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ISO45001:2018



ISO14001:2015



ISO9001:2015



HANGCHA trucks conform to the European Safety Requirements.



# X SERIES

ELECTRIC ALL-DIRECTIONAL REACH TRUCK

With capacity of 2,000 to 3,000kg

# X SERIES

## ELECTRIC ALL-DIRECTIONAL REACH TRUCK

### STYLING

Streamlined curved surfaces give the X series electric all-directional reach truck a modern, dynamic appearance.

### STABILITY

- Wide chassis for low centre of gravity.
- Four-point support structure maintains stability at high lift heights.



### ALL-DIRECTIONAL REACH TRUCK 6-WAY TRAVEL

- Longitudinal (forward / reverse)
- Lateral (sideways)
- Automatic longitudinal-lateral switch
- Diagonal (crab)
- 90° right-angle turn
- 360° on-the-spot spin turn

These modes enable the X series electric all-directional reach truck to operate in narrow aisles and confined spaces while handling long loads such as tubing, timber, sheet and coil materials.



*Proportional fingertip hydraulic controls for precise, smooth fork operation.*

## COMFORT & ERGONOMICS

- Electric Power Steering (EPS) with mode-change switch for effortless, intuitive steering.
- Human-engineered layout of tiller, switches and colour LCD cluster.
- Adjustable armrest / joystick height & reach to suit individual operators.
- Fitted with a new, integrated multi-function display that is comprehensive yet easy to read at a glance.



*Two-step entry for easy on/off access. Suspended cab isolates vibration and noise.*

# HIGH EFFICIENCY

- High-lift, high-residual-capacity mast delivers efficient high stacking.
- High flow gear pump driven by high power motor increases lift/lower speed.
- Articulated four-point drive axle ensures excellent indoor/outdoor passability.
- Regenerative braking extends battery shift life.
- Multiple speed modes match different operating conditions.



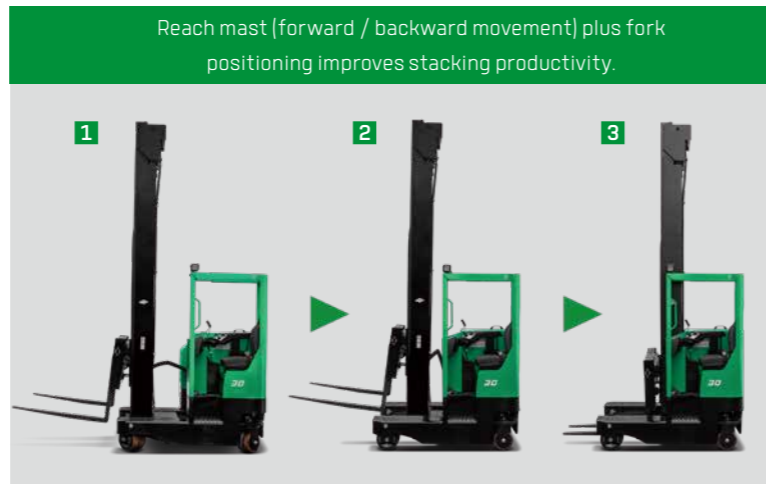
(Super)



(Power)



(Eco)



**Panoramic mast design increases forward and overhead visibility.**



## SPACE SAVING

- Small aisle footprint increases warehouse utilisation.
- All-directional travel and tight turning radius enable operation in very narrow aisles.



# RELIABILITY & SAFETY

- Premium global-brand contactors, controllers, emergency-disconnect switch and power connectors.
- High efficiency AC traction & pump systems with full motor protection.



- Safe pedal prevents inadvertent travel.



- Utilizes a four-point low-center-of-gravity design with heavy-duty frame for demanding loads.
- Combined front & rear braking for safe operation on wet indoor / outdoor floors.



# ADVANCED TECHNOLOGIES

- Electromagnetic Parking Brake (EPB) replaces manual handbrake, enabling smart park-hold.
- The articulated drive-axle and suspended cab deliver superior operator comfort.
- Integrated electro-hydraulic stepless control for smooth travel & lifting.
- Intelligent electromagnetic service brake for rapid, safe stopping.
- Latest AC control system ensures precise adjustment and longer runtime per charge.

- High fork lifting and lowering speeds boost overall productivity.

