



MOVING YOU FURTHER

13·15·18·20·30

25BR-9



Some of the photos may include optional equipment.

 **HYUNDAI**
MATERIAL HANDLING

Your satisfaction is our priority.

Robust AC technology! Hyundai's 9-series battery forklift trucks

Hyundai introduces a new line of 9-series reach-type battery forklifts.

The newly designed stand-up reach trucks maximize productivity by enabling comfortable driving and easy maintenance.

Safety first

- Anti-Roll Back system & regenerative braking
- Curve control
- Real-time indication of steering wheel position
- Speed limit setting & turtle mode
- Password starting system

Improved productivity & comfortable driving

- Optimized performance mode setting (H,N,E)
- Load weight indicator (OPT)
- Electric Power Steering
- Adjustable back pad
- Fork camera & LCD monitor (OPT)

Easy maintenance

- Improved controller maintainability
- Hydraulic oil level gauge
- Remote-controlled grease injection port in the axle
- Disc brake

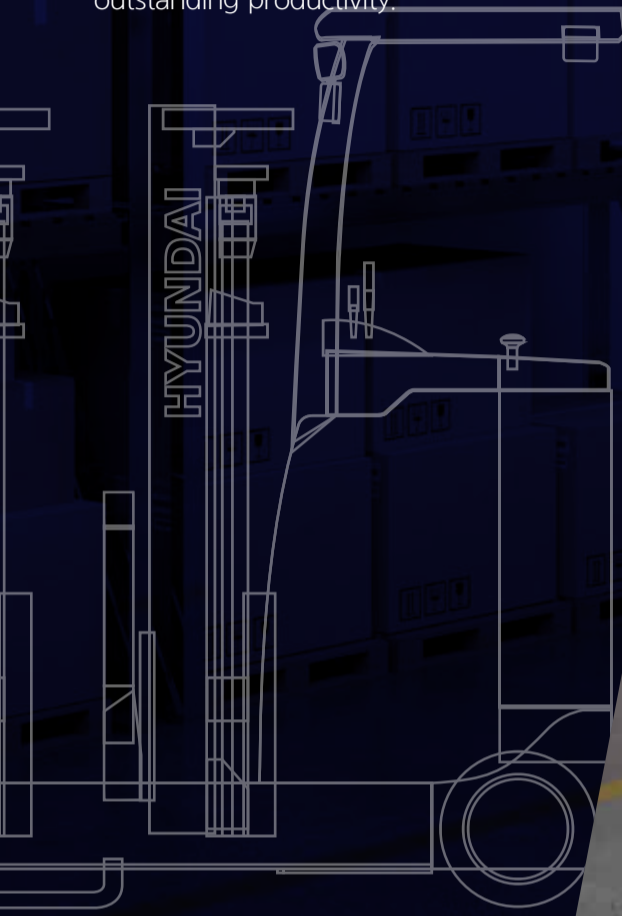




Power & Performance

High Efficiency & Optimal Performance

An efficient, smooth running and compact design provides enhanced performance and outstanding productivity.



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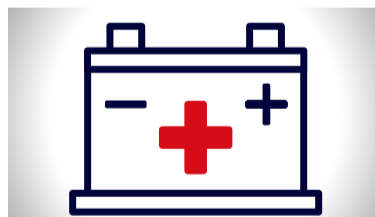
Robust and economical AC motor

Drive and pump motors using our AC technology provide great controllability and durability, compared to DC motors. Also, AC motors without the commutator and brushes cost less to maintain.



cutting-edge ZAPI controller

The almost noiseless 8 khz (high frequency) ZAPI controller enables high efficiency control and protects the system from low and high voltages and overheating.



Prolonged Battery use

When the operator's foot is lifted from the accelerator, the kinetic energy is converted to electrical energy and stored in batteries. The operator can stop the vehicle with the energy generated from the energy conversion.

Fast & safe operation

The 360 rotate function fits for narrow aisle work and provides fast and agile mobility, regardless of time and place.

