

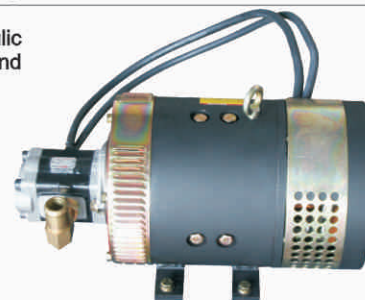
S SERIES

High efficiency loading/unloading performance

The innovative design and configuration of hydraulic system improve the working efficiency largely and provide a very efficient loading/unloading.

↑ 20%
THE MAXIMUM LIFTING SPEED WITHOUT LOAD INCREASES

↑ 12%
THE MAXIMUM LIFTING SPEED WITH LOAD INCREASES



- ✓ New low-speed & high-torque lifting motor
- ✓ MOSFET lifting controller
- ✓ New low-noise gear pump with differential tooth technology
- ✓ New dynamic load sensing technology in hydraulic system

Enough operation space

The new optimization layout widens the operator space for ensuring more comfortable and convenient operation.



↑ 13%
THE OPERATOR SPACE INCREASES

More intelligent performance

- ✓ AC traction controller
- ✓ Emergency power shut-down
- ✓ Controller self-protecting
- ✓ Standard CAN BUS
- ✓ Self-braking on ramp
- ✓ Preventing disordered operating
- ✓ Operator presence sensing system
- ✓ Speed selection function (normal/cutback)

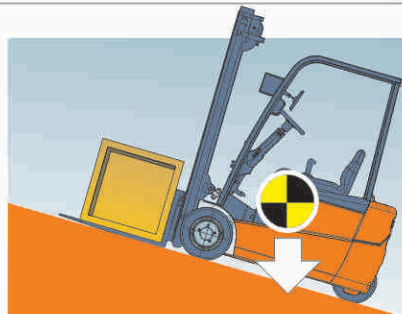


ZAPI CONTROLLER



CURTIS CONTROLLER

Better Stability



As the front overhang reduces 10mm, and the center of truck gravity lowers 12%, the truck has a better stability

↓ 10mm
THE FRONT OVERHANG REDUCES

↓ 12%
THE CENTER OF TRUCK GRAVITY LOWERS

HELI

HELI



S SERIES

THREE WHEEL
1-2 ton
AC ELECTRIC FORKLIFT

STANDARD EQUIPMENT

- ZF Drive unit includes Gearbox, AC-motor and oil-cooled disc brake
- ZAPI /CURTIS MOSFET electronic travel controllers and lifting controller
- High-mounted rear combination lights (back up, brake, turn signal)
- 3300mm STD 2-Stage mast
- Front lights (turn signal & clearance)
- Tilt cylinder(5 fwd/7 back)
- Side view mirror
- Carriage

OPTIONS

- AC induction motor/AC controller hydraulic system
- Full free 2-Stage mast
- STD mast with other lifting height
- Full free 3-Stage mast
- Side-shifter(Hurg up,Integrated)
- Colored tyre (white/green)

- 3-spool Control Valve
- DC/DC Converter
- Super-elastic tyre
- Battery
- Head lights
- Standard fork
- Load backrest

- Nonstandard forks in length
- Other attachments
- Warning lights
- Battery charger
- Optional battery



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* Details of specifications and equipment are based on information available at the time of printing and may change without notice.

AUTHORIZED DEALER

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Catalog No.2011.01 HELI Print

Three Wheel

1-2 ton
AC ELECTRIC FORKLIFT

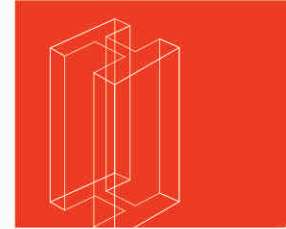


S SERIES

CHINESE EXPORT BRAND

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

HELI



AC ELECTRIC FORKLIFT **THREE WHEEL** **1-2 ton**

Newly designed wide-view mast



The newly designed wide-view mast enlarges operators' view effectively and lessens the blind area to provide a clearer vision.

