

## Features

Truck	Standard	Options
48V permanent magnet synchronous drive motor	●	
Hydraulic power unit	●	
PU wheel	●	
1150mm fork length	●	
570mm outside fork width	●	
Overhead guard	●	
Lifting damping system	●	
Multi-function tiller	●	
48V/80Ah lithium battery [EVE]	●	
Additional wheels	●	
Dual load wheels	●	
USB power supply	●	
Fork lift & lower adopts stepless speed regulating	●	
Different length of forks		○
Different width of outside fork		○
Different lift height [see mast table]		○
Key switch		○
48V/105Ah lithium battery [EVE]		○
48V/125Ah lithium battery [CATL]		○
Load backrest		○
Lithium battery(48V/80Ah,EVE) with the on-board charger(48V,20A)		○
Lithium battery(48V/105Ah,EVE) with the on-board charger(48V,20A)		○
<b>Controls and instruments</b>		
Electric steering	●	
Systech controller	●	
Interactive meter	●	
Non contact interlock switch	●	
<b>Safety</b>		
Emergency disconnect switch	●	
Horn	●	
PIN code access	●	
Turning deceleration	●	
Mast protection		○

## 1.4t/1.6t Mast Specification

Type	Max. lifting height h <sub>3</sub>	Ground clearance, fork [h <sub>3</sub> + h <sub>11</sub> ]	Lowered height h <sub>1</sub>	Extended height h <sub>4</sub>	Free lift	Load Capacity at 600mm	
						1.4t	1.6t
	mm	mm	mm	mm	mm	kg	kg
Double cylinders Duplex wide view	2000 <sup>1)</sup>	2090	1540	2540	90	1400	1600
	2400 <sup>1)</sup>	2490	1740	2940	90	1400	1600
	2700	2790	1890	3240	90	1400	1600
	2900	2990	1990	3440	90	1400	1600
	3000	3090	2040	3540	90	1400	1600
	3300	3390	2190	3840	90	1250	1350
	3500	3590	2290	4040	90	1150	1220
	3800	3890	2440	4340	90	1030	1080
	4000	4090	2540	4540	90	950	1000
	4200	4290	2640	4740	90	890	940
	4500	4590	2790	5040	90	760	810
	Duplex full-free wide view	2000 <sup>1)</sup>	2090	1540	2540	1020	1400
2400 <sup>1)</sup>		2490	1740	2940	1220	1400	1600
2700		2790	1890	3240	1370	1400	1600
3000		3090	2040	3540	1520	1400	1600
3300		3390	2190	3840	1670	1250	1350
3500		3590	2290	4040	1770	1150	1220
3500 <sup>1)</sup>		3590	1860	4020	1160	1150	1220
3800 <sup>1)</sup>		3890	1760	4320	1260	1030	1080
4000 <sup>1)</sup>		4090	1830	4520	1330	950	1000
4200		4290	1890	4720	1390	890	940
4500		4590	1990	5020	1490	760	810
4700		4790	2060	5220	1560	700	750
Triplex full-free wide view	4800	4890	2090	5320	1590	680	730
	5000	5090	2160	5520	1660	650	700
	5200	5290	2230	5720	1730	600	650
	5500	5590	2330	6020	1830	550	600
	6000	6090	2500	6520	2000	450	500

Note: 1)Optional feature for battery side roll out was necessary. It can make changing the battery easier.

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ISO 45001:2018



ISO 14001:2015



ISO 9001:2015



HANGCHA trucks conform to the European Safety Requirements.



