

Li-Ion:
available from 1 July 2017



FM-X SE Technical Data

Driver Seated Reach Truck with Super Elastic Tyres

FM-X 14 SE/Li-Ion

FM-X 17 SE/Li-Ion

FM-X 20 SE/Li-Ion



first in intralogistics

FM-X SE Driver Seated Reach Truck with Super Elastic Tyres

This specification sheet, which conforms to VDI guideline 2198, provides the technical values for the standard equipment only. Different tyres, other masts, the use of accessories, etc., may result in other values.

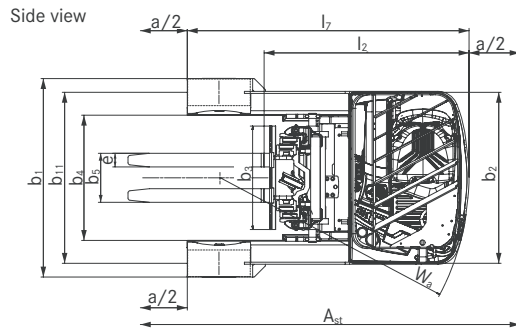
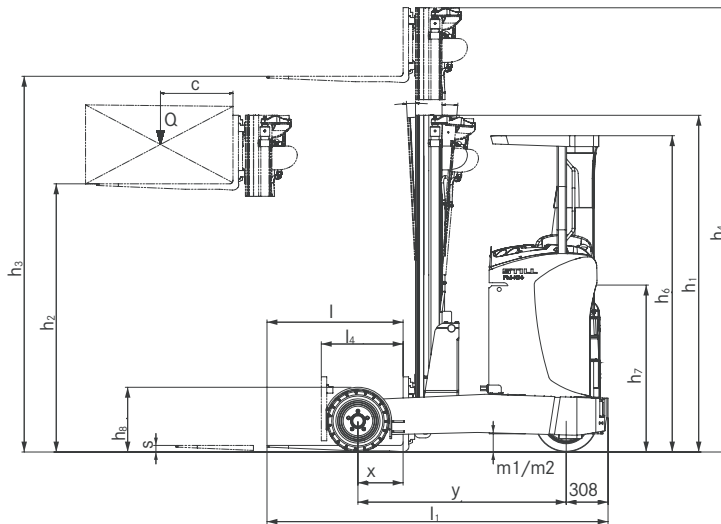