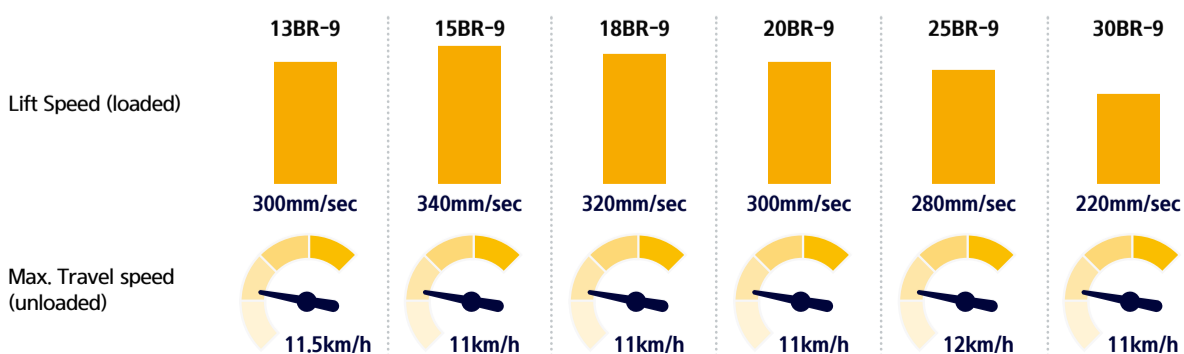
The reach function with improved stability allows safer loading/unloading.



Some of the photos may include optional equipment.

Excellent driving & work performance

The combination of best-in-class drive and pump motors and the latest ZAPI AC controller provide quick and agile driving and ideal operation speed, optimizing efficiency of loading/unloading.



Various functions to improve operation efficiency

- 1 **Turtle Mode** : Selecting turtle mode allows the operator to reduce travel to a pre-set speed, which is ideal when working in narrow and or congested work areas.
- 2 **Optimized operation mode setting** : The operator can select an optimal performance mode from H (High), N (Normal) to E (Economic), depending on working conditions, worksite size and operator proficiency.
- 3 **Load weight indicator (OPT)** : When lifting a load, a change in hydraulic pressure of the lift line is converted to a measurement of weight displayed in real time, and a warning is given at the time of overload.



Easy & Comfort

Comfortable Workspace Intuitive Monitoring

Ergonomic design focusing on the operator convenience and maneuverability reduces operator fatigue and enhances productivity.



Some of the photos may include optional equipment.

Ergonomic design & excellent safety

Ergonomic design focusing on the operator convenience and maneuverability reduces operator fatigue and enhances productivity. In front of the driver's seat, control levers are ergonomically positioned to improve work efficiency.



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Steering handle

The newly designed steering handle and knob with the optimized size allow exceptionally smooth control and improve the marketability.



Responsive & durable levers

Minimal operator effort is required for precise, safe and productive control. In addition, the arrangement of hydraulic valves can be changed (L,T,R,A→R,T,L,A), depending on the operator's preference.



Back pad

Applying the height adjustable back pad increases the convenience. The use of high quality material enhances durability.

3.5 inch LCD color monitor

The LCD color monitor with 3.5 inch graphic smart display allows the operator to control the machine easily and efficiently. The monitor indicates speed, steering angle & driving direction, battery charge level, and hour meter & working mode. In addition, diagnostic error codes allow easy trouble-shooting. **H** (High) mode / **N** (Normal) mode / **E** (Economic) mode / Turtle mode (Driving speed control)



Main functions of the monitor

- Steering wheel position & driving direction
- Turtle mode
- Driving speed (Digital)
- Battery discharge indicator
- High temp warning lamp
- Wrench warning lamp
- Scroll up
- ESC / Back
- Menu / Scroll left
- Performance / Scroll right
- Enter
- Turtle / Scroll down



Comfortable floor mat

A coshoiny floor mat reduces operator fatigue. The spacious room without the side cover improves work efficiency.



Electro Power Steering (EPS) system

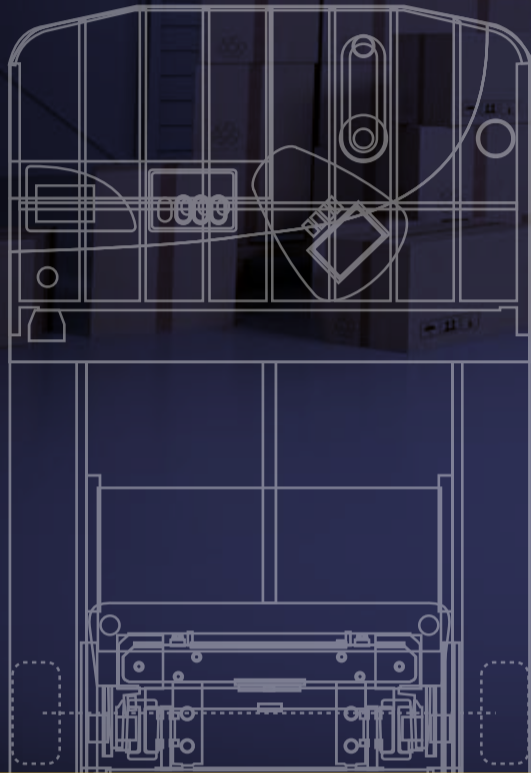
EPS system not only reduces operator fatigue but also maximizes work efficiency when used for a long time. The battery efficiency also improved.



