



FM-SE 14

FM-SE 16

FM-SE 20

FM-SE Technical Data.

FM-SE Rider-seated reach truck



This specification sheet to VDI Guidelines 2198 only gives the technical figures for the standard truck.
Different tyres, other masts, additional equipment etc. could give different figures.

				STILL	STILL	STILL		
Characteristics	1.1	Manufacturer		FM-SE 14	FM-SE 16	FM-SE 20		
	1.2	Manufacturer's model designation		Electric	Electric	Electric		
	1.3	Drive (electric, diesel, petrol, LPG)		Rider seated	Rider seated	Rider seated		
	1.4	Operation (hand, pedestrian, stand on, rider seated)						
	1.5	Capacity/load	Q	kg	1400	1600	2000	
	1.6	Load centre	c	mm	600/500	600/500	600/500	
	1.8	Load distance ²	x	mm	326	321	471	
	1.9	Wheel base	y	mm	1380	1380	1530	
	Weights	2.1	Truck weight inc. Battery ⁴		kg	3288	3288	3414
2.3		Axle load forks back, unladen ⁴	Driver/load end	kg	1962/1326	1962/1326	2216/1198	
2.4		Axle load forks forward, laden ⁴	Driver/load end	kg	723/3965	675/4213	450/4964	
2.5		Axle load forks back, laden ⁴	Driver/load end	kg	1697/2991	1738/3150	2016/3398	
Wheels/chassis		3.1	Tyres (rubber, Polyurethane, Superelastic)	Driver/load end		C/SE	C/SE	C/SE
	3.2	Tyre size, driver's end			18 x 8 -121/8	18 x 8 -121/8	18 x 8 -121/8	
	3.3	Tyre size, load end			180/60-10	180/60-10	200/50-10	
	3.5	Number of wheels (x=driven)	Load/driver's end		2/1 x	2/1 x	2/1 x	
	3.6	Track width, driver's end	b ₁₀	mm	0	0	0	
	3.7	Track width, Load end	b ₁₁	mm	1245	1245	1265	
	Basic dimensions	4.1	Mast/carriage tilt, forward/back		°	2/4	2/4	2/4
4.2		Height, mast lowered ¹	h ₁	mm	2225	2225	2225	
4.3		Free lift ¹	h ₂	mm	1361	1361	1361	
4.4		Lift ¹	h ₃	mm	4955	4955	4955	
4.5		Height, mast raised ¹	h ₄	mm	5695	5695	5395	
4.7		Height over overhead guard (cab)	h ₆	mm	2246	2246	2246	
4.8		Seat height/platform height	h ₇	mm	1076/1166	1076/1166	1076/1166	
4.10		Height of straddle arms or load wheel casing	h ₈	mm	476	476	476	
4.19		Overall length	l ₁	mm	2506	2511	2511	
4.20		Length including fork backs ²	l ₂	mm	1356	1361	1361	
4.21		Overall width	b _{1/2}	mm	1234/1366	1234/1366	1234/1470	
4.22		Fork dimensions	s/e/l	mm	40 x 80 x 1150	45 x 100 x 1150	45 x 100 x 1150	
4.23		Fork carriage DIN 15173, Class/Form A, B			2/A	2/A	2/A	
4.24		Fork carriage width, top/bottom	b ₃	mm	776	776	776	
4.25		Outside fork width, minimum/maximum	b ₅	mm	216/597	216/597	216/597	
4.26		Width between straddle arms/load surfaces	b ₄	mm	922	922	922	
4.28		Reach ²	l ₄	mm	594	594	744	
4.31		Floor clearance with load under mast	m ₁	mm	90	90	90	
4.32		Floor clearance, centre of wheel-base	m ₂	mm	145	145	145	
Performance data	5.1	Travel speed laden/unladen ^{4,5}		km/h	12.5/12.5	12.5/12.5	12.5/12.5	
	5.2	Hoist speed laden/unladen ⁵		m/s	0.42/0.66	0.40/0.66	0.32/0.51	
	5.3	Lowering speed laden/unladen ⁴		m/s	0.56/0.50	0.56/0.50	0.56/0.52	
	5.4	Reach speed laden/unladen ⁴		m/s	0.15/0.15	0.15/0.15	0.15/0.15	
	5.7	Gradeability laden/unladen		%	4.5/8.2	4.5/8.2	4.5/8.2	
	5.8	Max. gradeability laden/unladen		%	10/10	10/10	10/10	
	5.9	Acceleration time laden/unladen (over 10 m) ⁵		s	5.5/4.8	5.5/4.8	5.8/5.0	
	5.10	Service brake			generator/hyd.	generator/hyd.	generator/hyd.	
	E-Motor	6.1	Drive motor, rating S2 = 60 min		kW	6.5	6.5	6.5
		6.2	Hoist motor, rating at S3 = 15%		kW	14	14	14
6.3		Battery to DIN, IEC, Circuit A, B, C			43531/254-2 C	43531/254-2 C	43531/254-2 C	
6.4		Battery voltage, rated capacity C ₅		V/Ah	48/560	48/560	48/560	
6.5		Battery weight +/- 5% (depends on make)		Kg	939	939	939	
6.6		Energy consumption to VDI cycle		kWh/h				
Misc	8.1	Drive controller			3 phase	3 phase	3 phase	
	8.2	Working pressure for attachments		bar	200	200	200	
	8.3	Oils flow rate for attachments		l/min	6.5	6.5	6.5	
	8.4	Sound level at driver's ear ⁷		dB(A)	63	63	63	

