

EK-X Technical Data Vertical Order Picker

EK-X



IFOY AWARD
international forklift truck
of the year 2014

first in intralogistics

EK-X Vertical Order Picker

The new dimension in order picking

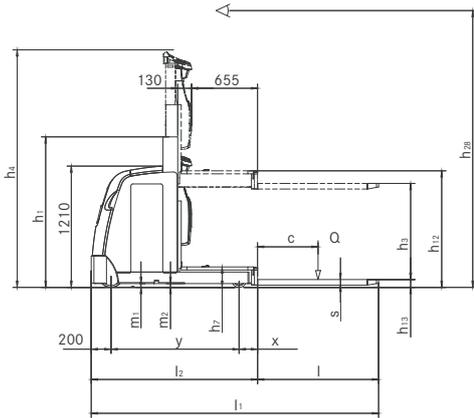
This specification sheet to VDI guideline 2198 only gives the technical figures for selected equipment variants.



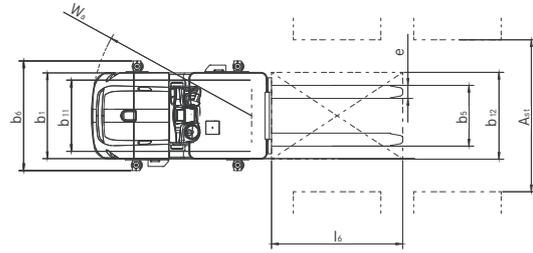
					STILL	STILL	STILL	
Distinguishing marks	1.1	Manufacturer			STILL	STILL	STILL	
	1.2	Manufacturer's type designation			EK-X single mast without additional lift	EK-X single mast with additional lift	EK-X telescopic mast	
	1.3	Drive			Electric 24 V	Electric 24 V	Electric 24 V	
	1.4	Operator type			Standing/order-picker	Standing/order-picker	Standing/order-picker	
	1.5	Rated capacity/rated load	Q	kg	1000	1000	1000	
	1.6	Load centre distance	c	mm	400	400	400	
	1.8	Load distance, centre of drive axle to fork	x	mm	182	190	185	
	1.9	Wheelbase	y	mm	1270	1260	1415	
	Weights	2.1	Service weight (incl. battery)		kg	1564	2069	2711
2.2		Axle loading, laden	drive end/load end	kg	536/2028	688/2381	1050/2661	
2.3		Axle loading, unladen	drive end/load end	kg	1006/558	1168/901	1479/1232	
Tyres/chassis	3.1	Tyres			Polyurethane	Polyurethane	Polyurethane	
	3.2	Tyre size	drive end	mm	∅ 250 x 100	∅ 250 x 100	∅ 250 x 100	
	3.3	Tyre size	load end	mm	∅ 150 x 100	∅ 150 x 100	∅ 150 x 100	
	3.5	Wheels, number (x = driven wheels)	drive end/load end		1x / 2	1x / 2	1x / 2	
Dimensions	3.7	Tread	load end	b ₁₁	mm	655	835	835
	4.2	Height	mast lowered	h ₁	mm	1500	2500	2900
	4.4	Lift		h ₃	mm	1000	1910	4550
	4.5	Height	mast extended	h ₄	mm	2395	4200	6840
	4.7	Height of overhead guard (cabin)		h ₆	mm	-	2290	2290
	4.8	Stand height		h ₇	mm	200	200	200
	4.11	Additional lift		h ₉	mm	-	800	800
	4.14	Stand height, elevated		h ₁₂	mm	1200	2110	4750
	4.14.1	Order picking height (h ₁₂ + 1600 mm)	elevated	h ₂₈	mm	2800	3710	6350
	4.15	Height	lowered	h ₁₃	mm	65	65	65
	4.19	Overall length		l ₁	mm	2452	2470	2620
	4.20	Length to face of forks		l ₂	mm	1652	1670	1820
	4.21	Overall width		b ₁ /b ₂	mm	790/790	980/980	980/980
	4.22	Fork dimensions		s/e/l	mm	55/120/800	55/120/800	55/120/800
	4.23	Fork carriage ISO 2328, class/type A, B				Welded forks	Welded forks	Welded forks
	4.24	Fork-carriage width		b ₃	mm	-	740	740
	4.25	Distance between fork-arms		b ₅	mm	560	640	640
	4.27	Width across guide rolls		b ₆	mm	-	1375	1375
	4.31	Ground clearance, laden, below mast		m ₁	mm	38	38	38
	4.32	Ground clearance, centre of wheelbase		m ₂	mm	38	38	38
	4.34.1	Aisle width for pallets 1200 x 800 lengthwise		A _{st}	mm	3109	-	-
	4.34.2	Aisle width for pallets 1200 x 800 crosswise		A _{st}	mm	2821	1380	1380
	4.35	Turning radius		W _a	mm	1470	1480	1635
4.42	Transfere aisle with, minimum		A _u	mm	2821	2838	2988	
4.45	Clear driver compartment height inside			mm	-	2000	2000	
Performance data	5.1	Travel speed	laden/unladen		km/h	9.0	10.0	10.0
	5.2	Lift speed	laden/unladen		m/s	0.15/0.19	0.18/0.25	0.22/0.31
	5.3	Lowering speed	laden/unladen		m/s	0.30/0.24	0.30/0.24	0.30/0.24
	5.9	Acceleration time (over 10 m)	laden/unladen		s	7/7	7/7	7/7
5.10	Service brake				Regenerative	Regenerative	Regenerative	
Electric engine	6.1	Drive motor rating S2 60 min		kW	3.0	3.0	3.0	
	6.2	Lift motor rating at S3 15%		kW	3.2 ¹	4.0	7.6	
	6.3	Battery according to DIN 43535			3 EPzS 420/B	4 PzS 560/B	4 PzS 560/B	
	6.4	Battery voltage/nominal capacity K _s		V/Ah	24/420	24/560	24/560	
	6.5	Battery weight (dependent on manufacturer ±5%)		kg	385	502	502	
Other	10.7	Sound level at the driver's seat		dB (A)	61	63	69	
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¹ S3 = 10%

