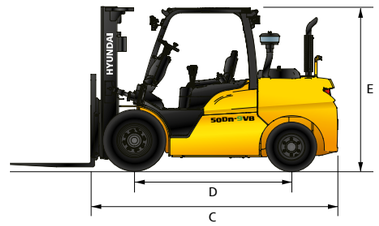
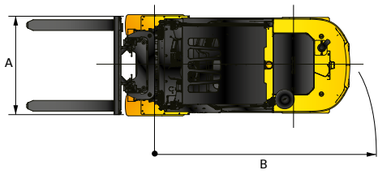
SPECIFICATION

OPERATION ROOM	
2,340mm High Overhead Guard	●
2,210mm Low Overhead Guard	○
Various Options for Overhead Guard & Cabin	○
Full Suspension Seat + Orange Belt	●
Non Suspension Seat + Orange Belt	○
Finger Tip Lever	○
Air Conditioner and/or Heater	○
Radio & USB	○
Rear Horn	○
Extinguisher	○
MAST & ATTACHMENT	
2 Stage Standard Mast(3,300mm)	●
Various Options for Mast - 2/3 Stage, Single/Dual Full Free	○
1,200mm Fork	●
Narrow Carriage - Hook type	●
Carriage Width - Wide or Special	○
Carriage - Shaft Integral type	○
Side Shift	○
Fork Positioner - Independent or Synchronized	○
HYDRAULICS	
MCV - 4 Spool	●
MCV - 3 Spool (only for manual lever)	○
MCV - 5 Spool (only for manual lever)	○
Attached Piping for All MCVs & Masts	○

TIRE	
Pneumatic Tire	●
Various Tire Options - Solid, Non Marking	○
VISIBILITY	
LED Working Lamp(Front & Rear)	●
Panorama Mirror	●
LED Beacon Lamp	○
Rear Camera	○
CONVENIENCE	
Knob-Switch with Direction & Horn	●
Auto Tilt	●
Hydraulic Pressure Display	●
Load Sensor	○
SAFETY	
OPSS - Travel & Mast	●
Blue Spot	○
Hazard Switch	○
OTHERS	
Master Switch to cut off electricty from battery	●
Fuel Cap with Key	●
Under Cover	○
Accumulator	○
Various Oil for Tropical & Cold Area	○

● STD / ○ OPT





SPECIFICATION

	MODEL		40D-9VC	45D-9VC	50DN-9VC	35D-9VB	40D-9VB	45D-9VB	50DN-9VB
LOAD CAPACITY		kg	4,000	4,500	4,990	3,500	4,000	4,500	4,990
LOAD CENTER		mm	500	500	500	600	600	600	600
ENGINE		model	HMC D4CC	HMC D4CC	HMC D4CC	HMC D4CC	HMC D4CC	HMC D4CC	HMC D4CC
		kW/rpm	54.4 / 2,200	54.4 / 2,200	54.4 / 2,200	54.4 / 2,200	54.4 / 2,200	54.4 / 2,200	54.4 / 2,200
PERFORMANCE	TRAVEL SPEED, Loaded, Unloaded	km/h	26.8 / 29.2	26.2 / 28.4	25.9 / 28.2	26.8 / 29.2	26.5 / 28.4	26.1 / 28.2	25.8 / 28.1
	LIFT SPEED, Loaded, Unloaded	mm/s	510 / 540	510 / 540	480 / 540	520 / 540	510 / 540	510 / 540	410 / 460
	LOWERING SPEED, Loaded, Unloaded	mm/s	550 / 550	550 / 550	550 / 550	550 / 550	550 / 550	550 / 550	550 / 550
DIMENSION	OVERALL WIDTH A	mm	1,370	1,746	1,746	1,370	1,746	1,746	1,746
	TURNING RADIUS B	mm	2,895	2,944	3,038	2,895	2,944	3,038	3,081
	LENGTH TO FACE OF FORKS C	mm	3,149	3,204	3,284	3,149	3,204	3,284	3,347
	WHEELBASE D	mm	2,030	2,030	2,100	2,030	2,030	2,100	2,100
	HEIGHT OF OHG(CABIN) E	mm	2,350	2,340	2,340	2,350	2,340	2,340	2,340
TIRE	TIRES		PNEUMATIC	PNEUMATIC	PNEUMATIC	PNEUMATIC	PNEUMATIC	PNEUMATIC	PNEUMATIC
	TIRE SIZE, FRONT		8.25-15-14PR	7.50-16-12PR	7.50-16-12PR	8.25-15-14PR	7.50-16-12PR	7.50-16-12PR	7.50-16-12PR
	TIRE SIZE, REAR		7.00-12-14PR	7.00-12-14PR	7.00-12-14PR	7.00-12-14PR	7.00-12-14PR	7.00-12-14PR	7.00-12-14PR
	NUMBER(FRxRR)		2 x 2	4 x 2	4 x 2	2 x 2	4 x 2	4 x 2	4 x 2

