

A Series Moving Mast Reach Truck

with capacities of 2,500 to 4,500lbs



The World of Hangcha
SINCE 1956





REACH TRUCK ADVANTAGES



10 reasons choose A series reach truck

- ▶ **APPEARANCE-** Beautiful / Compact / Ergonomic
- ▶ **HIGH PERFORMANCE-** Transmission system / Motor
- ▶ **RENEWABLE ENERGY TECHNOLOGIES-** Hydraulic system
- ▶ **PERFECT RESIDUAL LOAD CAPACITY-** Mast system
- ▶ **FLEXIBILITY-** Steering system
- ▶ **EXCELLENT ERGONOMIC & COMFORT-** Fingertip system
- ▶ **ADVANCE-** ZAPI control system
- ▶ **VISIBILITY-** Overhead guard
- ▶ **RELIABILITY-** Plastic oil tank / Braking system
- ▶ **MAINTENANCE-** Battery side roll-out



A SERIES PREMIUM VERSION REACH TRUCK

After 2 years of design, development, and manufacturing, Hangcha launched a new product lately –the A Series Premium Version Reach Truck: CQD12/14/16/20-AZ4H. This truck is mainly used in multi-level warehouse. CQD20-AZ4H rated load capacity is 4500lbs, maximum lifting height is 41ft, and the load capacity can reach 2400lbs at the maximum lifting height. Its technical parameters and configuration are close to that of similar products of international manufacturers including Crown, Linde, Jungheinrich, and Hyster. This product (A series premium version reach truck) together with standard reach truck and mini reach truck constitute the entire family of A Series reach truck of Hangcha. These products supplement with each other in rated tonnage, cover different prices together, and can satisfy different demands in prices, functions, and configuration from various users.



APPEARANCE

Top appearance design teams from Europe and China are engaged to carry out brand-new optimized design for this product. It features beautiful appearance and European design elements, excellent ergonomics and man-computer interaction functions, and inherits appearance elements of A Series electric trucks.



Overall Ergonomic Design

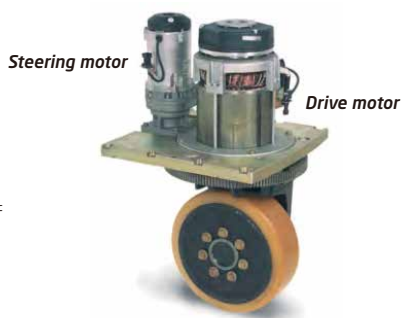


Overall Appearance Design

HIGH PERFORMANCE

The drive system includes the ZF® gearbox imported from Germany with original packaging, the imported Schabmuller® AC drive motor, and the Schabmuller® electric steering motor, with excellent performance, as well as drive system, AC motor, EPS (Electric Power Steering) system, and electromagnetic braking system of same configuration as that of imported brands such as Jungheinrich, Hyster, and other leading manufacturers.

All core parts are ZF products imported from Germany.



RENEWABLE ENERGY TECHNOLOGIES

The truck has a cutting-edge hydraulic system, which can be equipped with domestic silent gear pump or Garman Eckerle two-way oil pump system. Intelligent potential energy recovery (the function of battery energy recovery can

extend working hours by **16%** is optional for the mast system, and the potential energy recovery system can be switched on and switched off manually by the operator.



Energy recovery

CQD: Extend 16%



Other series

Domestic AC oil pump motor + joint-venture brand silent gear pump (imported internal gearing two-way pump is optional)



PERFECT RESIDUAL LOAD CAPACITY

The mast system is made of imported steel channels, and new optimized design is applied for the carriage system, which thoroughly eliminates the problem of shaking and large gap that are detected in previous home-made masts, effectively improves residual load capacity, and increases load capacity reducing height. Maximum lifting height is 41ft, and load capacity can reach 2400lbs at the maximum height (4500lbs without battery side roll out).

Automatic select height level function is also optional for the mast system, which can pre-select height automatically according to height of the user's shelf, and the forks lifting will slow down and stop when required height is reached. It is very convenient for stacking work, and can reduce labor intensity and psychological burden of the operator significantly.