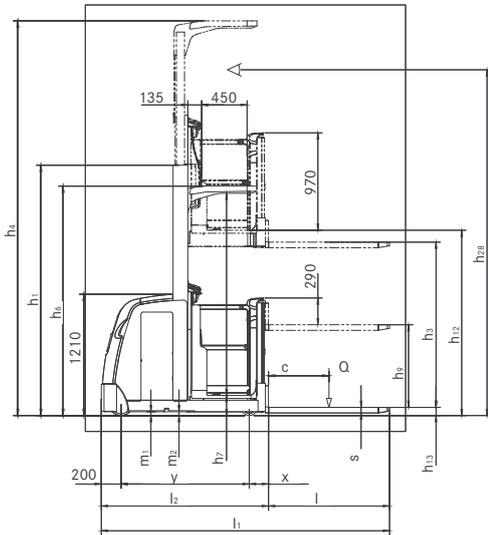
EK-X Vertical Order Picker
 Technical Drawings



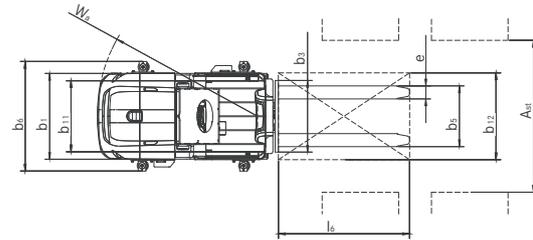
Side view single mast without auxiliary lift



