

## EK-X Technical Data vertical order pickers

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EK-X



first in intralogistics

# EK-X vertical order picker

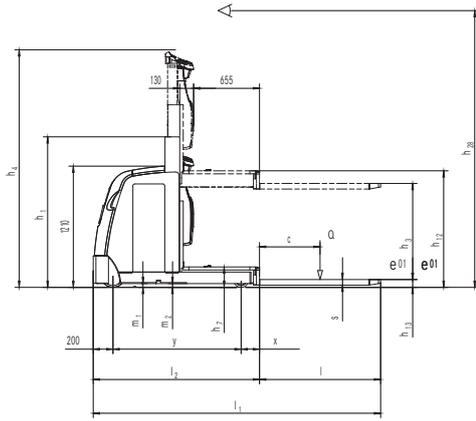
This specification sheet to VDI guideline 2198 only gives the technical figures for selected equipment variants.



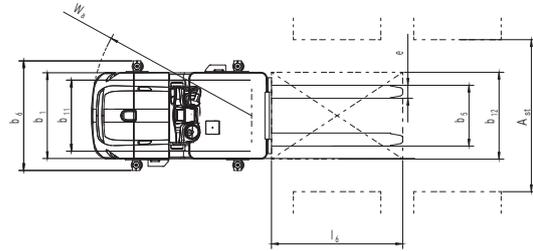
				STILL	STILL	STILL	
				EK-X single mast without additional lift	EK-X single mast with additional lift	EK-X telescopic mast	
Distinguishing mark	1.1	Manufacturer					
	1.2	Manufacturer's type designation					
	1.3	Drive		electric 24 V	electric 24 V	electric 24 V	
	1.4	Operator type		standing/order-picker	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
	Weight	2.1	Service weight (incl. battery)		kg	1564	2069
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	ø 250 x 100	ø 250 x 100	ø 250 x 100
	3.3	Tyre size, load end		mm	ø 150 x 100	ø 150 x 100	ø 150 x 100
	3.5	Wheels, number drive end/load end (x = driven wheels)			1x / 2	1x / 2	1x / 2
	3.6	Tread, drive end	b <sub>10</sub>	mm	-	-	-
	3.7	Tread, load end	b <sub>11</sub>	mm	655	835	835
	Dimensions	4.2	Height, mast lowered	h <sub>1</sub>	mm	1500	2500
4.3		Free lift	h <sub>2</sub>	mm	-	-	-
4.4		Lift	h <sub>3</sub>	mm	1000	1910	4550
4.5		Height, mast extended	h <sub>4</sub>	mm	2395	4200	6840
4.7		Height of overhead guard (cabin)	h <sub>6</sub>	mm	-	2290	2290
4.8		Stand height	h <sub>7</sub>	mm	200	200	200
4.11		Additional lift	h <sub>9</sub>	mm	-	800	800
4.14		Stand height, elevated	h <sub>12</sub>	mm	1200	2110	4750
4.14.1		Order picking height (h <sub>12</sub> + 1600 mm), elevated	h <sub>28</sub>	mm	2800	3710	6350
4.15		Height, lowered	h <sub>13</sub>	mm	65	65	65
4.19		Overall length	l <sub>1</sub>	mm	2452	2470	2620
4.20		Length to face of forks	l <sub>2</sub>	mm	1652	1670	1820
4.21		Overall width	b <sub>1</sub> /b <sub>2</sub>	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 <sub>3</sub>	mm	-	740	740
4.25		Distance between fork-arms	b <sub>5</sub>	mm	560	640	640
4.27		Width across guide rolls	b <sub>6</sub>	mm	-	1375	1375
4.31		Ground clearance, laden, below mast	m <sub>1</sub>	mm	38	38	38
4.32		Ground clearance, centre of wheelbase	m <sub>2</sub>	mm	38	38	38
4.34.1	Aisle width for pallets 1200 x 800 lengthwise	A <sub>st</sub>	mm	3109	-	-	
4.34.2	Aisle width for pallets 1200 x 800 crosswise	A <sub>st</sub>	mm	2821	1380	1380	
4.35	Turning radius	W <sub>a</sub>	mm	1470	1480	1635	
4.42	Transfere aisle with, minimum	A <sub>u</sub>	mm	2821	2838	2988	
4.44	Clear width driver compartment entrance		mm	-	-	-	
4.45	Clear driver compartment height inside		mm	-	2000	2000	
Performance data	5.1	Travel speed		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			generator	generator	generator
Electric-engine	6.1	Drive motor rating S2 60 min		kW	3.0 kW	3.0 kW	3.0 kW
	6.2	Lift motor rating at S3 15%		kW	3.2 kW <sup>1</sup>	4.0 kW	7.6 kW
	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 <sub>s</sub>		V/Ah	24 V/420 Ah	24 V/560 Ah	24 V/560 Ah
	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
		With our VNAP tool we will calculate the technical specifications of the truck with your individual equipment. The calculated speed profiles are based on our floor quality rules. Subject to change without notice. Values can vary ±10%.					