↑ 14%
THE OPERATOR'S VISION INCREASES

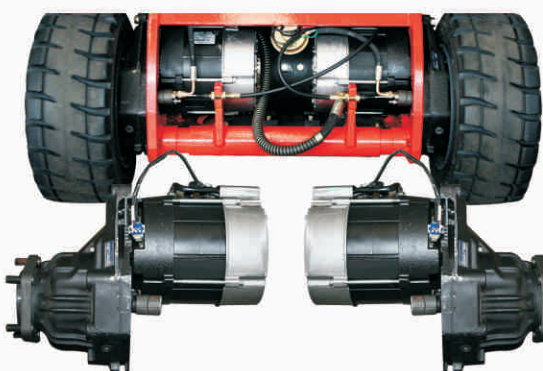
Excellent steering system



The Steering system with new technologies not only provides a smoother swerve and faster positioning & steering, but also effectively lowers down the noise.

- ✓ Electronic differential
- ✓ New integrated load-sensing steering
- ✓ Double paralleled steering wheel
- ✓ Power Steering
- ✓ Turn around in situ
- ✓ Automatic slow-down device while steering

Dual AC drive motor



The powerful dual AC drive motors greatly enhance the performance of acceleration, driving, loading /unloading and grade ability.

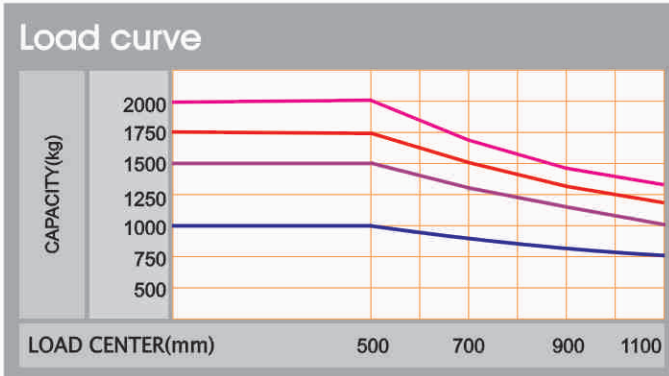
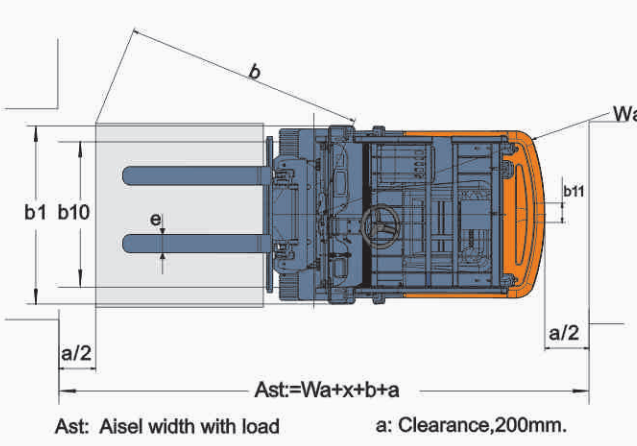
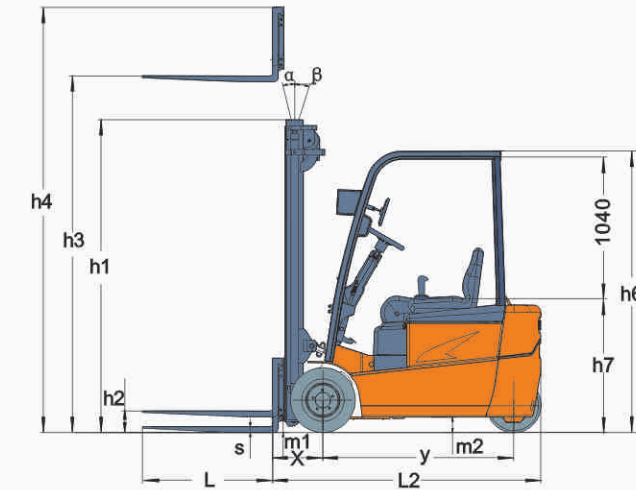
↑ 11%
THE MAXIMUM DRIVING SPEED WITHOUT LOAD INCREASES

