

**1.5 ton**  
**AC ELECTRIC REACH TRUCK**  
**STAND-UP RIDER TYPE**



**China Export Famous Brand**

**HELI**

**CHINESE EXPORT BRAND**

Recommended  
By China Chamber of Commerce for Import and Export of Machinery  
And Electric Products

## High efficiency loading/unloading performance



- ✓ The innovative design improves the work efficiency of the hydraulic system largely and provides a very efficient loading/unloading
- ✓ High-power lifting AC motor
- ✓ MOSFET lifting controller
- ✓ New low-noise gear pump with differential tooth technology

The maximum unloaded travel speed increases to 420mm/s.  
The maximum loaded travel speed increases to 270mm/s.

↑ **27%** THE MAXIMUM UNLOADED TRAVEL SPEED INCREASES  
↑ **12%** THE MAXIMUM LOADED TRAVEL SPEED INCREASES

## The new AC drive system



High-power AC motor together with the newly designed transmission system provide better performances of power, driving, acceleration and grade ability of the truck.

- ✓ Lower noise
- ✓ Powerful acceleration
- ✓ More efficient
- ✓ Sustainable energy recovery technology
- ✓ The maintenance-free brushless motor

The maximum driving speed without load increases to 10.7km/h.  
The maximum driving speed with load increases to 9.6km/h.

↑ **12%** THE MAXIMUM UNLOADED TRAVEL SPEED INCREASES  
↑ **13%** THE MAXIMUM LOADED TRAVEL SPEED INCREASES

## Advanced EPS (Electronic Power Steering)



- ✓ Steering wheel automatic homing function
- ✓ 180-degree angle position display
- ✓ Automatic limitation of speed and acceleration while steering
- ✓ Light & flexible, quiet & efficient

## More optimized intelligent design

The truck equipped with more intelligent devices and functions not only ensures the safety performance, but also improves working efficiency and reduces energy consumption.

- ✓ ZAPI driving motor controller
- ✓ ZAPI pump motor controller
- ✓ ZAPI AC electronic steering controller
- ✓ CAN BUS technology
- ✓ Self-braking on ramp
- ✓ Sequence of operations protection
- ✓ Speed control
- ✓ Main circuit and control loop emergency power shut-down



## Reliable caliper disc brakes

- ✓ Mechanical brake
- ✓ Brake and parking brake set in one
- ✓ It is easy to brake, which is to release the pedal
- ✓ Reliable brake



## Sufficient operation space

Large operation space ensures the operation more comfortable & convenient.



## Safety and maintenance

- ✓ Variable speed and closed-loop control of AC lifting system improve operational safety
- ✓ Closed-loop control of AC travel system achieves automatic braking on ramp and enhances the safety
- ✓ Automatic deceleration function while steering
- ✓ The advantages of AC motor configuration is to eliminate the replacement and maintenance of wearing parts, such as carbon brushes, commutator, etc.