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

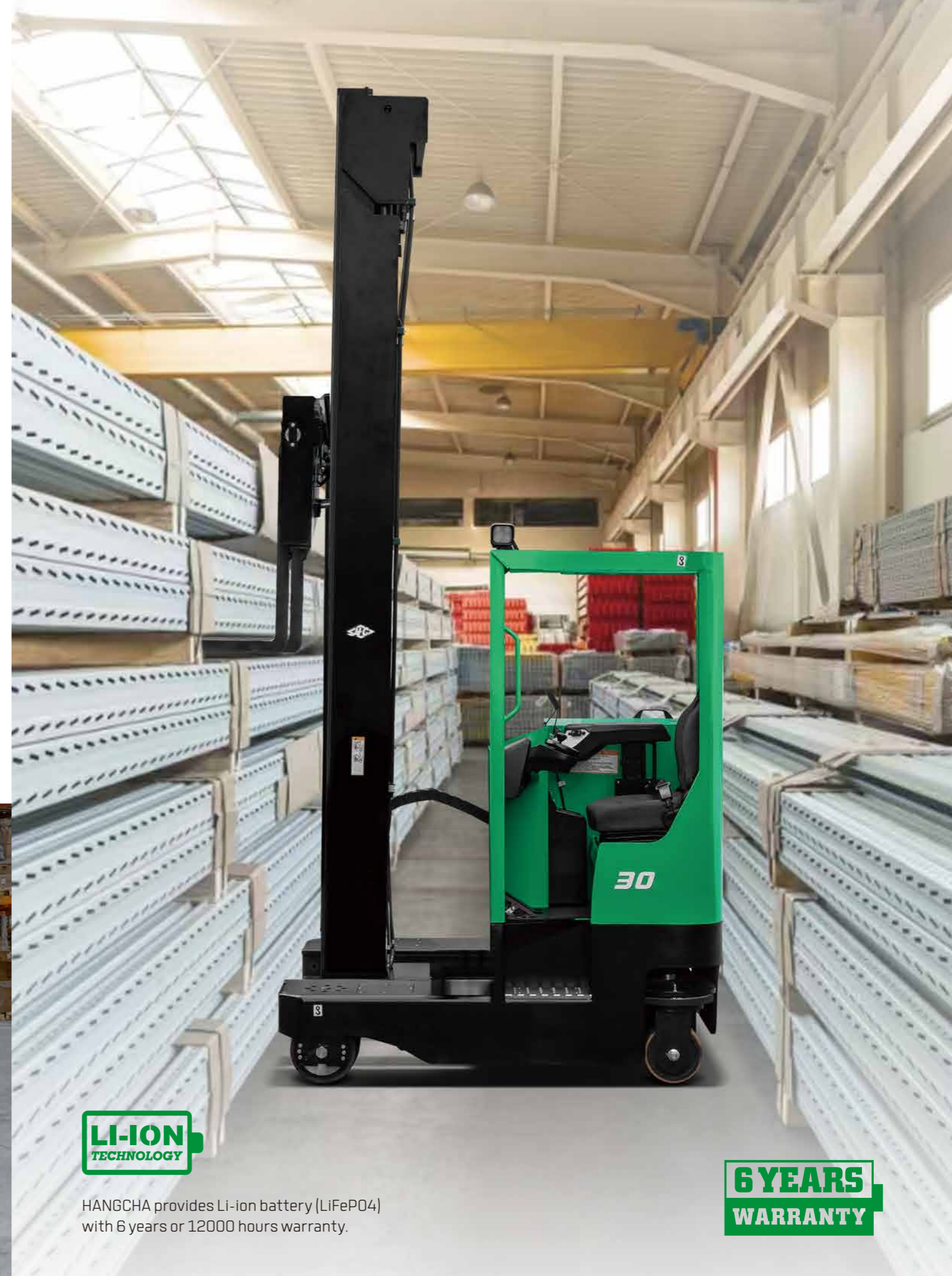
**Lowering speed**  
(laden/unladen)  
370/370 mm/s

- Large LCD display with built-in fault self-diagnosis, readable in harsh environments.



# SERVICEABILITY

- Maintenance-free AC brushless traction and pump motors.
- Wide-opening canopy doors provide full component access.
- Side battery extraction (Standard) for fast change-out and maintenance.
- Highly integrated electrical package mounted on slide-out tray for easy diagnostics.



