

Standard & Option

Specification		25DE-9V	30DE-9V	35DE-9V			Specification		25DE-9V	30DE-9V	35DE-9V
Operation	OHG	Overhead Guard	●	●	●	Hydraulics	MCV	3 Spool MCV	●	●	●
	Cabin	Cabin	○	○	○			2,4 Spool MCV	○	○	○
		Partial Cabin - Top, Top & Front & Rear & Wiper	○	○	○			2,3,4 Spool MCV with OPSS	○	○	○
	A/C	A/C and/or Heater	○	○	○			Tires	Tires	Pneumatic	●
	Seat	Grammer, Orange Belt	○	○	○	Solid	○			○	○
		Grammer, Orange Belt, Armrest, Buckle SW	○	○	○	Non-Marking	○			○	○
		Grammer, Orange Belt, Armrest	●	●	●	Visibility	Lamp		Front LED	●	●
		Grammer, Orange Belt, Armrest, Buckle SW, Heat	○	○	○			Front & Rear LED	○	○	○
		Non-suspension, Orange Belt	○	○	○		Camera	Rear Camera	○	○	○
	Non-suspension, Orange Belt, OPSS	○	○	○	Front & Rear Camera			○	○	○	
	Other	Rear Horn	○	○	○	Mirror	Panorama Mirror	●	●	●	
		Extinguisher	○	○	○		Panorama Mirror & Back Mirror LH/RH	○	○	○	
	Mast	2 Stage Mast - Standard(V330)	●	●	●	-	Load Sensor	○	○	○	
		2 Stage Mast - Standard, Single full free(V, VF)	○	○	○		Auto Tilt	○	○	○	
		3 Stage mast - Single full free(TF), Dual full free(TS)	○	○	○	Safety	-	Seat Belt Interlock	●	●	●
		Attached Piping for 3, 4 MCVs & All Masts	○	○	○			Master Switch (Cut off electricity from Battery)	○	○	○
Fork		Standard - 1,050mm	●	●	●			Hazard Switch	○	○	○
	Options - 900mm~1,800mm	○	○	○	LED Beacon Lamp			○	○	○	
Tilt	6(FWD)/10(REV)	●	●	●	Safety lamp - Rear Blue, Red zone			○	○	○	
	6(FWD)/6(REV)	○	○	○	OPSS (Travel, Travel & Mast)			○	○	○	
Carriage	Hook type	●	●	●	Others			-	HYD Oil - VG 32 for Cold Area	●	●
	Hook Integral - Sideshift	○	○	○			HYD Oil Option - VG 68 for Tropical, VG15 for Cold Area		○	○	○
	Integral Special - Sideshift + Fork Positioner	○	○	○		Pre-Cleaner	○		○	○	
Attachment	Fork Positioner – Independent, Synchronized	○	○	○							
	Side Shift (Hook type)	○	○	○							
	Side Shift (Anching)	○	○	○							

● STD / ○ OPT

25/30 35DE-9V

Internal Combustion Diesel Engine Forklift Truck



30DE-9V series that satisfies both eco-friendliness and cost-effectiveness!

30DE-9V is an innovative product that satisfies EU Stage 5 Regulations and boasts of optimum fuel efficiency, compact frames, and excellent work performance. It satisfies both eco-friendliness and low TCO (Total Cost of Ownership).

PRODUCT FEATURES OVERVIEW

UP VALUE

As times change, the standard
for high performance should
also change

Environment-Friendly

- Satisfies EU stage 5 regulations on gas and achieves both eco-friendliness and operating expenses reduction with improved fuel efficiency.
 - HDI DN02 engines

Innovative cost-effectiveness and reliable durability

- T/M with excellent torque delivery capabilities
- Drive axles suitable for heavy duty application
 - Applied Wet disc & auto parking brake
- Selection of engine working mode
 - STD/PWD mode
- Wide work sight of the TS mast **Option**

Enhanced safety

- Human error prevention - auto-parking brake system
- HAC (Hill Start Assist Control)
- OPSS - travel, lift, and tilt lock
- Forced seat belt wearing - seat belt interlock **Option**
- Engine start limit - password function