Maximum 41ft, lifting 2400lbs



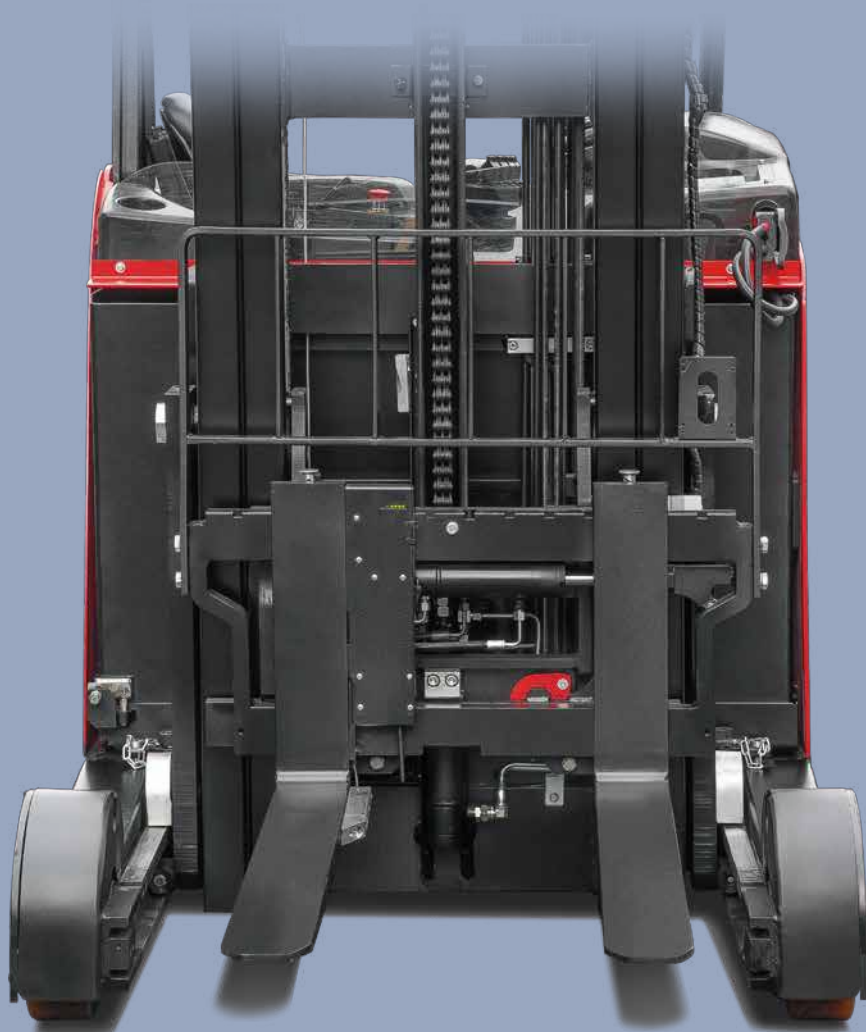
Optional: Preset level selection function

GRAPHIC SMART DISPLAY



Number key for setting different target height. ●

- 1 Low voltage indicator
- 2 Fault indicator
- 3 Oil temperature indicator (spare use)
- 4 OPS indicator
- 5 Electric Parking Brake indicator
- 6 Seat belt switch indicator (spare use)
- 7 Automatic placement/Up
- 8 Performance selecting button (down)
- 9 Automatic picking/Decrease/Changing
- 10 Increase/Changing, character code of target height change
- 11 Exit
- 12 Enter



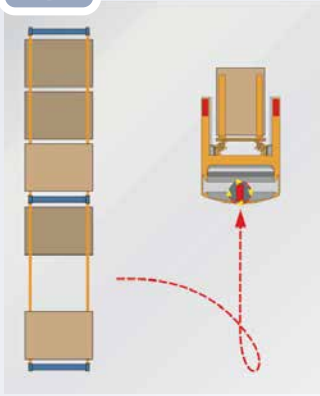
Optional: Camera system

The user can choose camera system and height indicator to facilitate operations at elevated location.