					STILL	STILL	STILL		
					FM-X 14 SE/Li-Ion*	FM-X 17 SE/Li-Ion*	FM-X 20 SE/Li-Ion*		
Distinguishing marks	1.1	Manufacturer							
	1.2	Manufacturer's type designation							
	1.3	Drive			Electric	Electric	Electric		
	1.4	Operator type			Seated	Seated	Seated		
	1.5	Rated capacity/rated load	Q	kg	1400	1700	2000		
	1.6	Load capacity at load centre distance	c	mm	600	600	600		
	1.8	Load centre distance ¹	x	mm	238	238	388		
	1.9	Wheel base	y	mm	1380	1380	1530		
	2.1	Service weight (incl. battery)			kg	3750	3750	3690	
Weights	2.3	Axle loading, unladen	drive end/load end		kg	2230/1520	2230/1520	2330/1360	
	2.4	Axle loading, fork advanced, laden	drive end/load end		kg	920/4230	730/4720	690/5000	
	2.5	Axle loading, fork retracted, laden	drive end/load end		kg	1870/3280	1790/3660	2060/3630	
Tyres/chassis	3.1	Tyres			Cushion/ Super Elastic	Cushion/ Super Elastic	Cushion/ Super Elastic		
	3.2	Tyre size	drive end		mm	∅ 457 x 203	∅ 457 x 203	∅ 457 x 203	
	3.3	Tyre size	load end		mm	∅ 454 x 160	∅ 454 x 160	∅ 450 x 195	
	3.5	Number of wheels (x = driven)	drive end/load end			1x/2	1x/2	1x/2	
	3.7	Tread	load end		b ₁₁	mm	1210	1210	1256
Dimensions	4.1	Tilt of mast/fork carriage ²	forward/backward		α/β	°	2/4	2/4	1/3
	4.2	Height	mast lowered		h ₁	mm	2275	2275	2275
	4.3	Free lift			h ₂	mm	1640	1640	1630
	4.4	Lift			h ₃	mm	5000	5000	4830
	4.5	Height	mast extended		h ₄	mm	5635	5635	5475
	4.7	Height of overhead guard ³			h ₆	mm	2324	2324	2324
	4.8	Seat height			h ₇	mm	1264	1264	1264
	4.10	Height of wheel arms			h ₈	mm	473	473	473
	4.19	Overall length ^{2,4,5}			l ₁	mm	2600	2600	2605
	4.20	Length to face of forks ^{2,4,5}			l ₂	mm	1450	1450	1455
	4.21	Overall width			b ₁ /b ₂	mm	1378/1270	1378/1270	1458/1270
	4.22	Fork dimensions	DIN ISO 2331		s/e/l	mm	40/100/1150	40/100/1150	40/100/1150
	4.23	Fork carriage ISO 2328, class/type A, B					2/B	2/B	2/B
	4.24	Fork carriage width			b ₃	mm	760	760	760
	4.25	Distance between fork arms	min./max.		b ₅	mm	316/620	316/620	316/620
	4.26	Distance between wheel arms/loading surfaces			b ₄	mm	920	920	920
	4.28	Reach distance ¹			l ₄	mm	501	501	651
	4.31	Ground clearance, laden, below mast			m ₁	mm	144	144	144
	4.32	Ground clearance, centre of wheel base			m ₂	mm	144	144	144
	4.34.1	Aisle width for pallets 1000 x 1200 crossways ²			A _{st}	mm	2861	2861	2896
	4.34.2	Aisle width for pallets 800 x 1200 lengthways ²			A _{st}	mm	2933	2933	2944
	4.35	Turning radius			W ₉	mm	1691	1691	1838
	4.37	Length across wheel arms			l ₇	mm	1920	1920	2070
4.43	Step height				mm	258	258	258	
Performance data	5.1	Travel speed	laden/unladen			km/h	14/14	14/14	14/14
	5.1.1	Travel speed, backwards	laden/unladen			km/h	14/14	14/14	14/14
	5.2	Lift speed	laden/unladen			m/s	0.45/0.68	0.45/0.68	0.37/0.58
	5.3	Lowering speed	laden/unladen			m/s	0.56/0.52	0.56/0.52	0.53/0.50
	5.4	Reaching speed	laden/unladen			m/s	0.18/0.18	0.18/0.18	0.18/0.18
	5.7	Gradeability	laden/unladen			%	4.5/8.2	4.5/8.2	4.5/8.2
	5.8	Max. gradeability	laden/unladen			%	15/20	15/20	15/20
	5.10	Service brake					Regenerative- electric/hydraulic	Regenerative- electric/hydraulic	Regenerative- electric/hydraulic
Electric engine	6.1	Drive motor, rating S2 = 60 min			kW	6.5	6.5	6.5	
	6.2	Lift motor, rating S3 = 15%			kW	14	14	14	
	6.3	Battery according to DIN 43531/35/36 A, B, C, no				43531C/254-2	43531C/254-2	43531C/254-2	
	6.4	Battery voltage/nominal capacity K _s			V/Ah	48/620 Li-Ion: 48/817	48/620 Li-Ion: 48/817	48/620 Li-Ion: 48/817	
	6.5	Battery weight (depending on manufacturer ±5%)			kg	940	940	940	
	6.6	Energy consumption according to VDI cycle			kWh/h	3.42	3.61	3.58	
Misc.	10.1	Operating pressure for attachments			bar	200	200	200	
	10.2	Oil volume for attachments			l/min	20	20	20	
	10.7	Sound pressure level L _{paZ} , at driver's seat			dB(A)	69	69	69	

* Li-Ion: available from 1 July 2017

- ¹ Reduced in steps of 72 mm depending on the size of the battery
- ² A_{st} extended in steps of 72 mm depending on the size of the battery
- ³ With the option cabin/weather protection, height h₆ is 2304 mm
- ⁴ With optional cabin, length will be extended by 80 mm
- ⁵ Increases in steps of 72 mm for each larger battery size

