

# LTX-FF Technical Data

## Multifunction Tractor with Lift Function

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LTX-FF 05/Li-Ion

LTX-FF 10/Li-Ion





Distinguishing marks			STILL	STILL
			LTX-FF 05/Li-Ion	LTX-FF 10/Li-Ion
1.1	Manufacturer			
1.2	Manufacturer's type designation			
1.3	Drive		Electric	Electric
1.4	Operation		Stand-on	Stand-on
1.5	Rated capacity/rated load		kg 500	1000
1.5.1	Trailer load		kg 5000	5000
1.6	Load centre distance		mm (400) 500 (600)	(400) 500 (600)
1.7	Rated drawbar pull		N 1000	1000
1.8	Load distance		x mm 165	165
1.9	Wheel base		y mm 1168	1282
Weights	2.1 Service weight (incl. battery)		kg 1565	1677
	2.2 Axle load, laden		drive end/load end kg 527/1538	417/2260
Tyres/chassis	2.3 Axle load, unladen		drive end/load end kg 833/732	907/770
	3.1 Tyres		Polyurethane	Polyurethane
	3.2 Tyre size		drive end mm 254 x 102	254 x 102
	3.3 Tyre size		load end mm 250 x 80	250 x 80
	3.5 Number of wheels (x = driven)		drive end/load end 1x/2	1x/2
	3.7 Track width		load end b <sub>11</sub> mm 604	604
Basic dimensions	4.1 Tilt of fork carriage		forward/backward α/β ° 0/5	0/5
	4.2 Height		mast lowered h <sub>1</sub> mm 1776	1776
	4.4 Lift		h <sub>3</sub> mm 1204	1204
	4.5 Height		mast extended h <sub>4</sub> mm 1776	1776
	4.8 Stand height/seat height		min./max. h <sub>7</sub> mm 150//905/1094	150//905/1094
	4.9 Height drawbar in driving position		min./max. h <sub>14</sub> mm 1270	1270
	4.12 Coupling height		h <sub>10</sub> mm 245/300/355 (520 max) <sup>1</sup>	245/300/355 (520 max) <sup>1</sup>
	4.15 Fork height		lowered h <sub>13</sub> mm 55	55
	4.17 Overhang length		l <sub>5</sub> mm 192	192
	4.19 Overall length		l <sub>1</sub> mm 1544 <sup>2</sup> /2504 <sup>3</sup>	1695 <sup>2</sup> /2655 <sup>3</sup>
	4.20 Length to face of forks		l <sub>2</sub> mm 1514	1665
	4.21 Overall width		b <sub>1</sub> mm 800	800
	4.22 Fork dimensions		s/e/l mm 45/110/(790)/990/(1190)	45/110/(790)/990/(1190)
	4.24 Fork carriage width		b <sub>3</sub> mm 500	500
	4.25 Distance between fork arms		b <sub>5</sub> mm 500	500
	4.31 Ground clearance, laden, below mast		m <sub>1</sub> mm 70	70
	4.32 Ground clearance, centre of wheel base		m <sub>2</sub> mm 70	70
	4.34.1 Aisle width for pallets 1000 x 1200 crossways		A <sub>st</sub> mm 3268	3433
	4.34.2 Aisle width for pallets 800 x 1200 crossways		A <sub>st</sub> mm 3124	3291
	4.34.3 Aisle width for pallets 800 x 1200 lengthways		A <sub>st</sub> mm 3311	3470
4.35 Turning radius		W <sub>a</sub> mm 1516	1653	
Performance data	5.1 Travel speed		laden/unladen km/h 7.5/13	7.5/13
	5.1.1 Travel speed, backwards		laden/unladen km/h 4/4	4/4
	5.2 Lift speed		laden/unladen m/s 0.17/0.23	0.12/0.23
	5.3 Lowering speed		laden/unladen m/s 0.28/0.26	0.23/0.26
	5.5 Drawbar pull, S2 = 60 min		laden/unladen N 1000	1000
	5.6 Max. drawbar pull, S2 = 5 min		laden/unladen N 3400 <sup>4</sup>	3400 <sup>4</sup>
	5.8 Max. gradeability		laden/unladen % 11/15 <sup>5</sup>	6.5/15 <sup>5</sup>
	5.9 Acceleration time		laden/unladen s 5.9/5.0	6.0/5.0
	5.10 Service brake		Electromagnetic	Electromagnetic
	Electric engine	6.1 Drive motor, rating S2 = 60 min		kW 3
6.2 Lift motor, rating at S3		kW 2.2/5%	2.2/5%	
6.3 Battery according to DIN 43531/35/36; A, B, C, no		No	No	
6.4 Battery voltage/nominal capacity K <sub>s</sub>		V/Ah 24/345-465 Li-Ion: 24/205-410	24/560-620 Li-Ion: 24/205-410	
6.5 Battery weight ±5%		kg 402	515	
6.6 Energy consumption according to VDI cycle		kWh/h -	1.13	
6.7 Turnover output		t/h -	43	
6.8 Energy consumption at turnover output		t/kWh/h -	38 <sup>6</sup>	
Misc.	8.1 Drive control		AC control	AC control
	10.7 Sound level at driver's ear		dB(A) <70	<70

