## STILL

# EK-X Technical Data <br> Vertical Order Picker 



EK-X 10 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 | 1.1 | Manufacturer |  |  | STILL | STILL | STILL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1.2 | Manufacturer's type designation |  |  | EK-X 10 single mast without additional lift | EK-X 10 single mast with additional lift | EK-X 10 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 | 180 | 180 | 180 |
|  | 1.9 | Wheelbase | y | mm | 1270 | 1260 | 1415 |
| $\begin{aligned} & \frac{0}{4} \\ & \frac{00}{0.00} \\ & 30 \end{aligned}$ | 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 |
|  | 3.1 | Tyres |  |  | Polyurethane | Polyurethane | Polyurethane |
|  | 3.2 | Tyre size drive end |  | mm | $\varnothing 250 \times 100$ | $\varnothing 250 \times 100$ | $\varnothing 250 \times 100$ |
|  | 3.3 | Tyre size load end |  | mm | $\varnothing 125 \times 105$ | $\varnothing 125 \times 105$ | $\varnothing 150 \times 100$ |
|  | 3.5 | Wheels, number ( $x=$ driven wheels) drive end/load end |  |  | $1 \mathrm{x} / 2$ | $1 \mathrm{x} / 2$ | $1 \mathrm{x} / 2$ |
|  | 3.7 | Tread load end | $b_{11}$ | mm | 660 | 850 | 850 |
| $\begin{aligned} & \text { © } \\ & \text { 응 } \\ & \text { N} \\ & \text { 틈 } \end{aligned}$ | 4.2 | Height mast lowered | $h_{1}$ | mm | 1620 | 2530 | 2900 |
|  | 4.4 | Lift | $h_{3}$ | mm | 1000 | 1910 | 4550 |
|  | 4.5 | Height mast extended | $h_{4}$ | mm | 2395 | 4170 | 6810 |
|  | 4.7 | Height of overhead guard (cabin) | $h_{6}$ | mm | - | 2260 | 2260 |
|  | 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 ( $\mathrm{h}_{12}+1600 \mathrm{~mm}$ ) elevated | $h_{28}$ | mm | 2800 | 3710 | 6350 |
|  | 4.15 | Height lowered | $h_{13}$ | mm | 65 | 65 | 65 |
|  | 4.19 | Overall length | $1_{1}$ | mm | 2465 | 2475 | 2630 |
|  | 4.20 | Length to face of forks | $\mathrm{I}_{2}$ | mm | 1665 | 1675 | 1830 |
|  | 4.21 | Overall width | $\mathrm{b}_{1} / \mathrm{b}_{2}$ | mm | 790/790 | 980/980 | 980/980 |
|  | 4.22 | Fork dimensions | s/e/l | mm | 60/120/800 | 60/120/800 | 60/120/800 |
|  | 4.23 | Fork carriage ISO 2328, class/type A, B |  |  | Welded forks | Welded forks | Welded forks |
|  | 4.24 | Fork-carriage width | $\mathrm{b}_{3}$ | mm | - | 740 | 740 |
|  | 4.25 | Distance between fork-arms | $\mathrm{b}_{5}$ | mm | 560 | 640 | 640 |
|  | 4.27 | Width across guide rolls | $\mathrm{b}_{6}$ | mm | - | 1375 | 1375 |
|  | 4.31 | Ground clearance, laden, below mast | $\mathrm{m}_{1}$ | mm | 40 | 40 | 38 |
|  | 4.32 | Ground clearance, centre of wheelbase | $\mathrm{m}_{2}$ | mm | 40 | 40 | 38 |
|  | 4.34 .1 | Aisle width for pallets $1200 \times 800$ lengthwise | $\mathrm{A}_{\text {st }}$ | mm | 3122 | - | - |
|  | 4.34 .2 | Aisle width for pallets $1200 \times 800$ crosswise | $\mathrm{A}_{\text {st }}$ | mm | 2834 | 1380 | 1380 |
|  | 4.35 | Turning radius | Wa | mm | 1485 | 1495 | 1650 |
|  | 4.42 | Transfere aisle with, minimum | $\mathrm{A}_{u}$ | mm | 2834 | 2844 | 2999 |
|  | 4.45 | Clear driver compartment height inside |  | mm | - | 2000 | 2000 |
|  | 5.1 | Travel speed laden/unladen |  | km/h | 9.0/9.0 | 10.0/10.0 | 10.0/10.0 |
|  | 5.2 | Lift speed laden/unladen |  | $\mathrm{m} / \mathrm{s}$ | 0.15/0.19 | 0.18/0.25 | 0.22/0.31 |
|  | 5.3 | Lowering speed laden/unladen |  | $\mathrm{m} / \mathrm{s}$ | 0.30/0.24 | 0.30/0.24 | 0.30/0.24 |
|  | 5.9 | Acceleration time (over 10 m ) Iaden/unladen |  | s | 7/7 | 7/7 | 7/7 |
|  | 5.10 | Service brake |  |  | Regenerative | Regenerative | Regenerative |
|  | 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 |  |  | 3PzS 420/B | 4PzS 560/B | 4PzS 560/B |
|  | 6.4 | Battery voltage/nominal capacity $\mathrm{K}_{5}$ |  | V/Ah | 24/420 | 24/560 | 24/560 |
|  | 6.5 | Battery weight (dependent on manufacturer $\pm 5 \%$ ) |  | kg | 385 | 502 | 502 |
| $\begin{aligned} & \stackrel{\rightharpoonup}{\leftrightarrows} \\ & \stackrel{1}{5} \end{aligned}$ | 10.7 | Sound level at the driver's seat |  | $\mathrm{dB}(\mathrm{A})$ | 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 $\pm 10 \%$. |  |  |  |  |  |