HYUNDAI
MATERIAL HANDLING

PLEASE CONTACT

2020. SEP. Rev3

HYUNDAI
MATERIAL HANDLING

MOVING YOU FURTHER

40/45D 50DN-9VC
35/40/45D 50DN-9VB

Internal Combustion Diesel Engine Forklift Truck

9VC/9VB SERIES NEW 9VC/9VB SERIES



Designed on the basis of a 9-series diesel engine forklift that has been proven durable and productive for a long time, the 9VC/9VB series meets EU Stage 5 regulations. Also, as an environment-friendly, economical forklift with breakthrough fuel efficiency, the 9VC/9VB series will meet all your expectations for ownership.

* Photo may include optional equipment.

PRODUCT FEATURES OVERVIEW

A load-sensing (piston pump)-type hydraulic system with an optimized engine is applied.

Fuel efficiency **16.7%** ↑

Workflow **4%** ↑

ENVIRONMENT-FRIENDLY

- The 9VC/9VB series is equipped with an HMC 54.4kW diesel engine, which meets EU Stage 5 regulations on gas and achieves both environment-friendly and cost-saving effects due to its low fuel consumption rates.

PRODUCTIVITY & DURABILITY

- The TCO is dramatically reduced: A load-sensing (piston pump)-type hydraulic system with an optimized engine is applied.
  → Improvement of fuel efficiency and workflow: 16.7% and 4%, respectively
- The power transmission capability of clutch pack is improved by 25%, T/M oil is increased by 4L, and durability under heavy load operation is expanded.
- The volume of drive axle oil is increased by 2.5L to expand the life span of the wet disk brake system.
- Extended wheel base: Running stability and continuous working hours are improved, and temperature increase risk during operation is reduced.

ENHANCED SAFETY

- Auto parking brake: When the engine stops, the parking brake works automatically to prevent safety accidents caused by human error.
- HAC (Hill Start Assist Control) : Backsliding is prevented upon restarting on a slide.
- OPSS System (simultaneously operated with auto parking): Driving, lifting, and tilting are restricted when the operator leaves the driver's seat.
- Seat belt interlock system : If the operator does not wear the seat belt, operation stops. **Option**
- Warning on equipment posture: The warning of an accident is given if the forklift exceeds the preset stability range during operation.
- Password setting: Unauthorized use of forklifts is prohibited.



OUTSTANDING OPERABILITY (ERGONOMICS)

- The optimized size of the engine and LS hydraulic system reduce noise and vibration to the operator.
- Reduced handle diameter and the Danfoss 4th generation Obitrol are applied to improve steering, reduce noise, and improve the reverse rotation jam.
- Deluxe suspension seat: Cushion adjustment and ELR seat belt of Grammer seats are used.
- MCU-Integrated new cluster to improve information visibility during operation and simplify parts.
- New fingertip, which has built-in Dither control and controller current feedback systems, ensures improved response time, fine-tuning, and adaptability to usage temperature. **Option**

EASY SERVICE

- Maintenance of the exhaust gas aftertreatment device is done with screen disassembly only, without weight removal.
- Engine diagnosis without any additional diagnostic tool and consumables replacing interval setting.
- Improved maintainability, thanks to a horizontally placed MCV with an embedded emergency lowering screw.
- Waterproof and dustproof fuse & relay box to prevent dust or water contamination.

* Photo may include optional equipment.

ENVIROMENT FRIENDLY
GREAT PRODUCTIVITY
DURABILITY

* Photo may include optional equipment.

Optimized Fuel Consumption

Main hydraulic component



Variable Piston Pump



Load sensing MCV

Fuel efficiency and lifting speed have been dramatically improved according to such applications: the variable hydraulic pump that changes the discharge amount according to the hydraulic load over the engine whose displacement is optimized, and a close center-type hydraulic system composed of a load-sensing-type MCV.

