

16/20 BE-X

BE-X SERIES BATTERY FORKLIFT TRUCK



Load Capacity
1600 – 2000 kg

Drive Motor Rating
9 kW

Lift Height
3000 – 6000 mm

HIGH ON QUALITY. LOW ON COST.

The new HD Hyundai BE-X Series Electric Forklifts

Introducing the new BE-X battery powered electric forklifts. Ranging from 1.6 - 3.5 tonnes, the new range offers the high productivity, comfort and safety you expect from a world-class brand like HD Hyundai XiteSolution, but at a low-cost price. These budget-friendly but reliable machines are also high on efficiency and low on noise.



HIGH ON PRODUCTIVITY

Productivity has been increased through optimised vehicle performance with the use of iron phosphate lithium-ion batteries and IP54 drive and pump motors for longer life and improved cost-effectiveness.

Low Energy consumption

Energy efficiency has been improved by 8.2% compared with the 9F Series thanks to the use of drive and axle assemblies with less power loss whose drive and hydraulic performances are optimised for typical working conditions.

Easier Servicing

A single-drive axle system, IP 54 motors and 48V batteries allows the machines to be used outdoors for greater convenience. Driving noise has also been reduced by 6.5dB thanks to the use of low-noise axles.

Optimised working

Operating has been made more efficient with the easy selection of driving and mast work speeds to match work conditions, with the use of up/down buttons in the cluster.

Low centre of gravity

A deep drop type frame allows the batteries to be placed between the front wheels and rear wheels to lower the body's centre of gravity, providing greater driving and lifting stability.

ZAPI Controller

For improved controller system reliability that meets EU safety regulations, a waterproof and dust-proof IP65 large-capacity ZAPI Controller is installed.



Economical lithium-ion battery

OPTION

Our quick charging lithium-ion batteries ensure sound performance with vastly reduced charge times. Extended hours of continuous operation are reached with the help of fast opportunity charging.



LONG HOURS
1 CHARGE

HIGH ON COMFORT & EFFICIENCY

A comfortable operator is a productive operator. That's why we've increased the cab space and added numerous functions that allow the operator to work more efficiently and comfortably.



Redesigned cab

We've taken the space and optimised design of a sister model machine, B-X and used it for our BE-X machines for more convenient and efficient operation.

Full-suspension Grammer seat

The Grammer seat has an adjustable cushion to match the weight of the operator, a seat belt switch, a buckle switch and arm rests both on the left and right.

Hydraulic boosted-type steering wheel

The external diameter of the HPS-type steering wheel has been reduced by 20mm for extra convenience and the wheel column can be tilted 12.5 degrees forwards or backwards to suit the operator.

Easy access cab

The seat height has been increased while the first and second step have been lowered. The distance between the seat and head guard has also been increased by about 40mm, for enhanced comfort.

Multifunction digital cluster

The operator can clearly check operating information in real time on the multifunction digital cluster. Many additional functions are also embedded in the cluster for safe and convenient equipment management.



Simple MCV lever system

The frequently used MCV lever is conveniently placed to the right of the operator. This reduces movement and fatigue compared with the dashboard-fixed type.

HIGH ON SAFETY

Operator safety is and always will be a high priority for HD Hyundai. The risk of accidents while working has been fundamentally eliminated using scientific vehicle body design and effective safety systems.

LED safety warning lights

Bright and long-life LED lights are fitted to the front, rear and direction indicators. A beacon lamp, blue spots and red zone lamps are optional to indicate movement for the benefit of surrounding workers.

Anti-Roll back system

This system prevents the forklift from rolling down a slope when the accelerator and brake pedal are not applied. It also offers improved ramp start-up abilities.



Front & rear cameras OPTION

The wireless camera system supplies the two-channel monitor with information to the front and rear. A front camera is installed on the lateral side of the fork, helping in the safe identification of the position of pallets during high-rack operation.

Speed limit control

A maximum travel speed can be set to meet the safety speed of the site through a multifunctional monitor. Even when maximum speed is limited, gradeability and lifting performance are maintained at top levels.

Travel speed limiter when driving with elevated load OPTION

The travel speed is limited to 3km/h when the forks are lifted to a height of 500mm or are lifted above the Free Lift height to ensure the load doesn't fall off and the forklift doesn't get overturned.

