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ISO45001:2018



ISO14001:2015



ISO9001:2015



HANGCHA trucks conform to the European Safety Requirements.



# X SERIES

ELECTRIC 4-WAY REACH TRUCK

With capacity of 2,000 to 3,000kg

# X SERIES

## ELECTRIC 4-WAY REACH TRUCK

The 2-3-ton multi-lateral electric forklift can be driven in the modes of straight movement, sideways movement and 360° rotation in situ, etc. It is suitable for places with the need of handling and stacking large and long materials, such as pipes, sheets and wires, and can meet the needs of customers for operations in narrow aisles and high stacking heights.

Streamlined surface modelling, a smooth profile of the beautiful and generous vehicle.

## DESIGNED AROUND YOU

### HIGH EFFICIENCY

- The narrow aisles required for handling long stacking materials maximize the space availability of your warehouses.
- A high-power oil pump motor is used. The large-displacement silent gear pumps improve the lifting and descending speed of the fork, as well as its operating efficiency.
- The four-pivot articulated drive and steering axles allow higher passing ability, thus suitable for indoor and outdoor operation.
- The brake kinetic energy regeneration system enables the battery to support longer operating hours after being charged once.



The mast can be moved forward and backward, and equipped with distance adjusting forks, stacking efficiency is improved.

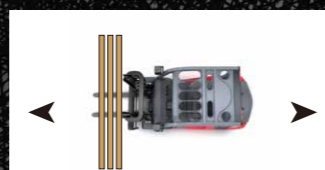
- The high lift mast boasts strong bearing capacity and improved stacking efficiency.
- With a four-pivot structure, the vehicle has good stability when performing a high lift.

### SPACE SAVING

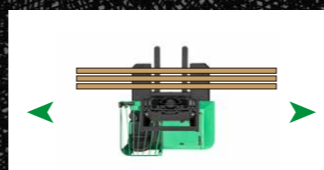
Allowing straight movement, sideways movement, 360° rotation in situ and a small turning radius, the stacker can operate in narrow aisles.



By traveling sideways, even the truck with lengthy load can move through narrow aisle close to the vehicle length.



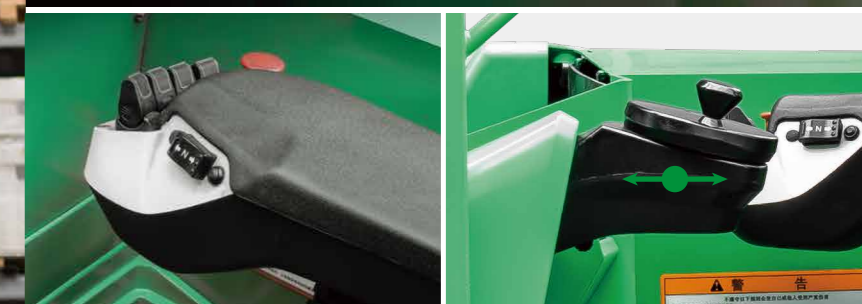
Counterbalanced forklift



Sideways travel mode

### COMFORT

- The ergonomically arranged joystick, instruments and switches make operations more comfortable and flexible.
- The suspended cab allows more secure and comfortable operation.
- Electric steering makes steering more gentle and comfortable, and steering mode switching is easier and faster.
- A new integrated instrument cluster has complete functions and clear readings.



Electro-hydraulic proportional fingertip control system allows more accurate and smooth operation of the fork.

The joystick can be adjusted from top to bottom and from front to rear according to the operator's using habits.

With several speed gears, the vehicle is adapted to different operating conditions.



(Super)



(Power)



(Eco)

### STABILITY

Wide body structure design allows the stacker to have good stability.

