

GX-X/GX-Q Technical Data

Stacker with Turret Head/Telescopic Fork



GX-X

GX-Q

GX-X Racking truck with turret head						
Characteristics	1.1	Manufacturer			STILL	STILL
	1.2	Manufacturer's model designation			GX-X Telescopic mast	GX-X Triplex mast
	1.3	Drive			Electric	Electric
	1.4	Control			Stand-on/Seated	Stand-on/Seated
	1.5	Capacity/load	Q	kg	1350	1350
	1.6	Load centre	c	mm	600	600
Weights	1.9	Wheel base	y	mm	1811	1943
	2.1	Truck weight (incl. battery)		kg	5987*	6938*
	2.2	Axle load laden	drive end/load end	kg	1740/5597*	2103/6185*
Wheels	2.3	Axle load unladen	drive end/load end	kg	2280/3707*	2596/4343*
	3.1	Tyres			Polyurethane	
	3.2	Tyre size	drive end	mm	∅ 360/140	∅ 360/140
	3.3	Tyre size	load end	mm	∅ 370/160	∅ 370/160
	3.5	Number of wheels (x = driven wheel)	drive end/load end		1x/2	1x/2
	3.6	Track width, front	b ₁₀	mm	1290	1290
Dimensions	3.7	Track width, rear	b ₁₁	mm	0	0
	4.2	Height, mast lowered	h ₁	mm	3400	3400
	4.3	Free lift	h ₂	mm	-	2150
	4.4	Lift	h ₃	mm	4200	6350
	4.5	Height, mast raised	h ₄	mm	5650*	7800*
	4.7	Height over overhead guard (cab)	h ₆	mm	2200	2200
	4.8	Standing height, lowered	h ₇	mm	1050	1050
	4.15	Height lowered	h ₁₃	mm	60	60
	4.19	Overall length (incl. forks)	l ₁	mm	3100*	3232*
	4.21	Overall width load wheel axle	b ₁ /b ₂	mm	1250/1500	1250/1500
	4.22	Fork dimensions	s/e/l	mm	50/120/1200	50/120/1200
	4.24	Fork carriage width	b ₃	mm	710	710
	4.25	Overall fork width	min./max.	mm	470/640	470/640
	4.27	Width over guide rollers	b ₆	mm	1645	1645
	4.29	Side shift	b ₇	mm	1308	1308
	4.31	Floor clearance under mast, laden	m ₁	mm	40	40
	4.32	Floor clearance, centre of wheel base	m ₂	mm	80	80
	4.34	Working aisle width	A _{st}	mm	variable*	variable*
	4.35	Turning radius	W _a	mm	variable*	variable*
4.38	Distance to turret head pivot point	l _a	mm	variable*	variable*	
4.39	Length of traverse arm	A	mm	variable*	variable*	
4.40	Width, side-shift carriage	B	mm	variable*	variable*	
4.41	Width of traverse arm	F	mm	variable*	variable*	
4.42	Transfer aisle width, min	A _u	mm	variable*	variable*	
Performance	5.1	Travel speed	laden/unladen	km/h	variable*	variable*
	5.2	Hoist speed	laden/unladen	m/s	variable*	variable*
	5.3	Lowering speed	laden/unladen	m/s	variable*	variable*
	5.4	Side-shift speed	laden/unladen	m/s	variable*	variable*
	5.9	Acceleration time (over 10 m)	laden/unladen	s	variable*	variable*
	5.10	Service brake			Generator	
Electric engine	6.1	Drive motor, rating		kW	6.5 kW/S2 = 60 min	
	6.2	Hoist motor, rating		kW	24 kW/S3 = 15%*	
	6.3	Battery to IEC 254-2 A, B, C, No			IEC 254-2; C	
	6.4	Battery type, voltage, Rated capacity C ₅		V/Ah	PzS, 48 V, 1120 Ah	
	6.5	Battery weight ±5% (depends on make)		kg	1688	
Misc.	8.1	Drive control			Microprocessor	
	8.4	Sound level, driver's ear		dB(A)	68	

Figures can vary by ±10%. The calculated drive profiles are based on our floor guidelines. Subject to technical changes.