**HELI**



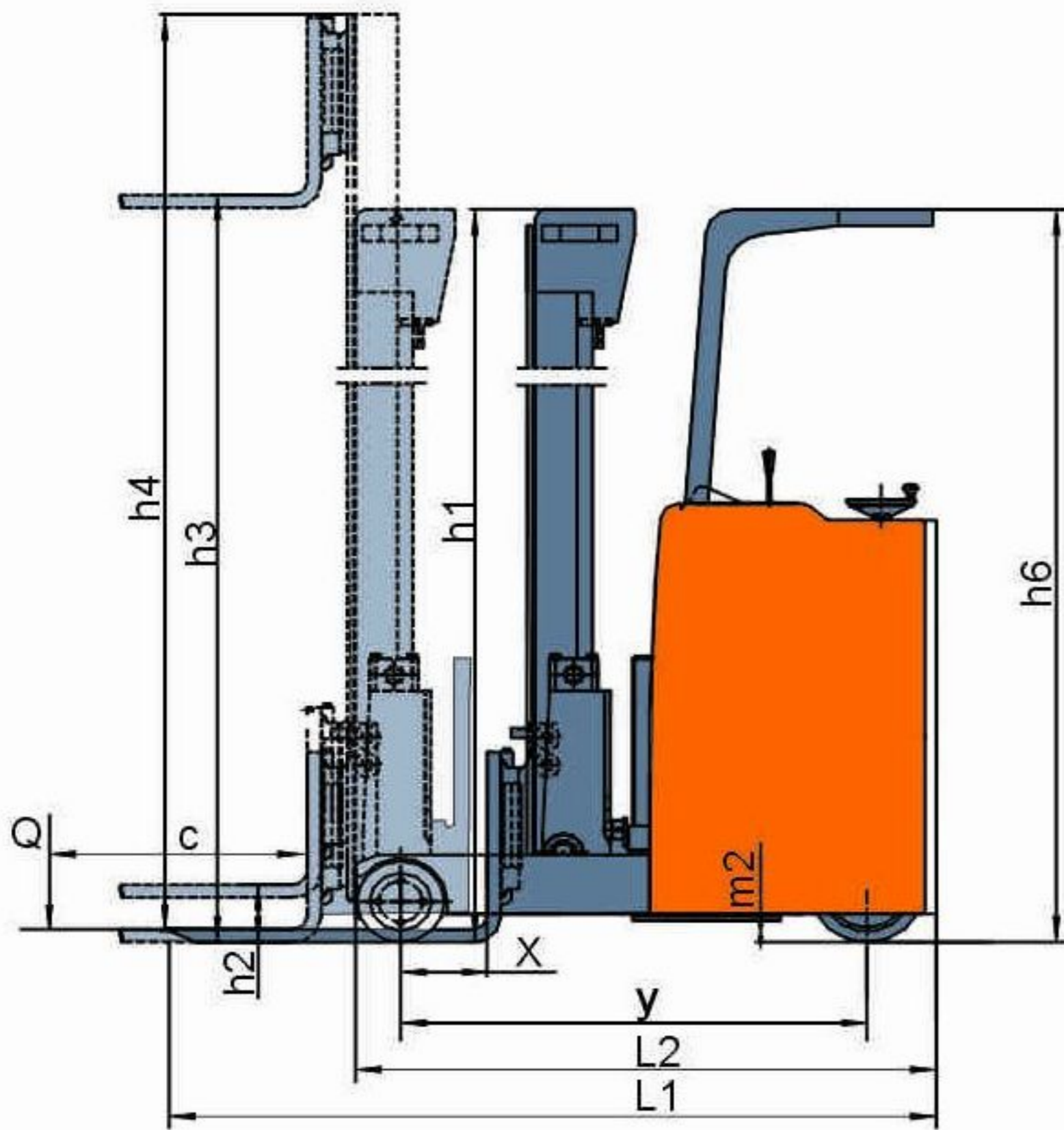
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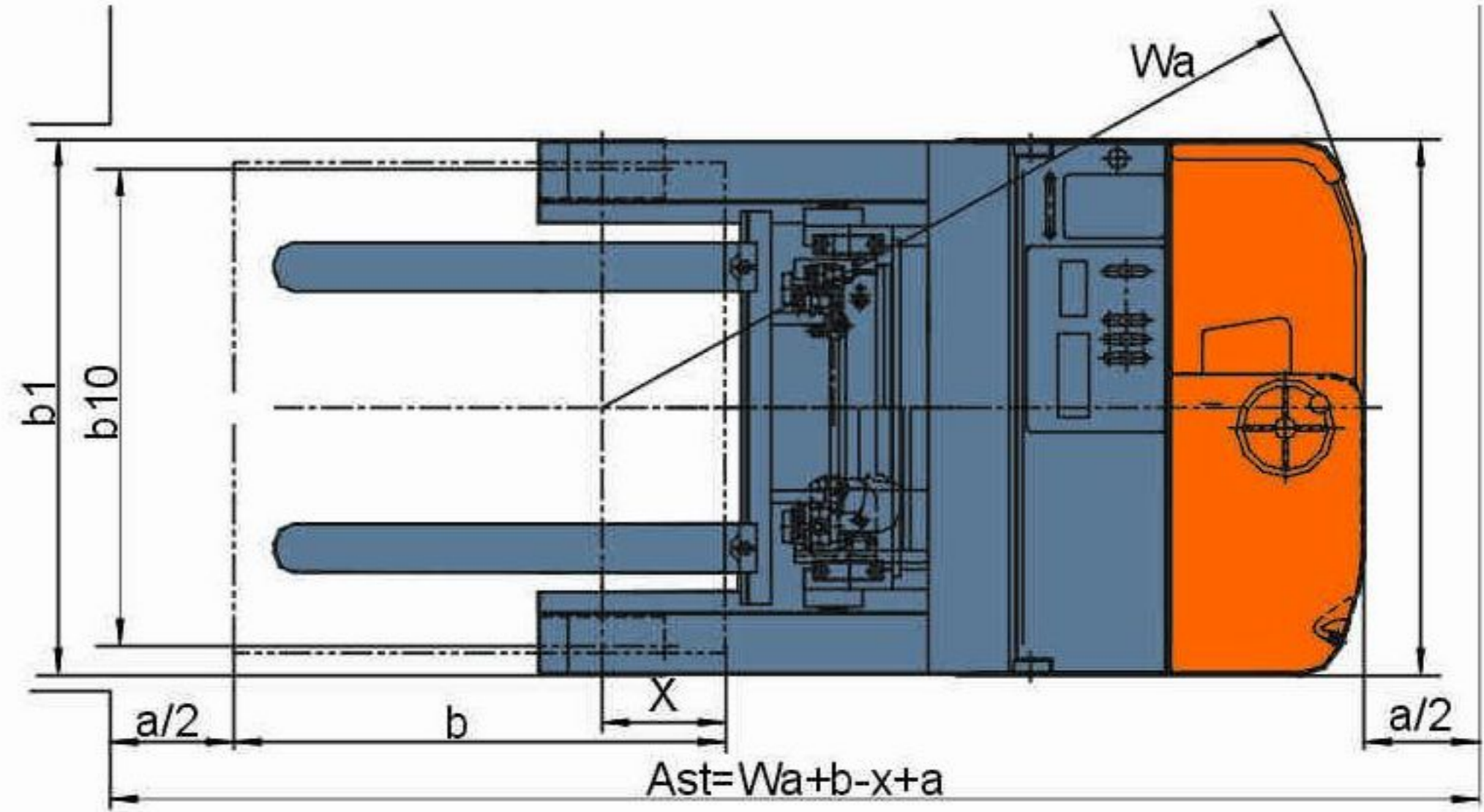




