10/13/15BTR-9

Electric Counterbalance Trucks

MOVING YOU FURTHER

HYUNDAI MATERIAL HANDLING



HYUNDAI
MATERIAL HANDLING

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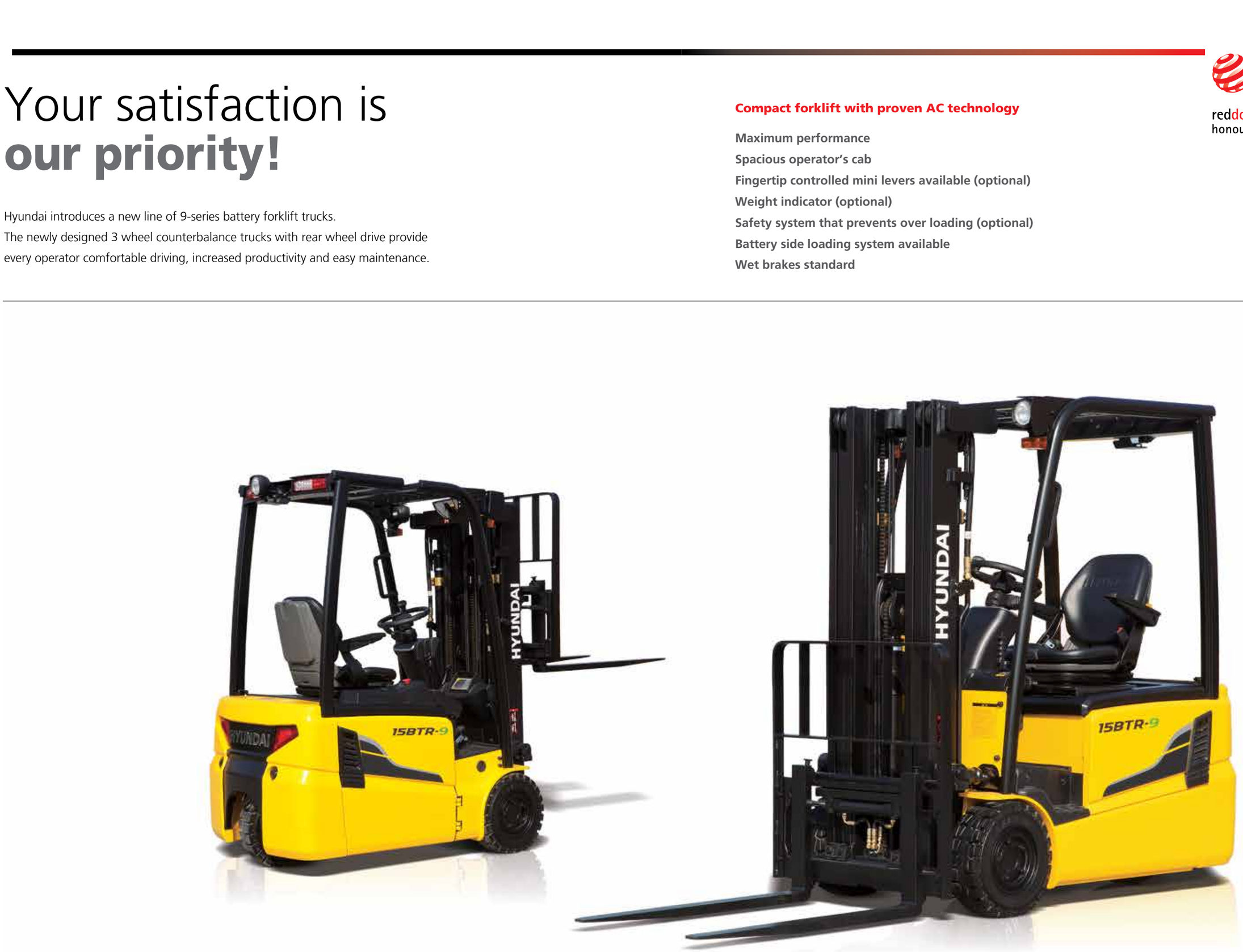
Your satisfaction is **our priority!**

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.

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

reddot design award
honourable mention 2012



■ 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.

10/13/15BTR-9

More efficient operating control levers

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





■ Some of the photos may include optional equipment.





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.

Curve control

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.