# X SERIES

RIDER PALLET STACKERS

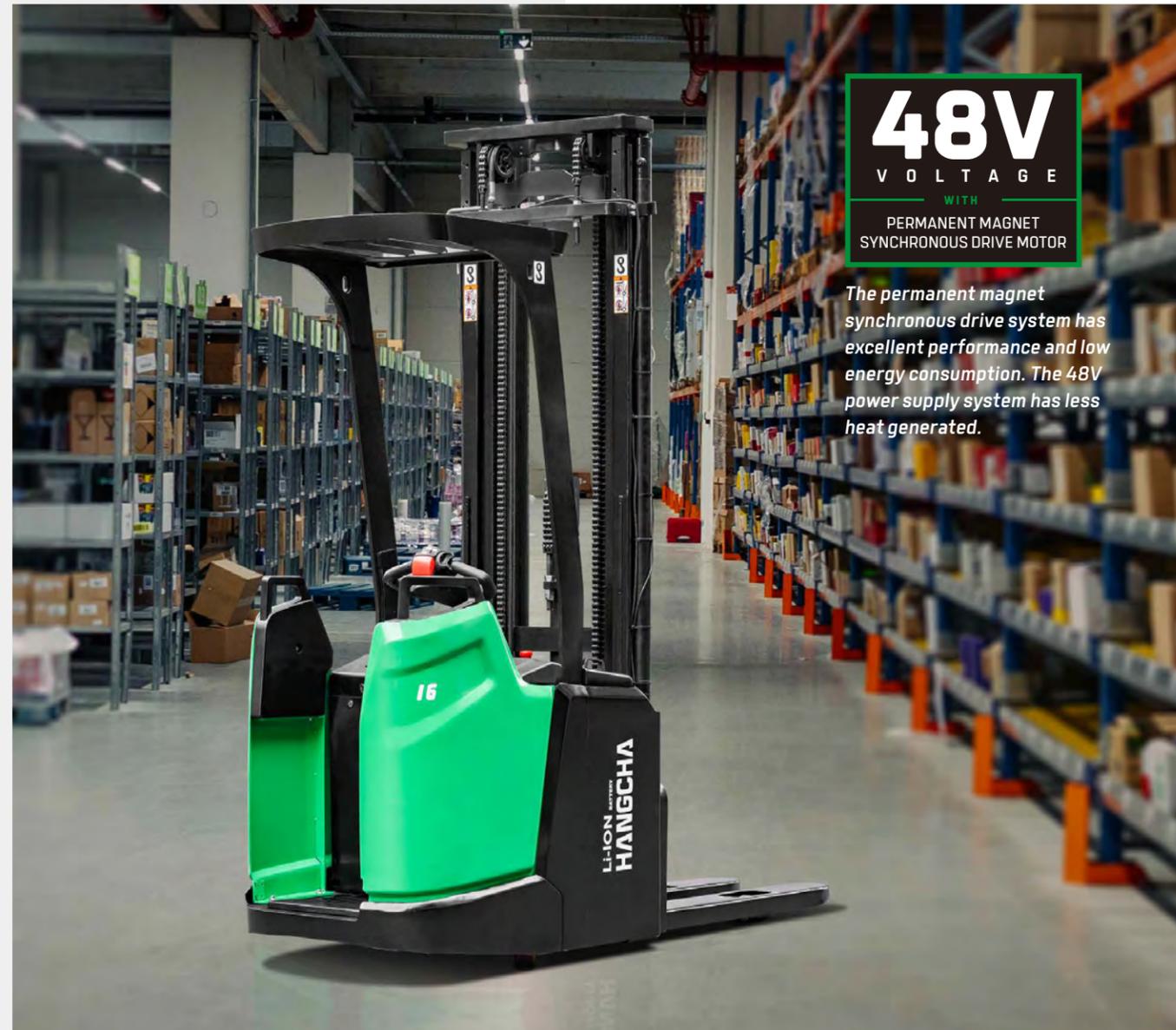
With capacity of 1,400 to 1,600kg

# X SERIES RIDER PALLET STACKERS

Are a new generation of products newly developed by Hangcha for warehousing and logistics applications. Using the advanced permanent magnet brushless drive technology and equipped with a new 48V system, the products have advanced performance, comfortable, safe and reliable operations and low use and maintenance costs, and are ideal tools for loading, unloading and handling palletized goods in warehouses, supermarkets, workshops.

## APPEARANCE

The X series rider pallet stacker adopts a professional industrial design of exterior and a series family design. The truck has a smooth vivid profile and a fully ergonomic design, following the latest exterior design trend.



