high-frequency MOSFET integrated controller ensures smooth and accurate driving and lifting control, and has excellent speed regulation performance, good performance of electronic control matching the motor, functions of regenerative braking, reverse braking and anti-sliding on ramps, etc. and high safety and reliability.

## Energy consumption comparison



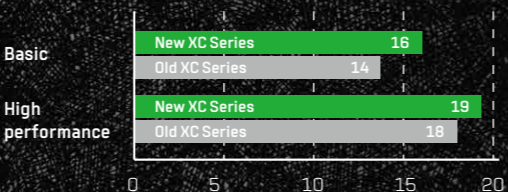
## Battery life comparison

\*Under the same working environment



With the high-power oil pump motor and the matching handle operation, the system has high efficiency, complete protection functions, built-in speed and temperature sensors, and greatly improved reliability and life.

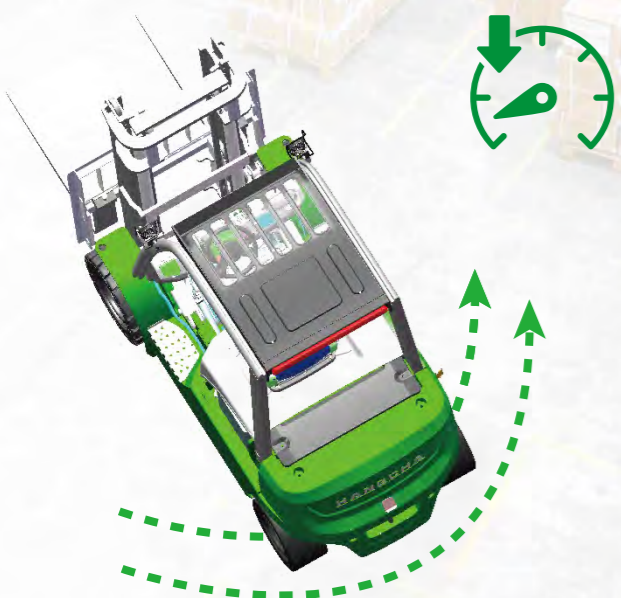
## Travel speed (km/h)



The high-power traveling motor is adopted to realize strong climbing ability, fast response speed and smooth start.



The noise can be as low as 70dBA.



The rear axle is provided with a flexible suspension system (with turning and deceleration functions for standard configuration) to effectively filter the road clutter, and with the high-level connection to greatly improve the driver's comfort.

The EPB(Electric Parking Brake) (optional) and steering wheel adaptive steer control (optional) greatly improve the comfort.



# SAFE AND RELIABLE.

- The standard configuration provides a fork descending buffering function. In addition, an optional electronic control function for buffering the fork's ascending is provided to protect the goods from falling and damaging the ground.
- The handbrake can be optionally equipped with an alarm buzzer to prompt the driver to pull up the handbrake before leaving the truck.
- Optional electric handbrake configured is provided with automatic parking and ramp holding function.



The optional descending lock function can disable the descending function when the driver leaves the seat and enable high safety.



(with high vision)



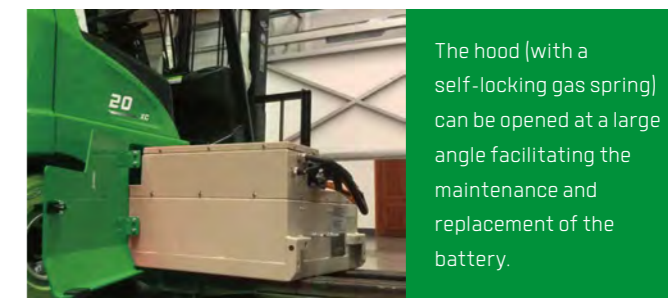
Three horn buttons are provided, which are respectively on the driver's steering wheel, thumb switch equipped armrest (optional) and reverse armrest (optional), for alerting and protecting the surrounding people.

## EASY OPERATIONS AND REPAIR

- With the fully sealed hood and side plates, all major components including the electrically controlled components, motor, electrical components, etc. are sealed from dust and water.
- The drive motor of a high protection level is dustproof and waterproof and highly reliable.
- The water resistance level of the truck is IPX4.