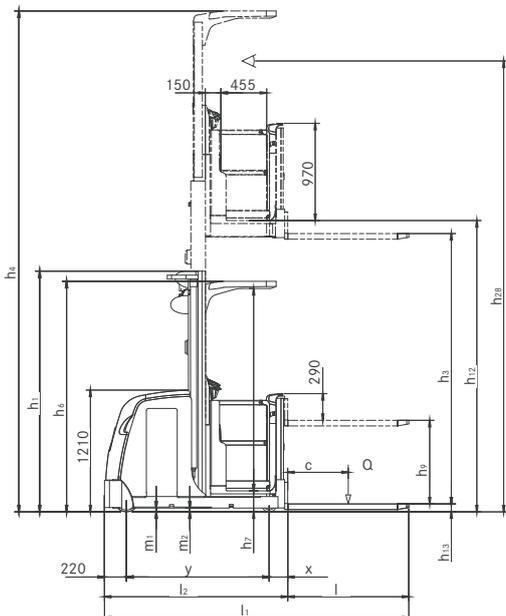
Top view single mast without auxiliary lift



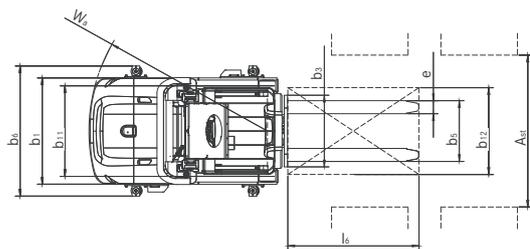
Side view single lift mast with auxiliary lift



Top view single lift mast with auxiliary lift



Side view telescopic mast



Top view telescopic lift mast

EK-X Vertical Order Picker Mast Tables

EK-X single mast without additional lift	Height, mast lowered	h_1	1,500	2,000	2,500
	Total lift above floor	$h_{25} (h_3 + h_9 + h_{13})$	1,065	1,565	1,975
	Total lift	$h_{24} (h_3 + h_9)$	1,000	1,500	1,910
	Nominal lift	h_3	1,000	1,500	1,910
	Height, lowered	h_{13}	65	65	65
	Additional lift	h_9	0	0	0
	Stand height, elevated	$h_{12} (h_3 + h_7)$	1,200	1,700	2,110
	Picking height	$h_{28} (h_{12} + 1600)$	2,800	3,300	3,710
	Height, mast extended*	h_4	2,395	3,750	4,160
EK-X single mast with additional lift	Height, mast lowered	h_1	1,500	2,000	2,500
	Total lift above floor	$h_{25} (h_3 + h_9 + h_{13})$	1,865	2,365	2,775
	Total lift	$h_{24} (h_3 + h_9)$	1,800	2,300	2,710
	Nominal lift	h_3	1,000	1,500	1,910
	Height, lowered	h_{13}	65	65	65
	Additional lift	h_9	800	800	800
	Stand height, elevated	$h_{12} (h_3 + h_7)$	1,200	1,700	2,110
	Picking height	$h_{28} (h_{12} + 1600)$	2,800	3,300	3,710
	Height, mast extended*	h_4	2,395	3,750	4,160
EK-X telescopic mast without additional lift	Height, mast lowered	h_1	2,400	2,900	
	Total lift above floor	$h_{25} (h_3 + h_9 + h_{13})$	3,615	4,615	
	Total lift	$h_{24} (h_3 + h_9)$	3,550	4,550	
	Nominal lift	h_3	3,550	4,550	
	Height, lowered	h_{13}	65	65	
	Additional lift	h_9	0	0	
	Stand height, elevated	$h_{12} (h_3 + h_7)$	3,750	4,750	
	Picking height	$h_{28} (h_{12} + 1600)$	5,350	6,350	
	Height, mast extended*	h_4	5,800	6,800	
EK-X telescopic mast with additional lift	Height, mast lowered	h_1	2,400	2,900	
	Total lift above floor	$h_{25} (h_3 + h_9 + h_{13})$	4,415	5,415	
	Total lift	$h_{24} (h_3 + h_9)$	4,350	5,350	
	Nominal lift	h_3	3,550	4,550	
	Height, lowered	h_{13}	65	65	
	Additional lift	h_9	800	800	
	Stand height, elevated	$h_{12} (h_3 + h_7)$	3,750	4,750	
	Picking height	$h_{28} (h_{12} + 1600)$	5,350	6,350	
	Height, mast extended*	h_4	5,800	6,800	

* Dimensions h_4 apply for driver roof with a clear height of 2000 mm

Detailed Photos



Roomy driver's cabin with shock-absorbing floor



Equipment options for the driver's cabin



Intuitive control panel on mast end

EK-X Vertical Order Picker
The new dimension in order picking



EK-X Vertical Order Picker

The new dimension in order picking

This specification sheet to VDI guideline 2198 only gives the technical figures for selected equipment variants.