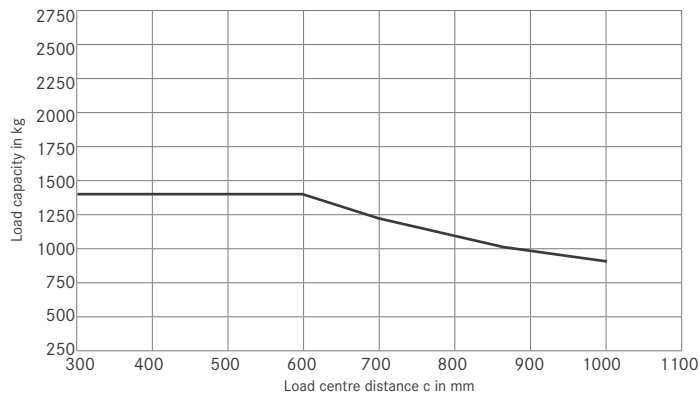
FM-X SE Driver Seated Reach Truck with Super Elastic Tyres
 Technical Drawings



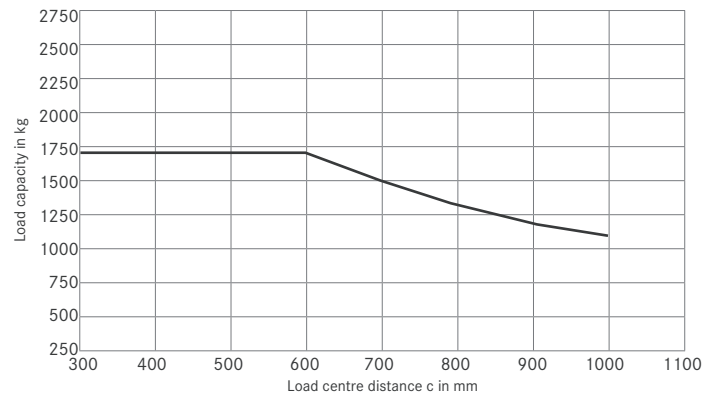
Top view

Basic Load Capacities

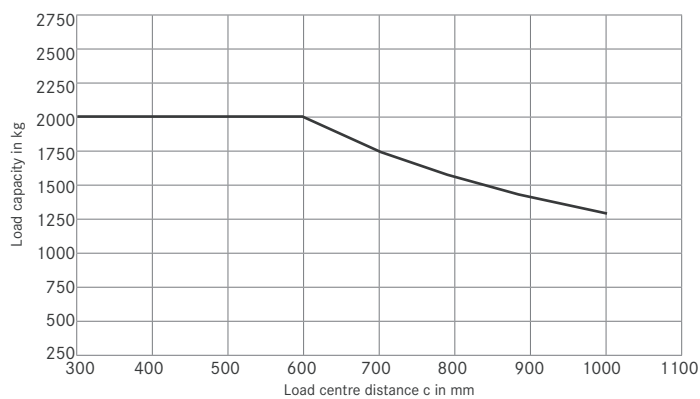
Load capacity FM-X 14 SE



Load capacity FM-X 17 SE



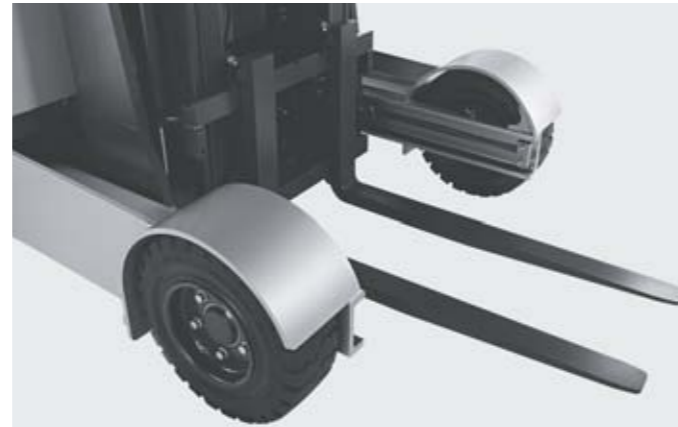
Load capacity FM-X 20 SE



FM-X SE Driver Seated Reach Truck with Super Elastic Tyres
Detailed Photos



Optimal panoramic view



Super Elastic tyres with wheel protection for more security



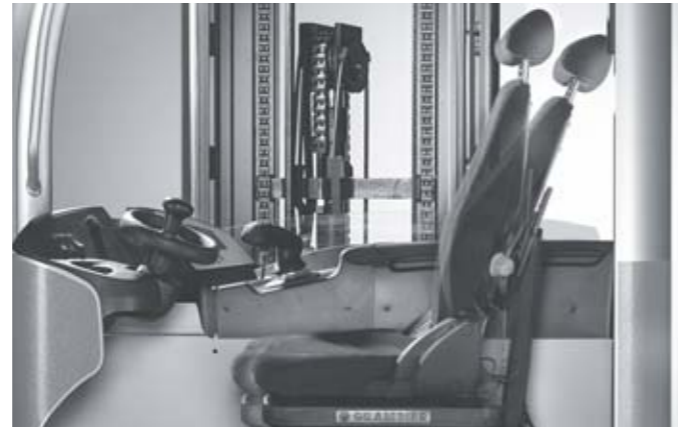
Individually adaptable workstation



Ergonomic and sensitive handling thanks to Joystick 4Plus



Safe entry thanks to additional step



Comfortable reclining seat for an optimal view upwards



Alternative operation concept: Fingertip

Mast Tables

				Telescopic mast								
FM-X 14 SE	Height, mast lowered	h ₁	mm	2125	2225	2375	2475	2575	2675	2875	3075	3175
	Free lift	h ₂	mm	-	-	-	-	-	-	-	-	-
	Lift	h ₃	mm	2920	3120	3420	3620	3820	4020	4420	4820	5020
	Height, mast extended	h ₄	mm	3555	3755	4055	4255	4455	4655	5055	5455	5655
	Tilt of mast	forward/backward	α/β	°	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	0.5/2.0	0.5/2.0	0.5/2.0

				Triplex mast															
FM-X 14 SE	Height, mast lowered	h ₁	mm	2025	2090	2125	2275	2325	2375	2475	2525	2575	2675	2775	2875	2975	3075	3175	3275
