

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, IP54 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

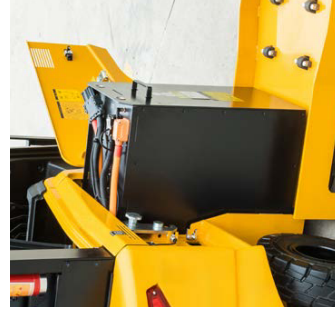
Operating has been made more efficient with the easy selection of driving and mast work speeds to match work conditions, with the use of up/down buttons in the cluster.

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.



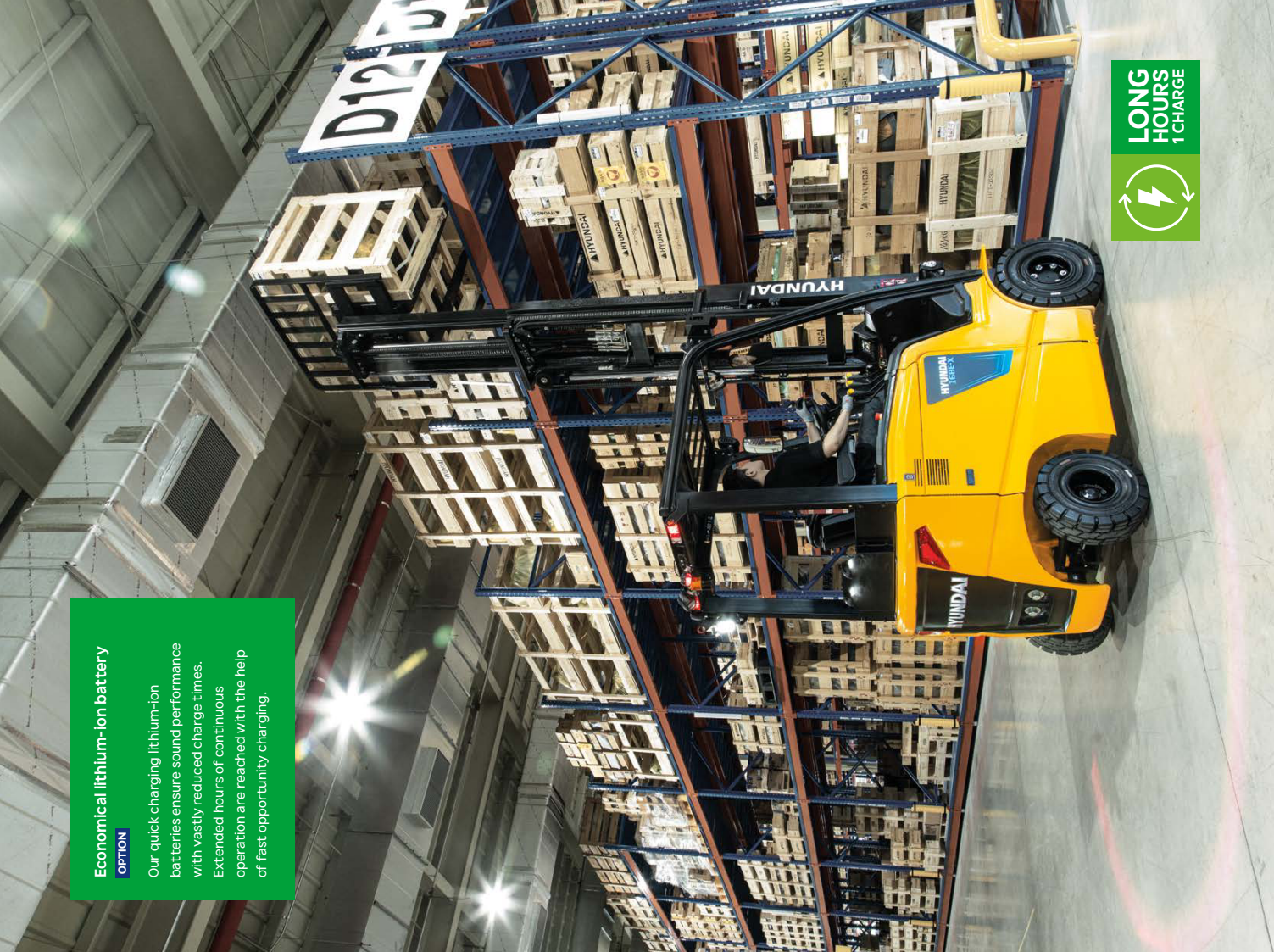
Economical lithium-ion battery

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 Grammar seat

The Grammar 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.