* The figures are scaleable and conform to the customer's individual requirements

Telescopic mast "light" with turret head

(all heights given in mm)

Type ¹	Total lift from floor	Total lift	Main lift	Height lowered	Aux. lift ²	Greatest height ³
Overall height h_1	$h_{25} (h_3 + h_9 + h_{13})$	$h_{24} (h_3 + h_9)$	h_3	h_{13}	h_9	$h_4 (h_3 + 2200)$
4900	8655	8595	7600	60	995	9800
4400	7655	7595	6600	60	995	8800
3900	6655	6595	5600	60	995	7800
3400	5655	5595	4600	60	995	6800
2900	4655	4595	3600	60	995	5800
2400	3655	3595	2600	60	995	4800
2200	3255	3195	2200	60	995	4400

Telescopic mast with turret head

(all heights given in mm)

Type ¹	Total lift from floor	Total lift	Main lift	Height lowered	Aux. lift ²	Greatest height ³
Overall height h_1	$h_{25} (h_3 + h_9 + h_{13})$	$h_{24} (h_3 + h_9)$	h_3	h_{13}	h_9	$h_4 (h_3 + 2200)$
4900	8255	8195	7200	60	995	9400
4400	7255	7195	6200	60	995	8400
3900	6255	6195	5200	60	995	7400
3400	5255	5195	4200	60	995	6400
2900	4255	4195	3200	60	995	5400
2400	3255	3195	2200	60	995	4400
2200	2855	2795	1800	60	995	4000

Triplex mast with turret head

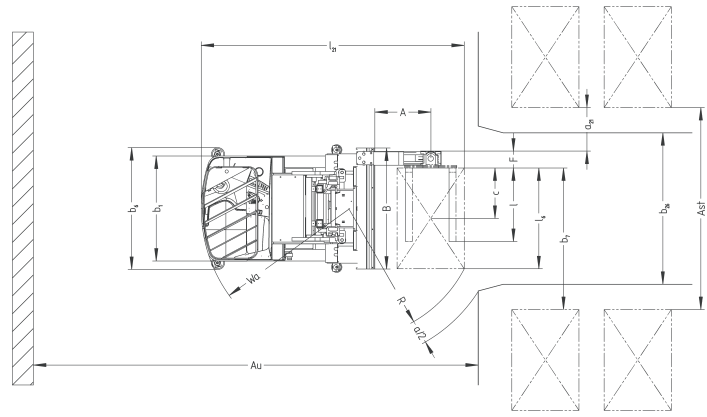
(all heights given in mm)

Type ¹	Total lift from floor	Total lift	Main lift	Free lift	Height lowered ¹	Aux. lift ²	Greatest height ³
Overall height h_1	$h_{25} (h_3 + h_9 + h_{13})$	$h_{24} (h_3 + h_9)$	h_3	h_2	h_{13}	h_9	$h_4 (h_3 + 2200)$
3900	8505	8445	7450	2650	60	995	9650
3400	7405	7345	6350	2150	60	995	8550
2900	6105	6045	5050	1650	60	995	7250
2400	4605	4545	3550	1150	60	995	5750
2200	4005	3945	2950	950	60	995	5150

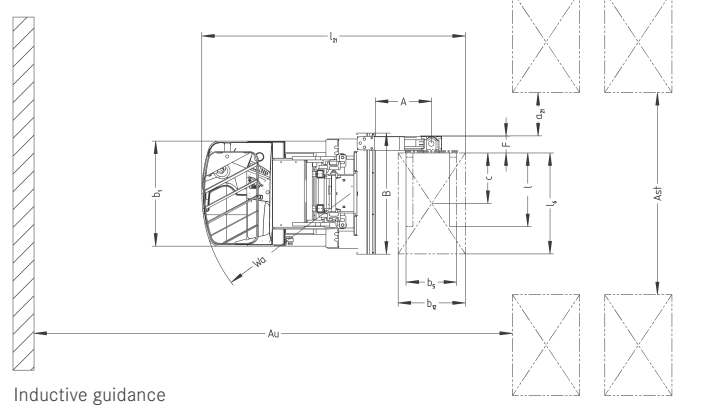
¹ Intermediate overall heights on request

