

180/250D-9V 300D-9VC

Internal Combustion Diesel Engine Forklift Truck



180/250D-9V, 300D-9VC series that satisfies both eco-friendliness and cost-effectiveness!

The 9V series is a creative product that satisfies eco-friendliness and reduces TCO (Total Cost of Ownership) by satisfying the Euro stage 5 regulations and significantly improving fuel efficiency and work efficiency.

PRODUCT FEATURES OVERVIEW

**UP
VALUE**

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

■ Optimized hydraulic system
and EGR removed

180-9V

14%

250D-9V improved
fuel efficiency by **7%**

■ RPM reduction of cooling fan and
optimized cabin structure

180-9V

7.0dB

250D-9V reduced driver's seat
noise by **2.5dB**

*ECO-FRIENDLY
ECONOMICAL*

Environment-Friendly

- Satisfies EU stage 5 regulations on gas and achieves both eco-friendliness and operating expenses reduction with improved fuel efficiency
 - Cummins B6.7, L9 engines

Innovative cost-effectiveness and reliable durability

- Significant TCO reduction - 7~14% fuel efficiency improvement
 - EGR removed, hydraulic system optimized, engine fuel efficiency downsizing
- Newly applied ZF T/M equipped with the upgraded TCU
 - Improved responsiveness and optimized shift timing
 - Applied a non-contact shift lever that is strong against moisture
- Selection of engine working mode according to working conditions
 - "PWR/STD mode" "idle RPM up/down"



Differentiated safety specifications

- Auto-parking brake
- OPSS - Restricted driving, lift and tilt operation
- Road slope warning
 - Alarm warning when the road slope exceeds the standard
- Password-start limit
 - Prevents theft by prohibiting forklift operation by an unauthorized operator
- Travel speed limit
 - Prohibiting driving beyond the speed limit at the place of work
- Real-time display of steering tire position **Option**
 - Providing steering direction information that cannot be easily obtained with the naked eye

Prominent driving comfort specifications

- Applied a new cabin with improved work convenience and serviceability
 - Eliminated visual distortion at the edge of the windshield
 - Increased the side view by applying glass-type side doors
 - Improved accessibility by repositioning the console switches and light buttons
 - Reduced cabin noise while driving (2.5 to 7.0dB)
- Hanging type brake inching pedal
- Air suspension & swivel seat **Option**

Easy and convenient follow-up management

- Auto-tilting cabin that opens up to 52 degrees
 - Restricting cabin tilting when opening the passenger door to prevent cabin damage accidents
- Automatic DPF & SCR regeneration of the post-processing device by engine load
- Diagnosis of failures such as mission, engine, and fingertip and consumables replacement cycle management on the color monitor

180/250D-9V
300D-9VC

Eco-friendly Cummins B series engine

Cummins B series engines are widely used throughout the world, and they satisfy European emission regulations. In addition, the EGR system was done away with to improve energy efficiency and reliability of the exhaust gas reduction system to a large extent. DPF is newly added in addition to the existing DOC and SCR.



	180D-9V	250D-9V
Model / CC	B6.7/6,690cc	L9/8,849cc
Rated Power (Kw/rpm)	209/2,200	242/2,100
Max torque (kg-m/rpm)	131.4/1,500	167/1,100

Innovative reduction of operating expenses

Fuel efficiency is dramatically improved by using an optimized engine, removing the EGR system, and applying a load sensing system.

* Urea consumption increases as the EGR has been removed.
(Urea tank capacity is increased by 21.6 liters.)

