MOVING YOU FURTHER

13BOP-9



Some of the photos may include optional equipment.

HYUNDAI
MATERIAL HANDLING

Hyundai of Technology, Hyundai of Innovation!

Hyundai releases the heavy-duty vehicle order picker BOP-9 with enhanced ergonomic design and safety features

The new order picker BOP-9 series, is coming to you.
The BOP series has enhanced ergonomic design features compared to the previous series
and provides reliable performance and comfort with new safety features and enhanced lifting strength of the mast.

Ergonomic design
- Multipurpose lever (Mast, Drive, and Horn buttons)
- Height-adjustable operator control panel (75mm)
- Safety bar on top of the dashboard
  (When operating wire guidance,
  the driver can maintain the posture.)
- Springs applied to improve the lifting strength
  of the mast and platform stability

Optimal Performance
- Electric Power Steering(EPS) & Auto centering
- Wire guidance (OPT)
- Fork height indicator (OPT)
- Dual micom type ZAPI controller

Advanced Safety
- Controls the driving speed according
  to the height of the platform
- Limited vehicle operation : Password settings
- Lift chain loose detection
- Lift end stroke shock relief : Lifting deceleration system

EC Type Examination Certificate(Certificate of Conformity)
as defined by Machinery Directive 2006/42/EC Annex IX

Hyundai hereby declares that in accordance with the Machinery Directive 2006/42/EC and the EMC Directive 2014/30/EU, European regulations which have been certified by the following notified body:

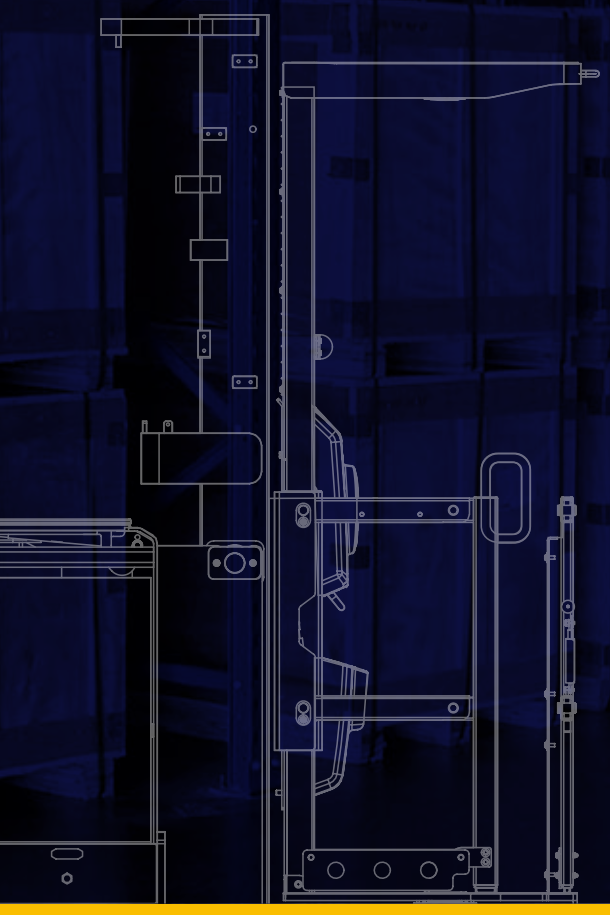
Name : ICR Polska Sp. z o.o.,
Address : Plac Przymierza 6, 03-944 Warszawa, PL

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Power & Performance

Superior Power & Optimal Performance

Efficient, smooth running and powerful performance make your work more productive.





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Drive motor & Pump motor, Brake system

Efficient AC motor guarantees reliability and a optimized motor design provides for low noise levels. Temperature sensor ensure long motor life. Electro-magnetic brake applied for parking - On travel, automatically unlocks brake.
(Negative type braking system by spring return force)



Electric brake

The electric brake for parking and service on top of the driving motor automatically reduces the speed proportionally to stop the vehicle when the driving motor loses the electric signal (key off, driving lever to neutral).