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

**6 YEARS  
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.



### 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.



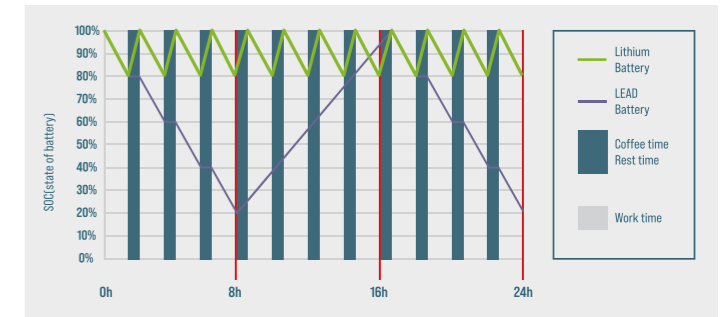
### Opportunity charging

Full performance during several shifts thanks to effective interim charging.

## FEATURES & BENEFITS THE HANGCHA DIFFERENCE

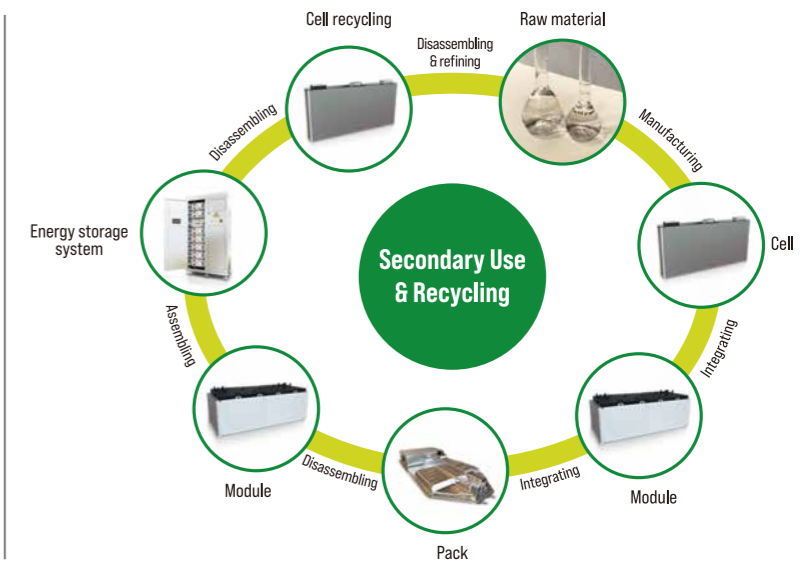
### Efficiency

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

## Optional battery list

Battery Type	Voltag	Capacity	Model
	V	Ah	
Lead-acid	80	300	CCD20-XC4-Q ● CCD20-XC4-Q ○ CCD25-XC4-Q ● CCD30-XC4-Q ●
		440	CCD20-XC4-Q ○ CCD25-XC4-Q ○ CCD30-XC4-Q ○
		250	CCD20-XC4-IQ ●
Lithium	80	346	CCD20-XC4-IQ ○ CCD25-XC4-IQ ● CCD30-XC4-IQ ●
		456	CCD20-XC4-IQ ○ CCD25-XC4-IQ ○ CCD30-XC4-IQ ○

Note: ● Standard ; ○ Optional



## Technical data (Lithium Battery)

Distinguishing mark	HANGCHA GROUP CO.,LTD.						
	1.1	1.2	1.3	1.4	1.5		
1.1	Manufacturer (abbreviation)						
1.2	Manufacturer's type designation	CCD20-XC4-IQ	CCD25-XC4-IQ	CCD30-XC4-IQ			
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)	251	251	251		
1.9	Wheelbase	y (mm)	1477	1477	1477		
Weight	2.1	Service weight (incl.battery)	kg	4080	4160	4320	
Tyres, chassis	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane		polyurethane	polyurethane	polyurethane	
	3.2	Tyre size, front	Φmm x mm	285×100(4)	285×100(4)	285×100(4)	
	3.3	Tyre size, rear	Φmm x mm	406×152	406×152	406×152	
	3.4	Additional wheels(dimensions)	Φmm x mm	250×75(2)	250×75(2)	250×75(2)	
	3.5	Wheels, number front/rear (x=driven wheels)		2/2(1×)	2/2(1×)	2/2(1×)	
	3.6	Tread, front	b10 (mm)	1452	1452	1452	
	3.7	Tread, rear	b11 (mm)	1412	1412	1412	
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 (cabin)	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)	960 <sup>1)</sup>	960 <sup>1)</sup>	960 <sup>1)</sup>	
	4.25	Fork spread	b5 (mm)	310-780 <sup>1)</sup>	310-780 <sup>1)</sup>	310-780 <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]/1460[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	320/550	320/550	320/550
5.3		Lowering speed, lade/unladen	mm/s	370/370	370/370	370/370	
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	
Electric-engine	b)	Parking brake		Electronic	Electronic	Electronic	
	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