Rear grip bar & horn OPTION

The rear grip with horn button allows the driver to keep a comfortable posture during reverse driving and operate the horn quickly in case of an emergency.

OPSS system

The OPSS restricts driving when the operator leaves their seat in order to prevent accidents.



LOW ON COST OF OWNERSHIP

BE-X Series electric forklifts have been designed to reduce maintenance and costs using innovative energy saving features and reliable, durable and quick replacement parts.



Quick battery replacement

The battery can be easily removed and installed from the side of the forklift using a 1.5 tonne hand pallet truck in combination with an optional battery trolley and without the need for expensive equipment like a crane.

Convenient battery charging

When equipped with a Li-Ion battery, it can be charged by connecting a charger connector to a charging port, without the separation of battery cables connected to the frame. A safety sensor limits the operation of the equipment during the connection of the charger cables.



Hydraulic motor cooling system

For the efficient cooling of the motor compartment, there are two fans beside the left and right cover. One for blowing out hot air and one for sucking in cool air.

Safety warning

Issues relating to safety and performance, such as low brake oil level, battery discharge, and high temperature in the controller and motor will trigger the warning sound and lamp. Programming and adjustment can be performed through a Zapi Smart Console Programmer which is sold separately.

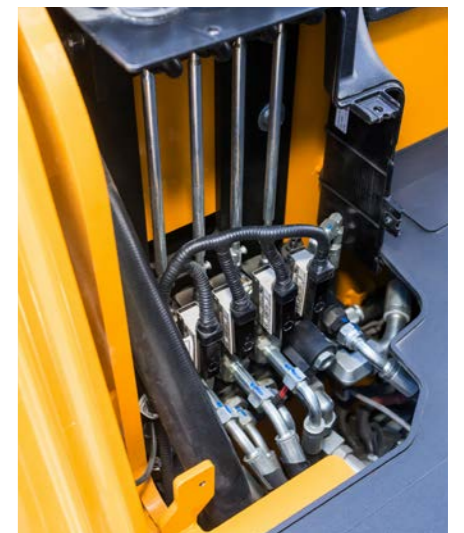


Waterproof and dustproof key switches

To increase the reliability of the electric/electronic system, an ignition key switch with a cap is used. Made by Honeywell, this prevents moisture and dust from getting in.

Sealed micro switches – MCV

Sealed micro switches are used in the hydraulic control lever system, keeping it protected from outdoor dust and water for greater reliability.



TAKE THE TOUR!



High on productivity

- Deep drop type vehicle structure-improved driving and work safety
- Achieves the best energy efficiency level in its vehicle class
- LiFePo4 lithium-ion battery with excellent price-to-performance characteristics **OPTION**
- IP Class 54 driving and pump motors – Expanded service area
- Application of Dual Micom ZAPI Controller
- Enhanced energy efficiency by 8.2%
- Application of power selection button for drive and pump motors

High on comfort and efficiency

- Ergonomically redesigned operator room
- A new cluster with superior visibility that can be manipulated easily
- Hood fixation-type hydraulic control lever
- Optimum step height and width for convenient getting on/off
- A/C & heater with improved cooling and heating performance **OPTION**
- Noise in the driver's seat is reduced by 6.5 dB
- Two-channel wireless front/rear cameras **OPTION**

High on productivity

- Speed limit
- Seat belt interlock **OPTION**
- Speed limiting function when traveling with elevated load **OPTION**
- Operator Presence Sensing System (OPSS)
- Antiroll back system prevents the machine from rolling back after coming to a stop on an incline
- Safety warning lamp – Blue spots and red zones **OPTION**