Overall width

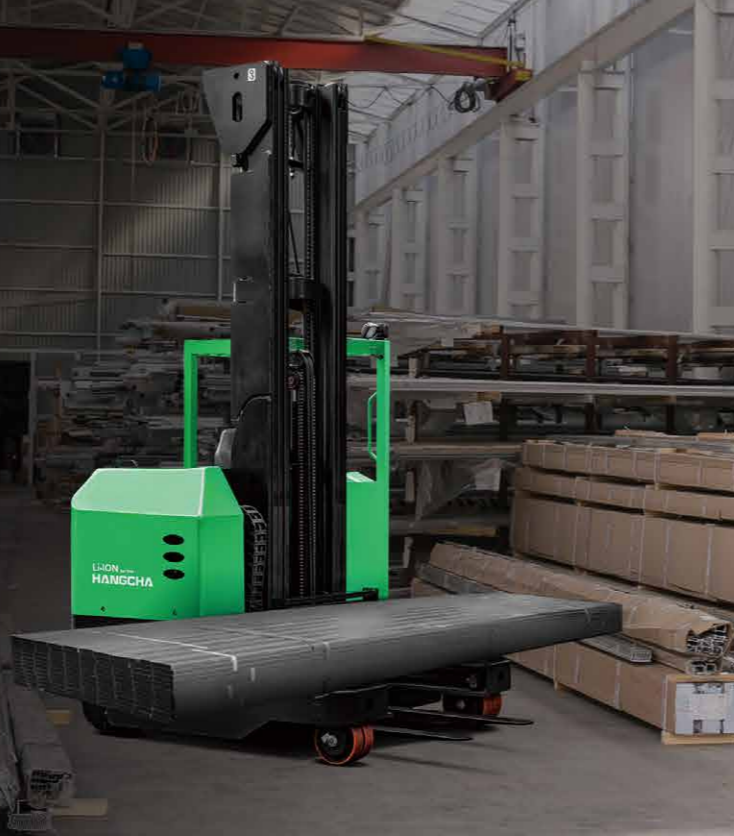
# 1,850mm



The two-step pedals enable the operator to get on and off the stacker more conveniently and comfortably.

# REVOLUTIONARY PERFORMANCE

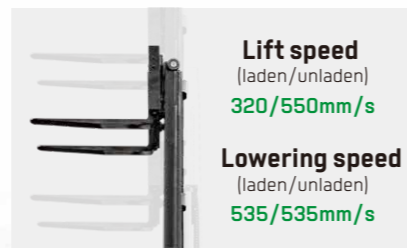
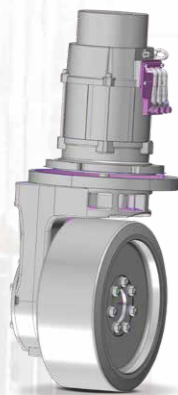
- Articulated drive and steering axles and suspended cab improve operating comfort.
- With efficient and precise adjustment performance, the newly equipped AC control system supports longer operating hours after being charged once.
- The integrated mechanical, electrical and hydraulic control realizes the step less speed regulation of the vehicle driving and the fork movement, more precisely and stably.



The fully open door enables easy repair, maintenance and tuning.

## TECHNOLOGY

Instead of a traditional handbrake, an electromagnetic brake is used to realize the intelligent braking. An intelligent electromagnetic service brake system allows more efficient and safer braking.



**Lift speed**  
(laden/unladen)  
**320/550mm/s**

**Lowering speed**  
(laden/unladen)  
**535/535mm/s**

The fork of the vehicle has high lifting and descending speeds and high operation efficiency.



The large-screen LCD display and the gauges with fault self-diagnosis functions can accurately display information in harsh environments.

## MADE FOR EASY MAINTENANCE

The brushless AC motor is maintenance-free and significantly reduces the operating cost.



The battery removed from a side of the vehicle enables easy repair and maintenance of the battery.



The electronically controlled electrical components are placed together and highly integrated.



# RELIABILITY AND SAFETY

- The four-pivot low center of gravity design and the design high strength of the main force-bearing components of the frame are appropriate to heavy load operating conditions.
- The efficient AC power system has complete protection functions and greatly improved reliability and service life.