Mast cover : Platform control system protection (TF-MAST Only)

An outer mast cover has been added to enhance the durability of the outer mast and to protect the sensor and harnesses exposed on the side. This structure reduces the vibration of the mask for safe operation on high levels.



Additional Lift (OPT)

An additional lift comes as a optional feature in order to lift the fork up to the waist level of the operator (760 mm) for picking up without having to bend forward.



Dual micom controller

The new ZAPI AC controller with dual micom and made by ZAPI monitors the dual signals and detects faults. So it is possible to control and service the forklift quickly and securely.



Wire guidance (OPT)

The driving direction of the vehicle is automatically set according to the electric signal from the wires on the floor for comfortable and safe operation without having to operate the steering wheel.
(The driver is only required to drive forward or backward and operate the platform up and down.)



EPS & Autocentering

The electric power steering system operates smoothly with the operation of the steering wheel reduces fatigue for the driver and enhances energy efficiency. Also, this system automatical returns the steering wheel to the forward position with the key on.





Height indicator (OPT)

The height indicator has 50 presets to control the height of the platform up and down. When the driver select the height on the cluster and operate the lifting / lowering lever, the platform automatically stops at the designated height.



Guide roller (OPT)

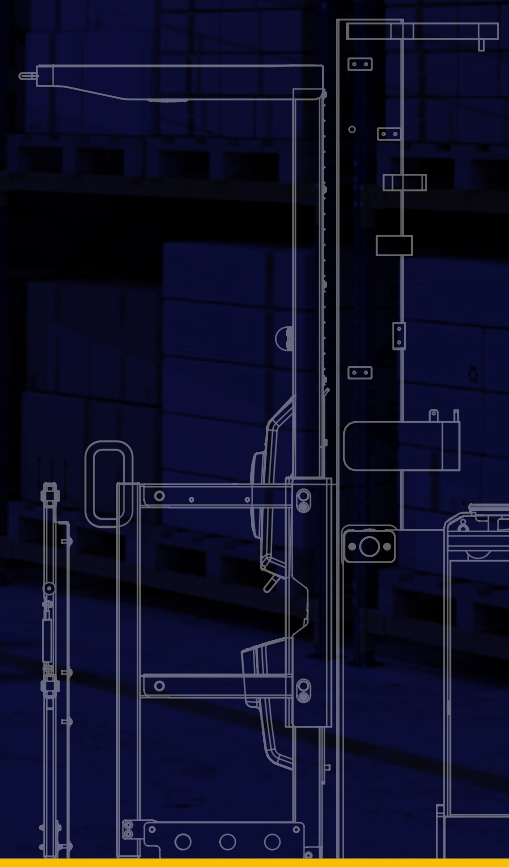
When the truck enters the rack, the drive wheel position is racked at the center, the operator can both focus on picking and driving safely.

Easy & Comfort

Optimized Ergonomics & Excellent Visibility

The ergonomically designed operator room and open visibility ensure the operator's safety and comfort during operation.





*Some of the photos may include optional equipment.

Operator panel & Visibility

The ergonomically designed operating space with the 75mm height-adjustable operator panel, safety bar, slim steering handle and multifunctional control lever ensures a minimal blind spot providing both safety and improved visibility.



Some of the photos may include optional equipment.

4.3 inch LCD color monitor

The LCD color monitor allows the operator to easily and efficiently control the machine. The monitor provides information about speed & accelerator level, steer angle & travel direction, battery discharge indicator, hour meter & working mode. The monitor also displays information about operation error, system fault, battery level, hour meter plus other various functions. It enables the operator to maintain the forklift in optimum operating condition.



Main functions

1. Speed (Digital)
2. Steering wheel position and travel direction
3. Battery discharge indicator
4. Scroll up / Height indicator (OPT)
5. Menu / Scroll Left
6. Performance / Scroll right
7. Turtle / Scroll down
8. ESC / Back
9. Enter
10. Error warning lamp
11. High temp warning lamp
12. Dead man switch
13. Parking brake
14. Time / Height select (OPT)
15. Hour meter / Height present (OPT)



Multifunctional handle

The multifunctional control handle can control the forward/backward drive with a single handle and operate the platform to move up and down. The horn button on the bottom of the handle also creates a safe workplace.



