

# CPD60/70/85/100 GB2D/GB2DLI



Li-ion

**6-10 t**G3 Series 6-7t Electric Battery  
Forklift Truck

# Compatible in system, Special in style

----- It is rather to achieve mutual achievement  
than give an ostentatious display of ability.



## Compatible

Lithium battery and lead acid battery are optional as you like.

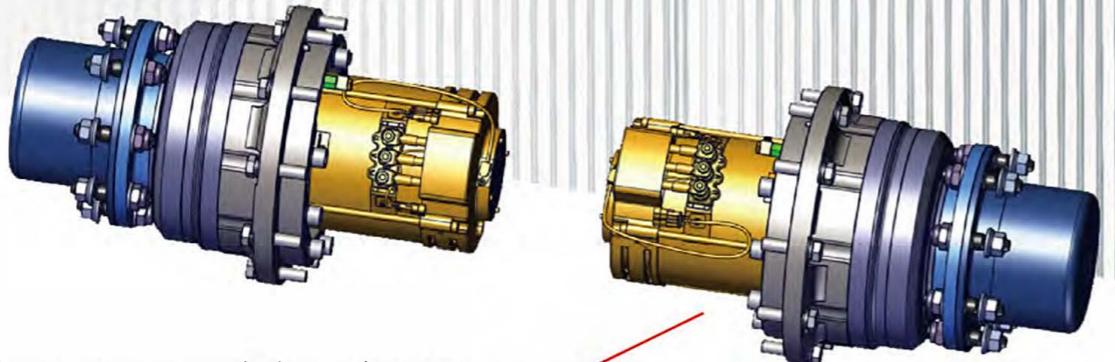
## Integrated

Combine the humanization design advantages of both internal combustion forklift truck and electric truck.

The truck is a continuation of HELI family style and creates a new concept of electric forklift through easy exchange between lead acid battery power and lithium battery power

## Efficient and Energy saving

- Powerful dual drive, superior gradeability.



Dual drive power, imported motor and imported wheel reducer, while providing strong power, further improve the safety and stability of the truck.



- Double gun charging, fast and efficient.



Lithium battery forklift truck is equipped with double gun charging as standard, which greatly reduces the charging time. Lithium batteries have high-density capability and can be used and charged at any time to realize efficient and continuous operation all day long.

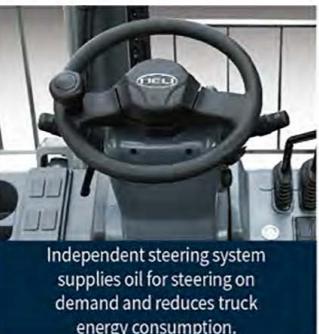
### Lithium battery options:

- **606Ah capacity (standard configuration)**: which can be charged for 8 hours at one time, suitable for light load condition;
- **813Ah capacity**: one charge can meet 8-9 hours of operation, suitable for standard working conditions;
- **1084 Ah capacity**: one charge, suitable for 9-10 hours operation, suitable for heavy load strengthening conditions.
- **808Ah capacity (8.5-10t Lithium battery options)**: one charge can meet 8-9 hours of operation, suitable for standard working conditions;

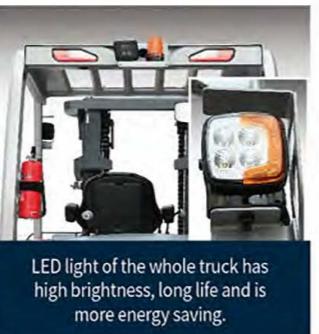
- Multi configuration, low energy consumption.



Parking brake button with two color model is easy to operate.



Independent steering system supplies oil for steering on demand and reduces truck energy consumption.



LED light of the whole truck has high brightness, long life and is more energy saving.



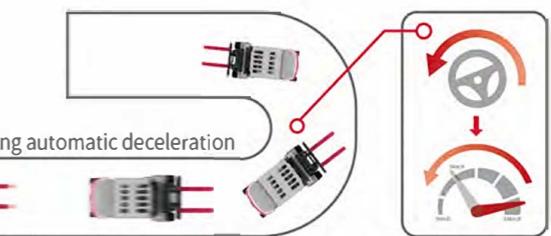
The front wheels are equipped with double tires as standard, with better carrying capacity.