High on comfort and efficiency

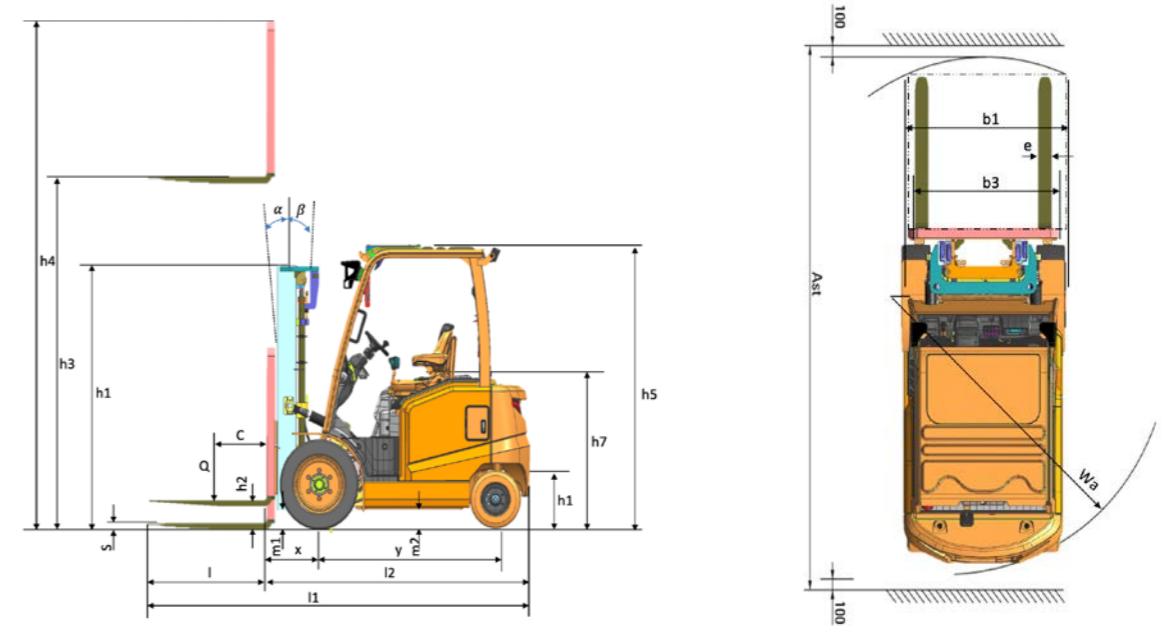
- A battery replacement system that doesn't require a crane structure
- Battery connector specialized for charging (Li-Ion)
- Controller with high reliability and self-diagnosis capability
- Sealed micro switches – MCV
- Hydraulic motor room cooling system without air vortex
- Long-lifetime LED lamps – Front/Rear work lamps and turn signals

