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ISO45001:2018

ISO14001:2015

ISO9001:2015

HANGCHA trucks conform to the European Safety Requirements.



X SERIES

ELECTRIC MULTIDIRECTIONAL SIDELOADER

With capacity of 3,500 to 4,500kg

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Making Material Handling Easier

X SERIES

ELECTRIC MULTIDIRECTIONAL SIDELOADER

The 3.5-4.5t electric multidirectional sideloader 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. With a four-pivot structure, the vehicle has good stability when performing a high lift, and features high load capacity, small turning radius, advanced performance, comfortable operation, and safety and reliability. It is the ideal truck for indoor and outdoor long material handling and stacking.



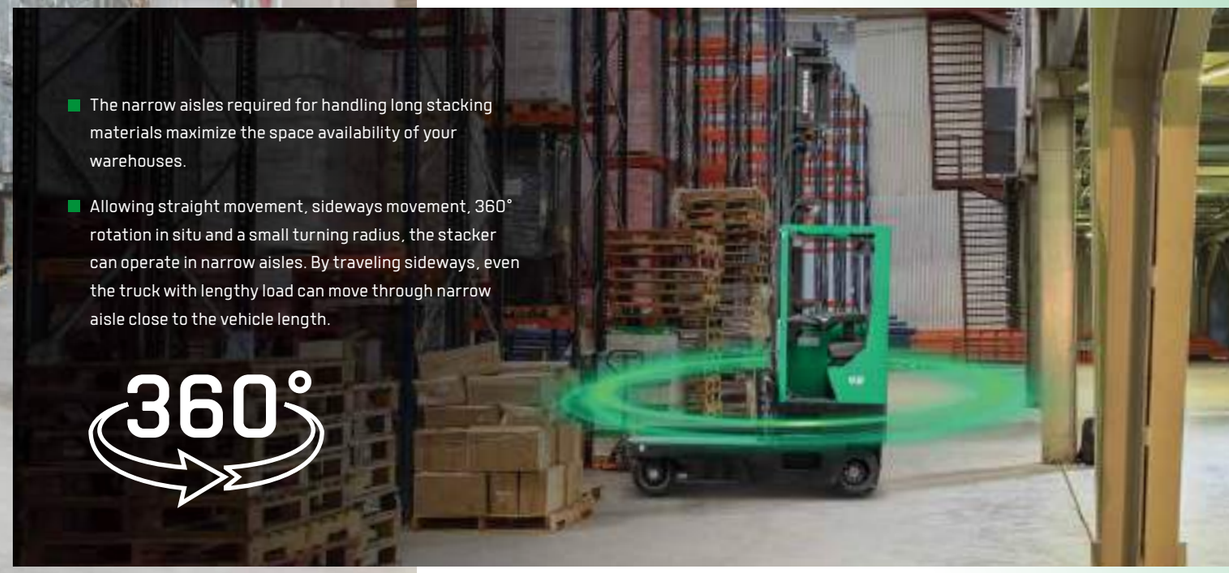




HIGH EFFICIENCY

Mast

- The mast can be moved forward and backward, and equipped with distance adjusting forks, stacking efficiency is improved.
- The high lift mast boasts high load capacity and improved stacking efficiency.



- The narrow aisles required for handling long stacking materials maximize the space availability of your warehouses.
- 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.

Applicable Places


Pipes


Sheets


Large And Long Materials

APPEARANCE

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

STABILITY

- Wide body structure design allows the stacker to have good stability.
- With a four-pivot structure, the vehicle has good stability when performing a high lift.

- A high-power oil pump motor is used. The large-displacement silent gear pumps improve the lift and lower 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 energy regeneration system enables the battery to support longer operating hours after being charged once.
- With several speed modes, the vehicle is adapted to different operating conditions.

S (Super) P (Power) E (Eco)

RELIABILITY AND SAFETY

- The efficient AC power system has complete protection functions and greatly improved reliability and service life.
- The optimized design of the wide-view mast enables the operator to get a better view, and improves the operation safety.
- The four-pivot low center of gravity design and the high strength design of the main force-bearing components of the frame are appropriate to heavy load operating conditions.







