



Logistic Train Solutions

LT06 – LT10 M | LT10 W

Load capacity 0.6 t – 1.0 t | Series 8971

Compact Indoor Train

- Compact logistic train for transporting goods indoors
- Available as W-frames with sloped platform for two-sided loading and unloading or M-frames for ground-level loading and unloading
- The narrow design and manoeuvrable single-axle construction allow for versatile use, even in confined spaces
- The tow tractor can reach high speeds thanks to the low service weight of the attachments
- The frames are available with Linde trolleys or can be adapted to fit the customer's own load carriers

TECHNICAL DATA (according to VDI 2198)

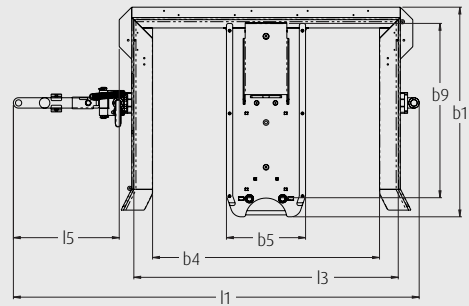
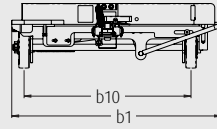
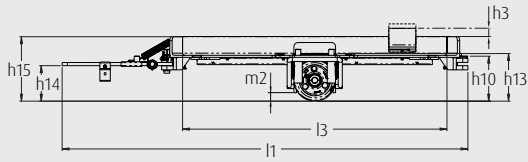
For simplicity, representative models shown. Ask your local contact person for the final data, which may vary depending on the customer-specific scope and configuration.