Multifunctional 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.



365 DAYS COMFORT



HIGH ON SAFETY

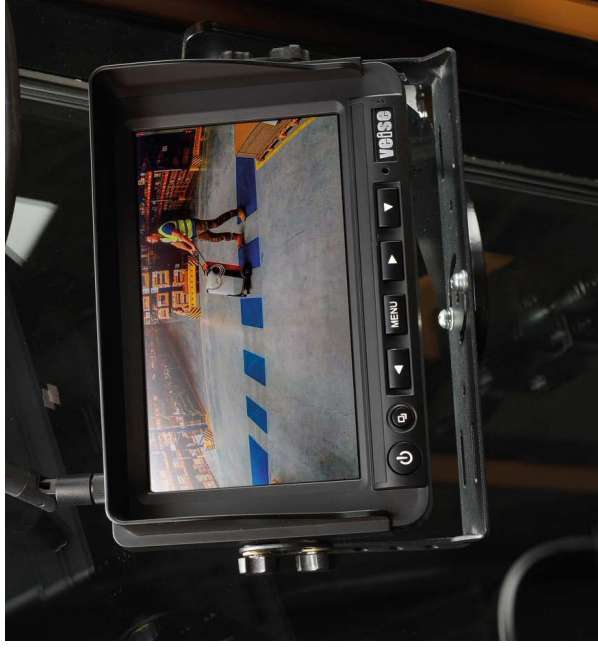
Operator safety is and always will be a high priority for HD Hyundai. The risk of accidents while working has been fundamentally eliminated using scientific vehicle body design and effective safety systems.

▶ 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.



TECHNOLOGY
TO KEEP YOU
SAFE



▶ 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.

