

V202505-EN

MiMA[®]
Min. Space Max. Performance

BANYITONG SCIENCE & TECHNOLOGY DEVELOPING CO.,LTD.

Since 1994

Electric Reach Truck

MFZ16/20(Seated)

MiMA[®]
Min Space,Max Performance



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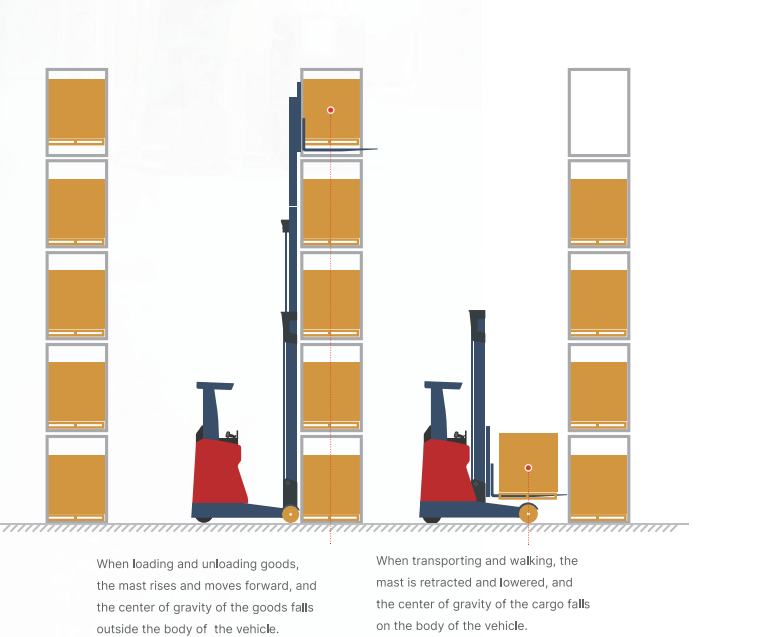
Max.lifting height
12500mm

ELECTRIC REACH TRUCK (SEATED)

MFZ16 / MFZ20

MiMA has launched a new type of reach truck – MFZ16/20 series model, after careful design and improvement. This model has the traditional advantages of a reach truck such as high load, high lifting, and narrow aisle, and has made great improvements in efficiency and vision. Compared with the existing models on the market, it has achieved obvious advantages, especially driving speed, lifting speed, lowering speed and mast stability. Using this model can improve the efficiency and utilization of your warehouse.

Model	MFZ16	MFZ20
Load Capacity	1600kgs	2000kgs
Max.Lifting Height	10500mm	12500mm
Driving Type	Seated	Seated





Narrower Aisle, Higher Lift

MiMA's new MFZ model has a 60mm-90mm stacking aisle reduction compared with the old model. Compared with well-known forklift brands at home and abroad, it is in the first echelon in terms of stacking aisle and has a greater competitive advantage. The weight without loss of load and high load are at the highest level compared with well-known domestic manufacturers.

Mast Buffer System, More Stable Operation

Productivity goes hand in hand with forklift stability because operational stability enhances the operator's confidence and sense of security, allowing him to operate faster. MiMA's new MFZ seated reach truck has a stable design of the mast buffer system, which greatly reduces the shaking of the mast at high positions. Compared with the same model, it has achieved greater benefits. The high sway of the old model is about 100-150mm, and the new model is about 40mm or less. Shaking time is reduced by 50%-80%.

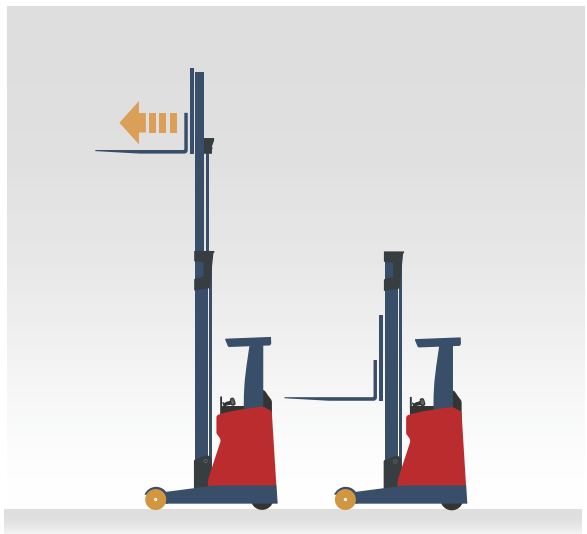
At the same time, this model also has a more stable design. For example, when the middle mast is lifted, the forward and backward movement speed of the mast, the driving speed, and the acceleration and deceleration rate are reduced, and the acceleration and deceleration are softer and more stable; movement deceleration at the ends of moving forward and backward, etc., ensure the smoothness and precision of operation control, and further improve the operator's confidence and work efficiency.

