STILL

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GX 10

GX 13

GX-Q 10

GX-Q 13

GX/Q Technical Data.

VNA Stacker with Turret Head.
High Lift Stacker with Telescopic Forks.

first in intralogistics

VNA Stacker with Turret Head
High Lift Stacker with Telescopic Forks.

Chassis.

Torsionally rigid steel construction with large load wheels and short build. Integral drive unit compartment easily accessible through hinge out seat compartment. Battery lid is opened upwards.

Masts.

Telescopic or triplex clear view masts with stable, torsionally rigid guide sections with integral free lift for optimal visibility. Mast bracing for higher overall heights.

Load handling equipment.

Turret head or telescopic forks, the choice depends on the pallet storage method.

- Turret head for putting down and picking up from the floor on three sides.
- Telescopic forks for particularly narrow racking aisles. Load can be picked up and put down on two sides.

Driver's compartment GX/Q 10.

GX/Q10 stackers guarantee a high turn-round thanks to the exemplary layout of the driver's compartment, high performance figures and good visibility.

- Large footwell, only 500 mm above the floor, allows easy access and freedom of movement for feet and knees as there is no steering column.
- Comfortable seat, covered with hard-wearing cloth, can be adjusted to the driver's weight. The seat shape gives the body a relaxed and secure support.
- Seat adjustable in height and length, together with an adjustable rake backrest, allows every driver to create his ideal working position.
- The truck can only be driven and steered when the foot switch is depressed (deadman principle). This contributes to safety by ensuring that the left leg remains within the contour of the truck.
- Valve levers for hydraulic functions, travel direction switch, horn button and emergency off switch are all ergonomically positioned within easy reach.
- Displays show active operating status, indicating: ready for operation, direction of travel, parking brake status, steering status, inching, operating hours and state of battery. Drive, hoist and servo-motor brushes, brake fluid and motor temperature are all monitored.

Driver's compartment GX/Q 13.

Constant research and development have decisively improved the driver's compartment in the GX/Q13:

- Adjustment of the driver's seat proportional to the foot plate to suit the driver's physique guarantees an ergonomically correct seating position.
- Longitudinal adjustment of the seat and rake adjustment of the backrest allow further individual adaptation of the working position.
- Comfortable, hydraulically damped seat which adjusts to the driver's weight. The shaping of the seat provides the body with a secure support which helps to eliminate fatigue.
- With the foot switch depressed (deadman principle) the GX13 is ready to drive and the left leg is kept within the footwell.
- Comfortable entry and exit with handles incorporated into the overhead guard supports and wide step which is clearly visible from above.
- The electrical steering needs no steering column, so gives greater leg room.
- A multi-function lever (joystick) with integral switch controls the hydraulic functions and, in the appropriate position, acts as a direction switch.
- Display with function buttons for: horn, proportional adjustment of driver's seat and foot plate, with option of automatic end of aisle braking, inductive steering, simultaneous swivel and shift, hydraulic fork adjustment.
- Display panel giving active operating status and service information shows: ready status, driving direction, parking brake status, steering status, inching, operating hours, battery charge, condition of the brushes and service intervals.
- A storage compartment under the padded armrest helps keeps things tidy.

Drive GX/Q 10.

MOSFET control gives comfortable, economical and thus cost saving operation. The truck will start smoothly and accelerate evenly up to maximum speed.

- The powerful 5 kW motor does not move with the steering, so cable joints are not stressed. The drive is transferred to the steered drive wheel through reduction gearing.
- Temperature and brush wear monitoring of the main assemblies prevents damage.

Drive GX/Q 13.

The basis of the powerful and economical drive is an upright drive unit combined with modern MOSFET technology with off-load switching and the latest control technology.

- High level of economy due to the absence of wear-prone braking and direction contactors.
- The truck will start smoothly and accelerate evenly up to maximum speed, providing a high degree of driver comfort.
- Responsive driving, independent of the load.
- The powerful vertical DC motor in conjunction with a spur bevel gear box provides the optimum combination of quiet running, high load capacity and long life.

Steering/Guidance system.

Free ranging with steering angle display. Mechanical guidance in the racking aisles with automatic straight-ahead setting and locking of the steered drive wheel plus contactless aisle sensing.

- GX/Q10: Hydraulic on demand steering
- GX/Q13: Electric on demand steering

Brakes GX/Q 10.

Three independent braking systems guarantee a high standard of safety.

- Large sized hydraulic brakes on all wheels with low pedal effort.
- Operating the direction control switch when driving will trigger wear-free electronic braking.
- Electromagnetic parking brake acts on the drive unit.
- Releasing the foot switch ensures that the truck will remain stationary.

Brakes GX/Q 13.

The braking operates on two independent systems, a spring-applied brake acting on the drive unit and a generator brake operating through the drive during use.

- Very high life expectancy thanks to the wear-free generator braking.
- High recovery of energy in generator mode.
- The spring-applied brake is only used in low wear applications such as parking and holding.

Hydraulics.

The truck is fitted as standard with an impulse pump controller and proportional control valve. This gives particularly sensitive operation of hydraulic functions.

- The working speeds for hoist/lower, fork reach and fork swivel are separately adjustable.
- On demand use of oil from the general hydraulic circuit reduces lift motor speeds and gives energy saving operation. The pump is automatically switched off when “end of lift” status is reached.
- Damping gives soft lowering of the forks into the final position.

Controller GX/Q 10.

- The whole control system is very clearly laid out and provides a high degree of safety.
- The Programmable Logic Controller (PLC) will process both digital and analogue inputs quickly and reliably.
- All data from input and output information is transmitted serially to the PLC.

Controller GX/Q 13.

The control unit, consisting of only a small number of components, is very clearly laid out and provides a high standard of safety. Its heart is the PLC on-board computer which, in conjunction with the pulse controller and multiplex bus system, ensures optimal functional processes.

- Diagnostic and service interfaces make for a simple procedure when configuring and setting parameters using the Service Tool Box.
- No relays or contactors in the peripheral equipment thanks to the central processing of the input/output signals.
- Safe control of end of stroke positions in the main and secondary movements, with pre-programmed ramp functions, make for stress-free working.
- Energy recovery for longer periods of use: higher pallet turn-round and lower energy costs go without saying.
- Low spares holding costs due to the reduced number of components and the use of uniform controller components.

Safety, design and ergonomics.

- Safety package in compliance with CE requirements.
- All driving and hoisting movements are safeguarded through the deadman foot switch and (on the GX/Q 10) the seat switch.
- Smoothly rounded contours plus padded surfaces with many storage facilities.
- Padded, generously sized armrests for fatigue-free, safe working.

Service and Maintenance.

