

# 15/18/20BT-9

Electric Counterbalance Trucks

MOVING YOU FURTHER

HYUNDAI MATERIAL HANDLING



 **HYUNDAI**  
MATERIAL HANDLING

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 **HYUNDAI**  
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# Your satisfaction is our priority!

Hyundai introduces a new line of **9-series** battery forklift trucks. The newly designed four wheel counter-balance trucks provide operators increased comfort, productivity and ease of maintenance.

## Compact forklift with proven AC technology

- Maximum performance
- Comfortable operating compartment
- Battery side loading system (optional)
- Curve control system
- Fingertip controlled mini levers available (optional)
- Load weight indicator
- 3.5 inch Color LCD Display



Some of the photos may include optional equipment.

# High Efficiency & Optimal Performance

Efficient, smooth running and compact design provide you with enhanced performance and highest productivity.

**15/18/20BT-9**



### More efficient operating control levers (Optional)

Electronic directional control and secondary horn are mounted to the hydraulic lift lever for quick and precise maneuvering.

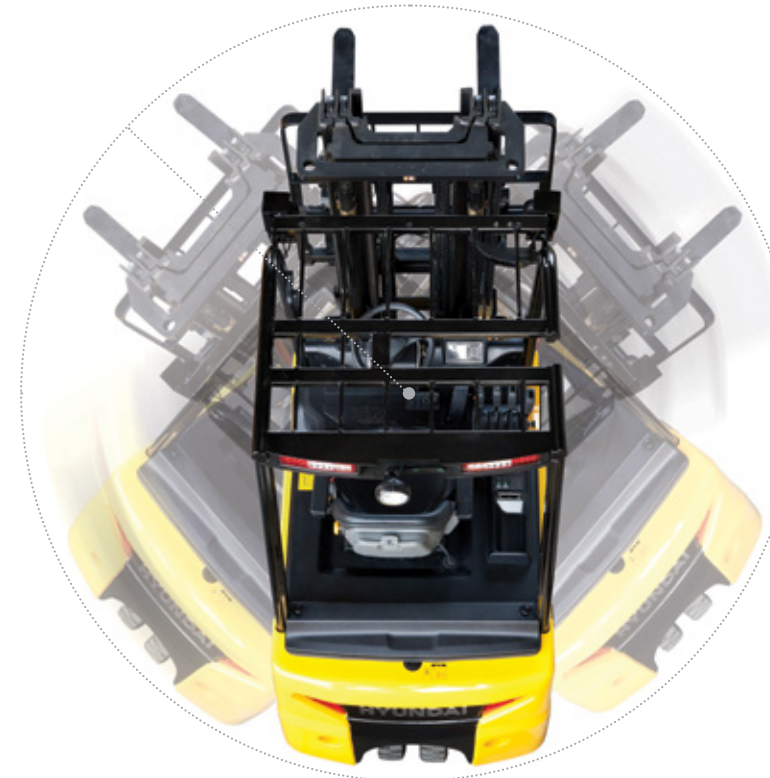


### Finger tip control levers (Optional)

Ergonomically designed fingertip control levers for improved operator comfort and productivity.



Some of the photos may include optional equipment.



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### Curve control

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



Driving Speed

Limit the speed

### Designed for compact aisle width and turning radius

The combination of 3-wheel design and dual drive motors offer central pivot turning. This allows the driver to work in very confined spaces.



### Advanced drive and lift performance with proven durability and low maintenance

The enclosed drive and pump motor with AC technology combine power, extended maintenance intervals and excellent durability. The brushless AC motors offer improved efficiency and reduction maintenance cost.



### Auto fork leveling system (Optional)

In order to improve productivity the auto fork leveling system will automatically stop the tilt movement when the forks are level.

### Max. Gradeability (loaded)

Model	%
15BT-9	29.5
18BT-9	27.5
20BT-9	24.5

### Max. Travel Speed (unloaded)

Model	mph
15BT-9	11
18BT-9	11
20BT-9	11

### Anti roll back system, travel speed and gradeability

Anti Roll-back system offers protection against the machine rolling back on a ramp in combination with exceptional ramp start capabilities.

# Advanced Safety



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

**15/18/20BT-9**



**Excellent visibility for safe operation**

Optimized lift cylinder arrangement provides operator with wider visibility. The panoramic mirror expands the driver's view when backing up.