■ Some of the photos may include optional equipment.



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**



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



■ Some of the photos may include optional equipment.

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.



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.

Lift Lock Tilt Lock Drive Lock

■ Some of the photos may include optional equipment.



Strong overhead guard

Exceeding CEE and ANSI regulations, the overhead guard offers great protection combined with excellent all round visibility









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



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



■ Some of the photos may include optional equipment.

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.





Some of the photos may include optional equipment.

Advanced LCD Monitor

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 lever, 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 variousperformance modes to meet all working conditions. It is available multi-languases (maximum 11) for operator.

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



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.



Easy battery replacement

The battery compartment is equipped with a side battery removal assembly 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.

Mast Specification - 10BTR-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)	
						With Load Backrest		Without Load Backrest		Without Load Backrest (3/4-SPOOL)		Fwd	Bwd	24 in LC	500 mm LC	24 in LC	500 mm LC		
		in	mm	in	mm	in	mm	in	mm	in	mm	deg	deg	lb	kg	lb	kg	lb	kg
2-STAGE LIMITED FREE LIFT	*V300	119.1	3,025	77.6	1,970	1.4	35	1.4	35	1.4	35	5	6	2,000	1,000	1,870	900	5,320	2,413
	V330	130.9	3,325	83.5	2,120							5	6	2,000	1,000	1,870	900	5,362	2,432
	V350	138.8	3,525	87.4	2,220							5	6	2,000	1,000	1,870	900	5,390	2,445
	V370	146.7	3,725	91.3	2,320							5	6	2,000	1,000	1,870	900	5,419	2,458
	V400	158.5	4,025	97.2	2,470							5	6	2,000	1,000	1,870	900	5,470	2,481
	V500	197.8	5,025	120.9	3,070							5	6	1,980	975	1,800	875	5,705	2,588
2-STAGE FULL FREE LIFT	VF300	119.1	3,025	77.6	1,970	38.3	972	55	1,400	50	1,260	5	5	2,000	1,000	1,870	900	5,373	2,437
	VF330	130.9	3,325	83.5	2,120	44.2	1,122	61	1,550	56	1,410	5	5	2,000	1,000	1,870	900	5,419	2,458
	VF350	138.8	3,525	87.4	2,220	48.1	1,222	65	1,650	59	1,510	5	5	2,000	1,000	1,870	900	5,452	2,473
3-STAGE FULL FREE LIFT	TF400	158.9	4,035	73.6	1,870	34.0	863	51.3	1,304	45.8	1,164	5	5	2,000	1,000	1,870	900	5,582	2,532
	TF430	170.7	4,335	77.6	1,970	37.9	963	55.3	1,404	49.8	1,264	5	5	2,000	1,000	1,870	900	5,624	2,551
	TF450	178.5	4,535	81.5	2,070	41.9	1,063	61.2	1,554	55.7	1,414	5	5	1,960	975	1,830	900	5,666	2,570
	TF470	186.4	4,735	83.5	2,120	43.8	1,113	61.2	1,554	55.7	1,414	5	5	1,920	950	1,790	875	5,688	2,580
	TF500	198.2	5,035	87.4	2,220	47.9	1,216	65.1	1,654	59.6	1,514	5	5	1,870	925	1,740	850	5,730	2,599
	TF550	217.9	5,535	95.3	2,420	55.7	1,416	75.0	1,904	69.4	1,764	5	5	1,830	900	1,700	825	5,813	2,637
	TF600	237.6	6,035	103.1	2,620	63.5	1,613	82.8	2,104	77.3	1,964	5	5	1,740	850	1,610	775	5,937	2,693