**Gradient**  
6-8.5t: 18%  
10t: 15%

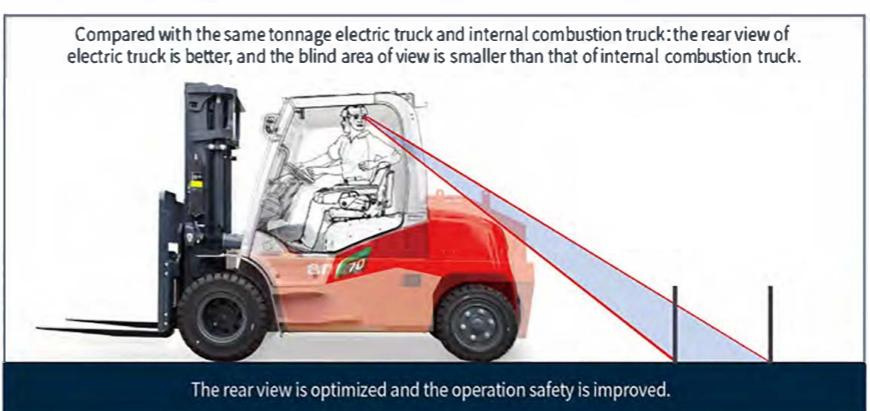


## Intelligent and Safe

- **Intelligent automatic parking**: optimized negative braking system and active parking in multiple applications are safe and easy which is safe and easy to make up omissions;
- **Intelligent turning speed limit**: active speed limit function, balance efficiency and safety when turning at high speed;
- **Intelligent limit buffer**: intelligent induction of mast lifting and lowering avoids limit impact and is safe and comfortable;
- **Intelligent operation protection**: a full set of OPS system can avoid misoperation and ensure safety;
- **Intelligent control strategy**: dual core controller is in line with the latest EU safety requirements.



Stamping integral roof design of overhead guard enhance the strength and ensure the safety.



Compared with the same tonnage electric truck and internal combustion truck: the rear view of electric truck is better, and the blind area of view is smaller than that of internal combustion truck.



Full suspended seat is more comfortable to drive.



## Comfort and Intimate

- The mast with large opening offers good driving vision ensuring operation comfort and safety.
- It integrates the advantages of internal combustion forklift truck platform to make the driving space more comfortable.
- Standard imported silent gear pump, greatly reduce the ear noise.



Optional configuration of intelligent safety buffer system cushion operator from effects of riding over uneven surface and it is more comfortable.

### Vibration shock reduction

When driving under load conditions, the impact caused by uneven surface is greatly absorbed, and the vibration is effectively reduced.

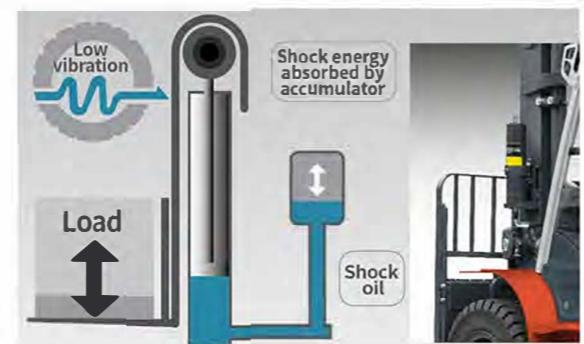
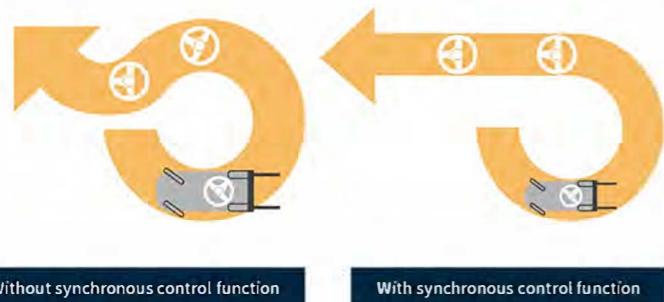
### Vibration and noise reduction

When driving under load condition, the impact noise caused by uneven surface is greatly reduced.

### Reduced driving fatigue

During the emergency stop operation during the load lowering process, the vibration and driving fatigue caused by inertia impact can be effectively reduced, and the driving safety can be improved.

- Hydraulic synchronous steering system can adjust steering wheel and wheel angle offset smartly and offers accurate steering and comfortable driving. (optional)
- Color screen display which can switch between Chinese and English, display truck speed, working time, battery power, fault code and other information.



## Stable and Reliable

- Imported drive axle and motor are stable and reliable.
- Wet negative braking is safe and reliable.
- The innovative design of mast structure improves the overall strength and stiffness.
- The structural design of the welded large oil tank greatly improves the strength of the frame and the heat dissipation of the hydraulic oil.
- The whole truck can be operated alternately in -20°C cold storage for 6 hours and parked in the cold storage for 12 hours without failure and can continue to work.
- New design of steering axle is safe and reliable.