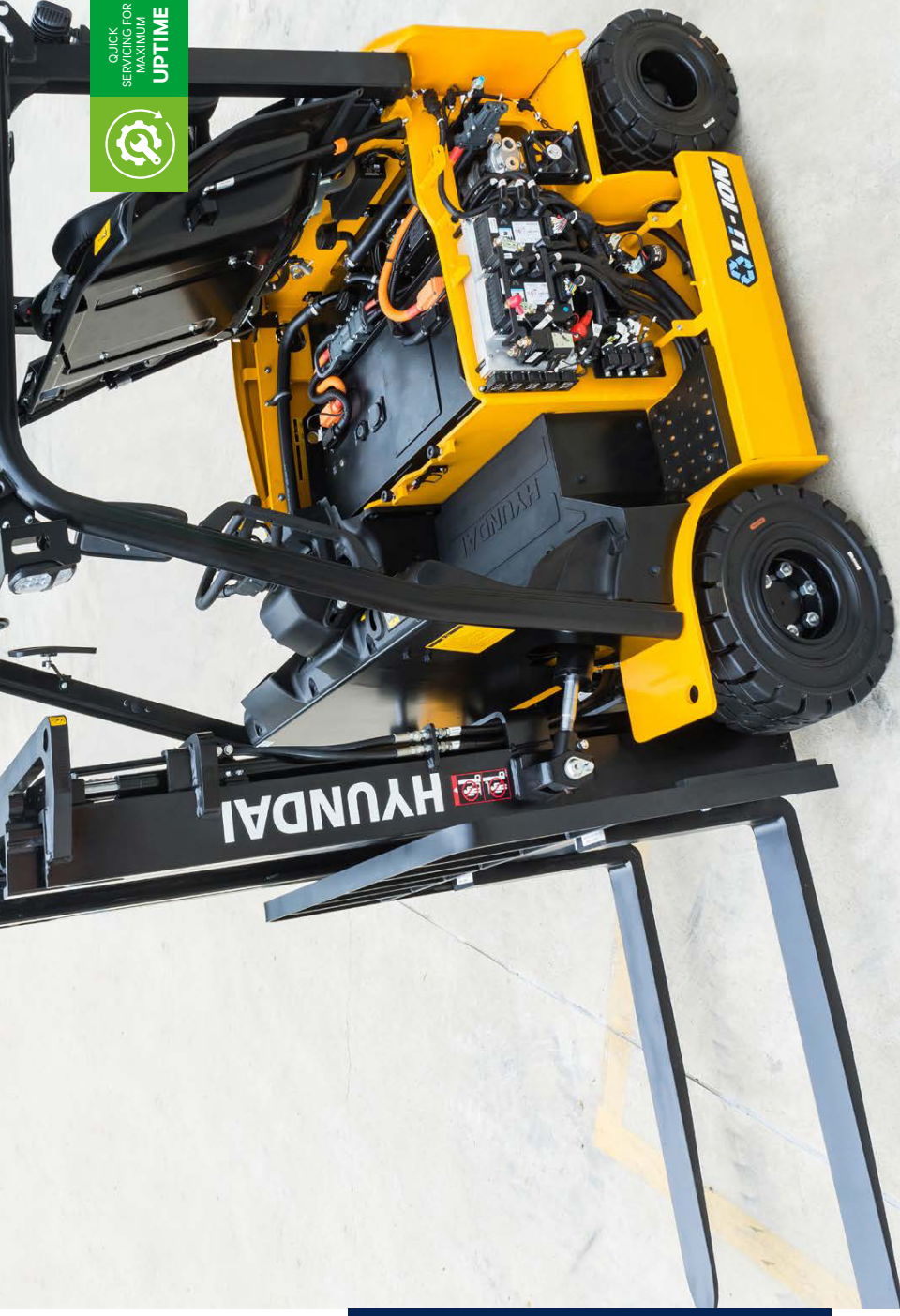
Quick battery replacement

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.



QUICK
SERVICING FOR
MAXIMUM
UPTIME



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 Zap! 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

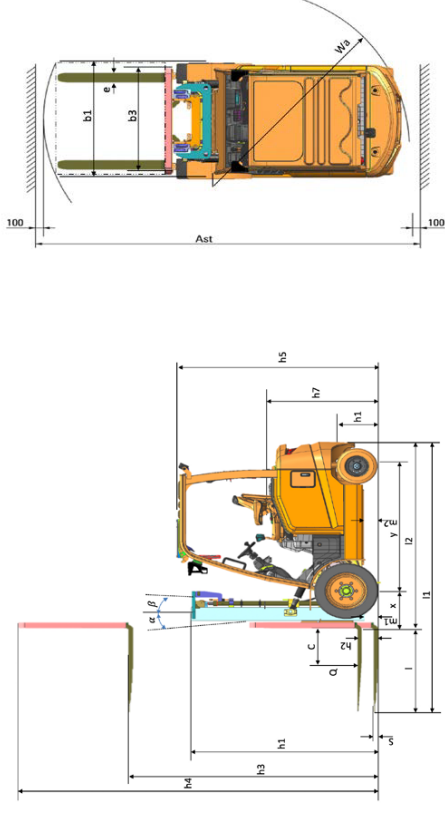
- A battery replacement system that doesn't require a crane structure
- Battery connector specialized for charging (Li-Ion) capability
- Controller with high reliability and self-diagnosis capability
- Sealed micro switches – MCV
- Hydraulic motor room cooling system without air vortex
- Long-lifetime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