■ Some of the photos may include optional equipment.



**Fork safety features**

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

**OPSS(Operator Presence Sensing System)**

When operator is not in seat the hydraulic lift and tilt controls and travel are locked out.

- Lift Lock
- Tilt Lock
- Drive Lock

■ Some of the photos may include optional equipment.



**Strong overhead guard**

Exceeding EEC and ANSI regulations, the overhead guard offers great protection combined with excellent all around visibility.



**Safety lamps & rear reflectors**

LED combination lights and LED headlights offer the driver visibility in all circumstances. Rear reflectors mounted on the counterweight enhance safety for the driver and the application.

# Optimised Ergonomics & Fast and Easy Maintenance



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

**15/18/20BT-9**



## Spacious operator cabin

The newly designed cabin was conceived for more space, a wider field of view and operator comfort.

■ Some of the photos may include optional equipment.



## Adjustable steering wheel

The angle of the steering column can easily be adjusted to improve operator comfort.

## Grammer Seat (STD)

Easily adjustable suspension seat, with hi-vis orange seat belt, provides great comfort, safety and durability.

- ELR (Energy Locking Retractor) Type Seat Belt
- Heater and Head-rest (Option)



## Large entrance step

Wide and non-slip step offers convenience and safety when entering and exiting truck.



## Optimized pedal position and floor mat

The position of accelerator and brake have been optimized through human engineering.

## Advanced LCD Monitor

Steering Wheel Position and running direction

Load Weight Indicator

Turtle mode

Speed (Digital)

Battery's state of charge

Wrench warning lamp

Thermometer warning lamp

Deadman warning lamp

Seat belt warning lamp



Key3 button (Set down/Menu)

Key1 button (roll up)

Key5 button (ESC Out)

Key4 button (Set up/Performance)

Key6 button (Enter)

Key2 button (Roll down/Turtle)

The LCD color monitor with 3.5 inch graphic smart display 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 load indicator displays the load weight in the monitor. The operator can select various performance modes to meet all working conditions. It is available multi-languages (maximum 12) for operator.

**H** (High) mode **N** (Normal) mode **E** (Economic) mode **Turtle mode**



## Side Battery Removal Option

Side loading battery loading/removal is available for easy removal and replacement.



## Brake oil reservoir with level sensor

The enhanced brake oil reservoir, located in the upper left dash is equipped with an electronic level sensor and easily visible through the monitor.



# New 9 Series

15/18/20BT-9

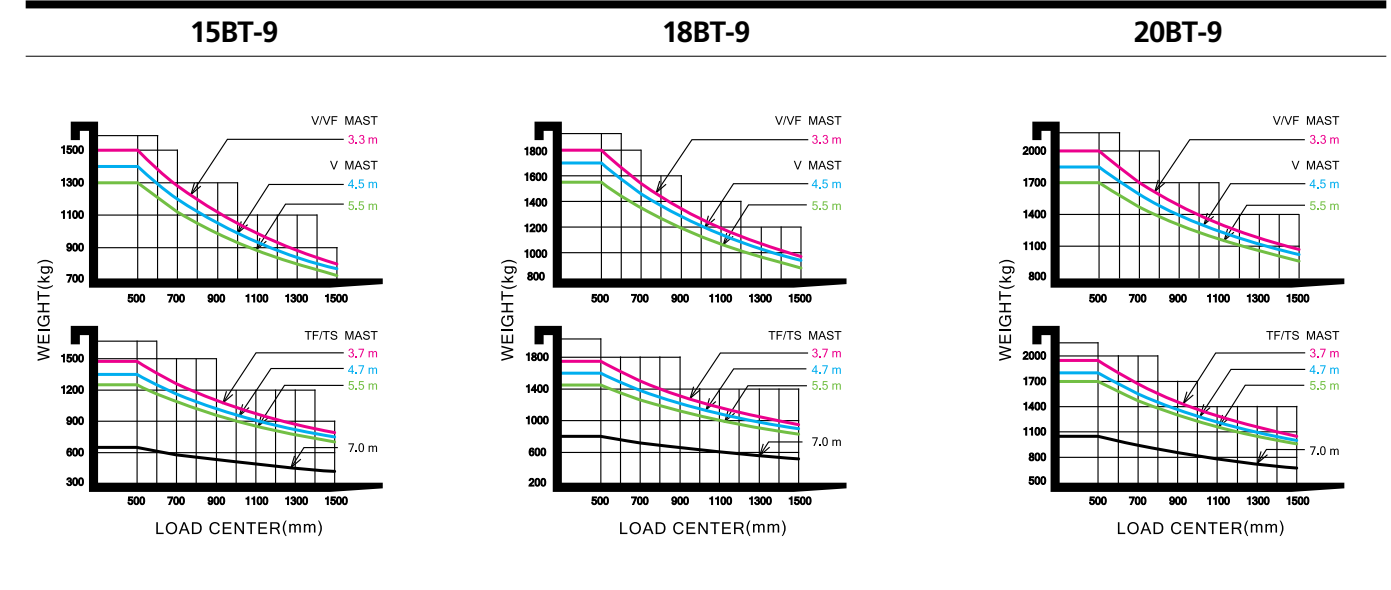
## Mast Specification (20BT-9)