Secure & Safety

Advanced Safety

The safely designed driver's space makes your operating more comfortable.



EXCELLENT VISIBILITY

ADVANCED SAFETY

Some of the photos may include optional equipment.

Great visibility for safe operation

Optimized lift cylinder arrangement provides the operator with great front visibility.



Some of the photos may include optional equipment.



Steering wheel position

A steering sensor is applied to the king pin of the rear axle, communicates to the LCD color monitor to show the direction of the vehicle as it relates to the angle of the steer wheel.



Speed limit setting

The operator can set and limit the maximum speed from 10 km/h by 1 km/h unit, given the curve & congestion of an aisle and the shape of the load.



Password starting system

The operator can set a password to prevent vehicle theft and possible safety accidents in case the vehicle is used by an unauthorized person.

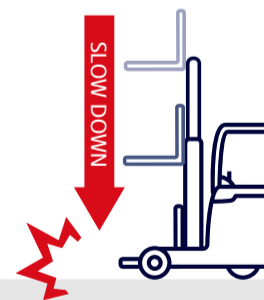
Safety features

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



Curve control

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



Fork safety features

As the forks are being lowered, a down-control valve maintains a controlled descent speed. The down-safety valve prevents forks from dropping down in case of sudden damage of hydraulic line.



Anti Roll Back system

Anti roll back system prevents the vehicle from rolling back when it restarts on a slope.



Fork camera & LCD monitor (OPT)

The camera installed on the fork side or in front of the carriage enables the operator to accurately lift and place the loads through the monitor mounted under the overhead guard, while preventing accidents and improving work efficiency.



Maintenance & Convenience

Optimized Ergonomics & Fast and Easy Maintenance

An ideal arrangement of components ensures easy access and convenience for maintenance.



BEST CONVENIENCE

EASY MAINTENANCE



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Easy maintenance

Ideal arrangement of drive, steering and hydraulic components allows for easy access and maintenance.



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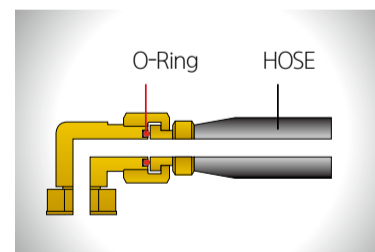
Improvement of controller maintenance

As drive and hydraulic controllers are located in front of the driver's seat, you can simply open the bolted cover and check/repair the vehicle in a comfortable position.



Concentrated fuse box

All-in-one fuse box installed in the side cover enhances maintainability.



ORFS hydraulic hose

ORFS (O-Ring Face Seal) hydraulic hose prevents oil leakages caused by vibration and external force.



Hydraulic oil level gauge

The level gauge is installed on the outside of hydraulic oil tank and it helps to check the oil level easily and to refill at a proper time.



Battery disconnecter & emergency switch

The emergency switch allows immediate power-off in emergency, disconnecting the battery.



Disc brake

The disc brake improves braking force. Also, easy-to-replace brake pad cuts maintenance costs.



DC-DC converter

Strong resistance to water, dust and vibration improves the product quality. High-frequency chopping reduces noise while improving efficiency. (Compliant with UL, CE standards)



Easy battery replacement

The side battery extraction system provides easy refilling of distilled water and improves maintainability. (Battery roller shaft : OPT)