## Convenient and Maintenance

- The layout of the cab is optimized, the battery is located directly under the engine room, and the hood opening angle is large, which facilitate daily inspection and maintenance.
- The controller is located on the counterweight, giving consideration to heat dissipation and maintenance convenience.
- The battery side changing is installed for easy changing between lead-acid battery and lithium battery as you like meet the needs of different customers and occasions.



### HELI smart fleet management system(domestic basic edition)

Vehicle positioning	Statistical form
Remote diagnosis	Vehicle management
Remote monitoring	Identification recognition (optional)
Maintenance reminder	Weight management (optional)
Battery management	Collision management (optional)

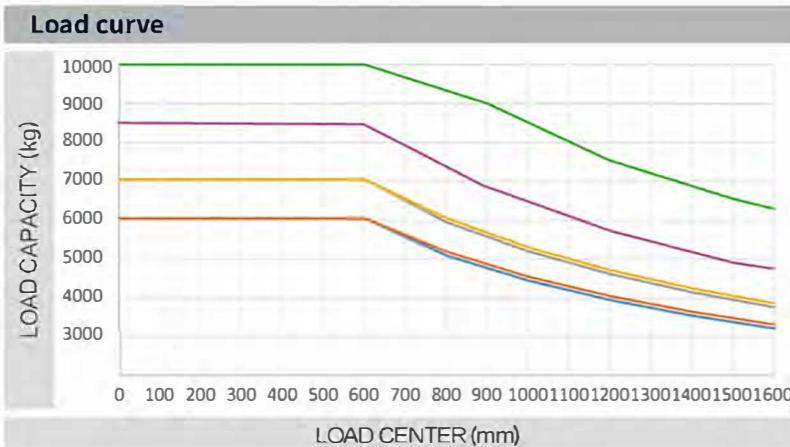
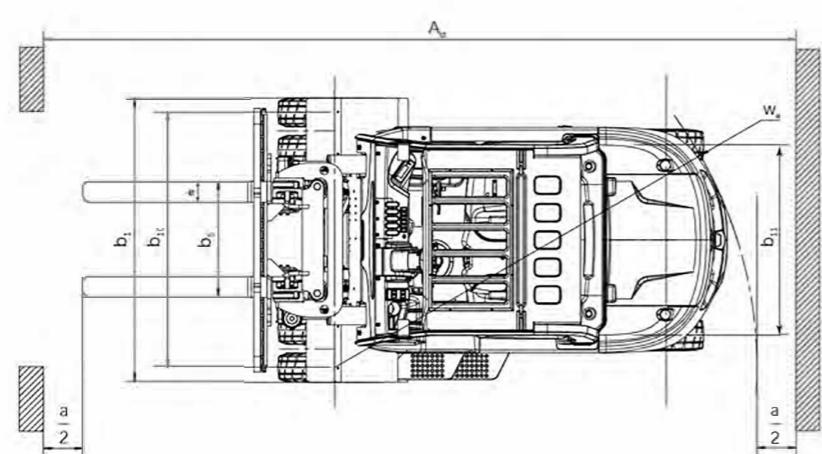
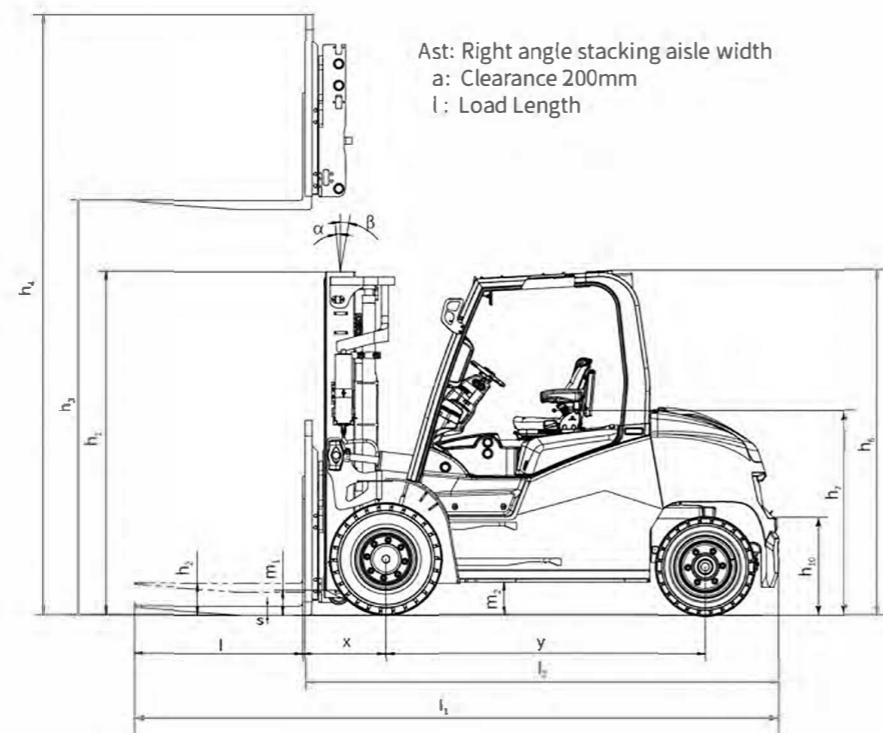