- Service Tool Box allows simple configuration, parameter setting and diagnosis.
- Long term memory for faults and text display for fault code.
- Central service and diagnostic interface for connection of a service laptop.
- Drive unit compartment designed for good accessibility even in the aisle.
- Battery cover opens from above for maintenance.
- Battery cover can be stood on for maintenance purposes (GX/Q 10).

Battery changing.

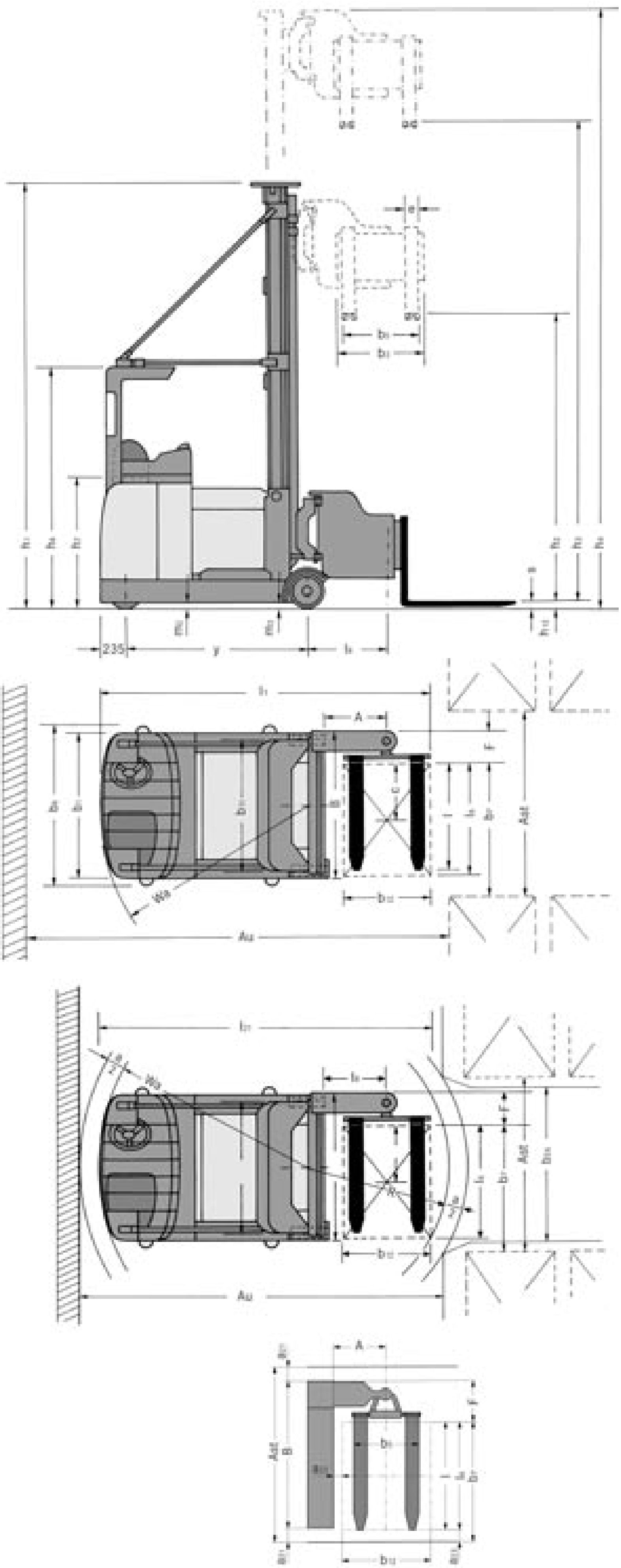
- The battery can be changed from either side using a roller track (GX/Q 10).
- Battery change by hoist (GX/Q 13).

Safety.

- Trucks are built to EC Directive 98/37/EC and carry the CE symbol.
- STILL is certified to ISO 9001.

Optional equipment.

- Automatic end of aisle braking, various versions
- Hoist cut-out
- Various drive cut-outs
- Inductive guidance
- Working lights
- Various automation components for height preselection and positioning
- Camera system with positioning aid (GX/Q 10)
- Various positioning aids using precision spotlamps
- Additional warning device using a flashing beacon
- A variety of chassis widths
- Various telescopic and triplex masts
- A variety of fork carriages for different pallets
- Simultaneous swivel and shift movement
- Automatic fork cycle (GX/Q 13)
- Cold store version (GX/Q 10)
- Heated driver's seat (GX/Q 10+13)
- Cold store cab (on request)
- Covers for overhead guard:
  - in wire mesh
  - in Macrolon
- Cable set for spare battery
- Various battery trays

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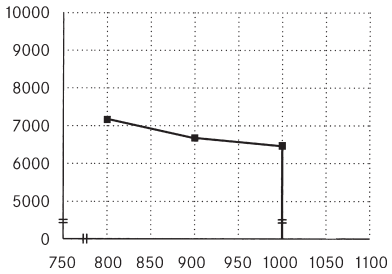
Capacity diagram.

Telescopic mast.
Capacities at
c = 600 mm
load centre
and A = 700 mm

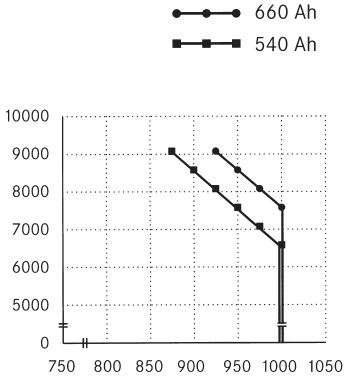


Telescopic mast.

h_1	h_{25} (h_3+h_{13})	h_3	h_2	h_{13}	h_4 (h_3+1040)
mm	mm	mm	mm	mm	mm
4.400	7.110	7.050	170	60	8.090
4.250	6.810	6.750	170	60	7.790
4.100	6.510	6.450	170	60	7.490
3.950	6.210	6.150	170	60	7.190
3.800	5.910	5.850	170	60	6.890
3.650	5.610	5.550	170	60	6.590
3.500	5.310	5.250	170	60	6.290
3.350	5.010	4.950	170	60	5.990
3.200	4.710	4.650	170	60	5.690
3.050	4.410	4.350	170	60	5.390
2.900	4.110	4.050	170	60	5.090
2.750	3.810	3.750	170	60	4.790

Capacity diagram.