Outstanding operability ergonomics

- New digital-type cluster with MCU function
- Ergonomic pedal
 - Hanging-type brake and inching pedal
- Lightweight and Comfortable Steer Handle
 - HPS system + reduced diameter of steer handle
- Cabin - Transforms Outdoor Use for Indoor Environments **Option**
- New air conditioner with enhanced air flow **Option**
- New heater with defrost function **Option**

Easy service

- Tool-less type Floor plate & Side cover
- Additional features of the cluster with MCU
 - Engine failure diagnosis and history check
 - Management of consumable replacement cycle
- DOC & DPF management without weight disintegration
- Waterproof and dustproof fuse & relay box
- Remote type engine oil filter



ENVIRONMENT FRIENDLY
GREAT PRODUCTIVITY, DURABILITY

PERFORMANCE^{UP}

Eco-friendly engine and powertrain with significantly increased performance and durability!

Experience newly changed performance.



25/30D
35DE-9V

Powerful & efficient HDI Engine

HDI DN02 engine is the optimal engine that requires high torque in low rpm, and one that satisfies EURO Stage V emission regulation.

- * Use of Germany's BOSCH Fuel system: common rail & ECU (DPF: DOC)
- * Use of timing chain: Superb durability
- * Use of HLA system: Valve clearance check is not required
- * Easy maintenance: Remote type oil filter & simple fuel line (Without feed pump)

* **Rated Power(kW/rpm) : 49.1/2,300**

* **MAX Torque(kg-m/rpm) : 25.0/1,600**



Power shift - Transmission

A high-capacity clutch pack and a torque converter with excellent torque conversion efficiency are applied to transmission for heavy-duty work with frequent push mode and for successful driving on poor roads.



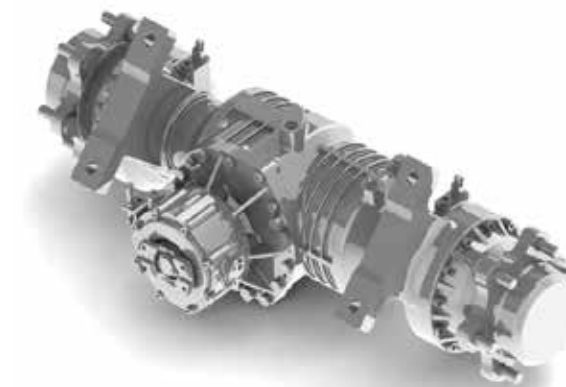
Engine performance Up/Down

Drivers can select engine power according to their work environment conveniently with the STD/PWD button located on the dashboard. Moreover, they can save over 4% more in fuel cost when selecting STD mode than when selecting PWD mode.



Durability Drive axle

The drive axle with a wet disc is designed for heavy-duty applications. Plus, it comes standard with an auto parking brake system to prevent human error.



Wide work sight of the 3-stage mast—TS mast Option

Usually, the 3-stage mast causes some inconvenience in securing a clear front view due to the primary cylinder in the center. The 3-stage TS mast provides wider work sight by placing the primary cylinder on the left and right sides.



UP SAFETY

Safety at the logistics site is most important!
Safety is backed by complete reliability



25/30D
35DE-9V

Auto-parking brake

When the engine stops or OPSS starts, the parking brake is automatically activated to prevent human errors. If the driver needs to use the parking brake while the engine is running, driver can apply/release the brake using a dedicated button.



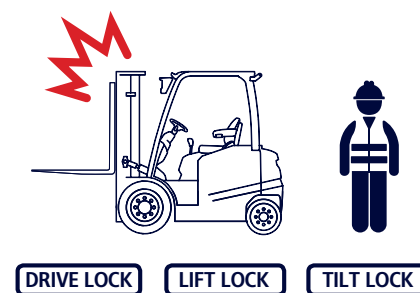
Hill start assist control

When the forklift stops while climbing a sloped road, the automatic parking brake is temporarily applied to prevent the forklift from rolling back when moving again. This safety feature is very useful when transporting heavy cargo on a sloped road.



Operator presence sensing system

The OPSS restricts driving, lifting, and tilting in when the operator leaves the driver's seat in order to prevent safety accidents.



DRIVE LOCK LIFT LOCK TILT LOCK

Seat belt interlock – forced belt wearing Option

The seat belt interlock system, which restricts forklift operation when the seat belt-wearing order is not observed or the operator releases the belt while driving, prevents operator injury from safety accidents that may occur when the seat belt is not fastened.