Characteristics	1.1	Manufacturer	Linde MH	Linde MH	Linde MH	Linde MH	Linde MH	Linde MH	Linde MH
	1.2	Manufacturer's type designation	LT06 M 1xTR1200×800 ¹⁾	LT10 M 1xTR1200×800 ¹⁾	LT10 M 1xTR1200×1000 ²⁾	LT10 M 2xTR800×600 ³⁾	LT10 W 1xTR1200×800 ¹⁾	LT10 W 1xTR1200×1000 ²⁾	LT10 W 3xTR800×600 ⁴⁾
Weights	1.2a	Series	8971	8971	8971	8971	8971	8971	8971
	1.5	Load capacity/Load	Q (t)	0.6	1.0	1.0	1.0 ⁵⁾	1.0	1.0
Wheels/Tyres	1.9	Wheelbase	y (mm)	-	-	-	-	-	-
	2.1	Service weight	kg	158	170	200	254	204	237
Dimensions	3.1	Tyres (solid rubber, super-elastic, pneumatic, polyurethane)	PU	PU	PU	PU	PU	PU	PU
	3.2	Tyre size, front	Ø 200×50	Ø 200×50	Ø 200×50	Ø 200×50	Ø 200×50	Ø 200×50	Ø 200×50
Performance	3.5	Wheels, number front/rear (x = driven)	2	2	2	2	2	2	2
	3.6	Track width, front	b10 (mm)	800	800	1000	845	810	1010
Electric-engine	4.2.1	Total height	h15 (mm)	310/350 ⁷⁾	310/350 ⁷⁾	310/350 ⁷⁾	310/350 ⁷⁾	313/353 ⁷⁾	313/353 ⁷⁾
	4.4	Lift	h3 (mm)	40 ⁸⁾	40 ⁸⁾	40 ⁸⁾	40 ⁸⁾	40 ⁸⁾	40 ⁸⁾
Others	4.4a	Lifting function	hydraulic/ electric ⁹⁾	hydraulic/ electric ⁹⁾	hydraulic/ electric ⁹⁾	hydraulic/ electric ⁹⁾	hydraulic/ electric ⁹⁾	hydraulic/ electric ⁹⁾	hydraulic/ electric ⁹⁾
	4.9	Tiller arm height	h14 (mm)	170/210 ⁷⁾	170/210 ⁷⁾	170/210 ⁷⁾	170/210 ⁷⁾	170/210 ⁷⁾	170/210 ⁷⁾
Performance	4.12	Clutch height	h10 (mm)	185/225 ⁷⁾	185/225 ⁷⁾	185/225 ⁷⁾	185/225 ⁷⁾	185/225 ⁷⁾	185/225 ⁷⁾
	4.15	Height, lowered	h13 (mm)	228	228	228	228	228	228
Electric-engine	4.16	Load bed length	l3 (mm)	1270	1270	1270	1786	1240	2030
	4.17	Overhang length	l5 (mm)	533	533	683	683	533	683
Performance	4.18	Load bed width	b9 (mm)	837	837	1037	834	834	1034
	4.19	Overall length	l1 (mm)	1953	1953	2095	2568	2069	2219
Electric-engine	4.21	Overall width	b1 (mm)	1007	1007	1207	1062	1070	1270
	4.25	Distance between fork arms	b5 (mm)	380 ⁹⁾	380 ⁹⁾	380 ⁹⁾	536 ⁹⁾	350 ⁹⁾	350 ⁹⁾
Others	4.26	Width between load wheel supports/load beds	b4 (mm)	1090	1090	1090	1610	1204	1994
	4.32	Ground clearance, centre of wheelbase	m2 (mm)	25/65 ⁷⁾	25/65 ⁷⁾	25/65 ⁷⁾	25/65 ⁷⁾	0/40 ⁷⁾	0/40 ⁷⁾
Performance	4.33	Load dimensions	b x l (mm)	1x 810 × 1210 ¹⁰⁾ / 1x 630 × 820 ¹²⁾	1x 810 × 1210 ¹⁰⁾ / 1x 630 × 820 ¹²⁾	1x 1010 × 1210 ¹¹⁾ / 1x 630 × 1020 ¹³⁾	2x 630 × 820 ¹²⁾ / 1x 810 × 1210 ¹⁰⁾	1x 810 × 1210 ¹⁰⁾ / 1x 630 × 820 ¹²⁾	1x 1010 × 1210 ¹¹⁾ / 1x 630 × 1020 ¹³⁾
	4.34	Aisle width	Ast (mm)	4900 ¹⁴⁾	4900 ¹⁴⁾	5200 ¹⁴⁾	7200 ¹⁴⁾	4900 ¹⁴⁾	5200 ¹⁴⁾
Performance	4.34b	Aisle width for 90° curve	Ast1 (mm)	3260 ¹⁴⁾	3260 ¹⁴⁾	3460 ¹⁴⁾	3820 ¹⁴⁾	3320 ¹⁴⁾	3520 ¹⁴⁾
	4.35	Turning radius	Wa (mm)	1950 ¹⁴⁾	1950 ¹⁴⁾	2100 ¹⁴⁾	3100 ¹⁴⁾	1950 ¹⁴⁾	2100 ¹⁴⁾
Electric-engine	5.1	Travel speed, with/without load	km/h	15 ¹⁵⁾	15 ¹⁵⁾	15 ¹⁵⁾	15 ¹⁵⁾	15 ¹⁵⁾	15 ¹⁵⁾
	5.2	Lifting speed, with/without load	m/s	0.01	0.01	0.01	0.01	0.01	0.01
Performance	5.7	Climbing ability, with/without load	%	7.0 ¹⁶⁾	7.0 ¹⁶⁾	7.0 ¹⁶⁾	7.0 ¹⁶⁾	7.0 ¹⁶⁾	7.0 ¹⁶⁾
	6.2	Lift motor rating at S3 15%	kW	0.4 ⁸⁾	0.4 ⁸⁾	0.4 ⁸⁾	0.4 ⁸⁾	0.4 ⁸⁾	0.4 ⁸⁾
Others	10.8	Towing coupling, design/type, DIN 15 170		Ø 25/Ø 30 ¹⁷⁾	Ø 25/Ø 30 ¹⁷⁾	Ø 25/Ø 30 ¹⁷⁾	Ø 25/Ø 30 ¹⁷⁾	Ø 25/Ø 30 ¹⁷⁾	Ø 25/Ø 30 ¹⁷⁾