16/20 BE-X SPECIFICATIONS

16/20 BE-X DIMENSIONS

IDENTIFICATION		16BE-X	20BE-X
1.1	Manufacturer	Hyundai	Hyundai
1.2	Drive	Electric	Electric
1.3	Type of Operation	sealed	sealed
1.4	Load Capacity / Rated Load	kg 1600	kg 2000
1.5	Load Capacity / Rated Load	mm 500	mm 500
1.6	Load Capacity / Rated Load	mm 47	mm 47
1.7	Load Capacity / Rated Load	mm 1370	mm 1370
WEIGHTS			
2.1	Service Weight	kg 3323	kg 3977
2.2	Avail. Loading / Loaded / Front / Rear	kg 4997/680	kg 4997/680
2.3	Avail. Loading / Unloaded / Front / Rear	kg 1704/169	kg 1658/209
WHEELS/CHASSIS			
3.1	Times: Solid Rubber Pneumatic / Non-Marking	SEP	SEP
3.2	Tire Size-Front	21x8.9	21x8.9
3.3	Tire Size-Rear	18x7.8	18x7.8
3.4	Wheel Number-Front / Rear	2x/2	2x/2
3.5	Wheel Number-Front / Rear	980	980
3.6	Tread-Front	b10 (mm)	mm 945
3.7	Tread-Rear	b11 (mm)	mm 945
BASIC DIMENSIONS			
4.1	Tilt Of Mast Forward/Backward	Degree 5/7	Degree 5/7
4.2	Height Mast Lowered	H1 (mm) 1995	H1 (mm) 1995
4.3	Free Lift	H2 (mm) 35	H2 (mm) 35
4.4	Lift Height	H3 (mm) 3105	H3 (mm) 3105
4.5	Height Mast Extended	H4 (mm) 4010(4020)	H4 (mm) 4010(4020)
4.6	Height of Overhead Guard (Cabin)	H5 (mm) 2130(2140)	H5 (mm) 2130(2140)
4.7	Height of Seat Height / Stand Height Rel. to Sp.	H7 (mm) 1155	H7 (mm) 1155
4.8	Coupling Height	H10 (mm)	mm
4.9	Overall Length	l1 (mm) 3000	l1 (mm) 3000
4.20	Length to Face of Forks	l2 (mm) 2100	l2 (mm) 2200
4.21	Overall Width	b1 (mm) 1185	b1 (mm) 1185
4.22	Fork Dimensions	l x e x s (mm) 40x100x900	l x e x s (mm) 40x100x900
4.23	Fork Carriage Isp228-Class / Type A/B	II/A	II/A
4.24	Fork Carriage Width	b3 (mm)	mm
4.31	Ground Clearance Below Mast Loaded	m1 (mm) 100(110)	m1 (mm) 100(110)
4.32	Ground Clearance Center of Wheelbase	m2 (mm) 110	m2 (mm) 110
4.34.1	Axle Width For Pallets 1000 X 2000 Crossways	As1 (mm) 3505	As1 (mm) 3505
4.34.2	Axle Width For Pallets 800 X 1200 Lengthways	As2 (mm) 3705	As2 (mm) 3725
4.35	Turning Radius	Ws (mm) 1890	Ws (mm) 1910
PERFORMANCE DATA			
5.1	Travel Speed / Loaded / Unloaded	km/h 14/15	km/h 14/15
5.2	Lift Speed / Loaded / Unloaded	mm/s 330/500	mm/s 330/500
5.3	Lowering Speed / Loaded / Unloaded	mm/s 500/650	mm/s 500/650
5.6	Max. Drawbar Pull / Loaded / Unloaded	N 10388/-	N 10388/-
5.8	Max. Gradeability / Loaded / Unloaded	% 16	% 16
5.10	Service Brake	Drum brake	Drum brake
MOTOR / BATTERY			
6.1	Drive Motor Rating At 60 Min	kW 9	kW 9
6.2	Lift Motor Rating At 15%	kW 13	kW 13
6.4	Battery Voltage / Nominal Capacity (Cpl)	V/Ah 48/420	V/Ah 48/420
6.5	Battery Weight	kg 707	kg 707
6.7	Battery Compartment Dimensions L/W/H	mm 826x422x44	mm 866x422x44
OTHER DETAILS			
8.1	Type Of Drive Control	AC	AC
8.2	Operating Pressure System / Attachments	bar 190/160	bar 190/160
8.3	Oil Volume For Attachments	LPM 24	LPM 24

