



www.doosan-iv.eu

7-Series Forklifts

Pneumatic Diesel 10 to 25 ton Series

Euro Stage IV



Lifting Your Dreams

About Doosan

Values that drive our future growth

Trust in people is the foundation on which Doosan has built its century of success

Doosan has always put 'People' first for the past 100 years, based on our management philosophies. - 'Business is not meant to make profits, but to help people grow.' (Late Too Pyung Park, First Chairman), and continues to spur corporate development with global competitiveness originated from human resources.

Doosan the oldest, but fastest growing company

Doosan has recorded the longest business history since its inauguration in 1896, but has grown at its most rapid pace for the past 10 years.

Doosan-the global Infrastructure Support Business (ISB) company

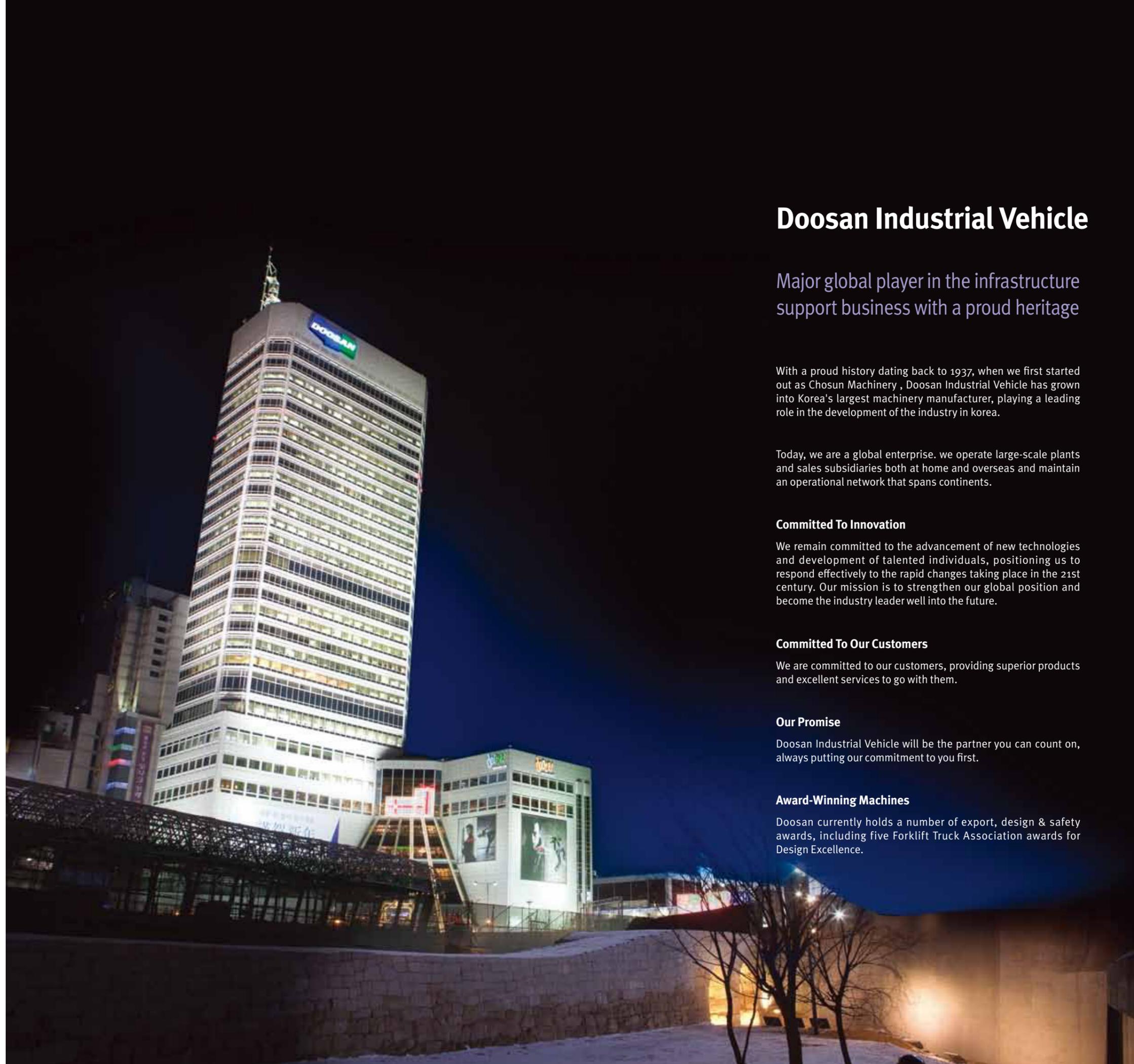
Doosan has created in excess of 90% of its sales within the ISB sector through vigorous reorganization of its business portfolio since 1998.