Mast Type	Maximum Fork Height		Overall Height (Lowered)		Free lift height						Tilt Angle		Load capacity w/o side shift	Load capacity w/side shift	Truck Weight (Unloaded)		
	in	mm	in	mm	With Load Backrest		Without Load Backrest		Without Load Backrest (3/4-SPOOL)		Fwd deg	Bwd deg	24 in LC lb	24 in LC lb	lb	kg	
					in	mm	in	mm	in	mm							
2-STAGE LIMITED FREE LIFT	V250	99.6	2530	68.1	1729	1.6	40	1.6	40	1.6	40	5	7	4000	3900	7601	3448
	V270	107.5	2730	72.0	1829							5	7	4000	3900	7628	3460
	V300	119.3	3030	77.9	1979							5	7	4000	3900	7672	3480
	*V330	131.1	3330	83.8	2129							5	7	4000	3900	7716	3500
	V350	139.0	3530	87.8	2229							5	7	4000	3900	7745	3513
	V370	146.9	3730	91.7	2329							5	7	4000	3900	7773	3526
	V400	158.7	4030	97.6	2479							5	7	3960	3810	7828	3551
	V450	178.3	4530	111.4	2829							5	5	3770	3630	7976	3618
	V500	198.0	5030	121.2	3079							5	5	3660	3540	8051	3652
	V550	217.7	5530	131.1	3329							5	5	3480	3350	8095	3672
2-STAGE FULL FREE LIFT	VF/VS300	119.3	3030	77.9	1979	38.8	986	59.7	1516	52.9	1344	5	5	4000	3900	7758	3519
	VF/VS330	131.1	3330	83.8	2129	44.7	1136	59.7	1516	58.8	1494	5	5	4000	3900	7804	3540
	VF/VS350	139.0	3530	87.8	2229	48.7	1236	59.7	1516	62.8	1594	5	5	4000	3900	7837	3555
3-STAGE FULL FREE LIFT	TF370	147.2	3740	70.0	1779	30.9	786	47.6	1210	42.1	1070	5	5	3960	3830	7928	3596
	TF400	159.1	4040	74.0	1879	34.9	886	51.6	1310	46.1	1170	5	5	3880	3720	7972	3616
