HELI

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AC ELECTRIC REACH
TRUCK-SIT-DOWN TYPE **1.6-2.0 ton**

All the driving, lifting and steering motors use three-phase AC technology

Three-phase AC technology for driving, lifting and steering provides better performances of power, driving, acceleration and grade ability of the truck. Compared with the traditional DC motor,it has many advantages:

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

11 % THE MAXIMUM DRIVING SPEED WITHOUT LOAD INCREASES

11 % THE MAXIMUM DRIVING SPEED WITH LOAD INCREASES

Newly designed hydraulic system: 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

42 % THE MAXIMUM DRIVING SPEED WITHOUT LOAD INCREASES

26% THE MAXIMUM DRIVING SPEED WITH LOAD INCREASES

More optimized intelligent design

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

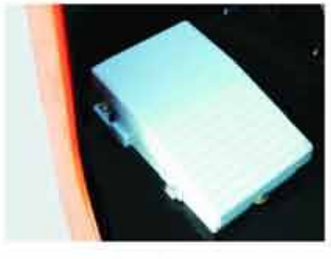
The truck equipped with more intelligent devices and functions not only ensures the safety performance, but also improves working efficiency and reduces energy consumption.

Advanced EPS (Electronic Power Steering)

EPS (electronic power steering) provides a lightweight and flexible, efficient and quiet operation.

- ZAPI steering motor controller
- Automatic homing function
- 180-degree angle position display
- Automatic limitation of speed and acceleration while steering

Excellent safety performance



- Automatical deceleration function while steering
- Foot switch power-off protection
- Emergency power-off switch protection
- 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.

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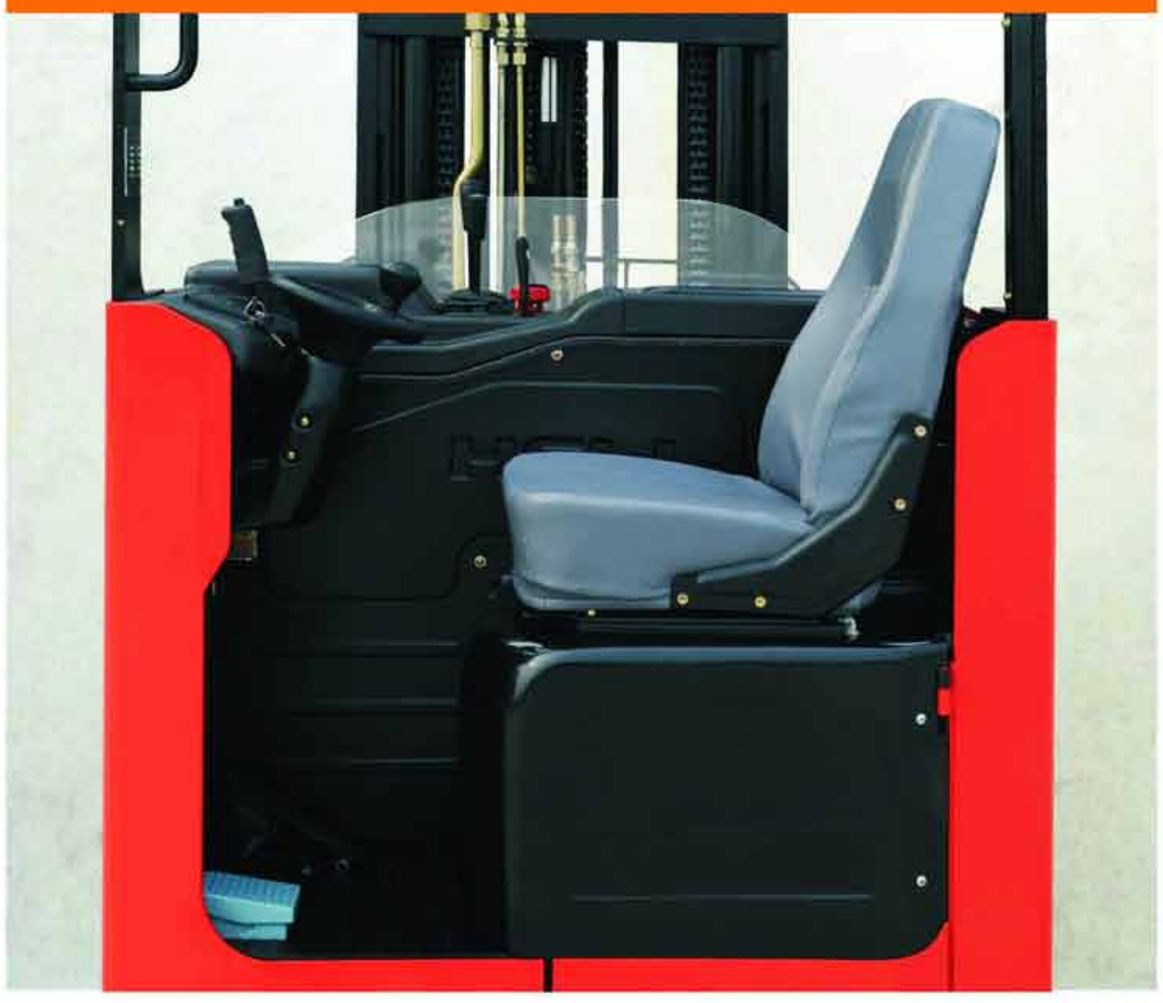
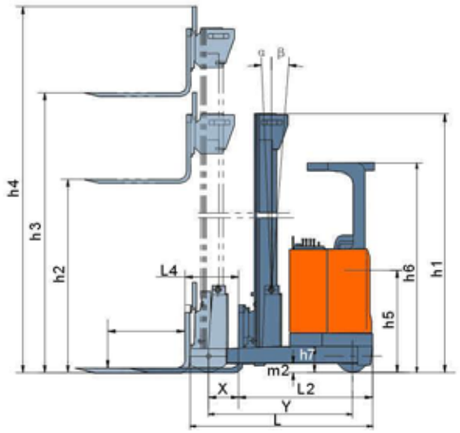
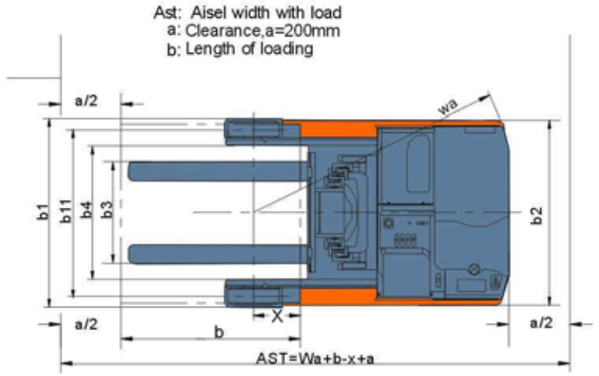