Side view single mast without auxiliary lift


Side view single lift mast with auxiliary lift


Side view telescopic mast with auxiliary lift


Top view single lift mast with auxiliary lift


Top view telescopic lift mast with auxiliary lift

EK-X 10 Vertical Order Picker
Mast Tables

|  | Height, mast lowered | $h_{1}$ | mm | 1,620 | 2,120 | 2,530 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | mm | 1,065 | 1,565 | 1,975 |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | mm | 1,000 | 1,500 | 1,910 |
|  | Nominal lift | $h_{3}$ | mm | 1,000 | 1,500 | 1,910 |
|  | Height, lowered | $h_{13}$ | mm | 65 | 65 | 65 |
|  | Additional lift | $h_{9}$ | mm | 0 | 0 | 0 |
|  | Stand height, elevated | $h_{12}\left(h_{3}+h_{7}\right)$ | mm | 1,200 | 1,700 | 2,110 |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | mm | 2,800 | 3,300 | 3,710 |
|  | Height, mast extended ${ }^{1}$ | $h_{4}$ | mm | 2,395 | 3,760 | 4,170 |
|  | Height, mast lowered | $h_{1}$ | mm | 1,620 | 2,120 | 2,530 |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | mm | 1,865 | 2,365 | 2,775 |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | mm | 1,800 | 2,300 | 2,710 |
|  | Nominal lift | $h_{3}$ | mm | 1,000 | 1,500 | 1,910 |
|  | Height, lowered | $h_{13}$ | mm | 65 | 65 | 65 |
|  | Additional lift | h, | mm | 800 | 800 | 800 |
|  | Stand height, elevated | $h_{12}\left(h_{3}+h_{7}\right)$ | mm | 1,200 | 1,700 | 2,110 |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | mm | 2,800 | 3,300 | 3,710 |
|  | Height, mast extended ${ }^{1}$ | $h_{4}$ | mm | 2,395 | 3,760 | 4,170 |
|  | Height, mast lowered | $h_{1}$ | mm | 2,400 | 2,900 |  |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | mm | 3,615 | 4,615 |  |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | mm | 3,550 | 4,550 |  |
|  | Nominal lift | $h_{3}$ | mm | 3,550 | 4,550 |  |
|  | Height, lowered | $h_{13}$ | mm | 65 | 65 |  |
|  | Additional lift | $\mathrm{h}_{9}$ | mm | 0 | 0 |  |
|  | Stand height, elevated | $h_{12}\left(h_{3}+h_{7}\right)$ | mm | 3,750 | 4,750 |  |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | mm | 5,350 | 6,350 |  |
|  | Height, mast extended ${ }^{1}$ | $h_{4}$ | mm | 5,810 | 6,810 |  |
|  | Height, mast lowered | $h_{1}$ | mm | 2,400 | 2,900 |  |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | mm | 4,415 | 5,415 |  |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | mm | 4,350 | 5,350 |  |
|  | Nominal lift | $h_{3}$ | mm | 3,550 | 4,550 |  |
|  | Height, lowered | $h_{13}$ | mm | 65 | 65 |  |
|  | Additional lift | $h_{9}$ | mm | 800 | 800 |  |
|  | Stand height, elevated | $h_{12}\left(h_{3}+h_{7}\right)$ | mm | 3,750 | 4,750 |  |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | mm | 5,350 | 6,350 |  |
|  | Height, mast extended ${ }^{1}$ | $h_{4}$ | mm | 5,810 | 6,810 |  |