	TF430	170.9	4340	77.9	1979	38.8	986	55.5	1410	50.0	1270	5	5	3770	3660	8014	3635
	TF450	178.7	4540	81.9	2079	42.8	1086	61.4	1560	55.9	1420	5	5	3720	3590	8058	3655
	TF470	186.6	4740	83.8	2129	44.7	1136	61.4	1560	55.9	1420	5	5	3680	3540	8080	3665
	TF500	198.4	5040	87.8	2229	48.7	1236	65.4	1660	59.8	1520	5	5	3570	3460	8124	3685
	TF550	218.1	5540	95.6	2429	56.5	1436	75.2	1910	69.7	1770	5	5	3480	3370	8212	3725
	TF600	237.8	6040	103.5	2629	64.4	1636	83.1	2110	77.6	1970	5	5	3200	3080	8351	3788
	TF650	257.5	6540	111.4	2829	72.3	1836	90.2	2290	84.6	2150	3	3	2690	2570	8450	3833
	TF700	277.2	7040	119.3	3029	80.2	2036	98.6	2504	93.1	2364	3	3	2180	2110	8536	3872
	TS370	147.2	3740	70.0	1779	30.9	786	43.8	1112	37.1	942	5	5	3960	3830	7928	3596
	TS400	159.1	4040	74.0	1879	34.9	886	47.7	1212	41.0	1042	5	5	3880	3720	7972	3616
	TS430	170.9	4340	77.9	1979	38.8	986	51.7	1312	45.0	1142	5	5	3770	3660	8014	3635
	TS450	178.7	4540	81.9	2079	42.8	1086	57.6	1462	50.9	1292	5	5	3720	3590	8058	3655
	TS470	186.6	4740	83.8	2129	44.7	1136	57.6	1462	50.9	1292	5	5	3680	3540	8080	3665
	TS500	198.4	5040	87.8	2229	48.7	1236	61.5	1562	54.8	1392	5	5	3570	3460	8124	3685
	TS550	218.1	5540	95.6	2429	56.5	1436	71.3	1812	64.6	1642	5	5	3480	3370	8212	3725
TS600	237.8	6040	103.5	2629	64.4	1636	79.2	2012	72.5	1842	5	5	3200	3080	8351	3788	
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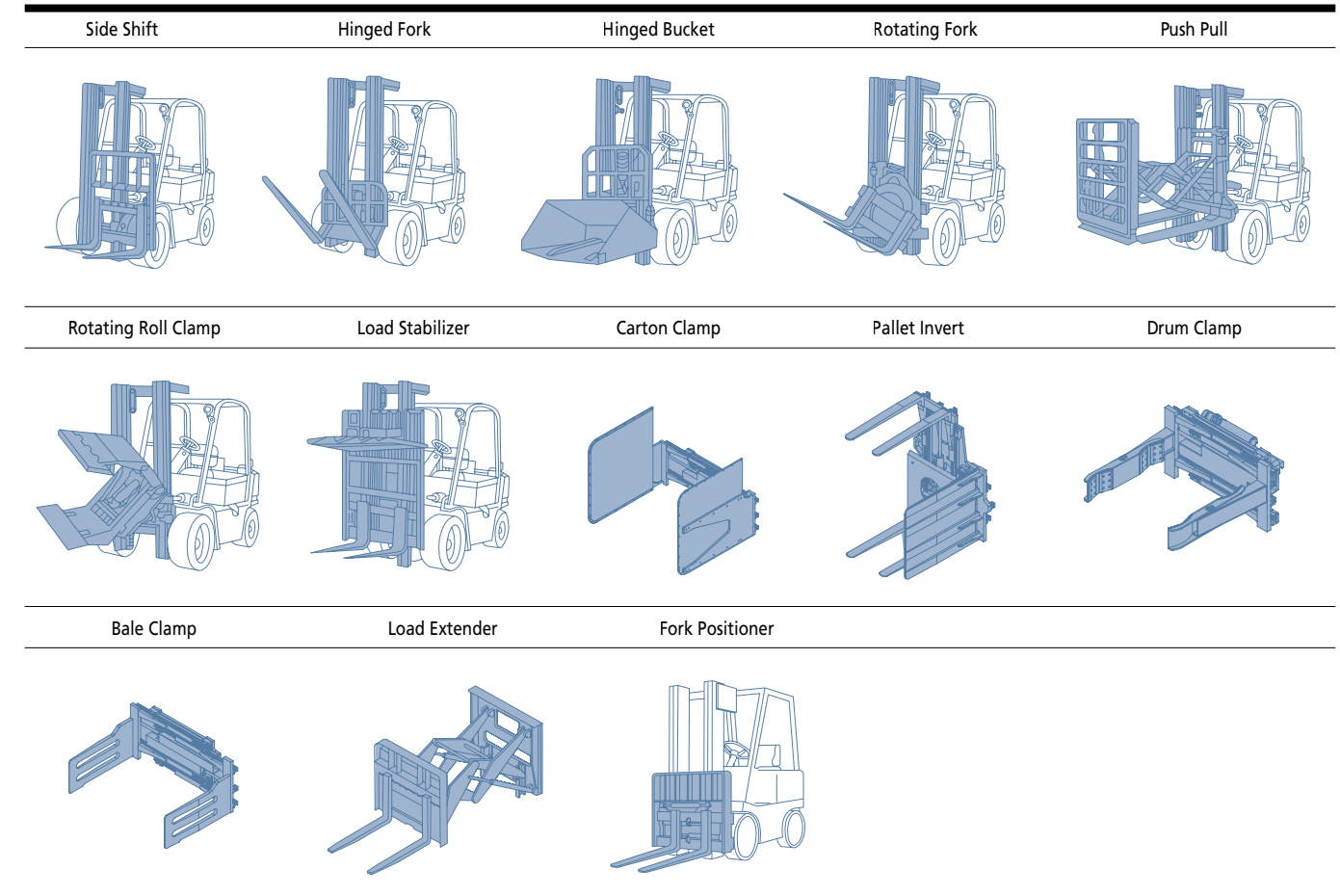
\* TS-Mast : Wide Visible 3-Stage Full Free Lift Mast with 2 Free Lift Cylinders.