↑ 18%
THE MAXIMUM DRIVING SPEED WITH LOAD INCREASES

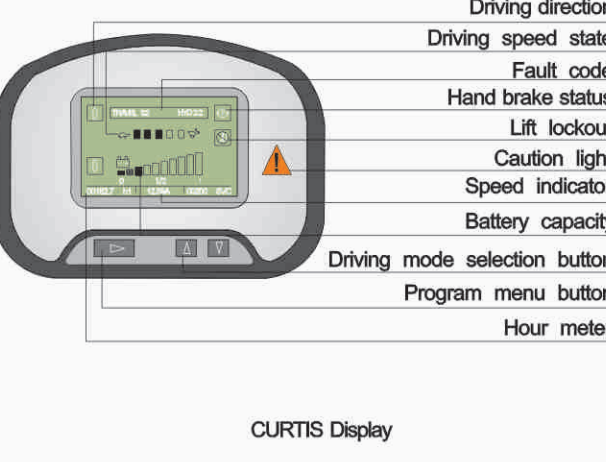
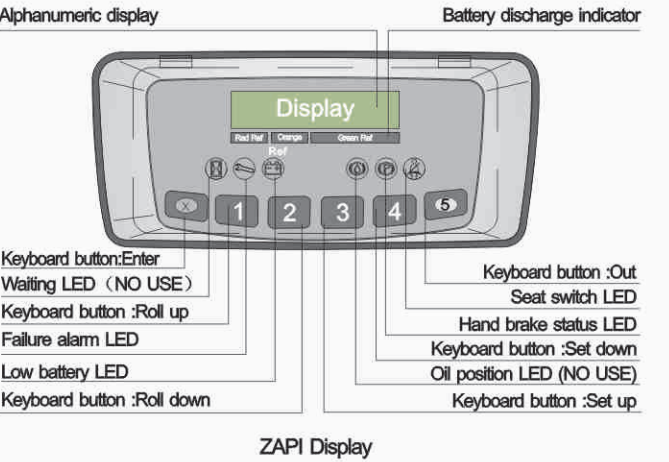