<b>Manufacturers Data and Design Characteristics</b>				
<b>Characteristics</b>				
1.01	Manufacturer			<b>HELI</b>
1.02	Model Designation			CQD15
1.03	Configuration Number			GA2R
1.04	Load Capacity	Q	kg	1500
1.05	Load Center	C	mm	500
1.06	Power Type			Battery
1.07	Operator Type			Seated
1.08	Wheelbase	y	mm	1356
<b>Wheels &amp; Tyres</b>				
2.01	Tyre Type			Polyurethane
2.02	Tyres Number (Front/Rear)			2/1X
2.03	Tread(centre of tyre),front	b10	mm	945
2.04	Tyre Size(load), Front			φ254×120
2.05	Tyre Size(drive), Rear			φ330×114
<b>Dimensions</b>				
3.01	Load Distance	x	mm	250
3.02	Mast Tilt Angle,F/R	α / β	(°)	3/5
3.03	Height with Mast Lowered	h1	mm	2251
3.04	Free Lift	h2	mm	140
3.05	Standard Lift Height	h3	mm	3100
3.06	Height with Mast Extended	h4	mm	4185
3.07	Overhead Guard Height	h6	mm	2250
3.08	seat height	h7	mm	300
3.09	Fork Size T×W×L	s/e/L	mm	45×100×920
3.10	Fork Carriage to DIN 15173 A/B			2A
3.11	Overall length	L1	mm	2227
3.12	length of chassis	L2	mm	1687
3.13	overall width	b1	mm	1093
3.14	outside turning radius	Wa	mm	1630
3.15	Ground Clearance at mast ,Loaded	m1	mm	75
3.16	Ground Clearance at centre of wheelbase ,Loaded	m2	mm	50
3.17	Right Stack Aisle width (Pallet size 1000x1000mm, clearance:200mm)	Ast	mm	2580
3.18	Right Stack Aisle width (Pallet size 1200x1200mm, clearance:200mm)	Ast	mm	2780
3.19	Fork width adjustment	b3	mm	200~680
<b>Performances</b>				
4.01	Travel Speed,with/without load		km/h	9.5/10
4.02	Lifting Speed,with/without load		m/s	0.26/0.41
4.03	Lowering Speed		m/s	0.37
4.04	Forward speed,with/without load		m/s	0.11/0.11
4.05	Gradient performance with load		%	10/12.5
4.06	Acceleration time (10 metres) W/O load		s	5.5/5.0
<b>Weight</b>				
5.01	Total Approximate Weight(W/O battery)		kg	2650/2050
5.02	Axle Load without load,front (load)/rear(drive)		kg	900/1750
5.03	Axle Loading*: Unloaded,Front/Rear		kg	3750/400
5.04	Axle Loading*: Loaded,Front/Rear		kg	2750/1400
<b>Battery</b>				
6.01	Battery Voltage/rated capacity(5h)		V/Ah	48/320
6.02	battery weight		kg	600(570-630)
6.03	Battery to DIN 43531/35/36/A/B/C			43531B
<b>Motor &amp; Controller</b>				
7.01	Drive Motor - 60 Min. Rating		kW	4.5
7.02	Pump Motor - 15 Min. Rating		kW	8
7.03	Steering motor power		kW	0.6
7.04	Drive Motor Control Method			Mosfet/AC
7.05	Pump Motor Control Method			Mosfet/AC
7.06	Steering control			Mosfet/AC
7.07	Service Brake/Parking Brake			Mechanical/AC electric
7.08	Relief Pressure		Mpa	14.5