<sup>1</sup> S3 = 10%

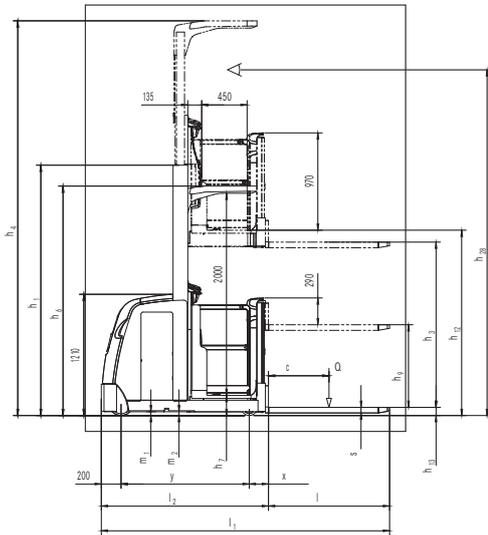
EK-X vertical order picker  
 Technical drawings



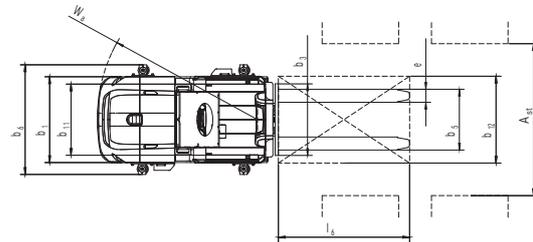
Side view Single lift mast without auxiliary lift



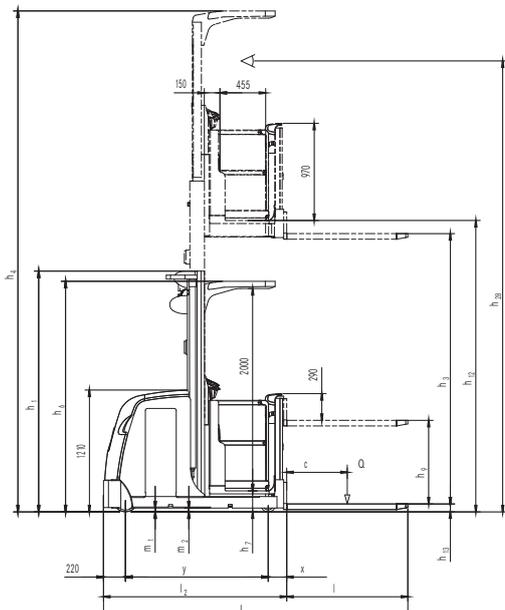
Top view Single lift mast without auxiliary lift



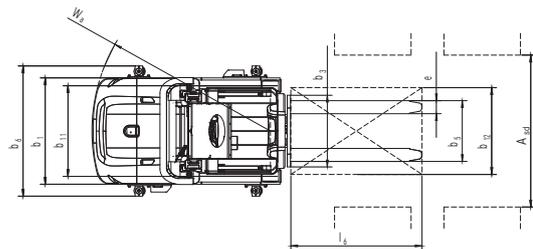
Side view Single lift mast with auxiliary lift



Top view Single lift mast with auxiliary lift



Side view Telescopic lift mast



Top view Telescopic lift mast

## EK-X vertical order picker Mast table

EK-X single mast without additional lift	Height, mast lowered	$h_1$	1.500	2.000	2.500
	Total lift above floor	$h_{25} (h_3 + h_9 + h_{13})$	1.865	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	$h_9$	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 masts 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 masts with 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	
* Dimensions $h_4$ apply for driver roof with a clear height of 2000 mm					