² No intermediate lift is used: $h_9 = 0$ mm

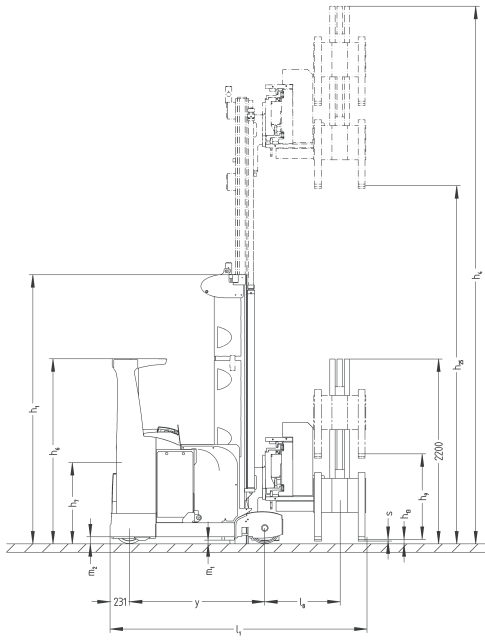
³ Without auxiliary lift the attachment overall height is 1,450 mm



Rail guidance



Inductive guidance





GX-Q Racking truck with Telescopic Forks						
Characteristics	1.1	Manufacturer			STILL	STILL
	1.2	Manufacturer's model designation			GX-Q Telescopic mast	GX-Q Triplex mast
	1.3	Drive			Electric	Electric
	1.4	Control			Stand-on/Seated	Stand-on/Seated
	1.5	Capacity/load	Q	kg	1250	1250
	1.6	Load centre	c	mm	600	600
	1.9	Wheel base	y	mm	1811	1943
Weights	2.1	Truck weight (incl. battery)		kg	5848*	6799*
	2.2	Axle load laden	drive end/load end	kg	1864/5234*	2217/5832*
	2.3	Axle load unladen	drive end/load end	kg	2344/3504*	2654/4145*
Wheels	3.1	Tyres			Polyurethane	
	3.2	Tyre size	drive end	mm	∅ 360/140	∅ 360/140
	3.3	Tyre size	load end	mm	∅ 370/160	∅ 370/160
	3.5	Number of wheels (x = driven wheel)	drive end/load end		1x/2	1x/2
	3.6	Track width, front	b ₁₀	mm	1240	1240
	3.7	Track width, rear	b ₁₁	mm	0	0
	Basic dimensions	4.2	Height, mast lowered	h ₁	mm	3400
4.3		Free lift	h ₂	mm	-	2150
4.4		Lift	h ₃	mm	4200	6350
4.5		Height, mast raised	h ₄	mm	5500*	7600
4.7		Height over overhead guard (cab)	h ₆	mm	2200	2200
4.8		Standing height, lowered	h ₇	mm	1050	1050
4.15		Height lowered	h ₁₃	mm	380	380
4.19		Overall length (incl. forks)	l ₁	mm	3487*	3619*
4.21		Overall width load wheel axle	b ₁ /b ₂	mm	1250/1450	1250/1450
4.22		Fork dimensions	s/e/l	mm	65/174/1200	65/174/1200
4.24		Fork carriage width	b ₃	mm	1165	1165
4.25		Overall fork width	min./max. b ₅	mm	545/545	545/545
4.27		Width over guide rollers	b ₆	mm	1595	1595
4.29		Side shift	b ₇	mm	1400	1400
4.31		Floor clearance under mast, laden	m ₁	mm	40	40
4.32		Floor clearance, centre of wheel-base	m ₂	mm	80	80
4.34		Working aisle width	A _{st}	mm	variable*	variable*
4.35	Turning radius	W _a	mm	variable*	variable*	
4.38	Distance Telescopic forks - mid-point	l _a	mm	variable*	variable*	
4.39	Length of Telescopic fork bed	A	mm	variable*	variable*	
4.40	Width, side-shift carriage	B	mm	variable*	variable*	
4.42	Transfer aisle width, min	A _w	mm	variable*	variable*	
Performance	5.1	Travel speed	laden/unladen	km/h	variable*	variable*
	5.2	Hoist speed	laden/unladen	m/s	variable*	variable*
	5.3	Lowering speed	laden/unladen	m/s	variable*	variable*
	5.4	Side-shift speed	laden/unladen	m/s	variable*	variable*
	5.9	Acceleration time (over 10 m)	laden/unladen	s	variable*	variable*
	5.10	Service brake			Generator	
E-Motor	6.1	Drive motor, rating		kW	6.5 kW/S2 = 60 min	
	6.2	Hoist motor, rating		kW	24 kW/S3 = 15%*	
	6.3	Battery to IEC 254-2 A, B, C, No			IEC 254-2; C	
	6.4	Battery type, voltage, Rated capacity C ₅		V/Ah	PzS, 48 V, 1120 Ah	
	6.5	Battery weight ±5% (depends on make)		kg	1688	
Misc.	8.1	Drive control			Microprocessor	
	8.4	Sound level, driver's ear		dB(A)	68	