Mast Specification - 15BTR-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)	
						With Load Backrest		Without Load Backrest		Without Load Backrest (3/4-SPOOL)		Fwd	Bwd	24 in LC	500 mm LC	24 in LC	500 mm LC		
		in	mm	in	mm	in	mm	in	mm	in	mm	deg	deg	lb	kg	lb	kg	lb	kg
2-STAGE LIMITED FREE LIFT	*V300	119.1	3,025	77.6	1,970	1.4	35	1.4	35	1.4	35	5	6	3,000	1,500	2,800	1,375	6,263	2,841
	V330	130.9	3,325	83.5	2,120							5	6	3,000	1,500	2,800	1,375	6,305	2,860
	V350	138.8	3,525	87.4	2,220							5	6	3,000	1,500	2,800	1,375	6,334	2,873
	V370	146.7	3,725	91.3	2,320							5	6	3,000	1,500	2,800	1,375	6,362	2,886
	V400	158.5	4,025	97.2	2,470							5	6	3,000	1,500	2,800	1,375	6,413	2,909
	V500	197.8	5,025	120.9	3,070							5	6	2,870	1,425	2,690	1,300	6,649	3,016
2-STAGE FULL FREE LIFT	VF300	119	3,025	78	1,970	38	972	55	1,400	50	1,260	5	5	3,000	1,500	2,800	1,375	6,316	2,865
	VF330	131	3,325	83	2,120	44	1,122	61	1,550	56	1,410	5	5	3,000	1,500	2,800	1,375	6,362	2,886
	VF350	139	3,525	87	2,220	48	1,222	65	1,650	59	1,510	5	5	3,000	1,500	2,800	1,375	6,396	2,901
3-STAGE FULL FREE LIFT	TF400	158.9	4,035	73.6	1,870	34.0	863	51.3	1,304	45.8	1,164	5	5	3,000	1,500	2,800	1,375	6,526	2,960
	TF430	170.7	4,335	77.6	1,970	37.9	963	55.3	1,404	49.8	1,264	5	5	2,910	1,450	2,730	1,325	6,567	2,979
	TF450	178.5	4,535	81.5	2,070	41.9	1,063	61.2	1,554	55.7	1,414	5	5	2,870	1,425	2,690	1,300	6,609	2,998
	TF470	186.4	4,735	83.5	2,120	43.8	1,113	61.2	1,554	55.7	1,414	5	5	2,820	1,400	2,650	1,275	6,631	3,008
	TF500	198.2	5,035	87.4	2,220	47.9	1,216	65.1	1,654	59.6	1,514	5	5	2,780	1,375	2,600	1,250	6,673	3,027
	TF550	217.9	5,535	95.3	2,420	55.7	1,416	75.0	1,904	69.4	1,764	5	5	2,690	1,325	2,510	1,200	6,757	3,065
	TF600	237.6	6,035	103.1	2,620	63.5	1,613	82.8	2,104	77.3	1,964	5	5	2,540	1,250	2,380	1,150	6,881	3,121

※ TS-Mast : Wide Visible 3-Stage Full Free Lift Mast with 2 Free Lift Cylinders.

* Standard

Mast Specification - 13BTR-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)	
						With Load Backrest		Without Load Backrest		Without Load Backrest (3/4-SPOOL)		Fwd	Bwd	24 in LC	500 mm LC	24 in LC	500 mm LC		
		in	mm	in	mm	in	mm	in	mm	in	mm	deg	deg	lb	kg	lb	kg	lb	kg
2-STAGE LIMITED FREE LIFT	*V300	119.1	3,025	77.6	1,970	1.4	35	1.4	35	1.4	35	5	6	2,500	1,250	2,340	1,150	5,802	2,632
	V330	130.9	3,325	83.5	2,120							5	6	2,500	1,250	2,340	1,150	5,844	2,651
	V350	138.8	3,525	87.4	2,220							5	6	2,500	1,250	2,340	1,150	5,873	2,664
	V370	146.7	3,725	91.3	2,320							5	6	2,500	1,250	2,340	1,150	5,902	2,677
	V400	158.5	4,025	97.2	2,470							5	6	2,500	1,250	2,340	1,150	5,952	2,700
	V500	197.8	5,025	120.9	3,070							5	6	2,430	1,200	2,250	1,100	6,188	2,807
2-STAGE FULL FREE LIFT	VF300	119.1	3,025	77.6	1,970	38.3	972	55	1,400	50	1,260	5	5	2,500	1,250	2,340	1,150	5,855	2,656
	VF330	130.9	3,325	83.5	2,120	44.2	1,122	61	1,550	56	1,410	5	5	2,500	1,250	2,340	1,150	5,902	2,677
	VF350	138.8	3,525	87.4	2,220	48.1	1,222	65	1,650	59	1,510	5	5	2,500	1,250	2,340	1,150	5,935	2,692
3-STAGE FULL FREE LIFT	TF400	158.9	4,035	73.6	1,870	34.0	863	51.3	1,304	45.8	1,164	5	5	2,490	1,250	2,340	1,150	6,065	2,751
	TF430	170.7	4,335	77.6	1,970	37.9	963	55.3	1,404	49.8	1,264	5	5	2,470	1,225	2,310	1,125	6,107	2,770
	TF450	178.5	4,535	81.5	2,070	41.9	1,063	61.2	1,554	55.7	1,414	5	5	2,430	1,200	2,250	1,100	6,149	2,789
	TF470	186.4	4,735	83.5	2,120	43.8	1,113	61.2	1,554	55.7	1,414	5	5	2,380	1,175	2,200	1,075	6,171	2,799
	TF500	198.2	5,035	87.4	2,220	47.9	1,216	65.1	1,654	59.6	1,514	5	5	2,340	1,150	2,160	1,050	6,213	2,818
	TF550	217.9	5,535	95.3	2,420	55.7	1,416	75.0	1,904	69.4	1,764	5	5	2,250	1,100	2,100	1,025	6,296	2,856
	TF600	237.6	6,035	103.1	2,620	63.5	1,613	82.8	2,104	77.3	1,964	5	5	2,140	1,050	1,980	975	6,420	2,912