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



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

ADVANCED TECHNOLOGY

- Instead of a traditional handbrake, an electromagnetic brake is used to realize the intelligent braking.
- The high lift and lower speed greatly improve the operation efficiency.
- The integrated mechanical, electrical and hydraulic control realizes the stepless speed regulation of the vehicle driving and the fork movement, more precisely and stably.
- The large-screen LCD display and the gauges with fault self-diagnosis functions can accurately display information in harsh environments.



CCD45-XC4-ID

350 mm/s
Lift speed (laden)

460 mm/s
Lowering speed (laden)

MAINTAINABILITY

- The fully open door enables easy repair, maintenance and tuning.
- The electronically controlled electrical components are placed together and highly integrated.
- The battery removed from a side of the vehicle enables easy repair and maintenance of the battery.





CONVENIENT MAINTENANCE

LITHIUM POWERED

LI-ION TECHNOLOGY

INNOVATIVE LITHIUM-ION

EMPOWER YOURSELF WITH THE BEST



V80 LITHIUM ION

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.

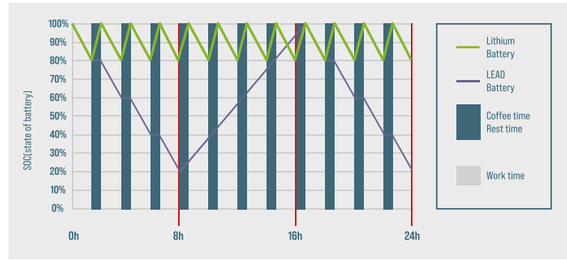
High safety and reliability
Intelligent battery management monitoring every important function, no emission of battery gasses.

Opportunity charging
Full performance during several shifts thanks to effective interim charging.

FEATURES & BENEFITS
THE HANGCHA DIFFERENCE

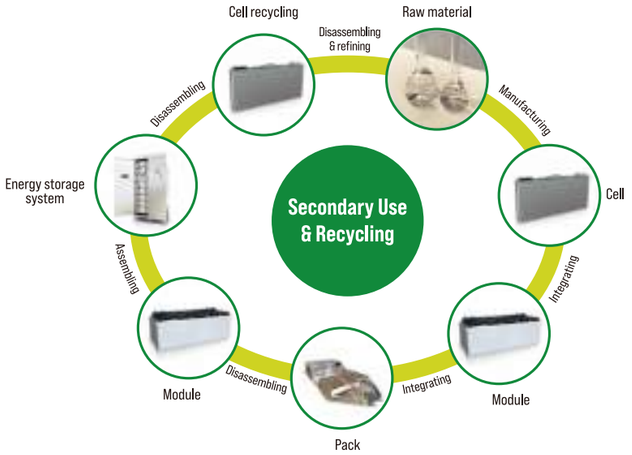
Efficiency

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℃-65℃
Discharge temperature:	-30℃-65℃
Storage environment temperature:	-30℃-65℃

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	480	CCD35-XC4-D ●
		540	CCD35-XC4-D ○ CCD40-XC4-D ●
		660	CCD35-XC4-D ○ CCD40-XC4-D ○ CCD45-XC4-D ●
Lithium	80	456	CCD35-XC4-ID ●
		536	CCD35-XC4-ID ○ CCD40-XC4-ID ● CCD45-XC4-ID ●
		604	CCD35-XC4-ID ○ CCD40-XC4-ID ○ CCD45-XC4-ID ○
		684	CCD35-XC4-ID ○ CCD40-XC4-ID ○ CCD45-XC4-ID ○

Note: ● Standard ; ○ Optional

Mast Specification

	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		
								CCD35	CCD40	CCD45
	h3(mm)	h1(mm)	h2(mm)	h4(mm)	b3(mm)	s / e / l (mm)	b5(mm)	kg	kg	kg
Duplex wide view mast	3000	2710	-	4210	1310	55/150/1150	470-1170	3000	4000	4500
	3500	2960	-	4710				3000	4000	4500
	4000	3210	-	5210				3000	4000	4500
	4500	3460	-	5710				3000	4000	4200
	5000	3710	-	6210				3000	3800	4000
Triplex mast	4500	2710	1467	5688	1310	55/150/1150	470-1170	3000	4000	4200
	5000	2830	1587	6188				3000	3800	4000
	5500	3000	1757	6688				3000	3600	3800
	6000	3200	1957	7188				3000	3400	3600
	6500	3370	2127	7688				2800	3100	3400
	7000	3590	2347	8188				2500	2800	3100
	7500	3850	2607	8688				2200	2500	2800
	8000	4000	2757	9188				2000	2200	2500