Figures can vary by ±10%. The calculated drive profiles are based on our floor guidelines. Subject to technical changes.

* The figures are scaleable and conform to the customer's individual requirements

Telescopic mast "light" with telescopic forks

(all heights given in mm)

Type ¹	Total lift from floor	Total lift	Main lift	Height lowered	Greatest height
Overall height h_1	$h_{25} (h_3 + h_9 + h_{13})$	$h_{24} (h_3 + h_9)$	h_3	h_{13}	h_4
4900	7980	7600	7600	380	8700
4400	6980	6600	6600	380	7700
3900	5980	5600	5600	380	6700
3400	4980	4600	4600	380	5700
2900	3980	3600	3600	380	4700
2400	2980	2600	2600	380	3700
2200	2580	2200	2200	380	3300

Telescopic mast with telescopic forks

(all heights given in mm)

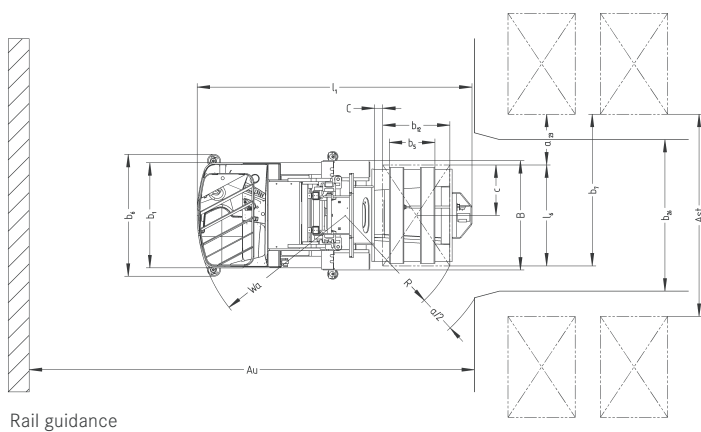
Type ¹	Total lift from floor	Total lift	Main lift	Height lowered	Greatest height
Overall height h_1	$h_{25} (h_3 + h_9 + h_{13})$	$h_{24} (h_3 + h_9)$	h_3	h_{13}	h_4
4900	7580	7200	7200	380	8500
4400	6580	6200	6200	380	7500
3900	5580	5200	5200	380	6500
3400	4580	4200	4200	380	5500
2900	3580	3200	3200	380	4500
2400	2580	2200	2200	380	3500
2200	2180	1800	1800	380	3100