Triplex mast.
Capacities at
c = 600 mm
load centre
and A = 700 mm



Triplex mast.

h_1	h_{25} (h_3+h_{13})	h_3	h_2 (h_1-1000)	h_{13}	h_4 (h_3+1040)
mm	mm	mm	mm	mm	mm
4.340	9.110	9.050	3.340	60	10.090
4.140	8.610	8.550	3.140	60	9.590
3.940	8.110	8.050	2.940	60	9.090
3.740	7.610	7.550	2.740	60	8.590
3.540	7.110	7.050	2.540	60	8.090
3.340	6.610	6.550	2.340	60	7.590
3.140	6.110	6.050	2.140	60	7.090
2.940	5.610	5.550	1.940	60	6.590
2.740	5.110	5.050	1.740	60	6.090
2.540	4.610	4.550	1.540	60	5.590

In accordance with VDI guidelines 2198, this specification applies to the standard model only.
Alternative tyres, mast types, ancillary equipment, etc. could result in different values.

Characteristics	1.1	Manufacturer				STILL	STILL
	1.2	Manufacturer's model designation				GX 10 Telescopic mast	GX 10 Triplex mast
	1.3	Drive (electric, diesel. petrol LPG, mains)				Electric	Electric
	1.4	Controls (stand on, Seated, etc.)				Seated	Seated
	1.5	Capacity/load		Q	kg	1000	1000
	1.6	Load centre		c	mm	400/600	400/600
	1.9	Wheel base		y	mm	1595	1595
Weight	2.1	Truck weight (inc. battery)			kg	4280	4750
	2.2	Axle load laden	drive end/load end		kg	1200/4080	1140/4610
	2.3	Axle load unladen	drive end/load end		kg	1660/2620	1660/3150
Wheels | chassi	3.1	Tyres (rubber, vulkollan, pneu., polyurethane)				polyurethane/polyurethane	polyurethane/polyurethane
	3.2	Tyre size	drive end		mm	Ø 330 x 135	Ø 330 x 135
	3.3	Tyre size	load end		mm	Ø 350 x 115	Ø 350 x 115
	3.5	Number of wheels (x=drive wheel)	drive end/load end			1x/2	1x/2
	3.6	Track width, (front)	drive end	b_{10}	mm	-	-
	3.7	Track width, (rear)	load end	b_{11}	mm	1155/1335	1155/1335
Basic dimensions	4.2	Height, mast lowered		h_1	mm	2750	2540
	4.3	Free lift		h_2	mm	170	1540
	4.4	Lift		h_3	mm	3750	4550
	4.5	Height, mast raised		h_4	mm	4790	5590
	4.7	Height over overhead guard (cab)		h_6	mm	2110	2110
	4.8	Seat height		h_7	mm	1000	1000
	4.15	Lowered height		h_{13}	mm	60	60
	4.19	Overall length unladen		l_1	mm	3040/2940	3040/2940
	4.21	Overall width frame/load wheel axle		b_1/b_2	mm	1270/1450	1270/1450
	4.22	Fork dimensions		s/e/l	mm	50/120/800 or 1200	50/120/800 or 1200
	4.23	Fork carriage DIN 15173 Class/Form A.B				ISO 2328, 2A	ISO 2328, 2A
	4.24	Fork carriage width		b_3	mm	780	780
	4.25	Overall fork width		b_5	mm	704/490	704/490
	4.27	Width over guide rollers		b_6	mm	1395/1640	1395/1640
	4.29	Side shift		b_7	mm	1050/1320	1150/1320
	4.31	Floor clearance under mast, laden		m_1	mm	35	55
	4.32	Floor clearance, centre of wheel-base		m_2	mm	75	75
	4.34	Working aisle width with 800 x 1200 pallet lengthways (b_{12} x l_6)		A_{st}	mm	1470/1740	1470/1740
	4.35	Turning radius		Wa	mm	1840	1840
	4.38	Distance to turret head pivot point		l_8	mm	835/735	835/735
	4.39	Length of traverse arm (distance from side-shift carriage to pivot point)		A	mm	660/560	660/560
	4.40	Width, side-shift carriage		B	mm	1250/1450	1250/1450
	4.41	Width of traverse arm (inc. forks)		F	mm	235	235
	4.42	Transfer aisle width laden		Au	mm	3610/3390	3610/3390
Performance	5.1	Travel speed	laden/unladen		km/h	9.8 [1]/10.4 [1]	9.8 [1]/10.4 [1]
	5.2	Hoist speed	laden/unladen		m/s	0.28/0.35	0.28/0.35
	5.3	Lowering speed	laden/unladen		m/s	0.45/0.55	0.45/0.55
	5.4	Side-shift speed	laden/unladen		m/s	0.2	0.2
	5.9	Acceleration time (over 10 m)	laden/unladen		s	6.9/6.8	6.9/6.8
	5.10	Service brake				electromagnetic	electromagnetic
E motor	6.1	Drive motor, rating S2 = 60 min			kW	5.0	5.0
	6.2	Hoist motor, rating at S3 = 15%			kW	9.0	9.0
	6.3	Battery to IEC 254-2 A, B, C, No				IEC 254-2: B	IEC 254-2; B
	6.4	Battery voltage, Rated capacity C_5			V/Ah	48/540 L	48/540 L
	6.5	Battery weight ± 5%			kg	840	840
	6.6	Energy consumption to VDE cycle			kWh/h		
Mis	8.1	Drive control				MOSFET	MOSFET
	8.4	Sound level, drivers ear			dB (A)	<70	<70

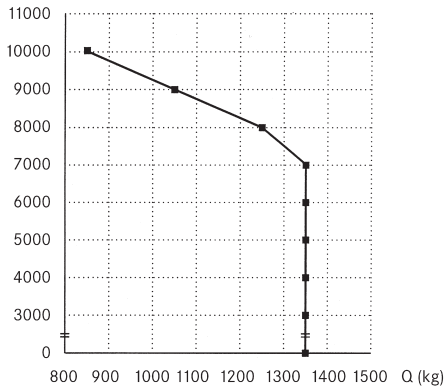
1) Speed profile to EN 1726-2.

