

LTX-FF Technical Data Multifunction Tractor with Lift Function

LTX-FF 05/Li-lon

LTX-FF 10/Li-lon



first in intralogistics

LTX-FF Multifunction Tractor with Lift Function Two in One

This specification sheet to VDI Guideline 2198, only provides the technical values for the standard truck. Different tyres, other masts, additional equipment, etc. may produce different figures.



	1.1	Manufacturer				STILL	STILL
Distinguishing marks	1.2	Manufacturer's type designation				LTX-FF 05/Li-lon	LTX-FF 10/Li-lon
	1.3	Drive				Electric	Electric
	1.4	Operation				Stand-on	Stand-on
	1.5	Rated capacity/rated load		Q	kg	500	1000
	1.5.1	Trailer load		Q	kg	5000	5000
sting	1.6	Load centre distance		С	mm	(400) 500 (600)	(400) 500 (600)
	1.7	Rated drawbar pull		F	N	1000	1000
	1.8	Load distance		Х	mm	165	165
	1.9	Wheel base		У	mm	1168	1282
ste	2.1	Service weight (incl. battery)			kg	1565	1677
Weights	2.2	Axle load, laden	drive end/load end		kg	527/1538	417/2260
>	2.3	Axle load, unladen	drive end/load end		kg	833/732	907/770
S	3.1	Tyres				Polyurethane	Polyurethane
Tyres/chassis	3.2	Tyre size	drive end		mm	254 x 102	254 x 102
s/ch	3.3	Tyre size	load end		mm	250 x 80	250 x 80
yre	3.5	Number of wheels (x = driven)	drive end/load end			1x/2	1x/2
	3.7	Track width	load end	b ₁₁	mm	604	604
	4.1	Tilt of fork carriage	forward/backward	α/β	٥	0/5	0/5
	4.2	Height	mast lowered	h ₁	mm	1776	1776
	4.4	Lift		h ₃	mm	1204	1204
	4.5	Height	mast extended	h ₄	mm	1776	1776
	4.8	Stand height/seat height	min./max.	h ₇	mm	150//905/1094	150//905/1094
	4.9	Height drawbar in driving position	min./max.	h ₁₄	mm	1270	1270
	4.12	Coupling height		h ₁₀	mm	245/300/355 (520 max) ¹	245/300/355 (520 max) ¹
	4.15	Fork height	lowered	h ₁₃	mm	55	55
ons	4.17	Overhang length		l ₅	mm	192	192
ensi	4.19	Overall length		l ₁	mm	1544 ² /2504 ³	1695 ² /2655 ³
ğ.	4.20	Length to face of forks		l ₂	mm	1514	1665
Basic dimensions	4.21	Overall width		b ₁	mm	800	800
Ba	4.22	Fork dimensions		s/e/I	mm	45/110/(790)/ 990/(1190)	45/110/(790)/ 990/(1190)
	4.24	Fork carriage width		b₃	mm	500	500
	4.25	Distance between fork arms		b_5	mm	500	500
	4.31	Ground clearance, laden, below mast		m ₁	mm	70	70
	4.32	Ground clearance, centre of wheel base		m_2	mm	70	70
	4.34.1	Aisle width for pallets 1000 x 1200 crossways		A _{st}	mm	3268	3433
	4.34.2	Aisle width for pallets 800 x 1200 crossways		A _{st}	mm	3124	3291
	4.34.3	Aisle width for pallets 800 x 1200 lengthways		A _{st}	mm	3311	3470
	4.35	Turning radius		Wa	mm	1516	1653
	5.1	Travel speed	laden/unladen		km/h	7.5/13	7.5/13
æ	5.1.1	Travel speed, backwards	laden/unladen		km/h	4/4	4/4
data	5.2	Lift speed	laden/unladen		m/s	0.17/0.23	0.12/0.23
ormance data	5.3	Lowering speed	laden/unladen		m/s	0.28/0.26	0.23/0.26
rma	5.5	Drawbar pull, S2 = 60 min	laden/unladen		N	1000	1000
Perfo	5.6	Max. drawbar pull, S2 = 5 min	laden/unladen		N 0/	3400 ⁴	3400 ⁴
Ā	5.8 5.9	Max. gradeability Acceleration time	laden/unladen laden/unladen		%	11/15 ⁵ 5.9/5.0	6.5/15 ⁵ 6.0/5.0
	5.9	Service brake	laden/uniaden		S	5.9/5.0 Electromagnetic	Electromagnetic
	6.1	Drive motor, rating S2 = 60 min			kW	3	3
		5				2.2/5%	
	6.2	Lift motor, rating at S3 Battery according to DIN 43531/35/36; A, B, C, no			kW	2.2/5% No	2.2/5 % No
engine	6.4	Battery voltage/nominal capacity K ₅			V/Ah	24/345-465 Li-lon: 24/205-410	24/560-620 Li-lon: 24/205-410
Electric engine	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		386
<i>c</i> :	8.1	Drive control			C/ KVVII/II	AC control	AC control
Misc.	10.7	Sound level at driver's ear			dB(A)	<70	<70
2	10.7	Journa level at allivel 2 eal			uD(A)	\10	\/U

