

## **7 Series Forklifts**

## Pneumatic Diesel 6 to 9 ton Series

**EPA Tier IV / 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

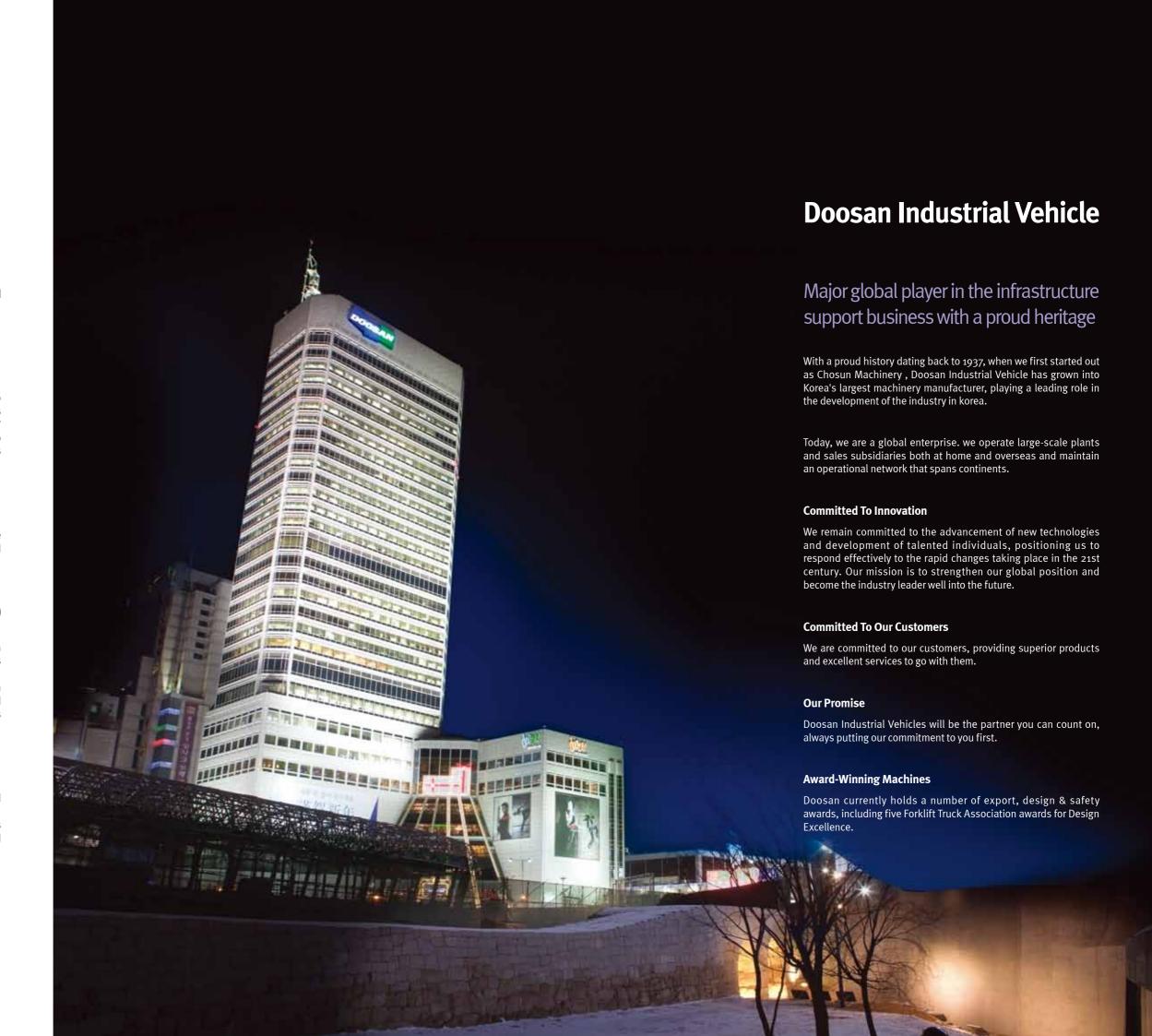
Doosan has created in excess of 90% of its sales within the ISB sector through vigorous reorganization of its business portfolio since 1998.

