



www.doosan-iv.com

7 Series Forklifts

Pneumatic Diesel 10 to 16 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

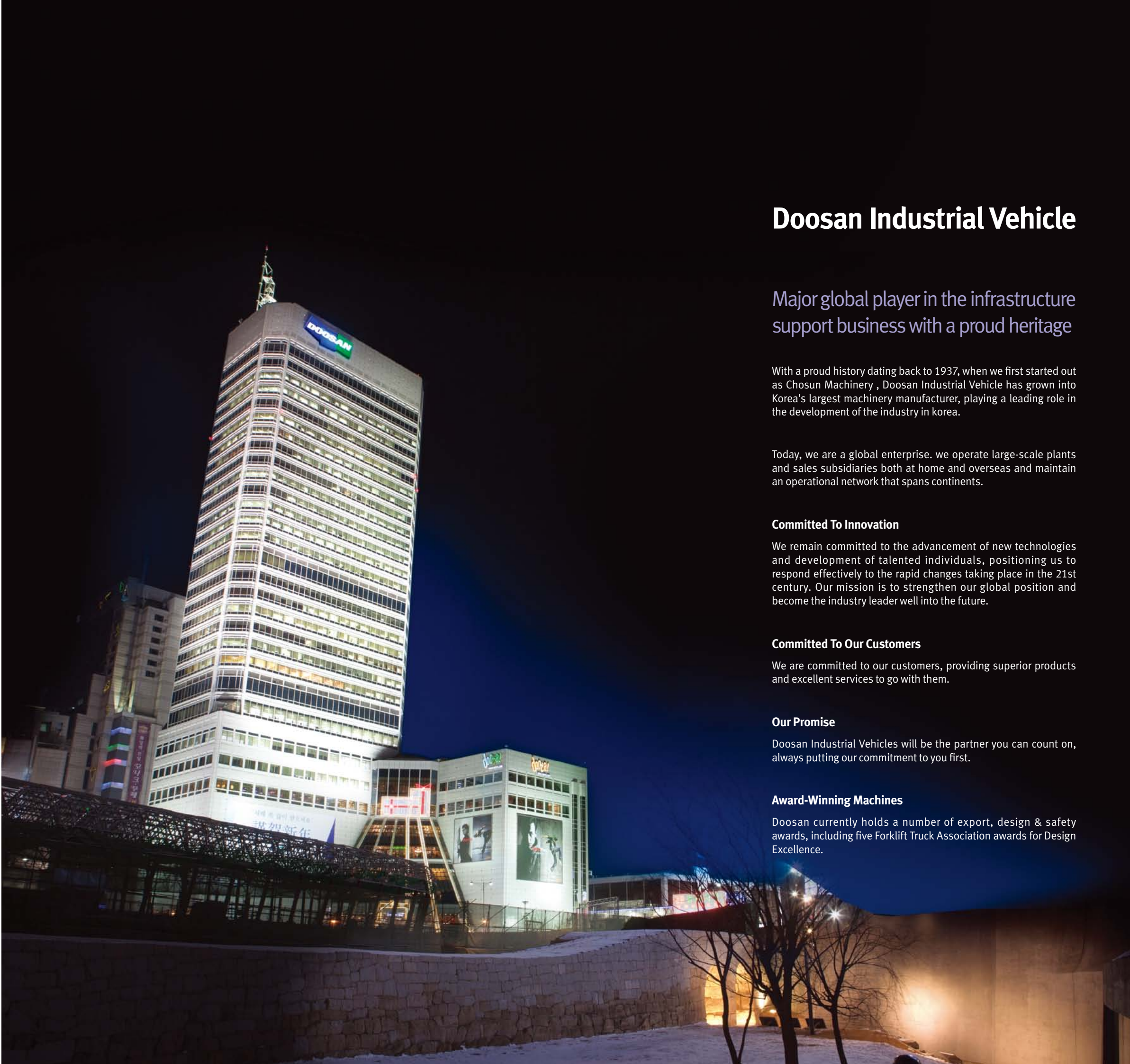
Doosan has recorded the longest business history since its inauguration in 1896, but has grown at its most rapid pace for the past 10 years.