Shake Distance Reduced 60%~70% Shake Time Reduced 50%-80%

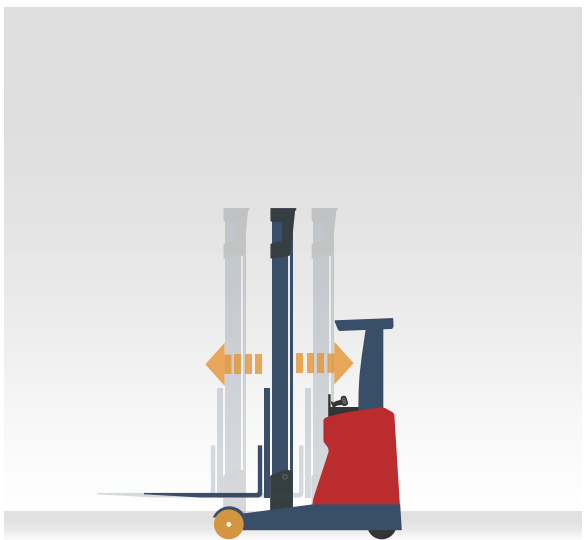


New Type MFZ Model

Old Type MFZ Model



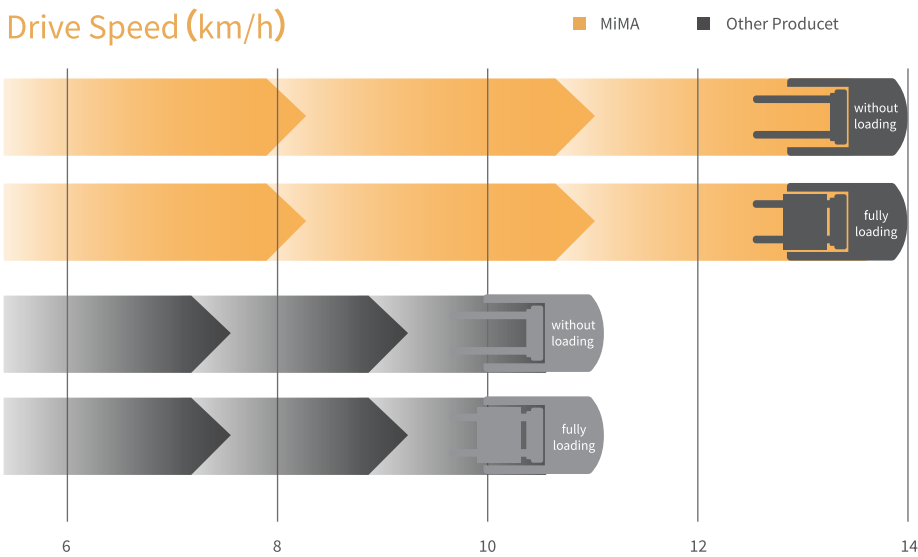
High Lift Deceleration



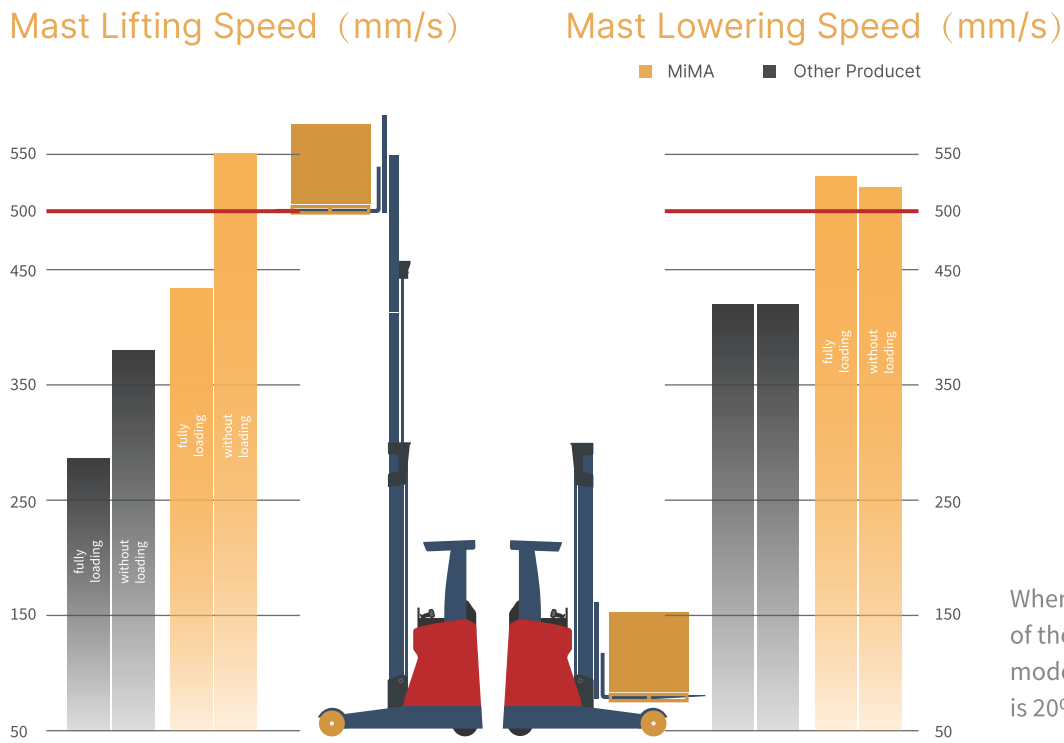
Forward and Backward End Deceleration

Faster More efficient

MiMA's new MFZ model has obvious speed advantage, and its lifting speed, descending speed and forward and backward moving speed are all the best in China at present. The lift motor is increased to 14KW, and the drive motor is increased to 8KW. Every operation of the operator has been improved and the production efficiency has been improved.

