

CPD18/25/30/35/ GC6LI-S



LI TION 1.8-3.5t
G2 Series Lithium-ion Battery
Forklift Truck



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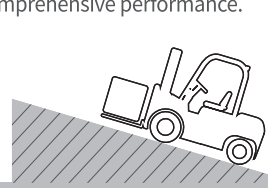
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Fearless of Any Rough Application,
HELI New Series Lithium Forklift,
Your Best Choice



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.



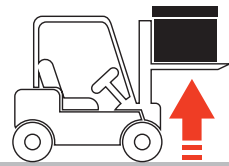
22%

Maximum gradeability with load



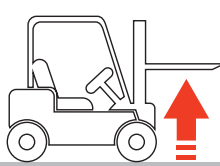
19-20km/h

Driving speed



0.48m/s

Lifting speed with load



0.6m/s

Lifting speed without load

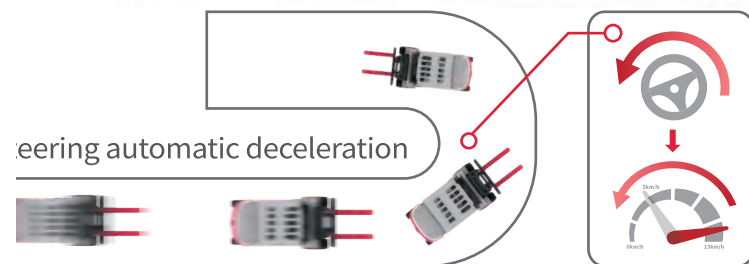
Note: the data displayed are all based on the model CPD30-GB2Li-H, and data for other trucks are shown in the table of technical parameters.

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.



Steering automatic deceleration



Optimized Ergonomic Design, Better Driving Comfort



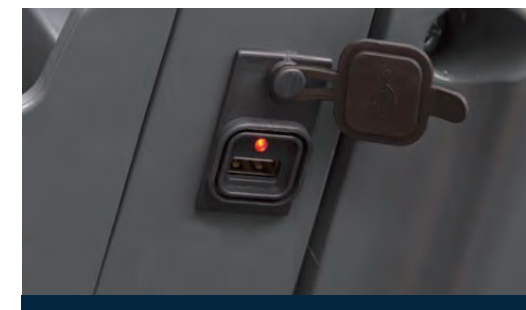
Large boarding space and foot operation space for more comfortable operation



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

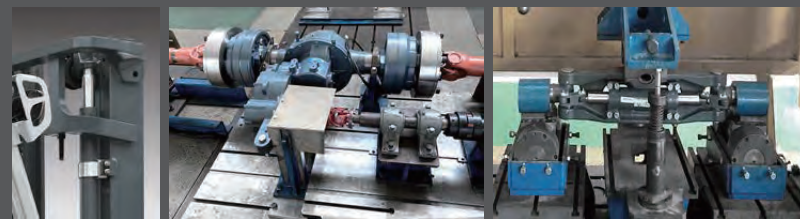


IC truck type control valve stem, better fit to the driver's habits



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.