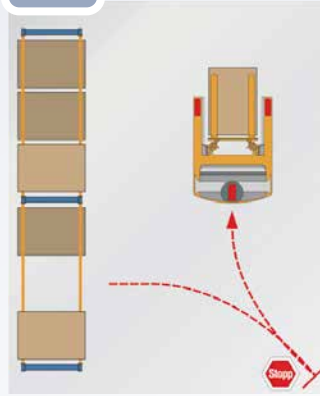


FLEXIBILITY

Electric Power Steering(EPS) system is a standard configuration, which can be switched between 360-degree and 180-degree operations according to habit of the user. The upgraded EPS system effectively avoids the impact of hydraulic control, can reduce fatigue of the operator, and its minimum steering force can reach 3N (that of regular forklift is about 10N).



In the mode of 360-degree steering, when steering exceeds 270 degree, the reverse is switched to forward director, no reversing is required, and the truck is switched to advance automatically, no parking is required, with higher efficiency.



In the mode of 180-degree steering, the truck must be reversed until it stops completely, and the direction must be switched before the truck can travel forward, with lower efficiency.



Whichever of above two modes the operator wants to select, there has a button for switching operation to activate the mode required, which can be selected freely by the operator according to his/her habit. The electric steering wheel is small and light. The operator can adjust it by moving backward or forward to find a suitable position. The steering wheel have built-in damper, with reliable signal transmission of stepping motor.



- ▶ **Drive wheel automatic centering function**
- ▶ **Automatic limit on speed and accelerated speed when steering**



EXCELLENT ERGONOMIC & COMFORT

Fingertip system is a standard feature for the truck (with imported SAUER-DANFOSS hydraulic valve), with four finger control functions of lifting/lowering, mast forward and backward movement, tilt, and sideshift, and seven major functions including direction switching, emergency power off and horn. It offers comfortable operation for operator, with soft armrest. The fingertip system communicate by CAN Bus system, which is reliable and fast. The armrest can be adjusted forward and backward, fingertip system enables more accurate control than mechanical valve.



Fingertip system integrated control system, with good man-machine function



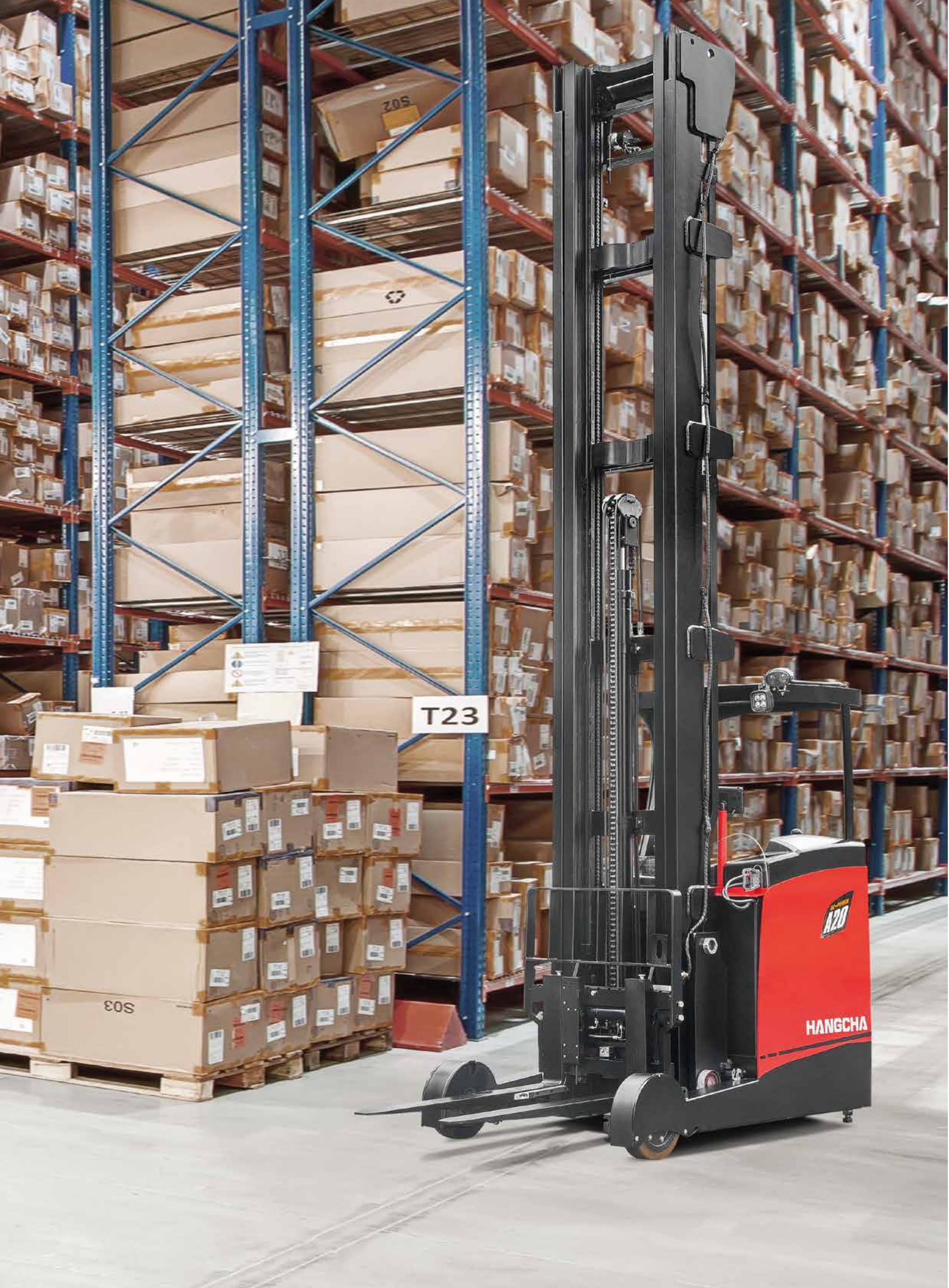
Cutting-edge SAUER-DANFOSS electromagnetic multi-way valve imported from Germany (with potential energy recovery switching function)