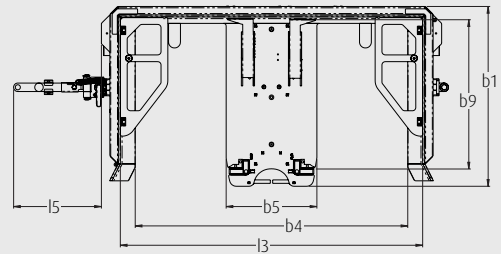
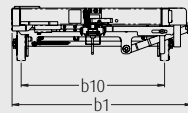
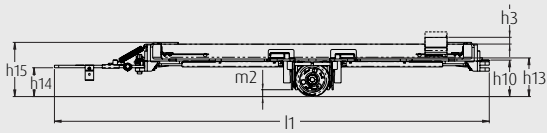
- 1) Frame design for transport of either one Linde trolley TR1200×800 or one Linde trolley TR800×600 with one frame
- 2) Frame design for transport of either one Linde trolley TR1200×1000 or one Linde trolley TR1000×600 with one frame
- 3) Frame design for transport of either two Linde trolleys TR800×600 or one Linde trolley TR1200×800 with one frame
- 4) Frame design for transport of either three Linde trolleys TR800×600 or one Linde trolley TR1200×800 with one frame
- 5) Two storage locations. Max. load capacity of the left/right storage location = 300 kg. Max. load capacity of the central storage location = 1000 kg. With double loading, trolleys must not weigh more than 300 kg
- 6) Three storage locations. Max. load capacity of the left/right storage location = 300 kg. Max. load capacity of the central storage location = 1000 kg. In the case of triple loading, trolleys must not weigh more than 300 kg
- 7) When lowered/raised
- 8) After lifting has been initiated, the complete frame together with load handling equipment is hydraulically raised by 40 mm. There is the option of an electric lifting function available (lift motor). Free lift with LT M = 7 mm, with LT W = 0 mm

- 9) LT M: Central load handling equipment; LT W: Middle block
- 10) Load bed dimensions b9×l3 of the Linde trolley TR1200×800 = 810×1210 mm (external dimensions b1×l1 incl. catch edges = 860×1260 mm)
- 11) Load bed dimensions b9×l3 of the Linde trolley TR1200×1000 = 1010×1210 mm (external dimensions b1×l1 incl. catch edges = 1060×1260 mm)
- 12) Load bed dimensions b9×l3 of the Linde trolley TR800×600 = 630×820 mm (external dimensions b1×l1 incl. catch edges = 680×870 mm)
- 13) Load bed dimensions b9×l3 of the Linde trolley TR1000×600 = 630×1020 mm (external dimensions b1×l1 incl. catch edges = 680×1070 mm)
- 14) For four frames in combination with a P60 C, series 4595. Ast values = incl. safety distance of 1000 mm (a/2 = 500 mm on each side)
- 15) Depending on the tow tractor in use
- 16) Do not exceed 6 km/h when operating on ramps. Ramps up to 7% can be driven on without a radius. Gradients in excess of 7% must be examined as part of the specific project
- 17) Logistic train tiller system for LT M and LT W. Frames are connected to the tow tractor (two-stage coupling) with a Ø 25 mm bolt and are connected to each other using a Ø 30 mm bolt

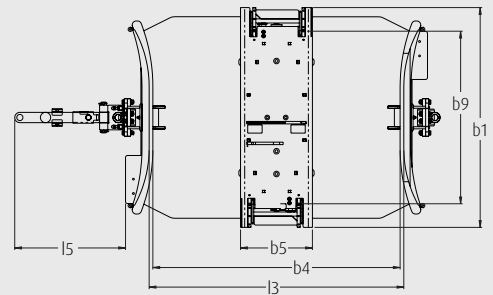
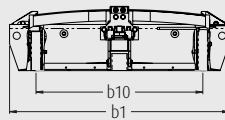
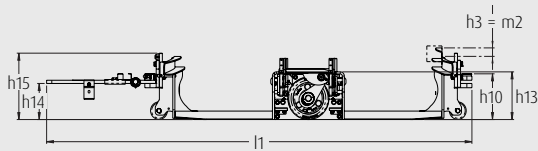
LT06 M / LT10 M (1xTR1200×800 / 1xTR1200×1000)