180D-9V

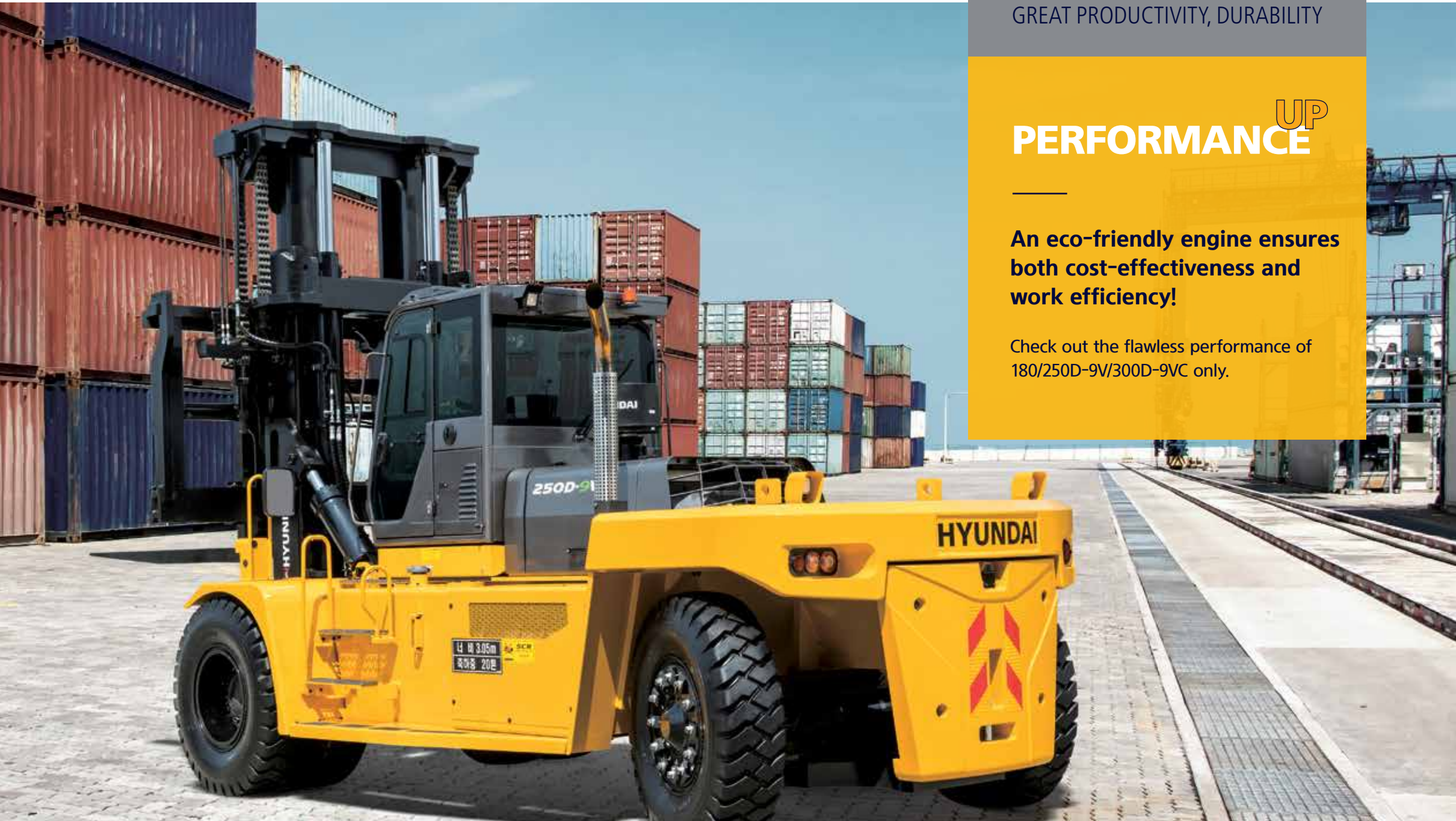
14%

250D-9V improved
fuel efficiency by 7%

• Fuel economy is based on our internal tests
(VDI 2198) and may be different from actual operation.

Upgraded ZF transmission (3WG211)

Responsiveness and shift timing are optimized, and SIL 2 European safety function regulation is satisfied. In addition, the shifting system boasts of increased reliability as a non-contact shifting lever that is not affected by moisture is applied.



ENVIRONMENT FRIENDLY
GREAT PRODUCTIVITY, DURABILITY

UP
PERFORMANCE

An eco-friendly engine ensures
both cost-effectiveness and
work efficiency!

Check out the flawless performance of
180/250D-9V/300D-9VC only.

Engine output selection button

- ① PWR/STD button - STD mode is set to 80% output of PWR mode and can be selected according to the work conditions.
- ② Idle RPM Up/Down button - When slowly lifting cargo without stepping on the accelerator pedal, the engine output can be supplemented. (Adjustable by increments of 25 RPM)



Added the back tilt lock function to the mast **New**

The function of locking the back tilt is newly added to prevent the natural sagging of the mast.

* The natural sagging function of the mast front tilt is maintained.



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.



180/250D-9V 300D-9VC

Password – Start limit

A password can be set to prevent unauthorized driving by an outsider and theft of the forklift. If the password is set, the engine cannot be started without the password.



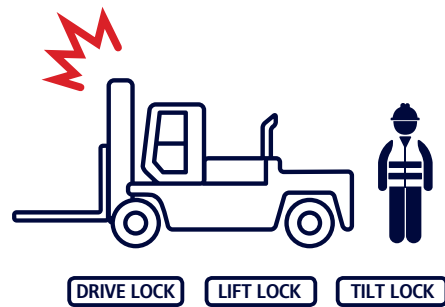
Auto-parking brake

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.



OPSS system

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



Additional options for safety

- Auto-tilting—Automatically maintaining the level of the fork and the ground
- Seatbelt interlock—Forcing the wearing of seat belt to prevent secondary accidents



ENHANCED SAFETY

UP SAFETY

Safety at the logistics site is most important, safety is supported by complete reliability

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.