	Free lift	h ₂	mm	1390	1455	1490	1640	1690	1740	1840	1890	1940	2040	2140	2240	2340	2440	2540	2640
	Lift	h ₃	mm	4250	4440	4550	5000	5150	5300	5600	5750	5900	6200	6500	6800	7100	7400	7700	8000
	Height, mast extended	h ₄	mm	4885	5075	5185	5635	5785	5935	6235	6385	6535	6835	7135	7435	7735	8035	8335	8635
	Tilt of mast	forward/backward	α/β	°	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	0.5/2.0	0.5/2.0	0.5/2.0	0.5/2.0	0.5/2.0	0.5/2.0

				Telescopic mast								
FM-X 17 SE	Height, mast lowered	h ₁	mm	2125	2225	2375	2475	2575	2675	2875	3075	3175
	Free lift	h ₂	mm	-	-	-	-	-	-	-	-	-
	Lift	h ₃	mm	2920	3120	3420	3620	3820	4020	4420	4820	5020
	Height, mast extended	h ₄	mm	3555	3755	4055	4255	4455	4655	5055	5455	5655
	Tilt of mast	forward/backward	α/β	°	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	0.5/2.0	0.5/2.0	0.5/2.0

				Triplex mast															
FM-X 17 SE	Height, mast lowered	h ₁	mm	2025	2090	2125	2275	2325	2375	2475	2525	2575	2675	2775	2875	2975	3075	3175	3275
	Free lift	h ₂	mm	1380	1455	1480	1630	1680	1730	1830	1880	1930	2030	2130	2230	2330	2430	2530	2630
	Lift	h ₃	mm	4250	4440	4550	5000	5150	5300	5600	5750	5900	6200	6500	6800	7100	7400	7700	8000
	Height, mast extended	h ₄	mm	4895	5085	5195	5645	5785	5945	6245	6395	6545	6845	7145	7445	7745	8045	8345	8645
	Tilt of mast	forward/backward	α/β	°	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	0.5/2.0	0.5/2.0	0.5/2.0	0.5/2.0	0.5/2.0	0.5/2.0