16/20 BE-X SPECIFICATIONS

16/20 BE-X DIMENSIONS

| IDENTIFICATION | | | | |
|------------------|---|----------------|-------------|-------------|
| | Manufacturer | | Hyundai | |
| | Manufacturer's type designation | | 16BE-X | 20BE-X |
| 1.1 | Drive | | Electric | Electric |
| 1.2 | Type of Operation | | seated | seated |
| 1.3 | Load Capacity / Rated Load | kg | 1600 | 2000 |
| 1.4 | Load Center Distance | mm | 500 | 500 |
| 1.5 | Load Distance Center of Drive Axle To Fork | mm | 417 | 417 |
| 1.6 | Wheelbase | mm | 1370 | 1370 |
| WEIGHTS | | | | |
| 2.1 | Service Weight | kg | 3323 | 3677 |
| 2.2 | Axle Loading Loaded Front/Rear | kg | 4375/548 | 4997/680 |
| 2.3 | Axle Loading Unloaded Front/Rear | kg | 1704/1619 | 1658/2019 |
| WHEELS CHASSIS | | | | |
| 3.1 | Tires : Solid Rubber Pneumatic Non Marking | | SE P | SE P |
| 3.2 | Tire Size Front | | 21x8-9 | 21x8-9 |
| 3.3 | Tire Size Rear | | 18x7-8 | 18x7-8 |
| 3.5 | Wheels Number Front / Rear | | 2x/2 | 2x/2 |
| 3.6 | Tread Front | b10 (mm) | 980 | 980 |
| 3.7 | Tread Rear | b11 (mm) | 945 | 945 |
| BASIC DIMENSIONS | | | | |
| 4.1 | Tilt Of Mast Forward/Backward | Degrees | 5/7 | 5/7 |
| 4.2 | Height Mast Lowered | H1 (mm) | 1995 | 1995 |
| 4.3 | Free Lift | H2 (mm) | 35 | 35 |
| 4.4 | Lift Height | H3 (mm) | 3005 | 3005 |
| 4.5 | Height Mast Extended | H4 (mm) | 4010(4020) | 4010(4020) |
| 4.7 | Height of Overhead Guard (Cabin) | H5 (mm) | 2130(2140) | 2130(2140) |
| 4.8 | Seat Height / Stand Height Rel. to Sip | H7 (mm) | 1135 | 1135 |
| 4.12 | Coupling Height | H10 (mm) | - | - |
| 4.19 | Overall Length | l1 (mm) | 3000 | 3020 |
| 4.20 | Length to Face of Forks | L2 (mm) | 2100 | 2120 |
| 4.21 | Overall Width | b1 (mm) | 1185 | 1185 |
| 4.22 | Fork Dimensions | l x e x s (mm) | 40x100x900 | 40x100x900 |
| 4.23 | Fork Carriage Iso 2328 Class / Type A B | | II/A | II/A |
| 4.24 | Fork-Carriage Width | b3 (mm) | - | - |
| 4.31 | Ground Clearance Below Mast Loaded | m1 (mm) | 100(110) | 100(110) |
| 4.32 | Ground Clearance Center of Wheelbase | M2 (mm) | 110 | 110 |
| 4.34.1 | Aisle Width For Pallets 1000 X 1200 Crossways | Ast (mm) | 3505 | 3525 |
| 4.34.2 | Aisle Width For Pallets 800 X 1200 Lengthways | Ast (mm) | 3705 | 3725 |
| 4.35 | Turning Radius | Wa (mm) | 1890 | 1910 |
| PERFORMANCE DATA | | | | |
| 5.1 | Travel Speed Loaded / Unloaded | Km/h | 14/15 | 14/15 |
| 5.2 | Lift Speed Loaded / Unloaded | Mm/s | 330/500 | 330/500 |
| 5.3 | Lowering Speed Loaded / Unloaded | Mm/s | 500/450 | 500/450 |
| 5.6 | Max. Drawbar Pull Loaded / Unloaded | N | 10388/- | 10388/- |
| 5.8 | Max. Gradeability Loaded / Unloaded | % | 16 | 16 |
| 5.10 | Service Brake | | Drum brake | Drum brake |
| MOTOR / BATTERY | | | | |
| 6.1 | Drive Motor Rating S2 60 Min | kW | 9 | 9 |
| 6.2 | Lift Motor Rating At S3 15% | kW | 13 | 13 |
| 6.4 | Battery Voltage Nominal Capacity (Opt) | V/Ah | 48/420 | 48/420 |
| 6.5 | Battery Weight | kg | 707 | 707 |
| 6.7 | Battery Compartment Dimensions L/W/H | mm | 826x422x744 | 826x422x744 |
| OTHER DETAILS | | | | |
| 8.1 | Type Of Drive Control | | AC | AC |
| 8.2 | Operating Pressure System / Attachments | bar | 190/160 | 190/160 |
| 8.3 | Oil Volume For Attachments | LPM | 24 | 24 |

DIMENSIONS



16/20 BE-X MAST SPECIFICATION

16/20 BE-X LOAD CAPACITY

16BE-X MAST

| Mast Type | Maximum Fork Height (mm) | Overall Height (Lowered) (mm) | Free Lift Height (mm) | | | Mast Tilt (deg) | | Load capacity without Sideshift | Truck Weight (Unloaded) (kg) | | Truck Weight (Unloaded) (kg) |
|---------------------------|--------------------------|-------------------------------|-----------------------|-----------------------|-----------------------------------|-----------------|-----|---------------------------------|------------------------------|----------|------------------------------|
| | | | With Load Backrest | Without Load Backrest | Without Load Backrest (3/4-SPOOL) | FWD | BWD | | 500mm LC | 500mm LC | |
| 2 Stage Limited Free Lift | *V300 | 3000 | 1995 | 35 | 35 | 35 | 5 | 7 | 1600 | 1600 | 3323 |
| | V330 | 3300 | 2145 | 35 | 35 | 35 | 5 | 7 | 1600 | 1560 | 3342 |
| | V350 | 3500 | 2245 | 35 | 35 | 35 | 5 | 7 | 1600 | 1530 | 3356 |
| | V400 | 4000 | 2495 | 35 | 35 | 35 | 5 | 7 | 1570 | 1460 | 3393 |
| | V450 | 4500 | 2845 | 35 | 35 | 35 | 5 | 5 | 1490 | 1390 | 3461 |
| 3 Stage Full Free Lift | V500 | 5000 | 3095 | 35 | 35 | 35 | 5 | 5 | 1430 | 1340 | 3493 |
| | TF400 | 4000 | 1895 | 760 | 1214 | 1075 | 5 | 5 | 1540 | 1440 | 1440 |
| | TF430 | 4300 | 1995 | 860 | 1314 | 1175 | 5 | 5 | 1500 | 1400 | 1400 |
| | TF450 | 4500 | 2095 | 960 | 1414 | 1325 | 5 | 5 | 1470 | 1370 | 1370 |
| | TF470 | 4700 | 2145 | 1010 | 1464 | 1325 | 5 | 5 | 1450 | 1350 | 1350 |
| | TF500 | 5000 | 2245 | 1110 | 1564 | 1425 | 5 | 5 | 1410 | 1310 | 1310 |
| | TF550 | 5500 | 2445 | 1310 | 1764 | 1780 | 5 | 5 | 1350 | 1250 | 1250 |
| TF600 | 6000 | 2645 | 1510 | 1964 | 1875 | 5 | 5 | 1280 | 1190 | 1190 | |