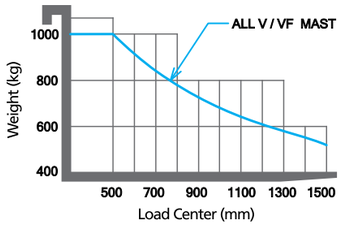
※ TS-Mast : Wide Visible 3-Stage Full Free Lift Mast with 2 Free Lift Cylinders.

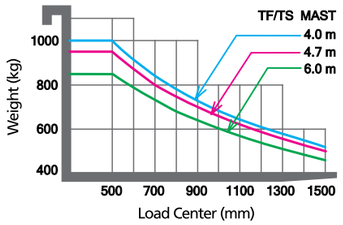
* Standard

New **9 Series**

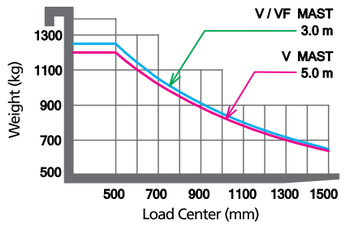
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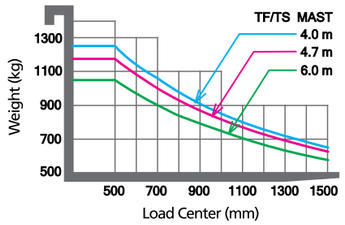
10BTR-9



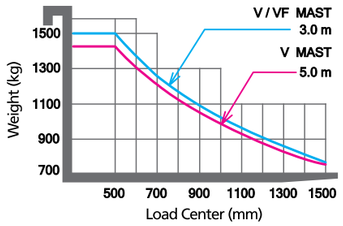


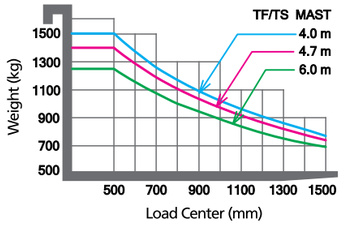
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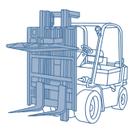


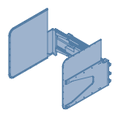
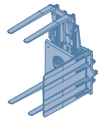
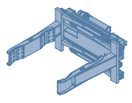
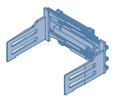
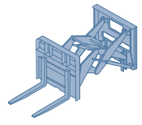
15BTR-9





Various Attachments

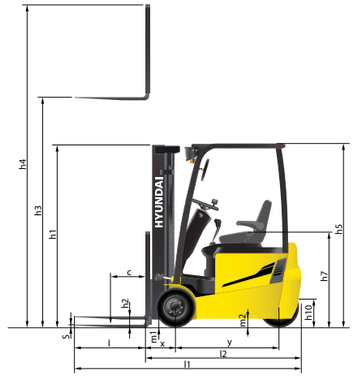
Side Shift	Hinged Fork	Hinged Bucket	Rotating Fork	Push Pull	Rotating Roll Clamp	Load Stabilizer
						