${ }^{1}$ Dimensions $h_{4}$ apply for driver roof with a clear height of 2000 mm

## Detailed Photos



Perfect visibility through the mast for safe and fast manoeuvrability


Safe two-hand operation of the auxiliary lift


Customer-specific access concepts


Controls on both sides of the cabin


Easy battery change and safe positioning of the battery


Optional STILL Safety Light increases warehouse safety


Knee upholstering on the load end cabin wall


Truck-specific equipment options


Battery compartment cover can be opened and closed without tools

|  | 1.1 | Manufacturer |  |  |  | STILL | STILL | STILL | STLL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1.2 | Manufacture＇s type designation |  |  |  | EK－X telescopic mast | EK－X triplex mast | EK－X telescopic mast | EK－X triplex mast |
|  | 1.3 | Drive |  |  |  | Electric 24 V | Electric 24 V | Electric 48 V | Electric 48 V |
|  | 1.4 | Operator type |  |  |  | Standing／order－picker | Standing／order－picker | Standing／order－picker | Standing／order－picker |
|  | 1.5 | Rated capacity／rated load |  | a | kg | 1000 | 1000 | 1200 | 1200 |
|  | 1.6 | Load centre distance |  | c | mm | 400 | 400 | 400 | 400 |
|  | 1.8 | Load distance，centre of drive axle to fork |  | $\times$ | mm | 345 | 405 | 345 | 405 |
|  | 1.9 | Wheelbase |  | y | mm | 1487 | 1595 | 1520 | 1628 |
|  | 2.1 | Serice weight（incl．battery） |  |  | kg | 2887 | 3688 | 2948 | 3747 |
|  | 2.2 | Axte loading，laden | drive end／load end |  | kg | 1094／2793 | 1502／3186 | 1027／3121 | 1427／3520 |
|  | 2.3 | Axte loading，unladen | drive end／load end |  | kg | 1636／1250 | 2062／1627 | 1664／1283 | 2085／1662 |
| 边 | 3.1 | Tyres |  |  |  | Polyurethane | Polyurethane | Polyurethane | Polyurethane |
|  | 3.2 | Tyre size | drive end |  | mm | ¢ $360 \times 130$ | $\varnothing 360 \times 130$ | ¢ $360 \times 130$ | $\varnothing 360 \times 130$ |
|  | 3.3 | Tyre size | load end |  | mm | ¢ $180 \times 156$ | $\phi 180 \times 156$ | ¢ $180 \times 156$ | ¢ $180 \times 156$ |
|  | 3.5 | Wheels，number（ $x=$ driven wheels） | drive end／load end |  |  | $1 \times / 2$ | 1x／2 | $1 \times / 2$ | $1 \times / 2$ |
|  | 3.7 | Tread | load end | $b_{11}$ | mm | 700 | 1000 | 700 | 1000 |
|  | 4.2 | Height | mast lowered | $h_{1}$ | mm | 2250 | 2250 | 2250 | 2250 |
|  | 4.3 | Free ift |  | $h_{2}$ | mm |  | 1600 |  | 1600 |
|  | 4.4 | Lift |  | $\mathrm{n}_{3}$ | mm | 2825 | 4410 | 2825 | 4410 |
|  | 4.5 | Height | mast extended | $h_{4}$ | mm | 5315 | 6900 | 5315 | 6900 |
|  | 4.7 | Height of overread guard（cabin） |  | $\mathrm{h}_{6}$ | mm | 2490 | 2490 | 2490 | 2490 |
|  | 4.8 | Stand height |  | $h_{7}$ | mm | 240 | 240 | 240 | 240 |
|  | 4.11 | Additional lift |  | $\mathrm{h}_{9}$ | mm | 740 | 740 | 740 | 740 |
|  | 4.14 | Stand height | elevated | $h_{12}$ | mm | 3065 | 4650 | 3065 | 4650 |