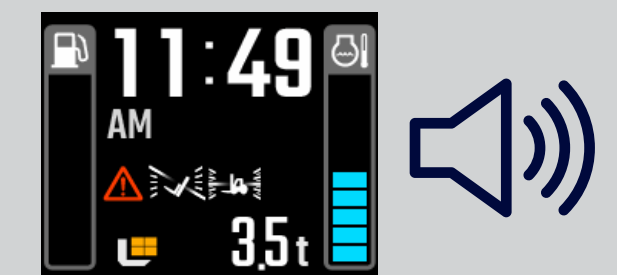
Speed limit

The maximum driving speed can be set to prevent safety accidents caused by exceeding the speed limit. Even though the maximum driving speed is set, hill-climbing ability and mast working performance are maintained at the highest level.



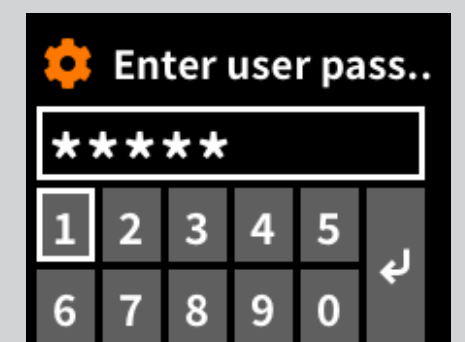
Overload operation warning – Load sensing system Option

Cargo weight measurement function configured with pressure sensor of lift line and cluster program provides real-time indication of weight of lifted cargo and prompts a warning on the cluster in case of overloading to remind the operator of safety.



Password setting – Startup restriction

A function of password input on the cluster applies for preventing safety accident or damage that may take place on the equipment when any unauthorized operator or administrator operates the equipment. (Up to ten passwords are allowed.)



OUTSTANDING OPERABILITY ERGONOMICS

CONVENIENCE^{UP}

Improving work efficiency to the next level with consistent convenience in any environment



**25/30D
35DE-9V**

Multi-functional digital color monitor

The size of the key information displayed on the color LCD window is increased. Various additional features are also available as the MCU is integrated with the cluster. Considering the Optionion selection by the customer, Hi-MATE support function and seat belt interlock module are installed.



Ergonomic pedal

The work pedal structure is changed to the hanging type and ergonomically rearranged in consideration of the driver's convenience.



Steering handle

The hydraulic power steering system and the 70mm-reduced diameter of the steer handle significantly reduce operator fatigue during long working hours.



Full-suspension seat– Grammer

The full suspension seat of Grammer of Germany has an adjustable cushion depending on the weight of the driver, and convenience specifications such as seat belt switch, arm rests, and heater are optional.



Cabin **Option**

With wide field of vision and easy-to-open/shut cabin doors, D-9V's cabin provides a pleasant driving environment. Furthermore, its modularized design reduces post management costs.



Air con / Heater **Option**

① The air conditioner has four air outlets that prevent the blow of cold air from being directed to a particular the body.

② The heaters supplies warm air separately to the operator's upper and lower body. A discharge port for removing moisture and frost has been added.



UP MAINTENANCE

Easy maintenance and
cost-effective after-sales service

Even though the work is finished,
the satisfaction continues.



Larger maintenance space

A larger work space is provided for the follow-up management of consumables and major function parts when you open the engine hood) supported with two gas springs, tool less type side cover and floor plate.

Engine diagnosis and consumable maintenance

Engine failure can be checked in clusters without the need for a separate engine diagnostic tool, and the parts to be replaced are displayed in the cluster during operation when the replacement timing of all consumables requiring periodic maintenance is set in the cluster.

✖ Active Fault

DTC	SPN	FMI
0141	110	4

Engine Coolant Temperature Sensor voltage too Low

✖ Engine oil & filt..

Cycle	500
Elaps. Time	174
History	0

Transmission maintenance

Filters that need regular replacement and control valves that require frequent maintenance are placed on the top of the transmission, minimizing maintenance time.



LED lamp

LED lamps with semipermanent life are applied to the front and rear work lamps and the rear combination lamps, increasing the inspection cycle and reducing the cost.



Junction Box & Remote type Engine oil filter

The fuses and relays that are vulnerable to contamination are placed inside a box with enhanced waterproof and dustproof functions. And engine oil filter is separated from the engine assembly and configured as a remote type to improve convenience of oil change.