\* Standard

## Load Capacity



## Various Attachments



# New 9 Series

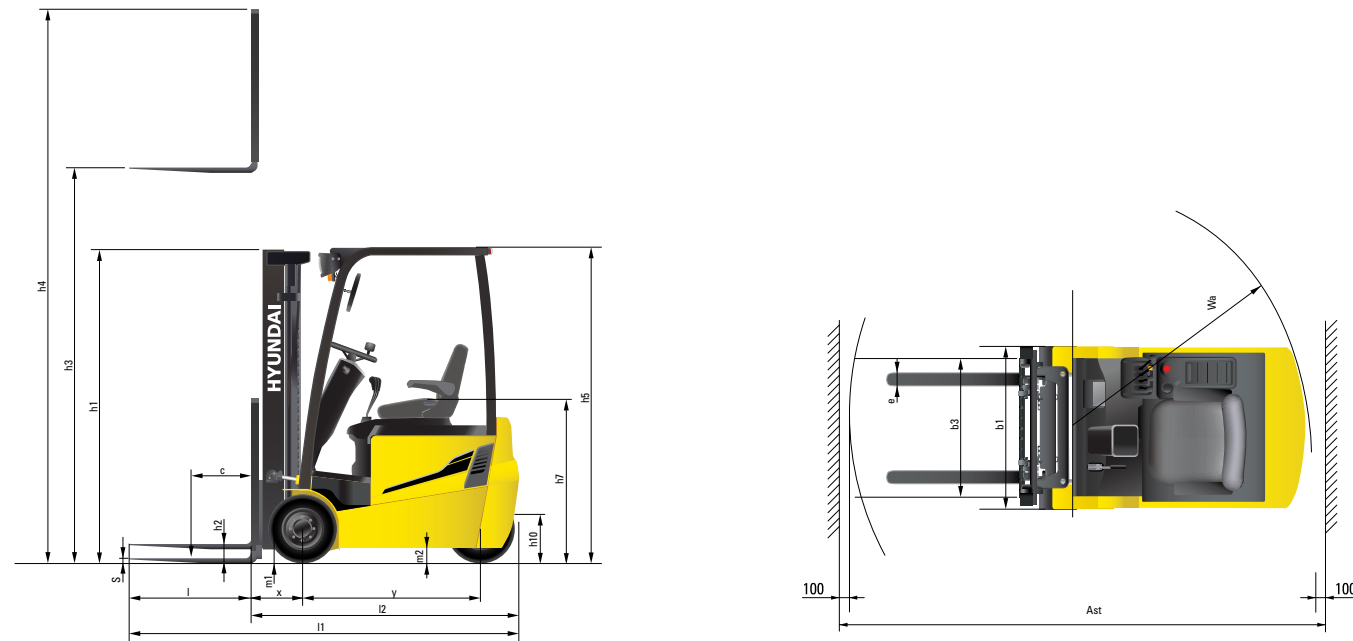
**15/18/20BT-9**

## Optional Items

- **Fork (mm)** 15 / 18BT-9 : 35X100X750, 850, 900, 1050, 1200, 1350, 1500  
20BT-9 : 40X100X900 (STD), 950, 1000, 1050, 1150, 1200, 1350, 1500, 1600
- **Integral Sideshift**
- **Tire** : SOLID (STD) / Non-marking / Cushion tire /  
Wide tire [15BT-9 : Front tire (200 / 50-10), 18/20BT-9 : Rear tire (15X5.5-9)]
- **Finger Tip Control**
- **Direction Switch on Lever**
- **Cold Storage (for - 30°C cold working environments)**

- **M.C.V** : 2-Spool (STD), 3-Spool, 4-Spool
- **Auto Fork Leveling**
- **Beacon Lamp**
- **Work Lamp**
- **UL** : ES, EE