In the past, 70% of our business was concentrated on consumer goods, but we have successfully transformed our business DNA to the infrastructure support business that constructs and reinforces social infrastructure.

Doosan, surging as a global company

Doosan has become the global ISB leader based on its world class products and services.

In addition, as a true global company, Doosan's overseas employees encompass 50% of its human resources, and overseas sales take more than over 60% of the total sales.



Doosan Industrial Vehicle

Major global player in the infrastructure support business with a proud heritage

With a proud history dating back to 1937, when we first started out as Chosun Machinery, Doosan Industrial Vehicle has grown into Korea's largest machinery manufacturer, playing a leading role in the development of the industry in Korea.

Today, we are a global enterprise. We operate large-scale plants and sales subsidiaries both at home and overseas and maintain an operational network that spans continents.

Committed To Innovation

We remain committed to the advancement of new technologies and development of talented individuals, positioning us to respond effectively to the rapid changes taking place in the 21st century. Our mission is to strengthen our global position and become the industry leader well into the future.

Committed To Our Customers

We are committed to our customers, providing superior products and excellent services to go with them.

Our Promise

Doosan Industrial Vehicle will be the partner you can count on, always putting our commitment to you first.

Award-Winning Machines

Doosan currently holds a number of export, design & safety awards, including five Forklift Truck Association awards for Design Excellence.

7 Series Highlights

- The 7-Series 10-25t meets and exceeds all EPA Tier IV and Euro Stage IV emission regulations by using a Diesel Oxidation Catalyst (DOC) and SCR (Selective Catalytic Reduction).
- Superb Performance and high power, output thanks to the new generation of Doosan's own Diesel Engines.
- Rugged Reliability has been a major part of Doosan's ethos for all of its products and the new 7-Series is no different.
- A strong and rigid chassis frame along with more metal than plastic design ensures that Doosan is the best choice for all applications.
- New Zeus Cabin provides wide front view and excellent comfort to operator.
- Reduced maintenance - extended SCR cleaning intervals means increased uptime and Reduced servicing costs.

7-SERIES FORKLIFTS
10 to 25 Ton Series



D160S-7



DV250S-7

Well proven and reliable Doosan DLo6P and DLo8P engines and components

The powerful Doosan engine and components provides high-end torque at low engine rpm, reduced fuel consumption and meets all Euro Stage IV regulations without the need for a Diesel Particulate Filter (DPF).

Comfortable & Convenient Operator Compartment

Designed to provide greater rigidity and comfort, the Zeus Cabin offers an outstanding visibility, clear dashboard and high quality interior, along with excellent heating and air conditioning.

Provide Great Productivity

Thanks to the use of a new generation Doosan engine and the excellent synchronisation of the drive train with the hydraulic system, drawbar pull and gradeability is much higher.

Safety

Operator Sensing System (OSS)

- The truck will not move without an operator in the seat.
- The lift and Lower function is disabled if the operator is not in the seat.
- The tilt function will be locked if no operator is in the seat.
- An alarm will sound if operator leaves the seat without applying parking brake.
- A seat belt warning light on dashboard reminds the operator to fasten his seat belt.

Well-tested load-sensing hydraulic system

All Doosan models are equipped with a proven load-sensing hydraulic system which provides increased fuel efficiency and better overall performance.

Meets Emission Regulation (Tier IV & Stage IV) with SCR + DOC System

Extended SCR cleaning interval means increased uptime and reduced servicing cost. No ash cleaning or any changing needed.



Greater durability and easier maintenance.

Doosan guarantees the highest quality of engines and its components, because we use our own engines, which also means we guarantee the best supply of spare parts at the most competitive prices.

Robust chassis design and heavy duty build quality ensure Doosan's 7-series is tough enough for any application.

Maintenance-free Oil-cooled Disc Brake system ensures maximum up-time, less damage, no maintenance and zero costs for you.



New Air Cleaner

The increased capacity of the Dual Element Air Filter makes the new 7-series more durable. The integrated MAF sensor (Mass Air Flow) provides exact monitoring for optimal fuel efficiency.



Anti Slip Step Plate

Increase safety when the operator enters the forklift, especially in snowy or rainy weather.