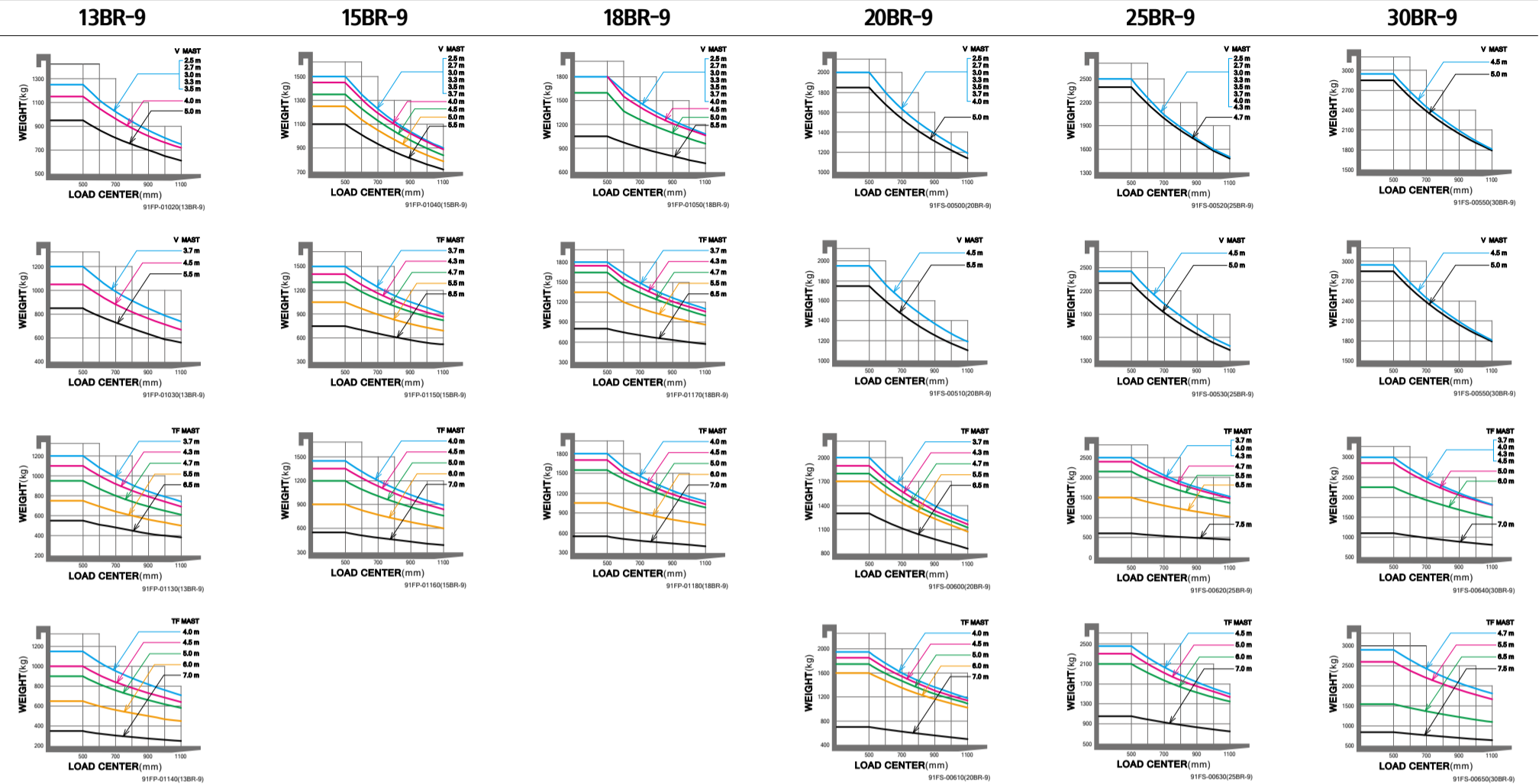
Remote-type grease injection port

Remote-type grease injection port is installed around the axle bearing, which requires regular lubrication, in the interest of operator convenience.

New 9 Series

13/15/18/20BR-9
25/30BR-9

Load Curve



* The exterior of the vehicle and optional items may change for improvement.