|  | 4.14 .1 | Order picking height（ $\mathrm{h}_{12}+1600 \mathrm{~mm}$ ） | elevated | $\mathrm{h}_{20}$ | mm | 4665 | 6250 | 4665 | 6250 |
|  | 4.15 | Height | lowered | ${ }_{1} 13$ | mm | 65 | 65 | 65 | 65 |
|  | 4.19 | Overall length |  | 1 | mm | 3277 | 3126 | 3310 | 3159 |
|  | 4.20 | Length to face of forks |  | $l_{2}$ | mm | ${ }^{2077}$ | 2326 | 2110 | 2359 |
|  | 4.21 | Overall width |  | $b_{1} / b_{2}$ | mm | 880／880 | 1880／1180 | 880／880 | 1180／1180 |
|  | 4.22 | Fork dimensions |  | s／e／l | mm | 55／120／1200 | 55／120／800 | 55／120／1200 | 55／120／800 |
|  | 4.23 4.24 | Fork carriage 1180 2328，class／type A，B Fork－cariage width |  | $\mathrm{b}_{3}$ | mm | Welled forks | Welled forks | Welded forks | Welded forks 740 |
|  | 4.25 | Distance between fork－arms |  | $\mathrm{b}_{5}$ | mm | 560 | 640 | 560 | 640 |
|  | 4.27 | Width across guide rolls |  | $\mathrm{b}_{6}$ | mm | 1155 | 1375 | 1155 | 1375 |
|  | 4.31 | Ground clearance，laden，below mast |  | $\mathrm{m}_{1}$ | mm | 50 | 50 | 50 | 50 |
|  | 4.32 | Ground clearance，centre of wheelbase |  | $\mathrm{m}_{2}$ | mm | 50 | 50 | 50 | 50 |
|  | 4.34 .1 | Aisle width for pallets $1200 \times 800$ lengthwise |  | Ast | mm | 1160 |  | 1160 |  |
|  | 4．34．2 | Aisle width for pallets $1200 \times 800$ crosswise |  | At | mm | － | 1380 | － | 1380 |
|  | 4.35 | Turning radius |  | W。 | mm | 1732 | 2040 | 1765 | 2071 |
|  | 4.42 | Transfere aisle with，minimum |  | $A_{u}$ | mm | 3528 | 3586 | 3561 | 3617 |
|  | 4.44 | Clear width driver compartment entrance |  |  | mm | 640 | 640 | 640 | 640 |
|  | 4.45 | Clear driver compartment height inside |  |  | mm | 2200 | 2200 | 2200 | 2200 |
|  | 5.1 | Travel speed | laden／unladen |  | km／h | 10．0／10．0 | 10．0／10．0 | 11．0／11．0 | 13．0／13．0 |
|  | 5.2 | Lift speed | laden／unladen |  | m／s | 0．23／0．30 | 0．20／0．30 | 0．32／0．40 | 0．36／0．40 |
|  | 5．3 | Lowering speed | laden／unladen |  | m／s | 0．28／0．28 | 0．28／0．28 | 0．35／0．35 | 0．35／0．35 |
|  | 5.9 5.10 | Acceleration time（over 10 m ） Senice brake | laden／unladen |  |  | 7／7 | 7／7 <br> Regenerative | ${ }^{6 / 6}$ Regenerative | ${ }^{6 / 6}$ Regenerative |
| 咢 | 6.1 | Drive motor rating S 260 min |  |  | kW | 4.0 | 4.0 | 6.5 | 6.5 |
|  | 6.2 | Lift motor rating at S3 15\％ |  |  | kW | 7.6 | 7.6 | 13 | 13 |
|  | 6.3 | Battery according to DIN 43535 |  |  |  | 6 EPPS 840／A | 8 EP2S 1120／A | 3 EPPS 420／A | 4 EPZS 560／A |
|  | 6.4 | Battery voltage／nominal capacity $\mathrm{K}_{5}$ |  |  | V ／ Ah | 24／840 | 24／1120 | 48／420 | 48／560 |
|  | 6.5 | Battery weight（dependent on manufacturer $55 \%$ ） |  |  |  | 687 | 883 | 739 | 933 |
| 产 | 10.7 | Sound level a the driver＇s seat With our VNAP tool we will calculate the technical | al equipment．The cat | alculate | dB（A） | es are based on our flo | 6es．Subiect to change | 61 | 61 |


