

HANGCHA GROUP CO., LTD.

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

Tel: +86-571-88926735 88926755
Fax: +86-571-88926789 88132890

sales@hcforklift.com www.hcforklift.com

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ISO45001:2018



ISO14001:2015



ISO9001:2015



HANGCHA trucks conform to the European Safety Requirements.



X SERIES

MAN-UP TRI-LATERAL ELECTRIC STACKER

With capacity of 1,000 to 1,600kg

X SERIES MAN-UP TRI-LATERAL ELECTRIC STACKER

Suitable for very narrow aisle (VNA) and high-bay warehouses, meeting the demands for minimum aisle widths and maximum lift heights. With high lifting capacity, high load capability, small turning radius, advanced performance, comfortable operation, and safety reliability, it is the ideal truck for logistics handling, stacking and order picking in high-rise warehouses.

Streamlined design, stable and reliable



Streamlined curved surface design with smooth vehicle lines, elegant and generous appearance.



Wide chassis design for excellent overall stability.



High-strength frame construction for chassis and mast, low center of gravity, ensuring stability even at maximum lift heights.

FOCUSED COMFORT

Ergonomically arranged control panel, instruments and switches for comfortable and flexible operation.

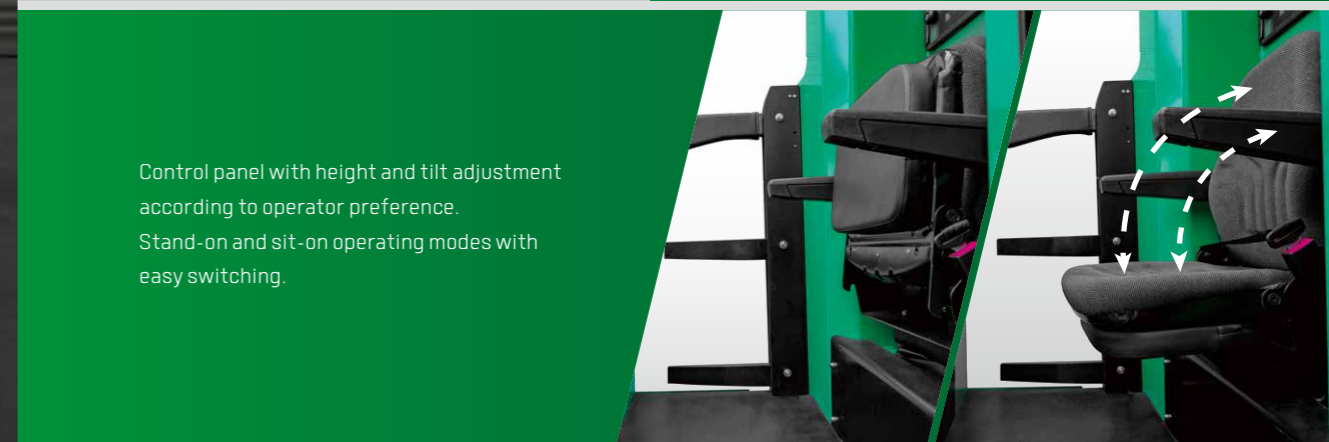


Integrated electro-hydraulic proportional control system for precise and smooth fork operation.

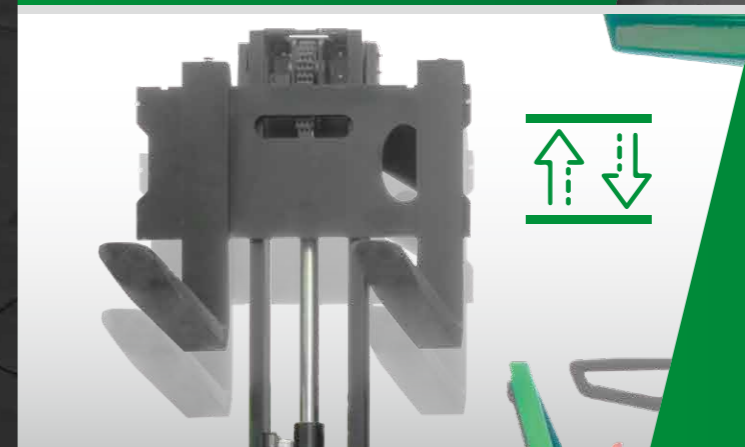
Electric steering for light and comfortable maneuvering.



