

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

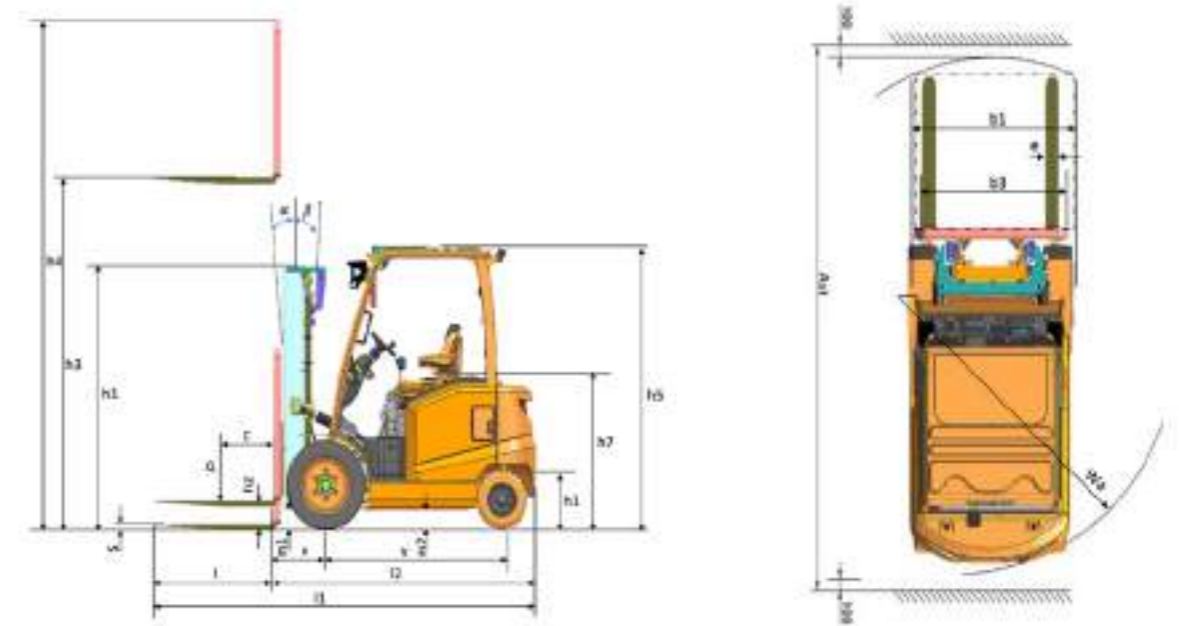
- A battery replacement system that doesn't require a crane structure
- Battery connector specialized for charging (Li-Ion)
- Controller with high reliability and self-diagnosis capability
- Sealed micro switches – MCV
- Hydraulic motor room cooling system without air vortex
- Long-lifetime LED lamps – 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	3468
	TF430	4300	1995	860	1314	1175	5	5	1500	1400	3488
	TF450	4500	2095	960	1414	1325	5	5	1470	1370	3507
	TF470	4700	2145	1010	1464	1325	5	5	1450	1350	3518
	TF500	5000	2245	1110	1564	1425	5	5	1410	1310	3538
	TF550	5500	2445	1310	1764	1780	5	5	1350	1250	3577
TF600	6000	2645	1510	1964	1875	5	5	1280	1190	3638	

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

*: Standard

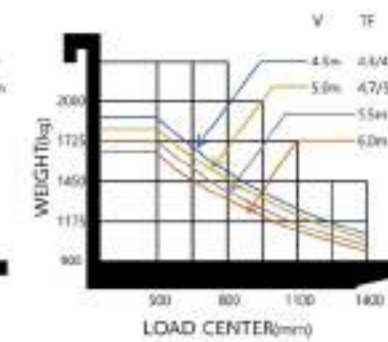
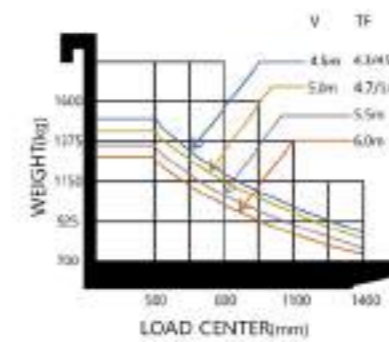
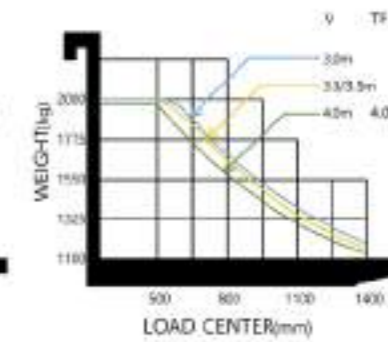
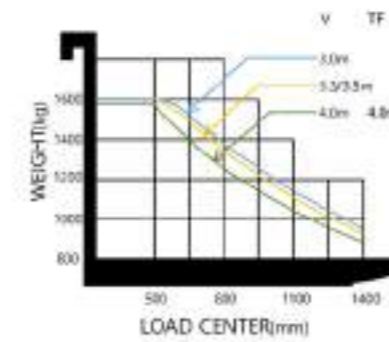
20BE-X MAST

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	16BE-X	20BE-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	16BE-X	20BE-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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