## 10/13/15BTR-9

**Electric Counterbalance Trucks** 

**MOVING YOU FURTHER** 

#### **HYUNDAI HEAVY INDUSTRIES**



# Your satisfaction is our priority!

Hyundai introduces a new line of 9-series battery forklift trucks.

The newly designed 3 wheel counterbalance trucks with rear wheel drive provide every operator comfortable driving, increased productivity and easy maintenance.







## red<mark>dot</mark> design award honourable mention 2012

#### **Compact forklift with proven AC technology**

**Maximum performance** 

Spacious operator's cab

Fingertip controlled mini levers available (optional)

Weight indicator (optional)

Safety system that prevents over loading (optional)

**Battery side loading system available** 

Wet brakes standard



## High Efficiency & **Optimal Performance**









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

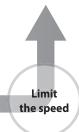
The enclosed drive and pump motor with AC technology combine power, high maintenance intervals and excellent durability. The ZF transmission converts the drive engine's power to any direction the driver requires.

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

#### 10/13/15BTR-9



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





#### Designed for compact aisle width and turning radius

The combination of 3-wheel design and rear wheel drive offers central pivot turning.

This allows the driver to work in very confined spaces.







Travel Speed (MAX)

Model	Km/h
10BTR-9	13
13BTR-9	13
15BTR-9	13

Gradeability (MAX)

Model	%
10BTR-9	18
13BTR-9	15
15BTR-9	13

#### 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**





#### **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.



#### Strong overhead guard

Exceeding CEE and ANSI regulations, the overhead guard offers great protection combined with excellent all-round visibility. The safely designed driver's space makes your operating more comfortable.

#### 10/13/15BTR-9



#### 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 the operator is not in the seat all mast and drive movements are impossible.









#### Safety lamps & rear reflectors

Halogen headlights and rear LED combination lights 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**





#### **Spacious operator cabin**

The BTR is designed as a small, compact design, yet the operator compartment has ample room for virtually any operator.

#### **Grammer seat (Option)**

An easily adjustable suspension seat, based on a human engineering design, provides greater comfort reducing operator fatigue.





#### Low entrance height

In order to get in and out of the cabine in an easy and safe way the height of the entrance step is only 400mm high.



#### Adjustable steering wheel

To achieve a comfortable drive position, the angle of the steering column can easily be adjusted through a lever on the right-hand side of the steering column.



### Optimized pedal position and floor mat

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

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

#### 10/13/15BTR-9



#### **Easy battery replacement**

The battery compartment is equipped with a side battery removal assembly for easy removal and replacement.



#### **Advanced LCD Monitor**

The LCD monitor with 3.2 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 optional load indicator displays the load weight in the monitor. The operator can select various performance modes to meet all working conditions.