New 9 Series

Equipment Data

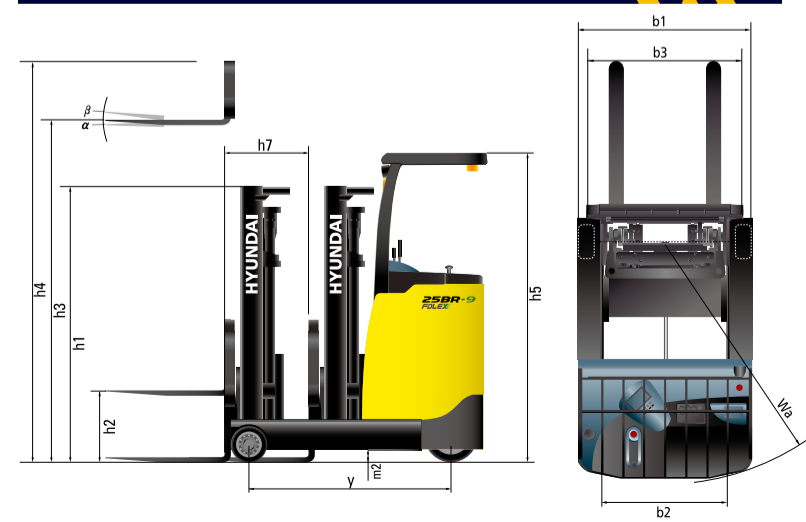
Identification		Hyundai						
1.1	Manufacturer	Hyundai						
1.2	Manufacturer's type designation	13BR-9	15BR-9	18BR-9	20BR-9	25BR-9	30BR-9	
1.3	Drive : electric(battery or mains) ,diesel, petrol ,fuel gas, manual	electric	electric	electric	electric	electric	electric	
1.4	Type of operation : hand, pedestrian, standing, seated, order - picker	standing	standing	standing	standing	standing	standing	
1.5	Load capacity / rated load	Q kg	1,250	1,500	1,800	2,000	2,500	3,000
1.6	Load center distance	c mm	500	500	500	500	500	500
1.8	Load distance, center of drive axle to fork	x mm	189	271	489	484	612	682
1.9	Wheelbase	y mm	1,150	1,315	1,500	1,500	1,695	1,795
Weights								
2.1	Service weight (inc. battery)	kg	2,135	2,289	2,338	2,499	2,905	3,269
2.3	Axle loading, Fork retracted, Unloaded(Load end/Drive end)		778 / 1,357	804 / 1,485	737 / 1,601	830 / 1,669	929 / 1,976	1,055 / 2,214
2.4	Axle loading, Fork extended, Loaded(Load end/Drive end)	kg	2,969 / 416	3,306 / 483	3,630 / 508	4,020 / 479	4,840 / 565	5,692 / 577
2.5	Axle loading, Fork retracted, Loaded(Load end/Drive end)	kg	2,371 / 1,014	2,526 / 1,263	2,549 / 1,589	2,941 / 1,558	3,257 / 2,148	3,967 / 2,303
Wheels, Chassis		P-Ure. / Rub. / Rub						
3.1	Tires : solid rubber, polyurethane (Load / Drive / Caster)							
3.2	Tires size, Load (Ø x width)	Ø254 x 100			Ø267 x 114		Ø267 x 135	
3.3	Tires size, Drive (Ø x width)	Ø306 x 127	Ø306 x 145	Ø306 x 145	Ø306 x 145	Ø382 x 142	Ø382 x 142	
3.4	Tires size, Caster (Ø x width)	Ø178 x 73	Ø178 x 73	Ø178 x 73	Ø178 x 73	Ø204 x 76	Ø204x 76	
3.5	Wheels number : load x drive(driven wheels) x caster	2x1x2	2x1x2	2x1x2	2x1x2	2x1x2	2x1x2	
3.6	Track width, Load end	b10*(mm)	970	970	970	994	1,060	1,075
3.7	Track width, Drive end	b11 mm	613	613	613	613	689	689
Basic Dimensions								
4.1	Tilt angle, Mast / fork carriage (forward / backward)	degrees	5/5	5/5	5/5	5/5	5/5	
4.2	Lowered mast height	h1 mm	1,991	1,991	1,991	1,991	2,025	2,025
4.3	Free lift	h2 mm	267	267	267	277	293	293
4.4	Lift height	h3 mm	3,000	3,000	3,000	3,000	3,000	3,000
4.5	Extended mast height	h4 mm	4,025	4,025	4,025	4,025	4,030	4,030
4.7	Overhead load guard (cab) height	h5 mm	2,260	2,260	2,260	2,260	2,294	2,294
4.8	Step height	h7 mm	324	324	324	324	345	345
4.9	Overall length (Reach In, With Fork)	l1 mm	2,106	2,189	2,151	2,301	2,373	2,403
4.10	Length to face of forks (Reach In)	l2 mm	1,206	1,289	1,251	1,251	1,323	1,353
4.11	Overall width (Load end / Drive end)	b1*/b2 (mm)	1,070	1,070	1,070	1,116 / 1070	1,200	1,212 / 1,200
4.12	Fork dimensions(hook type)	s/e/l mm	900x100x35	900x100x35	900x100x35	1,050x100x45	1,050x100x45	1,050x100x45
4.13	Fork carriage ISO 2328, class/type A,B	II/A	II/A	II/A	II/A	II/A	III/A	
4.14	Fork-carriage width	b3*2 mm	1,037	1,037	1,037	1,037	1,110	1,110
4.15	Overall fork width	b5*3 mm	722	722	722	722	722	722
4.16	Distance between support arms/ loading surface	b4*1 (mm)	768	768	771	771	837	837
4.17	Reach distance	l4 mm	365	447	665	665	807	877
4.18	Ground clearance, loaded, under mast	m1 mm	106	106	106	106	130	130
4.19	Ground clearance, centre of wheelbase	m2 mm	88	88	75	75	81	74
4.20	Aisle width for pallets 1000x1200 crossways	Ast mm	2,647	2,740	2,763	2,781	2,895	2,956
4.21	Aisle width for pallets 800x1200 lengthways	Ast mm	2,725	2,807	2,791	2,810	2,891	2,931
4.22	Turning radius	Wa mm	1,438	1,596	1,775	1,775	1,980	2,077
4.23	Length across wheel arms	l7 mm	1,530	1,695	1,880	1,880	2,080	2,180
Performance Data								
5.1	TTravel speed, (loaded / unloaded)	km/h	11.5	11	11	11	12	11
5.2	Lift speed (loaded / unloaded)	mm/s	300 / 500	340 / 550	320 / 550	300 / 470	280 / 470	220 / 430
5.3	Lowering speed (loaded / unloaded)	mm/s	500 / 450	500 / 450	500 / 450	500 / 450	500 / 450	500 / 450
5.7	Max gradient performance, S2 3min (loaded / unloaded)	%	19 / 32	27 / 50	25 / 49	23 / 45	15 / 30	13 / 2-
5.9	Acceleration time, 10m over (loaded / unloaded)		6.7	5.4	5.6	5.8	5.3	5.4
5.10	Service brake		DISC	DISC	DISC	DISC	DISC	DISC
Motor								
6.1	Drive motor, rating S2 = 60min	kW	4.5	6	6	6	6	6
6.2	Lift motor, rating at S3 = 15% (S2 5min)	kW	14	14	14	14	14	14
6.3	Battery acc. to DIN 43531 / 35 / 36 A, B, C,no		no	no	no	no	no	no
6.4	Battery voltage, nominal capacity K5 (Option)48	V / AH	230 (198)	280 (335)	300 (280,335)	335 (300,365)	335 (300,365)	365
6.5	Battery weight (min)	kg	380 (370)	480 (560)	500 (480,560)	560 (500)	560 (500)	580
6.6	Battery dimensions L / W / H	mm	994 / 270 / 582	994 / 378 / 582	994 / 378 / 582	994 / 378 / 582	994 / 378 / 582	994 / 378 / 582
Other Details								
8.1	Type of drive control		FET Inverter	FET Inverter	FET Inverter	FET Inverter	FET Inverter	
8.2	Operating pressure for attachments	bar	130	130	130	130	130	
8.3	Oil volume for attachments	ℓ / min	18	18	18	18	24	

