

10/13/15BTR-9

Electric Counterbalance Trucks

MOVING YOU FURTHER

HYUNDAI MATERIAL HANDLING



 **HYUNDAI**
MATERIAL HANDLING

North American Headquarters
6100 Atlantic Blvd, Norcross, GA 30071
TEL (678) 823 7777 FAX (687) 823 7778

PLEASE CONTACT

www.hyundaiforkliftamericas.com 2018.07 Rev. 5

 **HYUNDAI**
MATERIAL HANDLING

Your satisfaction is **our priority!**

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

The newly designed 3 wheel rear wheel drive counterbalance trucks provide operators increased comfort, productivity and ease of maintenance.



■ Some of the photos may include optional equipment.

MEMO

Compact forklift with proven AC technology

- Maximum performance
- Spacious operator's cab
- Fingertip controlled mini levers available (optional)
- Load weight indicator (optional)
- Battery side loading system available
- Wet brakes standard



reddot design award
honourable mention 2012

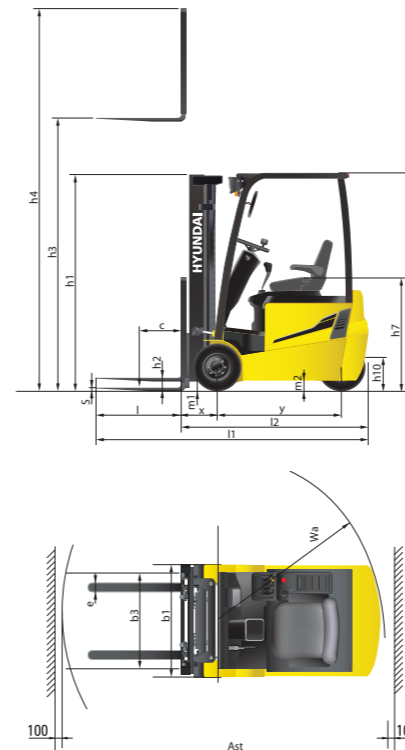


High Efficiency & Optimal Performance



10/13/15BTR-9

Dimension



Specification

Identification		HYUNDAI		
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	lb 2,000	2,500	3,000
1.6	Load center distance	in 24	24	24
1.8	Load distance, center of drive axle to fork	in 13	13	13
1.9	Wheelbase	in 41.9	46.9	48
Weights				
2.1	Service weight(including battery)	lb 5,302	6261	6,261
2.2	Axle loading, loaded front / rear	lb 6,382 / 1,124	7,363 / 1,191	8,322 / 1246
2.3	Axle loading , unloaded front / rear	lb 2,460 / 2,841	2,646 / 3,153	2,765 / 3,497
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	in 32.9	32.9	32.9
3.7	Track width, rear	in -	-	-
Basic Dimensions				
4.1	Mast / fork carriage tilt forward / backward	degrees 5 / 6	5 / 6	5 / 6
4.2	Lowered mast height	h1 in 77.6	77.6	77.6
4.3	Free lift height	h2 in 1.4	1.4	1.4
4.4	Lift height	h3 in 119.1	119.1	119.1
4.5	Extended mast height	h4 in 158.4	158.4	158.4
4.7	Overhead guard (cab) height	h5 in 79.5	79.5	79.5
4.8	Seat height / Standing height	h7 in 36.5	36.5	36.5
4.12	Coupling height	h10 in 12.8	12.8	12.8
4.19	Overall length	l1 in 100.1	104.9	106.7
4.20	Length to face of forks	l2 in 65.2	68.9	71.3
4.21	Overall width	b1 in 40.0	40.0	40.0
4.22	Fork dimensions	s / e / l in 1.4 x 3.1 x 31.5	1.4 x 3.1 x 31.5	1.4 x 3.1 x 31.5
4.23	Fork Carriage ITA Class	II	II	II
4.24	Fork - carriage width	b3 in 37.4	37.4	37.4
4.31	Ground clearance, loaded, under mast	m1 in 3.3	3.3	3.3
4.32	Ground clearance, centre of wheelbase	m2 in 3.5	3.5	3.5
4.33	Aisle width for pallets 1,000 x 1,200 crossways	Ast in 117.9	121.4	123.6
4.34	Aisle width for pallets 800 x 1,200 lengthways	Ast in 122.7	126.2	128.4
4.35	Turning radius	Wa in 52.6	56.1	58.3
4.36	Smallest pivot point distance	in -	-	-
Performance Data				
5.1	Travel speed, loaded / unloaded (24V)	mph 7.8 / 8.0	7.8 / 8.0	7.8 / 8.0
5.2	Lift speed, loaded / unloaded (24V)	in/s 12.2 / 20.9	11.8 / 20.9	11.4 / 20.9
5.3	Lowering speed, loaded / unloaded	in/s 19.7 / 17.7	19.7 / 17.7	19.7 / 17.7
5.6	Max. drawbar pull, loaded / unloaded S2 5 min	in 144 / 155	142 / 154	139 / 153
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	lb 992	1323	1521
	Battery compartment dimensions L / W / H	in 32.6/12.9/24.7	32.6/17.1/24.7	32.7/19.25/24.7
Other Details				
8.1	Type of drive and hydraulic control	AC	AC	AC