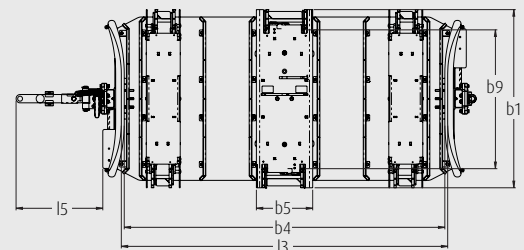
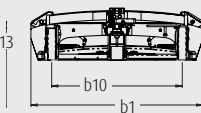
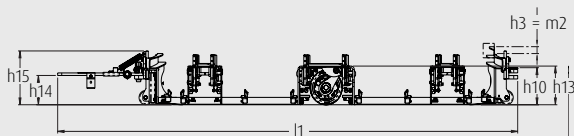
LT10 M (2xTR800×600)



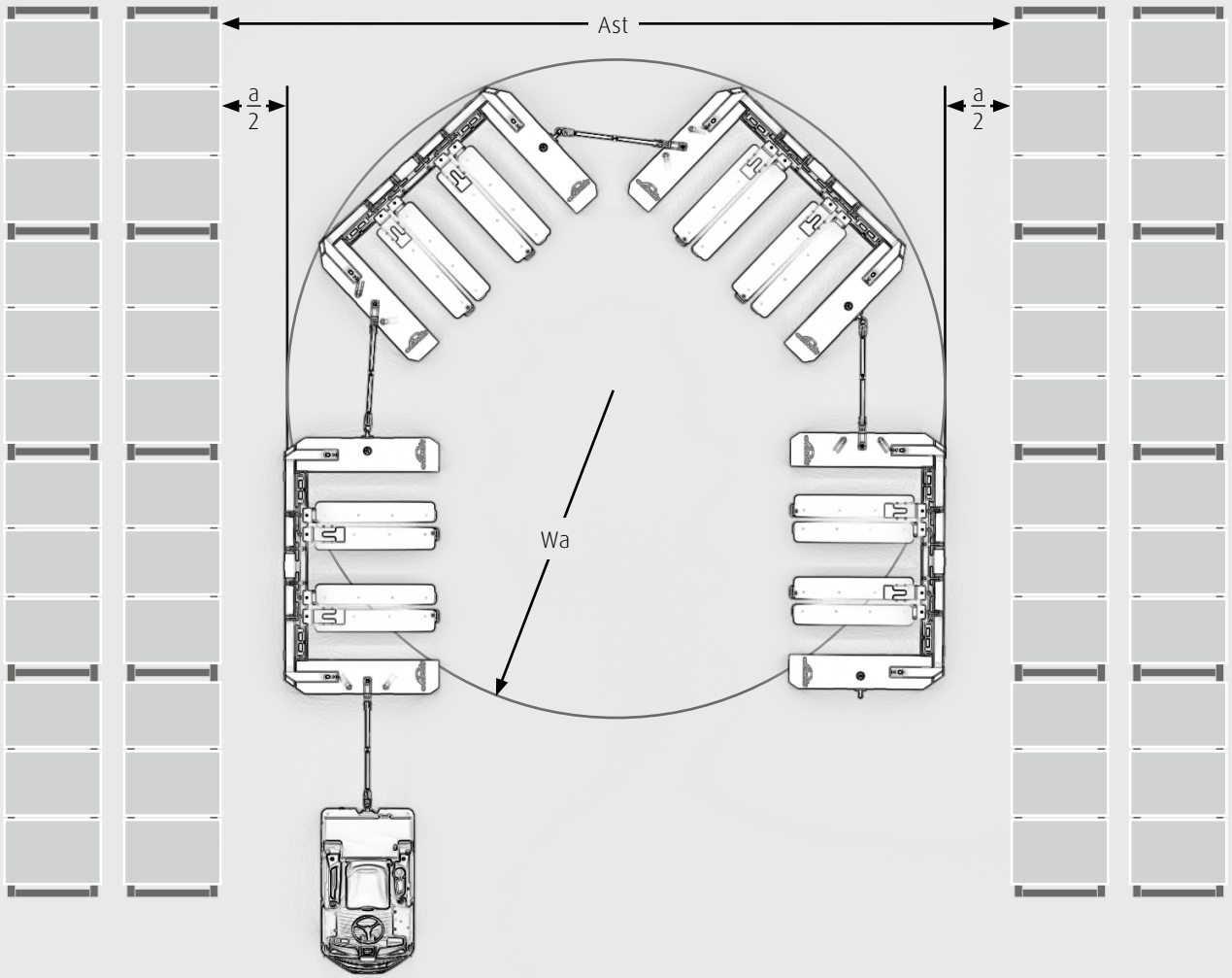
LT10 W (1xTR1200×800 / 1xTR1200×1000)