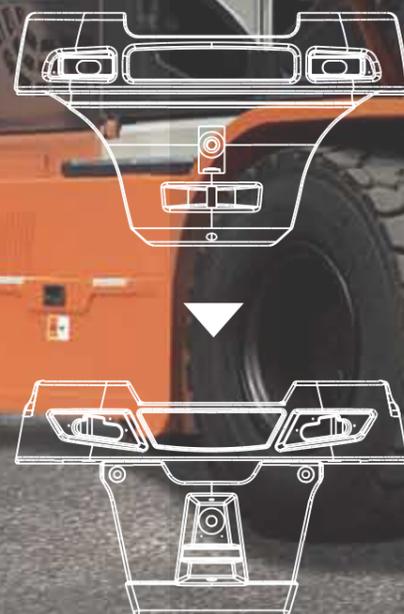
Easy to service

Wide hood opening range and automatic tiltable operator cell for the best accessibility.



Counterweight

Increased radiator capacity by improved inside air flow. It shows the identity of Doosan 7 Series IC truck by dynamic concept design.



Oil-Cooled Disc Brakes (ODB)

Oil cooled disc brakes are standard included on all 7-Series. This enclosed Brake system eliminates outside contamination, significantly extending brake life and decreasing maintenance costs. Oil cooled disc brakes have a 5 times longer service interval than conventional shoe brakes, and are virtually maintenance free.



Cooling Fan driven by Hydraulic Motor

A large capacity cooling fan driven by a remote hydraulic motor effectively manages operating temperatures, to minimize engine wear and maximize engine efficiency.

Fan speed changes according to the acceleration, for optimal cooling capacity and minimum energy loss.



Instrument Panel

Engine coolant temperature, transmission oil temperature, speed meter, fuel level gauge and hour meter keeps the operator aware of the machine's working conditions.

Engine oil pressure, alternator voltage, water separator gauge and pre-heater illuminates to alert operator to any problem.



Rugged Front End Design

Rugged front end design and heavy duty build quality ensure that it is tough enough for any application.

- J-Hook mounting : Stronger, easier to remove mast for service.

- Six Roller Carriage : Superior strength and durability for wider and longer loads.

- Nested Rails : Reduced width providing better visibility, silent staging, and additional strength.

High powered, fuel efficient performance.

Powerful and delivering excellent fuel efficiency, Doosan's DLo6P and DLo8P electronic controlled engines, combined with already proven transmission and oil-cooled disc brakes (ODB) provide excellent levels of productivity, durability and value for money.



Doosan DLo6P Engine

The new Doosan DLo6P 5.9 Litre diesel engine provides excellent performance. The powerful Doosan engine provides high torque at low rpm or at low engine speed, reduces fuel consumption, and meets Euro Stage IV Regulations.



Doosan DLo8P Engine

Doosan 7.6 litre Diesel Engine offers high power output and high torque, moreover maintains the highest level of performance for the most challenging conditions in the most challenging applications.

- **Advanced fuel injection system :** The advanced fuel injection system enables accurate fuel injection control thanks to its high pressure of the common rail. This unique technology of Doosan 7.6 liter Diesel Engine improves performance and fuel efficiency, while reducing emissions, noise and vibration.
- **Variable Geometry Turbocharger (VGT):** Designed to allow the effective aspect ratio of the turbo to be altered as conditions change. By altering the geometry of the turbine housing as the engine accelerates, the turbo's aspect ratio can be maintained at its optimum. Because of this, VGT has a minimal amount of lag, has a low boost threshold, and is very efficient at higher engine speeds.

Category	Unit	Doosan
Model	-	D160S-7
Engine	-	Doosan DLo6P
Rated output	kW / rpm	128.8 / 2,100
Max. torque	Nm / rpm	725.9 / 1,400
Displacement	cc	5,890

Category	Unit	Doosan	Doosan
Model	-	DV180S-7	DV250S-7
Engine	-	Doosan DLo8P	
Rated Output	kW/rpm	183.7 / 2,100	213.3 / 2,100
Max. Torque	Nm/rpm	1,157 / 1,300	1,236 / 1,300
Displacement	cc	7,640	



What is the EEA?

The European Environment Agency (EEA) is the department of the European Union that is responsible for writing and enforcing regulations based on laws to protect human health and the environment.

Directive 1999/94/EC requires the reduction of emissions, especially Particulate Matter (PM) and Nitrogen Oxides (NOx), in non-road diesel engine vehicles.

