

HELI

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CPD15/18/20/25 /30/35/38

GB2LI-H GB2LI-M GB3LI-S GE3LI-S
GB6LI-H GB3LI-M GB6LI-S GE6LI-S



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* Our products are subject to improvements and changes without notice.

LIION **1.5-3.8 t**
G2 Series Lithium-ion Battery
Forklift Truck

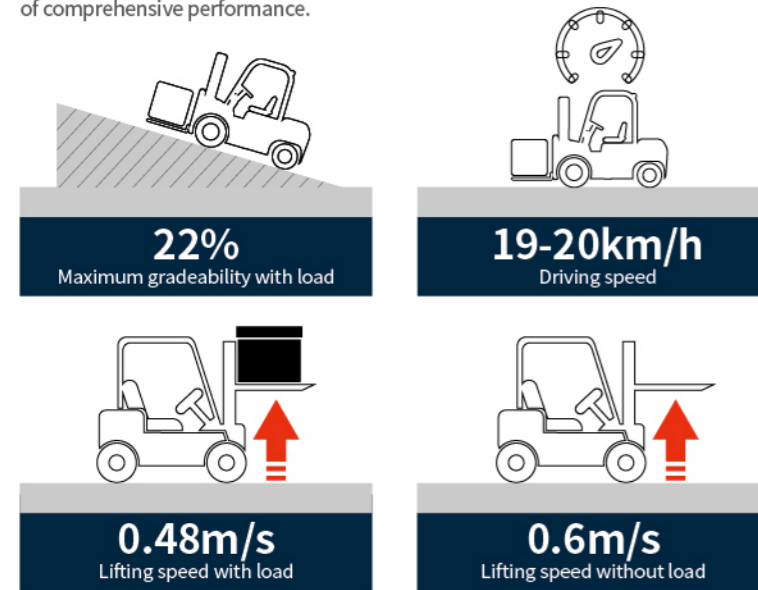
HELI

Fearless of Any Rough Application,
HELI New Series Lithium Forklift,
Your Best Choice



Powerful Performance, High Efficiency

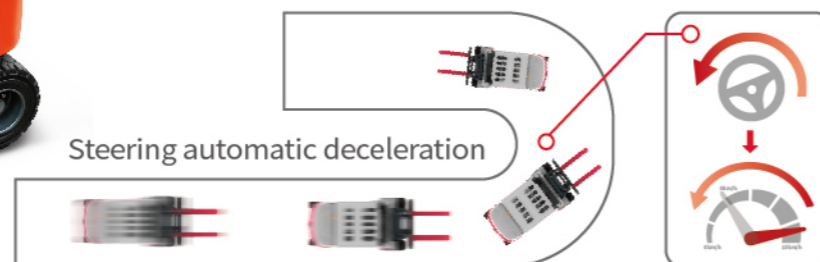
Customers can freely choose from the 3 different configurations: S, M, H. Especially M and H configurations are comparable with internal combustion trucks in terms of comprehensive performance.



Note: the data displayed are all based on the model CPD30-GB2LI-H, and data for other trucks are shown in the table of technical parameters.

Smart and Safe, Ease In All Aspects

- Steering deceleration: Auto steering deceleration reduces the risk of turning over;
- Steering started by steering wheel: the steering wheel can directly start the steering function and provides the required oil quantity according to the steering wheel speed;
- Color screen instrument: Bilingual (CN/EN) options, full vehicle information at a glance;
- PES Three-speed mode: Choose multiple speed modes according to working conditions, guarantee work efficiency;
- Rear handle with horn switch for safer reversing;
- Lithium battery is automatically heated at low temperature, with excellent low temperature adaptability.



Optimized Ergonomic Design, Better Driving Comfort



Large boarding space and foot operation space for more comfortable operation



New type of ratchet hand brake reduces operating force by 17%.