LT10 W (3xTR800×600)



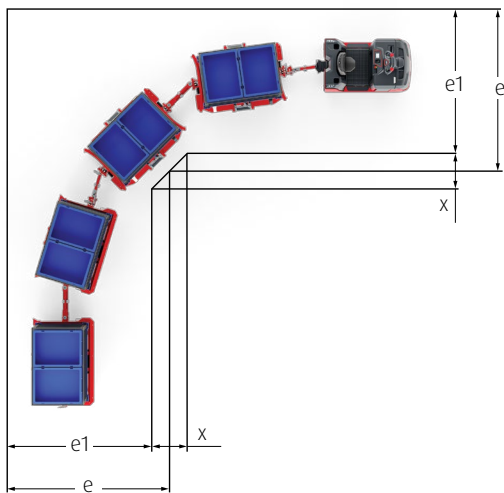
AST



AISLE WIDTHS

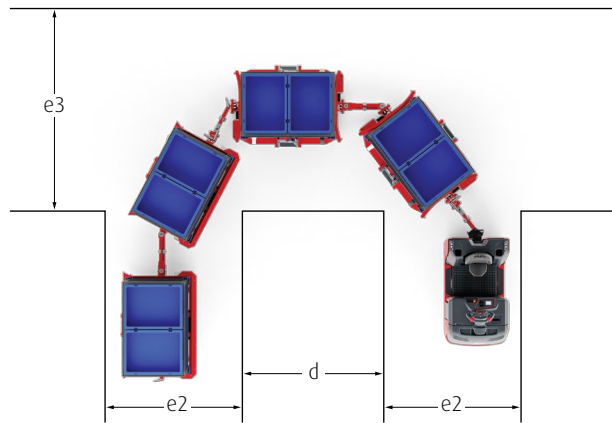
Frame type	Frame size	Frames per train	Loads per train	Train length (mm)	e (mm) ¹⁾	e1 (mm) ¹⁾	x (mm)	e2 (mm) ¹⁾	e3 (mm) ¹⁾	d (mm)	e4 (mm) ²⁾³⁾⁴⁾
LT06 M	1xTR1200×800	2	2	5322 ²⁾ /5676 ³⁾	2010	2010	0	2200 ²⁾ /2400 ³⁾	2000	2000	2900
		4	4	9118 ²⁾ /9472 ³⁾	2260	2010	500	3000 ²⁾ /3200 ³⁾	2000	2000	2900
LT10 M	1xTR1200×800	2	2	5322 ²⁾ /5676 ³⁾	2010	2010	0	2200 ²⁾ /2400 ³⁾	2000	2000	2900
		4	4	9118 ²⁾ /9472 ³⁾	2260	2010	500	3000 ²⁾ /3200 ³⁾	2000	2000	2900
	1xTR1200×1000	2	2	5622 ²⁾ /5976 ³⁾	2210	2210	0	2500 ²⁾ /2700 ³⁾	2300	2000	3300
		4	4	9718 ²⁾ /10072 ³⁾	2460 ²⁾ /2710 ³⁾	2210	500 ²⁾ /1000 ³⁾	3300 ²⁾ /3500 ³⁾	2300	2000	3300
	2xTR800×600	2	4/2 ⁵⁾	6864 ²⁾ /7218 ³⁾	2320	2070	500	2500 ²⁾ /2600 ³⁾	2500	2000	2950
		4	8/4 ⁵⁾	12202 ²⁾ /12556 ³⁾	2820	2070	1500	3500 ²⁾ /3600 ³⁾	2500	2000	2950
LT10 W	1xTR1200×800	2	2	5565 ²⁾ /5919 ³⁾	2070	2070	0	2200 ²⁾ /2400 ³⁾	2000	2000	2950
		4	4	9604 ²⁾ /9958 ³⁾	2320	2070	500	3000 ²⁾ /3200 ³⁾	2000	2000	2950
	1xTR1200×1000	2	2	5865 ²⁾ /6219 ³⁾	2270	2270	0	2500 ²⁾ /2700 ³⁾	2000	2000	3350
		4	4	10204 ²⁾ /10558 ³⁾	2520 ²⁾ /2770 ³⁾	2270	500	3300 ²⁾ /3500 ³⁾	2000	2000	3350
	3xTR800×600	2	6/2 ⁵⁾	7145 ²⁾ /7499 ³⁾	2570	2070	1000	2700 ²⁾ /2800 ³⁾	2700	2000	2950
		4	12/4 ⁵⁾	12764 ²⁾ /13118 ³⁾	3070	2070	2000	3700 ²⁾ /3800 ³⁾	2700	2000	2950