Mast Specification(Widened fork carriage)

	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		
								CCD35	CCD40	CCD45
	h3(mm)	h1(mm)	h2(mm)	h4(mm)	b3(mm)	s / e / l (mm)	b5(mm)	kg	kg	kg
Duplex mast	3000	2710	-	4210	2960	55/150/1150	400-2840	3000	4000	4500
	3500	2960	-	4710				3000	4000	4500
	4000	3210	-	5210				3000	4000	4500
	4500	3460	-	5710				3000	3800	4000
	5000	3710	-	6210				3000	3600	3800
Triplex mast	4500	2710	1467	5688	2960	55/150/1150	400-2840	3000	3800	4000
	5000	2830	1587	6188				3000	3600	3800
	5500	3000	1757	6688				3000	3400	3600
	6000	3200	1957	7188				2800	3100	3400
	6500	3370	2127	7688				2500	2800	3100
	7000	3590	2347	8188				2200	2500	2800
	7500	3850	2607	8688				2000	2300	2500
	8000	4000	2757	9188				1800	2000	2300

Technical data (Lithium Battery)

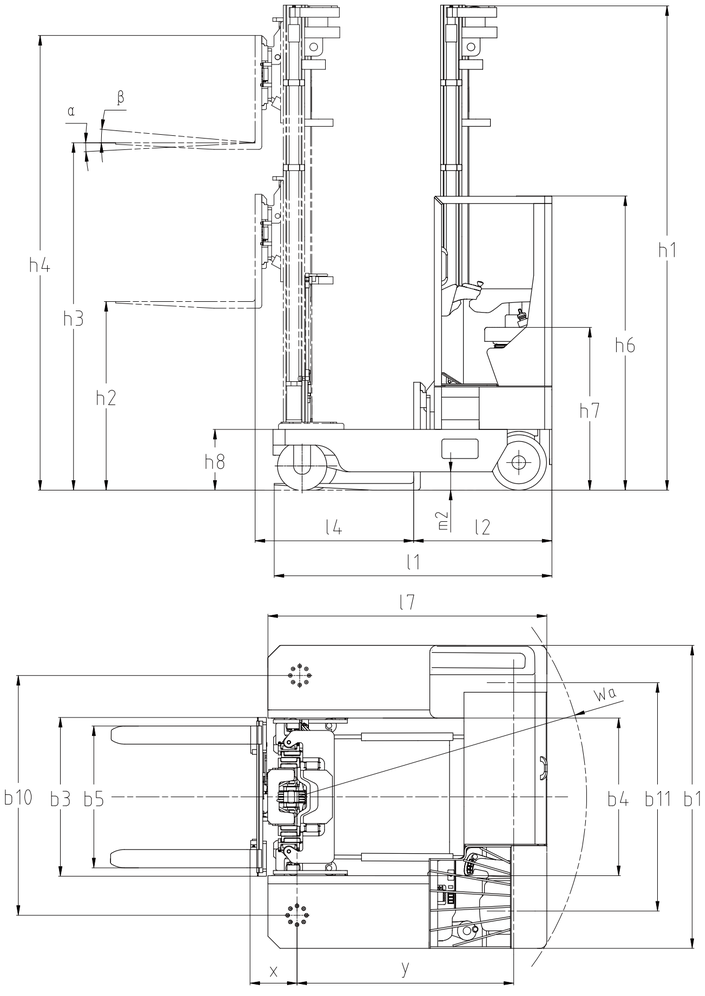
Distinguishing mark	1.1	Manufacturer		HANGCHA GROUP CO.,LTD.		
	1.2	Manufacturer's type designition		CCD35-XC4-ID	CCD40-XC4-ID	CCD45-XC4-ID
	1.3	Drive: electric		Electric	Electric	Electric
	1.4	Operator type		Seated	Seated	Seated
	1.5	Rated capacity/rated load	Q (kg)	3500	4000	4500
	1.6	Load centre distance	c (mm)	600	600	600
	1.8	Load distance, centre of drive axle to fork	x (mm)	340	340	340
	1.9	Wheelbase	y (mm)	1765	1765	1765
Weight	2.1	Service weight (incl.battery)	kg	6500	6800	6800
Tyres, chassis	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane		polyurethane	polyurethane	polyurethane
	3.2	Tyre size, front	Φmm×mm	406×127(4)	406×127(4)	406×127(4)
	3.3	Tyre size, rear	Φmm×mm	457×229(2)	457×229(2)	457×229(2)
	3.5	Wheels, number front/rear (X = driven wheels)		4/2x	4/2x	4/2x
	3.6	Tread, front	b_{10} (mm)	1978	1978	1978
	3.7	Tread, rear	b_{11} (mm)	1954	1954	1954
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β (°)	3/5	3/5	3/5