**H** (High) mode

N (Normal) mode

**E** (Economic) mode

**Turtle mode** (maintain 7 km/h travel speed when lifting)



#### 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**

#### Mast Specification (10/13BTR-9)

		Fork Height (Lowere	Overall Height	Free Lift Height (mm)		Tilt Angle	Load Capacity without side shift		Load Capacity with side shift		Truck Weight	
Mast Type			(Lowered) (mm)	With Load Backrest	Backrest Without Load Backrest	Forward / Backward (deg)	at (500mm LC) (kg)		at (500mm LC) (kg)		(Unloaded) (kg)	
		10/13BTR-9	10/13BTR-9	10/13BTR-9	10/13BTR-9	10/13BTR-9	10BTR-9	13BTR-9	10BTR-9	13BTR-9	10BTR-9	13BTR-9
	* V300	3,025	1,970	35	35	5/6	1,000	1,250	900	1,150	2,413	2,632
	V330	3,325	2,120	35	35	5/6	1,000	1,250	900	1,150	2,432	2,651
2- Stage	V350	3,525	2,220	35	35	5/6	1,000	1,250	900	1,150	2,445	2,664
Limited free lift	V370	3,725	2,320	35	35	5/6	1,000	1,250	900	1,150	2,458	2,677
	V400	4,025	2,470	35	35	5/6	1,000	1,250	900	1,150	2,481	2,700
	V500	5,025	3,070	35	35	5/6	975	1,200	875	1,100	2,588	2,807
2- Stage	VF300	3,025	1,970	972	1,460	5/5	1,000	1,250	900	1,150	2,437	2,656
full	VF330	3,325	2,120	1,122	1,610	5/5	1,000	1,250	900	1,150	2,458	2,677
free lift	VF350	3,525	2,220	1,222	1,710	5/5	1,000	1,250	900	1,150	2,473	2,692
	TF400/TS400	4,035	1,870	863	1,364	5/5	1,000	1,250	900	1,150	2,532	2,751
	TF430/TS430	4,335	1,970	963	1,464	5/5	1,000	1,225	900	1,125	2,551	2,770
3 - Stage	TF450/TS450	4,535	2,070	1,063	1,564	5/5	975	1,200	900	1,100	2,570	2,789
full	TF470/TS470	4,735	2,120	1,113	1,614	5/5	950	1,175	875	1,075	2,580	2,799
free lift	TF500/TS500	5,035	2,220	1,216	1,714	5/5	925	1,150	850	1,050	2,599	2,818
	TF550/TS550	5,535	2,420	1,416	1,914	5/5	900	1,100	825	1,025	2,637	2,856
	TF600/TS600	6,035	2,620	1,613	2,114	5/5	850	1,050	775	975	2,693	2,912

#### **Mast Specification (15BTR-9)**

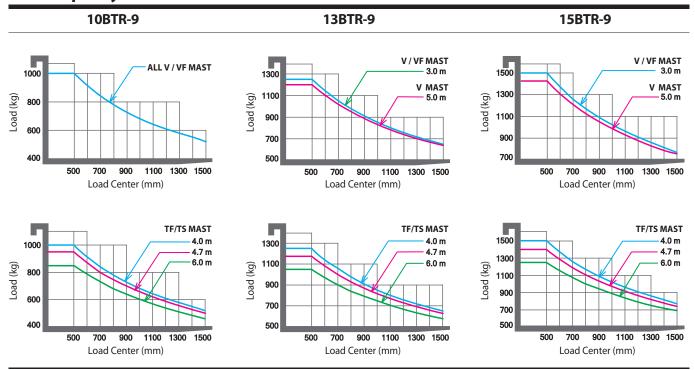
Mast Type		Maximum Fork Height (mm)	Overall Height (Lowered) (mm)	Free Lift Height (mm)		Tilt Angle Forward / Backward	Load Capacity without side shift	Load Capacity with side shift	Truck Weight (Unloaded)
				With Load Backrest	Without Load Backrest	(deg)	at (500mm LC) (kg)	at (500mm LC) (kg)	(kg)
		15BTR-9	15BTR-9	15BTR-9	15BTR-9	15BTR-9	15BTR-9	15BTR-9	15BTR-9
	* V300	3,025	1,970	35	35	5/6	1,500	1,375	2,841
	V330	3,325	2,120	35	35	5/6	1,500	1,375	2,860
2- Stage	V350	3,525	2,220	35	35	5/6	1,500	1,375	2,873
Limited free lift	V370	3,725	2,320	35	35	5/6	1,500	1,375	2,886
	V400	4,025	2,470	35	35	5/6	1,500	1,375	2,909
	V500	5,025	3,070	35	35	5/6	1,425	1,300	3,016
2- Stage	VF300	3,025	1,970	972	1,460	5/5	1,500	1,375	2,865
full	VF330	3,325	2,120	1,122	1,610	5/5	1,500	1,375	2,886
free lift	VF350	3,525	2,220	1,222	1,710	5/5	1,500	1,375	2,901
	TF400/TS400	4,035	1,870	863	1,364	5/5	1,500	1,375	2,960
	TF430/TS430	4,335	1,970	963	1,464	5/5	1,450	1,325	2,979
3 - Stage	TF450/TS450	4,535	2,070	1,063	1,564	5/5	1,425	1,300	2,998
full	TF470/TS470	4,735	2,120	1,113	1,614	5/5	1,400	1,275	3,008
free lift	TF500/TS500	5,035	2,220	1,216	1,714	5/5	1,375	1,250	3,027
	TF550/TS550	5,535	2,420	1,416	1,914	5/5	1,325	1,200	3,065
	TF600/TS600	6,035	2,620	1,613	2,114	5/5	1,250	1,150	3,121