The different stages of the directive are based on engine power and are designed to phase in the new levels of requirements: Euro Stage IV.

The American counterpart of EEA is the Environment Protection Agency (EPA), responsible for Tier IV emission requirements.

Diesel Off-Highway Emissions Evolution

Euro Stage IV comes in to effect from 2015 for over 56kW engines.

For the implementation of regulations PM and NOx should be reduced by 90% compared to EPA Tier III/ EU Stage IIIA.

Doosan's green technology to meet Euro Stage IV emissions regulations

- Exhaust Gas Recirculation (EGR)
- Diesel Oxidation Catalyst (DOC) : Oxidizing HC, CO, SOF and Converting NO into NO₂
- Selective Catalyst Reduction (SCR) : Reducing NOx
- Diesel Exhaust Fluid (DEF) : At high temperatures AdBlue®/DEF turns into ammonia and carbon dioxide. When the nitrogen oxides react inside the catalyst with the ammonia, the harmful NOx molecules are transformed into harmless nitrogen (N₂) and water (H₂O).

Eco-friendly and more...

Doosan's unique and innovative Ultra-Low Particulate Matter Combustion system using Selective Catalytic Reduction (SCR) and Diesel Oxidation Catalyst (DOC) is the most modern and reliable system to comply to all emission regulations.

No Diesel Particulate Filter (DPF) and fully extended SCR cleaning interval means maximum up-time and minimum maintenance cost.

Doosan implements the regulations and emissions standards to protect the environment for the future of the earth.

	2008	2009	2010	2011	2012	2013	2014	2015
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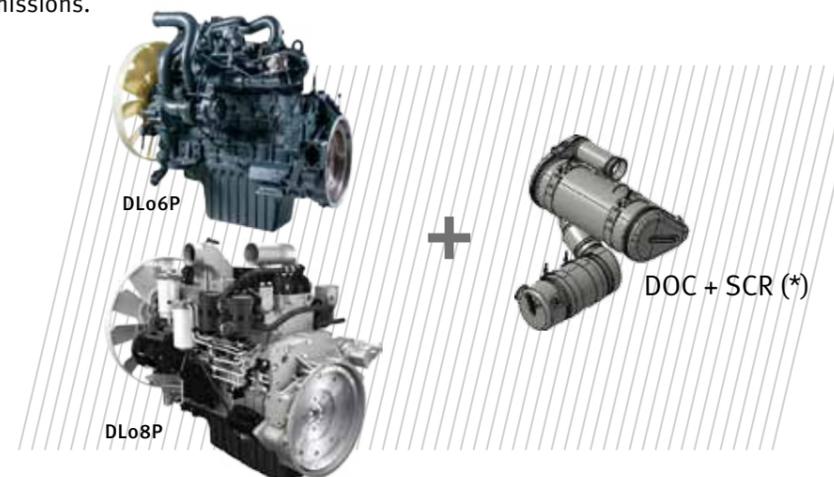
Europe	19≤kW<37	Stage IIIA [7.5]/0.6							
	37≤kW<56	Stage IIIA [4.7]/0.4					Stage IIIB [4.7]/0.025		
	56≤kW<75	Stage IIIA [4.0]/0.3				Stage IIIB 3.3/0.19/0.025			Stage IV 0.4/0.19/0.25
	75≤kW<130	Stage IIIA [4.0]/0.2			Stage IIIB [2.0]/0.025				
	130≤kW<560								

[NOx+HC] PM
NOx/HC/PM

After Treatment System

Thanks to low fuel consumption and an excellent after treatment system, the engine complies to Euro Stage IV and Tier IV emission regulation, whilst offering high performance.

- Through the combination of a highly efficient Exhaust Gas Reduction (EGR) system, Diesel Oxidation Catalyst (DOC) and Selective Catalyst Reduction (SCR), we are able to reduce exhaust emissions to their lowest levels ever.
- SCR System : Technology that uses a Diesel Exhaust Fluid (DEF) and a catalytic converter to significantly reduce NOx emissions.



* Need SCR cleaning Process every 150hrs / SCR cleaning is available anytime with the push of a button.

New Zeus Cabin, Great Comfort and Productivity

The New Zeus Cabin provides not only great comfort to the operator, but also higher productivity with ergonomically design features. Doosan guarantees the highest quality of Cabins and its components.



Ergonomic Design

- All switches are positioned for optimal operator's convenience.
- Extremely comfortable suspension seat.
- Ergonomic parking lever position at the left side of seat.