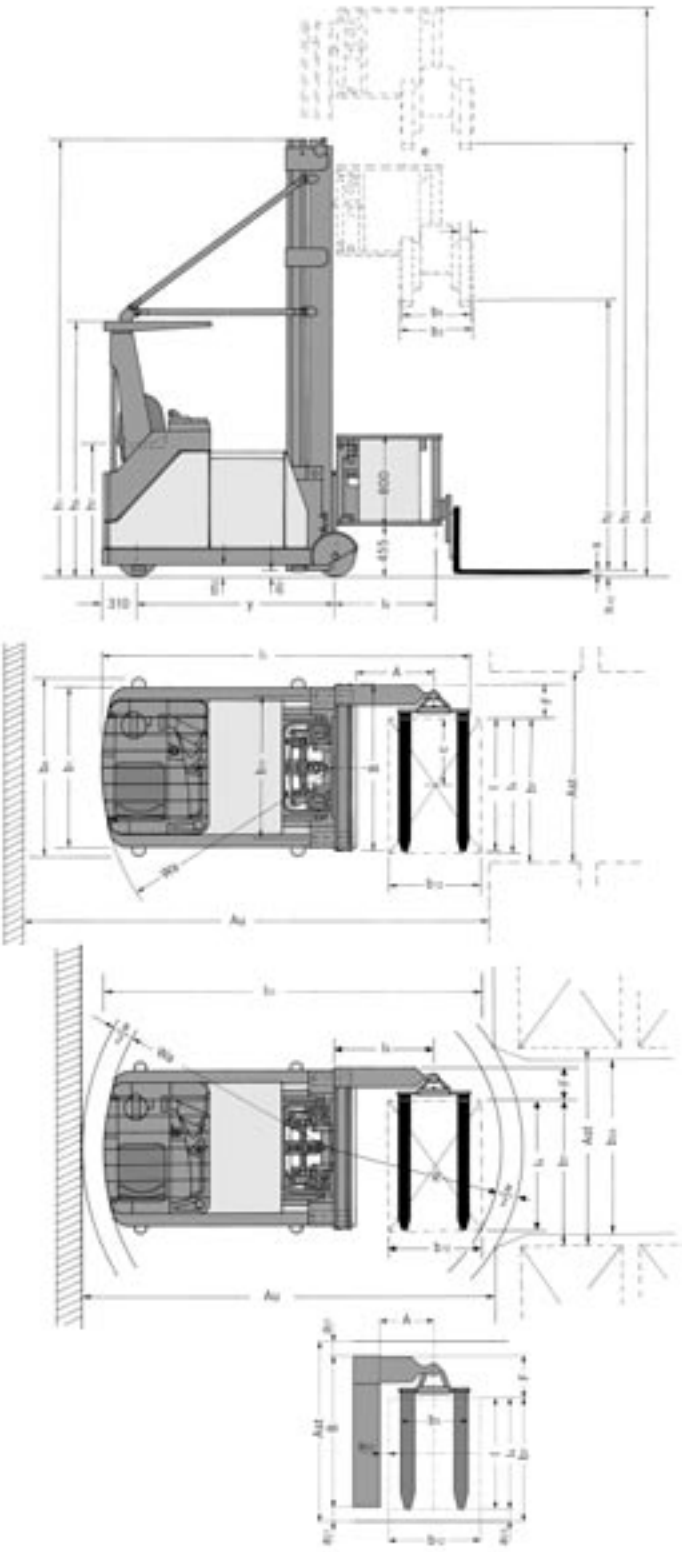
Telescopic mast.

h_1	h_{25} (h_3+h_{13})	h_3	h_{13}	h_4 (h_3+1255)
mm	mm	mm	mm	mm
5.900	10.015	9.960	55	11.215
5.800	9.815	9.760	55	11.015
5.700	9.615	9.560	55	10.815
5.600	9.415	9.360	55	10.615
5.500	9.215	9.160	55	10.415
5.400	9.015	8.960	55	10.215
5.300	8.815	8.760	55	10.015
5.200	8.615	8.560	55	9.815
5.100	8.415	8.360	55	9.615
5.000	8.215	8.160	55	9.415
4.900	8.015	7.960	55	9.215
4.800	7.815	7.760	55	9.015
4.700	7.615	7.560	55	8.815
4.600	7.415	7.360	55	8.615
4.500	7.215	7.160	55	8.415
4.400	7.015	6.960	55	8.215
4.300	6.815	6.760	55	8.015
4.200	6.615	6.560	55	7.815
4.100	6.415	6.360	55	7.615
4.000	6.215	6.160	55	7.415
3.900	6.015	5.960	55	7.215
3.800	5.815	5.760	55	7.015
3.700	5.615	5.560	55	6.815
3.600	5.415	5.360	55	6.615
3.500	5.215	5.160	55	6.415
3.400	5.015	4.960	55	6.215
3.300	4.815	4.760	55	6.015
3.200	4.615	4.560	55	5.815
3.100	4.415	4.360	55	5.615
3.000	4.215	4.160	55	5.415
2.900	4.015	3.960	55	5.215
2.800	3.815	9.760	55	5.015
2.700	3.615	3.560	55	4.815
2.600	3.415	3.360	55	4.615
2.450	3.115	3.060	55	4.315

Capacity diagram.

Telescopic mast.
Capacities at
c = 600 mm
load centre
and A = 700 mm





Triplex mast.

h_1	h_{25} (h_3+h_{13})	h_3	h_2 (h_1-1200)	h_{13}	h_4 (h_3+1255)
mm	mm	mm	mm	mm	mm
4.400	10.400	10.345	3.200	55	11.600
4.300	10.100	10.045	3.100	55	11.300
4.200	9.800	9.745	3.000	55	11.000
4.100	9.500	9.445	2.900	55	10.700
4.000	9.200	9.145	2.800	55	10.400
3.900	8.900	8.845	2.700	55	10.100
3.800	8.600	8.545	2.600	55	9.800
3.700	8.300	8.245	2.500	55	9.500
3.600	8.000	7.945	2.400	55	9.200
3.500	7.700	7.645	2.300	55	8.900
3.400	7.400	7.345	2.200	55	8.600
3.300	7.100	7.045	2.100	55	8.300
3.200	6.800	6.745	2.000	55	8.000
3.100	6.500	6.445	1.900	55	7.700
3.000	6.200	6.145	1.800	55	7.400
2.900	5.900	5.845	1.700	55	7.100
2.800	5.600	5.545	1.600	55	6.800
2.700	5.300	5.245	1.500	55	6.500
2.600	5.000	4.945	1.400	55	6.200
2.450	4.550	4.495	1.250	55	5.750

Capacity diagram.