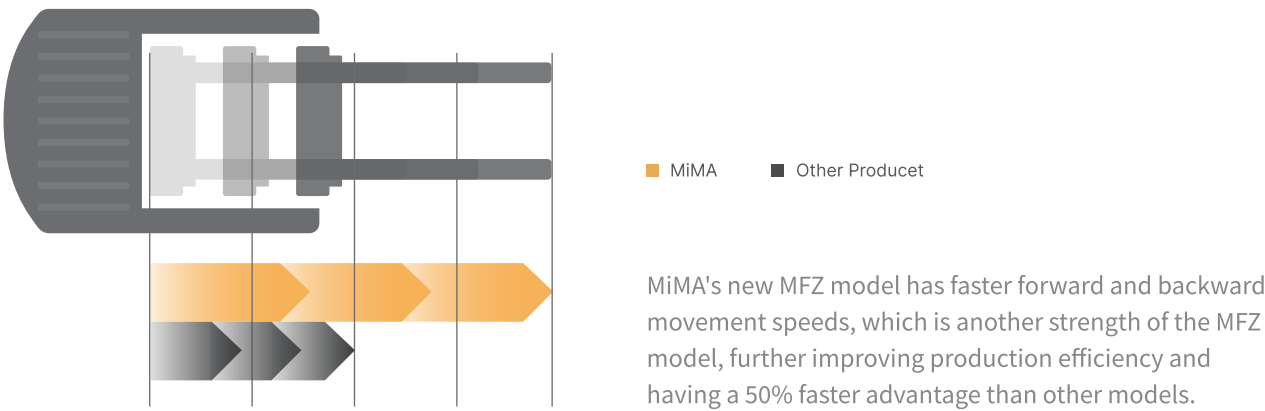


The productivity advantage of MiMA's new MFZ model comes first and foremost from the faster driving speed, which can work faster. The driving speed is up to 14km/h, which is 30% faster than other products' speed of 11 km/h.

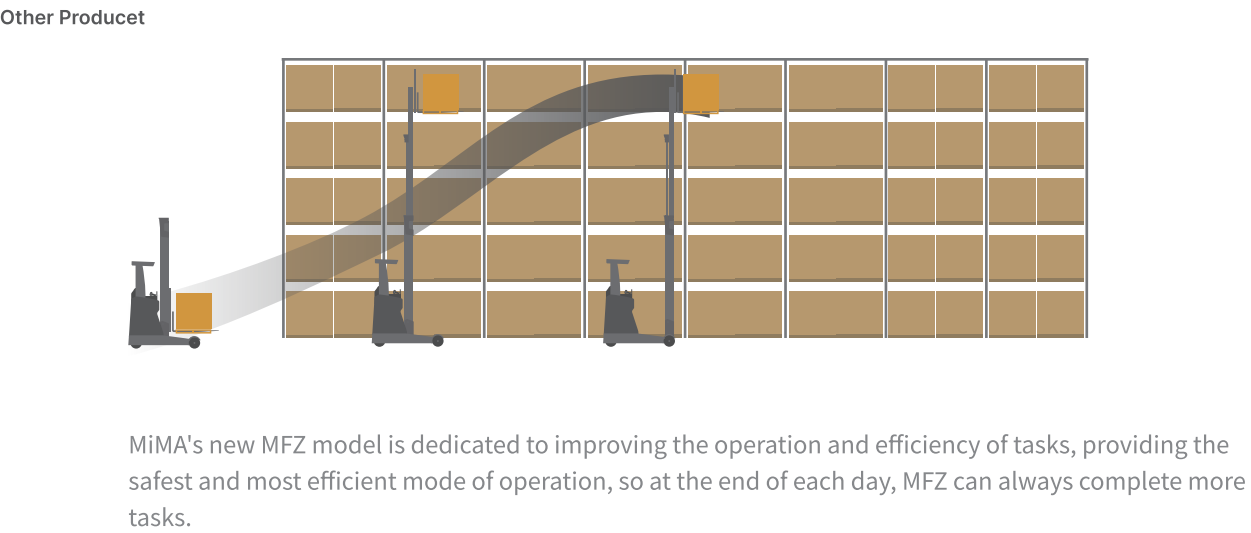
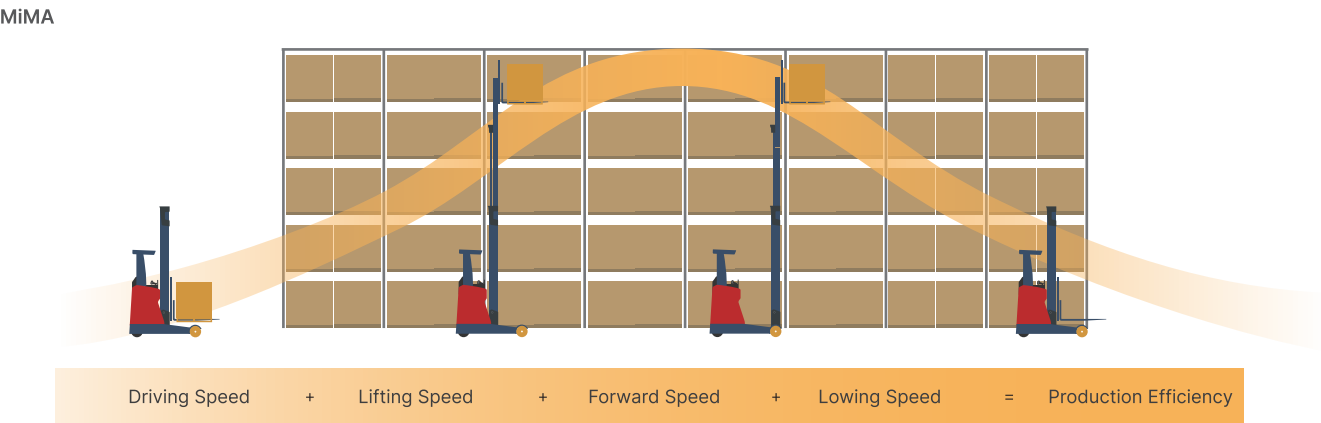