Distinguishing marks	Manufacturer		STILL	STILL	
	Manufacturer's type designation		EK-X telescopic mast	EK-X triplex mast	
1.3	Drive		Electric 24 V	Electric 24 V	
1.4	Operator type		Standing/order-picker	Standing/order-picker	
1.5	Rated capacity/rated load	Q	kg	1000	
1.6	Load centre distance	c	mm	400	
1.8	Load distance, centre of drive axle to fork	x	mm	345	
1.9	Wheelbase	y	mm	1487	
Weights	Service weight (incl. battery)		kg	2887	
	Axle loading, laden	drive end/load end	kg	1094/2793	
	Axle loading, unladen	drive end/load end	kg	1636/1250	
Tyres/chassis	Tyres		Polyurethane		
	Tyre size	drive end	mm	∅ 360 x 130	
	Tyre size	load end	mm	∅ 180 x 156	
	Wheels, number (x = driven wheels)	drive end/load end		1x / 2	
	Tread	load end	b ₁₁	mm	700
Dimensions	Height	mast lowered	h ₁	mm	2250
	Free lift		h ₂	mm	-
	Lift		h ₃	mm	2825
	Height	mast extended	h ₄	mm	5315
	Height of overhead guard (cabin)		h ₆	mm	2490
	Stand height		h ₇	mm	240
	Additional lift		h ₉	mm	740
	Stand height	elevated	h ₁₂	mm	3065
	Order picking height (h ₁₂ + 1600 mm)	elevated	h ₂₈	mm	4665
	Height	lowered	h ₁₃	mm	65
	Overall length		l ₁	mm	3277
	Length to face of forks		l ₂	mm	2077
	Overall width		b ₁ /b ₂	mm	880/880
	Fork dimensions		s/e/l	mm	55/120/1200
	Fork carriage ISO 2328, class/type A, B				Welded forks
	Fork-carriage width		b ₃	mm	660
	Distance between fork-arms		b ₅	mm	560
	Width across guide rolls		b ₆	mm	-
	Ground clearance, laden, below mast		m ₁	mm	50
	Ground clearance, centre of wheelbase		m ₂	mm	50
	Aisle width for pallets 1200 x 800 lengthwise		A _{st}	mm	1080
	Aisle width for pallets 1200 x 800 crosswise		A _{st}	mm	-
	Turning radius		W _a	mm	1732
Transfere aisle with, minimum		A _u	mm	3528	
Clear width driver compartment entrance			mm	640	
Clear driver compartment height inside			mm	2200	
Performance data	Travel speed	laden/unladen	km/h	9.0	
	Lift speed	laden/unladen	m/s	0.23/0.30	
	Lowering speed	laden/unladen	m/s	0.28/0.28	
	Acceleration time (over 10 m)	laden/unladen	s	7/7	
	Service brake			Regenerative	
Electric engine	Drive motor rating S2 60 min		kW	4.0	
	Lift motor rating at S3 15%		kW	7.6	
	Battery according to DIN 43535			6 EPzS 840/A	
	Battery voltage/nominal capacity K ₅		V/Ah	24/840	
	Battery weight (dependent on manufacturer ±5%)		kg	687	
Other	Sound level at the driver's seat		dB (A)	61	
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EK-X Vertical Order Picker