Mast Table

			Single mast	
Height, mast lowered	h_1	mm	1776	2326
Free lift	h ₂	mm	1204	1754
Lift	h ₃	mm	1204	1754
Height, mast extended	h ₄	mm	1776	2326

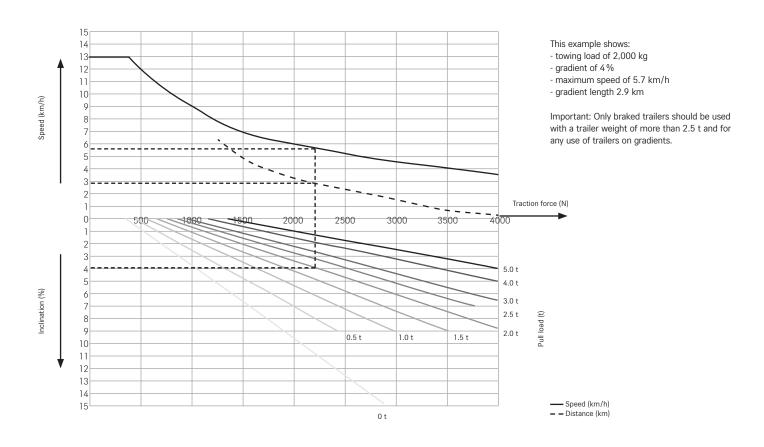
 $^{^1}$ With trailer coupling three positions 2 -4 mm with fork length I = 790 mm; +4 mm with fork length I = 1190 mm

 $^{^{3}}$ -200 mm with fork length I = 790 mm; +200 mm with fork length I = 1190 mm

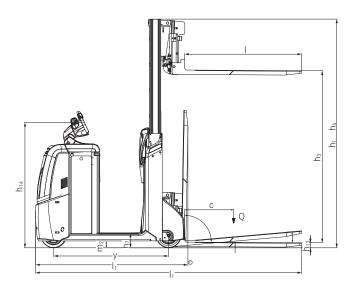
 $^{^{4}}$ With lead-acid battery; with lithium-ion battery = 1750 N

⁵ When used as a stacker; for tractor use, see diagram

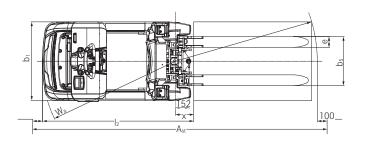
⁶ When used as a stacker



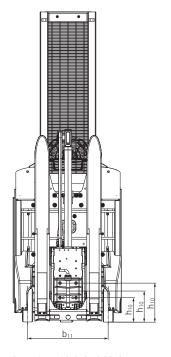
Technical Drawings



Side view

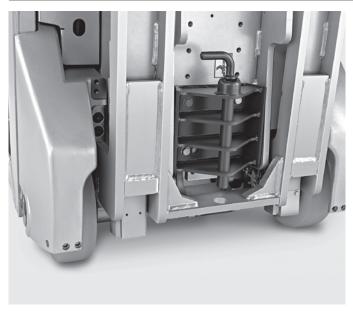


Top view



Rear view with forks folded up

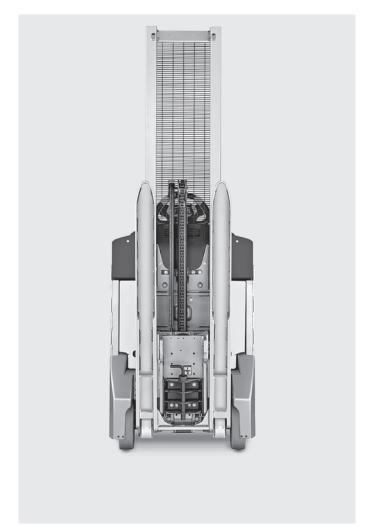
LTX-FF Multifunction Tractor with Lift Function Detailed Photos