## Equipment variants



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

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



				STILL	STILL	
Distinguishing mark	1.1	Manufacturer		<b>EK-X telescopic mast</b>	<b>EK-X triplex mast</b>	
	1.2	Manufacturer's type designation		electric 24 V	electric 24 V	
	1.3	Drive		standing/order-picker	standing/order-picker	
	1.4	Operator type				
	1.5	Rated capacity/rated load	Q	kg	1000	1000
	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	1487	1595
	Weight	2.1	Service weight (incl. battery)		kg	2887
2.2		Axle loading, laden drive end/load end		kg	1094/2793	1502/3186
2.3		Axle loading, unladen drive end/load end		kg	1636/1250	2062/1627
Tyres/chassis	3.1	Tyres			polyurethane	polyurethane
	3.2	Tyre size, drive end		mm	ø 360 x 130	ø 360 x 130
	3.3	Tyre size, load end		mm	ø 180 x 156	ø 180 x 156
	3.5	Wheels, number drive end/load end (x = driven wheels)			1x / 2	1x / 2
	3.6	Tread, drive end	b <sub>10</sub>	mm	-	-
	3.7	Tread, load end	b <sub>11</sub>	mm	700	1000
	Dimensions	4.2	Height, mast lowered	h <sub>1</sub>	mm	2250
4.3		Free lift	h <sub>2</sub>	mm	-	1600
4.4		Lift	h <sub>3</sub>	mm	2825	4410
4.5		Height, mast extended	h <sub>4</sub>	mm	5315	6900
4.7		Height of overhead guard (cabin)	h <sub>6</sub>	mm	2490	2490
4.8		Stand height	h <sub>7</sub>	mm	240	240
4.11		Additional lift	h <sub>9</sub>	mm	740	740
4.14		Stand height, elevated	h <sub>12</sub>	mm	3065	4650
4.14.1		Order picking height (h <sub>12</sub> + 1600 mm), elevated	h <sub>28</sub>	mm	4665	6250
4.15		Height, lowered	h <sub>13</sub>	mm	65	65
4.19		Overall length	l <sub>1</sub>	mm	3277	3126
4.20		Length to face of forks	l <sub>2</sub>	mm	2077	2326
4.21		Overall width	b <sub>1</sub> /b <sub>2</sub>	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 <sub>3</sub>	mm	660	740
4.25		Distance between fork-arms	b <sub>5</sub>	mm	560	640
4.27		Width across guide rolls	b <sub>6</sub>	mm	-	1375
4.31		Ground clearance, laden, below mast	m <sub>1</sub>	mm	50	50
4.32		Ground clearance, centre of wheelbase	m <sub>2</sub>	mm	50	50
4.34.1		Aisle width for pallets 1200 x 800 lengthwise	A <sub>st</sub>	mm	1080	-
4.34.2		Aisle width for pallets 1200 x 800 crosswise	A <sub>st</sub>	mm	-	1380
4.35	Turning radius	W <sub>s</sub>	mm	1732	2040	
4.42	Transfere aisle with, minimum	A <sub>u</sub>	mm	3528	3586	
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		km/h	9.0	10.0
	5.2	Lift speed, laden/unladen		m/s	0.23/0.30	0.20/0.30
	5.3	Lowering speed, laden/unladen		m/s	0.28/0.28	0.28/0.28
	5.9	Acceleration time (over 10 m), laden/unladen		s	7/7	7/7
	5.10	Service brake			generator	generator
Electric-engine	6.1	Drive motor rating S2 60 min		kW	4.0	4.0
	6.2	Lift motor rating at S3 15%		kW	7.6	7.6
	6.3	Battery according to DIN 43535			6 EPzS 840/A	8 EPzS 1120/A
		Battery voltage/nominal capacity K <sub>s</sub>		V/Ah	24 V/840 Ah	24 V/1120 Ah
	6.5	Battery weight (dependent on manufacturer ±5%)		kg	687	883
Other	10.7	Sound level at the driver's seat		dB (A)	61	61
		With our VNAP tool we will calculate the technical specifications of the truck with your individual equipment. The calculated speed profiles are based on our floor quality rules. Subject to change without notice. Values can vary ± 10%.				