Spacious Leg Room and Operator Comfort

- The neat and wide-open floorboard provides operator with plenty of leg space to make entry and exit a breeze.
- Low noise level and low vibration level.
- Telescopic Steering Column : Infinitely adjusts to a wide range for operators of all sizes.

Wide Visibility

- Centered seat for better visibility.
- Wide visibility without distortion.



5" Full Color LCD Display

DEF warning, DEF level gauge, SCR cleaning request, SCR cleaning inhibit, Engine RPM and Engine check lamp keeps the operator aware of machine's operating and maintenance conditions.



Convenience Package

Deck mounted control valve levers simplify hydraulic actuation. Convenience tray keeps paperwork and supplies organized and handy.



Other Features

- Heater
- Air Conditioner
- Panoramic Mirror
- CD or MP3 Player
- Rear View Camera
- Defroster Fan
- Rear Grab Bar with Horn
- Siren & Microphone
- Air Compressor



Proven Quality, Service and A Reliable Partner.

You will receive the best after-sales service from your authorized local or national factory-trained dealer, backed by Doosan's own customer service center.

Doosan provides a 100% parts inventory, to ensure downtime is kept to a strict minimum.

When you own a Doosan forklift, our high quality, responsive customer support team comes with it.

The Doosan network starts with your local dealer and ends with a national team of highly qualified and experienced personnel standing ready to support all your material handling needs.



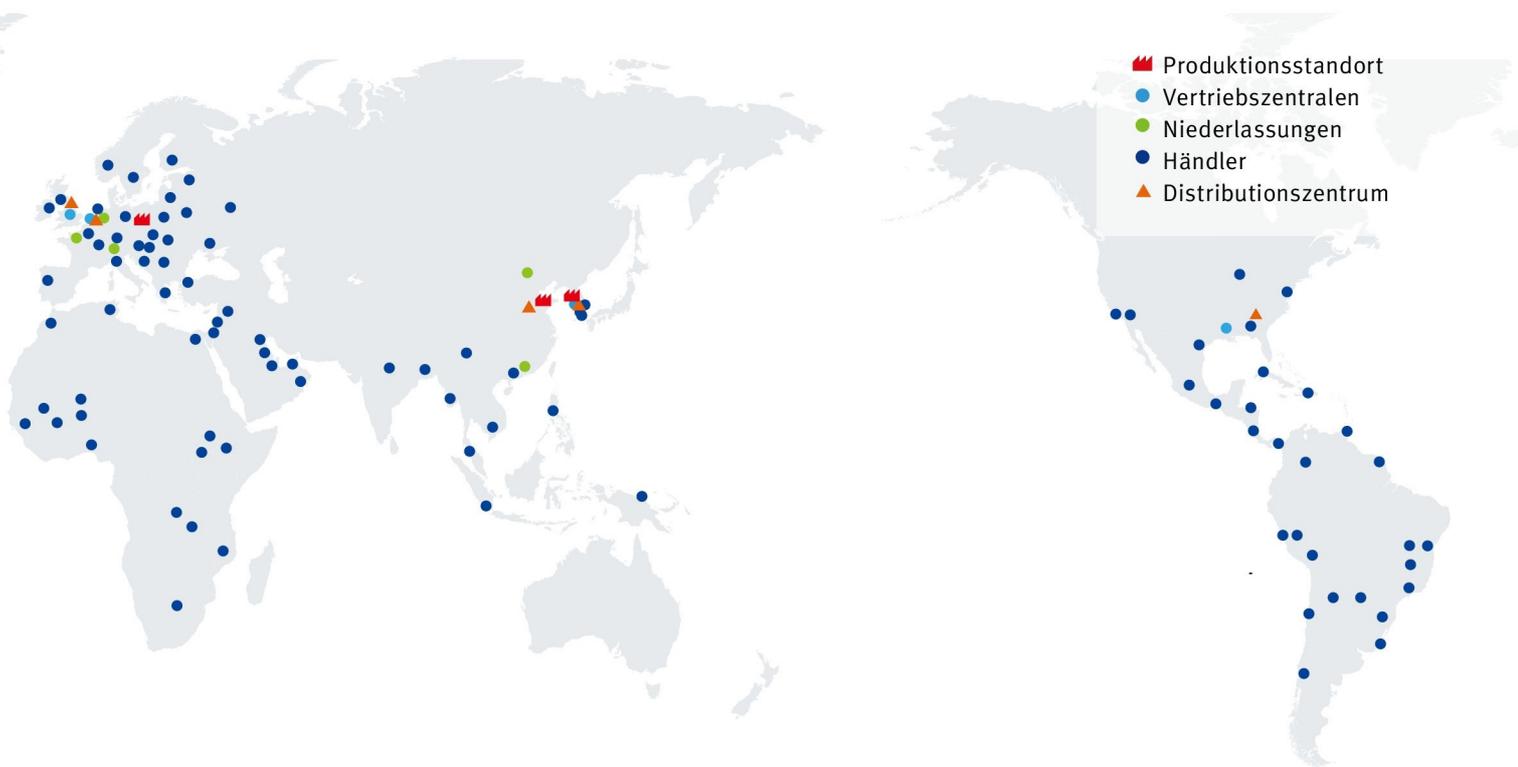
Main Specifications		D100S-7	D120S-7	D140S-7	D160S-7	DV180S-7	DV250S-7
Capacity	kg	10,000	12,000	14,000	16,000	18,000	25,000
Load Center	mm	600	600	600	600	1,200	1,200
Wheel Base	mm	3,000	3,000	3,250	3,250	3,750	4,250
Turning Radius	mm	4,290	4,290	4,620	4,620	5,120	5,950
Load Moment Center	mm	755	770	815	815	1,000	1,120
Travel speed (loaded/unloaded)	km/h	34 / 37	33 / 36	26 / 30	25 / 29	39 / 42	37 / 40
Lift speed (loaded/unloaded)	mm/s	410 / 470	400 / 470	370 / 430	360 / 430	380 / 410	310 / 340
Lowering speed (loaded/unloaded)	mm/s	430 / 410	430 / 410	430 / 410	430 / 410	400 / 350	400 / 350
Max. Gradeability (at 1.6km/h, loaded)	%	42	36	36	32	35.6	36.0
Max. Drawbar Pull (loaded)	Kgf	9,430	9,350	10,590	10,520	15,399	23,516