<sup>1</sup> With trailer coupling three positions

<sup>2</sup> -4 mm with fork length l = 790 mm; +4 mm with fork length l = 1190 mm

<sup>3</sup> -200 mm with fork length l = 790 mm; +200 mm with fork length l = 1190 mm

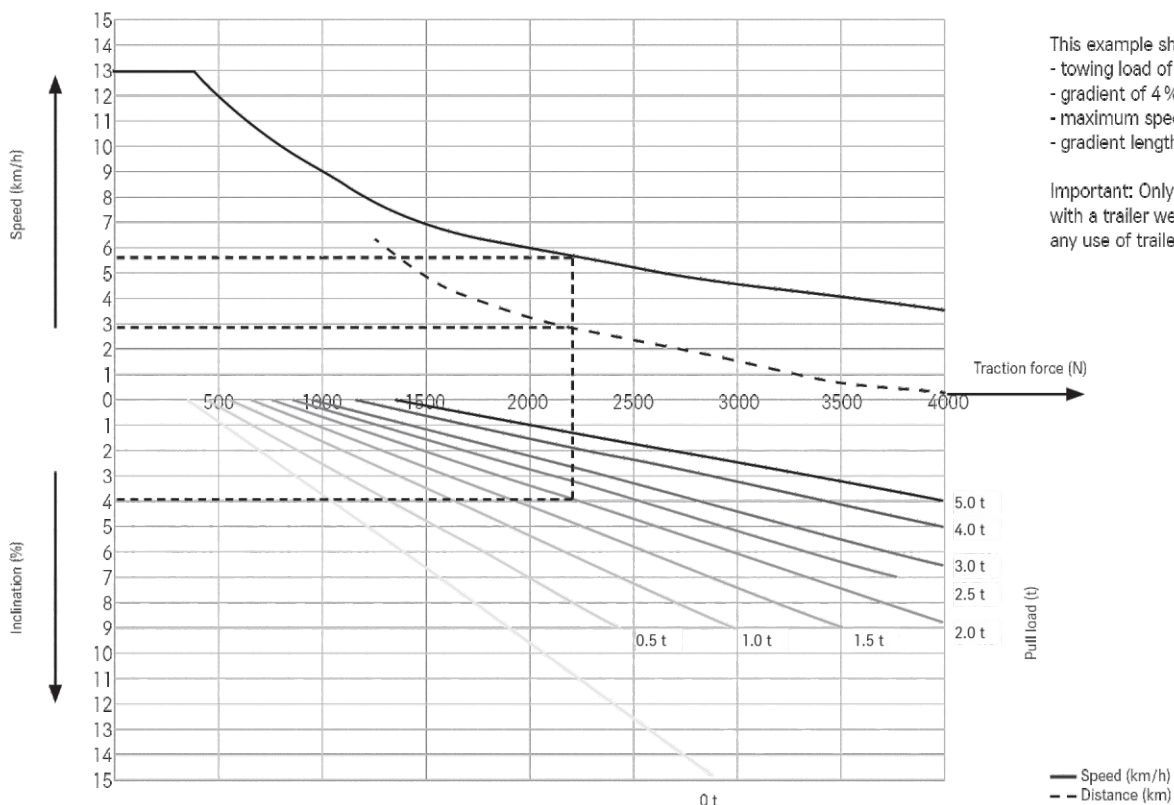
<sup>4</sup> With lead-acid battery; with lithium-ion battery = 1750 N