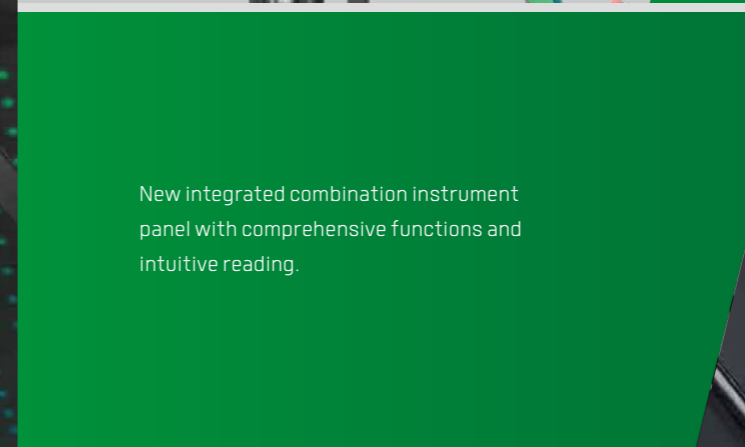
Low entry step height for easy and comfortable access.



Control panel with height and tilt adjustment according to operator preference. Stand-on and sit-on operating modes with easy switching.



Electro-hydraulic cushioning system with automatic deceleration at end positions to reduce impact.



New integrated combination instrument panel with comprehensive functions and intuitive reading.



STATE OF THE ART

Advanced Technology

High fork lifting/lowering speeds for maximum productivity, automatic correlation between load weight and lift height.

Advanced electro-hydraulic control system with automatic correlation between travel speed and lift height/steering angle;

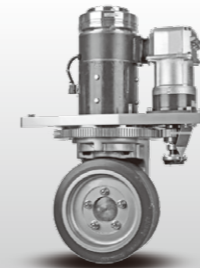


Integrated mechanical, electrical and hydraulic control with stepless speed regulation for travel and fork movements, ensuring precise and smooth control.



New AC control system providing efficient and precise adjustment performance, extending operating time per charge.

Innovation



Electromagnetic parking brake, eliminating traditional handbrake for intelligent parking brake control.



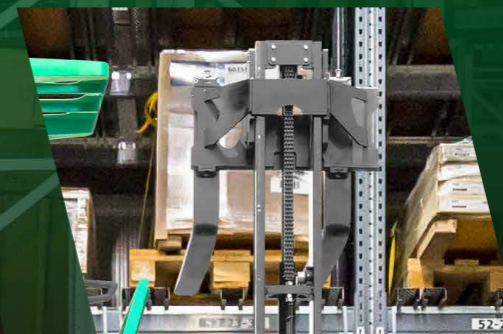
Intelligent electromagnetic service brake system for more efficient and safer braking.



Left/right rear-view mirrors and LED working lights to assist operator in observing lateral working areas when visibility is limited.



Large LCD display with fault self-diagnosis, providing accurate indication even in harsh environments.



Intelligent fork position recognition for travel speed control. Dynamic variable hydraulic system reducing oil temperature for energy efficiency.

SUPERIOR RESULTS

Efficiency

Minimum aisle width required, maximizing warehouse space utilization.
High residual capacity at maximum lift heights with minimal load loss, improving stacking efficiency.

With maximum fork lift height of

14.7m

Electro-hydraulic control system with potential energy recovery, ensuring high efficiency and extended battery operating time per charge.

High-power AC hydraulic pump motor with large displacement gear pump, significantly increasing fork lifting/lowering speeds for higher throughput.



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



How HANGCHA VNA delivers space savings



+80% +200%

SAFETY AND RELIABILITY



Main electrical components including motor controller, contactor, power plug and emergency disconnect switch adopt internationally renowned brands.

- Three-point low center of gravity design with high-strength construction for chassis, mast and other main load-bearing components to meet heavy-duty requirements.
- High-efficiency AC power system with comprehensive protection functions, greatly improving reliability and service life.



Optimized wide-view mast design with excellent operator visibility for enhanced operational safety.

Standard front and rear wheel brake system with large braking torque, suitable for wet and slippery surfaces both indoors and outdoors for safer travel.