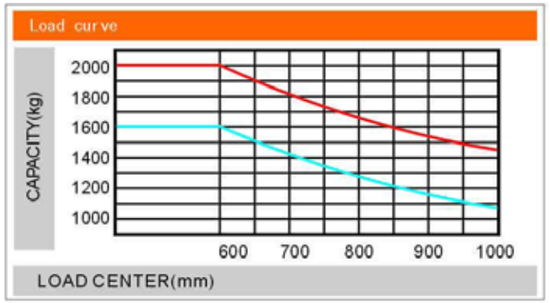
Manufacturers Data and Design Characteristics

	Features				
1.01	Manufacturer			HELI	
1.02	Model			CQD16	CQD20
1.03	Configuration number			GA2S	GA2S
1.04	Load capacity	Q	kg	1600	2000
1.05	Load Center	c	mm	600	600
1.06	Power Type			Battery	Battery
1.07	Driving style			Sit-down	Sit-down
1.08	Wheelbase	y	mm	1425	1500
	Wheel				
2.01	Tire type			Polyurethane	Polyurethane
2.02	Number of tires,driven wheel / bearing wheel (x = driven wheels)			1x/2	1x/2
2.03	Wheelbase (driven wheel)			--	--
2.04	Wheelbase (bearing wheel)		b11	988	1126
2.05	Bearing wheel size		mm	ϕ285x108	ϕ343x108
2.06	Driven wheel size		mm	ϕ343x114	ϕ343x114
	Size				
3.01	Standard mast lift height	h3	mm	4250(1)	4250(1)
3.02	Free lift height	h2	mm	1370(1)	1370(1)
3.03	Fork size, thickness / width / length	s/e/L	mm	45x100x1070	45x125x1200
3.04	Length (the distance from the rear frame to backrest)	L2	mm	1383(3)	1408(3)
3.05	Length (without forks)	L	mm	1800	1903
3.06	Body width / outside leg width	b2/b1	mm	1120/1148	1240/1266
3.07	Forward distance	L4	mm	500(2)	560(2)
3.08	Leg height	h7	mm	300	300
3.09	Lowered mast height	h1	mm	2090(1)	2090(1)
3.10	Maximum height of mast operation	h4	mm	5335(1)	5335(1)
3.11	Overhead guard height	h6	mm	2210	2210
3.12	Seat height	h5	mm	1015	1015
3.13	Minimum ground clearance (wheelbase midpoint)	m2	mm	95	95
3.14	Turning radius	Wa	mm	1700	1780
3.15	Distance from fork front end face to bearing wheel center	X	mm	252(2)	302(2)
3.16	Width of right-angle stacking pallets 1000Lx1200W, gap 200	Ast	mm	2650(2)	2670(2)
3.17	Width of right-angle stacking pallets 1200Lx1200W, gap 200	Ast	mm	2850(2)	2870(2)
3.18	Fork width adjustment	b3	mm	200~680	250~680
	Performance				
4.01	Travelling speed, with / without load		km/h	10/11	10/11
4.02	Lifting speed, with / without load		m/s	0.33/0.44	0.32/0.44
4.03	Descending speed, with / without load		m/s	0.5/0.5	0.5/0.5
4.04	Forward speed, with / without load		m/s	0.11/0.11	0.11/0.11
4.05	Maximum gradability, with / without load		%	10/15	10/15
4.06	Acceleration time, with / without load		s	5.3/4.8	5.5/5.0
	Weight				
5.01	Vehicle weight (including battery)		kg	3450(2)	3570(3)
5.02	Without load, driven wheel / bearing wheel		kg	1970/1480(3)	2175/1395(3)
5.03	Full load, driven wheel / bearing wheel (fork forward)		kg	620/4430(3)	560/5010(3)
5.04	Full load, driven wheel / bearing wheel (fork backward)		kg	1650/3400(3)	1770/3800(3)
	Battery				
6.01	Battery voltage / rated capacity (5 hour discharge)		Ah/v	500Ah/48V	500Ah/48V
6.02	Battery weight		kg	920	920
6.03	Battery Box Size		mm	974 X 404 X 750	974 X 404 X 750
	Motor and Control				
7.01	Drive motor power		kw	5.5	5.5
7.02	Lifting motor power		kw	11.5	11.5
7.03	Steering motor power		kw	0.6	0.6
7.04	Drive control			MOSFET/AC	MOSFET/AC
7.05	Lift control			MOSFET/AC	MOSFET/AC
7.06	Steering control			MOSFET/AC	MOSFET/AC
7.07	Brake			Hydraulic/Electric	Hydraulic/Electric
7.08	Hydraulic system working pressure		Mpa	14.5	17.5