Triplex mast with telescopic forks

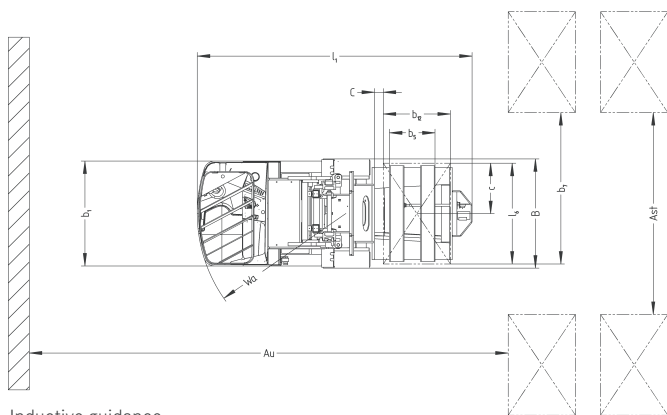
(all heights given in mm)

Type ¹	Total lift from floor	Total lift	Main lift	Free lift	Height lowered ¹	Greatest height
Overall height h_1	$h_{25} (h_3 + h_9 + h_{13})$	$h_{24} (h_3 + h_9)$	h_3	h_2	h_{13}	h_4
3900	7830	7450	7450	2650	380	8700
3400	6730	6350	6350	2150	380	7600
2900	5430	5050	5050	1650	380	6300
2400	3930	3550	3550	1150	380	4800
2200	3330	2950	2950	950	380	4200

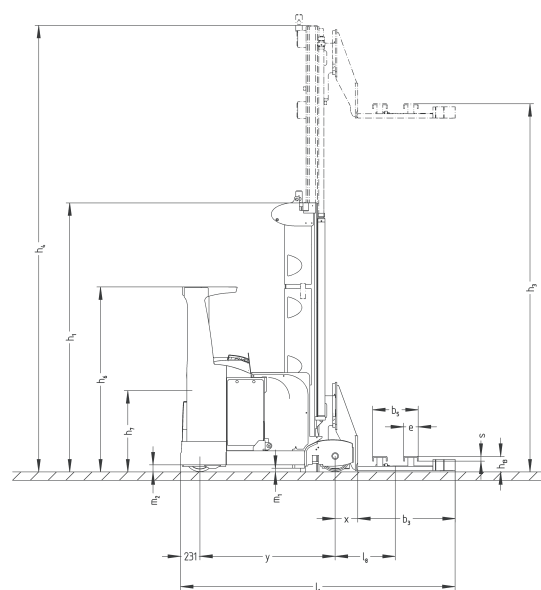
¹ Intermediate overall heights on request