The new dimension in order picking

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					STILL	STILL	
					EK-X telescopic mast	EK-X triplex mast	
Distinguishing marks	1.1	Manufacturer					
	1.2	Manufacturer's type designation					
	1.3	Drive			Electric 48 V	Electric 48 V	
	1.4	Operator type			Standing/order-picker	Standing/order-picker	
	1.5	Rated capacity/rated load	Q	kg	1200	1200	
	1.6	Load centre distance	c	mm	400	400	
	1.8	Load distance, centre of drive axle to fork	x	mm	345	405	
	1.9	Wheelbase	y	mm	1520	1628	
	Weights	2.1	Service weight (incl. battery)		kg	2948	3747
2.2		Axle loading, laden	drive end/load end	kg	1027/3121	1427/3520	
2.3		Axle loading, unladen	drive end/load end	kg	1664/1283	2085/1662	
Tyres/chassis	3.1	Tyres			Polyurethane	Polyurethane	
	3.2	Tyre size	drive end	mm	∅ 360 x 130	∅ 360 x 130	
	3.3	Tyre size	load end	mm	∅ 180 x 156	∅ 180 x 156	
	3.5	Wheels, number (x = driven wheels)	drive end/load end		1x / 2	1x / 2	
	3.7	Tread	load end	b ₁₁	mm	700	1000
Dimensions	4.2	Height	mast lowered	h ₁	mm	2250	2250
	4.3	Free lift		h ₂	mm	-	1600
	4.4	Lift		h ₃	mm	2825	4410
	4.5	Height	mast extended	h ₄	mm	5315	6900
	4.7	Height of overhead guard (cabin)		h ₆	mm	2490	2490
	4.8	Stand height		h ₇	mm	240	240
	4.11	Additional lift		h ₉	mm	740	740
	4.14	Stand height	elevated	h ₁₂	mm	3065	4650
	4.14.1	Order picking height (h ₁₂ + 1600 mm)	elevated	h ₂₈	mm	4665	6250
	4.15	Height	lowered	h ₁₃	mm	65	65
	4.19	Overall length		l ₁	mm	3310	3159
	4.20	Length to face of forks		l ₂	mm	2110	2359
	4.21	Overall width		b ₁ /b ₂	mm	880/880	1180/1180
	4.22	Fork dimensions		s/e/l	mm	55/120/1200	55/120/800
	4.23	Fork carriage ISO 2328, class/type A, B				Welded forks	Welded forks
	4.24	Fork-carriage width		b ₃	mm	660	740
	4.25	Distance between fork-arms		b ₅	mm	560	640
	4.27	Width across guide rolls		b ₆	mm	-	1375
	4.31	Ground clearance, laden, below mast		m ₁	mm	50	50
	4.32	Ground clearance, centre of wheelbase		m ₂	mm	50	50
	4.34.1	Aisle width for pallets 1200 x 800 lengthwise		A _{st}	mm	1080	-
4.34.2	Aisle width for pallets 1200 x 800 crosswise		A _{st}	mm	-	1380	
4.35	Turning radius		W _a	mm	1765	2071	
4.42	Transfere aisle with, minimum		A _u	mm	3561	3617	
4.44	Clear width driver compartment entrance			mm	640	640	
4.45	Clear driver compartment height inside			mm	2200	2200	
Performance data	5.1	Travel speed	laden/unladen	km/h	9.0	13.0	
	5.2	Lift speed	laden/unladen	m/s	0.32/0.40	0.36/0.40	
	5.3	Lowering speed	laden/unladen	m/s	0.35/0.35	0.35/0.35	
	5.9	Acceleration time (over 10 m)	laden/unladen	s	6/6	6/6	
	5.10	Service brake			Regenerative	Regenerative	
Electric engine	6.1	Drive motor rating S2 60 min		kW	6.5	6.5	
	6.2	Lift motor rating at S3 20%		kW	13	13	
	6.3	Battery according to DIN 43535			3 EPzS 420/A	4 EPzS 560/A	
	6.4	Battery voltage/nominal capacity K ₅		V/Ah	48/420	48/560	
	6.5	Battery weight (dependent on manufacturer ±5%)		kg	739	933	
Other	10.7	Sound level at the driver's seat		dB (A)	61	61	
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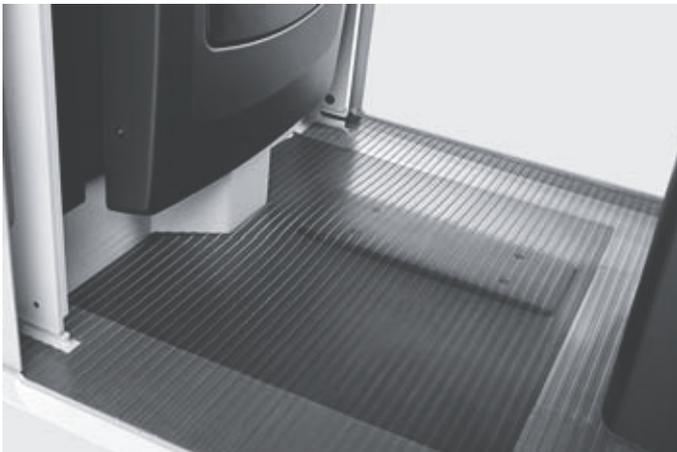
EK-X Vertical Order Picker
Detailed Photos