Large side mirror with hot wires **Option**

A large side mirror is installed on the front wheel fender to secure a wider rear view. In addition, heat wires were inserted into the side mirror to cope with rain or snow.



Displaying the road slope (STD) and steering angle display in real time **Option**

The road slope is sensed and displayed in real time. When the set value is exceeded, the symbol turns red, and a warning buzzer sounds. In addition, the steering tire position is displayed in real time.



180/250D-9V 300D-9VC

Deluxe next-generation cabin

- The next-generation cabin, which has improved driving convenience and serviceability by listening to customers' voices, provides consistent convenience in any condition.

Noise in the driver's seat

Reduced noise dramatically by optimizing engine capacity, reducing cooling fan RPM (9 to 25%), and complementing the cabin structure.

- 18 tons: 7.0 dB reduction (69.9 dB) • 25 tons: 2.5 dB reduction (73.7 dB)



Air suspension & swivel seat Option

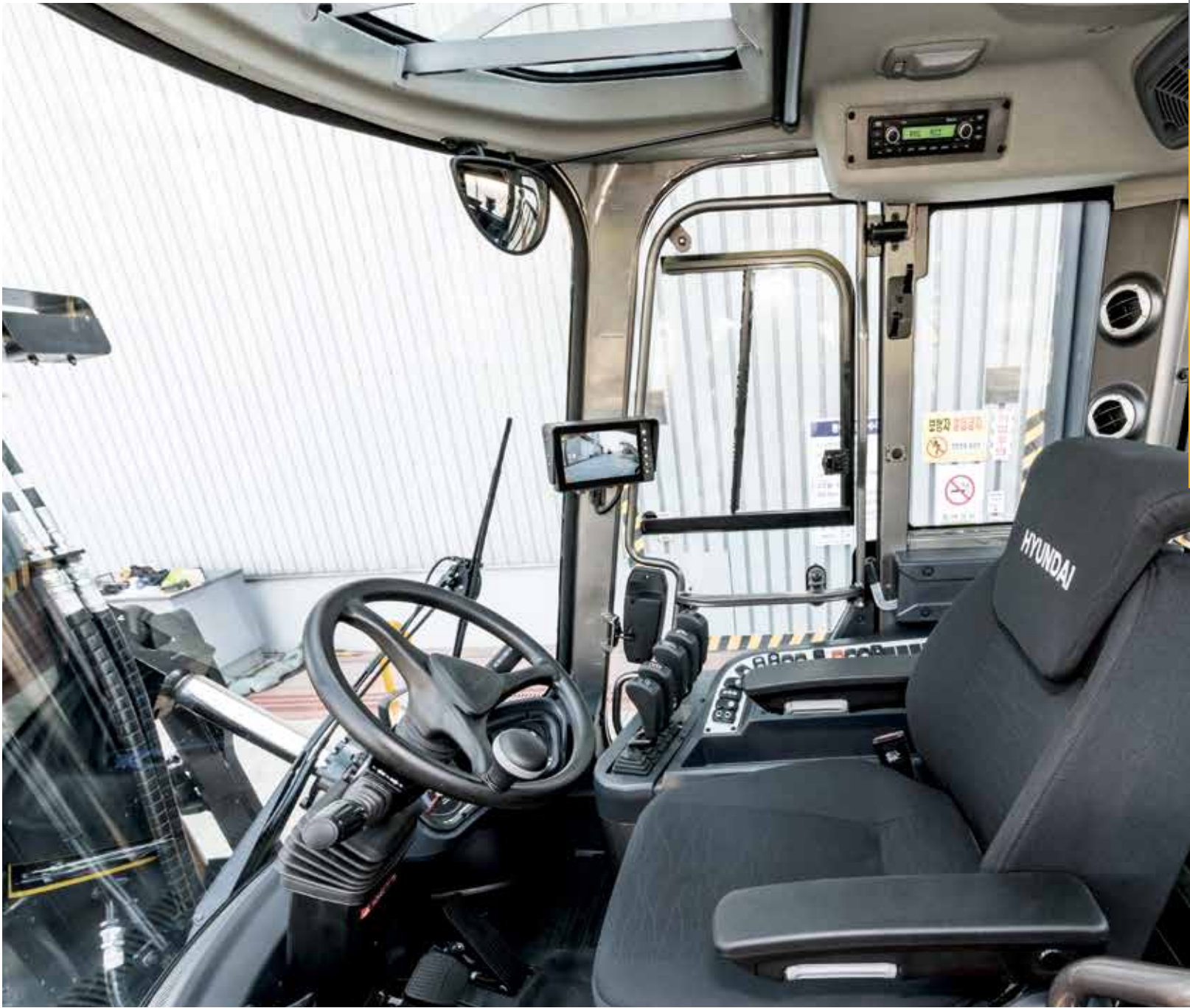
Air suspension that provides optimal riding comfort. The "air suspension & swivel seat" is provided as an option, which improved reverse driving and convenience of getting on/off as the seat can be rotated 20 degrees to the right and 10 degrees to the left.

