MAST SPECIFICATION

V202402-EN

MCC16 Mast Specification（Duplex Mast）

1.1	Model	MCC	16-45	16-50	16-55	16-60	16-65	16-70	16-75	16-80	16-85	16-90	16-95
1.2	Lift height of main mast	h3(mm)	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500
1.3	Total lift height	h3+h9(mm)	6200	6700	7200	7700	8200	8700	9200	9700	10200	10700	11200
1.4	Mast extended height	h4(kg)	7130	7630	8130	8630	9130	9630	10130	10630	11130	11630	12130
1.5	Mast retracted height	h1(mm)	3665	3915	4165	4415	4665	4915	5165	5415	5665	5915	6165
1.6	Max. picking height	h12+1600(mm)	6545	7045	7545	8045	8545	9045	9545	10045	10545	11045	11545

MCC16 SQ Mast Specification（Triplex full free mast）

2.1	Model	MCCSQ	16SQ-45	16SQ-50	16SQ-55	16SQ-60	16SQ-65	16SQ-70	16SQ-75	16SQ-80	16SQ-85	16SQ-90	16SQ-95
2.2	Lift height of main mast	h3(mm)	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500
2.3	Total lift height	h3+h9(mm)	6200	6700	7200	7700	8200	8700	9200	9700	10200	10700	11200
2.4	Mast extended height	h4(kg)	7130	7630	8130	8630	9130	9630	10130	10630	11130	11630	12130
2.5	Mast retracted height	h1(mm)	2935	3105	3275	3445	3615	3785	3955	4125	4295	4475	4655
2.6	Max. picking height	h12+1600(mm)	6545	7045	7545	8045	8545	9045	9545	10045	10545	11045	11545
2.7	Free lifting height	h2(mm)	305	475	645	815	985	1155	1325	1495	1665	1845	2025

MCC16 H Mast Specification（Triplex full free mast ）

3.1	Model	MCCH	16H-100	16H-105	16H-110	16H-115	16H-120	16H-120
3.2	Lift height of main mast	h3(mm)	10000	10500	11000	11500	12000	12500
3.3	Total lift height	h3+h9(mm)	11700	12200	12700	13200	13700	14200
3.4	Mast extended height	h4(kg)	12630	13130	13630	14130	14630	15130
3.5	Mast retracted height	h1(mm)	4835	5015	5195	5375	5555	5735
3.6	Max. picking height	h12+1600(mm)	12045	12545	13045	13545	14045	14545
3.7	Free lifting height	h2(mm)	2205	2385	2565	2745	2925	3105

Notice: If you have special application or problems, please contact us.

Standard configuration	Optional function
AC driving motor	Magnetic strip navigation
AC lifting motor	Wires inductive navigation
American Curtis controller	Frequency generators
Duplex mast/Triplex full free mast	Additional camera
Integrated handle	Buried magnetic strip
Electro-hydraulic fork	Lithium battery
80V system	Laser obstacle avoidance
Lead-acid battery	Fan
Side pull battery	Enclosed cab
Battery replacement rack	24V 150W power supply Anpu socket
Colorful LCD instrument	Lifting height limits in aisle
HD reverse video	Additional blue light
PU wheels	Hydraulic block valve for mast
Camera	
Highlighted green cross laser	
Rear/front blue light	
Front and rear warning light	
Cable encoder	
Escape rope	
Adjustable folding seat	
Electronic induction armrest	
External intelligent charger	
Emergency stop	
Hands and foot pedal sensing OPS system	
Electric power steering	
All wheel electromagnetic braking	
Height pre-selection	
Sub-lift 1.7 meters	
Aisle end deceleration function	
One-button linkage	
One-button automatic pick-up and release	
One-button forks return to centre	
Synchronous lifting and lowering of main and sub masts	
Simultaneous lifting/ lowering of mast and driving of forklift	
5V USB External Device Socket	

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MCC16 series
Man-up Turret Truck