When fully loaded, the lifting speed of the mast is 15% faster than other models, and the descending speed is 20% faster.

Forward and Backward Speed (mm/s)



Advantages of Productioity



Narrow mast design Vision optimization

Visual field is another important factor that affects the operation efficiency, because a good visual field can provide operators with sufficient confidence and make their operation more convenient and fast. The new MFZ model is designed with a narrow mast, which has a good lateral view and middle view, which is convenient for operators to observe the cargo status and improve efficiency.



Visual field assistance Convenient operation

Fork vision system

The vision system of the fork ensures that the forklift still has a good vision and operability when working at a high position. A high-definition camera is installed at the root of the fork, and the cross laser is used for accurate positioning. The operator can clearly observe the position of the goods through the high-definition display, which improves efficiency and safety.



Driving wheel display

Equipped with drive wheel angle display function, it displays drive wheel angle, which is easier to operate.



Easy to operate and comfortable to improve efficiency

Integrated joystick(Optional)

Integrated all hydraulic action, horn button, driving direction operating switch, simplify the operation process, reasonable ergonomic design, more convenient operation, improve operating efficiency



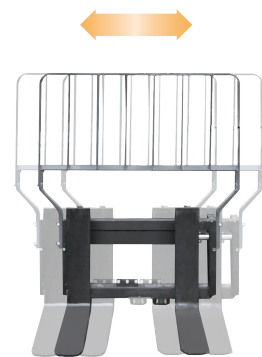
Steering tiller

Intuitive steering tiller, operator centered design, effectively simplifies control operations.



Suspension seat(Optional)

The seat can be adjusted forward and backward, and the backrest can be adjusted to improve operator comfort and reduce fatigue.



Built-in (integrated) side shifter

Standard configuration forks can be side shifted left and right, is convenient to adjust the position of the forks to take goods.

Noise Level
≤68dB

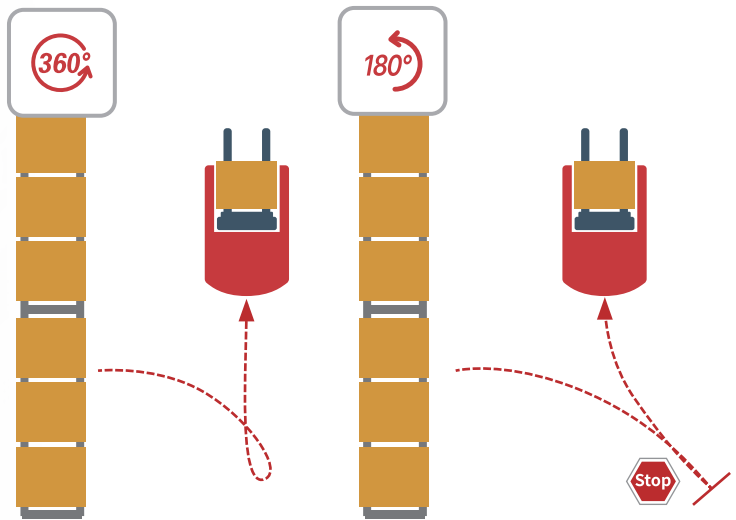
All-wheel electromagnetic braking

The vehicle is equipped with all-wheel braking, with both front and rear wheel brakes. Compared with regular brakes, it offers shorter braking distances, better braking performance, and enhances operator's safety during operation. The load wheels are configured with drum brake and electromagnetic brake, electromagnetic brake can further enhance the stability of the mast at high positions.