90° CURVES



e = Aisle width without corner modification
 e1 = Aisle width with corner modification
 x = Inward modification of corners

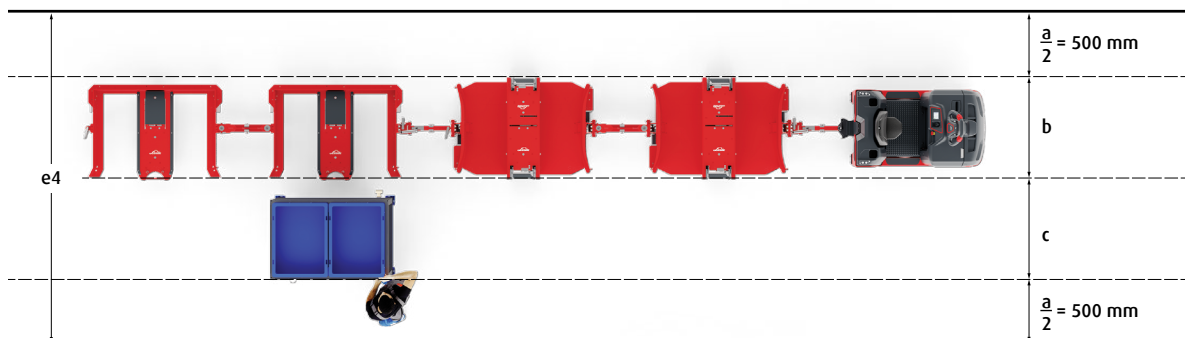
180° CURVES



e2 = Aisle width before/after a 180° curve
 e3 = Aisle width when negotiating a 180° curve
 d = Distance between aisles

LOADING AND UNLOADING ZONES

e4 = Required aisle width for loading and unloading process
 a = Added margin + added for handling
 b = Width of logistic train incl. play
 c = Trolley dimensions incl. play



- Without oncoming traffic and without safety distance. We suggest maintaining a safety distance of 1000 mm ($a/2 = 500$ mm on each side). Recommendation: The longer the train, the larger the safety distance required to mitigate any potential uncertainty resulting from driver operation
- In combination with P40-P60 C and P40 C B of series 4595. Note: Values are calculated; final values may vary slightly
- In combination with P60-P80 of series 1191. Note: Values are calculated; final values may vary slightly
- Recommendation: $e4 = a + b + c$. With no oncoming traffic and no overtaking
- Frame design for transport of either two Linde trolleys TR800×600 or one Linde trolley TR1200×800 with one frame
- Frame design for transport of either three Linde trolleys TR800×600 or one Linde trolley TR1200×800 with one frame