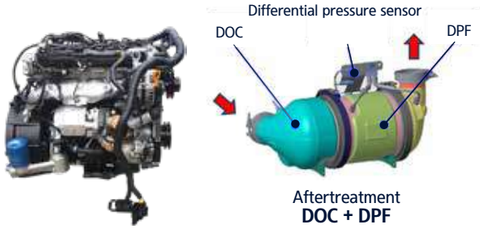
- **Fuel consumption is improved around 16.7%. (Based on VDI 2198)**
- **The speed of lifting in load and no-load is improved by 4%.**

Wheel base extension and frame dualization

	Wheel base
40/45D-9VC 35/40D-9VB	2,030mm
50DN-9VC 45D-9VB / 50DN-9VB	2,100mm

The differentiated frames and an extended wheel base improve running stability and continuous working hours, and the applications of the forklift are expanded as the temperature of the hydraulic fluid is kept low.

Eco-friendly, great productivity and durability



The HMC D4CC engine with optimized displacement for a forklift comprises an electronic EGR valve, a common rail, Variable Geometry Turbo-charger (VGT) with an excellent boosting effect, and aftertreatment (DOC + DPF) device. It also meets the stricter EU Stage 5 regulations.

In addition, the DPF, which was added due to the EU Stage 5 Emission Regulations, is available in three modes, for example, automatic regeneration, forced regeneration, and prohibition of regeneration depending on the usage environment.

Hyundai Core Motion's transmission



Hyundai Core Motion's transmission and drive axle transmission, which have improved durability and practicality, increased clutch pack power transmission capability by 25% and T/M oil quantity, considering high-load working conditions. The reverse gear with a low frequency of use is made into one gear, and to the forward gear consisting of two steps is applied an automatic transmission system for increased practicality and convenience.

Axle and wet disc brake considering durability



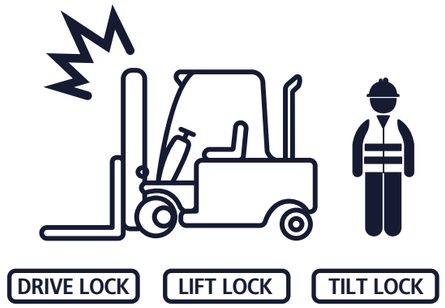


The drive axle is equipped with a planetary reducing gear that is resistant to torque change, and the capacity of the sump has been increased by 10% for better performance and durability of the wet disc brake in high-brake-use environments. Moreover, the wet disc reduces maintenance costs because of enhanced durability.

ENHANCED SAFETY

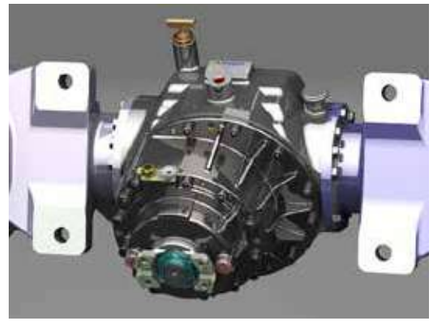
* Photo may include optional equipment.

OPSS (Operator Presence Sensing System)



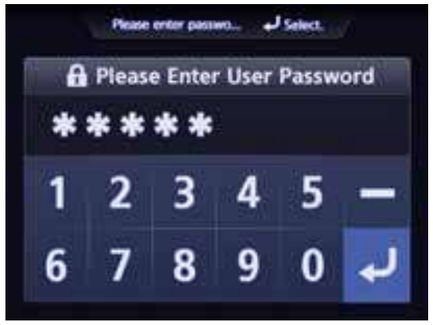
The OPSS that restricts driving, lifting, and tilting kicks in when the operator leaves the driver's seat in order to prevent safety accidents. It is simultaneously operated with the auto parking brake to create a safer workplace.

Auto Parking Brake & HAC



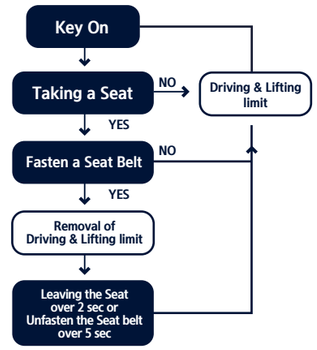
The negative-type auto parking brake operates automatically when power is cut off in order to prevent safety accidents caused by human error, like not operating the parking brake lever, and backsliding is prevented upon restarting on a slide with the Hill Start Assist Control (HAC).