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.



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 Vehicles 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..

- 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 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 DL06P 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).

Provide Great Productivity

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

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.

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.

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.



Greater durability
and easier
maintenance.

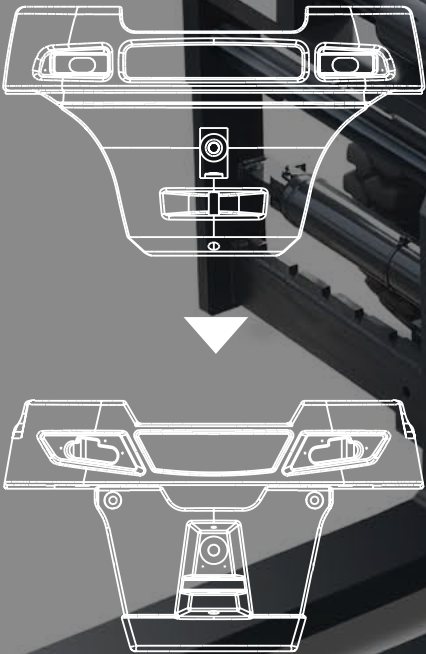
Doosan guarantees the highest quality of engines and its components, because we use our own engines, which also means we guarantee the best supply of spare parts at the most competitive prices.

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.

Counterweight

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



New Air Cleaner

The increased capacity of the Dual-Element Air Filters makes the new 7-series more durable. The integrated MAF sensor (Mass Air Flow) provides exact monitoring and is easy to access.



Anti Slip Step Plate

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



Easy to access

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



Oil- Cooled Disc Brakes (ODB)

Oil cooled disc brakes are available as a standard on all D160S-7 Series. This enclosed Brake system eliminates outside contamination, significantly extending brake life and decreasing maintenance cost. Oil cooled disc brakes have service interval 5 times longer than conventional shoe brakes, and are virtually maintenance free.



Hydraulic Motor Driven Remote type Cooling Fan

A large capacity cooling fan driven by a remote hydraulic motor effectively manages operating temperatures, to minimize engine wear and maximal engine efficiency. Fan speed changes according to acceleration, for maximum 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 D160S-7 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 added strength.

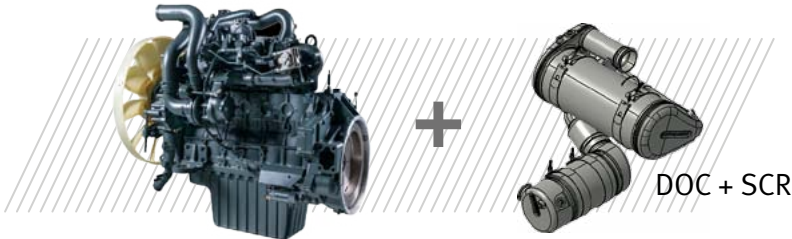
High Powered, Fuel efficient performance.

Powerful and delivering excellent fuel efficiency, Doosan's DL06P 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

- Thanks to low fuel consumption and an excellent after treatment system, the engine complies 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 Oxydation 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.



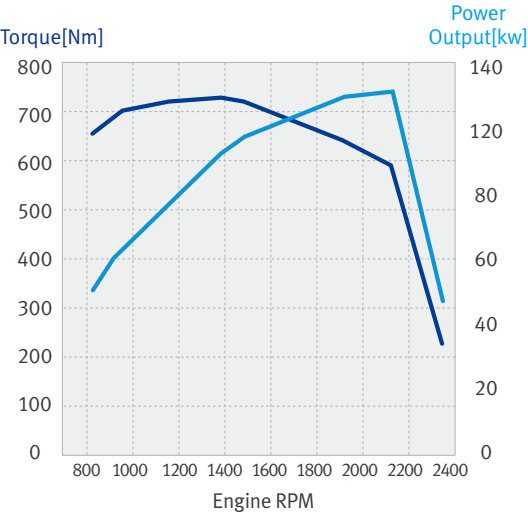
ENGINE PERFORMANCE

The new Doosan DL06P 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 Tier IV / Stage IV Regulation

- D34 Tier IV/Stage IV Electronic Controlled ENGINE
- 6 cylinders, 4 cycles, 5,890 cc
- High torque at low rpm. : 725.7 Nm @1,400 rpm

Category	Unit	Doosan
Model	-	D160S-7
Engine	-	DL06P
Rated output	ps(kw) / rpm	175(128.7) / 2,100
Max. torque	N.m / rpm	725.7 / 1,400
Displacement	cc	5,890

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 EPA?