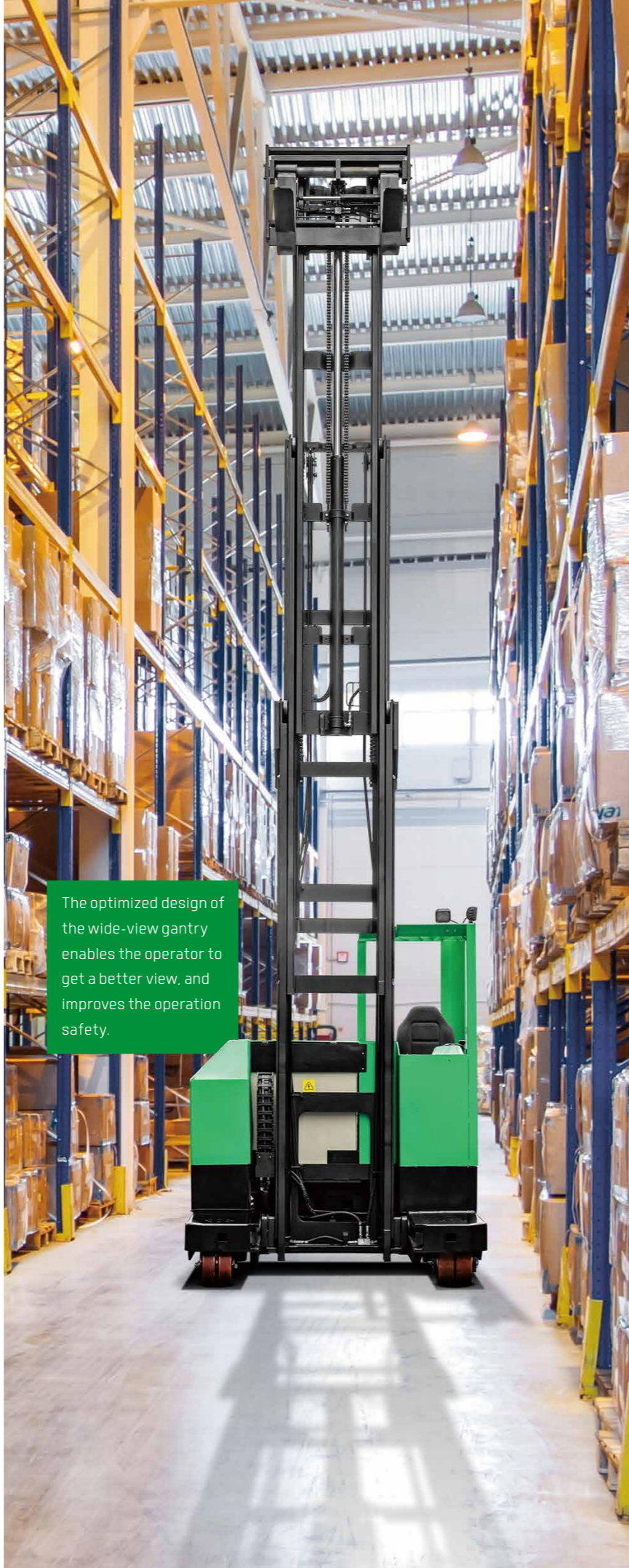
The main electrical components such as the motor controller, contactor, power plug and emergency cut-off switch are all products of well-known foreign brands.



The safety pedals eliminate the safety hazard arising from the operator's incorrect operations.



The front and rear wheel braking systems that allow large braking torque are suitable for indoor and outdoor slippery roads to let the operator drive more safely.



The optimized design of the wide-view gantry enables the operator to get a better view, and improves the operation safety.



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



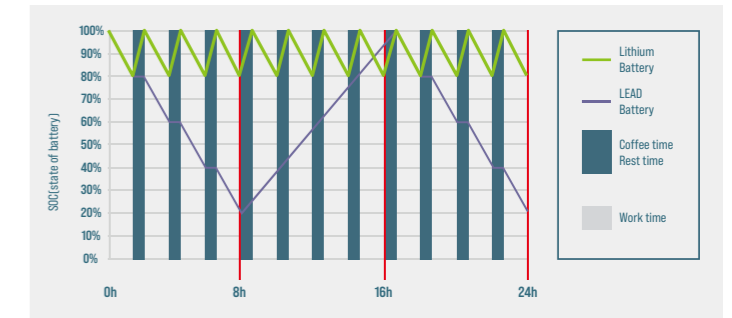
### High energy density

The high energy density of the Li-Ion battery ensures long working times and increases the high availability.