## Dimension



## Specification

MODEL DESIGNATION					
1.1	MANUFACTURER (ABBREVIATION)		HYUNDAI	HYUNDAI	HYUNDAI
1.2	MANUFACTURER'S TYPE DESIGNATION		15BT-9	18BT-9	20BT-9
1.3	DRIVE : ELECTRIC (BATTERY OR MAINS), DIESEL, PETROL, FUEL GAS		electric	electric	electric
1.4	TYPE OF OPERATION: HAND, PEDESTRIAN, STANDING, SEATED, ORDER-PICKER		seated	seated	seated
1.5	LOAD CAPACITY / RATED LOAD	kg (lb)	1500 (3000)	1800 (3500)	2000 (4000)
1.6	LOAD CENTER DISTANCE	mm (in)	500 (24)	500 (24)	500 (24)
1.8	LOAD DISTANCE, CENTER OF DRIVE AXLE TO FORK	mm (in)	360 (14.17)	360 (14.17)	365 (14.37)
1.9	WHEELBASE	mm (in)	1335 (52.6)	1420 (55.90)	1420 (55.90)

WEIGHT					
2.1	SERVICE WEIGHT	kg (lb)	3125 (6889.4)	3365 (7418.55)	3500 (7716.2)
2.2	AXLE LOADING, LOADED FRONT/REAR	kg (lb)	4127 / 498 (9098 / 1098)	4600 / 565 (10141 / 1246)	4900 / 600 (10803 / 1323)
2.3	AXLE LOADING, UNLOADED FRONT/REAR	kg (lb)	1661 / 1464 (3662 / 3228)	1710 / 1655 (3770 / 3649)	1684 / 1816 (3713 / 4004)

TIRES, CHASSIS					
3.1	TIRES : SOLID RUBBER, SUPERELASTIC, PNEUMATIC, POLYURETHANE		SE	SE	SE
3.2	TIRE SIZE, FRONT		18x7-8	200/50-10	200/50-10
3.3	TIRE SIZE, REAR		15x4.5-8	15x4.5-8	15x4.5-8
3.5	WHEELS, NUMBER FRONT / REAR (X = DRIVEN WHEELS)		2x/2	2x/2	2x/2
3.6	TREAD, FRONT	mm (in)	895 (35.2)	905 (35.6)	905 (35.6)
3.7	TREAD, REAR	mm (in)	170 (6.69)	170 (6.69)	170 (6.69)

DIMENSIONS					
4.1	TILT OF MAST/FORK CARRIAGE FORWARD/BACKWARD	degree	5 / 7	5 / 7	5 / 7
4.2	HEIGHT, MAST LOWERED	mm (in)	2120 (83.5)	2129 (83.8)	2129 (83.8)
4.3	FREE LIFT	mm (in)	35 (1.37)	35 (1.37)	40 (1.57)
4.4	LIFT HEIGHT	mm (in)	3325 (130.90)	3325 (130.90)	3330 (131.10)
4.5	HEIGHT, MAST EXTENDED	mm (in)	4320 (170.07)	4320 (170.07)	4320 (170.07)
4.7	HEIGHT OF OVERHEAD GUARD (CABIN)	mm (in)	2065 (81.29)	2065 (81.29)	2065 (81.29)
4.8	SEAT HEIGHT / STAND HEIGHT REL. TO SIP	mm (in)	1090 (42.91)	1090 (42.91)	1090 (42.91)
4.12	COUPLING HEIGHT	mm (in)	410 (16.14)	410 (16.14)	410 (16.14)
4.19	OVERALL LENGTH	mm (in)	2935 (115.55)	3,025 (119.09)	3060 (120.47)
4.20	LENGTH TO FACE OF FORKS	mm (in)	1885 (74.21)	1975 (77.75)	2010 (79.13)
4.21	OVERALL WIDTH	mm (in)	1074 (42.28)	1105 (43.50)	1105 (43.50)
4.22	FORK DIMENSIONS	mm (in)	35x100x1050 (1.4x3.9x41.3)	35x100x1050 (1.4x3.9x41.3)	40x100x1050 (1.6x4x41.3)
4.23	FORK CARRIAGE (ITA Class)		2A (II)	2A (II)	2A (II)
4.24	FORK-CARRIAGE WIDTH	mm (in)	1006 (39.60)	1006 (39.60)	1006 (39.60)
4.31	GROUND CLEARANCE, BELOW MAST, LOADED	mm (in)	85 (3.34)	94 (3.70)	94 (3.70)
4.32	GROUND CLEARANCE, CENTER OF WHEELBASE	mm (in)	90 (3.54)	90 (3.54)	100 (3.93)
4.33	aisle width for pallets 1000 X 1200 CROSSWAYS (L X W)	mm (in)	3226 (127.00)	3316 (130.55)	3351 (131.92)
4.34	aisle width of pallets 800 X 1200 CROSSWAYS (W X L)	mm (in)	3350 (131.88)	3440 (135.43)	3475 (136.81)
4.35	TURNING RADIUS	mm (in)	1540 (60.62)	1630 (64.17)	1660 (65.35)
4.36	SMALLEST PIVOT POINT DISTANCE	mm (in)	-	-	-