F-N-R Lift Control Lever (Optional)

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.

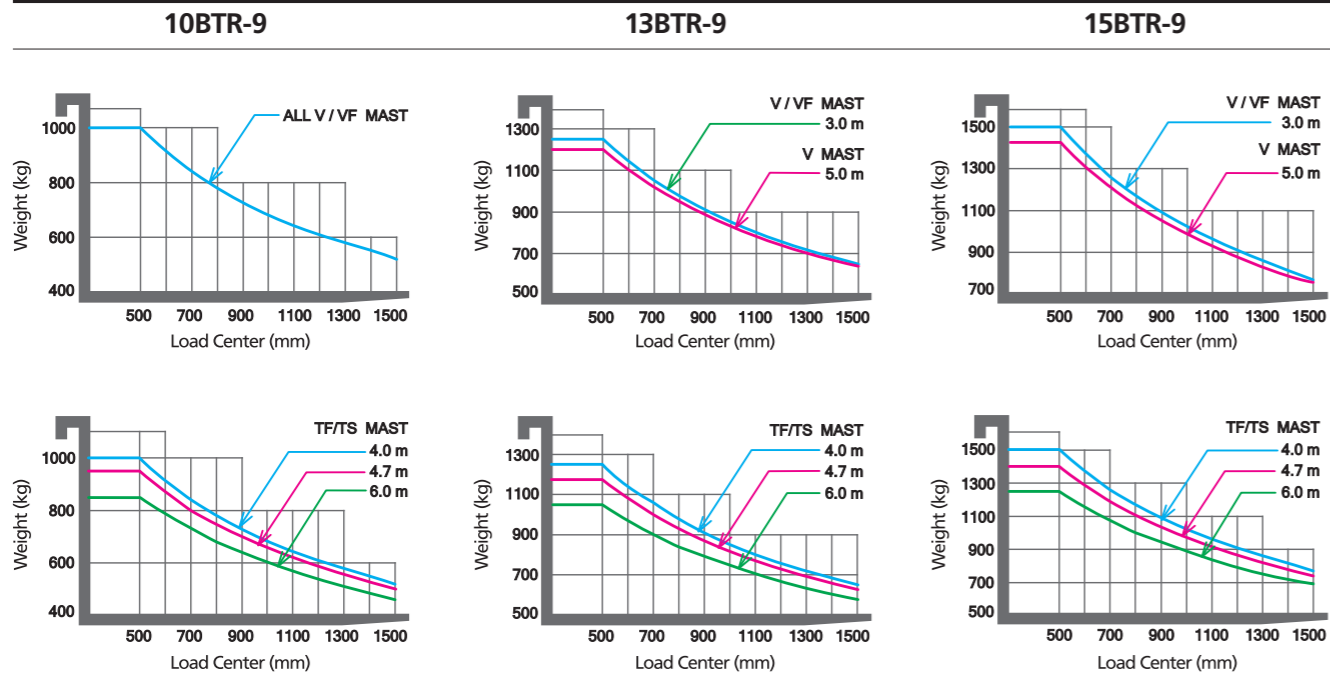


Advanced drive and lift performance with proven durability and low maintenance

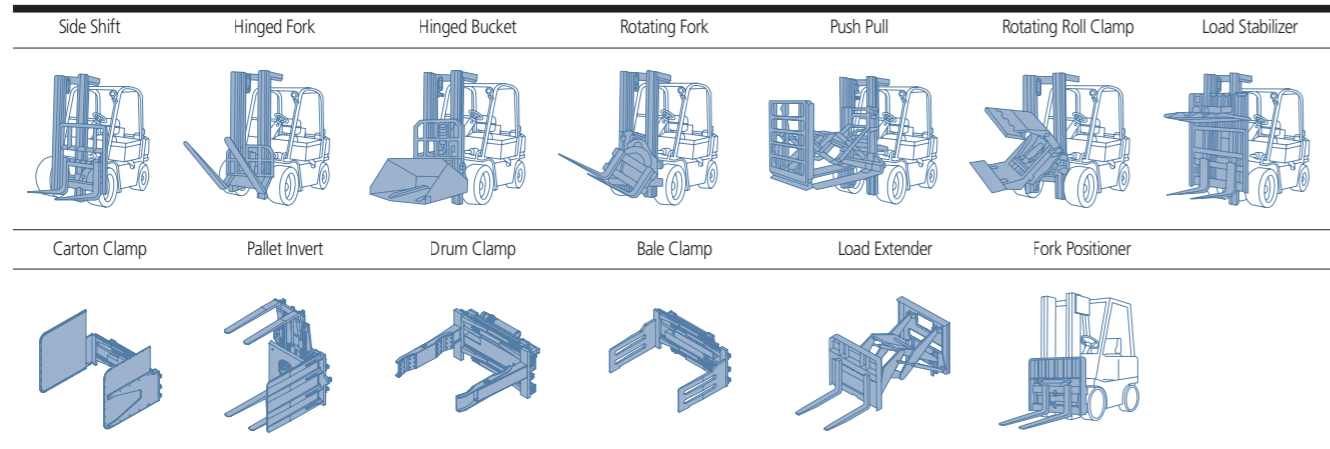
The enclosed drive and pump motor with AC technology combine power, extended maintenance intervals and excellent durability. The brushless AC motors offer improved efficiency and reduction maintenance cost. The ZF transmission converts the drive motor's power to any direction the driver requires.

New 9 Series

Load Capacity



Various Attachments



Optional Items

- Mast
TF/TS400, TF/TS430, TF/TS450, TF/TS470, TF/TS500, TF/TS550, TF/TS600
- Fork(mm)
800 / 900 / 1,050 / 1,200 / 1,350 / 1,500
- Sideshift
- Integral Sideshift
- Tire : Non-marking
- Finger Tip Control
- Load Weight Indicator

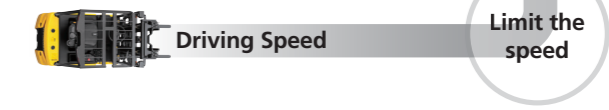
- Cold Storage
- M.C.V : 4-Spool
- Beacon Lamp(LED) (Amber, Red, Blue)
- LED Work Lamp
- UL : ES, EE
- Direction Switch on Lever
- Side Battery Removal (STD)
- Top Battery Removal (No Charge)

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

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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.



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	mph
10BTR-9	8.0
13BTR-9	8.0
15BTR-9	8.0

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

10/13/15BTR-9



■ Some of the photos may include optional equipment.

Excellent visibility for safe operation

The spacious compartment and optimized lift cylinder arrangement provides operator with wider visibility.