# EK-X vertical order picker

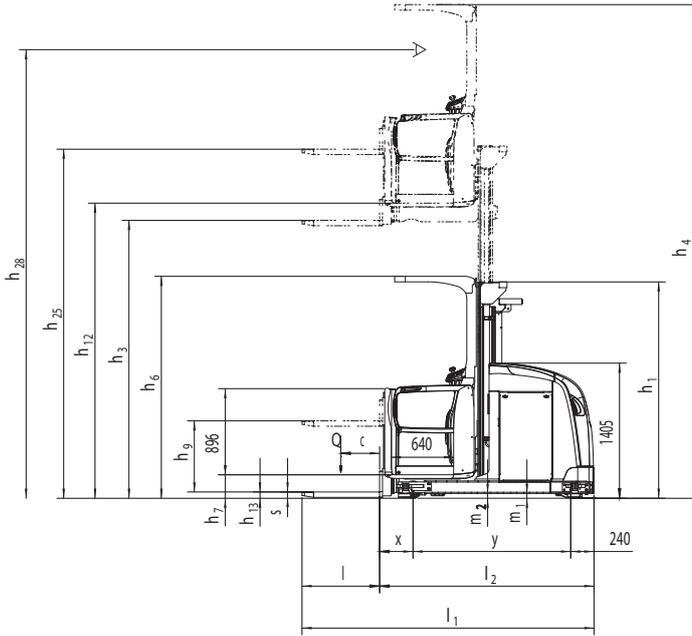
## The new dimension in order picking

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

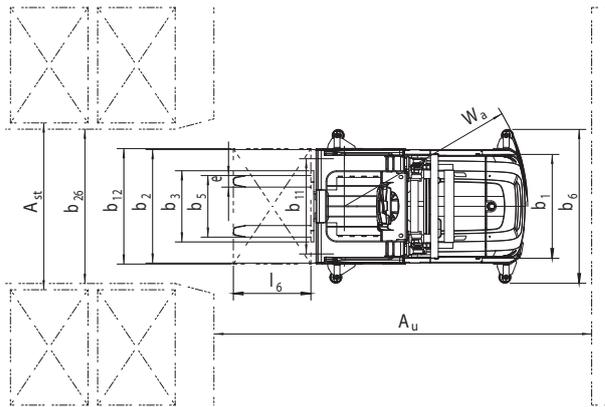


				STILL	STILL	
				EK-X telescopic mast	EK-X triplex mast	
Distinguishing mark	1.1	Manufacturer				
	1.2	Manufacturer's type designation				
	1.3	Drive		electric 48 V	electric 48 V	
	1.4	Operator type		standing/order-picker	standing/order-picker	
	1.5	Rated capacity/rated load	Q	kg	1200	1200
	1.6	Load 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
	Weight	2.1	Service weight (incl. battery)		kg	2948
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	ø 360 x 130	ø 360 x 130
	3.3	Tyre size, load end		mm	ø 180 x 156	ø 180 x 156
	3.5	Wheels, number drive end/load end (x = driven wheels)			1x / 2	1x / 2
	3.6	Tread, drive end	b <sub>10</sub>	mm	-	-
	3.7	Tread, load end	b <sub>11</sub>	mm	700	1000
	Dimensions	4.2	Height, mast lowered	h <sub>1</sub>	mm	2250
4.3		Free lift	h <sub>2</sub>	mm	-	1600
4.4		Lift	h <sub>3</sub>	mm	2825	4410
4.5		Height, mast extended	h <sub>4</sub>	mm	5315	6900
4.7		Height of overhead guard (cabin)	h <sub>6</sub>	mm	2490	2490
4.8		Stand height	h <sub>7</sub>	mm	240	240
4.11		Additional lift	h <sub>9</sub>	mm	740	740
4.14		Stand height, elevated	h <sub>12</sub>	mm	3065	4650
4.14.1		Order picking height (h <sub>12</sub> + 1600 mm), elevated	h <sub>128</sub>	mm	4665	6250
4.15		Height, lowered	h <sub>13</sub>	mm	65	65
4.19		Overall length	l <sub>1</sub>	mm	3310	3159
4.20		Length to face of forks	l <sub>2</sub>	mm	2110	2359
4.21		Overall width	b <sub>1</sub> /b <sub>2</sub>	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 <sub>3</sub>	mm	660	740
4.25		Distance between fork-arms	b <sub>5</sub>	mm	560	640
4.27		Width across guide rolls	b <sub>6</sub>	mm	-	1375
4.31		Ground clearance, laden, below mast	m <sub>1</sub>	mm	50	50
4.32		Ground clearance, centre of wheelbase	m <sub>2</sub>	mm	50	50
4.34.1		Aisle width for pallets 1200 x 800 lengthwise	A <sub>st</sub>	mm	1080	-
4.34.2	Aisle width for pallets 1200 x 800 crosswise	A <sub>st</sub>	mm	-	1380	
4.35	Turning radius	W <sub>a</sub>	mm	1765	2071	
4.42	Transfere aisle with, minimum	A <sub>u</sub>	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		km/h	9.0	13.0
	5.2	Lift speed, laden/unladen		m/s	0.32/0.4	0.36/0.4
	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			generator	generator
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 <sub>s</sub>		V/Ah	48 V/420 Ah	48 V/560 Ah
	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
		With our VNAP tool we will calculate the technical specifications of the truck with your individual equipment. The calculated speed profiles are based on our floor quality rules. Subject to change without notice. Values can vary ± 10%.				