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.



## **7 Series Highlights**

- Meets and exceeds all EPA Tier IV and Euro Stage IV emission regulations by Diesel Oxidation Catalyst (DOC) and SCR (Selective Catalytic Reduction).
- Superb Performance and high power output thanks to the new generation of Doosan's own G2 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.



## Well proven and reliable Doosan G2 engines and components

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

## Doosan multi-engine performance mapping system

Doosan offers 3 performance engine maps, which gives you Doosan offers 3 performance Eco mode and Drive mode.
Eco mode limits engine performance, but can reduce the fuel consumption by approximately 5%.
Drive mode increases the Maximum travel speed so that the truck will

provide higher productivity.

## Well-tested load-sensing hydraulic system

All Doosan 7-Series with a G2 engine are equipped with a proven Load-sensing hydraulic system which provides increased fuel efficiency and better overall performance.

#### 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 ability.

#### Safety

OSS (Operator Sensing System)

- •Truck will not move without an operator in the seat.
- Lift and Lower function disabled if the operator is not in the seat.
- •Tilt function will be locked if no operator is in the seat.
- Alarm will sound if operator leaves the seat without applying parking brake.
- Seat belt warning light on dashboard to remind operator to fasten seat belt.

#### Meet 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.



6 to 9 Ton Series

# Greater durability and easier maintenance.

Doosan can guarantee the highest quality of engines and its components, because we use our own engines, which also means we can also 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.







## High Powered, Fuel efficient performance.

Powerful and delivering excellent fuel efficiency,

Doosan's D34 electronic controlled engine, combined with already proven transmission and oil-cooled disc brakes (ODB) provide excellent levels of productivity, durability and value for money.





#### **After Treatment System**

- ULPC (Ultra Low Particulate Matter Combustion): Doosan's own system which optimizes combustion characteristics. > Optimizing piston bowl, injector and cylinder head swirl to use air as much as possible for reducing PM.
- SCR System : Technology that uses a Diesel Exhaust Fluid (DEF) and a catalytic converter to significantly reduce NOx emissions.
- \* Need SCR cleaning Process every 200hrs / SCR cleaning is available anytime with its switch operation.



#### **ENGINE PERFORMANCE**

The new Doosan D34 3.4 Litre diesel engine provides excellent performance.

Torque [Nm]

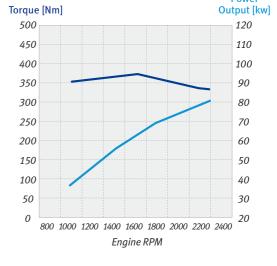
The powerful Doosan engine provides high torque at low rpm or at low engine speed, reduces fuel consumption, and meets Tier IV / Stage IV Regulation

500
450

- D<sub>34</sub> Tier IV/Stage IV Electronic Controlled ENGINE
- 4 cylinders, 4 cycles, 3,409 cc
- High torque at low rpm.: 375 Nm @1,600 rpm

Category	Unit	Doosan	
Model	-	D70S-7	
Engine	-	Doosan D34(G2)	
Rated output	kw / rpm	80.9 / 2,300 375 / 1,600	
Max. torque	N.m / rpm		
Displacement	СС	3,409	

#### PERFORMANCES



## 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.

#### 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**

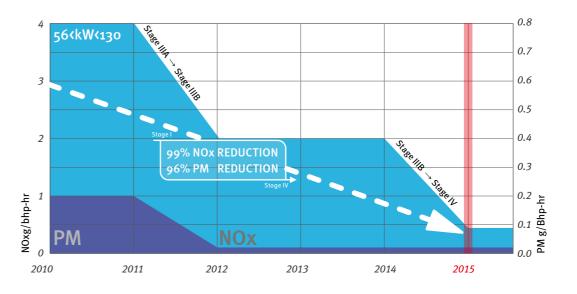
EPA Tier IV & EU Stage IV come in to effect from 2015 for over 56kW engine