	4.2	Height, mast lowered	h_1 (mm)	3210	3210	3210
	4.4	Lift	h_3 (mm)	4000	4000	4000
	4.5	Height, mast extended	h_4 (mm)	5210	5210	5210
	4.7	Height of overhead guard (cabin)	h_6 (mm)	2423	2423	2423
	4.8	Seat height relating to SIP/stand height	h_7 (mm)	1340	1340	1340
	4.10	Height of wheel arms	h_8 (mm)	500	500	500
	4.19	Overall length	l_1 (mm)	2300	2300	2300
	4.20	Length to face of forks	l_2 (mm)	1140	1140	1140
	4.21	Overall width	b_1 (mm)	2500	2500	2500
	4.22	Fork dimensions DIN ISO 2331	s / e / l (mm)	55/150/1150[1]	55/150/1150[1]	55/150/1150[1]
	4.24	Fork-carriage width	b_3 (mm)	1310[1]	1310[1]	1310[1]
	4.25	Fork spread	b_5 (mm)	470-1170[1]	470-1170[1]	470-1170[1]
	4.26	Distance between wheel arms/loading surfaces	b_4 (mm)	1300	1300	1300
	4.28	Reach distance	l_4 (mm)	1300	1300	1300
	4.32	Ground clearance, centre of wheelbase	m_2 (mm)	150	150	150
		Aisle width for pallets 1200×6000 crossways	Ast (mm)	2600[2]	2600[2]	2600[2]
	4.35	Turning radius	Wa (mm)	2388(Straight mode)/2485(Sideways travel mode)/1675(360° travel mode)		
	4.37	Length across wheel arms	l_7 (mm)	2300	2300	2300
Performance data	5.1	Travel speed, laden/unladen	km/h	11/12	10/12	9/12
	5.2	Lift speed, laden/unladen	mm/s	320/450	390/460	350/460
	5.3	Lowering speed, lade/unladen	mm/s	460/460	460/460	460/460
	5.4	Reaching speed, laden/unladen	mm/s	100/100	100/100	100/100
	5.8	Max. gradeability, laden/unladen	%	9/11	8/10	8/10
	5.10	Service brake		Electronic	Electronic	Electronic
	5.10a	Parking brake		Electronic	Electronic	Electronic
Electric-engine	6.1	Drive motor rating S2 60 min	kW	5.0×2	5.0×2	5.0×2
	6.2	Lift motor rating at S3 15%	kW	21	25.4	25.4
	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	80/456	80/536	80/536
	6.5	Battery weight	kg	400	420	420

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.