* Basic specification: Full-suspension Grammer seat



Multi-functional digital display

A multi-functional cluster that delivers essential information in colored images and which is equipped with various features such as function setting and malfunction diagnosis of major parts.



Easy-to-use steering handle

The problem of heavy handle when handling abruptly is improved, as the handle can be adjusted up and down by 85mm and front and back by 36 degrees. In addition, the work convenience of the driver is improved by reducing the handle diameter by 35mm.



High operability fingertip system Option

The fine controllability of the new fingertip system is improved by changing MCV control to dither control. The system provides fast response within 0.1 seconds as well as the same controllability regardless of ambient temperature.



OUTSTANDING OPERABILITY ERGONOMICS

CONVENIENCE^{UP}

Increasing work efficiency
to the next level with
consistent convenience in
any condition

Inching pedal and brake pedal that are easy to operate, efficiently placed air vent

Fatigue accumulated in the legs is reduced by changing the brake pedal and inching pedal to a hanging type. The air conditioning effect is improved by installing two air vents above the pedal.



Highlights of the next-generation cabin

180/250D-9V
300D-9VC

Front sight

- Applied single curved glass, removing distortion of vision in corners
- Double-arm large wiper—Removing water from a wider area
- 7-inch monitor for the rear camera only



Rear sight and air vents

- Applied flat glass without distortion of view
- Applied single-arm wiper as a standard
- Air vent (left and right symmetrical) that controls the air volume in four directions



Upper window / sun visor

- Applied single-arm wiper as a standard
- Ceiling interior materials with high insulation effect
- A sun visor that can control the position in three phases and which is made of materials that reflect the direct rays of the sun



Protecting the glass and field of view on the left / right

- Minimizing blind spots in the field of view
 - Whole glass structure that has no filler in the middle of the door / Increased glass area
- Preventing direct collision with glass when moving objects in the cabin



Console – improved accessibility

- Placed switches in one row (in order of use frequency)
- Applied the 12V power port (2ea)
- Placed the air conditioning control dial near the headliner



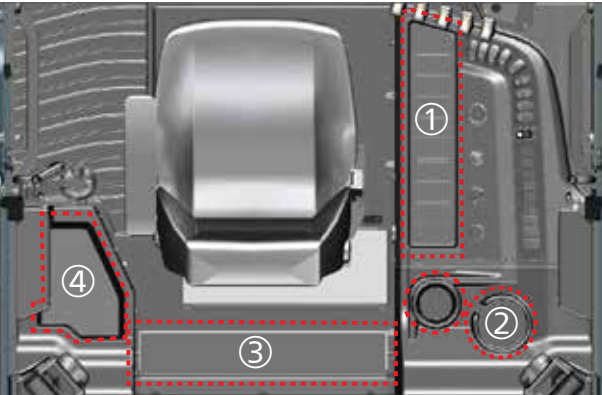
Optimal air conditioning – multiple air vents

- Upper side of the cabin : 2 left and right C pillars each (4 in all)
- Dashboard : 2ea on the top of the pedal
- Removing windshield moisture : 2 ea on the front of the dashboard



4 storage spaces separated by use

- ① Mobile device
- ② Beverage bottle / can
- ③ Driving accessories
- ④ Sub-space



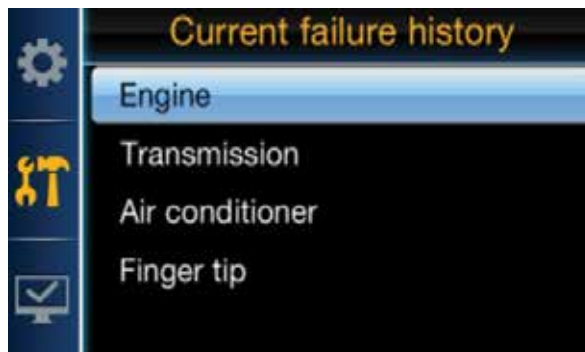
180/250D-9V 300D-9VC

Wide maintenance space

The cabin can be tilted up to 52 degrees, enabling easy access to the powertrain, hydraulic, and electrical system of the forklift. The cooling system and engine consumables can be easily managed by opening the cover of the wing-type engine room.