**Manufacturer and Technical Data (1)**

Characteristics					
<b>1.01 Manufacturer</b>					
<b>1.02 Model</b>					
<b>1.03 Configuration number</b>					
<b>1.04 Rated capacity</b>					
<b>1.05 Load center distance</b>					
<b>1.06 Power mode</b>					
<b>1.07 Driving mode</b>					
<b>1.08 Front overhang</b>					
<b>1.09 Wheelbase</b>					
<b>Weight</b>					
<b>2.01 Total weight (with/without battery)</b>	kg	10580/7950	9720/9170	11030/8680	10330/9780
<b>2.02 Axle load (laden,front/rear)</b>	kg	16350/1130	15280/1340	16280/1750	15730/2000
<b>2.03 Axle load (unladen,front/rear)</b>	kg	5730/4850	4750/4970	5730/5300	4880/5450
<b>Tyres</b>					
<b>3.01 Tyre type</b>		Solid tyre	Solid tyre	Solid tyre	Solid tyre
<b>3.02 Tyre size,front</b>		8.25-15	8.25-15	8.25-15	8.25-15
<b>3.03 Tyre size,rear</b>		250-15	250-15	250-15	250-15
<b>3.04 Wheels,number front/rear (x=driven wheels)</b>		4/x2	4/x2	4/x2	4/x2
<b>3.05 Tread, front</b>	b10 mm	1567	1567	1567	1567
<b>3.06 Tread, rear</b>	b11 mm	1370	1370	1370	1370
<b>Dimensions</b>					
<b>4.01 Mast tilt angle (forward/backward)</b>	a/β °	6/10	6/10	6/10	6/10
<b>4.02 Height (mast lowered)</b>	h1 mm	2480	2480	2480	2480
<b>4.03 Free lifting height</b>	h2 mm	160	160	165	165
<b>4.04 Lifting height (standard)</b>	h3 mm	3000	3000	3000	3000
<b>4.05 Max. height,extended (with backrest)</b>	h4 mm	4460	4460	4460	4460
<b>4.06 Height of overhead guard</b>	h6 mm	2500	2500	2491	2491
<b>4.07 Seat height relating to SIP (to ground)</b>	h7 mm	1460	1460	1460	1460
<b>4.08 Towing coupling height</b>	h10 mm	470	470	470	470
<b>4.09 Overall length (with fork)</b>	l1 mm	4657	4657	4662	4662
<b>4.10 Overall length (without fork)</b>	l2 mm	3437	3437	3442	3442
<b>4.11 Overall width</b>	b1 mm	2045	2045	2045	2045
<b>4.12 Fork size:thickness x width x length</b>	s/e/l mm	60x150x1220	60x150x1220	65x150x1220	65x150x1220
<b>4.13 Fork carriage,according to ISO2328</b>		4A	4A	4A	4A
<b>4.14 Distance across fork-arms, Max./Min.</b>	b5 mm	1845/300	1845/300	1845/300	1845/300
<b>4.15 Distance across fork-arms, Max./Min.</b>	m1 mm	160	160	160	160
<b>4.16 Ground clearance (center of wheelbase)</b>	m2 mm	239	239	229	229
<b>4.17 Right angle stacking aisle width for pallet 1000 x1200mm crossways</b>	Ast mm	4845	4845	4850	4850
<b>4.18 Right angle stacking aisle width for pallet 800 x1200mm lengthways</b>	Ast mm	5045	5045	5050	5050
<b>4.19 Min. outside turning radius</b>	Wa mm	3050	3050	3050	3050
<b>Performance Data</b>					
<b>5.01 Travel speed (laden/unladen)</b>	km/h	15/16	15/16	15/16	15/16
<b>5.02 Lift speed (laden/unladen)</b>	m/s	0.35/0.46	0.35/0.46	0.32/0.46	0.32/0.46
<b>5.03 Lowering speed (laden/unladen)</b>	m/s	0.46/0.45	0.46/0.45	0.48/0.45	0.48/0.45
<b>5.04 Max.drawbar pull (laden/unladen)</b>	N	35000	35000	37000	37000
<b>5.05 Max.gradeability (laden)</b>	%	19	19	18	18
<b>5.06 Acceleration time(10 m)(laden/unladen)</b>	s	4.9/5.5	4.9/5.5	4.9/5.5	4.9/5.5
<b>Battery</b>					
<b>6.01 Battery voltage/Capacity</b>	V/Ah	80/840	80/606	80/960	80/606
<b>6.02 Battery weight (Min./Max.)</b>	kg	2150	600	2350	600
<b>6.03 Battery,according to DIN</b>		DIN 43536A	-	DIN 43536A	-
<b>Motor and controller</b>					
<b>7.01 Driving motor powering (S2-60min)</b>	kW	2x17.1	2x17.1	2x17.1	2x17.1
<b>7.02 Lifting motor powering (S3-15%)</b>	kW	2x26.5	2x26.5	2x26.5	2x26.5
<b>7.03 Driving motor controlling mode</b>		MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC
<b>7.04 Lifting motor controlling mode</b>		MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC
<b>Addition data</b>					
<b>8.01 Service brake/Parking brake</b>		Hydraulic	Hydraulic	Hydraulic	Hydraulic
<b>8.02 Operating pressure for attachments</b>	Mpa	14	14	14	14