Operating panel top handle : Safety bar

The wire guidance option does not require operation of the steering handle, but there is a handle on top of the operating panel for the operator to maintain balance while driving. This handle can be used to hold the barcode reader.



Stable platform

The spring on the chain anchor reduces the vibration of the platform caused when the platform moves between the primary cylinder and the secondary cylinder to go up and down.



New floor mat & Dead man switch

To improve durability and comfort, the floor mat material has been switched to EVA sponge. Also, the surface of the mat is dotted to make it convenient to remove impurities. A dead man switch has been added to the center of the platform to prevent any accidents.



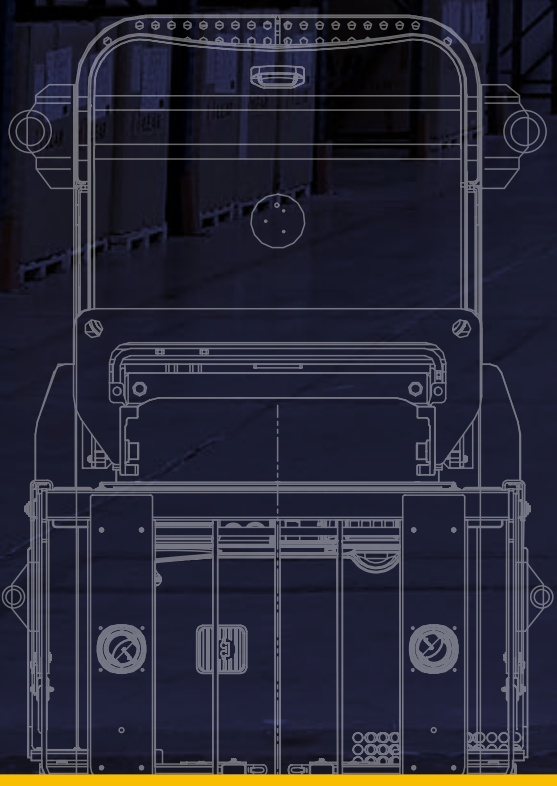
Head guard view & Working lamp

The head guard with exceptional visibility on top allows the operator to visibly see the platform and protect driver from falling objects. Also, there are working lamps and cooling fans installed inside for the convenience of the operator.

Secure & Safety

Advanced Safety & Easy Maintenance

Interior space and strengthened safety device are designed with safety as the priority, thus enable the operator to focus on work safely and conveniently.

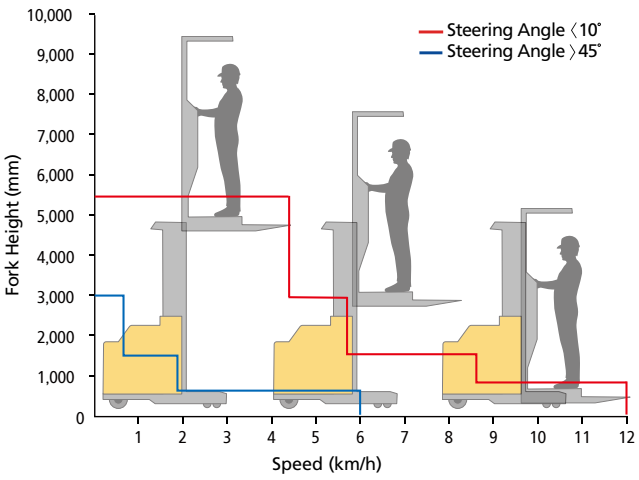




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Operating speed controlled by the height of the platform

For the safety of operators working on high levels, the driving and platform lifting speeds gradually decrease according to the height of the platform. Also, the driving speed is linearly limited according to the angle of the steering wheel. The vehicle cannot drive when the platform reaches 5,500mm or higher and the driving speed decreases significantly when the angle of the steering wheel exceeds 45°.