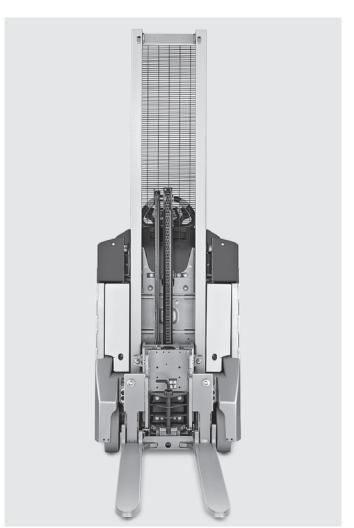
Multiple fields of application due to different connection options for tugger train elements and trailers



Patented mechanism for safe and quick folding of the forks



 $\label{eq:multifunctional} \mbox{Multifunctional use as tractor or forklift truck with only one vehicle}$





Two in one: From tractor to forklift in seconds



Safe load handling thanks to integrated standard fork tilt function

LTX-FF Multifunction Tractor with Lift Function Two in One

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-lon 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 standon platform
- Comfortable on long distances: Folding seat for more driving comfort
- Effortless work: Low entry makes stepping on and off the vehicle
- 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 Multifunction Tractor with Lift Function Equipment Variants



		LTX-FF 05/Li-lon	LTX-FF 10/Li-lon
-	Ergonomically designed folding seat for long distances - folds in automatically after leaving the seat	0	0
Driver's workplace	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	0	0
er's wo	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	0	0
Driv	Step and grab handle for picking on higher levels	0	0
	Car socket 12 V/10 A	0	0
tem	1-stage coupling (h ₁₀ = 190 mm), pin diameter 25 mm	0	0
sys	3-stage coupling (h ₁₀ = 190, 245, 300 mm), pin diameter 25 mm	•	•
and iffR	Rockinger coupling (h ₁₀ = 190 mm), pin diameter 25 mm	0	0
ing	1-stage coupling with automatic locking mechanism (h_{10} = 190 mm), pin diameter 25 mm	0	0
ldno	System coupling for STILL LiftRunner tugger trains (h ₁₀ = 220 mm), pin diameter 28.5 mm	0	0
Tow coupling and system equipment LiftRunner	3-stage coupling with three different bolt diameters and heights: $h_{10} = 190/\varnothing$ 20 mm, $h_{10} = 245/\varnothing$ 25 mm and $h_{10} = 300/\varnothing$ 28 mm	0	0
	Protection made of rubber - drive side	0	0
	Steel protection to provide additional protection for the drive motor and cover at higher heights	0	0
Frame	Steel protection, height 550 mm on the drive side with preparation for a trailer coupling; maximum capacity 1,000 kg	0	0
표	Steel protection, height 550 mm on the drive side with three-stage trailer coupling; maximum capacity 1,000 kg	0	0
	Steel protection to provide additional protection for the drive motor and cover at higher heights and further rubber protection at ground level	0	0
	Battery compartment for 345-465 Ah, craneable	•	•
Ε	Battery compartment for 345-465 Ah, lateral change	0	0
Battery system	Battery compartment for 560-620 Ah, craneable	0	0
ry s	Battery compartment for 560-620 Ah, lateral change	0	0
atte	Battery compartment for Li-Ion-Battery 205-410 Ah	0	0
Δ	Adapter tray for alternative batteries	0	0
	On-board charger	0	0
.≥	Flashing light with protective grille	0	0
Safety	Intelligent LED daytime running light	0	0
S	STILL Safety Light 4Plus	0	0
es —	Power supply for trailers: 12 Volt, 7-pole for 7 different signals	0	0
Additional accessories	Pedestrian mode	0	0
Addin	Hydraulic function for STILL tugger train elements, actuation via contact switch	0	0
ac	Hydraulic function for STILL tugger train elements, actuation by switch	0	0

[●] Standard ○ Optional — Not available





Matriz San Luis Potosí

Carretera Federal 57 Km183 #950 C.P. 78420, San Luis Potosí. S.L.P. Tel: 444 738 01 07 al 10

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info@still.de

STILL is certified in the following areas: Quality management, occupational safetyenvironmental protection and enegymanagement



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