Triplex mast.
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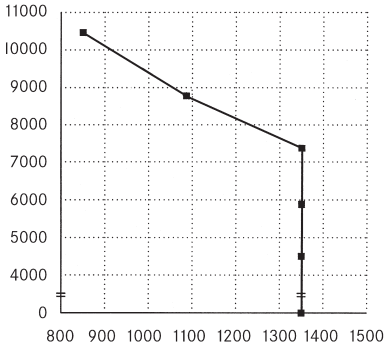

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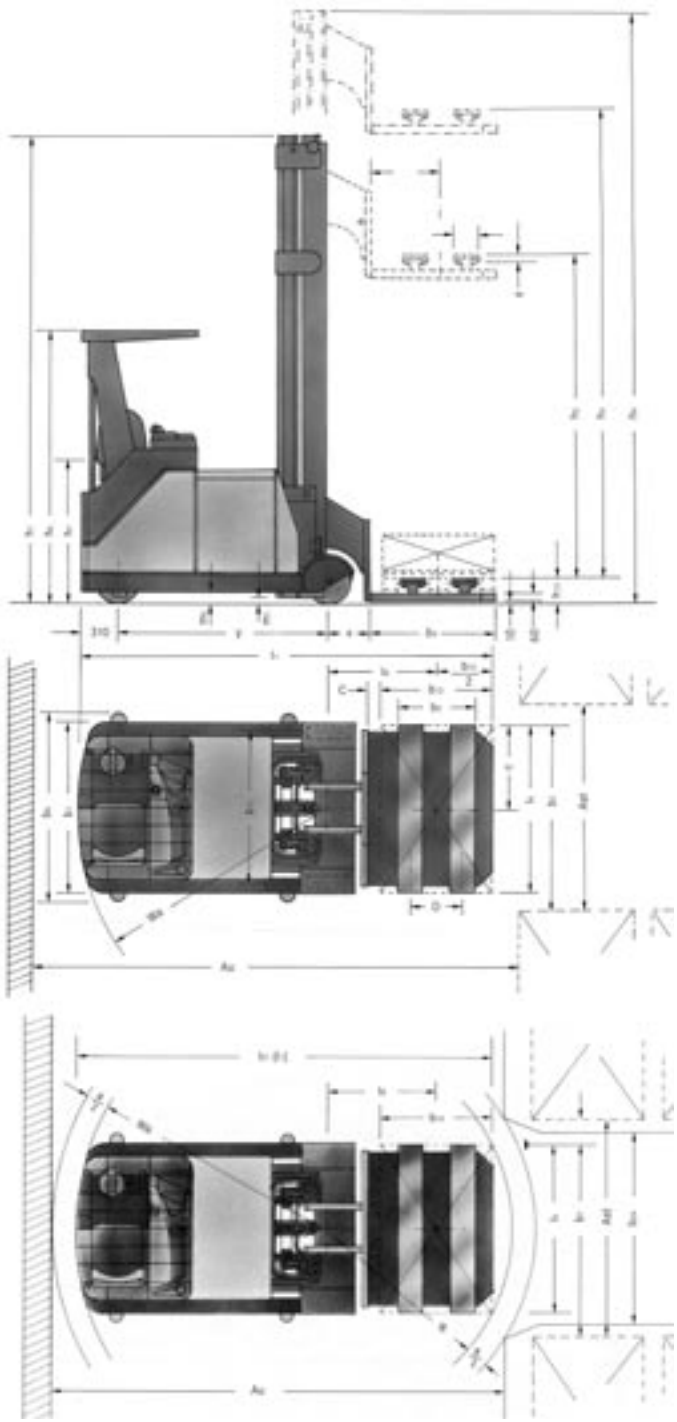
Characteristics	1.1	Manufacturer				STILL	STILL
	1.2	Manufacturer's model designation				GX 13 Telescopic mast	GX 10 Triplex mast
	1.3	Drive (electric, diesel. petrol LPG, mains)				Electric	Electric
	1.4	Controls (stand on, Seated, etc.)				Seated	Seated
	1.5	Capacity/load		Q	kg	1350	1350
	1.6	Load centre		c	mm	400/600	400/600
	1.9	Wheel base		y	mm	1765	1765
Weight	2.1	Truck weight (inc. battery)			kg	5910	6125
	2.2	Axle load laden	drive end/load end		kg	1515/5745	1433/6012
	2.3	Axle load unladen	drive end/load end		kg	2215 /3695	2135/3990
Wheels | chassi	3.1	Tyres (rubber, vulkollan, pneu., polyurethane)				polyurethane/polyurethane	polyurethane/polyurethane
	3.2	Tyre size	drive end		mm	Ø 343 x 135	Ø 343 x 135
	3.3	Tyre size	load end		mm	Ø 360 x 152	Ø 360 x 152
	3.5	Number of wheels (x=drive wheel)	drive end/load end			1x/2	1x/2
	3.6	Track width, (front)	drive end	b_{10}	mm	-	-
	3.7	Track width, (rear)	load end	b_{11}	mm	1040/1240	1040/1240
Basic dimensions	4.2	Height, mast lowered		h_1	mm	2450	2450
	4.3	Free lift		h_2	mm	-	1250
	4.4	Lift		h_3	mm	3060	4495
	4.5	Height, mast raised		h_4	mm	4315	5750
	4.7	Height over overhead guard (cab)		h_6	mm	2280	2280
	4.8	Seat height		h_7	mm	1175 - 1230	1175 - 1230
	4.15	Lowered height		h_{13}	mm	55	55
	4.19	Overall length unladen		l_1	mm	3300/3200	3300/3200
	4.21	Overall width frame/load wheel axle		b_1/b_2	mm	1230/1530	1230/1530
	4.22	Fork dimensions		s/e/l	mm	50/100/800 or 1200	50/100/800 or 1200
	4.23	Fork carriage DIN 15173 Class/Form A.B				2/B	2/B
	4.24	Fork carriage width		b_3	mm	640	640
	4.25	Overall fork width		b_5	mm	620/540	620/540
	4.27	Width over guide rollers		b_6	mm	1330/1640	1330/1640
	4.29	Side shift		b_7	mm	940/1290	940/1290
	4.31	Floor clearance under mast, laden		m_1	mm	40	40
	4.32	Floor clearance, centre of wheel-base		m_2	mm	95	95
	4.34	Working aisle width with 800 x 1200 pallet lengthways (b_{12} x l_6)		A_{st}	mm	1340/1740	1340/1740
	4.35	Turning radius		Wa	mm	2080	2080
	4.38	Distance to turret head pivot point		l_8	mm	900/800	900/800
	4.39	Length of traverse arm (distance from side-shift carriage to pivot point)		A	mm	700/600	700/600
	4.40	Width, side-shift carriage		B	mm	1140/1490	1140/1490
	4.41	Width of traverse arm (inc. forks)		F	mm	305	305
	4.42	Transfer aisle		Au	mm	3870/3700	3870/3700
Performance	5.1	Travel speed	laden/unladen		km/h	9.0 [1]/9.0 [1]	9.0 [1]/9.0 [1]
	5.2	Hoist speed	laden/unladen		m/s	0.33/0.35	0.28/0.35
	5.3	Lowering speed	laden/unladen		m/s	0.4/0.4	0.4/0.4
	5.4	Side-shift speed	laden/unladen		m/s	0.2	0.2
	5.9	Acceleration time (over 10 m)	laden/unladen		s	7.7/7.7	7.7/7.7
	5.10	Service brake				Generator/hydraulic	Generator/hydraulic
E motor	6.1	Drive motor, rating S2 = 60 min			kW	4.2	4.2
	6.2	Hoist motor, rating at S3 = 15%			kW	15.0	15.0
	6.3	Battery to IEC 254-2 A, B, C, No				IEC 254-2; B	IEC 254-2; B
	6.4	Battery voltage, Rated capacity C_5			V/Ah	48/840 L	48/840 L
	6.5	Battery weight ± 5%			kg	1330	1330
	6.6	Energy consumption to VDE cycle			kWh/h		
Mis	8.1	Drive control				MOSFET	MOSFET
	8.4	Sound level, drivers ear			dB (A)	<70	<70

1) Speed profile to EN 1726-2.