The Environment Protection Agency 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.

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

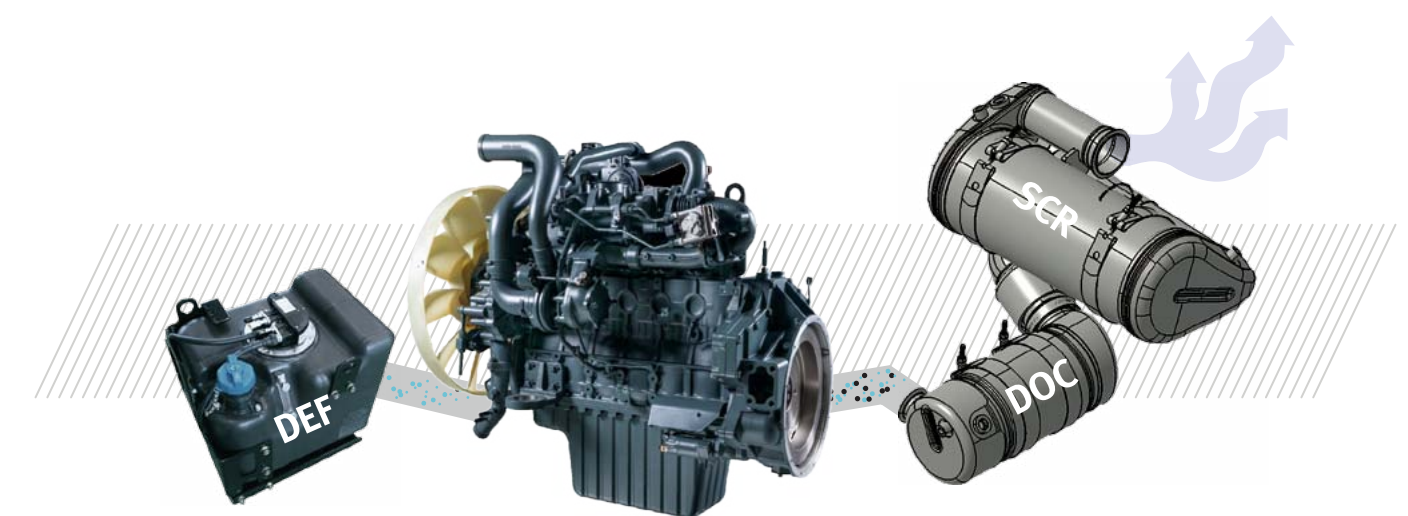
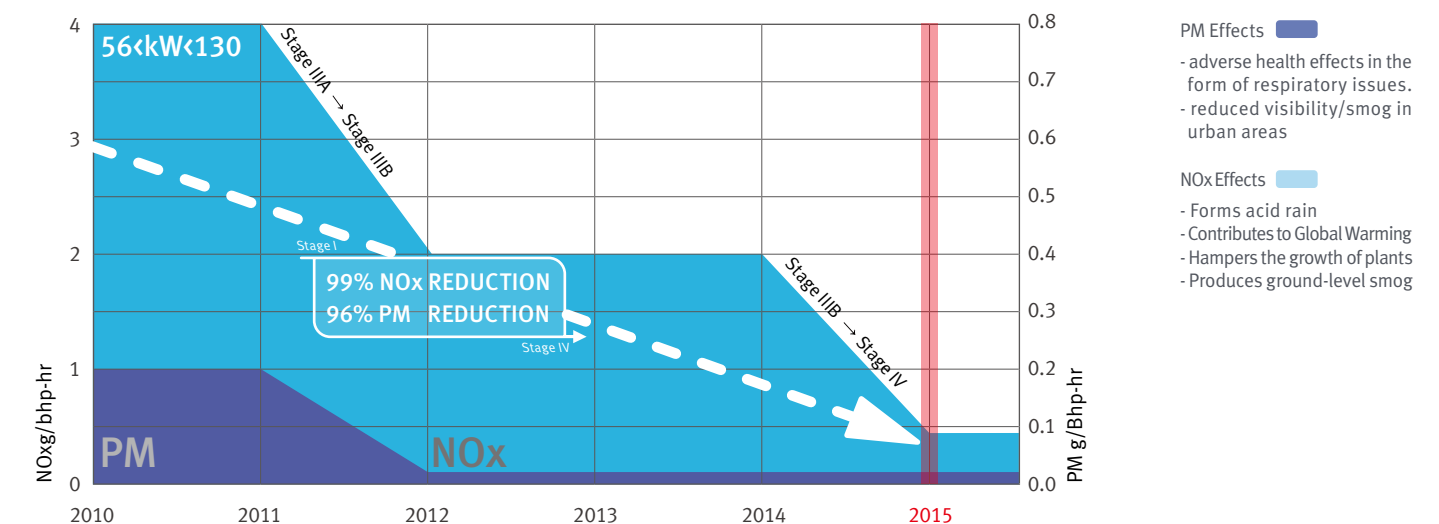
EPA Tier IV & EU Stage IV come in to effect from 2015 for over 56kW engine
For the implementation of regulations PM and NOx should be reduced by 90% compare to EPA Tier III / EU Stage IIIA.