Roomy driver's cabin with control panel on mast end



Roomy driver's cabin with control panel on both sides



Shock-absorbing floor with integrated drive switch



Equipment options for the driver's cabin

EK-X Vertical Order Picker

The new dimension in order picking

Picking heights up to 12 meters

Large, roomy cabin

Modular system – optimally adaptable to any warehouse



It's the Prince of Pickers and Nobility in any narrow-aisle warehouse: the EK-X vertical order picker sets the benchmark in terms of performance, picking height, residual load capacity, functionality and ergonomics.

The EK-X forges ahead into new dimensions of efficient goods handling with driving speeds up to 13 km/h and lifting speeds up to 0.4 m/s. Thanks to the OPTISPEED system, this compact warehouse helper is always on the move at maximum speed – without impairing

safe driving. Other features include an excellent field of view and a maximum pick height of 12 meters - outstanding in the truest sense of the word – as well as a roomy, shock-absorbing driver's cabin. In short: if you want the most efficient, user-friendly picking warehouse management, you can't do without an EK-X. Moreover, the modular system allows the optimum EK-X to be custom-built for every warehouse.

Extensive Equipment

Power

- Maintenance-free 3-phase drive unit, 24 V or 48 V
- Effective goods handling due to very high driving and lifting speeds (13 km/h and 0.4 m/s)
- Enough energy for multi-shift operations thanks to battery capacities up to 1240 Ah (24 V) or 930 Ah (48 V)
- Efficient picking with heavy loads even at large lift heights

Precision

- Sensitive operation and stepless control of lift speed thanks to state-of-the-art proportional valve technology
- Power-optimized driving speeds through accurate height sensing
- Maximum possible operating speed for each load weight thanks to the OPTISPEED-System
- Easier workload through semiautomatic approach to shelf with OPTISPEED 4.0

Ergonomics

- Quick, safe personnel entry and exit thanks to generously sized, low-level entry area
- High degree of movement freedom due to roomy driver's cabin
- Shock-absorbing floor with integrated drive switch guarantees relaxed working
- Effective working with any body size thanks to low cabin wall and small distance to load carrier

- Optional tilting side barriers for even easier access to goods
- Intuitive, individually positionable control panel
- Wide variety of equipment options for the driver's cabin (e. g. attachment system for terminals etc., storage option, leaning support, 12 volt power socket)

Safety

- Safe handling in a very narrow aisle with mechanical or inductive guidance
- Long-life, energy-saving LED headlights for optimum visibility
- Optional OPTISAFE system gives optimum support when navigating and operating the vehicle in sensitive warehouse areas
- Safe operation through sensor-controlled two-handed operation
- Faster servicing due to easily accessible service points

Environmental responsibility

- Longer operating time and optimum use of resources through energy recovery during braking and lowering operations
- Blue-Q efficiency mode saves up to 10 percent energy at the push of a button without sacrificing power
- 90 percent of all the materials used are recyclable