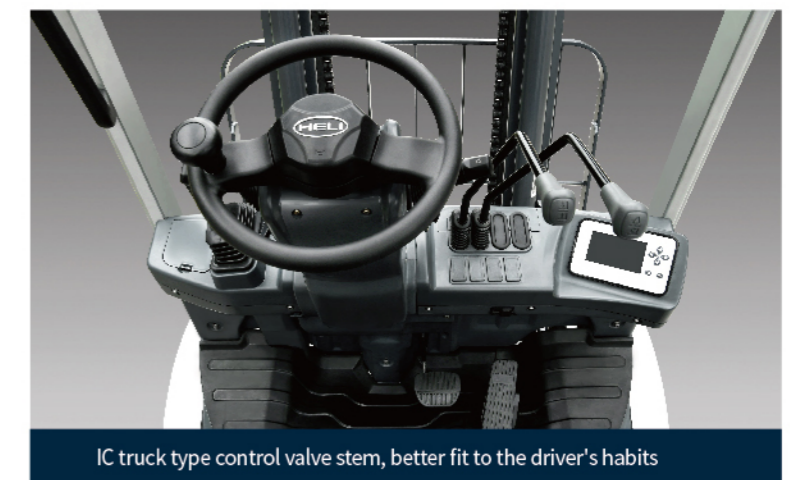


Brake fluid within reach, easy to check and refill

- Optimized mast and pressed overhead guard for improved visibility and safety.
- Ultra-low torque steering gear and lighter steering operation reduces driving fatigue.



USB power supply design is more thoughtful

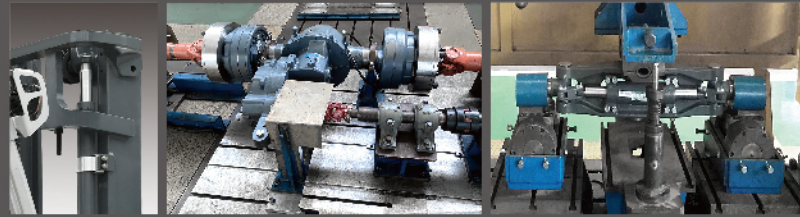


IC truck type control valve stem, better fit to the driver's habits

坡度20%

High Quality & High Reliability

The integrated cast drive axle and reinforced cast steering axle have been proven in the market and are mature and reliable. The mast force optimization design improves the overall performance and effectively ensures the operation safety.



Tested in Rough Operating Environment



IPX4 waterproof: the vehicle is powered on to simulate a 15min short-time 5000L rainstorm test, and the vehicle can continue to run without failures.



After 10mins wading test, the vehicle has no failure. (Water depth 200mm)

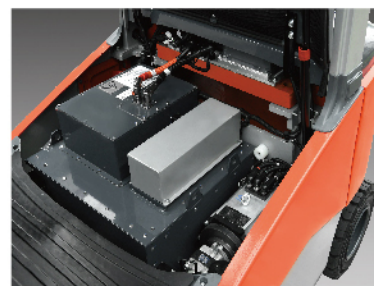
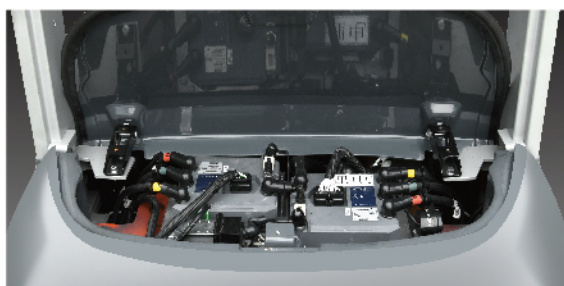


The whole vehicle can be operated alternately in -20°C cold storage for 6 hours and parked in the cold storage for 12 hours without any failure and can continue to work.



The truck passed simulation experiment of bumpy road.

Centralized Checkpoints, Easy Maintenance



The electrical design is concentrated on the top of lithium battery, and the maintenance points are centralized, which is convenient for inspection and maintenance.