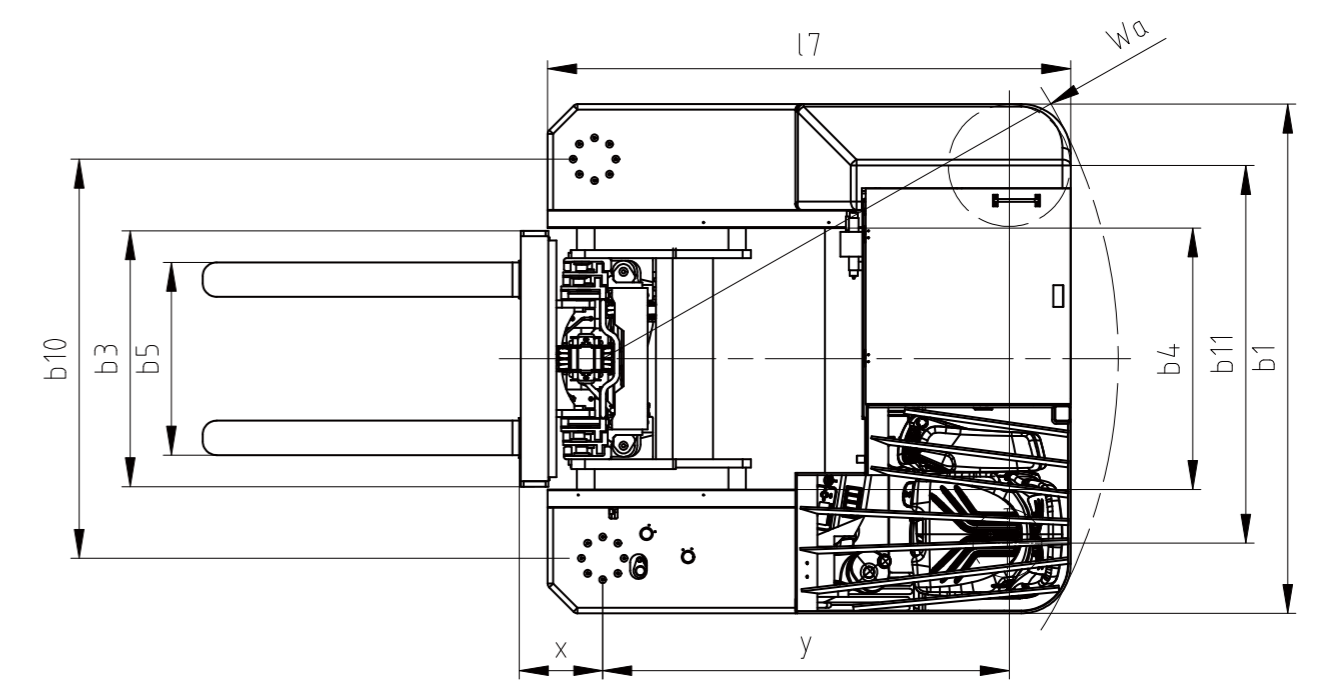
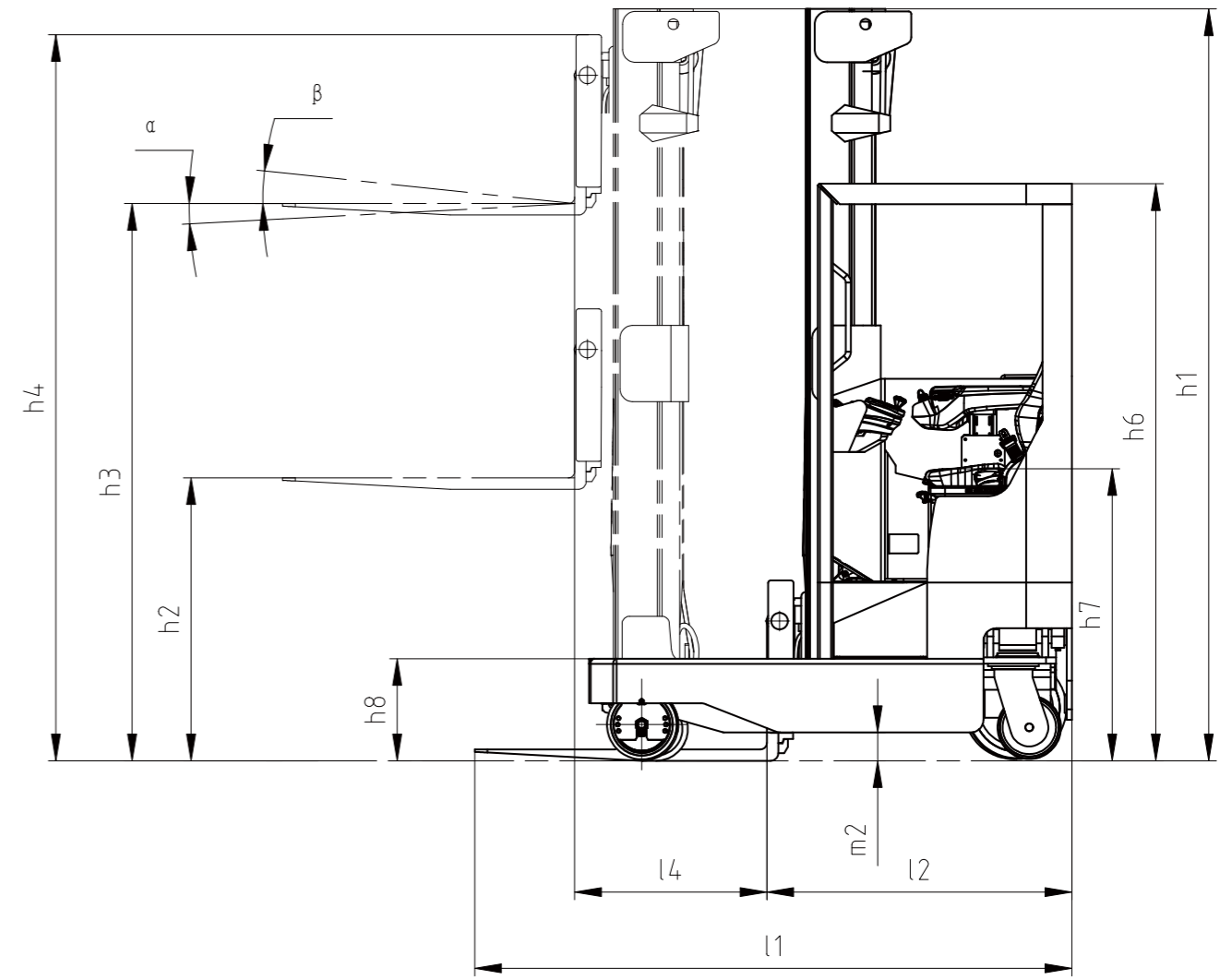
	Model	Lifting height	Height, mast lowered	Free lift height	Height, mast extended	Fork frame width	Fork dimensions DIN ISO 2331	Fork spread	Load Capacity at 600mm		
		h3 (mm)	h1 (mm)	h2 (mm)	h4 (mm)	b3 (mm)	s / e / l (mm)	bs (mm)	kg	kg	kg
		h3 (mm)	h1 (mm)	h2 (mm)	h4 (mm)	b3 (mm)	s / e / l (mm)	bs (mm)	kg	kg	kg
Duplex mast	XCD30M400	4000	2960	70	5005	960	45/122/1150	310-780	2000	2500	3000
	XCD30M450	4500	3210	70	5505	960	45/122/1150	310-780	2000	2500	2900
Triplex mast	XCD30N400	4000	2510	1800	5005	960	45/122/1150	310-780	2000	2500	3000
	XCD30N450	4500	2660	1950	5505	960	45/122/1150	310-780	2000	2500	2900
	XCD30N500	5000	2810	2100	6005	960	45/122/1150	310-780	2000	2500	2800
	XCD30N550	5500	2995	2285	6505	960	45/122/1150	310-780	2000	2500	2650
	XCD30N600	6000	3160	2450	7005	960	45/122/1150	310-780	2000	2350	2500
	XCD30N650	6500	3425	2715	7505	960	45/122/1150	310-780	1900	2200	2350
	XCD30N700	7000	3595	2885	8005	960	45/122/1150	310-780	1800	2000	2200
	XCD30N750	7500	3860	3150	8505	960	45/122/1150	310-780	1600	1750	2000
	XCD30N800	8000	4020	3310	9005	960	45/122/1150	310-780	1400	1500	1800
	XCD30N850	8500	4280	3570	9505	960	45/122/1150	310-780	1150	1250	1500