NOTE:(1) Standard mast height is 4250mm, corresponding parameters changes among different height mast.
(2) Corresponding parameters changes among different capacity battery.
(3) Corresponding parameters changes among different capacity battery and different height mast.



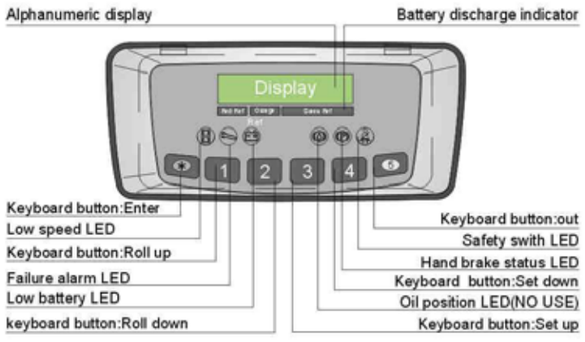




CQD16 CQD20

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.

ZAPI SMART INTERACTIVE MULTI-FUNCTION LCD INSTRUMENT.



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

WIDE VIEW MAST

Model	Max.Fork Height (mm)	Load Capacity (Load Centre 600mm)(kg)		Overall height (mm)	Free lift (mm)	Tilting Angle (α/β)
		CQD16-GA2S	CQD20-GA2S			
KM290	2900	1600	2000	2170	140	2°/4°
KM320	3200	1600	2000	2370	140	2°/4°
KM360	3600	1600	2000	2520	140	2°/4°
KM380	3800	1600	2000	2620	140	2°/4°
KM400	4000	1600	2000	2720	140	2°/4°
KM420	4200	1600	2000	2820	140	2°/4°
KM440	4400	1600	2000	2920	140	2°/4°
KM460	4600	1600	2000	3020	140	2°/4°
KM500	5000	1500	1900	3220	140	2°/4°

NOTE: The carrying capacity reduces 100kg with sideshifter.

WIDE VIEW FULL FREE 3-STAGE MAST

Model	Max.Fork Height (mm)	Load Capacity (Load Centre 600mm)(kg)		Overall height (mm)	Free lift (mm)	Tilting Angle (α / β)
		CQD16-GA2S	CQD20-GA2S			
KZSM425	4250	1600	2000	2090	1370	2°/4°
KZSM450	4500	1550	1850	2180	1460	2°/4°
KZSM530	5300	1450	1850	2440	1720	2°/4°
KZSM560	5600	1400	1800	2540	1820	2°/4°
KZSM580	5800	1350	1750	2610	1890	2°/4°
KZSM620	6200	1300	1700	2740	2020	2°/4°
KZSM680	6800	1200	1600	2940	2220	2°/2°
KZSM740	7400	1100	1500	3140	2420	2°/2°
KZSM800	8000	800	1200	3340	2620	1°/2°
KZSM850	8500	700	1100	3510	2790	0.5°/1°

NOTE: The carrying capacity reduces 100kg with sideshifter.

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AC ELECTRIC REACH TRUCK SIT-DOWN TYPE

STANDARD CONFIGURATION

Driving motor 48V/5.5Kw
Lifting motor 48V/11.5Kw
Steering motor 48V/0.6Kw
ZAPI AC driving motor controller
ZAPI AC lifting motor controller
ZAPI AC steering motor controller
Battery 48V/500A.h
DC / DC converter
Low-noise gear pump
Four valves
4250mm triplex full free mast
Sideshifter
Standard fork
Backrest
Polyurethane tires
LED LCD Instrument

OPTIONAL CONFIGURATION

Ranges of triplex full free mast
Duplex mast
Ranges of forks
Fork sleeve
Battery
Germany HOPPECKER battery
Italy FAAM battery
Special shape of overhead guard
Battery Charger
Lamps
Warning light
User-specified color

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