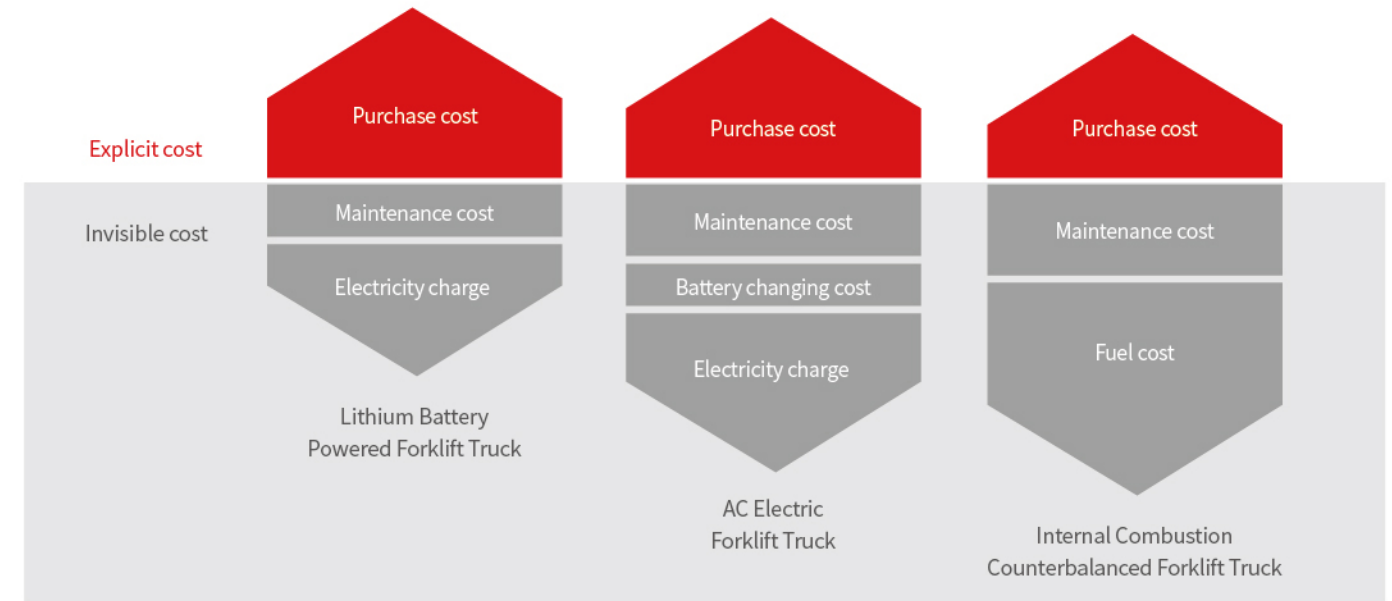
Operating Cost Comparison: Lithium battery forklift **vs.** Lead-acid battery forklift **vs.** IC forklift

The advantages of HELI lithium battery forklift trucks are more prominent in the life cycle cost.

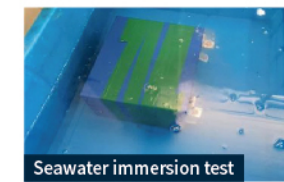
Compared with internal combustion forklift truck, lithium battery forklift truck has the advantages of no noise, no pollution, small vibration and simple operation.

Compared with the lead-acid battery forklift truck, lithium battery forklift has the characteristics of fast charging and charging at any time, which is more suitable for multi shift operation.

Besides, HELI lithium battery forklift is maintenance free, high power conversion efficiency, and economical overall operation cost.