LOGISTIC TRAIN SYSTEM OVERVIEW

TOW TRACTORS

P20



P40-P60 C | P40 C B



P60-P80



P120-P350



FRAMES

M-frame



LT06 M



LT10 M

LT10 M for 2xTR



LT10 W



LT10 W for 3xTR

C-frame



LT10 C

LT20 C

B-frame



LT10 B

BM-frame



LT10 BM

LT16 BM

Ch-frame



LT16 Ch



LT16 Ch WP

BMh-frame



LT16 BMh

TROLLEYS

TR trolleys
with modular racking structures

BR trolleys
with modular racking structures



TR800×600



TR1200×800



TR1200×1000



TR1600×1200



BR1200×800



BR1200×1000



STANDARD AND OPTIONAL EQUIPMENT

Manufacturer's type designation/Equipment		LT06 M	LT10 M	LT10 W
Safety	Mechanical load securing with automatic interlock after insertion	●	●	●
	Redundant load securing: An additional lock is activated during lift	—	—	●
	Traction interlocked when trolley lift in lowered position.	●	●	●
	Lifting and lowering function deactivated when train is in motion	●	●	●
	Single-axle system with two wheels for compact design and improved trailing action	●	●	●
	Weather protection with one or two opening(s) to secure the load during outdoor use (RAL 7021)	○	○	○
	Weather protection labelling (safety features or customer logo)	○	○	○
	Anti-slip mats on load-bearing surfaces	○	○	○
	Foot guards on right and left	○	○	●
	Safety flags (2x) for visibility and to help with orientation during the loading process	○	○	○
Fall protection (2x) between the frames	○	○	○	
Service	Low-maintenance tiller and coupling system	●	●	●
	Maintenance-free hydraulic lifting system with synchronised lifting via both wheels ¹⁾	●	●	●
	Maintenance-free electric lifting system (patented) with synchronised lifting via both wheels ¹⁾	—	○	○
	Frame-specific spare parts list accessible by scanning the QR code on the identification plate	●	●	●
Operation/Load Handling	Tiller system for even number of frames in one train (2/4 frames) ²⁾	●	●	●
	Tiller system for odd number of frames in one train (e.g. 3 frames) ³⁾	○	○	○
	Ground-level loading and unloading	●	●	—
	Trolleys loaded from one side	●	●	●
	Trolleys can be loaded from either side	—	—	●
	Unloading of trolleys in the direction of the operator	●	●	●
	Integrated ejection mechanism to provide ergonomic support during the unloading process	●	●	—
	Ergonomic support during the loading and unloading process thanks to sloped platform	—	—	●
	Opening side on the left in the drive direction ⁴⁾	●	●	●
	Opening side on the right in the drive direction ⁴⁾	○	○	●
	Linde trolleys in various designs for use with logistic train frames	○	○	○
	Frame size for 1x Linde trolley TR1200×800/1x Linde trolley TR800×600 ⁵⁾	●	●	●
	Frame size for 1x Linde trolley TR1200×1000/1x Linde trolley TR1000×600 ⁵⁾	○	○	○
	Frame size for 2x Linde trolleys TR800×600/1x Linde trolley TR1200×800 ⁶⁾	○	○	—
	Frame size for 2x Linde trolleys TR1000×600/1x Linde trolley TR1200×1000 ⁶⁾	○	○	—
	Frame size for 3x Linde trolleys TR800×600/1x Linde trolley TR1200×800 ⁷⁾	—	—	○
	Frame size for 3x Linde trolleys TR1000×600/1x Linde trolley TR1200×1000 ⁷⁾	—	—	○
	Non-standard frame sizes for customer-specific trolleys upon request	○	○	○
	Lift height of 40 mm: Lifting of load by 33 mm in addition to free lift	●	●	—
	Lift height of 40 mm: Lifting of platform, including load, by 40 mm	—	—	●
Lift height of 60 mm: Lifting of load by 53 mm in addition to free lift	○	○	—	
Lift height of 60 mm: Lifting of platform, including load, by 60 mm	—	—	○	
Automatic mode: Lifting/lowering of all frames as soon as operator enters/exits the tow tractor	●	●	●	
Connection hose with shut-off cock for decoupling and coupling of frames when lifted	○	○	○	
Logistic Train Controller (Software) with step-by-step support for dynamic routing processes ⁸⁾	○	○	○	
Electronics	Low-noise and low-maintenance lift motor (1x) for electric lifting function	○	○	○
	Modular plug-and-play connection for electric lift (protection type IP54)	○	○	○
Attachments	Central load handling equipment with side insertion profiles: Locking and lifting the trolley	●	●	—
	Sloped platform with side insertion profiles: Lifting the platform, including the trolley	—	—	●
Tyres	Polyurethane tyres (PU; Shore hardness of 75) Ø 200 × 50, non-marking (colour: red)	●	●	●
	Polyurethane tyres (PU; Shore hardness of 92) Ø 200 × 60, for increased load capacity	○	○	○
	Optional electrostatic discharge tyres (ESD)	○	○	—
Drive System	Frame compatibility: Use of LT M and LT W in one train	●	●	●
	Compatibility with Linde tow tractors P40-P60 C, P40 C B and P60-P80 with appropriate preparation	○	○	○
Lighting	Tail lights (2x) - turn indicator, reverse, brake and number plate light (ISO 1724)	○	○	○