<sup>5</sup> When used as a stacker; for tractor use, see diagram

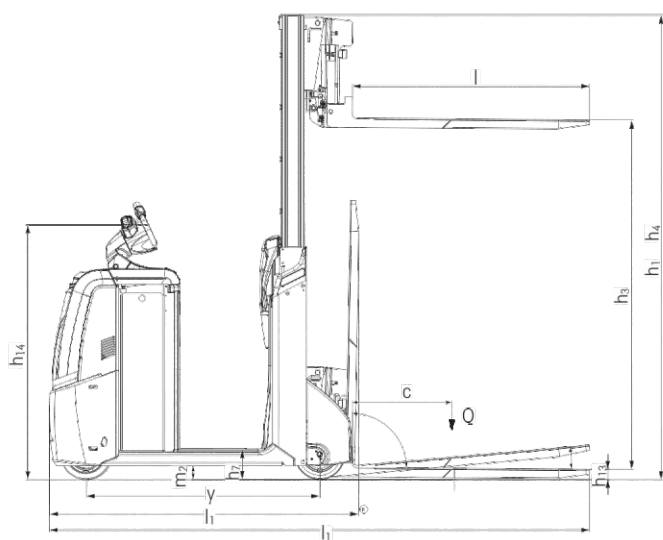
<sup>6</sup> When used as a stacker

### Mast Table

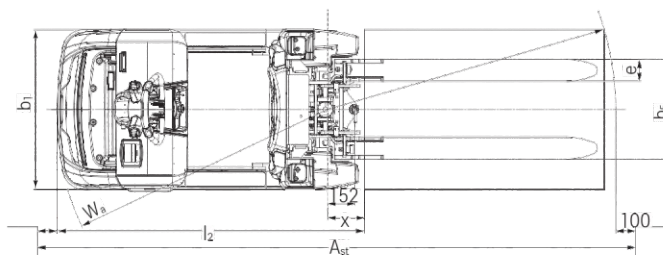
			Single mast	
Height, mast lowered	h <sub>1</sub>	mm	1776	2326
Free lift	h <sub>2</sub>	mm	1204	1754
Lift	h <sub>3</sub>	mm	1204	1754
Height, mast extended	h <sub>4</sub>	mm	1776	2326



