## STILL

EK-X Technical Data<br>Vertical Order Picker


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．

|  | 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 ${ }^{\text {a }}$ |  |  | 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 |
|  | 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 | ¢ $250 \times 100$ | ¢ $250 \times 100$ | ¢ $250 \times 100$ |
| 흗 | 3.3 | Tyre size load end |  | mm | ¢ $150 \times 100$ | ¢ $150 \times 100$ | ¢ $150 \times 100$ |
| $\stackrel{0}{\infty}$ | 3.5 | Wheels，number（ $x=$ driven wheels）drive end／load end |  |  | $1 \mathrm{x} / 2$ | $1 \mathrm{x} / 2$ | $1 \mathrm{x} / 2$ |
| 去 | 3.6 | Tread drive end | $\mathrm{b}_{10}$ | mm | － | － | － |
|  | 3.7 | Tread load end | $b_{11}$ | mm | 655 | 835 | 835 |
|  | 4.2 | Height mast lowered | $h_{1}$ | mm | 1500 | 2500 | 2900 |
|  | 4.3 | Free lift | $h_{2}$ | mm | － | － | － |
|  | 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） | $\mathrm{h}_{6}$ | mm | － | 2290 | 2290 |
|  | 4.8 | Stand height | $h_{7}$ | mm | 200 | 200 | 200 |
|  | 4.11 | Additional lift | h， | 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 | $I_{1}$ | mm | 2452 | 2470 | 2620 |
| . | 4.20 | Length to face of forks | $\mathrm{I}_{2}$ | mm | 1652 | 1670 | 1820 |
| $\stackrel{\mathscr{\sigma}}{ \pm}$ | 4.21 | Overall width | $b_{1} / b_{2}$ | mm | 790／790 | 980／980 | 980／980 |
| E.E | 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 | $\mathrm{b}_{3}$ | mm | － | 740 | 740 |
|  | 4.25 | Distance between fork－arms | $b_{5}$ | 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 | 38 | 38 | 38 |
|  | 4.32 | Ground clearance，centre of wheelbase | $\mathrm{m}_{2}$ | mm | 38 | 38 | 38 |
|  | 4．34．1 | Aisle width for pallets $1200 \times 800$ lengthwise | $\mathrm{A}_{\text {st }}$ | mm | 3109 | － | － |
|  | 4.34 .2 | Aisle width for pallets $1200 \times 800$ crosswise | Ast | mm | 2821 | 1380 | 1380 |
|  | 4.35 | Turning radius | Wa | mm | 1470 | 1480 | 1635 |
|  | 4.42 | Transfere aisle with，minimum | $\mathrm{A}_{u}$ | mm | 2821 | 2838 | 2988 |
|  | 4.45 | Clear driver compartment height inside |  | mm | － | 2000 | 2000 |
|  | 5.1 | Travel speed laden／unladen |  | km／h | 9.0 | 10.0 | 10.0 |
|  | 5.2 | Lift speed Iaden／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 ）laden／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 |  |  | $3 \mathrm{EPzS} 420 / \mathrm{B}$ | 4 PzS 560／B | 4 PzS 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 |
| $\begin{aligned} & \text { ゅ̀ } \\ & \text { 訁 } \end{aligned}$ | 10.7 | Sound level at the driver＇s seat |  | dB（A） | 61 | 63 | 69 |
|  |  | With our VNAP tool we will calculate the technical specific quality rules．Subject to change without notice．Values can | ations of vary $\pm$ | the truck \％． | with your individual equip | t．The calculated speed p | es are based on our floor |

${ }^{\prime}$ S3 $=10 \%$


Side view single mast without auxiliary lift


Side view single lift mast with auxiliary lift


Side view telescopic mast


Top view single mast without auxiliary lift


Top view single lift mast with auxiliary lift


Top view telescopic lift mast

|  | Height, mast lowered | $h_{1}$ | 1,500 | 2,000 | 2,500 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | 1,065 | 1,565 | 1,975 |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | 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 | $h_{12}\left(h_{3}+h_{7}\right)$ | 1,200 | 1,700 | 2,110 |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | 2,800 | 3,300 | 3,710 |
|  | Height, mast extended* | $h_{4}$ | 2,395 | 3,750 | 4,160 |
|  | Height, mast lowered | $h_{1}$ | 1,500 | 2,000 | 2,500 |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | 1,865 | 2,365 | 2,775 |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | 1,800 | 2,300 | 2,710 |
|  | Nominal lift | $\mathrm{h}_{3}$ | 1,000 | 1,500 | 1,910 |
|  | Height, lowered | $h_{13}$ | 65 | 65 | 65 |
|  | Additional lift | $h_{9}$ | 800 | 800 | 800 |
|  | Stand height, elevated | $h_{12}\left(h_{3}+h_{7}\right)$ | 1,200 | 1,700 | 2,110 |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | 2,800 | 3,300 | 3,710 |
|  | Height, mast extended* | $h_{4}$ | 2,395 | 3,750 | 4,160 |
|  | Height, mast lowered | $h_{1}$ | 2,400 | 2,900 |  |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | 3,615 | 4,615 |  |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | 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 | $h_{12}\left(h_{3}+h_{7}\right)$ | 3,750 | 4,750 |  |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | 5,350 | 6,350 |  |
|  | Height, mast extended* | $h_{4}$ | 5,800 | 6,800 |  |
|  | Height, mast lowered | $h_{1}$ | 2,400 | 2,900 |  |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | 4,415 | 5,415 |  |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | 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 | $h_{12}\left(h_{3}+h_{7}\right)$ | 3,750 | 4,750 |  |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | 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.