Max.Lifting Height: 14200mm

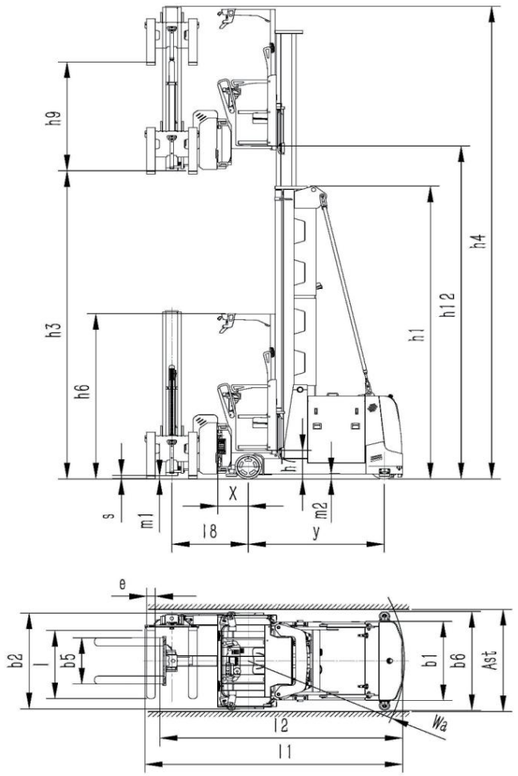
High-level dense storage solution for VNA warehouse

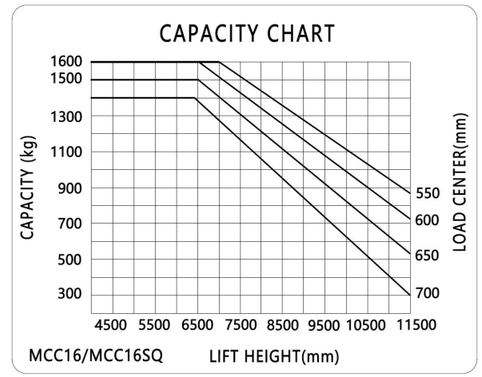
SPECIFICATION

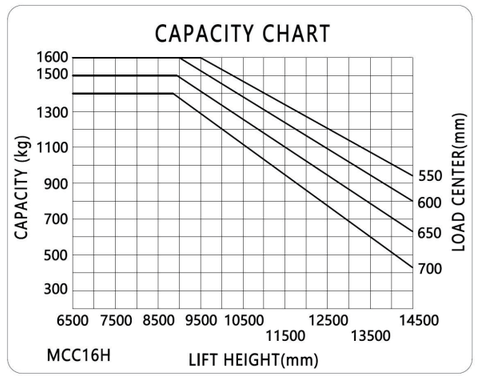
Standard					
1.1	Manufacturer		MiMA	MiMA	MiMA
1.2	Model		MCC16	MCC16SQ	MCC16H
1.3	Power type		Battery	Battery	Battery
1.4	Operation		Stand on/Seatd	Stand on/Seatd	Stand on/Seatd
1.5	Load capacity	Q(kg)	1600	1600	1600
1.6	Load center distance	C(kg)	600	600	600
1.7	Front overhang	x(mm)	435	435	435
1.8	Wheelbase	y(mm)	1950	2025	2250
Weights					
2.1	Service weight(incl.battery)	kg	7720	8375	10430
Wheels					
3.1	Tyre type,front/rear		Polyurethane	Polyurethane	Polyurethane
3.2	Tyre size, front	mm	φ380×192	φ380×192	φ380×192
3.3	Tyre size, rear	mm	φ400×160	φ400×160	φ400×160
3.4	Wheels,number front/rear (X=driven)+caster wheel		2/1X	2/1X	2/1X
3.5	Track width, front	b11(mm)	1310	1310	1310
Dimensions					
4.1	Mast retracted height	h1(mm)	Refer to the mast specification	Refer to the mast specification	Refer to the mast specification
4.2	Free lift height	h2(mm)	/	350	2250
4.3	Lift height of main mast	h3(mm)	Refer to the mast specification	Refer to the mast specification	Refer to the mast specification
4.4	Mast extended height	h4(mm)	Refer to the mast specification	Refer to the mast specification	Refer to the mast specification
4.5	Overhead guard height	h6(mm)	2590	2590	2590
4.6	Pedal height	h7(mm)	445	445	445
4.7	Auxiliary lift height	h9(mm)	1700	1700	1700
4.8	Lift height of the station board from the ground	h12(mm)	Refer to the mast specification	Refer to the mast specification	Refer to the mast specification
4.9	Total lift height	h3+h9(mm)	Refer to the mast specification	Refer to the mast specification	Refer to the mast specification
4.10	Wheelbase	h12+1600(mm)	Refer to the mast specification	Refer to the mast specification	Refer to the mast specification
4.11	Overall length(Forks 90°)	l1(mm)	3690	3765	3990
4.12	Overall length(Forks 0°, to the vertical surface of the forks	l2(mm)	3475	3550	3775
4.13	Overall width	b1/b2(mm)	1244/1502	1244/1502	1244/1652
4.14	Fork dimensions	l/e/s(mm)	1200/125/50	1200/125/50	1200/125/50
4.15	Installation level		II B	II B	II B
4.16	Fork outside spread	b5(mm)	260~725	260~725	260~725
4.17	Side shift distance	mm	1300	1300	1350
4.18	Distance between fork rotation center and front axle center	l8(mm)	1095	S	1095
4.19	Width over guide rollers	b6(mm)	1550	1550	1700
4.20	Ground clearance below mast	m1(mm)	45	45	45
4.21	Ground clearance, center of wheelbase	m2(mm)	80	80	80
4.22	Turning radius	Wa(mm)	2235	2310	2535
4.23	Stacking aisle width pallet to pallet 1200×1200	Ast(mm)	1650	1650	1800
4.24	Main aisle width	mm	≥(4100+400)	≥(4175+400)	≥(4400+400)
Performance					
5.1	Travelling speed, laden/unladen	km/h	10/10	10/10	10/10
5.2	Lift speed, laden/unladen	mm/s	320/320	320/320	320/320
5.3	Lowering speed, laden/unladen	mm/s	400/380	400/380	400/380
4.4	Gradeability, laden/unladen (S2-5min)	%tanθ	5/8	5/8	5/8
5.5	Service brake		Regenerative brake/hydraulic brake	Regenerative brake/hydraulic brake	Regenerative brake/hydraulic brake
5.6	Parking brake		Electromagnetic brake	Electromagnetic brake	Electromagnetic brake
Drive					
6.1	Drive motor, rating S2=60	kw	8AC	8AC	9.5AC
6.2	Lift motor, rating S3=15%	kw	21AC	21AC	21AC
6.3	Lead acid battery, voltage/nominal capacity V	V/Ah	80/560	80/560	80/700
6.4	Battery weight	kg	1530	1530	1840
6.5	Steering system		EPS	EPS	EPS
Others					
7.5	Battery replacement method		Side pull	Side pull	Side pull