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								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	1.4	35	1.4	35	1.4	35			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	VF/V300	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		
	VF/V330	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		
	VF/V350	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		
	TS400	158.9	4,035	73.6	1,870	34.0	863	50.5	1,282	43.8	1,112	5	5	3,000	1,500	2,800	1,375	6,526	2,960		
	TS430	170.7	4,335	77.6	1,970	37.9	963	52.8	1,342	46.1	1,172	5	5	2,910	1,450	2,730	1,325	6,567	2,979		
	TS450	178.5	4,535	81.5	2,070	41.9	1,063	58.7	1,492	52.0	1,322	5	5	2,870	1,425	2,690	1,300	6,609	2,998		
	TS470	186.4	4,735	83.5	2,120	43.8	1,113	58.7	1,492	52.0	1,322	5	5	2,820	1,400	2,650	1,275	6,631	3,008		
	TS500	198.2	5,035	87.4	2,220	47.9	1,216	62.7	1,592	56.0	1,422	5	5	2,780	1,375	2,600	1,250	6,673	3,027		
TS550	217.9	5,535	95.3	2,420	55.7	1,416	72.5	1,842	65.8	1,672	5	5	2,690	1,325	2,510	1,200	6,757	3,065			
TS600	237.6	6,035	103.1	2,620	63.5	1,613	80.4	2,042	73.7	1,872	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



Strong overhead guard

Exceeding ISO6055 and ANSI regulations, the overhead guard offers great protection combined with excellent all around visibility.

New 9 Series

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							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	1.4	35	1.4	35	1.4	35	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	VF/V300	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
	VF/V330	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
	VF/V350	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
	TS400	158.9	4,035	73.6	1,870	34.0	863	50.5	1,282	43.8	1,112	5	5	2,000	1,000	1,870	900	5,582	2,532
	TS430	170.7	4,335	77.6	1,970	37.9	963	52.8	1,342	46.1	1,172	5	5	2,000	1,000	1,870	900	5,624	2,551
	TS450	178.5	4,535	81.5	2,070	41.9	1,063	58.7	1,492	52.0	1,322	5	5	1,960	975	1,830	900	5,666	2,570
	TS470	186.4	4,735	83.5	2,120	43.8	1,113	58.7	1,492	52.0	1,322	5	5	1,920	950	1,790	875	5,688	2,580
	TS500	198.2	5,035	87.4	2,220	47.9	1,216	62.7	1,592	56.0	1,422	5	5	1,870	925	1,740	850	5,730	2,599
TS550	217.9	5,535	95.3	2,420	55.7	1,416	72.5	1,842	65.8	1,672	5	5	1,830	900	1,700	825	5,813	2,637	
TS600	237.6	6,035	103.1	2,620	63.5	1,613	80.4	2,042	73.7	1,872	5	5	1,740	850	1,610	775	5,937	2,693	

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							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	1.4	35	1.4	35	1.4	35	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	VF/V300	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
	VF/V330	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
	VF/V350	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
	TS400	158.9	4,035	73.6	1,870	34.0	863	50.5	1,282	43.8	1,112	5	5	2,490	1,250	2,340	1,150	6,065	2,751
	TS430	170.7	4,335	77.6	1,970	37.9	963	52.8	1,342	46.1	1,172	5	5	2,470	1,225	2,310	1,125	6,107	2,770
	TS450	178.5	4,535	81.5	2,070	41.9	1,063	58.7	1,492	52.0	1,322	5	5	2,430	1,200	2,250	1,100	6,149	2,789
	TS470	186.4	4,735	83.5	2,120	43.8	1,113	58.7	1,492	52.0	1,322	5	5	2,380	1,175	2,200	1,075	6,171	2,799
	TS500	198.2	5,035	87.4	2,220	47.9	1,216	62.7	1,592	56.0	1,422	5	5	2,340	1,150	2,160	1,050	6,213	2,818
TS550	217.9	5,535	95.3	2,420	55.7	1,416	72.5	1,842	65.8	1,672	5	5	2,250	1,100	2,100	1,025	6,296	2,856	
TS600	237.6	6,035	103.1	2,620	63.5	1,613	80.4	2,042	73.7	1,872	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

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

10/13/15BTR-9



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.