DIMENSIONS



16/20 BE-X MAST SPECIFICATION

16/20 BE-X LOAD CAPACITY

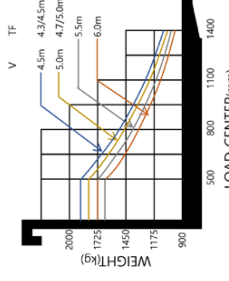
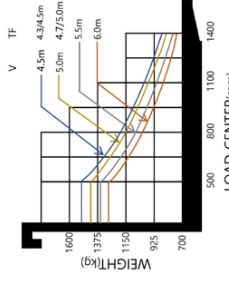
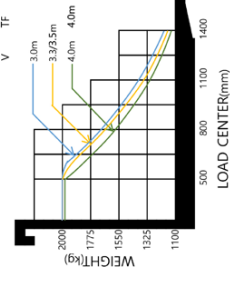
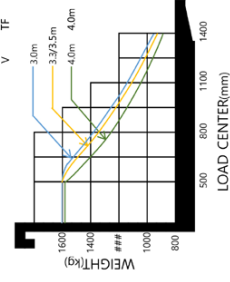
16BE-X MAST

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)	
			With Load Backrest	Without Load Backrest (3/4 SPOOL)	FWD	BWD		500mm LC	500mm LC
2 Stage Limited Free Lift	V300	1995	35	35	5	7	1600	1600	3323
	V350	2445	35	35	5	7	1600	1560	3342
	V350	2245	35	35	5	7	1600	1530	3356
	V400	2495	35	35	5	7	1570	1460	3393
	V450	2845	35	35	5	5	1490	1390	3461
3 Stage Free Lift	V500	3095	35	35	5	5	1430	1340	3493
	TF400	1895	760	1214	1075	5	1540	1440	1440
	TF430	4300	1995	860	1314	1075	5	1500	1400
	TF450	4500	2095	960	1414	1225	5	1470	1370
	TF470	4700	2145	1010	1464	1235	5	1450	1350
TF500	5000	2245	1110	1564	1425	5	1410	1310	
TF550	5500	2445	1310	1764	1780	5	1550	1250	
TF600	6000	2645	1510	1964	1975	5	1720	1190	

V: 2 Stage wide visibility lift mast; VF: 2 Stage wide visibility full free lift mast; TF: Tippler full free lift mast * : Standard

16BE-X

20BE-X



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)	
			With Load Backrest	Without Load Backrest (3/4 SPOOL)	FWD	BWD		500mm LC	500mm LC
2 Stage Limited Free Lift	V300	1995	35	35	5	7	2000	2000	3677
	V350	2445	35	35	5	7	2000	1950	3696
	V350	2245	35	35	5	7	2000	1920	3710
	V400	2495	35	35	5	7	1970	1840	3747
	V450	2845	35	35	5	5	1880	1780	3815
3 Stage Free Lift	V500	3095	35	35	5	5	1810	1690	3847
	TF400	1895	760	1214	1075	5	1940	1810	3872
	TF430	4300	1995	860	1314	1075	5	1890	1770
	TF450	4500	2095	960	1414	1235	5	1860	1740
	TF470	4700	2145	1010	1464	1235	5	1850	1730
TF500	5000	2245	1110	1564	1425	5	1790	1670	
TF550	5500	2445	1310	1764	1780	5	1720	1600	
TF600	6000	2645	1510	1964	1975	5	1640	1530	

V: 2 Stage wide visibility lift mast; VF: 2 Stage wide visibility full free lift mast; TF: Tippler full free lift mast * : Standard

16/20 BE-X STANDARD/OPTIONAL EQUIPMENT

MODEL	2BE-X	30BE-X
OPERATION ROOM		
Overheadguard (Height: 2125 mm, 84 inches)	●	●
SEAT		
Grammar Seat + Belt + Arm rest + Belt switch	●	●
OTHER OPTIONS		
Rear Grip with Horn	□	□
MAST		
2 Stage V (3000mm)	●	●
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: Li-Ion - 3P-220/380/440V, 50/60Hz	□	□
Trolley/Battery Trolley (Narrow/Wide)	□	□

MODEL	2BE-X	30BE-X
HYDRAULIC		
2 Speed MCV	□	□
3 Speed MCV	●	●
4 Speed MCV	□	□
Piping (W/TF)	□	□
V6 46 Oil	●	●
V6 68 Oil for Tropical Area	□	□
V6 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 LVR/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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