EK-X Vertical Order Picker

Equipment Variants



		EK-X 24 V b ₁ = 790	EK-X 24 V b ₁ = 980	EK-X 24 V b ₁ = 880-1580	EK-X 48 V b ₁ = 880-1580
Driver's space	Damped driver's compartment for best comfort on uneven floors and thresholds	●	●	●	●
	Integrated storage compartments, bottle holder	●	●	●	●
	LCD display of the current status and lifting height	○	○	●	●
	Tilting side barriers to reduce the distance from the rack	—	—	○	○
	Cabins for different widths	○	○	○	○
	Control panel on mast end	●	●	●	●
	Control panel on load end or both sides	○	○	○	○
	Control panel height adjustable	—	—	○	○
	Operation auxiliary lift on load end	○	○	○	○
	knee cushion on load end to support the picking	—	—	○	○
	Support bar to lean against for control panel on mast end	—	—	○	○
	Overhead guard 2000 mm clear height	○	○	●	●
	Overhead guard 2200 mm clear height	○	○	○	○
Steering	Steering knob or steering wheel	●	●	●	●
	Redundant safety system for steering	●	●	●	●
	Full electric 180° steering	●	●	●	●
Mast	Free view mast	—	—	●	●
	Single mast	○	○	—	—
	Telescopic mast	○	○	○	○
	Triplex free view mast with free lift	—	—	○	○
	Mast transition damping	—	—	●	●
	Auxiliary lift	○	○	○	○
Hydraulics	Noise optimised hydraulic pump	●	●	●	●
	Proportional valve technology for sensitive movements	●	●	●	●
	Individual parameterisation of the hydraulic functions	●	●	●	●
	Energy recuperation lowering	—	—	●	●
Drives	Stepless acceleration up to the maximum speed	●	●	●	●
	Maintenance-free drives for driving, lift and steering	●	●	●	●
	Fully capsulated components protected against dirt and dust	●	●	●	●
	Integrated current and temperature sensors monitoring the functions	●	●	●	●
Brakes	Regenerative brake system	●	●	●	●
	Energy recuperation when braking	●	●	●	●
	Electric load wheel brake as additional brake	—	—	○	○
Safety and performance	Mechanical guidance with guide rollers	—	○	○	○
	Wire guidance with automatic wire search	—	—	○	○
	FleetManager: Access control	○	○	○	○
	FleetManager: Shock detection	○	○	○	○
	FleetManager: Reports	○	○	○	○
	OPTISPEED: Lift height and load controlled speed reduction	—	—	○	○
	Keyless PIN code access with button	○	○	○	○
	Flash light	○	○	●	●
	Safety Light	○	○	○	○
	Spotlights	○	○	○	○
	Dimmable lighting system for cabin	—	—	○	○
	Macrolon overhead guard cover	○	○	○	○
	Steering angle controlled stepless speed reduction	○	○	●	●
	Lift switch off and lowering stop	○	○	○	○
	Drive cut-out	○	○	○	○
	Provision for PSA-equipment	—	—	○	○
	Automatic braking at aisle end	○	○	○	○
	Hoist service package for high lift speeds	○	○	○	○
Drive service package for high travel speeds	—	—	○	○	
Non-contact collision guard on overhead guard	○	○	○	○	
Antistatic version	○	○	○	○	
Battery system	Battery conveyor for lateral exchange of battery	○	○	○	○
	Battery exchange by forklift truck	○	○	○	○
	Battery exchange by hoist	○	○	—	—
	Battery compartment for 360 Ah to 930 Ah	○	○	○	○
	Battery compartment for 720 Ah to 1240 Ah	—	—	○	○
	Battery compartment cover at the side	○	○	○	○
Additional equipment	Different fork lengths	○	○	○	○
	FEM fork carriage	○	○	○	○
	Preparation data terminal and printer	○	○	○	○
	Cold storage version	○	○	○	○
	Fan on overhead guard	○	○	○	○
	Support bar for data terminal, writing pad and free universal support mount	—	—	○	○
	Provision for radio	○	○	○	○
	Walk-on pallet version with guard cage	○	○	○	○
	12 volt power socket	—	—	○	○
	Pedestrian operation for floor level order picking	○	○	—	—

● Standard ○ Optional — Not available

STILL



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