180°/360°steering mode

Switch between 180°/ 360°mode can improve working efficiency in the aisle. In 360° mode, there is no need to stop to switch the direction switch (forward/backward), while in 180° (conventional mode), you need to stop and then switch the direction switch (forward/backward) before turning the steering wheel.



One-Key Return to Center

When the position of the driving wheel cannot be quickly identified due to excessive steering operations, the two one click for turn-back keys can be pressed at the same time, and the driving wheel will automatically turn-back to the center.



OPS

The vehicle has OPS in-position sensing function, mainly including pedal switch and seat switch. Only when the operator is in position, step on the pedal switch to start running, hydraulic functions and other functions to ensure vehicle safety.

Standard					
1.1	Brand		MiMA	MiMA	MiMA
1.2	Model		MFZ16S	MFZ20S	MFZ16M
1.3	Power type		Battery	Battery	Battery
1.4	Operation type		Seated	Seated	Seated
1.5	Rated capacity	Q(kg)	1600	2000	1600
1.6	Load center	C(mm)	600	600	600
1.7	Distance from fork surface to front wheel center	x(mm)	371[3]	407[3]	371
1.8	Front overhang	xl(mm)	184	205	184
1.9	Wheelbase	y(mm)	1400	1500	1400
Weight					
2.1	Vehicle weight (including battery)	kg	3700	4131	3700
2.3	Axle capacity with no load, drive side/load side	kg	2309/1391	2446/1510	2309/1391
2.4	Axle capacity with full load when fork forward,drive side/load side	kg	799/4501	730/5226	799/4501
2.5	Axle capacity with full load when fork backward,drive side/load side	kg	2042/3258	2196/3761	2042/3258
Wheel					
3.1	Wheel type , Drive wheel/Load wheel		PU/PU	PU/PU	PU/PU
3.2	Size, load wheel	mm	φ300×120	φ343×120	φ300×120
3.3	Size, dive wheel	mm	φ343×120	φ343×120	φ343×120
3.4	Number of wheels, front/rear(x=drive wheel)		1X / 2	1X / 2	1X / 2
3.5	Wheel tread, load side	b11(mm)	1170	1170	1170
Size					
4.1	Fork tilt range, front/rear	α/β(°)	2/4	2/4	2/4
4.2	Mast closed height	h1(mm)	2253	2253	2253
4.3	Free lift height	h2(mm)	978[1]	978[1]	978[1]
4.4	Lift height	h3(mm)	4600	4600	4600
4.5	Mast extended height with load-backrest	h4(mm)	5835[2]	5835[2]	5835[3]
4.7	Overhead guard height	h6(mm)	2200	2200	2200
4.8	Seat height	h7(mm)	1122	1122	1122
4.9	Lateral travel		±50	±50	±50
4.10	Leg height	h8(mm)	320	363	320
4.19	Overall length	l1(mm)	2345[3]	2409[3]	2345
4.20	Distance to fork surface	l2(mm)	1275[3]	1339[3]	1275
4.21	Overall width	b1/b2(mm)	1270/1290	1270/1290	1270/1290[1]
4.22	Fork size	l/e/s(mm)	1070×100×35	1070×122×40	1070×100×35
4.24	Overhead guard width	b3(mm)	1020	1020	1020
4.25	Fork outside width	b5(mm)	232-728	254-750	232-728
4.26	Inner leg width	b4(mm)	906	906	906
4.28	Reach stroke	l4(mm)	555[3]	613[3]	555
4.31	Mast ground clearance	m1(mm)	75	75	75
4.34.1	Aisle width for pallet 1000* 1200mm(C=500mm)	Ast(mm)	2716[3]	2791[3]	2716
4.34.2	Aisle width for pallet 800* 1200mm(C=600mm)	Ast(mm)	2767[3]	2835[3]	2767
4.35	Turning radius	Wa(mm)	1647	1747	1647
4.37	Overall length (excluding fork)	l7(mm)	1796	1918	1796
Function					
5.1	Driving speed(load/unload)	km/h	14/14	14/14	14/14
5.2	Lifting speed(load/unload)	mm/s	330/500	300/500	330/500[4]
5.3	Lowering speed(load/unload)	mm/s	330/380	330/380	530/520
5.4	Mast reaching speed	mm/s	150	150	200
5.5	Max. Gradeability speed, forward/retract	%(tanθ)	10	10	10
5.6	Brake type		Hydraulic	Hydraulic	Hydraulic
Motor					
6.1	Driving motor(S2-60min)	kw	5.8[4]	5.8[4]	5.8[8]
6.2	Lifting motor(S3-15%)	kw	12.8	12.8	12.8[5]
6.3	Steering motor power (S2-60min)	kw	0.4	0.4	0.4
6.4	Battery voltage/capacity	V/Ah	48/420[3]	48/560[3]	48/420
6.5	Lithium battery voltage/capacity (optional)	V/Ah	48/300[3]	48/460[3]	48/300
6.6	Battery weight	kg	715[3]	920[3]	715
Other					
7.1	Battery replacement type		Front pul	Front pul	Front pul
8.4	Noise	dB(A)	75	75	75[7]