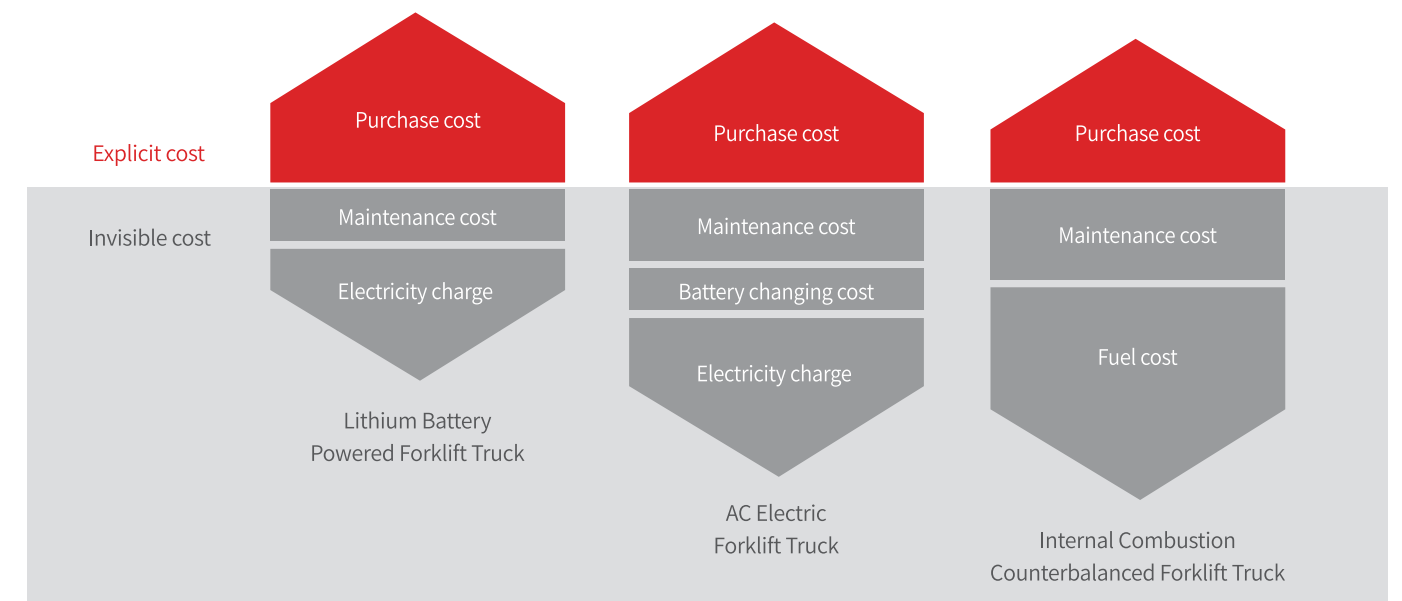
Operating Cost Comparison: Lithium battery forklift **vs.** Lead-acid battery forklift **vs.** IC forklift

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

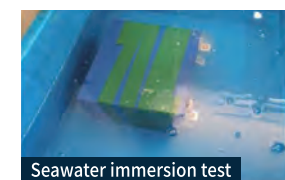
Compared with internal combustion forklift truck, lithium battery forklift truck has the advantages of no noise, no pollution, small vibration and simple operation.