*Notice:
[1]: The safety margin of the width of the main aisle of the magnetic guide model needs to be +900mm, and the mechanical guide model needs to be +400mm;
[2]: Optional lithium battery specification: 80V/450Ah or 80V/600Ah
[3]: Optional lead-acid battery Specifications: 80V/840Ah
[4]: Magnetic navigation function models, stacking net aisle width +50mm;

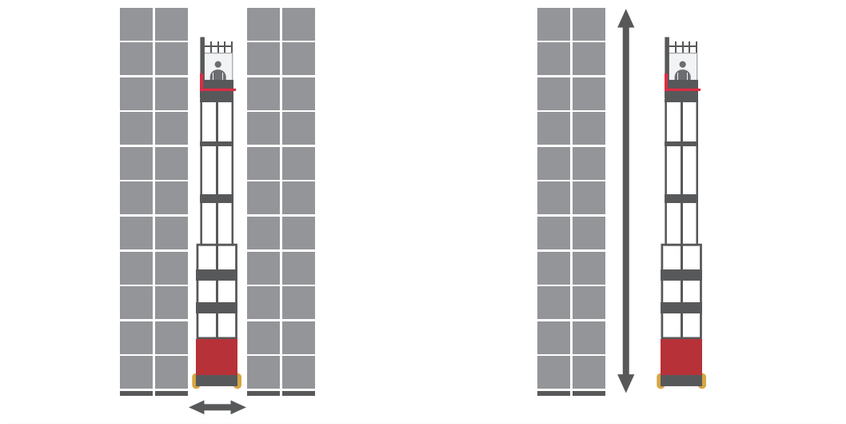
2D VIEW







SHELF AND AISLE DIMENSIONS



1650/1700mm
Aisle Width

14200mm
Max. Lift Height

MCC16 series

Rated Capacity: 1600kg
Max.Lifting Height: 14200mm
Min.Stacking Aisle: 1650mm
Drive Type:Stand-on/Seated