Ast: Aisel width with load  
 a: Clearance, a=200mm  
 b: Length of loading



## ZAPI SMART INTERACTIVE MULTI-FUNCTION LCD INSTRUMENT.

Alphanumeric display

Battery discharge indicator



Keyboard button:Enter  
 Low speed LED  
 Keyboard button:Roll up  
 Failure alarm LED  
 Low battery LED  
 keyboard button:Roll down

Keyboard button:out/  
 Driving mode selection button  
 Seat awitch LED  
 Hand brake status LED  
 Keyboard button:Set down  
 Oil position LED(NO USE)  
 Keyboard button:Set up

ZAPI Display



ZAPI Display

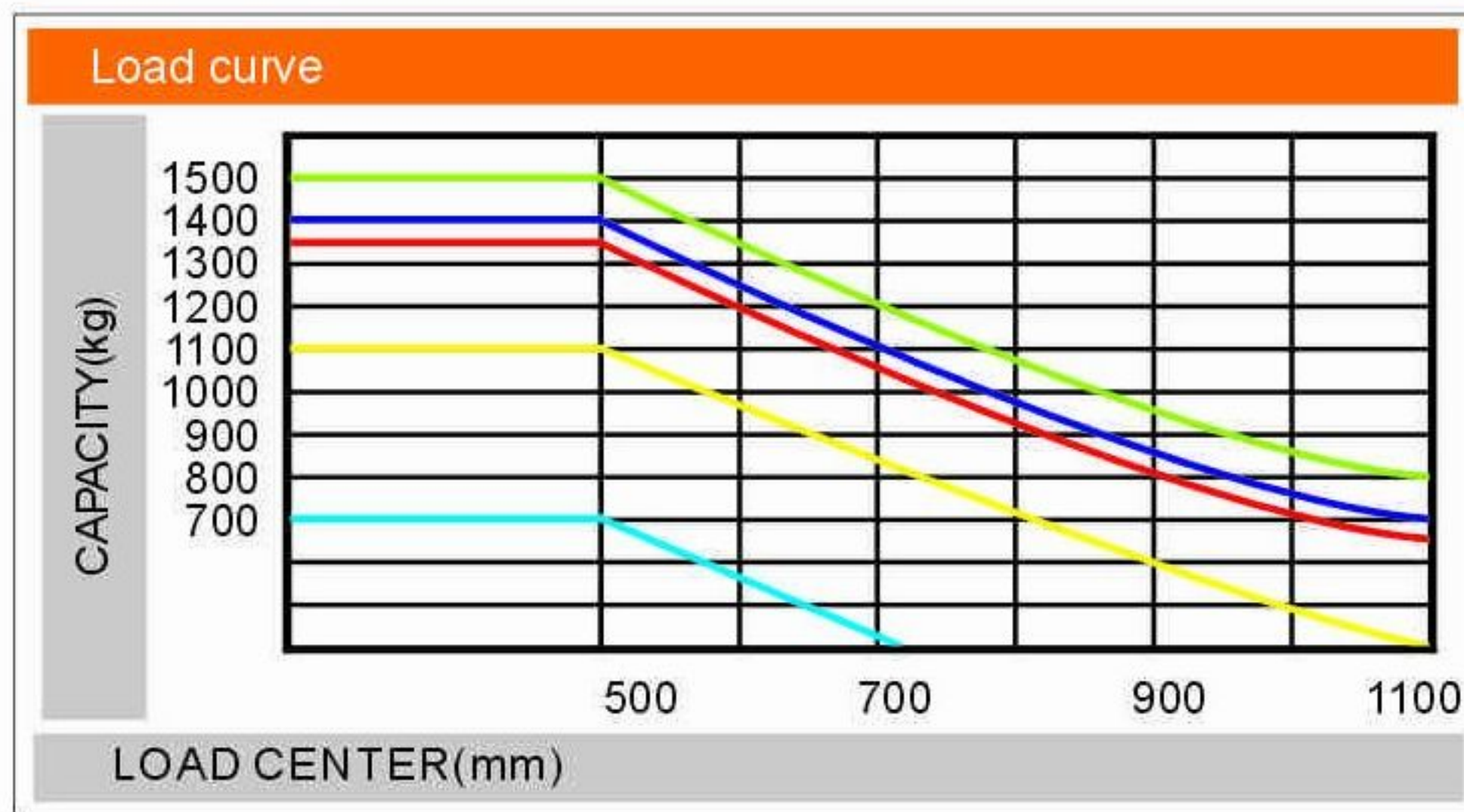
The reliable special instrument gives a complete display of the vital information, like operation status, fault detection, etc. It ensures the operator predominate the vehicle status more intuitive and convenient.