 $<sup>\</sup>hbox{\it \# TS-Mast:}\ Wide\ Visible\ 3-Stage\ Full\ Free\ Lift\ Mast\ with\ 2\ Free\ Lift\ Cylinders.$ 

<sup>\*</sup> Standard

#### 10/13/15BTR-9

#### **Load Capacity**



#### **Optional Items**

Mast

V330, V350, V370, V400, V500, VF300, VF330, VF350 TF/TS400, TF/TS430, TF/TS450, TF/TS470, TF/TS550, TF/TS600

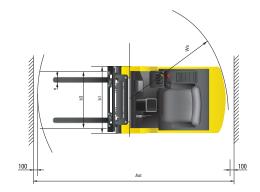
• Fork (mm)

800/900/1050/1200/1350/1500

- Overshoe (mm) 1300 / 1500 / 1700
- Sideshift

- Integral Sideshift
- •Tilting:5°/6°,5°/5°
- Tire: Non-marking
- Finger Tip Control
- Beacon Lamp
- Load Indicator
- Work Lamp

#### **Dimension**

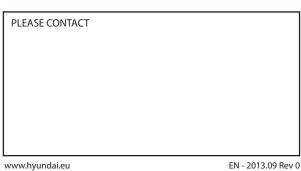




#### **Specification**

Identification	Hyundai  13BTR-9  Electric  Seated  1,250  500  330  1,165  2,630  3,340 / 540	15BTR-9 Electric Seated 1,500 500 330 1,220
1.2         Type         10BTR-9           1.3         Drive: Electric, Diesel, LPG Gas         Electric           1.4         Type of operation: hand, pedestrian, standing, seated, order-picker         Seated           1.5         Load capacity (standard)         Q (kg)         1,000           1.6         Load center distance         c (mm)         500           1.8         Load distance, center of drive axle to forks         x (mm)         330	13BTR-9 Electric Seated 1,250 500 330 1,165	Electric Seated 1,500 500 330
1.3         Drive: Electric, Diesel, LPG Gas         Electric           1.4         Type of operation: hand, pedestrian, standing, seated, order-picker         Seated           1.5         Load capacity (standard)         Q (kg)         1,000           1.6         Load center distance         c (mm)         500           1.8         Load distance, center of drive axle to forks         x (mm)         330	Electric Seated 1,250 500 330 1,165	Electric Seated 1,500 500 330
1.4         Type of operation: hand, pedestrian, standing, seated, order-picker         Seated           1.5         Load capacity (standard)         Q (kg)         1,000           1.6         Load center distance         c (mm)         500           1.8         Load distance, center of drive axle to forks         x (mm)         330	Seated 1,250 500 330 1,165 2,630	Seated 1,500 500 330
1.5         Load capacity (standard)         Q (kg)         1,000           1.6         Load center distance         c (mm)         500           1.8         Load distance, center of drive axle to forks         x (mm)         330	1,250 500 330 1,165 2,630	1,500 500 330
1.6         Load center distance         c (mm)         500           1.8         Load distance, center of drive axle to forks         x (mm)         330	500 330 1,165 2,630	500 330
1.8 Load distance, center of drive axle to forks x (mm) 330	330 1,165 2,630	330
	1,165 2,630	
	2,630	
Weights		
2.1 Service weight kg 2,405	3,340 / 540	2,840
2. 2 Axle loading, loaded front / rear kg 2,895 / 510		3,775 / 565