ADVANCE

The truck is equipped with 4 ZAPI controllers, drive controller, oil pump controller, steering controller and valve controller, all controllers communicate by CAN Bus system. Controllers have advanced program and outstanding control strategy (same as that of imported trucks). All core parts are imported or of joint-venture brands, with reliable quality. The entire truck is equipped with waterproof connectors.



Fully-open pedal structure, electrical parts are fully exposed, which is convenient for maintenance



T23

S03

HANGCHA

A20

VISIBILITY

The overhead guard enables panoramic visibility. There are two pieces of tempered glass of 0.98" thickness on top of the overhead guard, which is infilled with glue, offering excellent impact resistance. The visibility above the operator is incomparable and excellent, with reduced psychological burden for the operator.



Optional: Overhead guard with panoramic glass offers excellent visibility for elevated location.



RELIABILITY

The LLD PE plastic oil tank, which increases quality and cleanness of oil effectively, together with hydraulic filter element from German HYDAC, providing much higher cleanness of entire hydraulic system. The oil tank features large volume, fast heat exchange, together with electronic fan within the housing, achieving thermal equilibrium quickly of hydraulic oil at most suitable working temperature.

The reach truck is equipped with electromagnetic braking system, including three separate brakes, two sets of MARTIX electronic drive brake imported from UK, and one set of INTORQ Electric Parking Brake system from Germany. Braking force is proportional to depth of electronic pedal, the braking performance is gentle and reliable.

MAINTENANCE

DIN standard battery is a standard configuration with capacity up to 48V/ 600Ah, and the maximum capacity available as an option is 775Ah, with powerful endurance. Battery side roll-out is a standard feature, which is convenient for maintenance.



Standard configuration: Battery side roll-out + trolley(optional)



Options

- / 16.4~41ft full free triplex mast is made of imported steel channels
- / Blue spot
- / Camera system
- / Height level selection/ Fork height display
- / OPS system
- / Panoramic glazed overhead guard
- / Big capacity battery according DIN STD
- / Various length forks
- / Drive in rack overhead guard
- / GRAMMER MSG531 seat
- / Energy saving regenerative lowering

Standard specification

- / SCHABMULLER AC traction motor
- / SCHABMULLER AC steering motor
- / HEPU AC pump motor
- / Electric Parking Brake (EPB) system
- / Load wheel adopts electromagnetic proportional braking technology
- / ZAPI control system
- / Real-time shifting between 360°steering mode and 180°steering mode
- / Electric Power Steering (EPS) system
- / GRAMMER Fingertip system
- / PU tyre
- / LED headlamp
- / Alarm lamp
- / 4 modes power selection