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



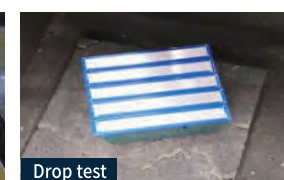
Heating test



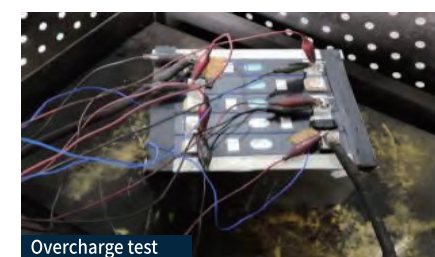
Temperature cycling test



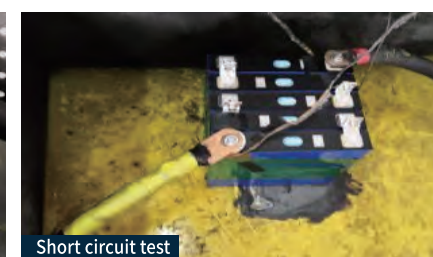
Temperature cycling test



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 fully charged in up to one hour;
- 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: Over 75% capacity reserved after 5 years or ten thousand hours.
- 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(Tabulation1)					
	Characteristics				
1.01	Manufacturer			HELI	
1.02	Model			CPD18	CPD25
1.03	Configuration number			GB2LI-S* GB3LI-S GC6LI-S*	GB2LI-S* GB3LI-S GC6LI-S*
1.04	Rated capacity	Q	kg	1800	2500
1.05	Load center distance	c	mm	500	500
1.06	Power mode			Lithium battery	Lithium battery
1.07	Driving mode			Seated	Seated
1.08	Front overhang	x	mm	409	460
1.09	Wheelbase	y	mm	1410	1650
	Weight				
2.01	Total weight (with battery)		kg	3180	3960
2.02	Axle load (laden,front/rear)		kg	4290/690	5750/710
2.03	Axle load (unladen, front/rear)		kg	1330/1850	1800/2160
Tyres					
3.01	Tyre type			Pneumatic tyre	Pneumatic tyre
3.02	Tyre size,front			6.5-10-12PR	7.00-12-14PR
3.03	Tyre size,rear			16×6-8-10PR	18×7-8-14PR
3.04	Wheels, number front/rear (x=driven wheels)			2/2	2/2
3.05	Tread, front	b10	mm	930	970
3.06	Tread, rear	b11	mm	920	960
Dimensions					
4.01	Mast tilt angle (forward/backward)	α/β	°	6/10	6/12
4.02	Height (mast lowered)	h1	mm	1995	2000
4.03	Free lifting height	h2	mm	155	150
4.04	Lifting height (standard)	h3	mm	3000	3000
4.05	Max. height, extended (with backrest)	h4	mm	4014	4030
4.06	Height of overhead guard	h6	mm	2140	2170
4.07	Seat height relating to SIP (to ground)	h7	mm	1110	1140
4.08	Towing coupling height	h10	mm	260	290
4.09	Overall length (with fork)	l1	mm	3060	3502
4.10	Overall length (without fork)	l2	mm	2140	2432
4.11	Overall width	b1	mm	1120	1160
4.12	Fork size:thickness x width x length	s/e/l	mm	35×100×920	40×122×1070
4.13	Fork carriage, according to ISO2328			2A	2A
4.14	Distance across fork-arms, Max./Min.	b5	mm	960/200	1030/250
4.15	Ground clearance (at mast)	m1	mm	110	115
4.16	Ground clearance (center of wheelbase)	m2	mm	120	130
4.17	Right angle stacking aisle width for pallet 1000 x1200mm crossways	Ast	mm	3469	3710
4.18	Right angle stacking aisle width for pallet 800 x1200mm lengthways	Ast	mm	3669	3910
4.19	Min. outside turning radius	Wa	mm	1860	2070
Performance data					
5.01	Travel speed (laden/unladen)		km/h	14/15	14/15
5.02	Lift speed (laden/unladen)		m/s	0.34/0.5	0.35/0.49
5.03	Lowering speed (laden/unladen)		m/s	0.47/0.5	0.47/0.5
5.04	Max.drawbar pull (laden)		N	10000	16500
5.05	Max.gradeability (laden/unladen)		%	15/20	16/25
5.06	Acceleration time(10 m)(laden/unladen)		s	5.5/5.0	6.4/5.6
Battery					
6.01	Battery voltage/Capacity		V/Ah	80/150	80/202
Motor and controller					
7.01	Driving motor powering (S2-60min)		kW	8	15
7.02	Lifting motor powering (S3-15%)		kW	10.6	21
7.03	Driving motor controlling mode			MOSFET/AC	MOSFET/AC
7.04	Lifting motor controlling mode			MOSFET/AC	MOSFET/AC
Addition data					
8.01	Service brake/Parking brake			Hydraulic/Mechanical	Hydraulic/Mechanical
8.02	Operating pressure for attachments		Mpa	16	16