Steering angle	Travel speed by platform height (km/h)				
	~600	~1,500	~3,000	~5,500	~9,200
Angle 〈 10°	12.0	8.8	5.7	4.4	0
10° 〈 Angle 〈 45°	12.0~6.0	8.8~1.9	5.7~0.7	4.4~0	0
Angle 〉 45°	6.0	1.9	0.7	0	0



Pallet clamp (OPT, STD for N/A Only)

The new pantograph-type pallet clamp has enhanced clamping and can help to prevent accidents caused when the palette is shifted from the fork while operating.



Password settings

The operator's password setting can be set on the cluster to prevent any accidents that can be caused when the vehicle is operated by an unauthorized operator.

Easy maintenance

All major parts related to the controller, driving and pump motors, EPS system, and electronic and hydraulic systems are exposed for easy maintenance when the rear doors on both sides and the top cover with the gas spring are opened.

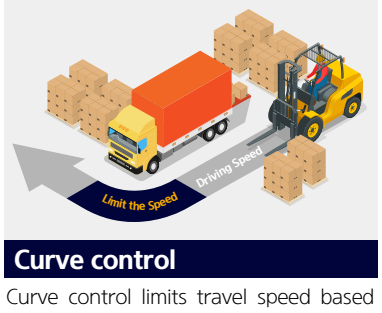
Safety features

The adoption of a high-sensitivity sensor and advanced safety system can help to prevent accidents.



Lift end stroke decelerating system

To reduce the impact from the lift cylinder end stroke when the platform moves up or down, the platform's speed decreases before reaching the fork height and approching the ground.



Curve control

Curve control limits travel speed based on turning radius for a smooth, precise turning operation for the driver.



Lift chain loose detection

If the front of the fork is caught on the rack and the chain is loosen, the platform moves rapidly. To protect the operator and the cargo from the impact, the mast stops lowering if the chain drapes more than 3mm.



Toe board

A toe board has been added to the bottom of the safety bar at the driver's side to prevent any accidents that can be caused when the driver's feet are not kept inside while operating the vehicle.



Rear safety lever (OPT, STD for EU Only)

A rear safety lever has been added to between the platform and the fork to prevent any accidents that can be caused when the driver leans the body beyond the platform while operating the vehicle.

New 9 Series Mast Specification

13BOP-9

Mast Type		Maximum Fork Height		Overall Height (Lowered)		Overall Height (Extended)		Free lift height		Load capacity w/o side shift		Truck weight (unloaded)	
						With OHG		With OHG		24 in LC	600mm LC		
		in	mm	in	mm	in	mm	in	mm	lb	kg	lb	kg
2-STAGE LIMITED FREE LIFT	V325	128.9	3,275	87.4	2,220	215.4	5,470	0.0	0	3,000	1,361	6,469	2,934
	V355	140.7	3,575	93.5	2,375	227.2	5,770	0.0	0	3,000	1,361	6,526	2,960
	V415	164.4	4,175	105.5	2,680	250.8	6,370	0.0	0	3,000	1,361	6,636	3,010
	V475	188.0	4,775	117.5	2,985	274.4	6,970	0.0	0	3,000	1,361	6,747	3,061
	V535	211.6	5,375	129.3	3,285	298.0	7,570	0.0	0	3,000	1,361	6,966	3,160
3-STAGE FULL FREE LIFT	TF500	198.1	5,031	87.4	2,220	286.1	7,266	1.0	25	3,000	1,361	6,989	3,170
	TF530	210.8	5,355	93.5	2,375	297.2	7,550	7.1	180	3,000	1,361	7,082	3,212
	TF610	240.7	6,115	105.5	2,680	327.2	8,310	19.1	485	2,668	1,210	7,264	3,295
	TF685	270.8	6,879	117.5	2,985	357.2	9,074	31.1	790	2,447	1,110	7,472	3,389
	TF760	300.8	7,641	129.3	3,285	387.2	9,836	42.9	1,090	2,205	1,000	7,773	3,526
	TF815	321.9	8,175	138.4	3,515	408.3	10,370	52.0	1,320	2,050	930	7,911	3,589
	TF865	341.8	8,681	147.4	3,745	428.2	10,876	61.0	1,550	1,896	860	8,056	3,654
	TF930	367.0	9,321	158.5	4,025	453.4	11,516	72.0	1,830	1,742	790	8,337	3,782