* When installed with a 3-stage mast, the overall width increases (by 120 mm)

Optional Items

- Fork (mm)**
 - 13/15/18BR-9 : 750, 850, 1050, 1200, 1350, 1500
 - 20/25/30BR-9 : 900, 1000, 1200, 1350, 1500, 1650, 1800
 - 30BR-9(Hook) : 900, 1150, 1200, 1350, 1500, 1650, 1800, 2400
- Sideshift**
 - Carriage (Hook type)
- Carriage (Narrow, Hook type)**
 - M.C.V : 3-Spool (STD), 4-Spool
- Tire**
 - 13/15/18BR-9
 - Option 1 : All Urethane
 - Option 2 : All Rubber
 - Option 3 : All Non - Marking
 - Option 4 : All Vulkollan
 - 20/25/30BR-9
 - Option 1 : All Urethane
 - Option 2 : Load Urethane Caster, Drive Non - Marking
 - Option 3 : All Vulkollan
- Cold Storage** (for -30°C cold working environments)
- Beacon Lamp** (AMBER, RED, BLUE)
- Rear Work Lamp**
- High Head Guard**
- Fork camera & LCD monitor**
- Load weight indicator**
- UL : ES**
- Reverse Steering**

Standard Dimensions



* Specifications are based on information available at time of printing and may change without notice.