- / 16.4ft full free triplex mast
- / SAUER-DANFOSS 4 spools control valve
- / Load backrest
- / PE LLD material oil tank
- / Imported lower noise gear pump
- / Energy regenerating during deceleration
- / Battery side roll-out
- / Buffering on lifting limit
- / Soft landing system
- / Automatic limit on speed and accelerated speed when steering

BATTERY OPTION

	460Ah	500Ah	560Ah	600Ah	620Ah	750Ah	775Ah
2500~3000lbs	●	○	○	○	○	x	x
3500lbs	●	○	○	○	○	x	x
4500lbs	x	x	x	●	○	○	○

Note: ● Standard ○ Optional x Can not choose



A SERIES PREMIUM VERSION REACH TRUCK

Distinguishing mark	1.1	Manufacturer		HANGCHA GROUP CO.,LTD.			
	1.2	Manufacturer's type designation		CQD12-AZ4H	CQD14-AZ4H	CQD16-AZ4H	CQD20-AZ4H
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas		Electric	Electric	Electric	Electric
	1.4	Operator type: hand, pedestrian, standing, seated, order-picker		Sit down	Sit down	Sit down	Sit down
	1.5	Rated capacity/rated load	Q (kg/lb)	1200/2500	1400/3000	1600/3500	2000/4500
	1.6	Load centre distance	c (mm/in)	600/24	600/24	600/24	600/24
	1.7	Load distance, centre of drive axle to fork	x ₁ (mm/in)	221/8.7	221/8.7	221/8.7	221/8.7
	1.8	Axle centre to fork face	x (mm/in)	279/10.9	279/10.9	279/10.9	347 ¹⁾ /13.6
	1.9	Wheelbase	y (mm/in)	1460/57.5	1460/57.5	1460/57.5	1535/60.4
Weight	2.1	Service weight (including battery)	kg/lb	3845 ¹⁾ /1879	3845 ¹⁾ /1879	3845 ¹⁾ /1879	4020 ¹⁾
Tyres, chassis	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane		Polyurethane	Polyurethane	Polyurethane	Polyurethane
	3.2	Tyre size, front		330×100 /11.8×3.9	330×100 /11.8×3.9	330×100 /11.8×3.9	330×100 /11.8×3.9
	3.3	Tyre size, rear		343×140/13.5×5.5	343×140/13.5×5.5	343×140/13.5×5.5	343×140/13.5×5.5
	3.5	Wheels, number front / rear (x = driven wheels)		2/1×	2/1×	2/1×	2/1×
	3.6	Tread, front	b ₁₀ (mm/in)	1168/46	1168/46	1168/46	1168/46
Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β(°)	2/4	2/4	2/4	2/4
	4.2	Height, mast lowered	h ₁ (mm/in)	2315/91.1	2315/91.1	2315/91.1	2315/91.1
	4.3	Free lift	h ₂ (mm/in)	1700/66.9	1700/66.9	1700/66.9	1700/66.9
	4.4	Lift	h ₃ (mm/in)	5000/196.9	5000/196.9	5000/196.9	5000/196.9
	4.5	Height, mast extended	h ₄ (mm/in)	5915/232.8	5915/232.8	5915/232.8	5915/232.8
	4.7	Height of overhead guard	h ₆ (mm/in)	2200/86.6	2200/86.6	2200/86.6	2200/86.6
	4.8	Seat height/stand height	h ₇ (mm/in)	1045/41.1	1045/41.1	1045/41.1	1045/41.1
	4.19	Overall length	l ₁ (mm/in)	1896/74.6	1896/74.6	1896/74.6	1896/74.6
	4.20	Length to face of forks	l ₂ (mm/in)	1939/76.3	1939/76.3	1939/76.3	1939/76.3
	4.21	Overall width	b ₁ (mm/in)	1270/50	1270/50	1270/50	1270/50