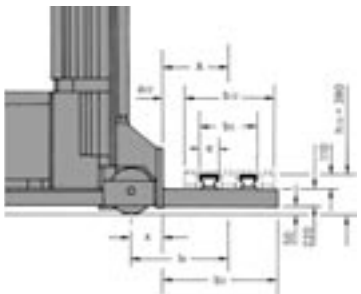


In accordance with VDI guidelines 2198, this specification applies to the standard model only. Alternative tyres, mast types, ancillary equipment, etc. could result in different values.

Characteristics	1.1	Manufacturer		
	1.2	Manufacturer's model designation		
	1.3	Drive (electric, diesel, petrol, LPG, mains)		
	1.4	Operation (Hand, Ped., Stand-on, Seated)		
	1.5	Capacity/load	Q	kg
	1.6	Load centre	c	mm
	1.9	Wheel base	y	mm
Weight	2.1	Truck weight inc. battery		kg
	2.2	Axle load laden load end/drive end		kg
	2.3	Axle load unladen load end/drive end		kg
Wheels I chassi	3.1	Tyres (Rubber, Vulkollan, Polyurethane)		
	3.2	Tyre size drive end		mm
	3.3	Tyre size load end		mm
	3.5	No. of wheels (x=drive) load end/drive end		
	3.6	Track width, (front) drive end	b_{10}	mm
	3.7	Track width, (rear) load end	b_{11}	mm
Basic dimensions	4.2	Height, mast lowered	h_1	mm
	4.3	Free lift	h_2	mm
	4.4	Lift	h_3	mm
	4.5	Height, mast raised	h_4	mm
	4.7	Height over overhead guard	h_6	mm
	4.8	Seat height	h_7	mm
	4.15	Height lowered	h_{13}	mm
	4.19	Overall length unladen	l_1	mm
	4.21	Overall width chassis/load axle	b_1/b_2	mm
	4.22	Fork dimensions	s/e/l	mm
	4.23	Fork carriage		
	4.24	Fork carriage width	b_3	mm
	4.25	Overall fork width	b_5	mm
	4.27	Width over guide rollers	b_6	mm
	4.29	Sideshift	b_7	mm
	4.31	Floor clearance under mast, laden	m_1	mm
	4.32	Floor clearance, centre of wheel-base	m_2	mm
	4.34	Working aisle, 800 x 1200 pallet lengthways (b_{12} x l_6)	A_{st}	mm
	4.35	Turning radius	Wa	mm
	4.38	Distance - swivel fork pivot point	l_8	mm
	4.39	Length shift carriage (SS frame to fork pivot)	A	mm
	4.42	Transfer aisle width with load	AU	mm
Performance	5.1	Travel speed laden/unladen		km/h
	5.2	Hoist speed laden/unladen		m/s
	5.3	Lowering speed laden/unladen		m/s
	5.4	Sideshift speed laden/unladen		m/s
	5.9	Acceleration time (over 10m) laden/unladen		s
	5.10	Service brake		
E motor	6.1	Drive motor, rating S2 = 60 min		kW
	6.2	Hoist motor, rating at S3 = 15%		kW
	6.3	Battery to IEC 245-2 A, B, C, No		
	6.4	Battery voltage, capacity C_5		V/Ah
	6.5	Battery weight (depends on make) ± 5%		kg
	6.6	Energy consumption to VDI cycle		kWh/h
Mis	8.1	Drive control		
	8.4	Sound level, drivers ear		dB (A)

Standard type telescopic fork.

- Narrow working aisles.
- Minimal space requirement for transfer aisles.
- Capacity up to 1250 kg max.

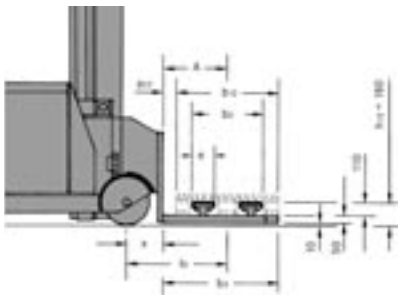


Standard telescopic fork		h_{13} = 380 mm				a$_{21}$ = 90 mm			a = 200 mm			Capacity
Model	l_6 x b_{12}, Pallet	A	a_{22}	x	l_8	b_3	b_7	l_1	Ast	AU min.	AU req.	Q max.
GQ 10	1200 x 800	500	100	265	765	900	1300	2995	1400	3300	3600	1000
	1200 x 1000	600	100	265	865	1100	1300	3195	1400	3500	3800	1000
	1200 x 1200	700	100	265	965	1300	1300	3395	1400	3700	4000	1000
	1240 x 835	500	90	265	765	900	1350	2995	1450	3400	3700	1000
	1300 x 1300	700	50	265	965	1350	1400	3445	1500	3800	4100	1000
GQ13	1200 x 800	500	100	290	790	900	1300	3265	1400	3600	3900	1250
	1200 x 1000	600	100	290	890	1100	1300	3465	1400	3800	4100	1250
	1200 x 1200	700	100	290	990	1300	1300	3665	1400	4000	4300	1250
	1240 x 835	500	90	290	790	900	1350	3265	1450	3600	3900	1250
	1300 x 1300	700	50	290	990	1350	1400	3715	1500	4000	4300	1250