|  | 1.1 | Manufacturer |  |  | STILL | STILL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1.2 | 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 | 0 | 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 |
|  | 2.1 | Service weight (incl. battery) |  | kg | 2887 | 3688 |
|  | 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 |
|  | 3.1 | Tyres |  |  | Polyurethane | Polyurethane |
|  | 3.2 | Tyre size drive end |  | mm | ¢ $360 \times 130$ | ¢ $360 \times 130$ |
|  | 3.3 | Tyre size load end |  | mm | ¢ $180 \times 156$ | ¢ $180 \times 156$ |
|  | 3.5 | Wheels, number ( $\mathrm{x}=$ driven wheels) drive end/load end |  |  | $1 \mathrm{x} / 2$ | $1 \mathrm{x} / 2$ |
|  | 3.6 | Tread drive end | $\mathrm{b}_{10}$ | mm | - | - |
|  | 3.7 | Tread load end | $\mathrm{b}_{11}$ | mm | 700 | 1000 |
|  | 4.2 | Height mast lowered | $h_{1}$ | mm | 2250 | 2250 |
|  | 4.3 | Free lift | $\mathrm{h}_{2}$ | 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) | $\mathrm{h}_{6}$ | 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 ( $\mathrm{h}_{12}+1600 \mathrm{~mm}$ ) elevated | $h_{28}$ | mm | 4665 | 6250 |
|  | 4.15 | Height lowered | $h_{13}$ | mm | 65 | 65 |
|  | 4.19 | Overall length | $I_{1}$ | mm | 3277 | 3126 |
|  | 4.20 | Length to face of forks | $\mathrm{I}_{2}$ | mm | 2077 | 2326 |
|  | 4.21 | Overall width | $\mathrm{b}_{1} / \mathrm{b}_{2}$ | 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 | $\mathrm{b}_{3}$ | mm | 660 | 740 |
|  | 4.25 | Distance between fork-arms | $\mathrm{b}_{5}$ | mm | 560 | 640 |
|  | 4.27 | Width across guide rolls | $b_{6}$ | mm | - | 1375 |
|  | 4.31 | Ground clearance, laden, below mast | $\mathrm{m}_{1}$ | mm | 50 | 50 |
|  | 4.32 | Ground clearance, centre of wheelbase | $\mathrm{m}_{2}$ | mm | 50 | 50 |
|  | 4.34 .1 | Aisle width for pallets $1200 \times 800$ lengthwise | $A_{\text {st }}$ | mm | 1080 | - |
|  | 4.34 .2 | Aisle width for pallets $1200 \times 800$ crosswise | Ast | mm | - | 1380 |
|  | 4.35 | Turning radius | Wa | mm | 1732 | 2040 |
|  | 4.42 | Transfere aisle with, minimum | $\mathrm{A}_{u}$ | mm | 3528 | 3586 |
|  | 4.44 | Clear width driver compartment entrance |  | mm | 640 | 640 |
|  | 4.45 | Clear driver compartment height inside |  | mm | 2200 | 2200 |
|  | 5.1 | Travel speed laden/unladen |  | km/h | 9.0 | 10.0 |
|  | 5.2 | Lift speed laden/unladen |  | $\mathrm{m} / \mathrm{s}$ | 0.23/0.30 | 0.20/0.30 |
|  | 5.3 | Lowering speed laden/unladen |  | $\mathrm{m} / \mathrm{s}$ | 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 |  |  | Regenerative | Regenerative |
|  | 6.1 |  |  | kW | 4.0 | 4.0 |
| - | 6.2 | Drive motor rating S2 60 min Lift motor rating at S3 15\% |  | kW | 7.6 | 7.6 |
| - | 6.3 | Lift motor rating at S3 15\% <br> Battery according to DIN 43535 |  |  | 6 EPzS 840/A | 8 EPzS 1120/A |
| 층 | 6.4 | Battery voltage/nominal capacity $\mathrm{K}_{5}$ |  | V/Ah | 24/840 | 24/1120 |
|  | 6.5 | Battery weight (dependent on manufacturer $\pm 5 \%$ ) |  | kg | 687 | 883 |
| $\stackrel{\bar{\Phi}}{\square}$ | 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 $\pm 10 \%$. |  |  |  |  |