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

#### Doosan's green technology to meet Tier IV(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): Helping reduce Ammonia





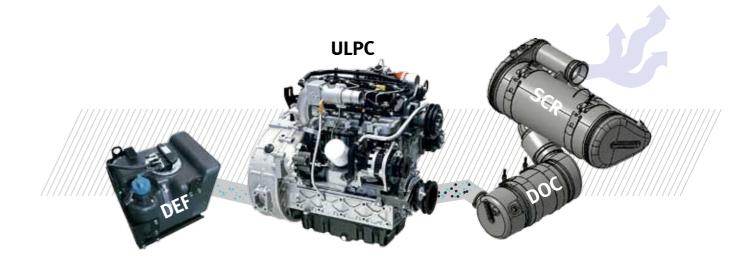
#### PM Effects

- adverse health effects in the form of respiratory issues.

- reduced visibility/smog in urban areas

#### NOx Effects

- Forms acid rain
- Contributes to Global Warming - Hampers the growth of plants
- Produces ground-level smog



## **New Zeus Cabin, Great Comfort and Productivity**

The new Zeus Cabin provides to the operator not only great comfort, but also higher productivity with ergonomically design features.

Doosan can guarantee 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 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.



#### **Various Options**

- Heater
- Air Conditioner
- Panoramic Mirror
- CD or MP<sub>3</sub> Player
- Rear View Camera
- Defroster Fan





# 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 insure any downtime is minimized.

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.

## Standard features and Option Availability

Safety	Standard	Option
Direction Lever Function	<b>O</b>	
Mast Lowering Interlock	<b>O</b>	
Operation Sensing System	•	
ELR Type Orange Seat Belt	<u> </u>	
Autoshift Controller	 ⊙(3speed)	<b>⊙</b> (2speed)
Combination Lamps (LED)	- (p)	<u> </u>
Weight Scale		<u> </u>
Tilt Anti-Surging		<u> </u>
Emergency Switch		<u> </u>
Panoramic Rear View Mirror		<u> </u>
		<u> </u>
Rear View Camera		
Strobe Light (Amber / Red)		<u> </u>
Back-up buzzer		<u> </u>
Ground Speed Control		<u> </u>
Productivity	Standard	Option
Electric Controlled TCI (Turbo Charged Intercooler) Doosan Engines	0	THE RESERVE TO SERVE THE PARTY OF THE PARTY
Pedal Location (Accelerator, Brake and Inching)	0	THE PARTY OF THE P
Inching Pedal	•	
Heavy Duty Cooling (Hydraulic/Driveaxle/Transmission)	THE STATE OF THE S	0
Comfort	Standard	Option
Additional Thermostat for Transmission Oil		THE PARTY OF THE P
Integrated Instrument Panel / 5" Color LCD Display	•	A CONTRACTOR OF THE PARTY OF TH
Easy to Service	0	
- Integrated Electric Components (Relays and Fuses)	The state of the s	
- Wide Hood Open Range	1	
Full Cabin (ZEUS) with Heater or Airconditioner	A SEE	<b>O</b>
Suspension Seat		<b>O</b>
Sound Suppression		<b>O</b>
Steering Wheel Knob		<b>O</b>
Durability	Standard	Option
Electronic Control Units (ECU) Cover	<u> </u>	
Use waterproof connectors	<u></u>	
Dual Element Air Cleaner	<u> </u>	
Rigid Driveaxle (with ODB)	<u> </u>	
Radiator Screen		<u> </u>
Pre-Cleaner		<u> </u>
Environment	Standard	Option
Emission Regulation (EPA Tier IV and Euro Stage IIIB)	Stalldard	Орион
	<u> </u>	
Ultra Low PM Conbustion (ULPC) System (with DOC)		
ISO 9001 / ISO 14001	0	
ISO 9001 / ISO 14001 2 Operation Modes (STD / ECO Mode)	•	
ISO 9001 / ISO 14001		<b>Option ⊙</b>

<sup>\*</sup> 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.