**Manufacturer and Technical Data (2)**

Characteristics					
<b>1.01 Manufacturer</b>					
<b>1.02 Model</b>					
<b>1.03 Configuration number</b>					
<b>1.04 Rated capacity</b>					
<b>1.05 Load center distance</b>					
<b>1.06 Power mode</b>					
<b>1.07 Driving mode</b>					
<b>1.08 Front overhang</b>					
<b>1.09 Wheelbase</b>					
<b>Weight</b>					
<b>2.01 Total weight (with/without battery)</b>	kg	13952/11664	12660/12300	14780/12490	14060/13260
<b>2.02 Axle load (laden,front/rear)</b>	kg	19933/2889	18930/2245	22560/2220	19880/2050
<b>2.03 Axle load (unladen,front/rear)</b>	kg	7006/7316	6080/6620	7675/7105	6980/7080
<b>Tyres</b>					
<b>3.01 Tyre type</b>		Solid tyre	Solid tyre	Solid tyre	Solid tyre
<b>3.02 Tyre size,front</b>		8.25-15	8.25-15	8.25-15	8.25-15
<b>3.03 Tyre size,rear</b>		250-15	250-15	250-15	250-15
<b>3.04 Wheels,number front/rear (x=driven wheels)</b>		4x2	4x2	4x2	4x2
<b>3.05 Tread, front</b>	b10 mm	1686	1686	1686	1686
<b>3.06 Tread, rear</b>	b11 mm	1370	1370	1370	1370
<b>Dimensions</b>					
<b>4.01 Mast tilt angle (forward/backward)</b>	a/β °	6/9	6/9	6/9	6/9
<b>4.02 Height (mast lowered)</b>	h1 mm	2700	2700	2950	2950
<b>4.03 Free lifting height</b>	h2 mm	200	200	210	210
<b>4.04 Lifting height (standard)</b>	h3 mm	3000	3000	3000	3000
<b>4.05 Max. height,extended (with backrest)</b>	h4 mm	4200	4200	4455	4455
<b>4.06 Height of overhead guard</b>	h6 mm	2470	2470	2470	2470
<b>4.07 Seat height relating to SIP (to ground)</b>	h7 mm	1460	1460	1460	1460
<b>4.08 Towing coupling height</b>	h10 mm	467	467	467	467
<b>4.09 Overall length (with fork)</b>	l1 mm	4870	4870	5062	5062
<b>4.10 Overall length (without fork)</b>	l2 mm	3650	3650	3842	3842
<b>4.11 Overall width</b>	b1 mm	2165	2165	2165	2165
<b>4.12 Fork size:thickness x width x length</b>	s/e/l mm	70x175x1220	70x175x1220	80x175x1220	80x175x1220
<b>4.13 Fork carriage,according to ISO2328</b>		-	-	-	-
<b>4.14 Distance across fork-arms, Max./Min.</b>	b5 mm	450-1910	450-1910	470-2100	470-2100
<b>4.15 Distance across fork-arms, Max./Min.</b>	m1 mm	240	240	240	240
<b>4.16 Ground clearance (center of wheelbase)</b>	m2 mm	246	246	246	246
<b>4.17 Right angle stacking aisle width for pallet 1000 x1200mm crossways</b>	Ast mm	5080	5080	5210	5210
<b>4.18 Right angle stacking aisle width for pallet 800 x1200mm lengthways</b>	Ast mm	5280	5280	5410	5410
<b>4.19 Min. outside turning radius</b>	Wa mm	3230	3230	3350	3350
<b>Performance Data</b>					
<b>5.01 Travel speed (laden/unladen)</b>	km/h	14/15.5	14/1		