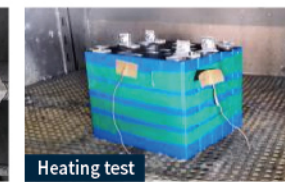
Lithium Battery Advantages



Seawater immersion test



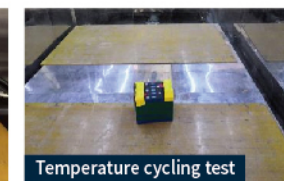
Extrusion test



Heating test



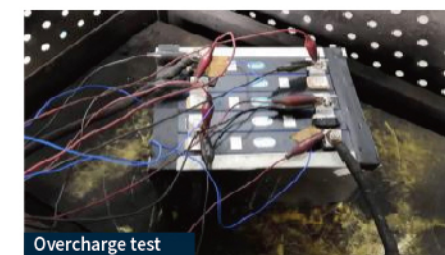
Temperature cycling test



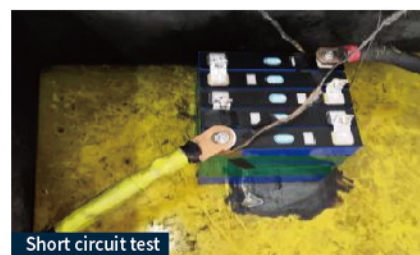
Temperature cycling test



Drop test



Overcharge test

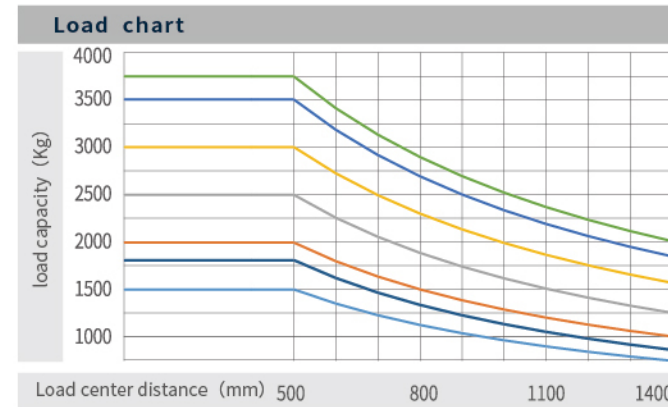
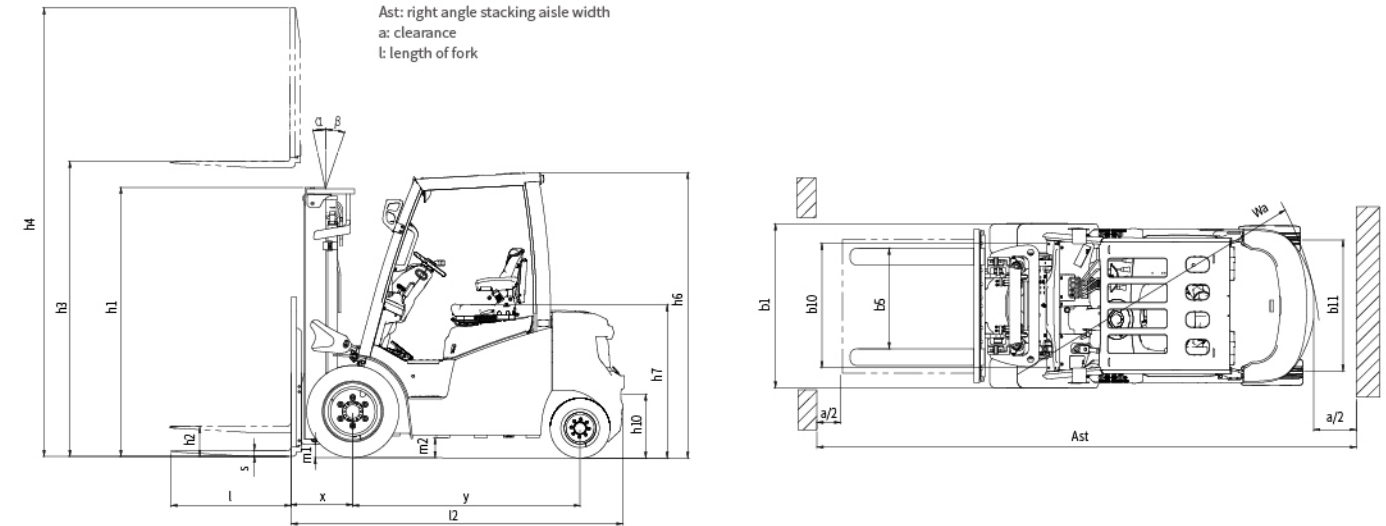


Short circuit test

- The truck selects mature and economical square iron phosphate lithium battery core and module used by large numbers of commercial vehicles; The module adopts aluminum alloy plate frame, which is firm, light in weight and has good heat dissipation effect;
- Fast charging: fast charging makes truck gapless operation possible, and it can be filled in 2 hours;
- High efficiency and safety: The charging and discharging efficiency is up to 98%, and temperature of thermal runaway is over 600 °C;
- Low temperature adaptability: Standard configuration of heating function ensures normal operation of low temperature environment;
- Long service life: the normal charging and discharging cycles is more than 3000 times or 5 years, and capacity retention rate is more than 75%;
- Maintenance free: the battery does not need manual maintenance and does not need to add distilled water electrolyte;
- Green and clean: no pollution and zero emission.