## FEATURES & BENEFITS THE HANGCHA DIFFERENCE

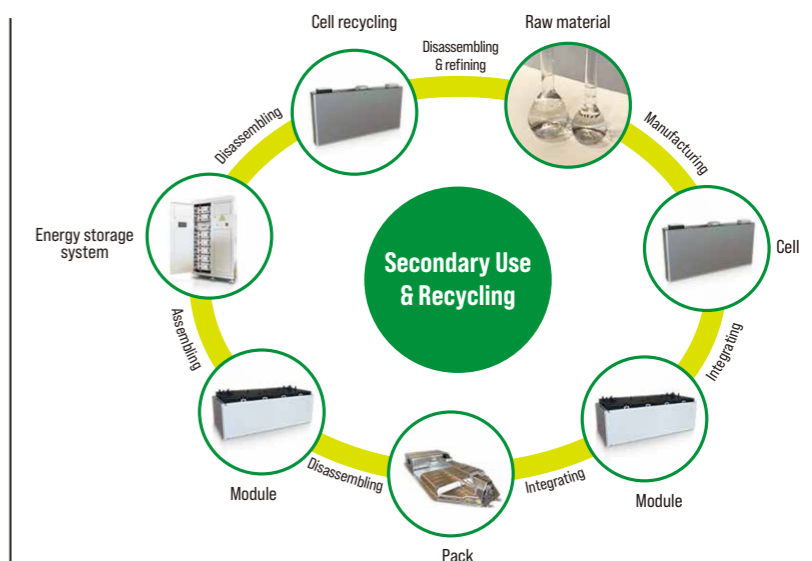
### Efficiency

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

## Optional battery list

Battery Type	Voltage	Capacity	Model
	V	Ah	
Lead-acid	80	300	CCD20-XC5-D ● CCD20-XC5-D ○ CCD25-XC5-D ● CCD30-XC5-D ●
		360	CCD20-XC5-D ○ CCD25-XC5-D ○ CCD30-XC5-D ○
		440	CCD20-XC5-ID ● CCD25-XC5-ID ● CCD30-XC5-ID ●
		456	CCD20-XC5-ID ○ CCD25-XC5-ID ○ CCD30-XC5-ID ○

Note: ● Standard ; ○ Optional



## Technical data (Lithium Battery)

Distinguishing mark	1.1	Manufacturer (abbreviation)	HANGCHA GROUP CO.,LTD.				
	1.2	Manufacturer's type designation	CCD20-XC5-ID	CCD25-XC5-ID	CCD30-XC5-ID		
1.3	Drive: electric	Electric	Electric	Electric			
1.4	Operator type	Seated	Seated	Seated			
1.5	Rated capacity/rated load	Q (kg)	2000	2500	3000		
1.6	Load centre distance	c (mm)	600	600	600		
1.8	Load distance, centre of drive axle to fork	x (mm)	257	257	257		
1.9	Wheelbase	y (mm)	1477	1477	1477		
Weight	2.1	Service weight (incl. battery)	kg	3960	4040	4200	
Tyres, chassis	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane		polyurethane	polyurethane	polyurethane	
	3.2	Tyre size, front	Φmm•mm	250x75/285x100[2]	250x75/285x100[2]	250x75/285x100[2]	
	3.3	Tyre size, rear	Φmm•mm	406x152	406x152	406x152	
	3.4	Additional wheels(dimensions)	Φmm•mm	250x75[2]	250x75[2]	250x75[2]	
	3.5	Wheels, number front/rear (* - driven wheels)		2/2[1x]	2/2[1x]	2/2[1x]	
	3.6	Tread, front	b10(mm)	1450	1450	1450	
	3.7	Tread, rear	b11(mm)	1372	1372	1372	
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β(°)	3/6	3/6	3/6	
	4.2	Height, mast lowered	h1(mm)	2960	2960	2960	
	4.3	Free lift	h2(mm)	70	70	70	
	4.4	Lift	h3(mm)	4000	4000	4000	
	4.5	Height, mast extended	h4(mm)	5005	5005	5005	
	4.7	Height of overhead guard	h6(mm)	2350	2350	2350	
	4.8	Seat height relating to SIP/stand height	h7(mm)	1185	1185	1185	
	4.10	Height of wheel arms	h8(mm)	390	390	390	
	4.19	Overall length	l1(mm)	2351	2351	2351	
	4.20	Length to face of forks	l2(mm)	1201	1201	1201	
		Overall width	b1(mm)	1850	1850	1850	
	4.22	Fork dimensions DIN ISO 2331	s/e/l(mm)	45/122/1150 <sup>1)</sup>	45/122/1150 <sup>1)</sup>	45/122/1150 <sup>1)</sup>	
	4.24	Fork-carriage width	b3(mm)	930 <sup>1)</sup>	930 <sup>1)</sup>	930 <sup>1)</sup>	
	4.25	Fork spread	b5(mm)	310-790 <sup>1)</sup>	310-790 <sup>1)</sup>	310-790 <sup>1)</sup>	
	4.26	Distance between wheel arms/loading surfaces	b4(mm)	950	950	950	
	4.28	Reach distance	l4(mm)	690	690	690	
	4.32	Ground clearance, centre of wheelbase	m2(mm)	100	100	100	
		Aisle width for pallets 1200 - 6000 crossways	Ast(mm)	2601 <sup>2)</sup>	2601 <sup>2)</sup>	2601 <sup>2)</sup>	
	4.35	Turning radius	Wa(mm)	1873[Straight mode]/1850[Sideways travel mode]/1520[360° travel mode]			
	4.37	Length across wheel arms	l7(mm)	1900	1900	1900	
	Performance data	5.1	Travel speed, laden/unladen	km/h	11.5/12	11/12	10.5/12
		5.2	Lift speed, laden/unladen	mm/s	0.32/0.55	0.32/0.55	0.32/0.55
5.3		Lowering speed, lade/unladen	mm/s	0.535/0.535	0.535/0.535	0.535/0.535	
5.4		Reaching speed, laden/unladen	mm/s	140/160	140/160	140/160	
5.8		Max. gradeability, laden/unladen	%	9/12	9/12	9/12	
5.10		Service brake		Electronic	Electronic	Electronic	
	Parking brake		Electronic	Electronic	Electronic		
Electric-engine	6.1	Drive motor rating S2 60 min	kW	8.1	8.1	8.1	
	6.2	Lift motor rating at S3 15 %	kW	21	21	21	
	6.3	Battery according to DIN 43531/35/36 A, B, C, no		no	no	no	
	6.4	Battery voltage/nominal capacity K5	V]/[Ah) or kWh	80/250	80/346	80/346	
	Battery weight	kg	400	400	400		