STILL	STILL	STILL	STILL	STILL	STILL
GQ 10 Telescopic mast	GQ 10 triplex mast	GQ 13 Telescopic mast	GQ 13 triplex mast	GQ 15 Telescopic mast	GQ 15 triplex mast
Electric	Electric	Electric	Electric	Electric	Electric
Seated	Seated	Seated	Seated	Seated	Seated
1000	1000	1250	1250	1250	1250
600	600	600	600	600	600
1595	1595	1765	1765	2265	2265
4280	4750	5910	6125	6890	7370
1200/4080	1140/4610	1567/5593	1485/5890	2100/6290	2160/6710
1660 /2620	1600/3150	2215 /3695	2135/3990	2640/4250	2700/4670
Polyurethane/Polyurethane		Vulkollan/Vulkollan		Vulkollan/Vulkollan	
Ø 330 x 135	Ø 330 x 135	Ø 343 x 135	Ø 343 x 135	Ø 406 x 127	Ø 406 x 137
Ø 350 x 115	Ø 350 x 115	Ø 360 x 152	Ø 360 x 152	Ø 406 x 152	Ø 406 x 152
1x/2	1x/2	1x/2	1x/2	1x/2	1x/2
-	-	-	-	-	-
1155	1155	1040	1040	1150	1150
2750	2540	2450	2450	3400	3200
170	1540	-	1595	-	-
3750	4550	3060	4495	4980	6720
4790	5550	4000	5450	5890	7680
2110	2110	2280	2280	2460	2460
1000	1000	1175 - 1230	1175 - 1230	1240	1240
See mast drawing		See mast drawing		See mast drawing	
See mast table		See mast table		See mast table	
1270	1270	1230	1230	1330	1330
60 x 168 x 1200	60 x 168 x 1200	65 x 182 x 1200	65 x 182 x 1200	65 x 182 x 1200	65 x 182 x 1200
-	-	-	-	-	-
See mast table		See mast table		See mast table	
540	540	555	555	555	555
1400	1400	1400	1400	1450	1450
1300	1300	1300	1300	1325	1325
35	35	40	40	40	40
75	75	95	95	85	85
1400	1400	1400	1400	1450	1450
1840	1840	2080	2080	2570	2570
See mast table		See mast table		See mast table	
See mast table		See mast table		See mast table	
See mast table		See mast table		See mast table	
9.8 [1]/10.4 [1]	9.8 [1] /10.4 [1]	9.0 [1]/9.0 [1]	9.0 [1]/9.0 [1]	8.6 [1]/9.5 [1]	8.4 [1]/9.2 [1]
0.28/0.35	0.28/0.35	0.33/0.35	0.33/0.35	0.31/0.40	0.28/0.35
0.45/0.55	0.45/0.55	0.40/0.40	0.40/ 0.40	0.35/0.35	0.35/0.35
0.15	0.15	0.15	0.15	0.15	0.15
6.9/6.8	6.9/6.8	7.7/7.7	7.7/7.7	7.7/7.4	7.8/7.5
Hydraulic/electric		Generator/Hydraulic-mechanical		Hydraulic-mechanical	
5.0	5.0	4.2	4.2	4.5	4.5
9.0	9.0	15.0	15.0	15.0	15.0
IEC 254-2; B	IEC 254-2; B	IEC 254-2; B	IEC 254-2; B	IEC 254-2; B	IEC 254-2; B
48/540 L	48/540 L	48/840 L	48/840 L	80/700 L	80/700 L
840	840	1330	1330	1870	1870
MOSFET	MOSFET	MOSFET	MOSFET	PULSE	PULSE
<70	<70	<70	<70		

Low type telescopic fork.

- The lowest racking shelf can be only 100 mm above the floor, giving optimal utilisation of space at the bottom of the racking.
- Narrow working aisles.
- Minimal space requirement for transfer aisles.
- Capacity up to 1250 kg max.



Low type telescopic fork		h_{13} = 380 mm				a_{21} = 90 mm			a = 200 mm			Capacity
Model	l_6 x b_{12}, Pallet	A	a_{22}	x	l_8	b_3	b_7	l_1	Ast	AU min.	AU req.	Q max.
GQ 10	1200 x 800	500	100	265	765	900	1300	2995	1400	3300	3600	1000
	1200 x 1000	600	100	265	865	1100	1300	3195	1400	3500	3800	1000
	1200 x 1200	700	100	265	965	1300	1300	3395	1400	3700	4000	1000
	1240 x 835	500	90	265	765	900	1350	2995	1450	3400	3700	1000
	1300 x 1300	700	50	265	965	1350	1400	3445	1500	3800	4100	1000
GQ13	1200 x 800	500	100	290	790	900	1300	3265	1400	3600	3900	1250
	1200 x 1000	600	100	290	890	1100	1300	3465	1400	3800	4100	1250
	1200 x 1200	700	100	290	990	1300	1300	3665	1400	4000	4300	1250
	1240 x 835	500	90	290	790	900	1350	3265	1450	3600	3900	1250
	1300 x 1300	700	50	290	990	1350	1400	3715	1500	4000	4300	1250

Telescopic mast GQ10.

h_1	h_{25}* (h_3+h_{13})	h_3	h_2	h_{13}	h_4 ($½+h_3+h_1$)
mm	mm	mm	mm	mm	mm
4.400	7.430	7.050	170	380	7.925
4.250	7.130	6.750	170	380	7.625
4.100	6.830	6.450	170	380	7.325
3.950	6.530	6.150	170	380	7.025
3.800	6.230	5.850	170	380	6.725
3.650	5.930	5.550	170	380	6.425
3.500	5.630	5.250	170	380	6.125
3.350	5.330	4.950	170	380	5.825
3.200	5.030	4.650	170	380	5.525
3.050	4.730	4.350	170	380	5.225
2.900	4.430	4.050	170	380	4.925
2.750	3.130	3.750	170	380	4.625

Telescopic mast GQ13.

h_1	h_{25}* (h_3+h_{13})	h_3	h_{13}	h_4 ($½+h_3+h_1$)
mm	mm	mm	mm	mm
5.900	10.340	9.960	380	10.880
5.800	10.140	9.760	380	10.680
5.700	9.940	9.560	380	10.480
5.600	9.740	9.360	380	10.280
5.500	9.540	9.160	380	10.080
5.400	9.340	8.960	380	9.880
5.300	9.140	8.760	380	9.680
5.200	8.940	8.560	380	9.480
5.100	8.740	8.360	380	9.280
5.000	8.540	8.160	380	9.080
4.900	8.340	7.960	380	8.880
4.800	8.140	7.760	380	8.680
4.700	7.940	7.560	380	8.480
4.600	7.740	7.360	380	8.280
4.500	7.540	7.160	380	8.080
4.400	7.340	6.960	380	7.880
4.300	7.140	6.760	380	7.680
4.200	6.940	6.560	380	7.480
4.100	6.740	6.360	380	7.280
4.000	6.540	6.160	380	7.080
3.900	6.340	5.960	380	6.880
3.800	6.140	5.760	380	6.680
3.700	5.940	5.560	380	6.480
3.600	5.740	5.360	380	6.280
3.500	5.540	5.160	380	6.080
3.400	5.340	4.960	380	5.880
3.300	5.140	4.760	380	5.680
3.200	4.940	4.560	380	5.480
3.100	4.740	4.360	380	5.280
3.000	4.540	4.160	380	5.080
2.900	4.340	3.960	380	4.880
2.800	4.140	9.760	380	4.680
2.700	3.940	3.560	380	4.480
2.600	3.740	3.360	380	4.280
2.450	3.440	3.060	380	3.980