PERFORMANCE DATA					
5.1	TRAVEL SPEED, LOADED / UNLOADED	km/h (mph)	16 / 17 (9.9 / 10.6)	16 / 17 (9.9 / 10.6)	16 / 17 (9.9 / 10.6)
5.2	LIFT SPEED, LOADED / UNLOADED	mm/s (ft/min)	410 / 600 (80.7 / 118)	410 / 600 (80.7 / 118)	410 / 600 (80.7 / 118)
5.3	LOWERING SPEED, LOADED / UNLOADED	mm/s (ft/min)	500 / 450 (98.4 / 88.6)	500 / 450 (98.4 / 88.6)	500 / 450 (98.4 / 88.6)
5.5	DRAWBAR PULL, LOADED / UNLOADED	N (lb)	-	-	-
5.6	MAX. DRAWBAR PULL, LOADED / UNLOADED	N (lb)	15102 / 14759 (3395 / 3318)	15190 / 14710 (3415 / 3306)	15190 / 14710 (3415 / 3306)
5.7	GRADEABILITY, LOADED / UNLOADED	%	-	-	-
5.8	MAX. GRADEABILITY, LOADED / UNLOADED	%	29.5/-	27.5/-	24.5/-
5.9	ACCELERATION TIME, LOADED / UNLOADED	s	-	-	-
5.10	SERVICE BRAKE		HYDRAULIC	HYDRAULIC	HYDRAULIC

ELECTRIC-MOTOR					
6.1	DRIVE MOTOR RATING S2 60 MIN	kW (HP)	4.7x2 (6.3x2)	4.7x2 (6.3x2)	4.7x2 (6.3x2)
6.2	LIFT MOTOR RATING AT S3 15%	kW (HP)	14 (17.8)	14 (17.8)	14 (17.8)
6.3	BATTERY ACC. TO DIN 43531/35/36 A, B, C, NO		-	-	-
6.4	BATTERY VOLTAGE, NOMINAL CAPACITY K5	V	36 / 48	36 / 48	36 / 48
6.5	BATTERY WEIGHT	kg (lb)	780 (1720)	950 (2094.4)	950 (2094.4)
6.6	ENERGY CONSUMPTION ACC. TO VDI CYCLE	kWh/h			
6.7	BATTERY COMPARTMENT DIMENSIONS L/W/H (Top Loaded)	mm (in)	983 / 552 / 700 (38.7 / 21.7 / 27.6)	983 / 638 / 700 (38.7 / 25.1 / 27.6)	983 / 638 / 700 (38.7 / 25.1 / 27.6)
6.8	BATTERY COMPARTMENT DIMENSIONS L/W/H (Side Loaded)	mm (in)	983 / 552 / 650 (38.7 / 21.7 / 25.6)	983 / 638 / 650 (38.7 / 25.1 / 25.6)	983 / 638 / 650 (38.7 / 25.1 / 25.6)

ADDITION DATA					
8.1	TYPE OF DRIVE CONTROL	AC	AC	AC	AC
8.2	OPERATING PRESSURE, SYSTEM / ATTACHMENTS	mm (in)	190 / 130 (2755 / 1885)	190 / 130 (2755 / 1885)	190 / 130 (2755 / 1885)
8.3	OIL VOLUME FOR ATTACHMENTS	LPM	20	20	20
8.4	SOUND LEVEL AT THE DRIVER'S EAR ACCORDING TO DIN 12053	dB (A)			
8.5	TRAILER COUPLING, TYPE DIN				