**48V**  
VOLTAGE

WITH  
PERMANENT MAGNET  
SYNCHRONOUS DRIVE MOTOR

The permanent magnet synchronous drive system has excellent performance and low energy consumption. The 48V power supply system has less heat generated.



## HIGH PERFORMANCE

- With the VCU control, the truck can be controlled accurately, stably and more efficiently.
- Regenerative brake and slope anti-slide function are offered by this truck.
- The electric steering feature enables easier and more flexible operation.



With high power drive motor, provides fast travel speed and good gradeability.



**10%**  
Gradeability(1.4t laden)

**9.0 km/h**  
Travel speed(laden)

The proportional lifting/lowering speed regulation system enables more stable and accurate operation.



## RUGGED ON THE OUTSIDE

Made of high-strength steel plates that are molded by stamping, the truck exterior is robust, durable and high-grade, and meets environmental protection requirements.



## COMFORT

- Customer can choose different width of outside fork and length of forks to fit variable pallet.
- The standing driving pedal with shock-absorbing design significantly improves standing driving comfort and reduces long-time driving fatigue.



Newly developed tiller is compact and stylish.



Displayed turtle speed function applied to move slowly and helps to stack goods in narrow spaces.



The compact body and big rounded design provide an ideal operation in limited space, and the wedge designed chassis greatly increases the passing ability.



Optimized designing structure can offer a good visibility and easy entrance of the pallet.



# PROTECT YOUR INVESTMENT

## RELIABILITY

The battery is reliably fixed and the battery cover is support by soft materials, so that the vibration and noise generated during the operation of the vehicle are reduced.

The stamped fork with higher strength and impact resistance, and guided fork prongs, further improve operation efficiency.



Water-proof plugs and connectors applied to provide a reliable protection to electric system.



The power plug is fixed on the truck body to avoid damage from battery installment.



[Option]Lithium battery with the on-board charger(48V,20A)



- Using non-contact proximity switch, it can provides long life and reliable operation.
- H-type mast profile section to provide more stable and rigid performance.
- With the 4-pivot and low center of gravity design and a high-strength steel frame structure, the frame has a large residual load capacity.
- The hydraulic power unit applied to provide low noise, low vibration, smooth lifting and landing reliable operation.



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

**6 YEARS WARRANTY**



The fault information can be checked directly via the interactive instruments instead of the manual.



## MAINTENANCE

Rear cover can be completely open, operator can see all the components, so the maintenance is very convenient.

All shafts installed lubricated shaft sleeve and oil cup, provide convenient maintenance and long service life.

**Permanent magnet synchronous motor need no maintenance.**

## SAFETY

- Turning speed is automatically reduced when steering.
- **With three braking types:** releasing brake, reversing brake and emergency brake, the driving safety has been ensured.
- The applied slope anti-slip function ensures the safety of the operation.
- The lifting buffering function can ensure the safety of the truck when the fork is lifted to the top.



The truck with assembly overhead guard can protect the driver's safety in case of high-position cargo falling.



The emergency button on the tiller head can effectively avoid the harm to the driver.



Foot detection sensor - trucks slows down or stops if operator's foot is detected outside of the platform contours [Option].



Travel speed will be automatically reduced after fork lifting **500mm**. It has an intelligent soft landing that automatically slows down the lowering speed when the fork is less than **100mm** above the ground, effectively protecting cargo safety. (available for duplex mast)



# LITHIUM POWERED

## EMPOWER YOURSELF WITH THE BEST



Li  
Lithium

POWER THE POSSIBILITIES  
RELIABLE LITHIUM-ION TECHNOLOGY

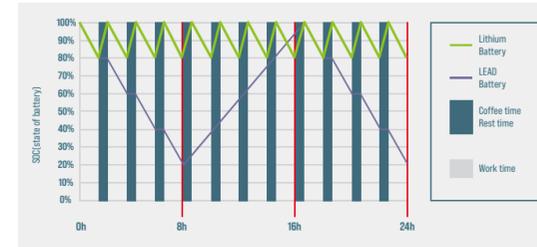
## LITHIUM BATTERY ADVANTAGES

- Long service life**  
4000 full charging cycles with at least 75% residual capacity.
- 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