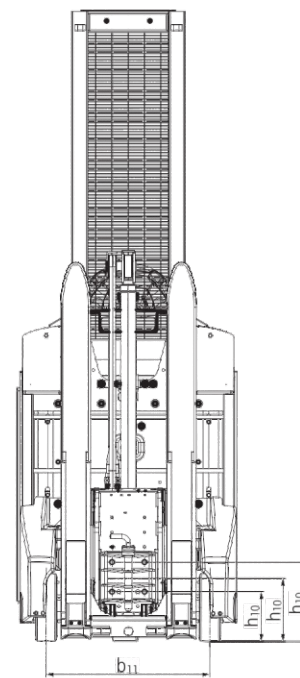
### Technical Drawings



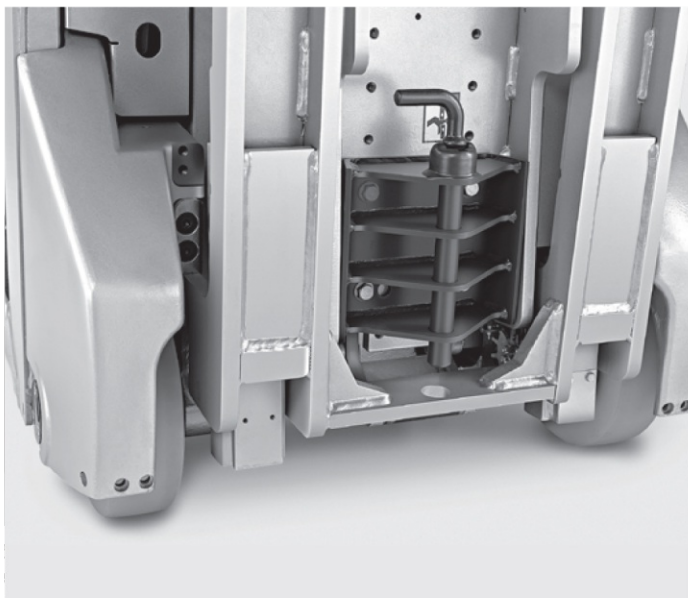
Side view



Top view



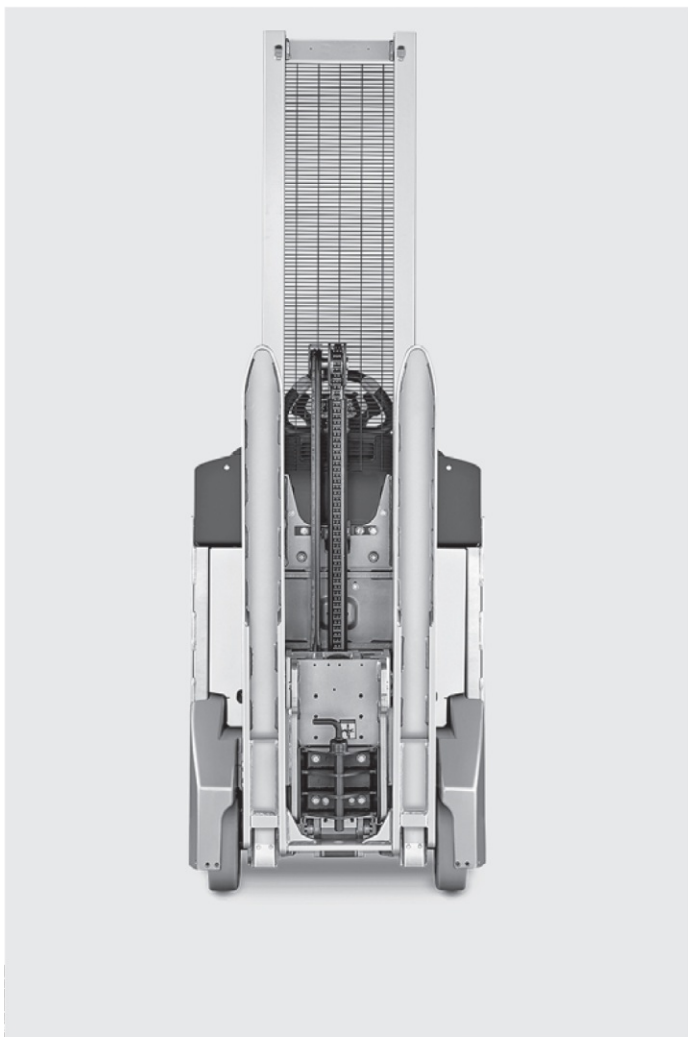
Rear view with forks folded up



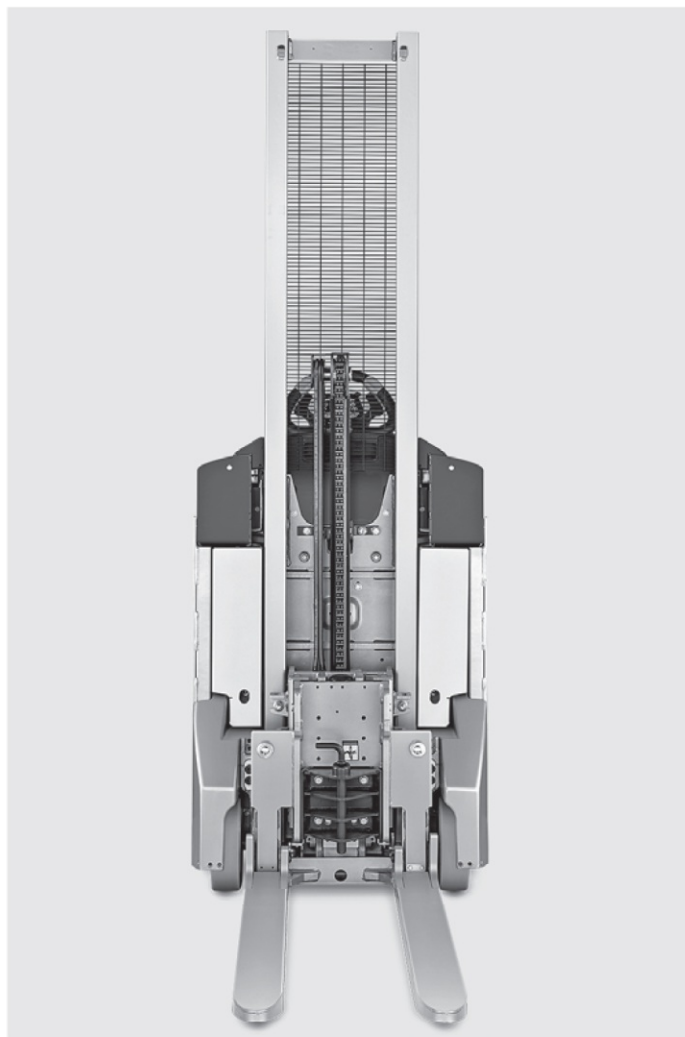
Multiple fields of application due to different connection options for tugger train elements and trailers



Patented mechanism for safe and quick folding of the forks



Multifunctional use as tractor or forklift truck with only one vehicle





Two in one: From tractor to forklift in seconds



Safe load handling thanks to integrated standard fork tilt function

All in one: Towing, stacking and tugger train operations with one device

STILL Easy Drive steering wheel: Intuitive operation of all functions without changing grip

Compact dimensions: Precise work in the narrowest aisles

Tractive power of five tons, load capacity of one ton, and a top speed of 13 km/h



This all-round talent is unique on the entire market: The STILL LTX-FF 05/10 with folding forks tows, stacks and supplies production lines as a tugger train. As the only series production vehicle of its kind worldwide, the LTX-FF 05/10 meets all the core requirements of modern production supply. It also impresses with strong performances in all disciplines: The universal talent pulls loads of up to five tons, lifts

up to 1,000 kg to a maximum height of 1,750 mm and achieves a top speed of 13 km/h. Furthermore, the multifunctional tractor scores with an incredibly intuitive operation - thanks to the STILL Easy Drive steering wheel. Unfold the cantilever forks at the push of a button, which with their standard tilt function ensure that each pallet remains safely in place. The STILL LTX-FF: One for all.

## Extensive Equipment

### Power

- Powerful, reliable and low-maintenance: Modern three-phase AC drive motor
- Strong handling capacity: High towing capacity up to 5,000 kg
- Fast transport of goods: Up to 13 km/h driving speed
- Maximum handling capacity through multi-functional use: Tow 5 tons and lift up to 1 ton to 1,750 mm with only one vehicle
- High availability with Li-Ion technology

### Precision

- Intuitive operation of all functions without changing grip due to innovative STILL Easy Drive steering wheel
- Safe, shock-free transport of goods: Sensitive acceleration and steering as well as easy coupling and uncoupling with optional pedestrian operation
- Different driving programs for optimal handling for any application