Safety pedal, lateral barriers, automatic sensing handle and other active/passive safety systems to prevent hazards from operator error.

Easy Service



1 Maintenance-free AC brushless motors significantly reducing operating costs.

2 Fully opening panels for easy maintenance, servicing and debugging.

3 Electrical and electronic components centrally located with high integration.

4 Standard lateral battery removal for convenient battery maintenance.



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.



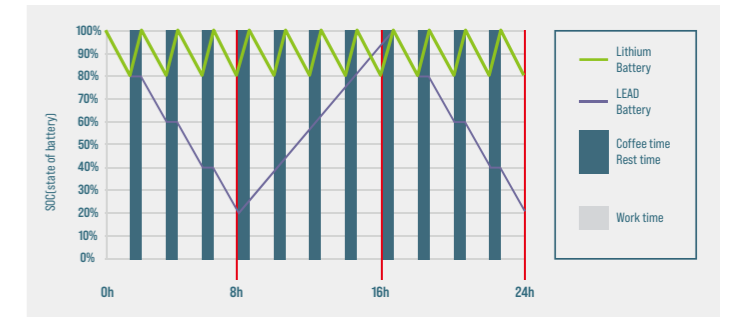
Opportunity charging

Full performance during several shifts thanks to effective interim charging.

FEATURES & BENEFITS THE HANGCHA DIFFERENCE

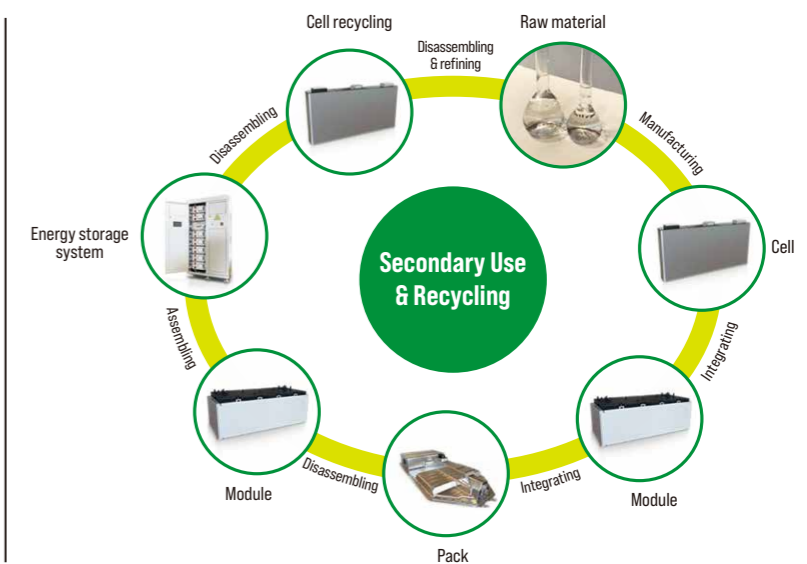
Efficiency

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

Features

Truck	Standard	Options
Stand-on & sit-on	●	
Potential energy recovery gear pump	●	
Lateral battery removal	●	
Polyurethane tyres	●	
Main/supplementary lift synchronized lifting/lowering	●	
Synchronous reach and rotate of forks outside aisle	●	
Central sideshift	●	
Chain slack warning	●	
Various battery capacities		○
Various fork dimensions		○
Various mast height configurations		○
Fan		○
24V power outlet		○
USB charging port		○
Synchronous reach and rotate of forks in aisle		○
Roller guidance		○
Controls and instruments		
AC motor and controller	●	
Electro-hydraulic proportional valve system	●	
Dual-handle operation	●	
Multi-function combination instrument	●	
Height display	●	
Height selection	●	
Electric steering system	●	
Rear view camera		○
Magnetic tape guidance		○
Wire guidance		○
FIMS		○
Safety		
Barrier switch	●	
Horn	●	
Reversing buzzer	●	
Operator safety tether	●	
Electromagnetic parking brake on all wheels	●	
Security operating system	●	
Travelling speed control during lifting	●	
Travelling speed control at corner	●	
Fire extinguisher		○
Lights		
Warning light	●	
Cabin LED reading light	●	
Cabin LED side roof light	●	
Laser line projection light		○
Blue spot light		○

CONFIDENCE AT HEIGHT