Performance

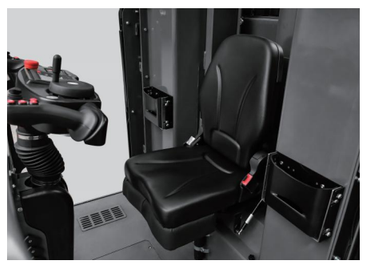
- Better vision: the driver can go up with the cab for stacking, picking and inventory operations; the wider cab provides a better vision and avoids the risk of falling stacked goods due to poor visibility.
- More stable performance: the use of advanced Curtis controller, stable and reliable, more efficient; the core hydraulic components selected imported brands, higher precision, more stable performance.
- Safer high level stacking: Imported H-type mast channel steel, large cross-section high-strength mast design, excellent high level loading capacity, and less high level mast shaking.
- Large-diameter load-bearing wheels, equipped with all-wheel electromagnetic braking, better braking effect and higher safety in emergency braking.
- Adopting 80v full AC maintenance-free system, the whole vehicle responds more quickly and accurately, with small current and low energy consumption to meet the requirements of heavy working conditions and low maintenance cost in the later stage.
- Front-mounted sub-mast design, more space and safety for driver picking operations.

Configurations

- Standard electric forks - low energy consumption, low noise, smooth operation and maintenance-free; optional electronic-hydraulic fork head with scissor fork, to meet the requirements of different clear channels in different roadways, and large safety distance.
- Unique sub mast lift options, optional 2000mm, 2160mm, 2500mm sub lift, to meet the same lift height, realize the lower closed height, to meet the use of the aisle of low door height limit height requirements.
- Semi-enclosed cab and open cab are available as options with no need of requiring customers to change operating habits.
- Optional left and right integrated armrest operation, from which you can choose different operating habits whether stand or seat. What's more, the height of armrest, foldable seat, armrest box and operating panel are all adjustable.
- The maximum lifting height can be as large as 16.5 meters，with strong load capacity at high position.
- For different markets, warehouses, working conditions and even different types of customers, we still reserve the possibility to design a customized solution for you.

Working efficiency

- One-key synchronization function can meet the fork rotation + side shift work at the same time, forward and lift, lower synchronized operation, greatly improving the work efficiency.
- Superior performance in side shift speed, rotation speed, and lifting speed of main and sub mast.
- The standard height pre-selection function allows you to set up racks level positioning at different heights, improving operator's convenience and work efficiency at the touch of only one button.
- Standard automatic pick-and-place function makes pickup and drop-off easily at the touch of one button.



Safety

The OPS pedal and left and right side armrests have an in-place sensing function. Armrests and pedals can both guard the operators' safty that the truck can only be operated when a person is in position.

End of Aisle automatic deceleration and end stop function to prevent safety hazards caused by operator misuse.

Programmable maximum and minimum speeds in and out of the aisle, giving the operator time to react to hazards.

Automatic height limit and speed limit function for special areas in the aisle to meet the requirements of different warehouses.

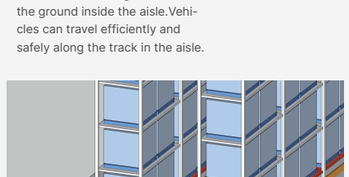
The optional laser obstacle avoidance function protects the operators from the risk of foreign objects blocking in the aisle.

In the event of a truck breakdown, a safety belt and manual pressure relief valve will secure the operator's safety to the ground.

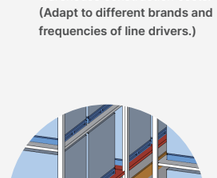
Unique forks design ensures maximum safety distance between low and high level.

Mechanical Guide Rail Mode

Install crossbeams at the bottom of the shelves and guide rails on the ground inside the aisle.Vehicles can travel efficiently and safely along the track in the aisle.

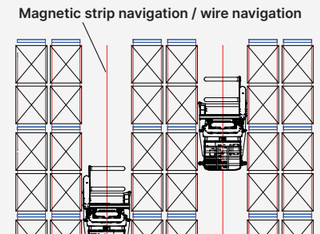


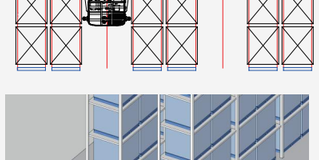
The height of the guide rail ranges from 40mm to 150mm, and the guide wheel bracket can be adjusted according to the height of the guide rail.



Wires Inductive mode (optional)

Saving the bottom crossbeams, goods can be directly placed on the ground without installing ground guide rails, which reduces warehouse construction costs.
(Adapt to different brands and frequencies of line drivers.)





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