Rail guidance



Inductive guidance

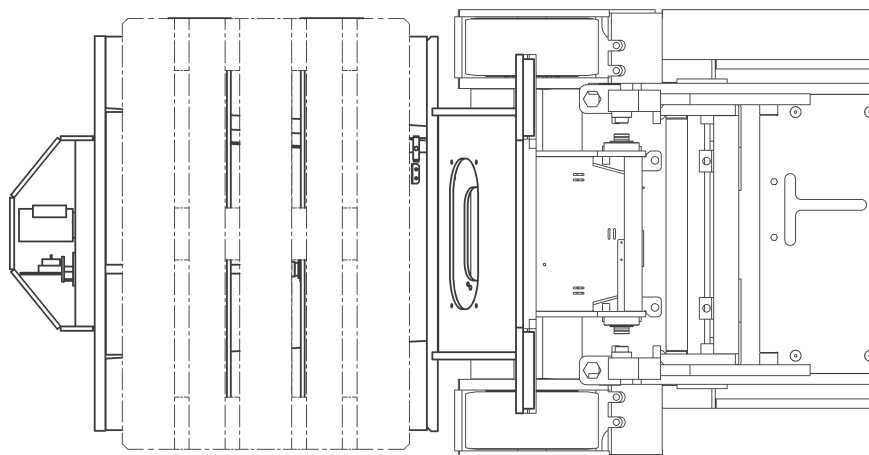
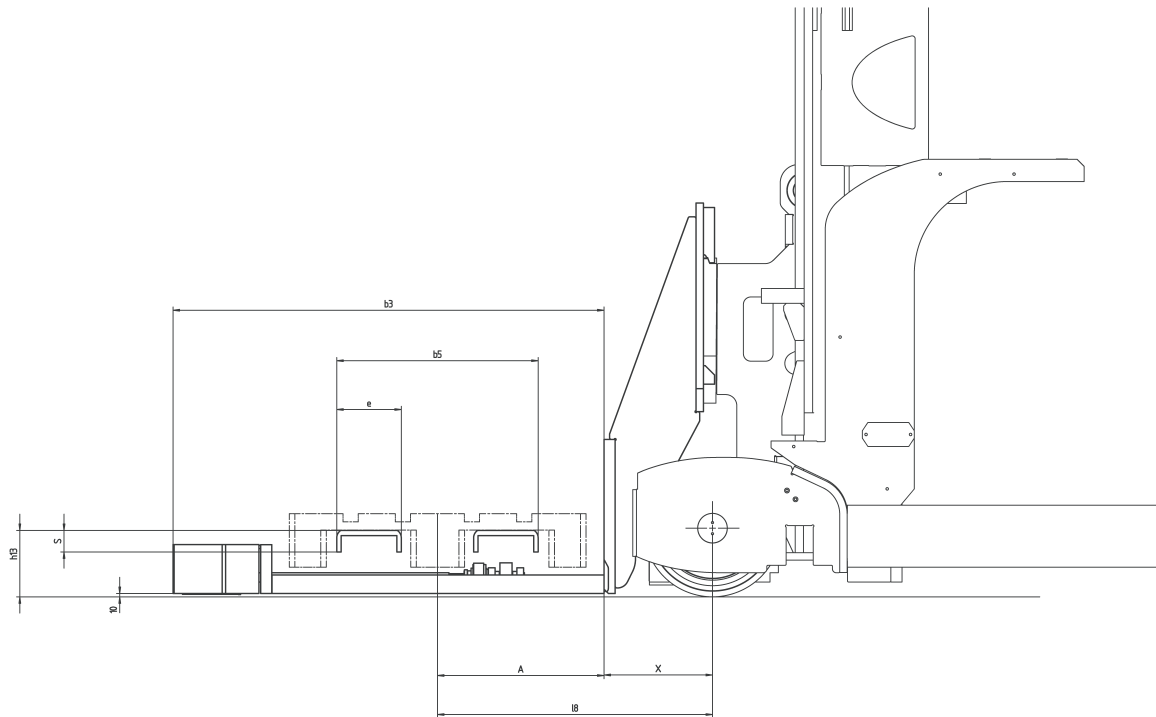


Telescopic forks

Two versions $h_{13} = 180 \text{ mm}$ or $h_{13} = 380 \text{ mm}$

							$a_{21} = 90 \text{ mm}$		
$l_6 \times b_{12}$ pallet	A	a_{22}	x	l_8	b_3	b_7	A_{st}	$A_u \text{ min.}$	Q max.
1200 x 800	450	50	298	748	1165	1350	1380	variable*	1250
1200 x 1000	550	50	298	848	1365	1350	1380	variable*	1000
1200 x 1200	650	50	298	948	1565	1350	1380	variable*	800
1240 x 835	450	30	298	748	1165	1400	1420	variable*	1250
1300 x 1300	700	50	298	998	1665	1450	1480	variable*	800

* The figures are scaleable and conform to the customer's individual requirements



Racking truck with turret head/telescopic forks

STILL presents the modern and futuristic GX-X with OPTISPEED.

Here are the features for this generation of trucks:

- Modular build design.
- Flexible in use.
- Scalable dimensions and performance.
- Ergonomic work station.
- High handling capacity.
- Low energy consumption.
- Low operating costs.
- Innovative OPTISPEED concept is ahead of its time.