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

Manufacturer and Technical Data(Tabulation2)				
Characteristics				
1.01	Manufacturer			HELI
1.02	Model		CPD30	CPD35
1.03	Configuration number		GB2LI-S* GB3LI-S GC6LI-S*	GB2LI-S* GB3LI-S GC6LI-S*
1.04	Rated capacity	Q	kg	3000 3500
1.05	Load center distance	c	mm	500 500
1.06	Power mode		Lithium battery	Lithium battery
1.07	Driving mode		Seated	Seated
1.08	Front overhang	x	mm	477 482
1.09	Wheelbase	y	mm	1750 1750
Weight				
2.01	Total weight (with battery)		kg	4580 5000
2.02	Axle load (laden, front/rear)		kg	6730/850 7580/920
2.03	Axle load (unladen, front/rear)		kg	2050/2530 2112/2888
Tyres				
3.01	Tyre type			Pneumatic/Solid tyre Solid tyre
3.02	Tyre size, front			28×9-15-14PR 28×9-15
3.03	Tyre size, rear			200/50-10 200/50-10
3.04	Wheels, number front/rear (x=driven wheels)			2/2 2/2
3.05	Tread, front	b10	mm	1000 1000
3.06	Tread, rear	b11	mm	970 970
Dimensions				
4.01	Mast tilt angle (forward/backward)	α/β	°	6/12 6/12
4.02	Height (mast lowered)	h1	mm	2070 2120
4.03	Free lifting height	h2	mm	155 160
4.04	Lifting height (standard)	h3	mm	3000 3000
4.05	Max. height, extended (with backrest)	h4	mm	4217 4217
4.06	Height of overhead guard	h6	mm	2180 2180
4.07	Seat height relating to SIP (to ground)	h7	mm	1150 1150
4.08	Towing coupling height	h10	mm	320 320
4.09	Overall length (with fork)	l1	mm	3639 3644
4.10	Overall length (without fork)	l2	mm	2569 2574
4.11	Overall width	b1	mm	1225 1225
4.12	Fork size: thickness x width x length	s/e/l	mm	45×125×1070 50×125×1070
4.13	Fork carriage, according to ISO2328			3A 3A
4.14	Distance across fork-arms, Max./Min.	b5	mm	1060/250 1060/250
4.15	Ground clearance (at mast)	m1	mm	130 130
4.16	Ground clearance (center of wheelbase)	m2	mm	140 140
4.17	Right angle stacking aisle width for pallet 1000 x1200mm crossways	Ast	mm	3892 3897
4.18	Right angle stacking aisle width for pallet 800 x1200mm lengthways	Ast	mm	4092 4097
4.19	Min. outside turning radius	Wa	mm	2215 2215
Performance data				
5.01	Travel speed (laden/unladen)		km/h	14/15 14/15
5.02	Lift speed (laden/unladen)		m/s	0.37/0.49 0.34/0.45
5.03	Lowering speed (laden/unladen)		m/s	0.47/0.5 0.47/0.5
5.04	Max. drawbar pull (laden)		N	17500 17500
5.05	Max. gradeability (laden/unladen)		%	16/25 15/25
5.06	Acceleration time(10 m)(laden/unladen)		s	6.0/5.3 6.4/5.6
Battery				
6.01	Battery voltage/Capacity		V/Ah	80/280 80/280
Motor and controller				
7.01	Driving motor powering (S2-60min)		kW	15 15
7.02	Lifting motor powering (S3-15%)		kW	21 21
7.03	Driving motor controlling mode		MOSFET/AC	MOSFET/AC
7.04	Lifting motor controlling mode		MOSFET/AC	MOSFET/AC
Addition data				
8.01	Service brake/Parking brake			Hydraulic/Mechanical Hydraulic/Mechanical
8.02	Operating pressure for attachments		Mpa	16 16

Wide View Full Free 3-Stage Mast (Tabulation1)																			
Mast model	Max. lifting height(mm)	Load capacity (lode center 500mm)(kg)				Height (mast lowered)(mm)				Free lift (with backrest) (mm)				Service weight (kg)				Mast tilt angle α/β (°)	
		1.8t	2.5t	3t	3.5t	1.8t	2.5t	3t	3.5t	1.8t	2.5t	3t	3.5t	1.8t	2.5t	3t	3.5t	1.8t	2-3.5t
ZSM470	4700	*1600 *1650	*2200 *2250	*2650 *2800	*2900 *2950	2160	2165	2230	2230	1155	1161	1000	1000	3355	4208	4826	5212	6/6 *6/6	6/6 *6/6

Note: (1) * refers to the rated load capacity of double-tyres for front wheels;
(2) 2T (E) indicates that the model is CPD20-GE2LI-S/GE3LI-S/GF6LI-S;
(3) When the front wheel of 1.5-1.8t truck is double-tyres (pneumatic tyre) and double tyre (solid tyre), the service weight is increased by 78kg and 198kg respectively.
(4) 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 98kg and 220kg respectively.
(5) 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 128kg and 266kg respectively.
(6) 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 196kg respectively.
(7) 1-2T (E): the free lifting height increases by 379mm without backrest
(8) 2-2.5t: the free lifting height increases by 376mm without backrest
(9) 3T: the free lifting height increases by 477mm without backrest
(10) 3.5-3.8t: the free lifting height increases by 407mm without backrest

Lithium battery (Tabulation1)											
Battery brand	ENEROC (CATL)						HELI (LISHEN)				
Voltage/Capacity	80V/150Ah	80V/228Ah	80V/302Ah	80V/346Ah	80V/456Ah	80V/604Ah	80V/150Ah	80V/202Ah	80V/280Ah	80V/404Ah	80V/560Ah
1.5-1.8-2t(E)S	○	○	○	—	—	—	●	○	○	—	—
2-2.5t S	—	○	○	○	○	—	—	●	○	○	—
3-3.5t S	—	—	○	○	○	○	—	—	●	○	○
Heating at low Temperature							●				