Note: 1)Standard fork carriage, if the length of pallet > 3m, it is recommended to choose widened fork carriage (see the mast specification for details)

2)When stacking with sideways travel mode, it is important to reserve an adequate safety height at the bottom layer of the shelves to facilitate the storage and retrieval of goods.

## Mast Specification

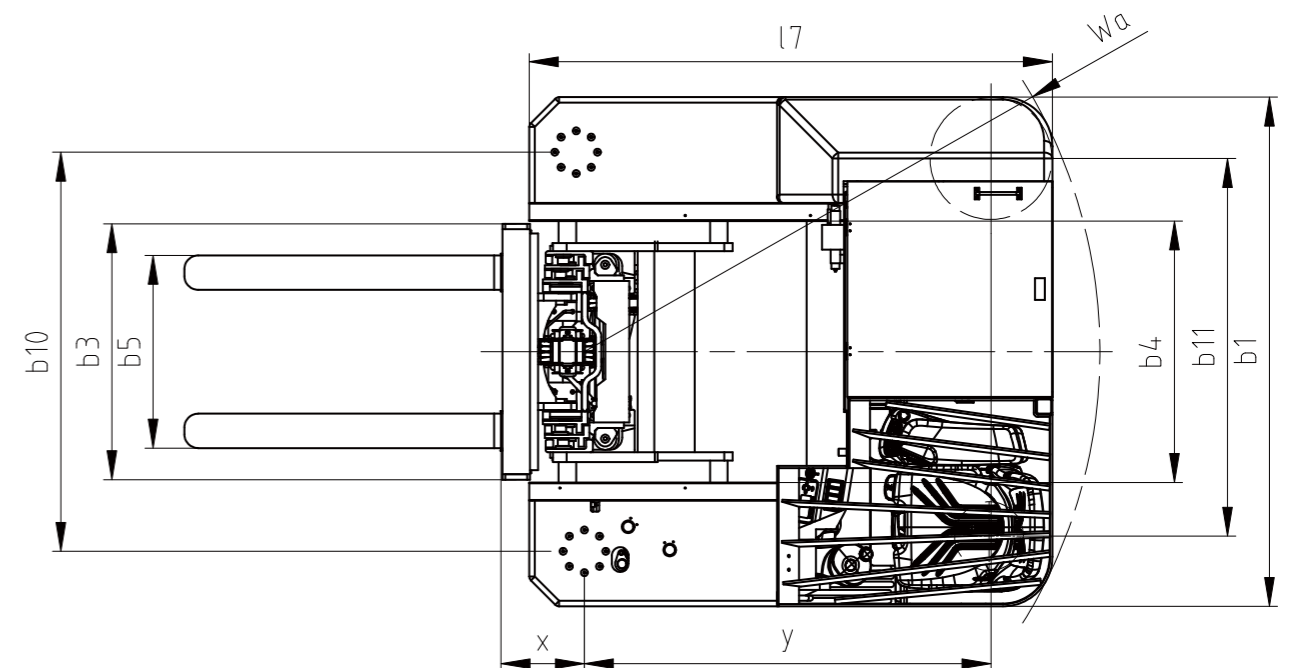
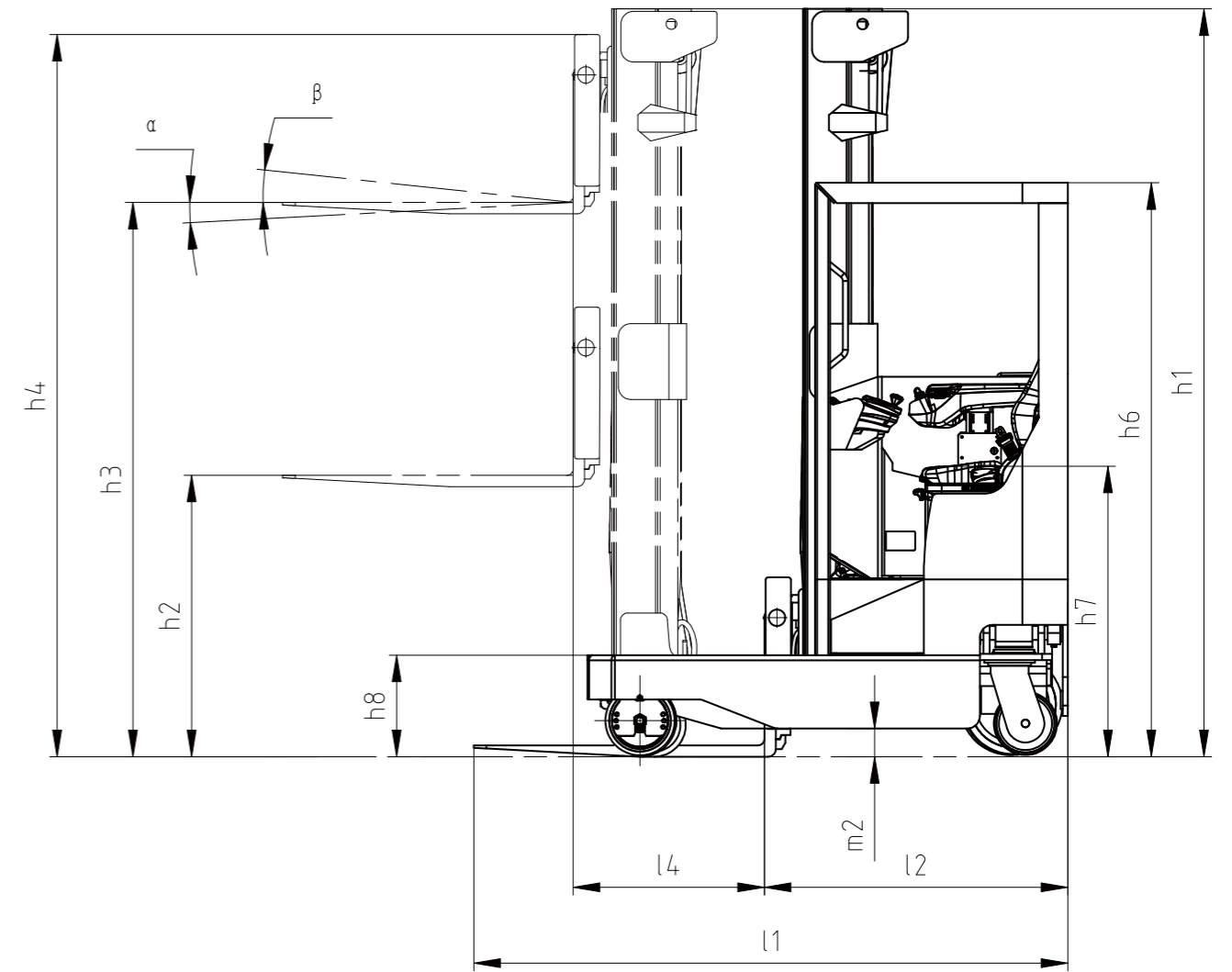
	Model	Lifting height	Lowered	Free lift height	Max. lift height	Fork frame width	Fork dimensions DIN ISO 2331	Fork spread	Load Capacity at 600mm		
		h3(mm)	h1(mm)	h2(mm)	h4(mm)	b3(mm)	s / e / l (mm)	b5(mm)	kg	kg	kg
		Duplex mast	XCD30M400	4000	2960	70	5005	930	45/122/1150	310-790	2000
	XCD30M450	4500	3210	70	5505	930	45/122/1150	310-790	2000	2500	2900
Triplex mast	XCD30N400	4000	2510	1800	5005	930	45/122/1150	310-790	2000	2500	3000
	XCD30N450	4500	2660	1950	5505	930	45/122/1150	310-790	2000	2500	2900
	XCD30N500	5000	2810	2100	6005	930	45/122/1150	310-790	2000	2500	2800
	XCD30N550	5500	2995	2285	6505	930	45/122/1150	310-790	2000	2500	2650
	XCD30N600	6000	3160	2450	7005	930	45/122/1150	310-790	2000	2350	2500
	XCD30N650	6500	3425	2715	7505	930	45/122/1150	310-790	1900	2200	2350
	XCD30N700	7000	3595	2885	8005	930	45/122/1150	310-790	1800	2000	2200
	XCD30N750	7500	3860	3150	8505	930	45/122/1150	310-790	1600	1750	2000
	XCD30N800	8000	4020	3310	9005	930	45/122/1150	310-790	1400	1500	1800
	XCD30N850	8500	4280	3570	9505	930	45/122/1150	310-790	1150	1250	1500