V: 2 Stage wide visibility lift mast; VF: 2 Stage wide visibility full free lift mast; TF: Triplex full free lift mast

*: Standard

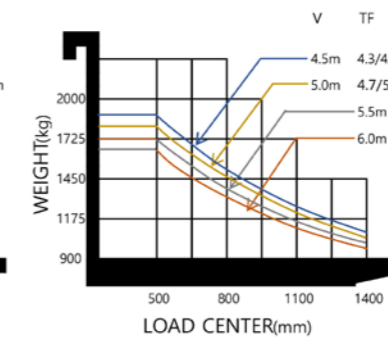
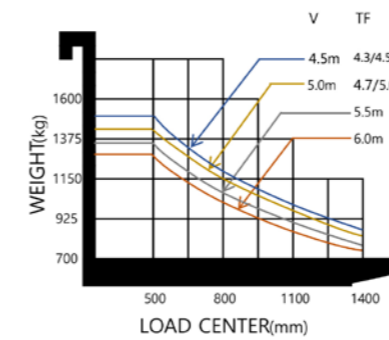
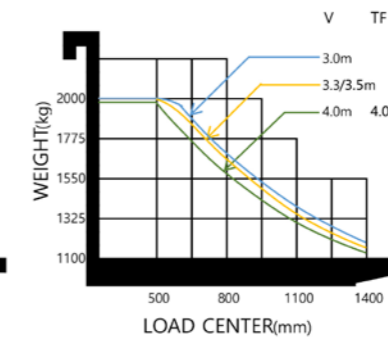
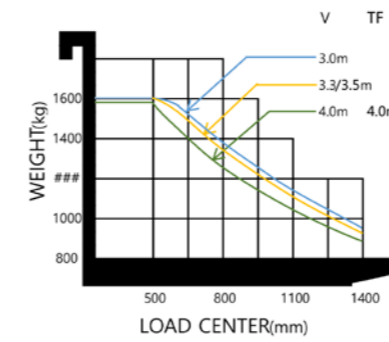
16BE-X MAST