	4.22	Fork dimensions	s/e/l (mm/in)	40/122/1070(4.5/74.5/42.1)	40/122/1070(4.5/74.5/42.1)	40/122/1070(4.5/74.5/42.1)	40/122/1070(4.5/74.5/42.1)
	4.23	Fork carriage DIN 15 173 --- ISO 2328, class/type A,B		ISO2328 2A	ISO2328 2A	ISO2328 2A	ISO2328 2A
	4.24	Fork-carriage width	b ₃ (mm/in)	926/36.4	926/36.4	926/36.4	926/36.4
	4.25	Distance between fork-arms	b ₅ (mm/in)	940/37.0	940/37.0	940/37.0	940/37.0
	4.26	Width across forks	b ₂ (mm/in)	244/882(9.6/34.7)	244/882(9.6/34.7)	244/882(9.6/34.7)	244/882(9.6/34.7)
	4.28	Reach distance	l ₄ (mm/in)	500/19.6	500/19.6	500/19.6	568 ¹⁾ /22.4
	4.31	Ground clearance, laden, below mast	m ₁ (mm/in)	73/2.8	73/2.8	73/2.8	73/2.8
	4.32	Ground clearance, centre of wheelbase	m ₂ (mm/in)	68.5/2.7	68.5/2.7	68.5/2.7	68.5/2.7
	4.34.1	Aisle width for pallets 39.3" x 47.2" crossways	A _{st} (mm/in)	2863/112.7	2863/112.7	2863/112.7	2886 ¹⁾
	4.34.2	Aisle width for pallets 31.5" x 47.2" lengthways	A _{st} (mm/in)	2929/115.3	2929/115.3	2929/115.3	2942 ¹⁾
Performance data	4.35	Turning radius	W _a (mm/in)	1725/67.9	1725	1725	1800
	5.1	Travel speed,laden/unladen	km/h(mph)	14/14(8.7/8.7)	14/14	14/14	14/14
	5.2	Lift speed, laden/unladen	m/s(ft/min)	0.450/0.480(88.6/94.5)	0.410/0.480(80.7/94.5)	0.360/0.480(70.9/94.5)	0.330/0.480(65/94.5)
	5.3	Lowering speed, laden/unladen	m/s(ft/min)	0.510/0.330(100.3/65)	0.510/0.330(100.3/65)	0.510/0.330(100.3/65)	0.510/0.330(100.3/65)
	5.8	Max. gradeability, laden/unladen	%	10/15	10/15	10/15	10/15
	5.9	Acceleration time, laden/unladen (0-32.8ft)	s	5.3/5	5.3/5	5.3/5	5.3/5
	5.10	Service brake		Electromagnetic	Electromagnetic	Electromagnetic	Electromagnetic
		Parking brake		Electric	Electric	Electric	Electric
	6.1	Drive motor rating S2 60 min	kw/hp	6.4 AC/8.58 AC	6.4 AC/8.58 AC	6.4 AC/8.58 AC	6.4 AC/8.58 AC
	6.2	Lift motor rating at S3 15%	kw/hp	12.8 AC/17.2 AC	12.8 AC/17.2 AC	12.8 AC/17.2 AC	12.8 AC/17.2 AC
Electric	6.3	Battery acc. to DIN 43531/35/36 A,B,C, no		DIN	DIN	DIN	DIN
	6.4	Battery voltage, nominal capacity K5	V/Ah	48V /460Ah	48V /460Ah	48V /460Ah	48V /600Ah
	6.5	Battery weight	kg	790	790	790	939
		Battery dimensions	l/b/h(mm/in)	1223×355×784(48.1×14×31)	1223×355×784(48.1×14×31)	1223×355×784(48.1×14×31)	1223×355×784(48.1×14×31)
Addition data	8.1	Type of drive control		MOSFET/AC	MOSFET/AC	MOSFET/AC	MOSFET/AC
		Manufacturer/Type		ZAPI	ZAPI	ZAPI	ZAPI
	10.1	Operating pressure for attachments	bar	175	175	175	175
	10.2	Oil volume for attachments	l/min	65	65	65	65
	10.3	Hydraulic oil tank capacity	liter	30	30	30	30
	10.7	Sound level at the driver's ear according to EN / DIN 12 053	dB (A)	72	72	72	72