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.

|  | 1.1 | Manufacturer |  |  |  | STILL | STILL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1.2 | Manufacturer's type designation |  |  |  | EK-X telescopic mast | EK-X triplex mast |
|  | 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 |  | a | 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 |
|  | 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 |
|  | 3.1 | Tyres |  |  |  | Polyurethane | Polyurethane |
|  | 3.2 | Tyre size | drive end |  | mm | $\varnothing 360 \times 130$ | ¢ $360 \times 130$ |
|  | 3.3 |  | load end |  | mm | ¢ $180 \times 156$ | ¢ $180 \times 156$ |
|  | 3.5 | Wheels, number ( $\mathrm{x}=$ driven wheels) | drive end/load end |  |  | 1x/2 | 1x/2 |
|  | 3.6 |  | drive end | $\mathrm{b}_{10}$ | mm | - | - |
|  | 3.7 | Tread | load end | $b_{11}$ | mm | 700 | 1000 |
|  | 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) |  | $\mathrm{h}_{6}$ | 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 ( $\mathrm{h}_{12}+1600 \mathrm{~mm}$ ) | elevated | $h_{28}$ | mm | 4665 | 6250 |
|  | 4.15 |  | lowered | $h_{13}$ | mm | 65 | 65 |
|  | 4.19 | Overall length |  | $\\|_{1}$ | mm | 3310 | 3159 |
|  | 4.20 | Length to face of forks |  | 12 | mm | 2110 | 2359 |
|  | 4.21 |  |  | $b_{1} / b_{2}$ | 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 |  | $\mathrm{b}_{3}$ | mm | 660 | 740 |
|  | 4.25 | Distance between fork-arms |  | $\mathrm{b}_{5}$ | mm | 560 | 640 |
|  | 4.27 | Width across guide rolls |  | $b_{6}$ | mm | - | 1375 |
|  | 4.31 | Ground clearance, laden, below mast |  | $\mathrm{m}_{1}$ | mm | 50 | 50 |
|  | 4.32 | Ground clearance, centre of wheelbase |  | $\mathrm{m}_{2}$ | mm | 50 | 50 |
|  | 4.34.1 | Aisle width for pallets $1200 \times 800$ lengthwise |  | $A_{\text {st }}$ | mm | 1080 | - |
|  | 4.34.2 | Aisle width for pallets $1200 \times 800$ crosswise |  | Ast | mm | - | 1380 |
|  | 4.35 | Turning radius |  | W | 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 |
|  | 5.1 | Travel speed | laden/unladen |  | km/h | 9.0 | 13.0 |
|  | 5.2 | Lift speed | laden/unladen |  | $\mathrm{m} / \mathrm{s}$ | 0.32/0.40 | 0.36/0.40 |
|  | 5.3 | Lowering speed | laden/unladen |  | $\mathrm{m} / \mathrm{s}$ | 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 |
| \% | 6.1 | Drive motor rating S 260 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 $\mathrm{K}_{5}$ |  |  | V/Ah | 48/420 | 48/560 |
|  | 6.5 | Battery weight (dependent on manufacturer $\pm 5 \%$ ) |  |  | kg | 739 | 933 |
|  | 10.7 | Sound level at the driver's seat |  |  | dB (A) | 61 | 61 |
| 흫 |  | 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


Top view

## Mast Tables

|  | 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 | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | 3,625 | 4,025 | 4,925 | 5,925 | 6,525 | 7,525 | 8,525 | 9,325 |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | 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 | $h_{12}\left(h_{3}+h_{7}\right)$ | 3,065 | 3,465 | 4,365 | 5,365 | 5,965 | 6,965 | 7,965 | 8,765 |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | 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 |
|  | Height, mast lowered | $h_{1}$ | 2,250 | 2,450 | 2,900 | 3,400 | 3,900 | 4,500 |  |  |
|  | Total lift above floor | $h_{25}\left(h_{3}+h_{9}+h_{13}\right)$ | 5,210 | 5,810 | 7,160 | 7,960 | 9,460 | 10,960 |  |  |
|  | Total lift | $h_{24}\left(h_{3}+h_{9}\right)$ | 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, | 740 | 740 | 740 | 740 | 740 | 740 |  |  |
|  | Stand height, elevated | $h_{12}\left(h_{3}+h_{7}\right)$ | 4,650 | 5,250 | 6,600 | 7,400 | 8,900 | 10,400 |  |  |
|  | Picking height | $h_{28}\left(h_{12}+1600\right)$ | 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. |  |  |  |  |  |  |  |  |  |