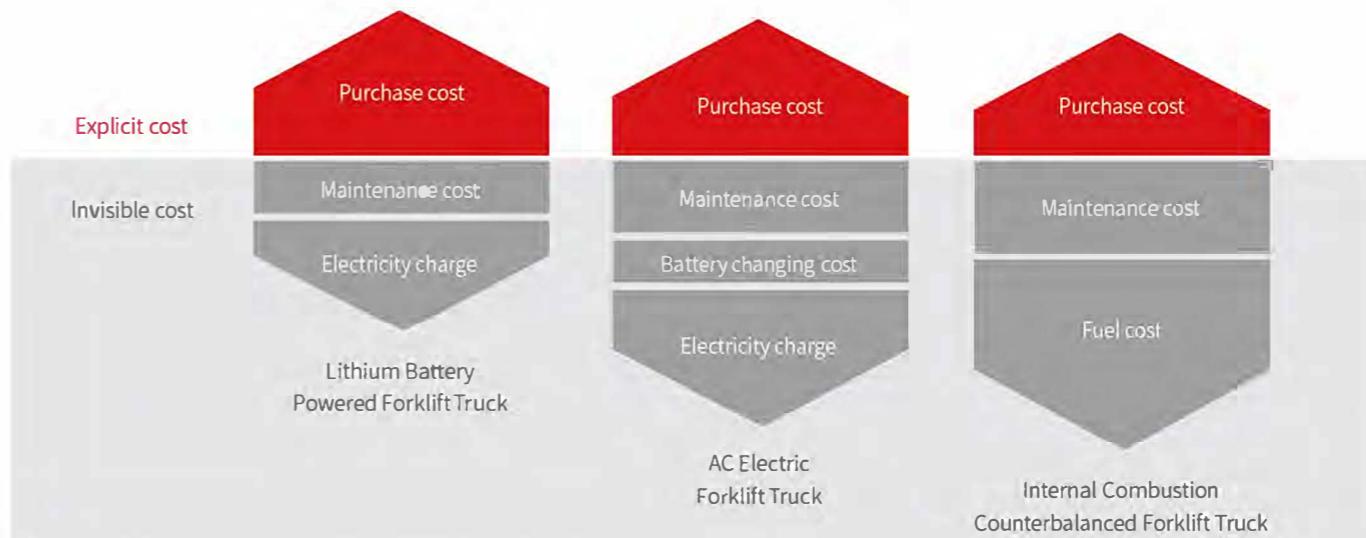


**Note:** The vertical axis stands for load capacity and the horizontal axis stands for load center which is calculated from the front surface of the forks to the gravity of the standard load. The standard load means a cubic with 1000mm edge length. When mast is tilted forward, using non-standard forks or loading large goods, the load capacity will be reduced. The load capacity of standard mast at different load center can be known from this load chart.

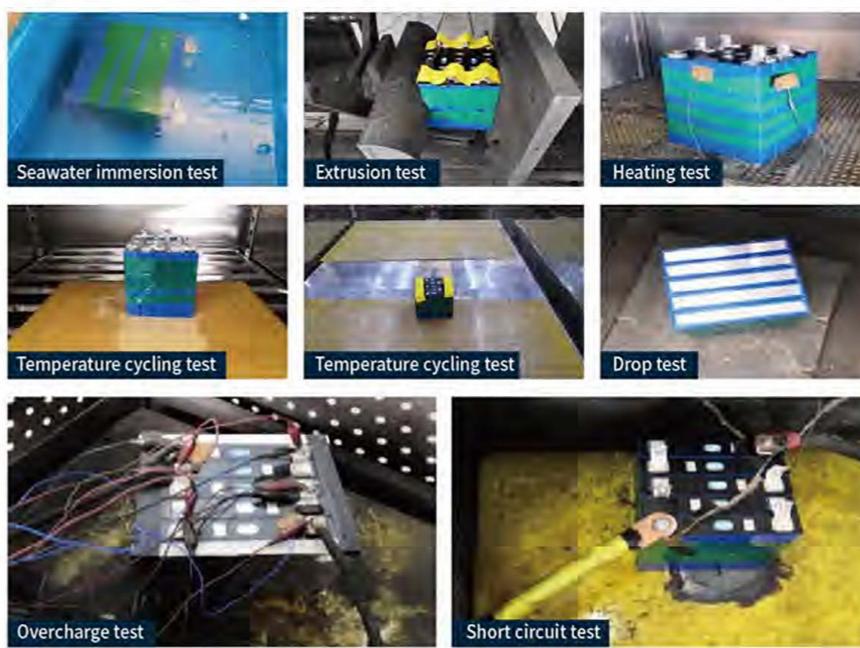
# **Operating Cost Comparison:**

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



- ✓ 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 4000 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.