| Mast Type | Maximum Fork Height (mm) | Overall Height (Lowered) (mm) | Free Lift Height (mm) | | | Mast Tilt (deg) | | Load capacity without Sideshift | Truck Weight (Unloaded) (kg) | | Truck Weight (Unloaded) (kg) |
|---------------------------|--------------------------|-------------------------------|-----------------------|-----------------------|-----------------------------------|-----------------|-----|---------------------------------|------------------------------|----------|------------------------------|
| | | | With Load Backrest | Without Load Backrest | Without Load Backrest (3/4-SPOOL) | FWD | BWD | | 500mm LC | 500mm LC | |
| 2 Stage Limited Free Lift | *V300 | 3000 | 1995 | 35 | 35 | 35 | 5 | 7 | 2000 | 2000 | 3677 |
| | V330 | 3300 | 2145 | 35 | 35 | 35 | 5 | 7 | 2000 | 1950 | 3696 |
| | V350 | 3500 | 2245 | 35 | 35 | 35 | 5 | 7 | 2000 | 1920 | 3710 |
| | V400 | 4000 | 2495 | 35 | 35 | 35 | 5 | 7 | 1970 | 1840 | 3747 |
| | V450 | 4500 | 2845 | 35 | 35 | 35 | 5 | 5 | 1880 | 1760 | 3815 |
| 3 Stage Full Free Lift | V500 | 5000 | 3095 | 35 | 35 | 35 | 5 | 5 | 1810 | 1690 | 3847 |
| | TF400 | 4000 | 1895 | 760 | 1214 | 1075 | 5 | 5 | 1940 | 1810 | 3822 |
| | TF430 | 4300 | 1995 | 860 | 1314 | 1175 | 5 | 5 | 1890 | 1770 | 3842 |
| | TF450 | 4500 | 2095 | 960 | 1414 | 1325 | 5 | 5 | 1860 | 1740 | 3861 |
| | TF470 | 4700 | 2145 | 1010 | 1464 | 1325 | 5 | 5 | 1830 | 1710 | 3872 |
| | TF500 | 5000 | 2245 | 1110 | 1564 | 1425 | 5 | 5 | 1790 | 1670 | 3892 |
| | TF550 | 5500 | 2445 | 1310 | 1764 | 1780 | 5 | 5 | 1720 | 1600 | 3931 |
| TF600 | 6000 | 2645 | 1510 | 1964 | 1875 | 5 | 5 | 1640 | 1530 | 3992 | |

V: 2 Stage wide visibility lift mast; VF: 2 Stage wide visibility full free lift mast; TF: Triplex full free lift mast

*: Standard

16BE-X 20BE-X



STANDARD/OPTIONAL EQUIPMENT

| MODEL | 25BE-X | 30BE-X |
|---|--------|--------|
| OPERATION ROOM | | |
| Overheadguard (Height : 2125 mm, 84 inches) | ● | ● |
| SEAT | | |
| Grammer Seat + Belt + Arm rest + Belt switch | ● | ● |
| OTHER OPTIONS | | |
| Rear Grip with Horn | □ | □ |
| MAST | | |
| 2 Stage V (3,000mm) | ● | ● |
| 2 Stage V (3300/3500/4,000/4500/5000mm) | □ | □ |
| 3 Stage TF (4000/4300/.../5500/6000mm) | □ | □ |
| Fork: Std. - 900mm | ● | ● |
| Fork: Opt. - 950/1000/1050/1150/1200/1350/1500/1600mm | □ | □ |
| Carriage: Hook | ● | ● |
| Attachment: Hook on Side Shift | □ | □ |
| BATTERY | | |
| Lead acid - 48V/420Ah | □ | □ |
| Lead acid - 48V/450Ah | □ | □ |
| Li-ion - 51.2V/300Ah | □ | □ |
| Li-ion - 51.2V/300Ah + Heat | □ | □ |
| Charger: Lead acid - 3P 220/380/440V, 50/60Hz | □ | □ |
| Charger: Li-ion - 3P 380/440V, 50/60Hz | □ | □ |
| Trolley: Battery Trolley (Narrow/Wide) | □ | □ |

| MODEL | 25BE-X | 30BE-X |
|---|--------|--------|
| HYDRAULIC | | |
| 2 Spool MCV | □ | □ |
| 3 Spool MCV | ● | ● |
| 4 Spool MCV | □ | □ |
| Piping (V/TF) | □ | □ |
| VG 46 Oil | ● | ● |
| VG 68 Oil for Tropical Area | □ | □ |
| VG 15 Oil for Cold Area | □ | □ |
| TYRES | | |
| Pneumatic Tyre | □ | □ |
| Solid Tyre | ● | ● |
| Non-Marking Tyre | □ | □ |
| VISIBILITY | | |
| Front LED Lamp | □ | □ |
| Front & Rear LED Lamp | ● | ● |
| LED Beacon Lamp | ● | ● |
| Side LH/RH & Panorama Mirror | ● | ● |
| Rear Camera | □ | □ |
| Front & Rear Camera | □ | □ |
| SAFETY / CONVENIENCE | | |
| Load Sensor | □ | □ |
| OPSS (Operator Presence Sensing System) - Travel only | ● | ● |
| OPSS (Operator Presence Sensing System) - Travel & Mast | ● | ● |
| Seatbelt Interlock | ● | ● |

- Standard
- Optional

HYUNDAI



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