Manufacturers Data and Design Characteristics

| Characteristics | | | | | | | | | | |
|--------------------|--|-----------------------------|----------------------|--------------|----------------------|--------------|----------------------|---------------|----------------------|--|
| 1.01 | Manufacture's Name | HELI | | | | | | | | |
| 1.02 | Model Designation | CPD10S | | CPD15S | | CPD18S | | CPD20S | | |
| 1.03 | Configuration Number | CQ1/CQ2 | FQ1/FQ2 | CQ1/CQ2 | FQ1/FQ2 | CQ1/CQ2 | FQ1/FQ2 | CQ1/CQ2 | FQ1/FQ2 | |
| 1.04 | Load Capacity | Q (kg) | 1000 | 1500 | 1750 | 2000 | 2000 | 2000 | 2000 | |
| 1.05 | Load Center | c (mm) | 500 | 500 | 500 | 500 | 500 | 500 | 500 | |
| 1.06 | Power Type | | Battery | Battery | Battery | Battery | Battery | Battery | Battery | |
| 1.07 | Operator Type | | Seated | Seated | Seated | Seated | Seated | Seated | Seated | |
| 1.08 | Wheelbase | y (mm) | 1250 | 1250 | 1350 | 1455 | 1350 | 1455 | 1455 | |
| Wheels & Tyres | | | | | | | | | | |
| 2.01 | Tyre Type | | superelastic | superelastic | superelastic | superelastic | superelastic | superelastic | superelastic | |
| 2.02 | Tyres Number (Front/Rear) | | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | |
| 2.03 | Tread(centre of tyre),front | b10 (mm) | 926 | 926 | 925 | 925 | 925 | 925 | 925 | |
| 2.04 | Tread(centre of tyre),rear | b11 (mm) | 163 | 163 | 190 | 163 | 190 | 163 | 190 | |
| 2.05 | Tyre Size, Front | | 18×7-8 | 18×7-8 | 200/50-10 | 200/50-10 | 200/50-10 | 200/50-10 | 200/50-10 | |
| 2.06 | Tyre Size, Rear | | 15×4.5-8 | 15×4.5-8 | 16×6-8 | 15×4.5-8 | 16×6-8 | 15×4.5-8 | 16×6-8 | |
| Dimensions | | | | | | | | | | |
| 3.01 | Load Distance | x (mm) | 318 | 321 | 321 | 321 | 321 | 321 | 331 | |
| 3.02 | Mast Tilt Angle,F/R | $\alpha / \beta (^{\circ})$ | 5/7 | 5/7 | 5/7 | 5/7 | 5/7 | 5/7 | 5/7 | |
| 3.03 | Height with Mast Lowered | h1(mm) | 2220 | 2220 | 2220 | 2220 | 2220 | 2220 | 2220 | |
| 3.04 | Free Lift | h2(mm) | 122 | 125 | 125 | 125 | 125 | 125 | 135 | |
| 3.05 | Standard Lift Height | h3(mm) | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | |
| 3.06 | Height with Mast Extended | h4(mm) | 4330 | 4330 | 4330 | 4330 | 4330 | 4330 | 4330 | |
| 3.07 | Overhead Guard Height | h6(mm) | 2080 | 1980 | 2080 | 1980 | 1980 | 1980 | 1980 | |
| 3.08 | Seat Height | h7(mm) | 1000 | 910 | 1000 | 910 | 910 | 910 | 910 | |
| 3.09 | Fork Size | se/L(mm) | 32×100×770 | | 35×100×920 | | 35×100×920 | | 45×100×920 | |
| 3.10 | Fork Carriage to DIN 15173 A/B | | 2A | 2A | 2A | 2A | 2A | 2A | 2A | |
| 3.11 | Length to fork face | L2(mm) | 1779 | 1784 | 1783 | 1888 | 2016 | 1895 | 2016 | |
| 3.12 | Overall Width | b1(mm) | 1070 | 1070 | 1070 | 1124 | 1124 | 1124 | 1124 | |
| 3.13 | Outside Turning Radius | Wa(mm) | 1445 | 1445 | 1545 | 1660 | 1540 | 1660 | 1660 | |
| 3.14 | Ground Clearance at mast ,Loaded | m1(mm) | 90 | 90 | 90 | 90 | 90 | 90 | 90 | |
| 3.15 | Ground Clearance at centre of wheelbase ,Loaded | m2(mm) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| 3.16 | Right Stack Aisle width (Pallet size 1000x1000mm, clearance:200mm) | Ast(mm) | 3075 | 3080 | 3180 | 3305 | 3185 | 3305 | 3305 | |
| 3.17 | Right Stack Aisle width (Pallet size 1200x1200mm, clearance:200mm) | Ast(mm) | 3300 | 3300 | 3400 | 3530 | 3410 | 3530 | 3530 | |
| Performances | | | | | | | | | | |
| 4.01 | Travel Speed,with/without load | km/h | 14.2/15.4 | 14.5/15.5 | 14.2/15.4 | 14.5/15.5 | 14.2/15.5 | 14.2/15.4 | 14.0/15.3 | |
| 4.02 | Lifting Speed,with/without load | m/s | 0.30/0.44 | 0.30/0.43 | 0.30/0.43 | 0.29/0.48 | 0.29/0.48 | 0.27/0.48 | 0.27/0.48 | |
| 4.03 | Lowering Speed | m/s | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | |
| 4.04 | Gradient performance with load | % | 27 | 24 | 22 | 22 | 20 | 20 | 20 | |
| 4.05 | Max. draw bar pull with load | N | 11550 | 11920 | 15420 | 15420 | 15420 | 17390 | 17390 | |
| 4.06 | Acceleration time (10 metres) W/O load | s | 4.5/4.0 | 4.5/4.0 | 4.7/4.2 | 4.7/4.2 | 4.7/4.2 | 4.9/4.5 | 4.9/4.5 | |
| Weight | | | | | | | | | | |
| 5.01 | Total Approximate Weight(W/O battery) | kg | 2900/2161 | 2820/2260 | 3160/2421 | 3080/2372 | 3340/2590 | 3420/2480 | 3540/2600 | |
| 5.02 | Axle Loading*: Unloaded,Front/Rear | kg | 1484/1416 | 1412/1408 | 1476/1648 | 1537/1543 | 1590/1750 | 1580/1650 | 1690/1850 | |
| 5.03 | Axle Loading*: Loaded,Front/Rear | kg | 3173/727 | 3103/717 | 4006/654 | 4035/545 | 4525/645 | 4360/620 | 4920/700 | |
| Battery | | | | | | | | | | |
| 6.01 | Battery Voltage/rated capacity(5h) | V/Ah | 48/420 | 48/330 | 48/420 | 48/440 | 48/480 | 48/600 | 48/600 | |
| 6.02 | battery weight | kg | 739(700-780) | 560(532-588) | 739(700-780) | 708(673-743) | 750(700-800) | 940(900-1000) | 940(900-1000) | |
| 6.03 | Battery to DIN 43531/35/36/A/B/C | | 43531A | 43531A | 43531A | 43531A | 43531B | 43531B | 43531B | |
| Motor & Controller | | | | | | | | | | |
| 7.01 | Drive Motor - 60 Min. Rating | kW | 2×4.5 | | 2×4.5 | | 2×4.5 | | 2×4.5 | |
| 7.02 | Pump Motor - 15 Min. Rating | kW | 7.5 | | 7.5 | | 8.6 | | 8.6 | |
| 7.03 | Drive Motor Control Method | | Mosfet/AC | | Mosfet/AC | | Mosfet/AC | | Mosfet/AC | |
| 7.04 | Pump Motor Control Method | | Mosfet/DC | | Mosfet/DC | | Mosfet/DC | | Mosfet/DC | |
| 7.05 | Service Brake/Parking Brake | | Hydraulic/Mechanical | | Hydraulic/Mechanical | | Hydraulic/Mechanical | | Hydraulic/Mechanical | |
| 7.06 | Relief Pressure | Mpa | 14.5 | | 14.5 | | 17.5 | | 17.5 | |