Counter weight cover

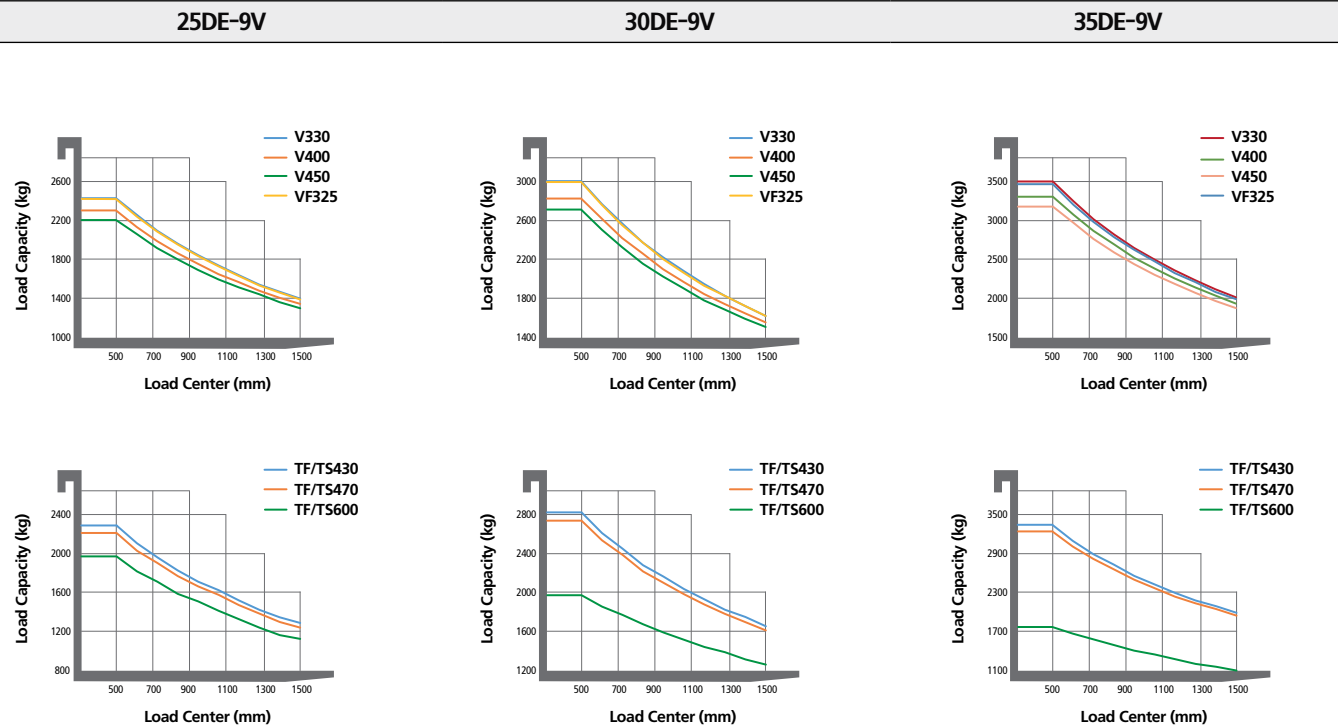
By removing the cover behind the counterweight, the exhaust gas aftertreatment system can be serviced without removing the heavy counterweight. The DPF added for Stage 5 must be removed and cleaned internally every 3,000 hours.