1) different battery sizes change these values

A SERIES PREMIUM VERSION REACH FORKLIFT MAST SPECIFICATION

No.	Type	Model	Lifting height mm/in	Lowered overall height mm/in	Overall height		Free lifting height		Tilting range		Load capacity @600mm/24inch				
					Without backrest	With backrest	Without backrest	With backrest	Forward	Backward	CQD12 kg/lb	CQD14 kg/lb	CQD16 kg/lb	CQD20	
					mm/in	mm/in	mm/in	mm/in	(°)	(°)				kg/lb	kg/lb
1	Full free wide view triplex mast	V5000	5000/196.9	2315/91.1	5670/223.2	5975/235.2	1596/62.8	1340/52.8	2	4	1200/2646	1400/3086	1600/3527	2000/4409	2000 ¹⁾ /4409
2		V5500	5500/216.5	2490/98.0	6170/242.9	6475/254.9	1796/70.7	1515/59.6	2	4	1200/2646	1400/3086	1600/3527	2000/4409	2000 ¹⁾ /4409
3		V6000	6000/236.2	2665/104.9	6670/262.6	6975/274.6	1995/78.5	1690/66.5	2	4	1200/2646	1400/3086	1600/3527	2000/4409	2000 ¹⁾ /4409
4		V6500	6500/255.9	2835/111.6	7170/282.3	7475/294.3	2136/84.1	1860/73.2	2	4	1200/2646	1400/3086	1600/3527	1900/4189	2000 ¹⁾ /4409
5		V7000	7000/275.6	3050/120.1	7670/302.0	7975/314.0	2380/93.7	2075/81.7	2	4	1000/2205	1200/2646	1400/3083	1700/3748	1800 ¹⁾ /3968
6		V7500	7500/295.2	3230/127.2	8190/322.4	8475/333.7	2540/100.0	2255/88.8	2	4	900/1984	1100/2425	1300/2866	1600/3527	1700 ¹⁾ /3748
7		V8000	8000/315.0	3400/133.9	8670/341.3	8975/353.3	2730/107.5	2425/95.5	2	4	850/1874	1050/2315	1250/2756	1550/3417	1650 ¹⁾ /3638
8		V8500	8500/334.6	3630/142.9	9170/361.0	9475/373.0	2960/116.5	2655/104.5	2	4	800/1764	1000/2205	1200/2646	1500/3307	1600 ¹⁾ /3527
9		V9000	9000/354.3	3860/152.0	9674/380.9	9975/392.7	3186/125.4	2885/113.6	2	4	750/1653	950/2094	1150/2535	1450/3197	1550 ¹⁾ /3417
10		V9500	9500/374.0	4030/158.7	10170/400.4	10475/412.4	3360/132.3	3055/120.3	2	4	700/1543	900/1984	1100/2425	1400/3086	1500 ¹⁾ /3307
11		V10000	10000/393.7	4200/165.4	10680/420.5	10975/432.1	3520/138.6	3225/127.0	2	4	650/1433	850/1874	1050/2315	1350/2976	1450 ¹⁾ /3197
12		V10500	10500/413.4	4350/171.3	11170/439.8	11475/451.8	3680/144.9	3375/132.9	2	4	600/1323	800/1764	1000/2205	1300/2866	1400 ¹⁾ /3086
13		V11000	11000/433.1	4550/179.1	11670/459.4	11975/471.5	3880/152.8	3575/140.7	2	4	550/1213	750/1653	950/2094	1250/2756	1350 ¹⁾ /2976
14		V11500	11500/452.8	4800/189.0	12200/480.3	12475/491.1	4100/161.4	3825/150.6	2	4	500/1102	700/1543	900/1984	1200/2646	1300 ¹⁾ /2866
15		V12000	12000/472.4	5050/198.8	12690/499.6	12975/510.8	4360/171.7	4075/160.4	2	4	450/992	650/1433	850/1874	1150/2535	1250 ¹⁾ /2756
16		V12500	12500/492.1	5300/208.7	13200/519.7	13475/530.5	4600/181.1	4325/170.3	2	4	400/882	600/1323	800/1764	1100/2425	1200 ¹⁾ /2646

1) Battery capacity:750Ah



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