Roomy driver's cabin with control panel on mast end


Shock-absorbing floor with integrated drive switch


Roomy driver's cabin with control panel on both sides


Equipment options for the driver's cabin

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)
- 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

|  |  | $\begin{aligned} & \text { EK-X } 24 \mathrm{~V} \\ & \mathrm{~b}_{1}=790 \end{aligned}$ | $\begin{aligned} & \text { EK-X } 24 \mathrm{~V} \\ & \mathrm{~b}_{1}=980 \end{aligned}$ | $\begin{aligned} & \text { EK-X } 24 \mathrm{~V} \\ & \mathrm{~b}_{1}=880-1580 \end{aligned}$ | $\begin{aligned} & \text { EK-X } 48 \mathrm{~V} \\ & \mathrm{~b}_{1}=880-1580 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Damped driver's compartment for best comfort on uneven floors and thresholds | - | - | $\bigcirc$ | - |
|  | Integrated storage compartments, bottle holder | - | - | - | - |
|  | LCD display of the current status and lifting height | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Tilting side barriers to reduce the distance from the rack | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Cabins for different widths | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| $\stackrel{\circ}{0}$ | Control panel on mast end | $\bigcirc$ | - | $\bigcirc$ | - |
| 䧻 | Control panel on load end or both sides | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| 름 | Control panel height adjustable | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Operation auxiliary lift on load end | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | knee cushion on load end to support the picking | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Support bar to lean against for control panel on mast end | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Overhead guard 2000 mm clear height | $\bigcirc$ | $\bigcirc$ | - | - |
|  | Overhead guard 2200 mm clear height | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Steering knob or steering wheel | $\bigcirc$ | - | $\bigcirc$ | $\bigcirc$ |
|  | Redundant safety system for steering | $\bigcirc$ | - | - | - |
|  | Full electric $180^{\circ}$ steering | - | - | - | - |
|  | Free view mast | - | - | $\bigcirc$ | - |
|  | Single mast | $\bigcirc$ | $\bigcirc$ | - | - |
|  | Telescopic mast | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Triplex free view mast with free lift | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Mast transition damping | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Auxiliary lift | 0 | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Noise optimised hydraulic pump | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Proportional valve technology for sensitive movements | - | - | $\bigcirc$ | - |
|  | Individual parameterisation of the hydraulic functions | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Energy recuperation lowering | - | - | - | $\bigcirc$ |
| 름 | Stepless acceleration up to the maximum speed | $\bigcirc$ | - | $\bigcirc$ | $\bigcirc$ |
|  | Maintenance-free drives for driving, lift and steering | $\bigcirc$ | - | $\bigcirc$ | - |
|  | Fully capsulated components protected against dirt and dust | $\bigcirc$ | - | $\bigcirc$ | $\bigcirc$ |
|  | Integrated current and temperature sensors monitoring the functions | - | - | - | - |
| ¢ | Regenerative brake system | $\bigcirc$ | - | $\bigcirc$ | $\bigcirc$ |
|  | Energy recuperation when braking | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Electric load wheel brake as additional brake | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Mechanical guidance with guide rollers | - | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Wire guidance with automatic wire search | - | - | $\bigcirc$ | $\bigcirc$ |
|  | FleetManager: Access control | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | FleetManager: Shock detection | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | FleetManager: Reports | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | OPTISPEED: Lift height and load controlled speed reduction | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Keyless PIN code access with button | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Flash light | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Safety Light | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Spotlights | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Dimmable lighting system for cabin | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Macrolon overhead guard cover | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Steering angle controlled stepless speed reduction | $\bigcirc$ | $\bigcirc$ | - | $\bigcirc$ |
|  | Lift switch off and lowering stop | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Drive cut-out | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Provision for PSA-equipment | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Automatic braking at aisle end | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Hoist service package for high lift speeds | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Drive service package for high travel speeds | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Non-contact collision guard on overhead guard | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Antistatic version | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Battery conveyor for lateral exchange of battery | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Battery exchange by forklift truck | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Battery exchange by hoist | $\bigcirc$ | $\bigcirc$ | - | - |
|  | Battery compartment for 360 Ah to 930 Ah | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Battery compartment for 720 Ah to 1240 Ah | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Battery compartment cover at the side | $\bigcirc$ | 0 | $\bigcirc$ | $\bigcirc$ |
|  | Different fork lengths | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | FEM fork carriage | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Preparation data terminal and printer | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Cold storage version | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Fan on overhead guard | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Support bar for data terminal, writing pad and free universal support mount | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Provision for radio | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Walk-on pallet version with guard cage | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | 12 volt power socket | - | - | $\bigcirc$ | $\bigcirc$ |
|  | Pedestrian operation for floor level order picking | $\bigcirc$ | $\bigcirc$ | - | - |

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