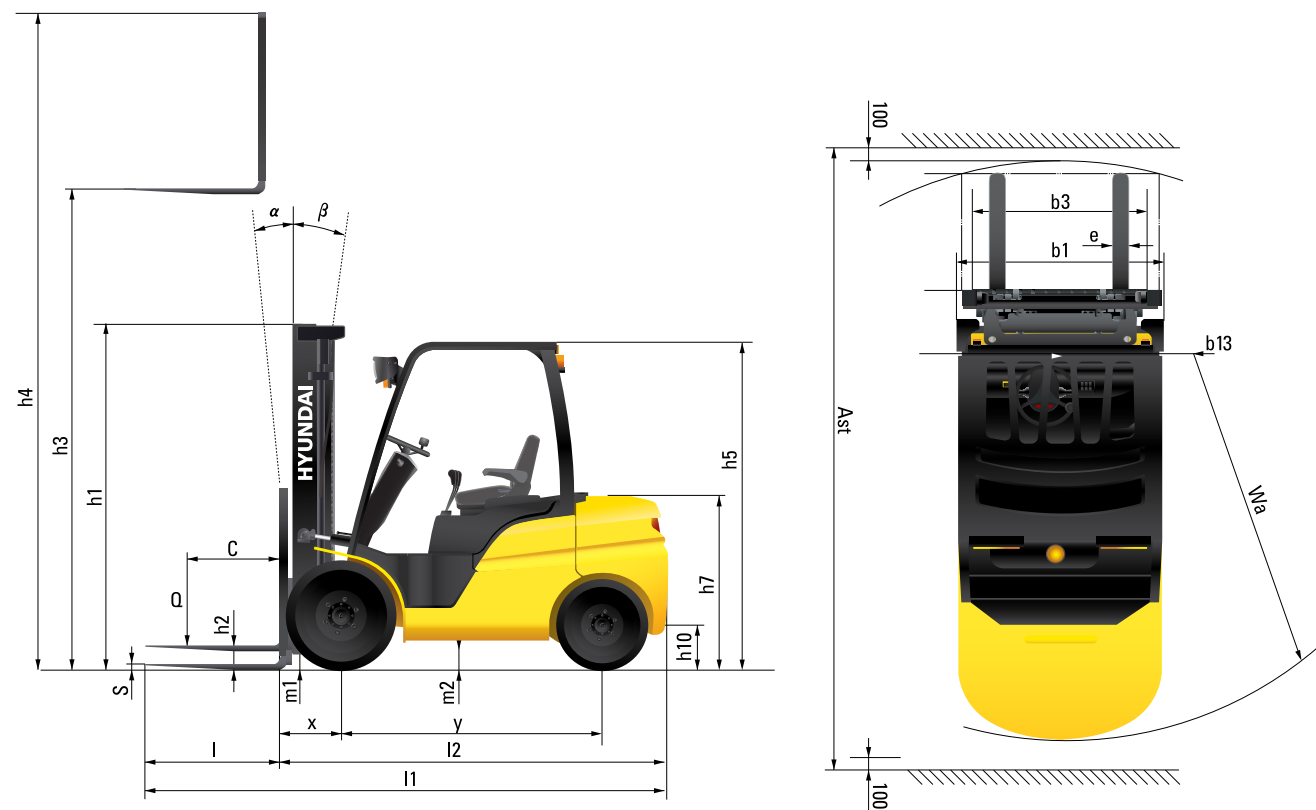
Specification

Identification					
	Manufacturer		Hyundai		
	Manufacturer's Type Designation		25DE-9V	30DE-9V	35DE-9V
1.1	Drive: Electric (Battery or Mains), Diesel, Petrol, Fuel Gas, Manual		DIESEL	DIESEL	DIESEL
1.2	Type Of Operation : Hand, Pedestrian, Standing, Seated, Order-Picker		Seated	Seated	Seated
1.3	Load Capacity / Rated Load	kg	2,500	3,000	3,500
1.4	Load center distance	c (mm)	500	500	500
1.5	Load distance, center of front axle to fork	x (mm)	468	468	468
1.6	Wheelbase	y (mm)	1,650	1,700	1,700
Weights					
2.1	Service Weight	kg	3,657	4,151	4,516
2.2	Axle Loading, Loaded Front / Rear	kg	5,463/694	6,327/824	6,988/1,028
2.3	Axle Loading, Unloaded Front / Rear	kg	1,488/2,168	1,610/2,541	1,485/3,031
Wheels, Chassis					
3.1	Tires: Solid Rubber(V), Superelastic(SE), Pneumatic(P), Polyurethane(PE)		P	P	P
3.2	Tires Size, Front		7.00-12-14PR	28x9-15-16PR	28x9-15-16PR
3.3	Tires Size, Rear		6.00-9-10PR	6.50-10-12PR	6.50-10-12PR
3.5	Wheels, Number Front Rear (x=Driven Wheels)		2x2	2x2	2x2
3.6	Track Width, Front	b10 (mm)	965	1,005	1,005
3.7	Track Width, Rear	b11 (mm)	980	980	980
Basic Dimensions					
4.1	Mast/Fork Carriage Tilt Forward / Backward	degrees	6/10	6/10	6/10
4.2	Lowered Mast Height	h1 (mm)	2,230	2,230	2,230
4.3	Free Lift	h2 (mm)	155	155	155
4.4	Lift Height	h3 (mm)	3,305	3,305	3,305
4.5	Extended Mast Height	h4 (mm)	4,485	4,485	4,485
4.7	Overhead Load Guard (Cab) Height	h5 (mm)	2,160	2,180	2,180
4.8	Seat Height / Standing Height (SIP)	h7 (mm)	1,185	1,205	1,205
4.12	Coupling Height	h10 (mm)	283	299	299
4.19	Overall Length	l1 (mm)	3,685	3,742	3,827
4.20	Length to Face of Forks	l2 (mm)	2,635	2,692	2,777
4.21	Overall Width	b1 (mm)	1,215	1,230	1,230
4.22	Fork Dimensions (H x W x L)	l x e x s (mm)	45x100x1,050	45x122x1,050	45x122x1,050
4.23	Fork Carriage ISO 2328, Class / Type A,B		II/A	III/A	III/A
4.24	Fork-Carriage Width (with backrest)	b3 (mm)	1,102	1,098	1,098
4.31	Ground Clearance, Under Mast	m1 (mm)	130	145	145
4.32	Ground Clearance, Centre of Wheelbase	m2 (mm)	168.5	190.5	190.5
4.34.1	Aisle Width for Pallets 1000x1200 Crossways	Ast (mm)	3,981	4,066	4,123