				Triplex mast															
FM-X 20 SE	Height, mast lowered	h ₁	mm	2025	2090	2125	2275	2325	2375	2475	2525	2575	2675	2775	2875	2975	3075	3175	3275
	Free lift	h ₂	mm	1380	1455	1480	1630	1680	1730	1830	1880	1930	2030	2130	2230	2330	2430	2530	2630
	Lift	h ₃	mm	4080	4270	4380	4830	4980	5130	5430	5580	5730	6030	6330	6630	6930	7200	7500	7800
	Height, mast extended	h ₄	mm	4725	4915	5025	5475	5625	5775	6075	6225	6375	6675	6975	7275	7575	7845	8145	8445
	Tilt of mast	forward/backward	α/β	°	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	1.0/3.0	0.5/2.0	0.5/2.0	0.5/2.0	0.5/2.0	0.5/2.0	0.5/2.0

FM-X SE Driver Seated Reach Truck with Super Elastic Tyres

For combined indoor and outdoor use thanks to Super Elastic tyres

Holistic ergonomics concept

Precise and exact hydraulic control with Fingertip operation or Joystick 4Plus



Thanks to its special Super Elastic tyres, this smart reach truck is not only capable to move materials indoors optimally but outdoors as well. The FM-X SE easily moves loads with a weight of up to two tons at a maximum speed of 14 km/h reliably to the desired destination. On arriving, it lifts the load up to a height of up to eight metres. The large rubberised tyres and substantial floor clearance make it an ideal truck to stack and retrieve loads from outdoor racking systems. Assistance systems such as Easy Target or the optional camera system support the drivers in their work and ensure maximum precision at top lift

heights. The FM-X SE is an efficient compact energy bundle – thanks to the Li-Ion battery technology with outstanding availability. This technology does not only allow opportunity charging without problems – in only 30 minutes, the lithium ion battery can be charged up to 50 per cent – the FM-X SE also convinces with its elaborate safety concept. For example, the Curve Speed Control system automatically adjusts the driving speed to the steering angle. With the FM-X SE you can rely on an efficient, precise and safe turnover of your goods at any time – indoor as well as outdoor.

Extensive Equipment

Power

- Powerful acceleration combined with high travel speeds of 14 km/h and lifting speeds of up to 0.50 m/s
- Sufficient energy for any use, thanks to battery capacities of 560 Ah to 700 Ah
- Substantial ground clearance and optimum traction allow for individual use even on bumpy surfaces
- Lasting energy for multi-shift operation: high battery capacity and optional sideways battery change
- Top availability: The lithium-ion battery bundles a lot of energy and can be quickly and easily opportunity charged

Precision

- OPTISPEED reduces mast vibrations to a minimum for medium lifting heights and enables quick goods handling
- Clear visibility of goods without being disrupted by hydraulic lines on the fork carriage, thanks to the unique sideshift mast
- Top precision right from the first millimetre thanks to the optical lift height sensor

Ergonomics

- Cushioned drive wheel and Super Elastic tyres to reduce impact when driving over uneven surfaces
- Relaxed view upwards and beyond goods, thanks to unique comfortable reclining seat

- Easy to operate all functions without having to alternate grip, thanks to Joystick 4Plus or Fingertip operation
- Easy storage and retrieval with the Easy Target lift height pre-selection system

Compactness

- Suitable for even the most narrow working widths, thanks to the reach truck concept

Safety

- The large step and handhold make it safe and easy to get in
- Robust steel chassis with secure contour guiding in areas that are hard to drive on
- Versatile, flexible access control with FleetManager 4.x
- Extremely safe to drive round bends with Curve Speed Control depending on steering angle