## G3 6-7t Wide View Standard Mast

Mast model	Max.lifting height (mm)	Load capacity (lode center 600mm) (kg)				Height (mast lowered) (mm)	Free lift (with backrest) (mm)	Service weight (kg)				Mast tilt angle $\alpha/\beta(^{\circ})$
		CPD60-GB2D	CPD60-GB2DLI	CPD70-GB2D	CPD70-GB2DLI			CPD60-GB2D/GB2DLI	CPD70-GB2D/GB2DLI	CPD60-GB2D	CPD60-GB2DLI	
M220	2200	6000	6000	7000	7000	2080	165	10470	9600	10920	10210	6/10
M250	2500	6000	6000	7000	7000	2230	165	10510	9640	10960	10250	6/10
M270	2700	6000	6000	7000	7000	2330	165	10540	9670	10990	10280	6/10
M300	3000	6000	6000	7000	7000	2480	165	10580	9720	11030	10330	6/10
M330	3300	6000	6000	7000	7000	2630	165	10610	9750	11060	10360	6/10
M350	3500	6000	6000	7000	7000	2730	165	10640	9780	11090	10390	6/10
M400	4000	6000	6000	7000	7000	3030	165	10820	9960	11270	10570	6/10
M425	4250	6000	6000	7000	7000	3155	165	10850	9990	11300	10600	6/10
M450	4500	6000	6000	7000	7000	3280	165	10890	10020	11340	10630	6/10
M475	4750	6000	6000	7000	7000	3405	165	10930	10060	11380	10670	6/5
M500	5000	6000	6000	7000	7000	3530	165	10960	10090	11410	10700	6/5
M550	5500	5700	5900	6600	6800	3830	165	11140	10270	11590	10880	6/5
M600	6000	5400	5600	6400	6600	4080	165	11200	10330	11650	10940	6/5

## G3 8.5-10t Wide View Standard Mast

Mast model	Max.lifting height (mm)	Load capacity (lode center 600mm) (kg)				Height (mast lowered) (mm)	Service weight (kg)				Mast tilt angle $\alpha/\beta(^{\circ})$
		CPD85	CPD100	CPD85	CPD100		CPD85-GB2D	CPD85-GB2DLI	CPD100-GB2D	CPD100-GB2DLI	
M250	2500	8500	10000	2450	2700	13272	11979	14659	13941	6/9	
M270	2700	8500	10000	2550	2800	13327	12034	14699	13981	6/9	
M300	3000	8500	10000	2700	2950	13952	12659	14780	14062	6/9	
M330	3300	8500	10000	2800	3100	14053	12760	14828	14110	6/9	
M350	3500	8500	10000	2950	3200	14198	12905	14873	14155	6/9	
M375	3750	8500	10000	3075	3325	14318	13025	14923	14205	6/9	
M400	4000	8500	10000	3250	3500	14493	13200	15063	14345	6/9	
M425	4250	8500	10000	3375	3625	14648	13355	15118	14400	6/9	
M450	4500	8500	10000	3500	3750	14768	13475	15168	14450	6/9	
M475	4750	7750	10000	3625	3875	14913	13620	15225	14507	6/6	
M500	5000	7750	10000	3750	4000	15028	13735	15280	14562	6/6	
M550	5500	7400	9000	4050	4300	15350	14057	15581	14863	6/6	
M600	6000	7000	8000	4300	4550	15553	14260	15631	14913	6/6	

## G3 6-7t Wide View Full Free 2-Stage Mast

Mast model	Max.lifting height (mm)	Load capacity (lode center 600mm) (kg)				Height (mast lowered) (mm)	Free lift (with backrest) (mm)	Service weight (kg)				Mast tilt angle $\alpha/\beta(^{\circ})$
		CPD60-GB2D	CPD60-GB2DLI	CPD70-GB2D	CPD70-GB2DLI			CPD60-GB2D/GB2DLI	CPD70-GB2D/GB2DLI	CPD60-GB2D	CPD60-GB2DLI	
ZM220	2200	6000	6000	7000	7000	2060	710	10570	9700	11050	10340	6/10
ZM250	2500	6000	6000	7000	7000	2210	860	10615	9745	11095	10385	6/10
ZM270	2700	6000	6000	7000	7000	2310	960	10650	9780	11130	10420	6/10
ZM300	3000	6000	6000	7000	7000	2460	1110	10695	9835	11175	10475	6/10
ZM330	3300	6000	6000	7000	7000	2610	1260	10730	9870	11210	10510	6/10
ZM350	3500	6000	6000	7000	7000	2710	1360	10765	9905	11245	10545	6/10
ZM400	4000	6000	6000	7000	7000	3010	1660	10950	10090	11430	10730	6/10
ZM425	4250	6000	6000	7000	7000	3135	1785	10985	10125	11465	10765	6/10
ZM450	4500	6000	6000	7000	7000	3260	1910	11030	10160	11510	10800	6/10
ZM475	4750	6000	6000	7000	7000	3385	2035	11075	10205	11555	10845	6/5
ZM500	5000	6000	6000	7000	7000	3510	2160	11110	10240	11590	10880	6/5
ZM550	5500	5700	5900	6600	6800	3810	2460	11295	10425	11775	11065	6/5
ZM600	6000	5400	5600	6400	6600	4060	2710	11360	10490	11840	11130	6/5