## Mast Specification(Widened fork carriage)

	Model	Lifting height	Height, mast lowered	Free lift height	Height, mast extended	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)	bs (mm)	kg	kg	kg
		h3 (mm)	h1 (mm)	h2 (mm)	h4 (mm)	b3 (mm)	s / e / l (mm)	bs (mm)	kg	kg	kg
Triplex mast	XCD30N400-501	4000	2510	1460	5005	2310	50/122/1150	460-2130	2000	2500	3000
	XCD30N450-501	4500	2660	1610	5505	2310	50/122/1150	460-2130	2000	2500	2800
	XCD30N500-501	5000	2810	1760	6005	2310	50/122/1150	460-2130	2000	2400	2600
	XCD30N550-501	5500	2995	1945	6505	2310	50/122/1150	460-2130	2000	2300	2350
	XCD30N600-501	6000	3160	2110	7005	2310	50/122/1150	460-2130	1900	2100	2300
	XCD30N650-501	6500	3425	2375	7505	2310	50/122/1150	460-2130	1750	1900	2100
	XCD30N700-501	7000	3595	2545	8005	2310	50/122/1150	460-2130	1600	1700	1900
	XCD30N750-501	7500	3860	2810	8505	2310	50/122/1150	460-2130	1400	1500	1700
	XCD30N800-501	8000	4020	2970	9005	2310	50/122/1150	460-2130	1200	1300	1500
	XCD30N850-501	8500	4280	3230	9505	2310	50/122/1150	460-2130	900	1000	1200

# Technical data (Lead-acid Battery)

Distinguishing mark	1.1	Manufacturer (abbreviation)	HANGCHA GROUP CO., LTD.			
	1.2	Manufacturer's type designation	CCD20-XC4-Q	CCD25-XC4-Q	CCD30-XC4-Q	
	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)	251	251	251
	1.9	Wheelbase	y (mm)	1477	1477	1477
	Weight	2.1	Service weight (incl. battery)	kg	4090	4165
Tyres, chassis	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane	polyurethane	polyurethane	polyurethane	
	3.2	Tyre size, front	Φmm × mm	285×100(4)	285×100(4)	285×100(4)
	3.3	Tyre size, rear	Φmm × mm	406×152	406×152	406×152
	3.4	Additional wheels (dimensions)	Φmm × mm	250×75(2)	250×75(2)	250×75(2)
	3.5	Wheels, number front/rear (x=driven wheels)		2/2(1×)	2/2(1×)	2/2(1×)
	3.6	Tread, front	b <sub>10</sub> (mm)	1452	1452	1452
	3.7	Tread, rear	b <sub>11</sub> (mm)	1412	1412	1412
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β (°)	3/6	3/6	3/6
	4.2	Height, mast lowered	h <sub>1</sub> (mm)	2960	2960	2960
	4.3	Free lift	h <sub>2</sub> (mm)	70	70	70
	4.4	Lift	h <sub>3</sub> (mm)	4000	4000	4000
	4.5	Height, mast extended	h <sub>4</sub> (mm)	5005	5005	5005
	4.7	Height of overhead guard (cabin)	h <sub>6</sub> (mm)	2350	2350	2350
	4.8	Seat height relating to SIP/stand height	h <sub>7</sub> (mm)	1185	1185	1185
	4.10	Height of wheel arms	h <sub>8</sub> (mm)	390	390	390
	4.19	Overall length	l <sub>1</sub> (mm)	2351	2351	2351
	4.20	Length to face of forks	l <sub>2</sub> (mm)	1201	1201	1201
		Overall width	b <sub>1</sub> (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	b <sub>3</sub> (mm)	960 <sup>1)</sup>	960 <sup>1)</sup>	960 <sup>1)</sup>
	4.25	Fork spread	b <sub>5</sub> (mm)	310-780 <sup>1)</sup>	310-780 <sup>1)</sup>	310-780 <sup>1)</sup>
	4.26	Distance between wheel arms/loading surfaces	b <sub>4</sub> (mm)	950	950	950
	4.28	Reach distance	l <sub>4</sub> (mm)	690	690	690
	4.32	Ground clearance, centre of wheelbase	m <sub>2</sub> (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]/1450[360° travel mode]		
	4.37	Length across wheel arms	l <sub>7</sub> (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	320/550	320/550	320/550
	5.3	Lowering speed, laden/unladen	mm/s	370/370	370/370	370/370
	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
b)	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	840	915	915



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	●	