Doosan's green technology to meet Tier IV(Stage IV) emissions regulations

- Exhaust Gas Reduction (EGR)
- Diesel Oxidation Catalysts (DOC) : Oxidizing HC, CO, SOF and Converting NO into NO₂
- Selective Catalyst Reduction (SCR) : Reducing Nox
- Diesel Exhaust Fluid(DEF) : Helping reduce Ammonia

7 Series Forklifts

10 to 16 Ton Series



New Zeus Cabin, Great Comfort and Productivity

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

Doosan guarantees the highest quality of Cabin 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. (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.



Other Features

- Heater
- Air Conditioner
- Panoramic Mirror
- CD or MP3 Player
- Rear View Camera
- Defrost 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.

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

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

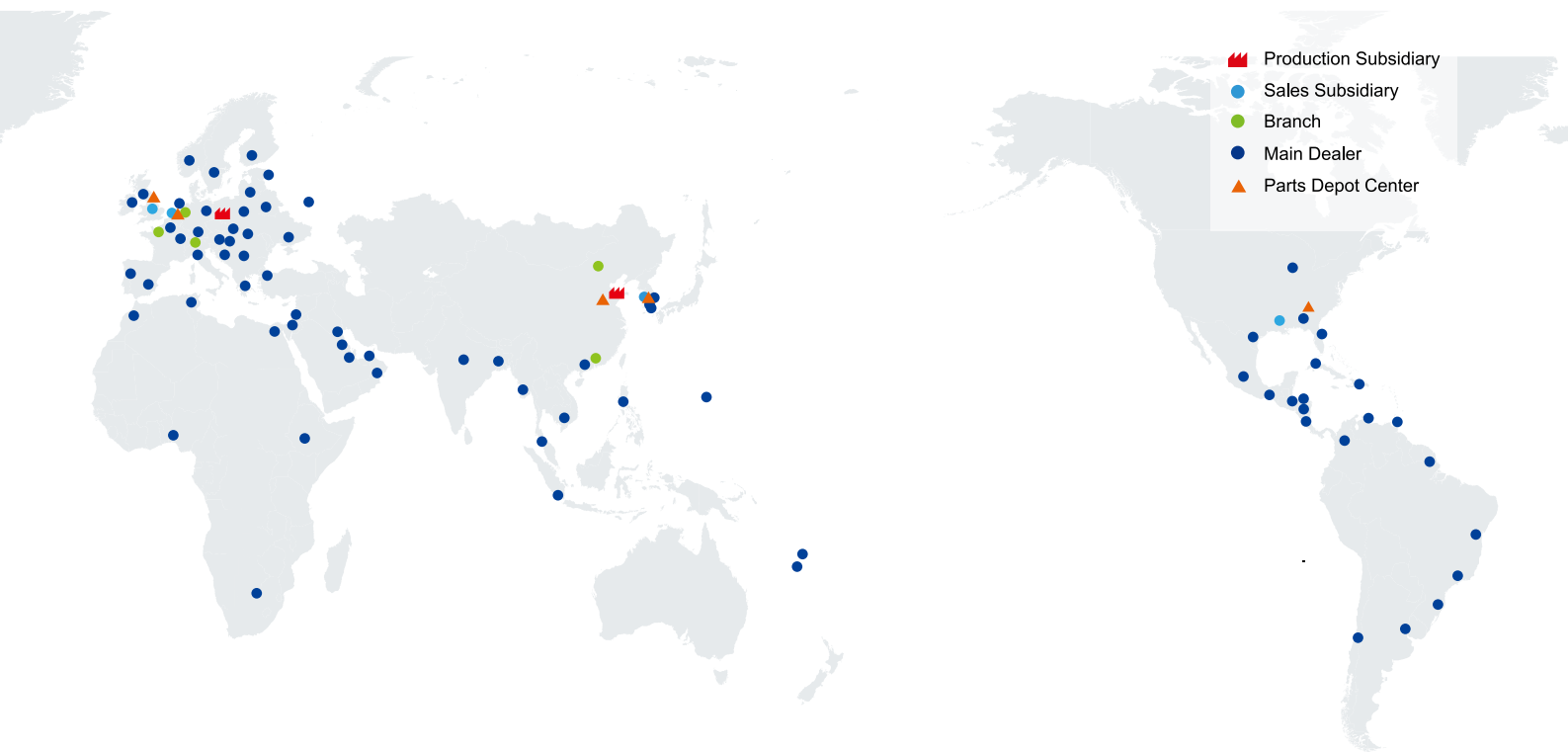
The Doosan network starts with your local dealer and ends with a national team of highly qualified and experienced personnel standing ready to support all your material handling needs.



Standard features and Option Availability

Safety	Standard	Option
Direction Lever Function	⦿	
Operation Sensing System	⦿	
Anti Cinching 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(w/ Steer tire anle)		⦿