opview


EK-X Vertical Order Picker
Mast Tables

|  | Height, mast lowered | $h_{1}$ | mm | 2,250 | 2,450 | 2,900 | 3,400 | 3,900 | 4,400 | 4,900 | 5,400 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | mm | 3,625 | 4,025 | 4,925 | 5,925 | 6,525 | 7,525 | 8,525 | 9,325 |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | mm | 3,565 | 3,965 | 4,865 | 5,865 | 6,465 | 7,465 | 8,465 | 9,265 |
|  | Nominal lift | $h_{3}$ | mm | 2,825 | 3,225 | 4,125 | 5,125 | 5,725 | 6,725 | 7,725 | 8,525 |
|  | Height, lowered | $h_{13}$ | mm | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
|  | Additional lift | $\mathrm{h}_{9}$ | mm | 740 | 740 | 740 | 740 | 740 | 740 | 740 | 740 |
|  | Stand height, elevated | $h_{12}\left(h_{3}+h_{7}\right)$ | mm | 3,065 | 3,465 | 4,365 | 5,365 | 5,965 | 6,965 | 7,965 | 8,765 |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | mm | 4,665 | 5,065 | 5,965 | 6,965 | 7,565 | 8,565 | 9,565 | 10,365 |
|  | Height, mast extended ${ }^{1}$ | $h_{4}$ | mm | 5,115 | 5,515 | 6,415 | 7,415 | 8,015 | 9,015 | 10,015 | 10,815 |
|  | Height, mast lowered | $h_{1}$ | mm | 2,250 | 2,450 | 2,900 | 3,400 | 3,900 | 4,500 |  |  |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | mm | 5,210 | 5,810 | 7,160 | 7,960 | 9,460 | 10,960 |  |  |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | mm | 5,150 | 5,750 | 7,100 | 7,900 | 9,400 | 10,900 |  |  |
|  | Nominal lift | $h_{3}$ | mm | 4,410 | 5,010 | 6,360 | 7,160 | 8,660 | 10,160 |  |  |
|  | Free lift | $h_{2}$ | mm | 1,600 | 1,800 | 2,250 | 2,750 | 3,250 | 3,850 |  |  |
|  | Height, lowered | $h_{13}$ | mm | 60 | 60 | 60 | 60 | 60 | 60 |  |  |
|  | Additional lift | h9 | mm | 740 | 740 | 740 | 740 | 740 | 740 |  |  |
|  | Stand height, elevated | $h_{12}\left(h_{3}+h_{7}\right)$ | mm | 4,650 | 5,250 | 6,600 | 7,400 | 8,900 | 10,400 |  |  |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | mm | 6,250 | 6,850 | 8,200 | 9,000 | 10,500 | 12,000 |  |  |
|  | Height, mast extended ${ }^{1}$ | $h_{4}$ | mm | 6,700 | 7,300 | 8,650 | 9,450 | 10,950 | 12,450 |  |  |