The packs can be easily removed by a manual or electric cart and can be repaired and maintained conveniently.



The hood (with a self-locking gas spring) can be opened at a large angle facilitating the maintenance and replacement of the battery.



## KEEP AN EYE ON EVERYTHING

Hangcha FIMS is a system that provides you with real-time information about forklift truck and driver. Whether you have dozens or hundreds of forklift trucks across multiple sites, you can get access to collecting, monitoring and evaluating all the fleet data at anytime and anywhere.

## »» Features

- ▶ Access Control
- ▶ GPS Tracking
- ▶ Remote Monitoring
- ▶ Maintenance Reminder
- ▶ Vehicle Management
- ▶ Vibration Monitoring
- ▶ Pre-shift Check (Optional)
- ▶ Shift Management (Optional)
- ▶ OpenAPI (Optional)

# 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.



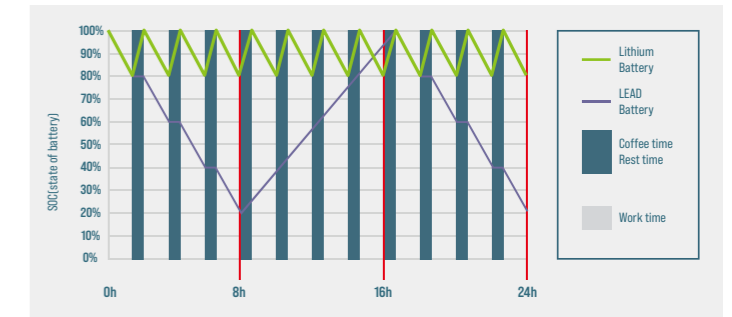
### Opportunity charging

Full performance during several shifts thanks to effective interim charging.

## FEATURES & BENEFITS THE HANGCHA DIFFERENCE

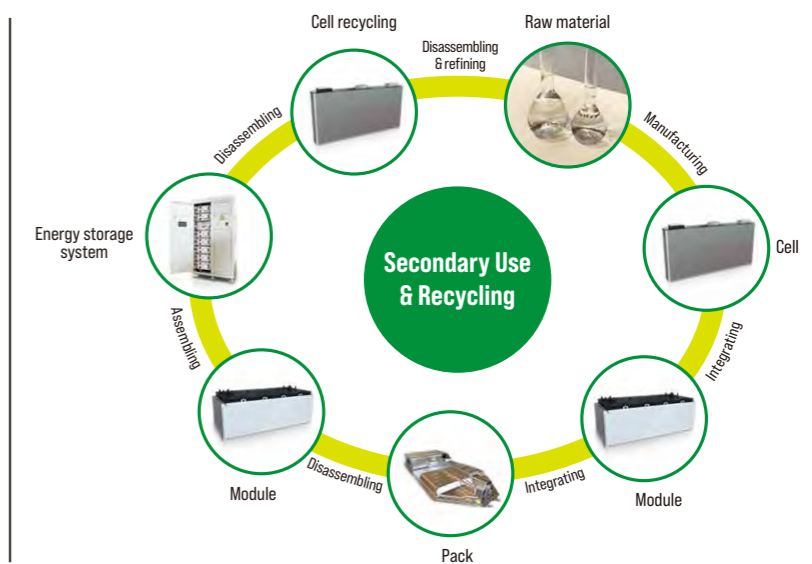
### Efficiency

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 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
- Flexible cascade expansion
- CRC data validation

# LI-ION BATTERIES AND CHARGERS

## IT'S FASTER AND EASIER WITH HANGCHA

Innovative, reliable lithium-ion technology (Lithium Iron-Phosphate), which are developed jointly by HANGCHA and CATL. Battery cells and modules are from CATL, with reliable quality, exclusively for HANGCHA.



# HANGCHA WARRANTY SERVICE

**6 YEARS WARRANTY**

Integrated Battery Management System (BMS) continually monitors energy management and ensures reliable operation. HANGCHA provides Li-Ion battery (LiFePO4) with **6 years** or **12000 hours** warranty.