Self-diagnosis of engine and consumables management

The failure details and history can be checked on the cluster screen. In addition, when the replacement cycle of any consumables is entered into the cluster, parts whose replacement is due are displayed on the monitor.



No tilting when the door is opened & cabin tilting switch

If the right door is open, damage to the door is prevented by prohibiting cabin tilting. The cabin can be opened and closed both automatically or manually.



Tankless-type compressor

Unlike the tank-type compressor that should be refilled, the tankless-type compressor can use compressed air for a long time at constant pressure.



Management of exhaust gas after-treatment device

DPF and SCR are automatically regenerated by engine load. DPF can be easily removed by disassembling the band only.

* When CK-4 grade engine oil is applied, DPF cleaning at an interval of 5,000 hours is not required.



EASY SERVICE

UP MAINTENANCE

Easy maintenance and cost-effective after-sales service
Even though the work is finished, the satisfaction continues

Hi-MATE Option

Forklift operation and status, safety, and human resources can be remotely managed using the on-site management solution Hi-MATE. The accumulated data can be used for devising a forklift operation plan.



Data collected at the sensors and modules mounted on equipment during the operation of forklift truck at the operation control system of Hyundai Industrial Vehicle is provided to the mobile device or computer of the customer in real time through the server of Hyundai Construction Equipment. Such visual data can be used for establishing a control plan for safety control in fields, productivity improvement, and cost saving.



- * Real-time monitoring and follow-up management of individual vehicles, drivers, equipment on-site, and operation information
- Key-on time, travel hours, work hours, and traveling position



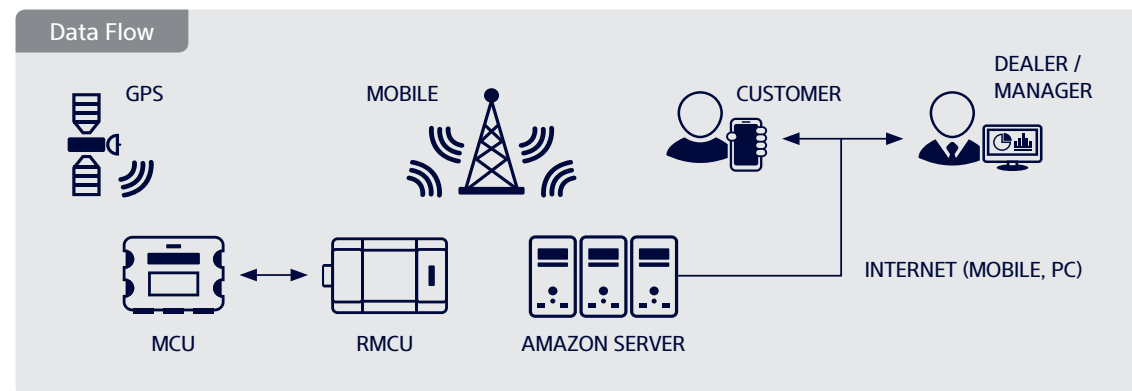
- * Supplying information of the forklift truck linked with operation hours, establishing a follow-up management plan
 - Indicating fuel remainder, failure information
 - Indicating consumable exchange timing, service timing



- * Checking and follow-up management of safety accident caused by collision between the field system and forklift truck during operation
- Count of collision, size of impact



- * Checking and follow-up management such as matching between self-diagnosis and equipment conditions before operation
- Driver authorization, self-diagnosis of equipment conditions

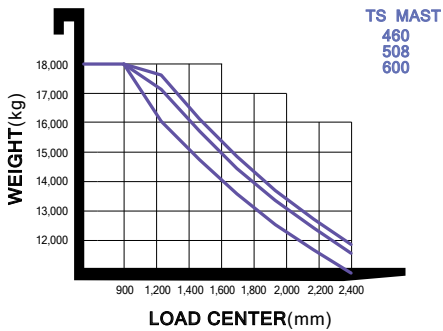
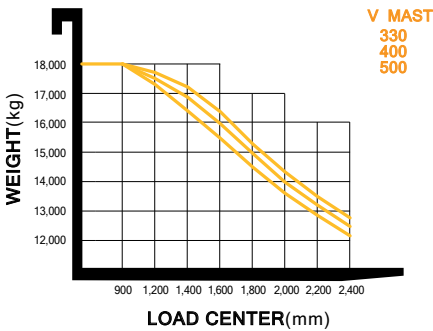


The image contains two technical drawings of a yellow forklift. The left drawing is a side profile view showing the forklift's dimensions and geometry. Key labels include: h_4, h_3, h_1 for vertical heights; C for the mast height; Q for the mast width; h_2 for the fork height; S for the fork width; m_1, x, m_2, y, l_2 for horizontal distances from the front axle; l_1 for the wheelbase; h_5 for the rear height; h_7 for the rear wheel height; h_{10} for the rear wheel radius; α and β for mast angles. The right drawing is a top-down view showing the forklift's footprint. Key labels include: b_3 for the mast width at the top; b_{10} for the mast width; L for the mast length; E for the mast attachment; b_1 for the mast base width; b_{13} for the operator platform width; Wa for the operator platform width; b_{11} for the rear wheel width; and 100 for the rear wheel radius. The text 'Ast' is also present near the rear wheel area.