${ }^{1}$ Dimensions $h_{4}$ apply for driver roof with a clear height of 2000 mm . Intermediate heights on request.



Spacious driver workplace


Shock-absorbing floor with integrated drive switch


Tilting bar for ergonomic order picking to the last article on the pallet


Drive end and load end operation for optimum truck utilisation


Easy and safe pallet access through open barrier

Optimum use of storage space: picking heights of up to 12 metres Large and spacious cabin for maximum freedom of movement

Optimally adjustable to any warehouse: customised solution thanks to modular design


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 $13 \mathrm{~km} / \mathrm{h}$ and lifting speeds up to $0.4 \mathrm{~m} / \mathrm{s}$. 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 $(13 \mathrm{~km} / \mathrm{h}$ and $0.4 \mathrm{~m} / \mathrm{s})$
- Enough energy for multi-shift operations thanks to battery capacities up to 1240 Ah (24 V) or 930 Ah ( 48 V )
- Powerful auxiliary lift for efficient order picking


## 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, lowlevel 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 and optionally height-adjustable control panel for ergonomic work
- 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

|  |  | $\begin{gathered} \text { EK-X } 10 \\ b_{1}=790 \mathrm{~mm} \end{gathered}$ | $\begin{gathered} \text { EK-X } 10 \\ b_{1}=980 \mathrm{~mm} \end{gathered}$ | $\begin{gathered} \text { EK-X } 24 \mathrm{~V} \\ \mathrm{~b}_{1}=880-1580 \mathrm{~mm} \end{gathered}$ | $\begin{gathered} \quad E K-X 48 \mathrm{~V} \\ \mathrm{~b}_{1}=880-1580 \mathrm{~mm} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Shock-absorbing work space for optimum comfort on bumpy floors and trespasses | - | - | $\bullet$ | - |
|  | Integrated storage compartments, bottle holder | $\bullet$ | $\bullet$ | - | - |
|  | LCD display indicating truck status and lift height | $\bigcirc$ | $\bigcirc$ | $\bullet$ | $\bullet$ |
|  | Tilting barrier for optimum reach | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Cabins for different widths | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Control panel on mast end | $\bullet$ | $\bullet$ | $\bullet$ | - |
|  | Control panel on mast end or on both sides | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Height-adjustable control panel | - | - | 0 | 0 |
|  | Auxiliary lift control on both sides | 0 | 0 | $\bigcirc$ | $\bigcirc$ |
|  | Knee upholstering for support when order picking | 0 | 0 | 0 | $\bigcirc$ |
|  | Adjustable lean on support for load end work | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Overhead guard height 2000 mm | 0 | 0 | $\bullet$ | $\bullet$ |
|  | Overhead guard height 2200 mm | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Steering wheel or steering knob | $\bullet$ | $\bullet$ | - | - |
|  | Redundant steering safety system | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  | Fully electric $180^{\circ}$ steering | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| $\begin{aligned} & \stackrel{\rightharpoonup}{\omega} \\ & \sum_{2}^{n} \end{aligned}$ | Free view mast | - | - | - | - |
|  | Single mast | $\bigcirc$ | $\bigcirc$ | - | - |
|  | Tele mast | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Triple free view mast with free view | - | - | 0 | 0 |
|  | Mast transition dampening | - | - | $\bullet$ | $\bullet$ |
|  | Auxiliary lift | 0 | 0 | O | 0 |
|  | Noise-optimised hydraulic pump | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  | Proportional valve technology for particularly sensitive movements | - | - | - | - |