Standard features and options

- not available
- option
- standard

	D100/120/140/160S-7	DV180/250S-7
Safety		
Directional Lever Function	●	●
Operator Sensing System	●	●
Anti Clinching Type Orange Seat Belt	●	●
Autoshift Controller	●	●
Emergency Switch	●	●
Panoramic Rear View Mirror	●	●
Combination Lamps	●	●
Back-up buzzer	●	●
Weight Scale	○	○
Siren and Microphone	○	○
Rear View Camera	○	-
Rear View Camera (with Steer tire angle)	○	○
Strobe Light (Amber / Red)	○	○
Ground Speed Control	○	○
Productivity		
Electronic Controlled TCI (Turbo Charged Intercooler) Doosan Engines	●	●
Pedal Location (Accelerator, Brake and Inching)	●	●
All in one electronic Brake and Inching Pedal	●	●
Rear Grab Bar (with Horn)	●	●
Additional 2 Front Lights on Mast	○	-
Additional 1 Rear Light on Counterweight	○	-
2 Front LED lights on Mast (only on DV180S-7)	-	●
4 Front LED lights on Mast (only on DV250S-7)	-	●
2 Rear Lights on Counterweight	-	○
Engine Block Heater	○	-
Comfort		
Telescopic Steering column	●	●
Integrated Instrument Panel	●	●
Suspension Seat with Heat Rays	●	●
Steering Wheel Knob	●	●
Overhead Guard	●	●
Easy to Service		
- Integrated Electric Components (Relays and Fuses)	●	●
- Automatic Tilttable Operator Compartment	●	●
- Wide Hood Open Range	●	●
Full Cabin (ZEUS)		
- Wide Front and Rear View	○	○
- Low noise & Low Vibration Level	○	○
- Automatic Tilttable	○	○
- Front, Rear & Top Wiper	○	○
- CD & MP3 Player	○	○
- Sun Visor	○	○
Heater	○	○
Air Conditioner	○	○
Air Compressor	○	○
Additional Sound Suppression (only DV180S-7)	-	○
Durability		
Waterproof connectors	●	●
Dual Element Air Cleaner	●	●
Pre-Cleaner	●	●
Rigid Driveaxle (with ODB)	●	●
Autoshift Transmission	●	●
Environment		
Emission Regulation (Euro Stage IV)	●	●
ISO 9001 / ISO 14001	●	●
Homologation		
CE	●	●

* Other options are also available. Please ask your local Doosan representative for more details.
Remark: This list is based on factory data. Standard or optional options can vary for specific countries.



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