## Renewable energy technologies

With the use of the excellent load-sensing steering system and AC controlling renewable energy technologies, the forklift is more energy-saving and the working hour of the battery is extended by 15%.

**↑ 15%**  
 THE PERFORMANCE OF BATTERY  
 INCREASES



6000      5000      3800      3600      3400

**Notice:**  
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.

## WIDE VIEW MAST

Model	Max.Fork Height (mm)	Load Capacity (Load Centre 500mm)(kg)	Overall Length Fork Lowered(mm)	Free Lift(mm)	Entended Mast Height (mm)	Tilting Angle
M200	2000	1500	1701	140	3085	3°/5°
M250	2500	1500	1951	140	3585	3°/5°
M290	2900	1500	2151	140	3985	3°/5°
M310	3100	1500	2251	140	4185	3°/5°
M340	3400	1500	2401	140	4485	3°/5°
M360	3600	1450	2501	140	4685	3°/5°
M380	3800	1350	2601	140	4885	3°/5°
M400	4000	1350	2701	140	5085	3°/5°
M420	4200	1350	2801	140	5285	3°/5°
M440	4400	1350	2901	140	5485	3°/5°
M500	5000	1100	3201	140	6085	3°/5°
M600	6000	700	3701	140	7085	3°/5°

NOTE:load capacity will decrease 100kg if mast equips side shifter.

## WIDE VIEW FULL FREE 3-STAGE MAST

Model	Max.Fork Height (mm)	Load Capacity (Load Centre 500mm)(kg)	Overall Length Fork Lowered(mm)	Free Lift(mm)	Entended Mast Height (mm)	Tilting Angle
ZSM360	3600	1450	1825	1284	4685	3°/5°
ZSM400	4000	1350	1958	1418	5085	3°/5°
ZSM450	4500	1350	2125	1584	5585	3°/5°
ZSM500	5000	1100	2292	1747	6085	3°/5°
ZSM540	5400	1000	2425	1880	6485	3°/5°
ZSM600	6000	700	2625	2080	7085	3°/5°

NOTE:load capacity will decrease 100kg if mast equips side shifter.

# HELI



## 1.5 ton

### AC ELECTRIC REACH TRUCK STAND-UP RIDER TYPE

#### STANDARD CONFIGURATION

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- ZAPI AC driving motor controller
- ZAPI AC pump motor controller
- ZAPI AC steering motor controller
- DC / DC converter
- 3100mm duplex mast
- Backrest
- Carriage
- Standard fork
- Domestic battery
- LCD Meter
- Caliper disc brakes
- Italy Manuli high pressure hose
- Three valves
- Attached truck tools

#### OPTIONAL CONFIGURATION

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- Ranges of standard duplex mast
- Triplex full-free mast
- Integral sideshifter
- Ranges of forks
- Battery Charger
- User-specified color
- Lamps
- Warning light
- German battery
- Italy FAAM battery
- Four valves