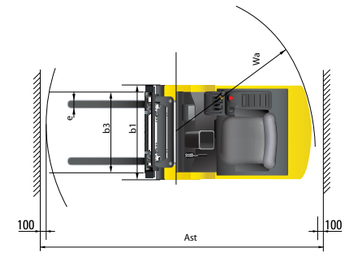
Carton Clamp	Pallet Invert	Drum Clamp	Bale Clamp	Load Extender	Fork Positioner
					

Optional Items

- **Mast**
  TF400, TF430, TF450, TF470, TF500, TF550, TF600
- **Fork(mm)**
  800 / 900 / 1,050 / 1,200
- **Sideshift**
- **Integral Sideshift**
- **Tire :** Non-marking
- **Seat :** Grammer Seat
- **Finger Tip Control**
- **Cold Storage(for -30°c cold working)**
- **M.C.V :** 2-Spool(STD), 3-Spool, 4-Spool
- **Beacon Lamp**
- **Load Indicator**
- **Work Lamp**
- **OPSS :** Mast
- **UL :** ES, EE
- **Cabin**
- **Direction Switch on Lever**

Dimension





Specification

			10BTR-9	13BTR-9	15BTR-9
Identification					
1. 1	Manufacturer		HYUNDAI		
1. 2	Manufacturer's type designation		10BTR-9	13BTR-9	15BTR-9
1. 3	Drive : electric(battery or mains) ,diesel, petrol ,fuel gas, manual		Electric	Electric	Electric
1. 4	Type of operation : hand, pedestrian, standing, seated, order - picker		Seated	Seated	Seated
1. 5	Load capacity / rated load	Q kg	1,000	1,250	1,500
1. 6	Load center distance	c mm	500	500	500
1. 8	Load distance, center of drive axle to fork	x mm	330	330	330
1. 9	Wheelbase	y mm	1,065	1,165	1,220
Weights					
2. 1	Service weight(including battery)	kg	2,405	2,630	2,840
2. 2	Axle loading, loaded front / rear	kg	2,895 / 510	3,340 / 540	3,775 / 565
2. 3	Axle loading , unloaded front / rear	kg	1,116 / 1,289	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(Φ x width)		18 x 7-8	18 x 7-8	18 x 7-8
3. 3	Tires size, rear(Φ 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	mm	835	835	835
3. 7	Track width, rear	mm	-	-	-
Basic Dimensions					
4. 1	Mast / fork carriage tilt forward / backward	degrees	5 / 6	5 / 6	5 / 6
4. 2	Lowered mast height	h1 mm	1,970	1,970	1,970
4. 3	Free lift height	h2 mm	35	35	35
4. 4	Lift height	h3 mm	3,025	3,025	3,025
4. 5	Extended mast height	h4 mm	4,024	4,024	4,024
4. 7	Overhead guard (cab) height	h5 mm	2,020	2,020	2,020
4. 8	Seat height / Standing height	h7 mm	1,050	1,050	1,050
4. 12	Coupling height	h10 mm	325	325	325
4. 19	Overall length	l1 mm	2,565	2,655	2,710
4. 20	Length to face of forks	l2 mm	1,655	1,750	1,810
4. 21	Overall width	b1 mm	990	990	990
4. 22	Fork dimensions	s / e / l 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 /A	II /A	II /A
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 1,000 x 1,200 crossways	Ast mm	2,994	3,084	3,139
4. 34	Aisle width for pallets 800 x 1,200 lengthways	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, loaded / unloaded (24V)	km/h	12.5 / 13	12.5 / 13	12.5 / 13
5. 2	Lift speed, loaded / unloaded (24V)	mm/s	310 / 530	300 / 530	290 / 530
5. 3	Lowering speed, loaded / unloaded	mm/s	500 / 450	500 / 450	500 / 450
5. 6	Max. drawbar pull, loaded / unloaded S2 5 min	N	6,300 / 6,770	6,190 / 6,720	6,085 / 6,703
5. 8	Max. gradient performance, loaded / unloaded S2 5 min	%	18 / 25	15 / 24	13 / 23
5. 9	Acceleration time, loaded / unloaded	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	455	600	692
6. 7	Battery compartment dimensions L / W /H	mm	832 / 335 / 628	832 / 439 / 628	832 / 494 / 628
Other Details					
8. 1	Type of drive control		AC	AC	AC

MEMO