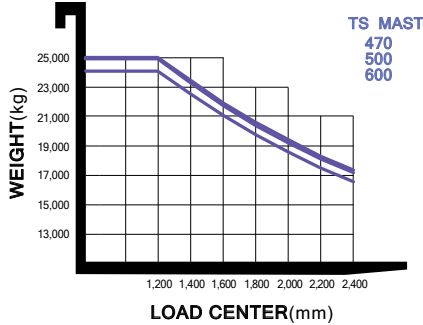
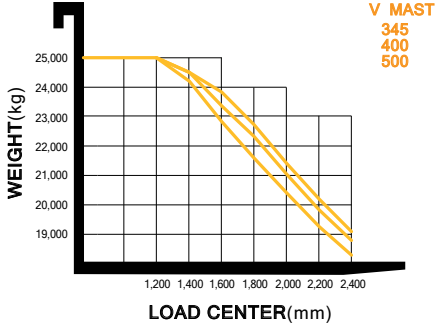
Identification					
1.1	Manufacturer (Abbreviation)		Hyundai		
1.2	Manufacturer's Type Designation		180D-9V	250D-9V	300D-9VC
1.3	Drive : Electric (Battery Or Mains), Diesel, Petrol, Fuel Gas		DIESEL	DIESEL	DIESEL
1.4	Type Of Operation: Hand, Pedestrian, Standing, Seated, Order-Picker		Seated	Seated	Seated
1.5	Load Capacity / Rated Load	kg	18,000	25,000	30,000
1.6	Load Center Distance	mm	900	1,200	800
1.8	Load Distance, Center Of Drive Axle To Fork	mm	999	1,147	1,147
1.9	Wheelbase	mm	3,750	4,250	4,250
Weights					
2.1	Service Weight	kg	2,5826	38,780	38,840
2.2	Axle Loading, Loaded Front/Rear	kg	40,051/3,841	58,408/5,437	63,180/5,660
2.3	Axle Loading, Unloaded Front/Rear	kg	12,838/12,988	19,501/19,279	19,437/19,403
Wheels, Chassis					
3.1	Tires : Solid Rubber, Pneumatic, Polyurethane		Pneumatic	Pneumatic	Pneumatic
3.2	Tire Size, Front		12.00 R20	14.00-24-32PR	14.00-24-32PR
3.3	Tire Size, Rear		12.00 R20	14.00-24-32PR	14.00-24-32PR
3.5	Wheels, Number Front / Rear (X = Driven Wheels)		4x2	4x2	4x2
3.6	Tread, Front	mm	1,848	2,212	2,212
3.7	Tread, Rear	mm	2,025	2,140	2,140
Basic Dimensions					
4.1	Tilt Of Mast/Fork Carriage Forward/Backward	degrees	10 / 10	12/10	12/10
4.2	Height, Mast Lowered	mm	3,700	3,870	3,870
4.3	Free Lift	mm	0	0	0
4.4	Lift Height	mm	4,020	4,040	4,040
4.5	Height, Mast Extended	mm	5,655	5,837	5,837
4.7	Height Of Overhead Guard (Cabin)	mm	2,995	3,278	3,278
4.8	Seat Height / Stand Height Rel. To Sip	mm	1,826	2,150	2,150
4.12	Coupling Height	mm	671	572	572
4.19	Overall Length	mm	8,045	8,847	8,847
4.20	Length To Face Of Forks	mm	5,595	6,397	6,397
4.21	Overall Width	mm	2,540	3,069	3,069
4.22	Fork Dimensions	mm	100x250x2,450	110x250x2,450	110x250x2,450
4.24	Fork-Carriage Width	mm	2,540	2,950	2,950
4.31	Ground Clearance, Below Mast, Loaded	mm	245	300	300
4.32	Ground Clearance, Center Of Wheelbase	mm	356	445	445
4.34.1	Aisle Width For Pallets 1000 X 1200 Crossways	mm	8,983	9,592	9,592
4.34.2	Aisle Width For Pallets 800 X 1200 Lengthways	mm	8,983	9,592	9,592
4.35	Turning Radius	mm	5,334	5,830	5,830
4.36	Smallest Pivot Point Distance	mm	2,048	2,030	2,030
Performance Data					
5.1	Travel Speed, Loaded / Unloaded	km/h	34.2 / 36.9	274/30.7	26.4/30.3
5.2	Lift Speed, Loaded / Unloaded	mm/s	380 / 400	250/265	240/265
5.3	Lowering Speed, Loaded / Unloaded	mm/s	450/395	380/265	380/265
5.6	Max. Drawbar Pull, Loaded / Unloaded	N	149,354 / 140,416	214,227/203,533	222,104/209,230
5.8	Max. Gradeability, Loaded / Unloaded	%	32.3 / 30.3	32.5/28.8	29.9/26.7
5.10	Service Brake		Hydraulic	Hydraulic	Hydraulic
Combustion-Engine					
7.1	Engine Manufacturer / Type		CUMMINS/B6.7	CUMMINS/L9	CUMMINS/L9
7.2	Engine Power Acc. To Iso 1585	kW/rpm	209 / 2,200	242/2,100	242/2,100
7.3	Maximum Torque	kgf.m/rpm	117 / 1,500	166.9/1,100	166.9/1,100
7.4	No. Of Cylinders / Displacement	EA/cc	6 / 6,690	6	6
7.5	Fuel Consumption Acc. To Vdi Cycle	l/h	12.7	23.6	23.6
Addition Data					
8.1	Type Of Drive Control		Power Shift	Power Shift	Power Shift
8.2	Operating Pressure, System / Attachments	bar	224/185	220/195	220/195
8.3	Oil Volume For Attachments	LPM	85	100	100
8.5	Trailer Coupling, Type Din		Pin	Pin	Pin