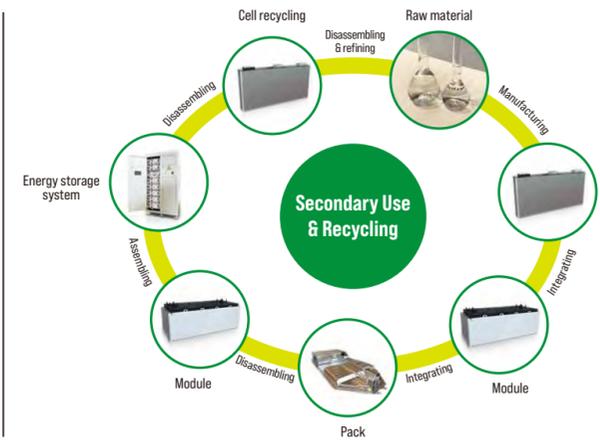
### Efficiency

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: -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

### Technical data

Distinguishing mark	HANGCHA GROUP CO.,LTD.		
		CDD14-XT1S-SISU	CDD16-XT1S-SISU
1.1	Manufacturer	HANGCHA GROUP CO.,LTD.	
1.2	Manufacturer's type designation	CDD14-XT1S-SISU	CDD16-XT1S-SISU
1.3	Drive: electric [battery type, mains, ...], diesel, petrol, fuel gas	electric	electric
1.4	Operator type: hand, pedestrian, standing, seated, order-picker	standing	standing
1.5	Rated capacity/rated load	kg	1400
1.6	Load centre distance	c (mm)	600
1.8	Load distance, centre of drive axle to fork	x (mm)	700
1.9	Wheelbase	y (mm)	1331
2.1	Service weight	kg	1290
2.2	Axle loading, laden front/rear	kg	1100/1590
2.3	Axle loading, unladen front/rear	kg	970/320
3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane	PU	PU
3.2	Tyre size, front	Ø250-80	Ø250-80
3.3	Tyre size, rear	Ø83-80	Ø83-80
3.4	Additional wheels [dimensions]	Ø140-55	Ø140-55
3.5	Wheels, number front/rear [ = driven wheels]	1x + 1/4	1x + 1/4
3.6	Tread, front	b10 (mm)	516
3.7	Tread, rear	b11 (mm)	385
4.2	Height, mast lowered	h1 (mm)	1890
4.3	Free lift	h2 (mm)	90
4.4	Lift	h3 (mm)	2700
4.5	Height, mast extended	h4 (mm)	3240
4.9	Height drawbar in driving position min./max.	h14 (mm)	1220
4.15	Height, lowered	h13 (mm)	90
4.19	Overall length	l1 (mm)	2455 <sup>2)</sup>
4.20	Length to face of forks	l2 (mm)	1305 <sup>3)</sup>
4.21	Overall width	b1/b2 (mm)	800
4.22	Fork dimensions DIN ISO 2331	s/e/l (mm)	60/185/1150
4.25	Fork spread	bs (mm)	570
4.32	Ground clearance, centre of wheelbase	m2 (mm)	25
4.34.1	Aisle width for pallets 1000 * 1200 crossways	Ast (mm)	2655 <sup>10)</sup>
4.34.2	Aisle width for pallets 800 * 1200 lengthways	Ast (mm)	2705 <sup>20)</sup>
4.35	Turning radius	Wa (mm)	2005
5.1	Travel speed, laden/unladen	km/h	9/11
5.2	Lift speed, laden/unladen	m/s	0.195/0.4
5.3	Lowering speed, lade/unladen	m/s	0.45/0.4
5.8	Max. gradeability, laden/unladen	%	10/16
5.10	Service brake	Regenerative	Regenerative
6.1	Drive motor rating S2 60 min	kW	2.2
6.2	Lift motor rating at S3 15 %	kW	4.2
6.4	Battery voltage/nominal capacity	[V]/[Ah] or kWh	48/80
6.5	Battery weight	kg	60

Note: 1) According to VDI2198 standard+220mm. 2)According to VDI2198 standard+140mm. 3)Triplex full-free+21mm