13BOP-9 (Additional Lift)

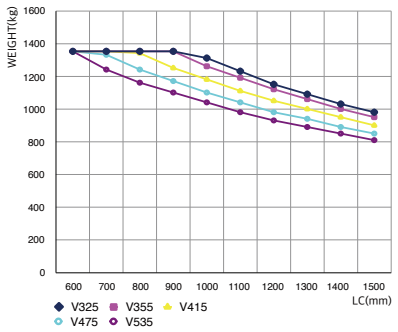
Mast Type		Maximum Fork Height (Additional lift Extended)		Overall Height (Lowered)		Overall Height (Extended)		Free lift height		Additional lift		Load capacity w/o side shift		Truck weight (unloaded)	
						With OHG		With OHG				24 in LC	600mm LC		
		in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	lb	kg
2-STAGE LIMITED FREE LIFT	V325	158.9	4,035	87.4	2,220	215.4	5,470	0.0	0	29.9	760	2,205	1,000	6,786	3,078
	V355	170.7	4,335	93.5	2,375	227.2	5,770	0.0	0	29.9	760	2,205	1,000	6,841	3,103
	V415	194.3	4,935	105.5	2,680	250.8	6,370	0.0	0	29.9	760	2,205	1,000	6,952	3,154
	V475	217.9	5,535	117.5	2,985	274.4	6,970	0.0	0	29.9	760	2,205	1,000	7,063	3,204
	V535	241.5	6,135	129.3	3,285	298.0	7,570	0.0	0	29.9	760	2,205	1,000	7,282	3,303
3-STAGE FULL FREE LIFT	TF500	229.6	5,831	87.4	2,220	286.1	7,266	1.0	25	29.9	760	2,205	1,000	7,317	3,319
	TF530	240.7	6,115	93.5	2,375	297.2	7,550	7.1	180	29.9	760	2,205	1,000	7,410	3,361
	TF610	270.7	6,875	105.5	2,680	327.2	8,310	19.1	485	29.9	760	1,819	825	7,592	3,444
	TF685	300.7	7,639	117.5	2,985	357.2	9,074	31.1	790	29.9	760	1,433	650	7,800	3,538
	TF760	330.7	8,401	129.3	3,285	387.2	9,836	42.9	1,090	29.9	760	1,213	550	8,101	3,675
	TF815	351.8	8,935	138.4	3,515	408.3	10,370	52.0	1,320	29.9	760	1,102	500	8,239	3,737
	TF865	371.7	9,441	147.4	3,745	428.2	10,876	61.0	1,550	29.9	760	992	450	8,384	3,803
	TF930	396.9	10,081	158.5	4,025	453.4	11,516	72.0	1,830	29.9	760	772	350	8,665	3,930

※ TF-Mast: A mast with 1 free lift cylinder in the center
※ When TF Mast is applied, the overall width increases.