Manufacturer and Technical Data(Tabulation3)										
Characteristics										
1.01	Manufacturer									
1.02	Model		CPD30	CPD35	CPD30	CPD35	CPD30	CPD35	CPD38	CPD38
1.03	Configuration number		GB2LI-H/GB6LI-H	GB2LI-H/GB6LI-H	GB2LI-M/GB3LI-M	GB2LI-M/GB3LI-M	GB3LI-S/GB6LI-S	GB3LI-S/GB6LI-S	GB2LI-M/GB3LI-M	GB3LI-S/GB6LI-S
1.04	Rated capacity	Q	kg	3000	3500	3000	3500	3000	3500	3800
1.05	Load center distance	c	mm	500	500	500	500	500	500	500
1.06	Power mode			Lithium battery	Lithium battery	Lithium battery	Lithium battery	Lithium battery	Lithium battery	Lithium battery
1.07	Driving mode			Seated	Seated	Seated	Seated	Seated	Seated	Seated
1.08	Front overhang	x	mm	477	482	477	482	477	482	482
1.09	Wheelbase	y	mm	1750	1750	1750	1750	1750	1780	1780
Weight										
2.01	Total weight (with/without battery)		kg	4580/4230	5000/4650	4580/4230	5000/4650	4580/4230	5000/4650	5300/4950
2.02	Axle load (laden, front/rear)		kg	6730/850	7580/920	6730/850	7580/920	6730/850	7580/920	8128/972
2.03	Axle load (unladen, front/rear)		kg	2050/2530	2112/2888	2050/2530	2112/2888	2050/2530	2112/2888	2228/3072
Tyres										
3.01	Tyre type			Solid/Pneumatic tyre	Solid tyre	Solid/Pneumatic tyre	Solid tyre	Solid/Pneumatic tyre	Solid tyre	Solid tyre
3.02	Tyre size, front			28×9-15-14PR	28×9-15	28×9-15-14PR	28×9-15	28×9-15-14PR	28×9-15	28×12.5-15-24PR
3.03	Tyre size, rear			200/50-10	200/50-10	200/50-10	200/50-10	200/50-10	200/50-10	200/50-10
3.04	Wheels, number front/rear (x=driven wheels)			2/2	2/2	2/2	2/2	2/2	2/2	2/2
3.05	Tread, front	b10	mm	1000	1000	1000	1000	1000	1080	1080
3.06	Tread, rear	b11	mm	970	970	970	970	970	970	970
Dimensions										
4.01	Mast tilt angle (forward/backward)	α/β	°	6/12	6/12	6/12	6/12	6/12	6/12	6/12
4.02	Height (mast lowered)	h1	mm	2070	2120	2070	2120	2070	2120	2180
4.03	Free lifting height	h2	mm	155	160	155	160	155	160	160
4.04	Lifting height (standard)	h3	mm	3000	3000	3000	3000	3000	3000	3000
4.05	Max. height, extended (with backrest)	h4	mm	4217	4217	4217	4217	4217	4217	4217
4.06	Height of overhead guard	h6	mm	2180	2180	2180	2180	2180	2180	2180
4.07	Seat height relating to SIP (to ground)	h7	mm	1150	1150	1150	1150	1150	1150	1150
4.08	Towing coupling height	h10	mm	320	320	320	320	320	320	320
4.09	Overall length (with fork)	l1	mm	3639	3644	3639	3644	3639	3644	3692
4.10	Overall length (without fork)	l2	mm	2569	2574	2569	2574	2569	2574	2622
4.11	Overall width	b1	mm	1225	1225	1225	1225	1225	1392	1392
4.12	Fork size: thickness x width x length	s/e/l	mm	45×125×1070	50×125×1070	45×125×1070	50×125×1070	45×125×1070	50×125×1070	50×125×1070
4.13	Fork carriage, according to ISO2328			3A	3A	3A	3A	3A	3A	3A
4.14	Distance across fork-arms, Max./Min.	b5	mm	1060/250	1060/250	1060/250	1060/250	1060/250	1060/250	1060/250
4.15	Ground clearance (at mast)	m1	mm	130	130	130	130	130	130	130
4.16	Ground clearance (center of wheelbase)	m2	mm	140	140	140	140	140	140	140
4.17	Right angle stacking aisle width for pallet 1000x1200mm crossways	Ast	mm	3892	3897	3892	3897	3892	3897	3932
4.18	Right angle stacking aisle width for pallet 800x1200mm lengthways	Ast	mm	4092	4097	4092	4097	4092	4097	4132
4.19	Min. outside turning radius	Wa	mm	2215	2215	2215	2215	2215	2250	2250
Performance data										
5.01	Travel speed (laden/unladen)		km/h	19/20	19/20	18/19	18/19	14/15	14/15	17/18
5.02	Lift speed (laden/unladen)		m/s	0.48/0.6	0.44/0.54	0.41/0.54	0.39/0.54	0.37/0.49	0.34/0.45	0.39/0.51
5.03	Lowering speed (laden/unladen)		m/s	0.47/0.5	0.47/0.5	0.47/0.5	0.47/0.5	0.47/0.5	0.47/0.5	0.47/0.5
5.04	Max. drawbar pull (laden)		N	23500	23500	21500	21500	17500	17500	21500
5.05	Max. gradeability (laden/unladen)		%	22/28	20/28	20/28	18/28	16/25	15/25	17/25
5.06	Acceleration time(10 m)(laden/unladen)		s	5.5/4.8	5.8/5.1	5.8/5.1	6.0/5.3	6.0/5.3	6.4/5.6	5.7/5
Battery										
6.01	Battery voltage/Capacity		V/Ah	80/404	80/404	80/404	80/404	80/272	80/272	80/346
6.02	Battery weight		kg	350	350	350	350	350	350	350
Motor and controller										
7.01	Driving motor powering (S2-60min)		kW	17	17	16.6	16.6	15	15	17
7.02	Lifting motor powering (S3-15%)		kW	26	26	25.5	25.5	21	21	26
7.03	Driving motor controlling mode			MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC
7.04	Lifting motor controlling mode			MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC
Addition data										
8.01	Service brake/Parking brake			Hydraulic/Mechanical	Hydraulic/Mechanical	Hydraulic/Mechanical	Hydraulic/Mechanical	Hydraulic/Mechanical	Hydraulic/Mechanical	Hydraulic/Mechanical
8.02	Operating pressure for attachments		Mpa	21.5	21.5	21.5	21.5	21.5	21.5	22.5