MFZ16S&MFZ20S
[1]: The free lift height increases without backrest; [2]: The max. lift height ~378mm without backrest; [3]: When MFZ16S equipped with optional 48V560AH lead acid battery/48V460AH lithium battery;MFZ20S equipped with optional 48V700AH lead acid battery/48V6000AH lithium battery, the relevant specifications refer to MFZ16H/MFZ20H.[4]: Optional 8kw drive motor is available;

MFZ16M&MFZ20M
[1]: Equipped with electromagnetic brake, the tyre width is 115mm, the track width is 1155mm, and the body width is 1270mm;[2]: The free lift height increases without backrest; [3]: The max. lift height ~378mm without backrest; [4]: Equipped with optional high-performance rapid lift system, the speed of 1.6-ton forlift is 430/550 (mm/s), the speed of 2.0-ton forklift is 400/550 (mm/s); [5]: Equipped with optional high-performance rapid lift system, the power rating is 14kw; [6]: Optional lithium battery 600AH, specifications: 1.8, 4.19, 4.20, 4.28, 4.341, 4.34.2 refer to the MFZ20H model; [7]: Equipped with optional high-performance rapid lift system, the noise level is 68dB(A); [8]: Optional 8kw drive motor is available;

Standard					
1.1	Brand		MiMA	MiMA	MiMA
1.2	Model		MFZ-L16	MFZ-L16H	MFZ- L20
1.3	Power type		Battery	Battery	Battery
1.4	Operation type		Seated	Seated	Seated
1.5	Rated capacity	Q(kg)	1600	1600	2000
1.6	Load center	C(mm)	600	600	600
1.7	Distance from fork surface to front wheel center	x(mm)	312	312	335
1.8	Front overhang	xl(mm)	184	184	205
1.9	Wheelbase	y(mm)	1400	1400	1500
Weight					
2.1	Vehicle weight (including battery)	kg	4120	4120	4346
2.3	Axle capacity with no load, drive side/load side	kg	2453/1467	2453/1467	2552/1794
2.4	Axle capacity with full load when fork forward,drive side/load side	kg	931/4789	931/4789	833/5513
2.5	Axle capacity with full load when fork backward,drive side/load side	kg	2020/3600	2020/3600	2205/4141
Wheel					
3.1	Wheel type , Drive wheel/Load wheel		PU/PU	PU/PU	PU/PU
3.2	Size, load wheel	mm	φ300×120[1]	φ300×120[1]	φ343×120[1]
3.3	Size, dive wheel	mm	φ343×120	φ343×120	φ343×120
3.4	Number of wheels, front/rear(x=drive wheel)		2/ 1X	2/ 1X	2/ 1X
3.5	Wheel tread, load side	b11(mm)	1170[1]	1170[1]	1170[1]
Size					
4.1	Fork tilt range, front/rear	α/β(°)	2/4	2/4	2/4
4.2	Mast closed height	h1(mm)	2820	2820	2820
4.3	Free lift height	h2(mm)	1545[2]	1545[2]	1545[2]
4.4	Lift height	h3(mm)	6300	6300	6300
4.5	Mast extended height with load-backrest	h4(mm)	7535[3]	7535[3]	7535[3]
4.7	Overhead guard height	h6(mm)	2200	2200	2200
4.8	Seat height	h7(mm)	1122	1122	1122
4.9	Lateral travel		±50	±50	±50
4.10	Leg height	h8(mm)	320	320	363
4.19	Overall length	l1(mm)	2404	2404	2481
4.20	Distance to fork surface	l2(mm)	1334	1334	1411
4.21	Overall width	b1/b2(mm)	1270/1290[1]	1270/1290[1]	1270/1290[1]
4.22	Fork size	l/e/s(mm)	1070×100×35	1070×100×35	1070×122×40
4.24	Overhead guard width	b3(mm)	1020	1020	1020
4.25	Fork outside width	b5(mm)	232-728	232-728	254-750
4.26	Inner leg width	b4(mm)	906	906	906
4.28	Reach stroke	l4(mm)	496	496	541
4.31	Mast ground clearance	m1(mm)	75	75	75
4.34.1	Aisle width for pallet 1000* 1200mm(C=500mm)	Ast(mm)	2760	2760	2843
4.34.2	Aisle width for pallet 800* 1200mm(C=600mm)	Ast(mm)	2821	2821	2900
4.35	Turning radius	Wa(mm)	1647	1647	1747
4.37	Overall length (excluding fork)	l7(mm)	1796	1796	1918
Function					
5.1	Driving speed(load/unload)	km/h	14/14	14/14	14/14
5.2	Lifting speed(load/unload)	mm/s	330/500[4]	330/500[4]	300/500[4]
5.3	Lowering speed(load/unload)	mm/s	530/520	530/520	530/520
5.4	Mast movement speed, forward/retract	mm/s	200	200	200
5.5	Max. Grade ability(load/unload)(S2-5min)	%(tanθ)	10	10	10
5.6	Brake type		Hydraumatic	Hydraumatic	Hydraumatic
Motor					
6.1	Driving motor(S2-60min)	kw	4	4	4
6.2	Lifting motor(S3-15%)	kw	12.8[5]	12.8[5]	12.8[5]
6.3	Steering motor power (S2-60min)	kw	0.4	0.4	0.4
6.4	Battery voltage/capacity	V/Ah	48/560	48/560	48/700
6.5	Lithium battery voltage/capacity (optional)	V/Ah	48/300	48/300	48/460
6.6	Battery weight	kg	920	920	1100
Other					
7.1	Battery replacement type		Hoist	Hoist	Hoist
8.4	Noise	dB(A)	75[6]	75[6]	75[6]