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.



| BATTERY COMPARTMENT SIZE | | | |
|--------------------------|------------------|------------------------|------------|
| MODEL | COMPARTMENT SIZE | Battery specifications | |
| | | SIZE | STANDARD |
| CPD10/15S-CQ | 845×433×789 | 835×418×784 | DIN 43531A |
| CPD10S-FQ | 845×433×660 | 830×414×627 | DIN 43531A |
| CPD15S-FQ | 845×533×660 | 830×522×627 | DIN 43531A |
| CPD18S-FQ | 1040×460×660 | 1030×439×627 | DIN 43531B |
| CPD18/20S-CQ | 1040×540×660 | 1030×529×627 | DIN 43531B |

| WIDE VIEW MAST | | | | | | | |
|----------------|-----------------------|-------------------------------|--------|--------|--------|-------------------------------|---------------------|
| Mast model | Max. Lift height (mm) | Capacity at 500mm;load center | | | | Height with mast lowered (mm) | Tilting Angle (F/B) |
| | | CPD10S | CPD15S | CPD18S | CPD20S | | |
| M200 | 2000 | 1000 | 1500 | 1750 | 2000 | 1580 | 5/7 |
| M250 | 2500 | 1000 | 1500 | 1750 | 2000 | 1830 | 5/7 |
| M300 | 3000 | 1000 | 1500 | 1750 | 2000 | 2080 | 5/7 |
| M330 | 3300 | 1000 | 1500 | 1750 | 2000 | 2220 | 5/7 |
| M350 | 3500 | 1000 | 1500 | 1750 | 1950 | 2330 | 5/7 |
| M370 | 3700 | 1000 | 1450 | 1750 | 1900 | 2430 | 5/7 |
| M400 | 4000 | 1000 | 1400 | 1700 | 1850 | 2630 | 3/5 |
| M425 | 4250 | 1000 | 1350 | 1650 | 1800 | 2755 | 3/5 |
| M450 | 4500 | 1000 | 1300 | 1600 | 1750 | 2880 | 3/5 |
| M500 | 5000 | 900 | 1200 | 1500 | 1650 | 3130 | 3/5 |
| M550 | 5500 | 750 | 1000 | 1300 | 1400 | 3430 | 3/3 |
| M600 | 6000 | 500 | 700 | 950 | 1100 | 3680 | 3/3 |