Note: “●” standard ; “○” optional ; “—” non-configurable;

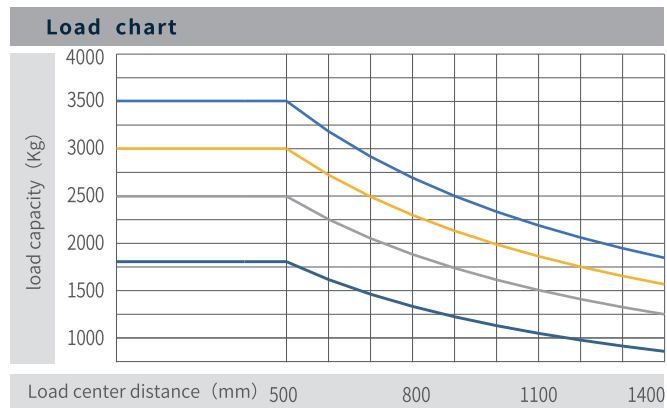
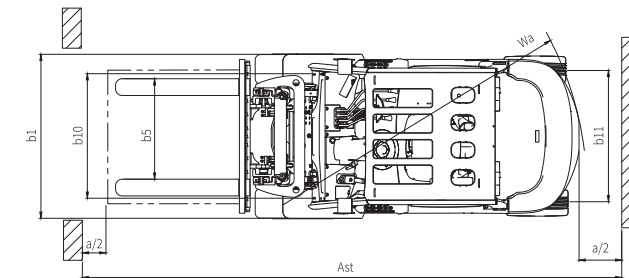
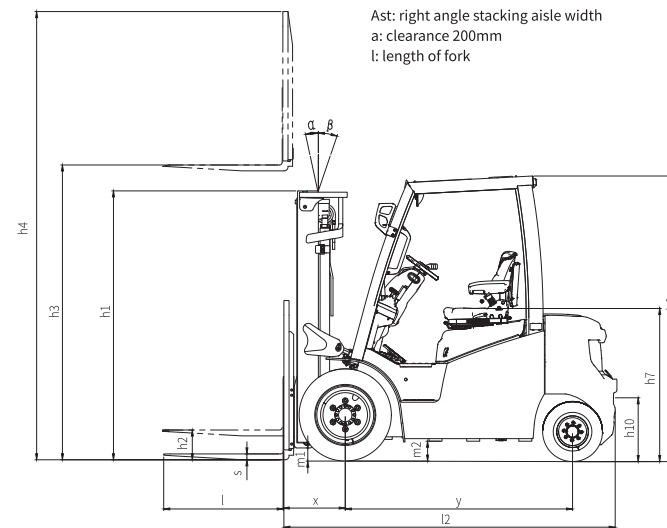
Lithium battery (Tabulation2)											
Battery brand	HELI (CATL)						EIKTO				
Voltage/Capacity	80V/150Ah*	80V/228Ah*	80V/302Ah*	80V/346Ah*	80V/456Ah*	80V/604Ah*	80V/150Ah	80V/220Ah	80V/270Ah	80V/300Ah	80V/350Ah
1 5-1 8-2t(E)S	○	○	○	—	—	—	○	○	○	—	—
2-2.5t S	—	○	○	○	○	—	—	○	—	○	○
3-3.5t S	—	—	○	○	○	○	—	—	—	○	○
Heating at low Temperature						●					

Note: “●” standard ; “○” optional ; “—” non-configurable;

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	48/80V lithium battery recommendation: capacity lower 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	
Output current	A	0~200	
Protection level		(For indoor use)	
Working ambient temperature	°C	-20~+45	
Plugs and sockets		Charger meeting national standard	
Charger		Full charging time=required chaging 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
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)	—
	Fan	○
Optional overhead guard	Height of overhead guard 50mm increased	○
	Overhead guard with protection net	○
Cab/Windshield	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)	○
	With rear windshield glass	○
	With top rainshield glass (without fan)	○
Lights	LED rear working light	○
	Front LED red/blue spotlight	○
	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)	○
	All climate tyre	○
	Metric thread	●
	American thread	○
	Sleeve for tilting cylinder	●
	Sleeve for tilting cylinder and steering cylinder	○
	HELI FICS system	○

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



1.8t 2.5t
3.0t 3.5t

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 the 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.