Note:
 (1) In the configuration number, 2 refers to ZAPI controller, 3 refers to Inmotion controller, 6 refers to HELI technology controller.
 (2) h7 is the value for standard configuration. For He'an suspension seat, h7 is 30mm increased; for Grammer's suspension seat, h7 is 60mm increased



— 1.5t — 1.8t — 2.0t — 2.5t
 — 3.0t — 3.5t — 3.8t

NOTE:
 Vertical axle stands for load capacity while horizontal axle stands for load center. Load center is the distance counted from the front of the fork. The base point of the standard load is the center point of the cubic with the same 1000mm dimension in length, width and height. The load capacity should be down, if mast tilts forward, using non-standard forks or loading goods with extra width. Please notice the different load capacity between different load centers according to load chart.

Color Options (the color of truck body can be customized)			
Model	Standard configuration	Selective assembly1	Selective assembly2
H			
M			
S			

Note: The color of the appearance of model CPD15/18/20/25/30/35-GB6LI-H is the same with that of model M and S.

Wide View Standard Mast (Tabulation1)

Table with Mast model, Max. lifting height(mm), Load capacity (lode center 500mm)(kg), and Height (mast lowered)(mm) columns. Includes rows for models M200 to M600.

Note: (1) * refers to the rated load capacity of double-tyres for front wheels; (2) 2T (E) indicates that the model is CPD20-GE3LI-S/GE6LI-S;

(3) When the front wheel of 2-2.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 220kg respectively. (4) When the front wheel of 3-3.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 180kg respectively. (5) When the front wheel of 3.8t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 60kg and 190kg respectively.

Wide View Standard Mast (Tabulation2)

Table with Mast model, Free lift (with backrest) (mm), Service weight (kg), and Mast tilt angle alpha/beta (degrees) columns. Includes rows for models M200 to M600.

Note: (1) * refers to the rated load capacity of double-tyres for front wheels; (2) 2T (E) indicates that the model is CPD20-GE3LI-S/GE6LI-S;

(3) When the front wheel of 2-2.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 220kg respectively. (4) When the front wheel of 3-3.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 180kg respectively. (5) When the front wheel of 3.8t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 60kg and 190kg respectively.