* When the 300D-9VC is loaded with more than 25 ton of cargo, the maximum travel speed is limited to 5 km/h.

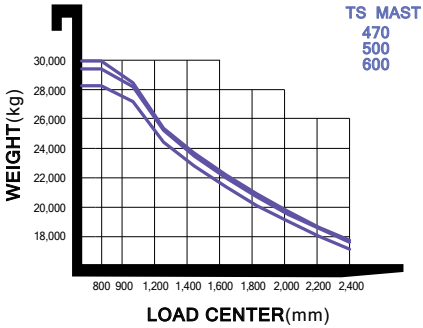
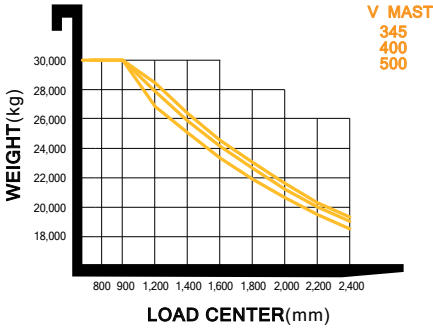
180D-9V								
Mast Type		Maximum Fork Height	Overall Height (Lowered)	Free Lift Height	Mast Tilt		Load capacity	Truck Weight (Unloaded)
					Fwd	Bwd	600mm LC	
		mm	mm	mm	deg	deg	kg	kg
2 Stage Limited Free Lift	V300	3,020	3,200	0	10	10	18,000	25,165
	V330	3,320	3,350	0	10	10	18,000	25,293
	V350	3,520	3,450	0	10	10	18,000	25,369
	※ V400	4,020	3,700	0	10	10	18,000	25,740
	V450	4,520	3,950	0	10	10	18,000	25,886
	V500	5,020	4,200	0	10	10	18,000	26,263
	V550	5,520	4,450	0	10	10	18,000	26,477
	V600	6,020	4,700	0	10	10	18,000	26,692
	V650	6,520	4,950	0	10	10	18,000	26,889
	V700	7,020	5,200	0	10	10	18,000	27,079
3 Stage Full Free Lift	TS460	4,634	2,950	1,538	10	10	18,000	26,549
	TS508	5,084	3,100	1,688	10	10	18,000	26,721
	TS538	5,384	3,200	1,788	10	10	18,000	26,892
	TS568	5,684	3,300	1,888	10	10	18,000	26,984
	TS600	6,044	3,420	2,008	10	10	18,000	27,121
	TS658	6,584	3,600	2,188	10	10	18,000	27,315
	TS700	7,034	3,750	2,338	10	10	17,960	27,464