MFZ16H&MFZ20H
[1]: Equipped with electromagnetic brake, the tyre width is 115mm, the track width is 1155mm, and the body width is 1270mm;[2]: The free lift height increases without backrest; [3]: The max. lift height ~378mm without backrest; [4]: Equipped with optional high-performance rapid lift system, the speed of 1.6-ton forklift is 430/550 (mm/s), the speed of 2.0-ton forklift is 400/550 (mm/s); [5]: Equipped with optional high-performance rapid lift system, the power rating is 14kw; [6]: Optional lithium battery 600AH, specifications: 1.8, 4.19, 4.20, 4.28, 4.341, 4.34.2 refer to the MFZ20H model; [8]: Optional 8kw drive motor is available;

Load parameter

MFZ16S/MFZ20S: 4600-8500mm; MFZ16M: 4600-9500mm; MFZ16H: 4600-10500mm; MFZ20M/MFZ20H: 4600-12500mm;																						
车型	h ₃ (mm)	5400	5700	6000	6300	6500	6750	7000	7150	7500	8000	8500	9000	9500	10000	10500	10800	11000	11500	12000	12500	
MFZ16S (48V420AH) Q(kg)	C=600mm	1600	1600	1600	1600	1550	1500	1500	1400	1300	1200	1050	/	/	/	/	/	/	/	/	/	
	C=700mm	1420	1420	1420	1420	1375	1330	1330	1240	1150	1060	930	/	/	/	/	/	/	/	/	/	
	C=800mm	1250	1250	1250	1250	1210	1170	1170	1090	1010	930	820	/	/	/	/	/	/	/	/	/	
	C=900mm	1040	1040	1040	1040	1000	970	970	910	840	780	680	/	/	/	/	/	/	/	/	/	
	C=1000mm	900	900	900	900	870	840	840	780	730	670	590	/	/	/	/	/	/	/	/	/	
MFZ16M (48V420AH) Q(kg)	C=600mm	1600	1600	1600	1600	1600	1550	1500	1500	1400	1300	1200	1050	900	/	/	/	/	/	/	/	
	C=700mm	1420	1420	1420	1420	1420	1375	1330	1330	1240	1150	1060	930	800	/	/	/	/	/	/	/	
	C=800mm	1250	1250	1250	1250	1250	1210	1170	1170	1090	1010	930	820	700	/	/	/	/	/	/	/	
	C=900mm	1040	1040	1040	1040	1040	1000	970	970	910	840	780	680	580	/	/	/	/	/	/	/	
	C=1000mm	900	900	900	900	900	870	840	840	780	730	670	590	500	/	/	/	/	/	/	/	
MFZ16H (48V560AH) Q(kg)	C=600mm	1600	1600	1600	1600	1600	1550	1550	1450	1350	1250	1150	1000	950	800	/	/	/	/	/	/	
	C=700mm	1420	1420	1420	1420	1420	1420	1370	1370	1280	1200	1100	1010	880	840	700	/	/	/	/	/	
	C=800mm	1250	1250	1250	1250	1250	1250	1210	1210	1130	1050	970	900	780	740	620	/	/	/	/	/	
	C=900mm	1040	1040	1040	1040	1040	1040	1000	1000	940	870	810	740	650	610	520	/	/	/	/	/	
	C=1000mm	900	900	900	900	900	900	870	870	810	760	700	640	560	530	450	/	/	/	/	/	
MFZ20S (48V560AH) Q(kg)	C=600mm	1900 ^[1]	1850	1800	1750	1700	1700	1600	1550	1450	1350	1250	/	/	/	/	/	/	/	/	/	
	C=700mm	1690	1640	1600	1550	1510	1510	1420	1370	1280	1200	1100	/	/	/	/	/	/	/	/	/	
	C=800mm	1490	1450	1410	1370	1330	1330	1250	1210	1130	1050	970	/	/	/	/	/	/	/	/	/	
	C=900mm	1240	1210	1180	1140	1110	1110	1050	1000	940	870	810	/	/	/	/	/	/	/	/	/	
	C=1000mm	1070	1050	1020	990	960	960	900	870	810	760	700	/	/	/	/	/	/	/	/	/	
MFZ20M (48V560AH) Q(kg)	C=600mm	2000	1950	1900	1850	1800	1750	1700	1700	1600	1500	1350	1200	1100	1050	900	800	750	700	650	600	
	C=700mm	1780	1730	1690	1640	1600	1550	1510	1510	1420	1330	1200	1060	970	930	800	710	660	620	570	530	
	C=800mm	1570	1530	1490	1450	1410	1370	1330	1330	1250	1170	1060	940	860	820	700	620	580	550	510	470	
	C=900mm	1310	1270	1240	1210	1180	1140	1110	1110	1050	980	880	780	720	680	590	520	490	450	420	390	
	C=1000mm	1130	1100	1070	1050	1020	990	960	960	900	850	760	680	620	590	510	450	420	390	360	340	
MFZ20H (48V700AH) Q(kg)	C=600mm	2000	2000	2000	2000	1950	1850	1800	1800	1650	1600	1450	1350	1300	1200	1100	1050	1000	950	850	800	
	C=700mm	1780	1780	1780	1780	1730	1640	1600	1600	1460	1420	1280	1200	1150	1060	970	930	890	840	750	710	
	C=800mm	1570	1570	1570	1570	1530	1450	1410	1410	1290	1250	1130	1050	1020	940	860	820	780	740	660	620	
	C=900mm	1310	1310	1310	1310	1270	1210	1180	1180	1080	1050	950	880	850	780	720	680	650	620	550	520	
	C=1000mm	1130	1130	1130	1130	1100	1050	1020	1020	930	900	820	760	730	680	620	590	560	530	480	450	