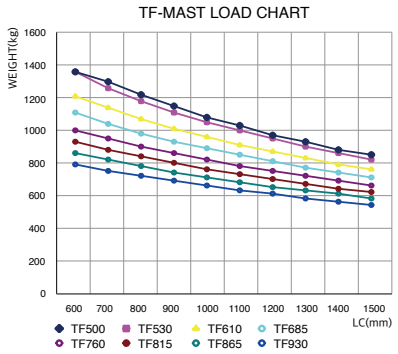
Load Capacity

13BOP-9

V-MAST LOAD CHART

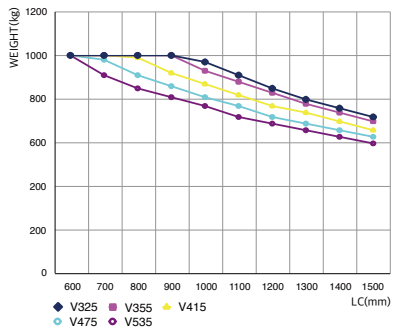


TF-MAST LOAD CHART

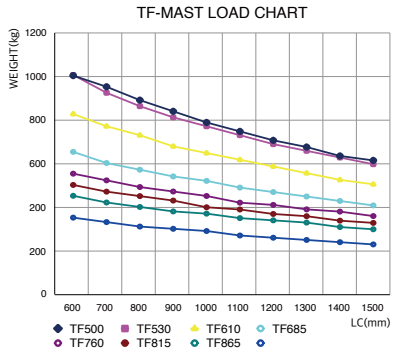


13BOP-9 (Additional Lift)

V-MAST LOAD CHART



TF-MAST LOAD CHART



Optional Items

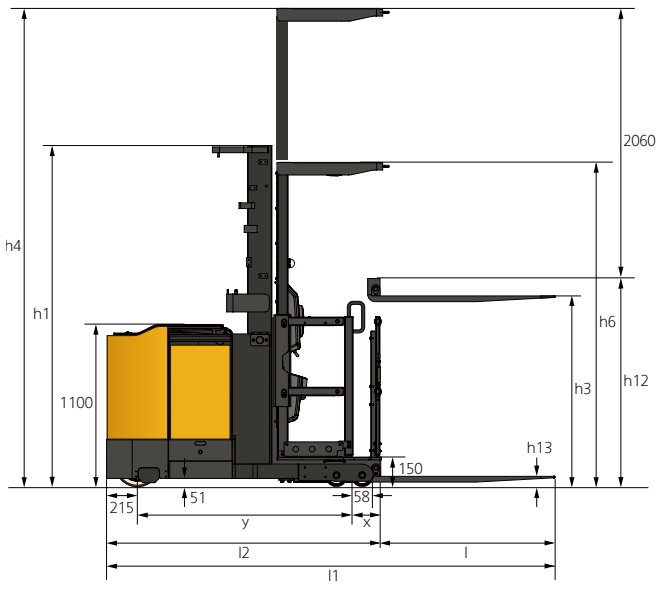
- Fork (mm) : 900 / 1,200 / 1,350 / 1,500 / 1,600 / 1,900
- Guide roller (Wide frame)
  1,226mm / 1,256 (1,456)mm / 1,280 (1,480)mm / 1,304 (1,504)mm
- Beacon lamp (Blue, Red)
- Tire : VULKOLLAN
- Wire guidance
- Height indicator