250D-9V								
Mast Type		Maximum Fork Height	Overall Height (Lowered)	Free Lift Height	Mast Tilt		Load capacity	Truck Weight (Unloaded)
					Fwd	Bwd	1200mm LC	
		mm	mm	mm	deg	deg	kg	kg
2 Stage Limited Free Lift	V345	3,486	3,593	0	12	10	25,000	38,201
	※ V400	4,040	3,877	0	12	10	25,000	38,780
	V450	4,540	4,127	0	12	10	25,000	39,058
	V500	5,040	4,377	0	12	10	25,000	39,350
	V550	5,540	4,627	0	12	10	25,000	39,629
	V600	6,040	4,877	0	12	10	25,000	40,213
	V650	6,540	5,127	0	12	10	24,900	40,526
	V700	7,040	5,377	0	12	10	24,450	40,815
3 Stage Full Free Lift	TS470	4,712	3,400	746	10	10	25,000	41,286
	TS500	5,012	3,500	796	10	10	24,900	41,532
	TS530	5,312	3,600	846	10	10	24,600	41,739
	TS560	5,612	3,700	896	10	10	24,400	41,910
	TS600	6,016	3,835	963	10	10	24,100	42,143
	TS650	6,512	4,000	1,046	10	10	23,600	42,436



300D-9VC								
Mast Type		Maximum Fork Height	Overall Height (Lowered)	Free Lift Height	Mast Tilt		Load capacity	Truck Weight (Unloaded)
					Fwd	Bwd	800mm LC	
		mm	mm	mm	deg	deg	kg	
2 Stage Limited Free Lift	V345	3,486	3,593	0	12	10	30,000	38,261
	※ V400	4,040	3,877	0	12	10	30,000	38,840
	V450	4,540	4,127	0	12	10	30,000	39,118
	V500	5,040	4,377	0	12	10	30,000	39,410
	V550	5,540	4,627	0	12	10	30,000	39,689
	V600	6,040	4,877	0	12	10	30,000	40,273
	V650	6,540	5,127	0	12	10	29,800	40,586
	V700	7,040	5,377	0	12	10	29,200	40,875
3 Stage Full Free Lift	TS470	4,712	3,400	746	10	10	30,000	41,346
	TS500	5,012	3,500	796	10	10	29,400	41,592
	TS530	5,312	3,600	846	10	10	29,000	41,799
	TS560	5,612	3,700	896	10	10	28,700	41,970
	TS600	6,016	3,835	963	10	10	28,300	42,203
	TS650	6,512	4,000	1,046	10	10	27,700	42,496



Standard & Option												
Description			180D-9V	250D-9V	300D-9VC	Description			180D-9V	250D-9V	300D-9VC	
OPERATION ROOM	Cabin	New Cabin	●	●	●	HYDRAULIC	MCV & Hoses	4 Spool MCV	●	●	●	
		Wiper for Top window	●	●	●			5 Spool MCV	○	○	○	
	A/C	A/C & Heater	●	●	●				Piping options - 18ton : 4 Spool piping, 5 Spool piping - 25/30ton : 5 Spool piping, 6 Spool piping	○	○	○
	Seat	Long Back Seat - Full Suspension	●	●	●	TIRE	Tires	Pneumatic Tires	●	●	●	
		Seat Options - Air suspension & Swivel seat, Leather Seat	○	○	○				Lamp	Working Lamp - Front & Rear LED	●	●
		Seat Accessories - Orange belt, Arm rest, Buckle switch, Heat	○	○	○	VISIBILITY	Mirror	L/H & R/H Back Mirror & Panorama Mirror	●	●	●	
	Lever	Lever - General	●	●	●			Heated L/H & R/H Back Mirror	○	○	○	
		Finger Tip	○	○	○		Camera	Rear Camera	●	●	●	
	etc.	Bluetooth Radio	●	●	●	CONVENIENCE	-	Auto Tilt	○	○	○	
		Extinguisher	○	○	○			Load Sensor	●	●	●	
MAST & ATTACHMENT	Mast	Standard Mast	V400	V400	V400			Load Sensor & Angle Sensor	○	○	○	
		2 stage Mast	●	●	●			Accumulator	○	○	○	
		3 stage Mast	○	○	○			Unidirectional Fan	●	●	●	
	Fork	Standard Fork	2,440mm	2,440mm	2,440mm	SAFETY	-	Seat Belt interlock	○	○	○	
Fork Options - 18ton : 1,200mm~2,750mm fork - 25/30ton : 1,800mm~3,650mm fork		○	○	○	Hazard Switch			○	○	○		
Lumber Fork		○	○	○	LED Beacon Lamp			○	○	○		
Carriage	Integral Shift Type Carriage	●	●	●	OTHERS	-	Air Compressor	○	○	○		
	Carriage Options - Sliding, Sliding&Holder	○	○	○			Under Cover	○	○	○		
Attachment	Side Shift & Positioner – Independent type	●	●	●			Oil - VG46	●	●	●		
	Side Shift & Positioner – Synchronized type	○	○	○			Oil Options - VG32 for Tropical, VG15 for Cold Area	○	○	○		
							Hi-MATE (General)	○	○	○		
							Hi-MATE (Premium)	○	○	○		

● STD / ○ OPT