¹ For other masts see tables

² Other battery sizes change these values

⁴ Other masts can change these values

⁵ Reduced speeds on request

⁷ Figures stated are for trucks without cab

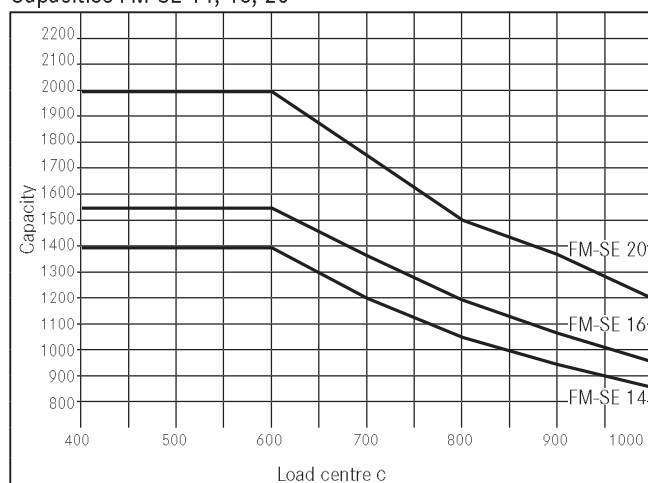
		FM-SE 14	FM-SE 16	FM-SE 20
Driver's compartment	Rated capacity kg	1.4	1.6	2.0
	Adjustable steering wheel position and longitudinal seat adjustment	●	●	●
	Adjustable height luxury seat with lumbar and weight setting	●	●	●
	Adjustable height driver's seat with heater	○	○	○
	Driver's compartment with synthetic leather seat	●	●	●
	Driver's compartment with cloth seat	○	○	○
	Clearview mast with optimised view overhead guard	●	●	●
	Fingertip control (Hydraulic actuation through 4 individual control levers)	●	●	●
	Integral storage facilities	●	●	●
	Display: Clear display of active operating states	●	●	●
Steering	Adjustable steering resistance	●	●	●
	Free moving, full electric steering 180°	●	●	●
	Redundant steering safety system	●	●	●
Mast	Triplex clearview mast with free lift	●	●	●
	Hydraulic sideshifter with fork tilt	●	●	●
	Mast transition damping	●	●	●
	Clearview fork carriage	●	●	●
Hydraulics	Noise optimised hydraulic pump	●	●	●
	Auxiliary hydraulics	○	○	○
	Proportional valve technology for particularly sensitive movements	●	●	●
	Individual parameter setting option for the hydraulic functions	●	●	●
Drives	Load wheel tyres - Superelastic	●	●	●
	Drive wheel tyre - Rubber	●	●	●
	Maintenance-free 3-phase drives for driving and hoisting	●	●	●
	Fully encapsulated components, not susceptible to dirt and dust	●	●	●
	Integral current and temperature sensors for function monitoring	●	●	●
Brake	Generator braking system	●	●	●
	Energy recovery when braking	●	●	●
	Hydraulic load wheel brake as an auxiliary brake	●	●	●
	Electromagnetic disc brake as a parking brake and emergency stop	●	●	●
Battery system	Battery changing using hoist	●	●	●
	Battery roller track for battery changing to side	○	○	○
	Battery compartment for 560 Ah battery	●	●	●
	Battery compartment for 700 Ah battery	○	○	○
	Battery transport and changing frame	○	○	○
Additional equipment	Pin Code access, keyless with button	○	○	○
	Flashing light	○	○	○
	Working spotlight on overhead guard	○	○	○
	Overhead guard cover, with standard sheet steel, optimised visibility	●	●	●
	Overhead guard cover, with polycarbonate	○	○	○
	Overhead guard cover, with mesh	○	○	○
	Raised driver's seat backrest	○	○	○
	Various fork lengths	○	○	○
	Weather protection cab with interior and screen heater and screen wiper	○	○	○
	Chassis width 1,366 mm	●	●	-
	Chassis width 1,470 mm	-	-	●
	Load backrest	○	○	○
Fork extension	○	○	○	
DIN A4 Writing surface	○	○	○	