4.34.2	Aisle Width for Pallets 800x1200 Lengthways	Ast (mm)	4,181	4,266	4,323
4.35	Turning Radius	Wa (mm)	2,355	2,437	2,515
Performance Data					
5.1	Travel Speed, Loaded / Unloaded	km/h	18.1/18.8	17.8/18.8	17.5/18.8
5.2	Lift Speed, Loaded / Unloaded	mm/s	550/580	460/500	460/500
5.3	Lowering Speed, Loaded /Unloaded	mm/s	530/425	530/425	530/425
5.6	Max. Drawbar Pull, Loaded / Unloaded	N	23,442/22,912	23,559/22,814	23,706/22,745
5.8	Max. Gradeability, Loaded / Unloaded	%	36.2/21.4	31.1/20.7	27.8/18
5.10	Service Brake		Hydraulic	Hydraulic	Hydraulic
Engine					
7.1	Engine Manufacturer / Type		HDI DN02	HDI DN02	HDI DN02
7.2	Engine Power Acc. to ISO 1585	kW/rpm	49.1/2,300	49.1/2,300	49.1/2,300
7.3	Maximum Torque	kgf.m/rpm	25/1,600	25/1,600	25/1,600
7.4	No. of Cylinders / Displacement	EA/cc	4/2,392	4/2,392	4/2,392
7.5	Fuel Consumption Acc. to VDI Cycle	l/h	2.8	3.1	3.4
Addition Data					
8.1	Type of drive control		Power Shift	Power Shift	Power Shift
8.2	Operating pressure, system / attachments	bar	210/160	210/160	210/160
8.3	Oil volume for attachments	LPM	36	38	38

Load Capacity



Dimension



25DE-9V								
Mast Type		Maximum Fork Height	Overall Height	Free Lift Height	Tilt Angle		Load capacity	Truck Weight (Unloaded)
			Single		Fwd	Bwd	Single Tire	Single
		mm	mm	mm	deg	deg	kg	kg
2 Stage Standard	V300	3,000	2,025	155	6	10	2,500	3,325
	V330	3,300	2,175	155	6	10	2,500	3,344
	V400	4,000	2,575	155	6	10	2,500	3,402
	V450	4,500	2,875	155	6	6	2,500	3,463
	V500	5,000	3,125	155	6	6	2,500	3,497
2 Stage Full Free Lift	VF295	2,976	2,025	1,377	6	6	2,500	3,325
	VF325	3,276	2,175	1,527	6	6	2,500	3,344
	VF345	3,476	2,275	1,627	6	6	2,500	3,357
3 Stage Full Free Lift	TF430	4,300	2,025	1,377	6	6	2,500	3,471
	TF450	4,500	2,125	1,477	6	6	2,500	3,488
	TF470	4,700	2,175	1,527	6	6	2,500	3,497
	TF500	5,000	2,275	1,627	6	6	2,500	3,515
	TF550	5,500	2,475	1,827	6	6	2,500	3,552
	TF600	6,000	2,675	2,027	6	6	2,500	3,632
	TS430	4,300	2,025	1,377	6	6	2,500	3,487
	TS450	4,500	2,125	1,477	6	6	2,500	3,503
	TS470	4,700	2,175	1,527	6	6	2,500	3,513
	TS500	5,000	2,275	1,627	6	6	2,500	3,532
	TS550	5,500	2,475	1,827	6	6	2,500	3,568
	TS600	6,000	2,675	2,027	6	6	2,500	3,649