Triplex mast GQ 10.

h_1	h_{25}* (h_3+h_{13})	h_3	h_2 (h_1-1000)	h_{13}	h_4 ($h_1+h_3-h_2$)
mm	mm	mm	mm	mm	mm
4.340	9.430	9.050	3.340	380	10.050
4.140	8.930	8.550	3.140	380	9.550
3.940	8.430	8.050	2.940	380	9.050
3.740	7.930	7.550	2.740	380	8.550
3.540	7.430	7.050	2.540	380	8.050
3.340	6.930	6.550	2.340	380	7.550
3.140	6.430	6.050	2.140	380	7.050
2.940	5.930	5.550	1.940	380	6.550
2.740	5.430	5.050	1.740	380	6.050
2.540	4.930	4.550	1.540	380	5.550

Triplex mast GQ 13.

h_1	h_{25}* (h_3+h_{13})	h_3	h_2 (h_1-1200)	h_{13}	h_4 ($h_1+h_3-h_2$)
mm	mm	mm	mm	mm	mm
4.400	10.725	10.345	3.200	380	11.545
4.300	10.425	10.045	3.100	380	11.245
4.200	10.125	9.745	3.000	380	10.945
4.100	9.825	9.445	2.900	380	10.645
4.000	9.525	9.145	2.800	380	10.345
3.900	9.225	8.845	2.700	380	10.045
3.800	8.925	8.545	2.600	380	9.745
3.700	8.625	8.245	2.500	380	9.445
3.600	8.325	7.945	2.400	380	9.145
3.500	8.025	7.645	2.300	380	8.845
3.400	7.725	7.345	2.200	380	8.545
3.300	7.425	7.045	2.100	380	8.245
3.200	7.125	6.745	2.000	380	7.945
3.100	6.825	6.445	1.900	380	7.645
3.000	6.525	6.145	1.800	380	7.345
2.900	6.225	5.845	1.700	380	7.045
2.800	5.925	5.545	1.600	380	6.745
2.700	5.625	5.245	1.500	380	6.445
2.600	5.325	4.945	1.400	380	6.145
2.450	4.875	4.495	1.250	380	5.695

* if h13 = 180 mm: measurement reduced by 200 mm

Automation components.

These are available to adapt the truck to special working conditions:
- Simultaneous reach and swivel, to be able to service left and right hand sides of the aisle in one approach run.
- HA Height Indicator: racking shelf heights can be approached safely.
- PG 7 Automatic Height Selector with pre-selection of racking heights.
- PG 10 Automatic Height and Position Selector with vertical pre-selection and horizontal indicator.
- Fork cycle - an automatic process for picking up or putting down loads on the racking; a load sensor detects if the forks are loaded.
- Shelf monitor protects against pallets being pushed through by trying to stack into the wrong location.
- Horizontal positioning by means of optical point lights or distance measurement.
- Guidance systems using radio or infra-red increase efficiency by transmitting paperless orders.

The height and position selector assists the operator goods are being put into or taken out of storage, or relocating them. A high turn-round can be achieved thanks to its simplicity of operation. Even under unfavourable lighting conditions the display is clearly legible. The position selector PG10 can indicate vertical as well as horizontal positions and identify the racking aisle. On-line data transfer facilities can be specified as an option.

HA Height Indicator.

Saves time - by making it easier for the driver to approach different shelf heights. Precise approach means it is no longer necessary repeatedly to actuate the hydraulics to correct the height. This saves time - and the low energy requirement is also measurable.

Well priced - The HA height indicator provides warehouse users with an economical method of precise approach to shelf heights.

Precise adjustment - The HA height indicator registers the lift height and displays it in 5 mm steps.

Technical data	
Measurement and display range	5 - 14000 mm
Measuring accuracy	5 mm
Illuminated numerical display	Red
Numeral height	12 mm
Temperature range	0 °C to +55 °C
Option	Cold store use

PG Load positioning equipment.

Simple operating process - moving goods into or out of storage at different times requires a turret head with a sensor to show whether the forks are loaded. The required shelf height address/height is entered using large keys. Lifting is controlled with a control lever for the hydraulic functions (hoist/lower, reach forks, rotate forks) and stops automatically on reaching the correct height. Pressing the button on the control lever extends the forks, which move out to deposit or pick up the load.
PG 10: The aisle is checked and, if necessary, an instruction is given to change the aisle if the location is incorrect. The drive direction is displayed using light symbols and when the target destination is approached, the braking point is indicated and a warning tone sounded.
Complete entry of a work cycle - illuminated symbols on the display guide the operator in the driving direction and in operating the control lever. Automatic operation of the storage/retrieval process by a single actuation of the control lever - "Fork Cycle" - is available as an option.
PG 7: Pick up height (level) and depositing height (level) are entered. The display then shows "from ... to ...". Using the rising or falling sequence of the numbers, the program recognises the height of the shelf to go to for picking up or depositing.
PG 10: An entry is made on the position selector indicating whether goods are being put into or taken out of storage (the shelf address) and on which transfer station the buffer stock is held.

Teaching operation.

PG 7: 99 pre-selected shelf heights can be stored. However, the hoist movement to lift the pallet clear can be set separately for each shelf height. Two transfer station heights at the face of the racking can be assigned to function keys.
PG 10: 9x20 pre-selected shelf heights and 9x250 horizontal shelf positions can be stored. The hoist movement to lift the pallet clear can be set separately for each shelf height.
To compensate for the lateral mast deflection at very high lifts it is possible to program three different fork extension depths for the turret head. Thus in the cycle for putting goods into or out of storage the same extension depths always occur for the different racking height ranges.

On-line data transfer.

PG 10: With this optional version shelf addresses are no longer entered manually, but the movement orders come from the warehouse computer. Data transfer is inductive or by means of infra-red.

PG 7 Technical data	
Positioning accuracy, horizontal	5 mm
Liquid crystal display	1 line, 16 characters, 8 mm high, with background illumination
Key pad	16 keys
Temperature range	0 °C to +55 °C
Option	Cold store use

PG 10 Technical data	
Positioning accuracy, vertical	5 mm
Positioning accuracy, horizontal	15 mm
Liquid crystal display	4 lines of 20 characters each, 8 mm high, with background illumination
Key pad	20 keys
Temperature range	0 °C to +55 °C

Your contact

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GX GQ HHe 11/08 TD Subject to technical modifications.

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