● Standard ○ Option

FM-SE 14/FM-SE 16										
Mast tilt, forward/back		°	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4
Overall height	h ₁	mm	2225	2491	2491	2925	2925	2925	2925	2925
Free lift	h ₂	mm	1361	1627	1627	2061	2061	2061	2061	2061
Lift	h ₃	mm	4955	5155	5755	6255	6655	6655	6955	6955
Height, mast raised	h ₄	mm	5695	5895	6495	6995	7395	7395	7695	7695
FM-SE 20										
Mast tilt, forward/back		°	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4
Overall height	h ₁	mm	2225	2491	2491	2925	2925	2925	3391	3391
Free lift	h ₂	mm	1361	1627	1627	2061	2061	2061	2527	2527
Lift	h ₃	mm	4655	4655	5155	5755	6255	6655	6955	7455
Height, mast raised	h ₄	mm	5395	5395	5895	6495	6995	7395	7695	8195

Alternative masts available on enquiry
 Hlift height h₃+s +10 mm

Capacities FM-SE 14, 16, 20



The requirement:

Greater effectiveness in narrow warehouse areas with uneven floors. The solution for an extended range of use: an SE tyred moving mast reach truck for combined indoor and outdoor use.

Flexible: the application.

Individual application options thanks to SE tyres and large tyre diameter. Large floor clearance and superb traction allow individual use even on uneven and slippery floors. Short construction and moving mast reach principle for optimal warehouse utilisation. Weather protection cabs provide the best possible protection and safety in outdoor use.

Ergonomic: the driver's compartment.

Roomy driver's compartment with adjustable controls. Clear display to show all operating states. Luxury seat with adjustable height and lumbar adjustment. An open step, visible from above, allows trouble-free entry and exit. Individual storage facilities. Great safety due to optimised visibility of driver's overhead guard and the best all-round vision.

Sensitive: operation.

Four individual fingertip control levers for easy control of all hydraulic functions. Full electric 180° steering for easy, safe positioning. Proportional valve technology for especially quiet, quick and sensitive movement processes for a high turnaround of goods. Noise-optimised pump and motor unit.

Safe: the braking system.

Maintenance-free regenerative braking system with energy recovery and high efficiency. Greatest safety thanks to redundant fail-safe braking system. Electromagnetic brake as an emergency stop and parking brake.

Powerful: the maintenance-free drive.

The 3-phase, maintenance-free drive motor provides energy recovery under braking, powerful acceleration and safe deceleration.

Clear view: the mast.

Triplex clear view mast with free lift and high rigidity for universal use. Mast tilt and fork sideshift as standard.

Adequate reserves: the battery.

Simple maintenance due to battery push-out. Battery can be lifted out with a hoist, optional battery changing to the side with a roller track. High power reserves for single and multi-shift applications thanks to battery capacities up to 775 Ah.

A summary of the benefits:

- Superb driving comfort due to damped drive unit and ergonomic driver's compartment.
- Flexible use in all warehouse areas thanks to SE tyres and large floor clearance.
- Optimal driving characteristics on uneven and wet floors.
- Individual adjustment lift heights up to 7455 mm and capacities from 1400 kg to 2000 kg.
- High availability and low service costs due to maintenance-free AC technology.