EK-X vertical order picker  
 Technical drawings



Side view



Top view

Mast table

EK-X telescopic masts with additional lift	Height, mast lowered	$h_1$	2.250	2.450	2.900	3.400	3.900	4.400	4.900	5.400
	Total lift above floor	$h_{25} (h_3 + h_9 + h_{13})$	3.625	4.025	4.925	5.925	6.525	7.525	8.525	9.325
	Total lift	$h_{24} (h_3 + h_9)$	3.565	3.965	4.865	5.865	6.465	7.465	8.465	9.265
	Nominal lift	$h_3$	2.825	3.225	4.125	5.125	5.725	6.725	7.725	8.525
	Height, lowered	$h_{13}$	60	60	60	60	60	60	60	60
	Additional lift	$h_9$	740	740	740	740	740	740	740	740
	Stand height, elevated	$h_{12} (h_3 + h_7)$	3.065	3.465	4.365	5.365	5.965	6.965	7.965	8.765
	Picking height	$h_{28} (h_{12} + 1600)$	4.665	5.065	5.965	6.965	7.565	8.565	9.565	10.365
Height, mast extended*	$h_4$	5.115	5.515	6.415	7.415	8.015	9.015	10.015	10.815	
EK-X triplex masts with additional lift	Height, mast lowered	$h_1$	2.250	2.450	2.900	3.400	3.900	4.500		
	Total lift above floor	$h_{25} (h_3 + h_9 + h_{13})$	5.210	5.810	7.160	7.960	9.460	10.960		
	Total lift	$h_{24} (h_3 + h_9)$	5.150	5.750	7.100	7.900	9.400	10.900		
	Nominal lift	$h_3$	4.410	5.010	6.360	7.160	8.660	10.160		
	Free lift	$h_2$	1.600	1.800	2.250	2.750	3.250	3.850		
	Height, lowered	$h_{13}$	60	60	60	60	60	60		
	Additional lift	$h_9$	740	740	740	740	740	740		
	Stand height, elevated	$h_{12} (h_3 + h_7)$	4.650	5.250	6.600	7.400	8.900	10.400		
Picking height	$h_{28} (h_{12} + 1600)$	6.250	6.850	8.200	9.000	10.500	12.000			
Height, mast extended*	$h_4$	6.700	7.300	8.650	9.450	10.950	12.450			

\* Dimensions  $h_4$  apply for driver roof with a clear height of 2000 mm  
 Intermediate heights on request.

# EK-X vertical order picker

## Equipment variants

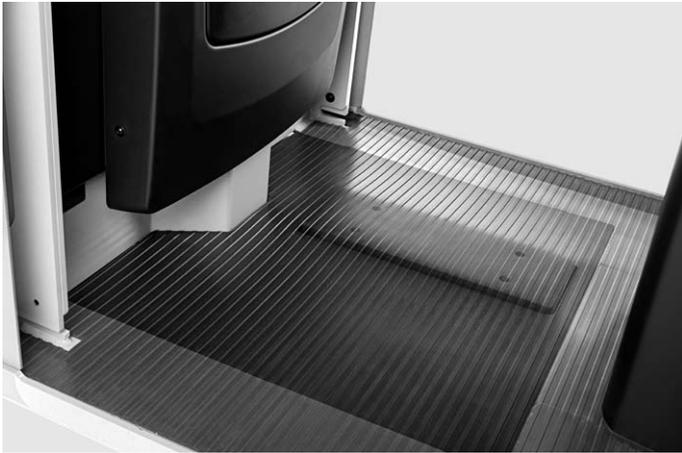
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Roomy driver's cabin with control panel on mast end



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

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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

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### Power

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- 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

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- 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

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- 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

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- 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

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- 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 <sub>1</sub> = 790	EK-X 24 V b <sub>1</sub> = 980	EK-X 24 V b <sub>1</sub> = 880-1580	EK-X 48 V b <sub>1</sub> = 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	-	-	○	○
	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 ○ Option - not available

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