|  | Individual parametrisation of hydraulic functions | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  | Energy recovery when lowering | - | - | - | $\bullet$ |
| $\stackrel{\text { ® }}{\text { ¢ }}$ | Jerk-free, stepless acceleration up to top speed | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  | Maintenance-free drives for driving, steering and lifting | $\bullet$ | $\bullet$ | - | $\bullet$ |
|  | Fully capsulated, dirt- and dust-resistant component | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  | Integrated current and temperature sensors for function monitoring | - | $\bullet$ | - | - |
| ¢ | Regenerative brake system | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  | Energy recovery when braking | - | - | - | $\bullet$ |
|  | Additional electric load wheel brake | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Battery roller track for lateral battery change | 0 | 0 | 0 | 0 |
|  | Battery change by forklift truck | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Battery change by crane | 0 | 0 | - | - |
|  | Battery compartment for 360 Ah to 465 Ah | $\bullet$ | - | - | $\bullet$ |
|  | Battery compartment for 400 Ah to 500 Ah | - | 0 | - | - |
|  | Battery compartment for 480 Ah to 620 Ah | $\bigcirc$ | $\bigcirc$ | - | $\bigcirc$ |
|  | Battery compartment for 720 Ah to 930 Ah | - | $\bigcirc$ | $\bullet$ | 0 |
|  | Battery compartment for 720 Ah to 1240 Ah | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Lateral battery compartment cover | 0 | 0 | 0 | 0 |
|  | FleetManager: access authorisation, shock detection, reports | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Rail guidance with entrance rollers | $\bigcirc$ | 0 | 0 | 0 |
|  | Wire guidance with automatic loop finder | - | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | OPTISPEED: lift height- and load-controlled speed control | - | - | 0 | 0 |
|  | PIN code access, keyless with push button | 0 | 0 | $\bigcirc$ | 0 |
|  | Warning light | 0 | 0 | $\bullet$ | $\bullet$ |
|  | STILL Safety Light | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Spot lights | $\bigcirc$ | 0 | 0 | 0 |
|  | Dimmable cabin light | $\bigcirc$ | $\bigcirc$ | 0 | 0 |
|  | Plastic overhead guard cover | 0 | $\bigcirc$ | 0 | 0 |
|  | Steering angle-controlled cornering speed reduction | $\bigcirc$ | $\bigcirc$ | $\bullet$ | $\bullet$ |
|  | Lift cut-out and lowering stop | 0 | 0 | 0 | 0 |
|  | Drive cut-out | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Preparation for PSA | - | 0 | 0 | 0 |
|  | Automatic end-of-aisle stop | - | 0 | $\bigcirc$ | $\bigcirc$ |
|  | Heavy Duty performance package for lifting | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Heavy Duty performance package for driving | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Contactless collision guard on overhead guard | 0 | 0 | 0 | $\bigcirc$ |
|  | Anti-static version | 0 | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| 哭 | Different fork lengths | 0 | 0 | 0 | 0 |
|  | FEM fork carriage | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Preparation for data terminal and printer | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Cold store version | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Fan | $\bigcirc$ | O | 0 | 0 |
|  | Mounting bar system for terminal, writing pad and other accessory | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Preparation for radio | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Walk-on pallet with railing | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | 12 V socket | 0 | 0 | 0 | 0 |
|  | Pedestrian operation for floor level order picking | $\bigcirc$ | $\bigcirc$ | - | - |

- Standard O Optional — Not available


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