注:不带挡货架自由起升高度6t: +340mm,7t: +180mm

## G3 6-7t Wide View Full Free 3-Stage Mast

Mast model	Max.lifting height (mm)	Load capacity (lode center 600mm) (kg)				Height (mast lowered) (mm)	Free lift (with backrest) (mm)	Service weight (kg)				Mast tilt angle  $\alpha/\beta(^{\circ})$
CPD60-GB2D	CPD60-GB2DLI	CPD70-GB2D	CPD70-GB2DLI	CPD60-GB2D/GB2DLI	CPD70-GB2D/GB2DLI	CPD60-GB2D	CPD60-GB2DLI	CPD70-GB2D	CPD70-GB2DLI			

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**Configuration Table**

Categories for Safety	Steering deceleration	●
	Rear handle with horn for truck reversing	●
	Overspeed alarm (5km/h)	○
	Overspeed alarm(8km/h)	○
	Overspeed alarm (10km/h)	○
	OPS(travelling+lifting+tilting+attachment )(lowering is included)	●
	Control valve overload	●
	Dry powder extinguisher (0.5kg)	○
	Dry powder extinguisher (2kg)	○
	Backward buzzer	●
	Reversing speaker (Chinese)	○
	Electronic upper buffering	●
	Center wide angle rearview mirror	●
	Rearview mirror on two sides + Center wide angle rearview mirror	○
	Reverse radar (4 probes)	○
	Reversing image (1 camera + 4 probes)	○
	GRAMMER full suspension seat	●
	1 USB interface (5V/1A)	●
	Super low torque steering unit	●
	Steering started by steering wheel	●
	Mechanical operation valve	●
	Electromagnetic operation valve (proportional valve+ thumb switch)	○
	Fan	○
Optional overhead guard	Overhead guard with iron frame	○
	Overhead guard with protection net	○
	Panel mounted cab( with fan and wiper)	○
cab / windshields	Heater	○
	Rear mounted air conditioner only for cooling	○
	Rear mounted air conditioner only for cooling + heater	○
	Front windshield (with wiper/no blow can)	○
	High temperature resistant front windshield	○
	Rear windshield	○
	Top windshield (without fan)	○
	LED rear working lamp (one)	●
lights	Rear LED red/blue spot lamp	○
	Left, right and rear blue bar	○
	Fixed type LED rotating warning lamp	●
	Fixed type LED flicker warning lamp	○
	Fixed type LED rotating buzzer warning lamp	○
	Dual tyre (front wheel)	●
others	Metric screw	●
	SAE screw	○
	No protective sleeves for tilting cylinder and steering cylinder	○
	With protective sleeves for tilting cylinder and steering cylinder	●
	FiCS(basic edition) (for domestic)	●

NOTE: "●" standard ; "○" optional ; "—" not applicable; \*: only ZAPI electric controller.

**Battery capacity configuration**

Truck model	Model	Standard battery Made in CHINA	Option battery							
			Made in CHINA		FAAM		HOPPECKE			
Acid type	CPD60-GB2D	80V/840Ah	80V/960Ah	80V/840Ah	80V/840Ah	80V/1000Ah	80V/960Ah	80V/1000Ah		
	CPD70-GB2D	80V/960Ah	—	80V/1000Ah	—	80V/1000Ah	—	—		
	CPD85-GB2D	—	HEDING	HEDING	—	—	ENEROC,CATL core	—		
	CPD100-GB2D	—	CPD60-GB2DLI	80V/606Ah	80V/808Ah	80V/1120Ah	80V/1212Ah	80V/606Ah		
Lithium type	—	CPD70-GB2DLI	CPD85-GB2DLI	CPD100-GB2DLI	80V/808Ah	—	80V/684Ah	80V/813Ah	80V/906Ah	80V/1084Ah