Note[1]: The unloaded height of the MFZ20S model is 4800mm.
Note[2]: The lift height: 3300mm is only a unloaded height parameter, no vehicle model available at this height in reality.

Mast parameter

Triplex full free mast MFZ16S/MFZ20S: 4600-8500mm; MFZ16M: 4600-9500mm; MFZ16H: 4600-10500mm; MFZ20M/MFZ20H: 4600-12500mm;															
Lift Height	h3(mm)	4600	4800	5400	5700	6000	6300	6500	6750	7000	7150	7500	8000	8500	9000
Mast extended height with load-backrest	h4(mm) ^[1]	5835	6035	6635	6935	7235	7535	7735	7985	8235	8385	8735	9235	9735	10235
Mast closed height	h1(mm)	2253	2320	2520	2620	2720	2820	2887	3070	3153	3203	3319	3486	3653	3920
Free lift height (including load-backrest)	h2(mm)	978	1045	1245	1345	1445	1545	1612	1795	1878	1928	2044	2211	2378	2645
Free lift height (excluding load-backrest)	h2(mm)	1108	1176	1376	1476	1576	1676	1744	1926	2008	2058	2172	2340	2508	2876
Triplex full free mast MFZ16M: 4600-9500mm; MFZ16H: 4600-10500mm; MFZ20M/MFZ20H: 4600-12500mm;															
Lift Height	h3(mm)	9500	10000	10500	10800	11000	11500	12000	12500						
Mast extended height with load-backrest	h4(mm) ^[1]	10735	11235	11735	12035	12235	12735	13235	13735						
Mast closed height	h1(mm)	4086	4253	4420	4520	4586	4753	4920	5086						
Free lift height (including load-backrest)	h2(mm)	2811	2978	3145	3245	3311	3478	3645	3811						
Free lift height (excluding load-backrest)	h2(mm)	3040	3208	3376	3476	3540	3708	3876	4040						
Note[1]: The Mast extended height includes backrest dimension, -378mm when the standard backrest excluded.															
Triplex full free mast MFZ25M/MFZ30M: 3600-8500mm;															
Lift Height	h3(mm)	3600	4000	4300	4600	4800	5400	5700	6000	6300	6500	6750	7000	7150	7500
Mast extended height with load-backrest	h4(mm) ^[2]	4972	5372	5672	5972	6172	6772	7072	7372	7672	7872	8122	8372	8522	8872
Mast closed height	h1(mm)	2070	2203	2303	2403	2470	2670	2770	2870	2970	3037	3220	3303	3353	3469
Free lift height (including load-backrest)	h2(mm)	658	791	891	991	1058	1258	1358	1458	1558	1625	1808	1891	1941	2057
Free lift height (excluding load-backrest)	h2(mm)	1168	1302	1402	1502	1568	1768	1868	1968	2068	2135	2218	2402	2452	2570
Triplex full free mast MFZ25M/MFZ30M: 3600-8500mm;															
Lift Height	h3(mm)	8000	8500												
Mast extended height with load-backrest	h4(mm) ^[1]	9372	9872												
Mast closed height	h1(mm)	3636	3803												
Free lift height (including load-backrest)	h2(mm)	2224	2391												
Free lift height (excluding load-backrest)	h2(mm)	2736	2902												
Note[2]: The Mast extended height includes backrest dimension, -512mm when the standard backrest excluded.															