Driver's compartment

- Roomy driver's compartment with adjustable controls and great leg room. For added safety, the driver is always kept within the contours of the truck.
- Damped driver's compartment (optional) greatly reduces impacts and shocks from uneven floors, significantly reducing operator back problems and subsequent absenteeism.
- Proportional seat and floor plate adjustment with electrical rail adjustment (optional) provides ergonomic adjustment of the controls for the best view onto the fork tips, whatever the physique.
- Luxury tilting seat with individual weight and horizontal adjustments is gentle on the neck when looking upwards at the load, or when looking around the side of the mast.
- Open steps enable trouble free entry and exit.
- Individual storage facilities with large utensil compartments, A4 storage areas and drinks holders.
- High level of safety due to optimised visibility overhead guard with inclined strut arrangement and superb all-round vision.
- An ergonomic joystick with maintenance-free sensor technology for the actuation of all hydraulic functions without changing grip and noticeable direction selection.

Modern efficient technology

- Energy recovery when braking and when lowering the main lift.
- Three-phase drive technology for peak performance with high efficiency and low operating costs. Wear-free for high availability and greater handling capacity.
- Peak speeds - even when lowering unladen in auxiliary lift.
- Powerful low wear hydraulics.
- Sensitive secondary movements thanks to proportional valve technology.
- Powerful, effective hoist movements, pump speed regulated by on/off valve technology.
- Particularly low wear due to low working pressure and integral high pressure filter.
- Compact, stable build for optimal utilisation of space and safe working - even at extreme heights.
- Smaller aisle widths or greater safety clearances due to turret head with integral overreach.
- Integral height measurement system for precise positioning of the forks.
- Maximum residual capacity due to optimal matching of the truck width to the aisle width.
- Speedy, trouble-free entry into the aisle thanks to the variably adjustable mechanical rail guidance.



Steering

- Electric steering acting directly on the drive through a gear for easy accurate positioning.
- Free ranging, mechanically or inductively guided in the racking, with automatic straight ahead setting of the steered drive wheel and non-contact aisle recognition.

Chassis

- Rigid steel structure with large running wheels for high driving comfort.
- Optional removable battery side plates protect the battery and round off the overall image of the chassis design.
- Various chassis widths.

Masts

- Telescopic mast "Light" optimised for smaller loads of up to 1,000 kilograms.
- Telescopic mast as standard.
- Triplex mast with free lift for wherever joists, doorways or fixtures make a lower closed mast height necessary.
- Three-point mast structure, sturdy and rigid for congenial working even at extreme heights.

Turret head with auxiliary lift

A functional group for load pick-up on three sides, with integral controller and hydraulics. Unnecessarily long connections such as cables and hydraulic hoses are done away with, increasing operating reliability in the long term. Diagnosis and maintenance becomes easier and faster.

- Great flexibility due to synchronous rotation, enabling the operator to service the left and right hand sides of the racking in a single pass.
- The total lift height is increased by the auxiliary lift (optional).
- Optimal space utilisation - right up to the ceiling. Higher handling capacity due to simultaneous lowering with the main lift.
- High lowering speed even with low load weights.

Hydraulics

- The truck is fitted as standard with proportional valve technology for particularly sensitive and smooth control of secondary movements. The hoist pump speed controlled through on/off valves by the hoist pulse controller for maximum effectiveness.
- All movements can be separately and individually adjusted to the application conditions.
 - All end positions are approached gently and smoothly.
 - Up to 15% energy recovery is possible due to the hoist motor acting as a generator when lowering.
 - The bypass concept when lowering allows sensitive, precise positioning.

Three-phase drive technology

The low wear, low maintenance drive units combined with the offload switching MOSFET technology are the basis for an efficient, robust and economical drive concept.

- 48-volt drive modules.
- Monitoring and display of the drive states for effective preventive maintenance.
- The enclosed air-cooled three-phase motor does not move with the steering, so there are no cable connections under stress.
- Generously dimensioned gearbox and drive wheel for high driving comfort and safety.
- High torque and peak speeds with particularly sensitive control for driving, independent of the load. Economical for low energy consumption and maintenance, with above-average performance.