## Mast Specification(Widened fork carriage)

	Model	Lifting height	Lowered	Free lift height	Max. lift height	Fork frame width	Fork dimensions DIN ISO 2331	Fork spread	Load Capacity at 600mm		
		h3(mm)	h1(mm)	h2(mm)	h4(mm)	b3(mm)	s / e / l (mm)	b5(mm)	kg	kg	kg
		Triplex mast	XCD30N400-501	4000	2510	1460	5005	2310	50/122/1150	460-2140	2000
XCD30N450-501	4500		2660	1610	5505	2310	50/122/1150	460-2140	2000	2500	2800
XCD30N500-501	5000		2810	1760	6005	2310	50/122/1150	460-2140	2000	2400	2600
XCD30N550-501	5500		2995	1945	6505	2310	50/122/1150	460-2140	2000	2300	2350
XCD30N600-501	6000		3160	2110	7005	2310	50/122/1150	460-2140	1900	2100	2300
XCD30N650-501	6500		3425	2375	7505	2310	50/122/1150	460-2140	1750	1900	2100
XCD30N700-501	7000		3595	2545	8005	2310	50/122/1150	460-2140	1600	1700	1900
XCD30N750-501	7500		3860	2810	8505	2310	50/122/1150	460-2140	1400	1500	1700
XCD30N800-501	8000		4020	2970	9005	2310	50/122/1150	460-2140	1200	1300	1500
XCD30N850-501	8500		4280	3230	9505	2310	50/122/1150	460-2140	900	1000	1200