### Ergonomics

- Comfortable standing: Modern sprung and damped driver's stand, optionally also available with adjustable pneumatically damped stand-on platform
- Comfortable on long distances: Folding seat for more driving comfort
- Effortless work: Low entry makes stepping on and off the vehicle easier
- Generous driver's workplace with storage options

### Compactness

- Patented fork folding mechanism: Extremely compact and manoeuvrable for working in confined spaces
- At home in narrow aisles: Very small turning radius enables use in narrow working aisles

### Safety

- High safety and prevention of accidents: Good visibility of the vehicle with optional LED daytime running light, Safety Light and Safety Light 4Plus
- Versatile and flexible access control with FleetManager 4.x
- High safety when cornering due to steering angle-dependent speed control system Curve Speed Control
- To avoid damage by impact: Wide variety of collision protection variants

### Environmental Responsibility

- A shining example: Long-life, energy-saving LED luminaires
- Sustainable: Over 95 percent of all materials used can be recycled
- Minimum noise emissions: Very quiet drive motor



		LTX-FF 05/Li-Ion	LTX-FF 10/Li-Ion
Driver's workplace	Ergonomically designed folding seat for long distances - folds in automatically after leaving the seat	○	○
	Low storage compartment in the driver's workplace on the load side, storage box on the rear side and foil roll holder at the front	○	○
	Pneumatically damped operator stand-on platform for working even more comfortably. For particularly ergonomic working conditions, the degree of damping can be adjusted individually for each operation and driver via the air pressure	○	○
	Step and grab handle for picking on higher levels	○	○
	Car socket 12 V/10 A	○	○
Tow coupling and system equipment LiftRunner	1-stage coupling (h <sub>10</sub> = 190 mm), pin diameter 25 mm	○	○
	3-stage coupling (h <sub>10</sub> = 190, 245, 300 mm), pin diameter 25 mm	●	●
	Rockinger coupling (h <sub>10</sub> = 190 mm), pin diameter 25 mm	○	○
	1-stage coupling with automatic locking mechanism (h <sub>10</sub> = 190 mm), pin diameter 25 mm	○	○
	System coupling for STILL LiftRunner tigger trains (h <sub>10</sub> = 220 mm), pin diameter 28.5 mm	○	○
	3-stage coupling with three different bolt diameters and heights: h <sub>10</sub> = 190/Ø 20 mm, h <sub>10</sub> = 245/Ø 25 mm and h <sub>10</sub> = 300/Ø 28 mm	○	○
Frame	Protection made of rubber - drive side	○	○
	Steel protection to provide additional protection for the drive motor and cover at higher heights	○	○
	Steel protection, height 550 mm on the drive side with preparation for a trailer coupling; maximum capacity 1,000 kg	○	○
	Steel protection, height 550 mm on the drive side with three-stage trailer coupling; maximum capacity 1,000 kg	○	○
	Steel protection to provide additional protection for the drive motor and cover at higher heights and further rubber protection at ground level	○	○
Battery system	Battery compartment for 345-465 Ah, craneable	●	●
	Battery compartment for 345-465 Ah, lateral change	○	○
	Battery compartment for 560-620 Ah, craneable	○	○
	Battery compartment for 560-620 Ah, lateral change	○	○
	Battery compartment for Li-Ion-Battery 205-410 Ah	○	○
	Adapter tray for alternative batteries	○	○
Safety	On-board charger	○	○
	Flashing light with protective grille	○	○
	Intelligent LED daytime running light	○	○
Additional accessories	STILL Safety Light 4Plus	○	○
	Power supply for trailers: 12 Volt, 7-pole for 7 different signals	○	○
	Pedestrian mode	○	○
	Hydraulic function for STILL tigger train elements, actuation via contact switch	○	○
Hydraulic function for STILL tigger train elements, actuation by switch	○	○	

● Standard ○ Optional — Not available



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