OPSS(Operator Presence Sensing System)

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



■ Some of the photos may include optional equipment.



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.

10/13/15BTR-9



■ Some of the photos may include optional equipment.

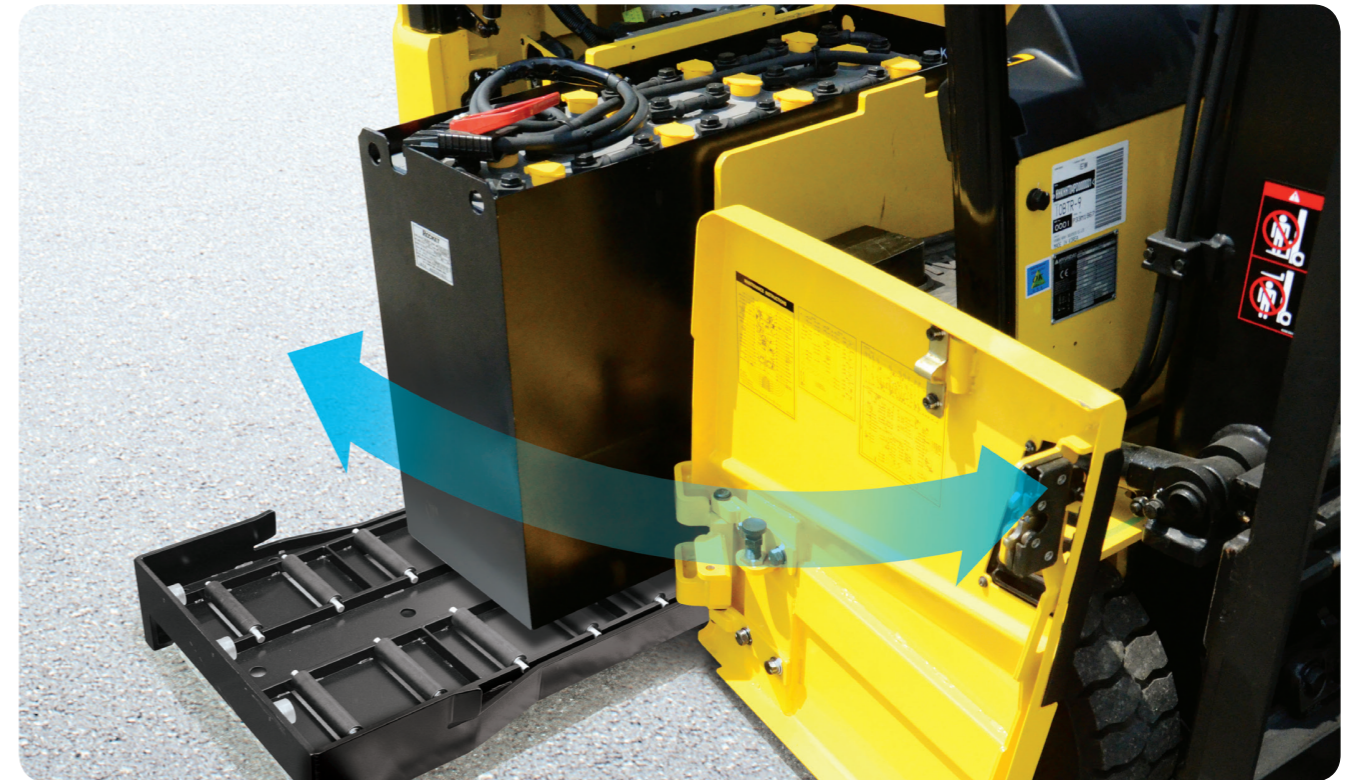
Comfortable Grammer Seat

Easily adjustable suspension seat, provides great comfort, safety and durability.
*ELR (Energy Locking Retractor) Type Seat Belt



Spacious operator cabin

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



Easy battery replacement

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

Some of the photos may include optional equipment.



Low entrance height

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



Adjustable steering wheel

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



Optimized pedal position and floor mat

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



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.