Brake system

- Generator brake as a service brake. Electrical spring-loaded brake for parking/securing and as an emergency stop.
- Two independent braking systems operate practically wear free.
- Optional running wheel brake to increase the braking and driving performance.

CAN bus

- All controllers, sensors and actuators are linked to each other.
- Great flexibility due to central access to all units and functions.
- High level of safety due to tried and tested technology from the car and commercial vehicle field.
- Additional operating reliability thanks to less wiring and fewer sensors.

Battery compartment

Battery changing from one side using a roller track with battery changing frame.

Auxiliary equipment in the driver's workplace

- Hydraulically damped driver's seat.
- Proportional seat and floor plate adjustment.
- Tilting seat.
- Seat heater.
- Workplace illumination.
- Working spotlights.
- Reading lamp.
- DIN A4 writing surface with document clip.
- Overhead guard covers in Macrolon or mesh grid.
- Preparation for radio installation integrated in the overhead guard.
- Fork camera systems with integral colour display.
- Panoramic rear-view mirror.
- Climbing aid on overhead guard leg.
- Digisound – acoustic interval signals.
- PIN code access authorisation through numeric key pad.
- Standardised interface for data terminal, scanner, printer.
- Dual pedal control.

Auxiliary equipment - turret head

- Fork carriages for different pallets.
- Various attachment frames.
- Overreach for turret head.
- Hydraulics turret head functions.
- Tooth flank guard in the area of the turret head (recommended for bagged goods).
- Three variants of hydraulic fork adjuster.
- Load sensing.
- Weight sensing.
- Weight measurement.
- Fork sideshift cut-out.

Battery compartment and battery

- Various capacities of 48-Volt battery for different power classes.
- Battery roller track for side battery changes.
- Side battery locking device, electronically monitored.
- Battery compartment side covers.
- Cable set for replacement battery.

Safety

- Automatic braking at end of aisle, various versions.
- Hoist cut-outs and various drive cut-outs.
- Integral mobile personal protective equipment.
- Additional braking system for the load wheels.

Automation components

- Automatic fork cycle.
- Lift height preselection system.
- Semi-automatic shelf approach, OPTISPEED 4.0.
- Automation interface for unmanned fully automatic operation.
- Materialflow Management MMS, radio data transfer with data terminal, terminals, printer and scanner. Increases the efficiency by paperless Materialflow control.

OPTISPEED Version 3.x – the futuristic control concept

The excellent performance data and optimal technical conditions of the GX-X can only be fully utilised by OPTISPEED 3.x, both for driving and hoisting, and also for secondary movements.

- Powerful microprocessor, drive and hoist pulse controller.
The individual controls, sensors and actuators are cross linked by CAN bus.
- The CAN Bus with CAN Open protocol provides high flexibility and quick service access.
- The height measurement system provides the absolute fork height. Thanks to the non-slip, reliable height detection, also incorporating the auxiliary lift, performance-optimised driving profiles and load change cycles can be realised.

Features

- Made-to-measure performance by the selection and suitable combination of the drives.
- Quick load changes thanks to automatic adjustment of the deceleration and acceleration ramps.
- Dynamic, intelligent load diagram for greater safety in the warehouse.
- Increased turnover of goods due to standard synchronous slewing in the aisle and in front of the racking.
- Increased performance due to the optional equipment: load sensing and weight measurement.
- Less damage to the truck, goods and equipment due to individual adjustment of the speeds, end positions, acceleration and deceleration to the application conditions.
- Greater functional convenience/safety as all moving axes are continuously measured and monitored.
- Effective configuration, diagnosis and maintenance through a modem or with the Service Tool Box through a central interface
- Fast reaction time due to on-board diagnosis at the operating panel.
- Safe and fast commissioning by the „teach-in“ process for the main functions, directly on the operating panel.
- Individual driver settings – ergonomics and driving comfort can be specifically adjusted to the application conditions and the operator, for truly optimised performance.
- Improved access control thanks to optional PIN code instead of key.
- Integral height pre-selection for fast, safe and comfortable height positioning (optional).
- Automatic forks cycle for quicker and easier load changes.



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