Start-up restriction: setting password



To prevent theft, breakdown, and safety accidents when the equipment is not in use that may occur when unauthorized people try to use the equipment without the administrator's permission, the operator's passcode can be set on the cluster to restrict the operation of the equipment.

Seat belt interlock system 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.

Warning on equipment posture



When the forklift is working on an inclined road surface, the tilt is sensed in the front, rear, and left and right directions of the equipment. A warning is given to the operator if the sensing value exceeds the preset stability range.

OUTSTANDING OPERABILITY

ERGONOMICS

Open visibility and comfortable driver's seat

The mast, carriage, and head guard are designed to provide the operator with maximum visibility, and the ergonomically designed operator's zone ensures the operator's comfort, leading to increased productivity.

* Photo may include optional equipment.

Visibility enhanced new cluster NEW



In the new cluster, the size and characteristics of the symbols have been adjusted for better visibility of driving information and safety warnings, and MCU functions are integrated to simplify parts.

Key monitoring functions
OPSS, maintaining equipment posture, a clock, service hour meter, fuel, temperature, driving direction and transmission level

Configuration and Diagnosis
maximum driving speed, consumables replacing interval, engine diagnosis, password setting

Additional functions Option
a rear monitor, load weight indicator, autotilting status, FMS

Improved response time and fine-tuning of Fingertip Option



The response time (within 0.1 s) and fine-tuning capability of fingertip are improved, thanks to the built-in Dither control and controller current feedback systems, and its control is adaptable to the temperature of the environment.

Improved handling convenience



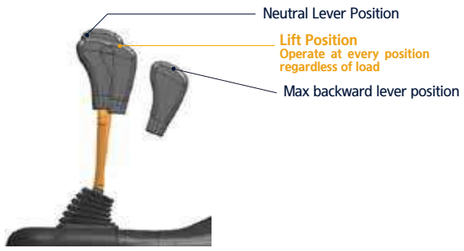
The diameter of the handle is reduced by 70 mm to minimize the operator's fatigue and the Danfoss 4th generation Obitrol pump is applied to reduce noise and improve the reverse rotation jam of the handle.

Variable cabin Option



From cabin with air conditioning and heater (1Door / 2Door) to partial cabin(Front&Top, Front&Top&Rear). Various cabin options are available.

Independent load feeling system



The load-sensing MCV independent load-feeling system makes the working device operate at a certain position during the lift lever stroke, regardless of whether there is a load on the lift line.

Decrease Noise & Vibration

The noise and vibration to the operator are significantly reduced because the size of the engine is optimized and a load sensing – type hydraulic system is applied.

Annoyance index that is caused by noise has been reduced to 63% compared to the previous models and the vibration feeling performances on attachment levers, seat, steering wheel, brake pedal are improved by 39% from the previous models in accordance with HCE test standard.

EASY SERVICE



* Photo may include optional equipment.

Easy maintenance

A gas spring – operated steel engine hood provides easy access to periodic maintenance parts, reducing equipment downtime. In addition, the protector added to the gas spring prevents the hood from closing during operation, ensuring safety.

Engine diagnosis and consumable maintenance





Item	Interval	Elapse	Count	Alarm
Axle Gear Oil	100	105	0	
Transmissing Oil	100	105	0	
Filter	100	105	0	
Tank Air Breathe...	250	105	0	
Engine Oil	500	105	0	
Element	500	105	0	

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.

Convenient maintenance of MCV



The load-sensing MCV has a very low internal leakage, resulting in a dramatic reduction of the amount of natural settlement (change in position due to its own weight) of the lift and tilt lines. Along with this feature, the Lift Emergency Lowering Screw and a Descending Speed Adjustable Regulator of the MCV reduce the maintenance frequency and downtime.

Detachable radiator cover



The subhood of the toolless-type radiator, which is located on the top of the main hood and the detachable counterweight, reduces downtime when inspecting and replenishing the coolant.

Waterproof and dustproof Fuse and Relay Box



The fuses and relays that are vulnerable to contamination are placed inside a box with enhanced waterproof and dustproof functions, and the box itself is placed inside the engine room to reduce maintenance downtime.

Convenient maintenance of aftertreatment device



To eliminate the inconvenience of removing the counterweight to inspect the aftertreatment device inside the weight, the opening of the counterweight has been expanded to the maximum extent possible.