# Technical data (Lead-acid Battery)

Distinguishing mark	HANGCHA GROUP CO.,LTD.					
		CCD20-XC5-D	CCD25-XC5-D	CCD30-XC5-D		
1.1	Manufacturer [abbreviation]					
1.2	Manufacturer's type designation					
1.3	Drive: electric	Electric	Electric	Electric		
1.4	Operator type	Seated	Seated	Seated		
1.5	Rated capacity / rated load	Q (kg)	2000	2500	3000	
1.6	Load centre distance	c (mm)	600	600	600	
1.8	Load distance, centre of drive axle to fork	x (mm)	257	257	257	
1.9	Wheelbase	y (mm)	1477	1477	1477	
Weight	2.1	Service weight (incl. battery)	kg	3920	4000	4150
Tyres, chassis	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane		polyurethane	polyurethane	polyurethane
	3.2	Tyre size, front	Φmm·mm	250x75/285x100[2]	250x75/285x100[2]	250x75/285x100[2]
	3.3	Tyre size, rear	Φmm·mm	406x152	406x152	406x152
	3.4	Additional wheels [dimensions]	Φmm·mm	250x75[2]	250x75[2]	250x75[2]
	3.5	Wheels, number front/rear [+ = driven wheels]		2/2[1x]	2/2[1x]	2/2[1x]
	3.6	Tread, front	b10 (mm)	1450	1450	1450
	3.7	Tread, rear	b11 (mm)	1372	1372	1372
Dimensions	4.1	Tilt of mast / fork carriage forward/backward	α/β (°)	3/6	3/6	3/6
	4.2	Height, mast lowered	h1 (mm)	2960	2960	2960
	4.3	Free lift	h2 (mm)	70	70	70
	4.4	Lift	h3 (mm)	4000	4000	4000
	4.5	Height, mast extended	h4 (mm)	5005	5005	5005
	4.7	Height of overhead guard	h6 (mm)	2350	2350	2350
	4.8	Seat height relating to SIP/stand height	h7 (mm)	1185	1185	1185
	4.10	Height of wheel arms	h8 (mm)	390	390	390
	4.19	Overall length	l1 (mm)	2351	2351	2351
	4.20	Length to face of forks	l2 (mm)	1201	1201	1201
		Overall width	b1 (mm)	1850	1850	1850
	4.22	Fork dimensions DIN ISO 2331	s/e/l (mm)	45/122/1150 <sup>1)</sup>	45/122/1150 <sup>1)</sup>	45/122/1150 <sup>1)</sup>
	4.24	Fork-carriage width	b3 (mm)	930 <sup>1)</sup>	930 <sup>1)</sup>	930 <sup>1)</sup>
	4.25	Fork spread	b5 (mm)	310-790 <sup>1)</sup>	310-790 <sup>1)</sup>	310-790 <sup>1)</sup>
	4.26	Distance between wheel arms / loading surfaces	b4 (mm)	950	950	950
	4.28	Reach distance	l4 (mm)	690	690	690
	4.32	Ground clearance, centre of wheelbase	m2 (mm)	100	100	100
		Aisle width for pallets 1200 • 6000 crossways	Ast (mm)	2601 <sup>2)</sup>	2601 <sup>2)</sup>	2601 <sup>2)</sup>
	4.35	Turning radius	Wa (mm)	1873 [Straight mode] / 1850 [Sideways travel mode] / 1520 [360° travel mode]		
	4.37	Length across wheel arms	l7 (mm)	1900	1900	1900
Performance data	5.1	Travel speed, laden/unladen	km/h	11.5/12	11/12	10.5/12
	5.2	Lift speed, laden/unladen	mm/s	0.32/0.55	0.32/0.55	0.32/0.55
	5.3	Lowering speed, laden/unladen	mm/s	0.535/0.535	0.535/0.535	0.535/0.535
	5.4	Reaching speed, laden/unladen	mm/s	140/160	140/160	140/160
	5.8	Max. gradeability, laden/unladen	%	9/12	9/12	9/12
	5.10	Service brake		Electronic	Electronic	Electronic
		Parking brake		Electronic	Electronic	Electronic
Electric-engine	6.1	Drive motor rating S2 60 min	kW	8.1	8.1	8.1
	6.2	Lift motor rating at S3 15 %	kW	21	21	21
	6.3	Battery according to DIN 43531/35/36 A, B, C, no		no	no	no
	6.4	Battery voltage / nominal capacity K5	(V)/(Ah) or kWh	80/300	80/360	80/360
		Battery weight	kg	790	870	870



Note: 1) Standard fork carriage, if the length of pallet > 3m, it is recommended to choose widened fork carriage (see the mast specification for details)  
 2) When stacking with sideways travel mode, it is important to reserve an adequate safety height at the bottom layer of the shelves to facilitate the storage and retrieval of goods.

## Features

Mast	Standard	Options
Standard duplex mast	●	
See the Configuration Table of the Mast		○
Fork and attachment		
Standard fork	●	
Fork carriage	●	
Load backrest	●	
Fork positioner	●	
Non-standard series fork		○
Various attachments		○
Light		
LED headlight	●	
Common alarm lamp		○
Acoustic and optical alarm lamp		○
LED rear lamp		○
Blue lamp		○
Straight projection lamp		○
Horn		
Electric horn	●	
Reversing buzzer	●	
Safety configuration		
Fuse box	●	
OPS system	●	
Safety pedal	●	
Main power switch	●	
Reversing radar		○
Fire extinguisher		○
Speed limit alarm device		○
Driving space		
Standard overhead guard	●	
Steering wheel adjusting device	●	
Anti-skid boarding step	●	
Boarding handle	●	
Electric fan		○
Left and right rearview mirrors		○
Seat		
Standard safety belt seat	●	
Fully-suspended seat		○
Electronic steering		
Electronic steering	●	
Other standard configuration		
Self-locking valve in the tilting fuel circuit	●	
Speed limit valve in the lifting fuel circuit	●	
Hydraulic oil fine filter	●	
Particular market		
CE standard		○
Control mode		
Fingertip system	●	
Instrument rack space		
Smart color-screen instrument (speed mode selection)	●	
Tires		
Polyurethane wheel normally for universal wheel and bearing wheel	●	
Rubber wheel normally for driving wheel	●	