	1,200 / 1,430	1,254 / 1,586
Wheels, chassis	,	
3. 1 Tires : solid rubber (V), superelastic (SE), pneumatic (P), polyurethane (PE) SE	SE	SE
3. 2 Tires size, front (Ø x width) 18 x 7-8	18 x 7-8	18 x 7-8
3.3 Tires size, rear (Ø x width ) 18 x 7-8	18 x 7-8	18 x 7-8
3.5 Wheels, number front rear (x = driven wheels) 2/1x	2/1x	2/1x
3. 6 Track width, front b10 (mm) 835	835	835
3. 7 Track width, rear b11 (mm) -	-	-
Basic dimensions		
4. 1 Mast / fork carriage tilt forward / backward degrees 5 / 6	5/6	5/6
4. 2 Lowered mast height (standard) h1 (mm) 1,970	1,970	1,970
4. 3 Free lift h2 (mm) 35	35	35
4. 4 Lift height (standard) h3 (mm) 3,025	3,025	3,025
4. 5 Extended mast height (standard) h4 (mm) 4,024	4,024	4,024
4. 7 Overhead load guard (cab) height h5 (mm) 2,020	2,020	2,020
4. 8 Seat height / standing height h7 (mm) 927	927	927
4. 12 Coupling height h10 (mm) 325	325	325
4. 19 Overall length I1 (mm) 2,565	2,655	2,710
4. 20 Length to face of forks   12 (mm)   1,655	1,750	1,810
4. 21 Overall width b1 (mm) 990	990	990
4. 22 Fork dimensions (hook type) LxWxT s/e/I (mm) 35 x 80 x 800	35 x 80 x 800	35 x 80 x 800
4. 23 Fork carriage ISO 2328, class / type A,B	II	II
4. 24 Fork carriage width b3 (mm) 950	950	950
4. 31 Ground clearance, loaded, under mast m1 (mm) 85	85	85
4. 32 Ground clearance, centre of wheelbase m2 (mm) 90	90	90
4. 33 Aisle width for pallets 1000 x 1200 crossways (L x W) Ast (mm) 2,994	3,084	3,139
4. 34 Aisle width for pallets 800 x 1200 lengthways (W x L) Ast (mm) 3,116	3,206	3,261
4. 35 Turning radius Wa (mm) 1,335	1,425	1,480
4. 36 Smallest pivot point distance (mm) -	-	-
Performance data		
5. 1         Travel speed, unloaded         km/h         12.5 / 13	12.5 / 13	12.5 / 13
5.2 Lift speed, loaded / unloaded mm/s 310 / 530	300 / 530	290 / 530
5.3 Lowering speed, loaded / unloaded mm/s 500 / 450	500 / 450	500 / 450
5.6         Drawbar pull, loaded         N         642/690	631 / 685	620 / 683
5.8 Gradient performance, loaded / unloaded % 18/25	15 / 24	13 / 23
5. 9 Acceleration time, loaded/unloaded (10m) S -	-	-
5. 10 Service brake Hydraulic	Hydraulic	Hydraulic
E - Motor		
6. 1 Drive motor rating S2 60 min (24V) kW 4.3	4.3	4.3
6. 2 Pump motor rating at S3 - 15 % (24V) kW 9.0	9.0	9.0
6.4 Battery voltage, nominal capacity K5 (24V) V/Ah 24/625	24 / 750	24 / 750
6.5 Battery weight kg 450	600	690
	330 / 436 / 627	830 / 490 / 627
Other details	- I	
8.1 Type of drive control AC	AC	AC

- ${}^*\, Standard\ and\ optional\ equipment\ may\ vary\ per\ country.\ Contact\ your\ Hyundai\ dealer\ for\ more\ information.$
- \*The photos may include attachments and optional equipment that are not available in your area.
- \* Materials and specifications are subject to change without advance notice.
- $\ensuremath{^{*}}$  All imperial measurements rounded off to the nearest pound or inch.





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