● Standard equipment ○ Optional equipment — Not available

- 1) After lifting has been initiated, the complete frame together with load handling equipment is raised
- 2) The standard tiller system is comprised of one articulated tiller and one fixed tiller per pair and requires an even number of frames (two or four frames). Driving on ramps is possible with this combination
- 3) For an odd number of frames, there is an optional tiller system comprising an initial articulated tiller and fixed tillers between the frames. Important: Driving on ramps is not possible with this combination
- 4) For LT M: Retrospective modification by service technicians is possible
- 5) Flexibility: Handling of either one large trolley or one small trolley with one frame
- 6) Flexibility: Handling of either one large or two small trolleys (two storage locations) with one frame. Max. load capacity of the left/right storage location is 300 kg each. Max. load capacity of the central storage location is 1000 kg. With double loading, trolleys must not weigh more than 300 kg
- 7) Flexibility: Handling of either one large or three small trolleys (three storage locations) with one frame. Max. load capacity of the left/right storage location is 300 kg each. Max. load capacity of the central storage location is 1000 kg. In the case of triple loading, trolleys must not weigh more than 300 kg
- 8) Consulting, designing solutions and implementation as part of a separate project

CHARACTERISTICS



Optional safety flags and fall protection for increased safety

Safety

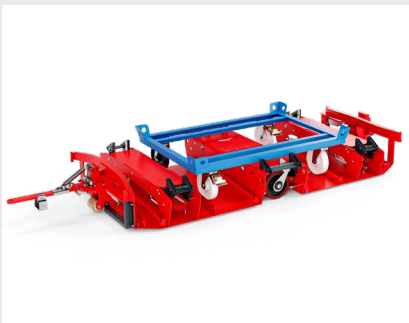
- Lowering interlocked during travel and traction interlocked when frames are lowered for safe handling
- Loading frame with patented fastener for reliable securing of the load
- Redundant load securing of the W-frame for double the safety while transporting goods
- Optional electric lift for increased safety and quieter operation
- Accessories such as safety flags and weather protection for optimum protection of the load



Unlocking with ergonomic ejection mechanism for LT M

Ergonomics

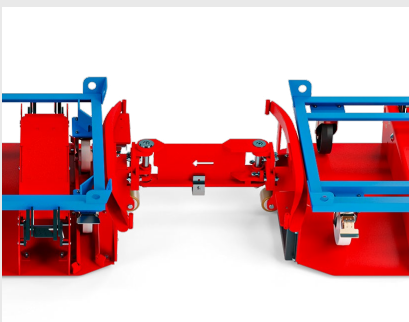
- Ground-level loading and unloading with the M-frame and sloped platform of the W-frame takes pressure off the operator
- Automatic interlock of the loading frame reduces time and effort
- Unlocking device at an ergonomic height for convenient foot operation
- Ergonomic ejection mechanism on the M-frame for fast and effortless handling



Loading and unloading on both sides with LT W

Handling

- M-frame for lighter loads and W-frame with loading and unloading on both sides for versatility
- Compact single-axle design for high flexibility and dynamic driving performance in tight indoor spaces
- Low-weight load frame allows the tow tractor to reach higher speeds
- Automatic lifting and lowering of the load frame ensures fast load handling
- Responsive positioning guides for fast and easy handling of trolleys



Low-maintenance tiller system

Service

- Simple frame design with few components minimises servicing time and effort, reducing maintenance costs
- Maintenance-free tiller system for minimal service requirement and seamless functioning
- Service-friendly locking device for quick maintenance
- Optional electric lift with just one lift motor per frame for low maintenance costs

Presented by:

Subject to modification in the interest of progress. Illustrations and technical specifications could include options and are not binding for actual constructions. All dimensions subject to usual tolerances.



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