### Battery Parameters

	Nominal Voltage(V)	Nominal Capacity(Ah)	Battery Weight(kg)	Operating Temperature-Discharge( C )	Operating Temperature-Charge( C )	Protection Class
XIPD151-730000-800	80V	304Ah	210kg	-30 C -65 C	0 C -60 C	IP67
XIPD151-730000-810	80V	230Ah	230kg	-30 C -65 C	0 C -60 C	IP67
XIPD253-730000-800	80V	304Ah	225kg	-30 C -65 C	0 C -60 C	IP67
XIPD253-730000-810	80V	304Ah	300kg	-30 C -65 C	0 C -60 C	IP67
XIPD252-730000-510	80V	410Ah	300kg	-30 C -65 C	0 C -60 C	IP67
XIPD253-730000-830	80V	280Ah	225kg	-30 C -65 C	0 C -60 C	IP67
XIPD352-730000-800	80V	460Ah	300kg	-30 C -65 C	0 C -60 C	IP67
XIPD352-730000-810	80V	560Ah	385kg	-30 C -65 C	0 C -60 C	IP67
XIPD352-730000-830	80V	410Ah	300kg	-30 C -65 C	0 C -60 C	IP67

### EVE Battery Capacity (Std.)

Capacity(Ah)	XC-pro Standard				XC-pro High performance	
	1.5-mini2.0t	2-2.5t	3-3.5t	3.8t	2-2.5t	3-3.5t
173	●	/	/	/	/	/
230	○	●	/	/	/	/
280	○	○	/	/	/	/
304	○	○	●	/	●	/
346	/	○	○	/	○	/
460	/	○	○	●	○	●
560	/	/	○	○	/	○
608	/	/	○	○	/	○

Note: ● Standard ; ○ Optional

### CATL Battery Capacity (Opt.)

Capacity(Ah)	XC-pro Standard				XC-pro High performance	
	1.5-mini2.0t	2-2.5t	3-3.5t	3.8t	2-2.5t	3-3.5t
173	○	/	/	/	/	/
228	○	○	/	/	/	/
302	○	○	○	/	○	/
456	/	/	○	○	○	○
604	/	/	○	○	/	○

Note: ● Standard ; ○ Optional

# Features

No.	Configuration	Standard	Options
1	Color	Dark green	Other customized color
2	Particular market	/	CE Standard
3	Cold storage environment	/	-30°C
4	Mast	Standard duplex mast	Configuration Table of the Mast
5	Fork and attachment	Standard fork Fork arm carrier Load backrest	Non-standard series fork Various attachments
6	Tires	Pneumatic tire (single)	Pneumatic tire (dual) Solid tire (single) Solid tire (dual)
7	Multiway valve	Double multi-way valve	Triple valve Quadruple valve Quintuple valve
8	Tiller	Lifting and tilting Level	Thumb switch Handle Rocker switch and armrest
9	Battery	Standard lithium battery	Large-capacity lithium battery Quick-change lithium battery
10	Light	LED head lamp Turn signal lamp LED rear combination lamp	Common alarm lamp Acoustic and optical alarm lamp LED rear lamp Blue light Straight projection lamp
11	Horn	Electric horn Reverse buzzer	Right rear armrest with horn button
12	Smart module	/	FIMS(Fleet intelligent management system)
13	Safety configuration	Emergency power-off switch Fuse box Soft landing	Reversing radar OPS system Fire extinguisher Ascending buffering
14	Parking brake	Mechanical handbrake	EPB(Electric Parking Brake)
15	Driving brake	Hydraulic assisted braking	/
16	Instrument rack space	Smart color-screen instrument (speed mode selection) Combination switch	Cigarette lighter USB port Electronic code lock (start by swiping a card)
17	Driving space	Standard overhead guard Central rear view mirror PVC ceiling	Front windshield Cab Electric fan Left and right rear view mirrors
18	Seat	Standard seat	Fully-suspended seat Semi-suspended seat
19	Other standard configuration	Oil pump reducer Silent gear pump DC-DC converter Pedal pad Traction pin Integral stamped side panel and hood	/