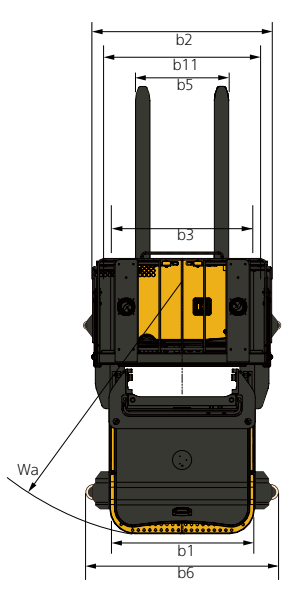
Specification

Characteristics				
1.1	Manufacturer			HYUNDAI
1.2	Manufacturer's type designation			13BOP-9
1.3	Drive: Electric (Battery Or Mains), Diesel, Petrol, Fuel Gas			electric
1.4	Type of operation: Hand, Pedestrian, Standing, Seated, Order-Picker			order picker
1.5	Load capacity / Rated load	Q	kg (lb)	1,360 (2,998.3)
1.6	Load center distance	c	mm (in)	600 (23.6)
1.8	Load distance, Center of drive axle to fork	x	mm (in)	235 (9.3)
1.9	Wheelbase	y	mm (in)	1,480 (58.3)
Weights				
2.1	Service weight, inc. battery	kg	kg (lb)	2,934.5 (6,469.5)
2.2	Axle loading, Loaded front / rear	kg	kg (lb)	741 (1,633.6)/3,493 (7,700.7)
2.3	Axle loading, Unloaded front / rear	kg	kg (lb)	1,564 (3,448)/1,370 (3,020.3)
Wheels, tyres				
3.1	Tires : Solid rubber, Superelastic, Pneumatic, Polyurethane			Polyurethane
3.2	Tire size, Front		mm (in)	305 (12) x 140 (5.5)
3.3	Tire size, Rear		mm (in)	152 (6) x 100 (3.9)
3.5	Wheels, number front / rear (X = Driven wheels)			1 x/4
3.7	Tread, Rear	b11	mm (in)	909 (35.8)
	Tread, Rear, Wide frame			1,109 (43.7)
Dimensions				
4.2	Height, Mast lowered	h1	mm (in)	2,220 (87.4)
4.4	Lift height	h3	mm (in)	3,275 (128.9)
4.5	Height, Mast extended	h4	mm (in)	5,470 (215.4)
4.7	Height of overhead guard	h6	mm (in)	2,260 (89)
4.8	Platform height (h13+135mm)	h7	mm (in)	200 (7.9)
4.11	Additional Lift	h9	mm (in)	760
4.14	Height, Platform raised (h3 + 135mm)	h12	mm (in)	3,410 (134.3)
4.14-1	Picking height (h12+ 1600mm)	h28	mm (in)	5,010 (197.2)
4.15	Height lowered (Fork height)	h13	mm (in)	65 (2.6)
4.19	Overall length	l1	mm (in)	2,980 (117.3)
4.20	Length to face of forks	l2	mm (in)	1,930 (76)
4.21	Overall width	b1/b2	mm (in)	1,020 (40.2) / 1,050 (41.3)
	Overall width, Wide frame			1,250 (49.2)
4.22	Fork dimensions	s/e/l	mm (in)	40 (1.6) x 100 (3.9) x 1,050 (41.3)
4.25	Overall fork width	b5	mm (in)	650 (25.6)
4.26	Platform width	b3	mm (in)	1,020 (40.2)
	Platform width, Wide frame			1,250 (49.2)
4.27	Guide roller width	b6	mm (in)	see chart
4.32	Ground clearance, Center of wheelbase	m2	mm (in)	51 (2)
4.34.1	Aisle width for pallets 800 x 1,200 crossways	Ast	mm (in)	2,990 (117.7)
4.34.2	Aisle width for pallets 1,200 x 800 lengthways	Ast	mm (in)	3,063 (120.6)
4.35	Turning radius	Wa	mm (in)	1,818 (71.6)
Performance				
5.1	Travel speed, Loaded / Unloaded		km/h (mph)	12 (7.5) / 12 (7.5)
5.2	Lift speed, Loaded / Unloaded		m/s (ft/min)	0.24 (47.2) / 0.37 (72.8)
5.3	Lowering speed, Loaded / Unloaded		m/s (ft/min)	0.38 (75) / 0.38 (75)
5.9	Acceleration time (over 10 m)		s	6.4
5.10	Service brake			electric release

Electric Motor				
6.1	Drive motor, Rating S2 60 min.		kW (hp)	4.3 (5.8)
6.2	Hoist motor, Rating S3 15%		kW (hp)	9 (12.2)
6.4	Battery voltage, Nominal capacity K5		V/Ah	24 / 825
6.5	Battery weight, Dependent on manufacture		kg (lb)	730 (1,609.4)
Other Details				
8.1	Type of drive control			AC

Dimension





* All specifications in this catalog are subject to change according to the optional items.

HYUNDAI
MATERIAL HANDLING

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by scanning the QR code.