| WIDE VIEW FULL FREE 2-STAGE MAST | | | | | | | | |
|----------------------------------|-----------------------|-------------------------------|--------|--------|--------|-------------------------------|---------------------------|---------------------|
| Mast model | Max. Lift height (mm) | Capacity at 500mm;load center | | | | Height with mast lowered (mm) | Free lift (with Backrest) | Tilting Angle (F/B) |
| | | CPD10S | CPD15S | CPD18S | CPD20S | | | |
| ZM200 | 2000 | 1000 | 1500 | 1750 | 2000 | 1580 | 570 | 5/7 |
| ZM250 | 2500 | 1000 | 1500 | 1750 | 2000 | 1830 | 820 | 5/7 |
| ZM300 | 3000 | 1000 | 1500 | 1750 | 2000 | 2080 | 1070 | 5/7 |
| ZM330 | 3300 | 1000 | 1500 | 1750 | 2000 | 2220 | 1210 | 5/7 |
| ZM350 | 3500 | 1000 | 1450 | 1750 | 1950 | 2330 | 1320 | 5/7 |
| ZM370 | 3700 | 1000 | 1400 | 1750 | 1900 | 2430 | 1420 | 5/7 |
| ZM400 | 4000 | 1000 | 1350 | 1700 | 1850 | 2630 | 1620 | 3/5 |
| ZM425 | 4250 | 1000 | 1300 | 1650 | 1800 | 2755 | 1745 | 3/5 |
| ZM450 | 4500 | 1000 | 1300 | 1600 | 1750 | 2880 | 1870 | 3/5 |
| ZM500 | 5000 | 900 | 1200 | 1500 | 1650 | 3130 | 2120 | 3/5 |
| ZM550 | 5500 | 750 | 1000 | 1250 | 1400 | 3430 | 2420 | 3/3 |
| ZM600 | 6000 | 500 | 650 | 900 | 1000 | 3680 | 2670 | 3/3 |

NOTE:The free height of full free 2-stage mast without backrest increase +399mm

| WIDE VIEW FULL FREE 3-STAGE MAST | | | | | | | | |
|----------------------------------|-----------------------|-------------------------------|--------|--------|--------|-------------------------------|---------------------------|---------------------|
| Mast model | Max. Lift height (mm) | Capacity at 500mm;load center | | | | Height with mast lowered (mm) | Free lift (with Backrest) | Tilting Angle (F/B) |
| | | CPD10S | CPD15S | CPD18S | CPD20S | | | |
| ZSM360 | 3600 | 1000 | 1400 | 1750 | 1900 | 1770 | 760 | 3/5 |
| ZSM400 | 4000 | 1000 | 1300 | 1700 | 1850 | 1905 | 895 | 3/5 |
| ZSM435 | 4350 | 1000 | 1280 | 1650 | 1800 | 2020 | 1010 | 3/5 |
| ZSM450 | 4500 | 1000 | 1250 | 1600 | 1750 | 2070 | 1060 | 3/5 |
| ZSM470 | 4700 | 1000 | 1250 | 1600 | 1700 | 2140 | 1130 | 3/5 |
| ZSM480 | 4800 | 1000 | 1200 | 1550 | 1650 | 2170 | 1160 | 3/5 |
| ZSM500 | 5000 | 900 | 1100 | 1500 | 1600 | 2270 | 1260 | 3/5 |
| ZSM540 | 5400 | 750 | 950 | 1200 | 1350 | 2405 | 1395 | 3/3 |
| ZSM550 | 5500 | 700 | 900 | 1150 | 1300 | 2440 | 1430 | 3/3 |
| ZSM600 | 6000 | 500 | 600 | 850 | 950 | 2620 | 1610 | 3/3 |
| ZSM620 | 6200 | 350 | 500 | 750 | 850 | 2710 | 1700 | 3/3 |
| ZSM650 | 6500 | 350 | 500 | 650 | 750 | 2810 | 1800 | 3/3 |

NOTE:The free height of full free 3-stage mast without backrest increase 1.8-2t Free lifting height without bracket:+436mm 1-1.5t Free lifting height without bracket:+449mm

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