Environmental Responsibility

- Long-lasting and energy-saving LED headlights
- Blue-Q efficiency mode saves up to 10 per cent energy at the press of a button with no loss of performance
- Energy recovery when braking means you can use the machinery for longer with optimum use of resources
- Low operation costs: low energy consumption and long maintenance intervals

FM-X SE Driver Seated Reach Truck with Super Elastic Tyres Equipment Variants



		FM-X SE 14	FM-X SE 17	FM-X SE 20
Driver's seat	Steering wheel and seat adjustment	●	●	●
	Comfortable seat with hydraulic damping and weight adjustment	●	●	●
	Comfortable reclining seat	○	○	○
	Heated driver's seat	○	○	○
	Leatherette driver's seat and vinyl cover	○	○	○
	Free view mast with visually-optimised overhead guard	●	●	●
	Joystick 4Plus (hydraulic control system without having to alternate grip)	●	●	●
	Fingertip (hydraulic control system with four individual levers)	○	○	○
	Five driver profiles, selected according to operator	●	●	●
	Integrated storage facilities, drink holder	●	●	●
	Display: clear display of active operating states	●	●	●
	Fully electric 360° steering	●	●	●
Steering	Fully electric 180° steering	○	○	○
	Fully electric steering with reverse function	○	○	○
	Redundant steering safety system	●	●	●
Mast	Triple free view mast with free lift	●	●	●
	Telescopic free view mast	○	○	○
	Hydraulic mast for lateral shifting with mast tilt	●	●	●
	Mast reach damping system	●	●	●
Hydraulics	Free view fork carriage	●	●	●
	Noise-optimised hydraulic pump	●	●	●
	Ancillary hydraulics, onefold or twofold	○	○	○
	Proportional valve technology for sensitive movements	●	●	●
	Individual parametrisation options for hydraulic functions	●	●	●
Drives	Multiple hydraulic movements can be controlled simultaneously	●	●	●
	Smooth, continuous acceleration to maximum speed	●	●	●
	Maintenance-free drives for driving, steering and lifting	●	●	●
	Fully enclosed component which is impervious to dirt and dust	●	●	●
Brake	Integral current and temperature sensors for function monitoring	●	●	●
	Generator braking system	●	●	●
	Energy recovery when braking	●	●	●
Safety and performance	Hydraulic impeller brake as additional brake	●	●	●
	Electromagnetic disc brake as parking brake and emergency stop	●	●	●
	PIN code access, keyless, with button	○	○	○
	Indicator light	○	○	○
	Warning light	○	○	○
	Headlights	○	○	○
	Overhead guard with Makrolon or mesh grid	○	○	○
	Steering angle-dependent speed control	○	○	○
	Stroke shut-off for intermediate stroke and/or end stroke limiting	○	○	○
	Lift height display	○	○	○
	Lift height preselection system	○	○	○
	FleetManager: access authorisation, shock detection, reports	○	○	○
OPTISPEED: lift height and load-dependent speed regulation	○	○	○	
Audible driving warning signal (Digisound)	○	○	○	
Battery system	Battery changing with crane	●	●	●
	Battery changing from the side with roller track	○	○	○
	Battery compartment for 560 Ah battery	●	●	○
	Battery compartment for 700 Ah battery	○	○	●
	STILL Li-Ion battery for 817 Ah	○	○	○
Additional equipment	Battery transport and changing frame	○	○	○
	Various fork lengths	○	○	○
	Preparation for data terminal	○	○	○
	Automatic fork tilt and sideshift centring at the press of a button	○	○	○
	Weather protection	○	○	○
	Full cab	○	○	○
	Load backrest	○	○	○
	Panoramic rear-view mirror	●	●	●
	Shift and lowering lock	○	○	○
Prong camera system	○	○	○	
Dual-pedal control	○	○	○	

● Standard ○ Optional — Not available

STILL



STILL Materials Handling Ltd
Aston Way
Leyland Preston
PR26 7UX
Tel.: +44 (0)845 603 6827

STILL Materials Handling Ltd
Jacks Way
Hill Barton
Business Park
Clyst St. Mary
Exeter
EX5 1FG
Tel.: +44 (0)345 603 6827

info@still.co.uk

For further information please visit:

www.still.co.uk



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