Wide View Full Free 2-Stage Mast (Tabulation1)

Table with Mast model, Max. lifting height(mm), Load capacity (lode center 500mm)(kg), and Height (mast lowered)(mm) columns. Includes rows for models ZM200 to ZM600.

Note: (1) * refers to the rated load capacity of double-tyres for front wheels; (2) 2T (E) indicates that the model is CPD20-GE3LI-S/GE6LI-S; (3) When the front wheel of 2-2.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 220kg respectively. (4) When the front wheel of 3-3.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 180kg respectively. (5) When the front wheel of 3.8t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 60kg and 190kg respectively.

(6) 1-2T (E): the free lifting height increases by 379mm without backrest (7) 2-2.5t: the free lifting height increases by 356mm without backrest (8) 3T: the free lifting height increases by 520mm without backrest (9) 3.5t: the free lifting height increases by 426mm without backrest (10) 3.8t: the free lifting height increases by 426mm without backrest

Wide View Full Free 2-Stage Mast (Tabulation2)

Table with Mast model, Free lift (with backrest) (mm), Service weight (kg), and Mast tilt angle alpha/beta (degrees) columns. Includes rows for models ZM200 to ZM600.

Note: (1) * refers to the rated load capacity of double-tyres for front wheels; (2) 2T (E) indicates that the model is CPD20-GE3LI-S/GE6LI-S; (3) When the front wheel of 2-2.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 220kg respectively. (4) When the front wheel of 3-3.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 180kg respectively. (5) When the front wheel of 3.8t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 60kg and 190kg respectively.

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Wide View Full Free 3-Stage Mast (Tabulation1)

Table with Mast model, Max. lifting height(mm), Load capacity (lode center 500mm)(kg), and Height (mast lowered)(mm) columns. Includes rows for models ZSM360 to ZSM750.

Note: (1) * refers to the rated load capacity of double-tyres for front wheels; (2) 2T (E) indicates that the model is CPD20-GE3LI-S/GE6LI-S; (3) When the front wheel of 2-2.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 220kg respectively. (4) When the front wheel of 3-3.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 180kg respectively. (5) When the front wheel of 3.8t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 60kg and 190kg respectively.

(6) 1-2T (E): the free lifting height increases by 484mm without backrest (7) 2-2.5t: the free lifting height increases by 336mm without backrest (8) 3.5t: the free lifting height increases by 426mm without backrest (9) 3.8t: the free lifting height increases by 426mm without backrest

Wide View Full Free 3-Stage Mast (Tabulation2)

Table with Mast model, Free lift (with backrest) (mm), Service weight (kg), and Mast tilt angle alpha/beta (degrees) columns. Includes rows for models ZSM360 to ZSM750.

Note: (1) * refers to the rated load capacity of double-tyres for front wheels; (2) 2T (E) indicates that the model is CPD20-GE3LI-S/GE6LI-S; (3) When the front wheel of 2-2.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 220kg respectively. (4) When the front wheel of 3-3.5t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 100kg and 180kg respectively. (5) When the front wheel of 3.8t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 60kg and 190kg respectively.

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Lithium battery (Tabulation1)								
Battery brand	CATL							
Voltage/Capacity	80V/150Ah	80V/202Ah	80V/271Ah	80V/346Ah	80V/404Ah	80V/456Ah	80V/542Ah	80V/604Ah
1.5-1.8-2t(E)S	○	○	○	—	—	—	—	—
1.5-1.8t M	—	●	○	—	—	—	—	—
1.5-1.8t H	—	●	○	—	—	—	—	—
2-2.5t S	—	○	○	○	○	○	—	—
2-2.5t M	—	—	●	○	○	○	—	—
2-2.5t H	—	—	●	○	○	○	—	—
3-3.5t S	—	—	○	○	○	○	○	○
3-3.5t M	—	—	—	○	●	○	○	○
3-3.5t H	—	—	—	○	●	○	○	○
3.8t S	—	—	○	○	○	○	○	○
3.8t M	—	—	—	●	○	○	○	○
Heating at low Temperature	●							