Technical data (Lead-acid Battery)

Distinguishing mark	1.1	Manufacturer		HANGCHA GROUP CO.,LTD.		
	1.2	Manufacturer's type designition		CCD35-XC4-D	CCD40-XC4-D	CCD45-XC4-D
	1.3	Drive: electric		Electric	Electric	Electric
	1.4	Operator type		Seated	Seated	Seated
	1.5	Rated capacity/rated load	Q [kg]	3500	4000	4500
	1.6	Load centre distance	c [mm]	600	600	600
	1.8	Load distance, centre of drive axle to fork	x [mm]	340	340	340
	1.9	Wheelbase	y [mm]	1765	1765	1765
Weight	2.1	Service weight [incl.battery]	kg	6500	6800	6800
Tyres, chassis	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane		polyurethane	polyurethane	polyurethane
	3.2	Tyre size, front	Φmm×mm	406×127[4]	406×127[4]	406×127[4]
	3.3	Tyre size, rear	Φmm×mm	457×229[2]	457×229[2]	457×229[2]
	3.5	Wheels, number front/rear (X = driven wheels)		4/2x	4/2x	4/2[2x]
	3.6	Tread, front	b_{10} [mm]	1978	1978	1978
	3.7	Tread, rear	b_{11} [mm]	1954	1954	1954
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β [°]	3/5	3/5	3/5
	4.2	Height, mast lowered	h_1 [mm]	3210	3210	3210
	4.4	Lift	h_3 [mm]	4000	4000	4000
	4.5	Height, mast extended	h_4 [mm]	5210	5210	5210
	4.7	Height of overhead guard [cabin]	h_6 [mm]	2423	2423	2423
	4.8	Seat height relating to SIP/stand height	h_7 [mm]	1340	1340	1340
	4.10	Height of wheel arms	h_8 [mm]	500	500	500
	4.19	Overall length	l_1 [mm]	2300	2300	2300
	4.20	Length to face of forks	l_2 [mm]	1140	1140	1140
	4.21	Overall width	b_1 [mm]	2500	2500	2500
	4.22	Fork dimensions DIN ISO 2331	s / e / l [mm]	55/150/1150[1]	55/150/1150[1]	55/150/1150[1]
	4.24	Fork-carriage width	b_3 [mm]	1310[1]	1310[1]	1310[1]
	4.25	Fork spread	b_5 [mm]	470-1170[1]	470-1170[1]	470-1170[1]
	4.26	Distance between wheel arms/loading surfaces	b_4 [mm]	1300	1300	1300
	4.28	Reach distance	l_4 [mm]	1300	1300	1300
	4.32	Ground clearance, centre of wheelbase	m_2 [mm]	150	150	150
		Aisle width for pallets 1200×6000 crossways	Ast [mm]	2600[2]	2600[2]	2600[2]
	4.35	Turning radius	Wa [mm]	2388[Straight mode]/2485[Sideways travel mode]/1675[360° travel mode]		
	4.37	Length across wheel arms	l_7 [mm]	2300	2300	2300
Performance data	5.1	Travel speed, laden/unladen	km/h	11/12	10/12	9/12
	5.2	Lift speed, laden/unladen	mm/s	320/450	390/460	350/460
	5.3	Lowering speed, lade/unladen	mm/s	460/460	460/460	460/460
	5.4	Reaching speed, laden/unladen	mm/s	100/100	100/100	100/100
	5.8	Max. gradeability, laden/unladen	%	9/11	8/10	8/10
	5.10	Service brake		Electronic	Electronic	Electronic
	5.10a	Parking brake		Electronic	Electronic	Electronic
Electric-engine	6.1	Drive motor rating S2 60 min	kW	5.0×2	5.0×2	5.0×2
	6.2	Lift motor rating at S3 15%	kW	21	25.4	25.4
	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	80/480	80/540	80/660
	6.5	Battery weight	kg	1240	1340	1680

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
Duplex 4m wide-view mast	●	
See the Configuration Table of the Mast		○
Fork and Attachment		
Standard fork	●	
Fork carriage	●	
Load backrest	●	
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		
Horn	●	
Reversing buzzer	●	
Safety configuration		
OPS system	●	
Safety pedal	●	
Main power switch	●	
Reversing radar		○
Speed limit alarm device		○
Driving space		
Standard overhead guard	●	
Steering wheel adjusting device	●	
Anti-skid boarding step	●	
Boarding handle	●	
Seat		
Safety belt seat	●	
Fully-suspended seat		○
Electric 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		
Smart color-screen instrument (speed mode selection)	●	
Tires		
Rubber wheel	●	