35DE-9V								
Mast Type		Maximum Fork Height	Overall Height	Free Lift Height	Tilt Angle		Load capacity	Truck Weight (Unloaded)
			Single		Fwd	Bwd	Single Tire	Single
		mm	mm	mm	deg	deg	kg	kg
2 Stage Standard	V300	3,000	2,040	155	6	10	3,500	4,131
	V330	3,300	2,190	155	6	10	3,000	4,150
	V400	4,000	2,590	155	6	10	3,000	4,208
	V450	4,500	2,890	155	6	6	3,000	4,268
	V500	5,000	3,140	155	6	6	3,000	4,303
2 Stage Full Free Lift	VF295	2,976	2,040	1,392	6	6	3,000	4,124
	VF325	3,276	2,190	1,542	6	6	3,000	4,143
	VF345	3,476	2,290	1,642	6	6	3,000	4,156
3 Stage Full Free Lift	TF430	4,300	2,040	1,392	6	6	3,000	4,270
	TF450	4,500	2,140	1,492	6	6	3,000	4,287
	TF470	4,700	2,190	1,542	6	6	3,000	4,296
	TF500	5,000	2,290	1,642	6	6	3,000	4,314
	TF550	5,500	2,490	1,842	6	6	3,000	4,351
	TF600	6,000	2,690	2,042	6	6	3,000	4,431
	TS430	4,300	2,025	1,377	6	6	3,000	4,302
	TS450	4,500	2,125	1,477	6	6	3,000	4,299
	TS470	4,700	2,175	1,527	6	6	3,000	4,309
	TS500	5,000	2,275	1,627	6	6	3,000	4,328
	TS550	5,500	2,475	1,827	6	6	3,000	4,364
	TS600	6,000	2,675	2,027	6	6	3,000	4,444

30DE-9V								
Mast Type		Maximum Fork Height	Overall Height	Free Lift Height	Tilt Angle		Load capacity	Truck Weight (Unloaded)
			Single		Fwd	Bwd	Single Tire	Single
		mm	mm	mm	deg	deg	kg	kg
2 Stage Standard	V300	3,000	2,040	155	6	10	3,000	3,767
	V330	3,300	2,190	155	6	10	3,000	3,786
	V400	4,000	2,590	155	6	10	3,000	3,844
	V450	4,500	2,890	155	6	6	3,000	3,904
	V500	5,000	3,140	155	6	6	3,000	3,939
2 Stage Full Free Lift	VF295	2,976	2,040	1,392	6	6	3,000	3,760
	VF325	3,276	2,190	1,542	6	6	3,000	3,779
	VF345	3,476	2,290	1,642	6	6	3,000	3,792
3 Stage Full Free Lift	TF430	4,300	2,040	1,392	6	6	3,000	3,906
	TF450	4,500	2,140	1,492	6	6	3,000	3,923
	TF470	4,700	2,190	1,542	6	6	3,000	3,932
	TF500	5,000	2,290	1,642	6	6	3,000	3,950
	TF550	5,500	2,490	1,842	6	6	3,000	3,987
	TF600	6,000	2,690	2,042	6	6	3,000	4,067
	TS430	4,300	2,025	1,377	6	6	3,000	3,938
	TS450	4,500	2,125	1,477	6	6	3,000	3,935
	TS470	4,700	2,175	1,527	6	6	3,000	3,945
	TS500	5,000	2,275	1,627	6	6	3,000	3,964
	TS550	5,500	2,475	1,827	6	6	3,000	4,000
	TS600	6,000	2,675	2,027	6	6	3,000	4,080