Lithium battery (Tabulation2)										
Battery brand	HELI					EIKTO				
Voltage/Capacity	80V/150Ah	80V/202Ah	80V/272Ah	80V/404Ah	80V/544Ah	80V/150Ah	80V/220Ah	80V/270Ah	80V/300Ah	80V/350Ah
1.5-1.8-2t(E)S	●	○	○	—	—	○	○	○	—	—
1.5-1.8t M	—	○	○	—	—	—	—	—	—	—
1.5-1.8t H	—	○	○	—	—	—	—	—	—	—
2-2.5t S	—	●	○	○	—	—	○	—	○	○
2-2.5t M	—	—	○	○	—	—	—	—	—	—
2-2.5t H	—	—	○	○	—	—	—	—	—	—
3-3.5t S	—	—	●	○	○	—	—	—	○	○
3-3.5t M	—	—	—	○	○	—	—	—	—	—
3-3.5t H	—	—	—	○	○	—	—	—	—	—
3.8t S	—	—	●	○	○	—	—	—	○	○
3.8t M	—	—	—	○	○	—	—	—	—	—
Heating at low Temperature	●									

Charger			
Model		D80V200ALi-123 D80V200ALi-423	D80V-100A-Li-123 D80V-100A-Li-423
Applied battery type		48/80V lithium battery recommendation: capacity higher than 240Ah	
Wiring type		Three-phase four-wiring type	
Power of charger	KVA	22	10
Air switch model of Upper level power	A	63	32
Input voltage range	Vac	380±15%	
Input current	A	<40	<20
Output current	A	0~200	0~100
Protection level		(For indoor use)	
Working ambient temperature	°C	-20~+45	
Plugs and sockets		Charger meeting national standard	
Charger		Full charging time=required charging capacity/charging current+0.2h For example: the battery capacity is 80V/404Ah, and the discharging state is alarmed by instrument, The charger is 200A, thus the full charging time is 404*0.9/200+0.2≈2h	

Optional				
Model		S	M	H
Safety	Steering automatic deceleration	●	●	●
	Reversing handle with horn button	●	●	●
	Over speed alarm (5km/h)	○	○	○
	Over speed alarm (8km/h)	○	○	○
	Over speed alarm (10km/h)	○	○	○
	OPS (excluding descent)	●	●	○
	OPS	○	○	●
	Seat switch	○	○	○
	Multi way valve overload	●	●	●
	Dry-powder fire extinguisher (0.5kg)	○	○	○
	Dry-powder fire extinguisher (2kg)	○	○	○
	Backward buzzer	●	●	●
	Reversing chinese language speaker	○	○	○
	Electronic upper buffer	—	○	○
	Rearview mirror with angle in the middle	●	●	●
	Left and right rearview mirror+rearview mirror with angle in the middle	○	○	○
	Reversing radar (4 probes)	○	○	○
Reversing image (1 camera +4 probes)	○	○	○	
Comfort	Semi-enclosed seat	●	●	●
	Suspension seat	○	○	○
	USB	●	●	●
	Steer activated by steering wheel	●	●	●
	Mechanical valve	●	●	●
	Electro-magnetic valve(proportion valve+thumb switch)	—	○*	○*
Optional overhead guard	Fan	○	○	○
	Height of overhead guard 50mm increased	○	○	○
Cab/Windshield	Overhead guard with protection net	○	○	○
	Panel-mounted cab (with fan +windshield wiper)	○	○	○
	With heater	○	○	○
	With cooling air conditioner (rear installed type)	○	○	○
	With cooling air conditioner (rear installed type) +heater	○	○	○
	With front windshield glass (with wiper/without shower)	○	○	○
	With rear windshield glass	○	○	○
	With top rainshield glass (without fan)	○	○	○
Lights	LED rear working light	○	○	○
	Rear LED red/blue spot light	○	○	○
	Three sides (left, right and rear) red/blue bar light	○	○	○
	Fixed LED flickering warning light	●	●	●
	Fixed LED rotating warning light	○	○	○
	Fixed LED rotating and buzzer alarm light	○	○	○
Others	Single tyre (front wheel)	●	●	●
	Dual tyres (front wheel)	○	○	○
	Metric thread	●	●	●
	American thread	○	○	○
	Sleeve for tilting cylinder	●	●	●
	Sleeve for tilting cylinder and steering cylinder	○	○	○
FCIS standard type (for China)	●	●	●	

Note: "●" standard ; "○" optional ; "—" non-configurable ; "*" only ZAPI controller