Strobe Light(Amber / Red)		⦿
Ground Speed Control		⦿
Productivity	Standard	Option
Electric Controlled TCI(Turbo Charged Intercooler) Doosan Engines	⦿	
Pedal Location(Accelerator, Brake and Inching)	⦿	
All in one electronic Brake and Inching Pedal	⦿	
Rear Grab Bar(w/ Horn)	⦿	
Additional 2 Front Lights on Mast		⦿
Additional 1 Rear Lights on Counterweight		⦿
Engine Block Heater		⦿
Comfort	Standard	Option
Telescopic Steering column	⦿	
Integrated Instrument Panel	⦿	
Seat - Suspension w/ Heat Rays	⦿	
Steering Knob	⦿	
Overhead Guard	⦿	
Easy to Service	⦿	
- Integrated Electric Components(Relays and Fuses)		
- Automatic Tilttable OPC		
- 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 or Air Conditioner		⦿
Air Compressor		⦿
Durability	Standard	Option
Use waterproof connectors	⦿	
Dual Element Air Cleaner	⦿	
Pre-Cleaner	⦿	
Rigid Driveaxle(w/ ODB)	⦿	
Full Autoshift Transmission	⦿	
Environment	Standard	Option
Emission Regulation(Tier IV and Stage IV)	⦿	
ISO 9001 / ISO 14001	⦿	
Homologation	Standard	Option
UL		⦿
CE		⦿

* Other options are also available. Please ask your local Doosan representative for more details.



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AUTHORIZED DEALER



7 Series Forklifts

Pneumatic Diesel 10 to 16 ton Series

EPA Tier IV / Euro Stage IV



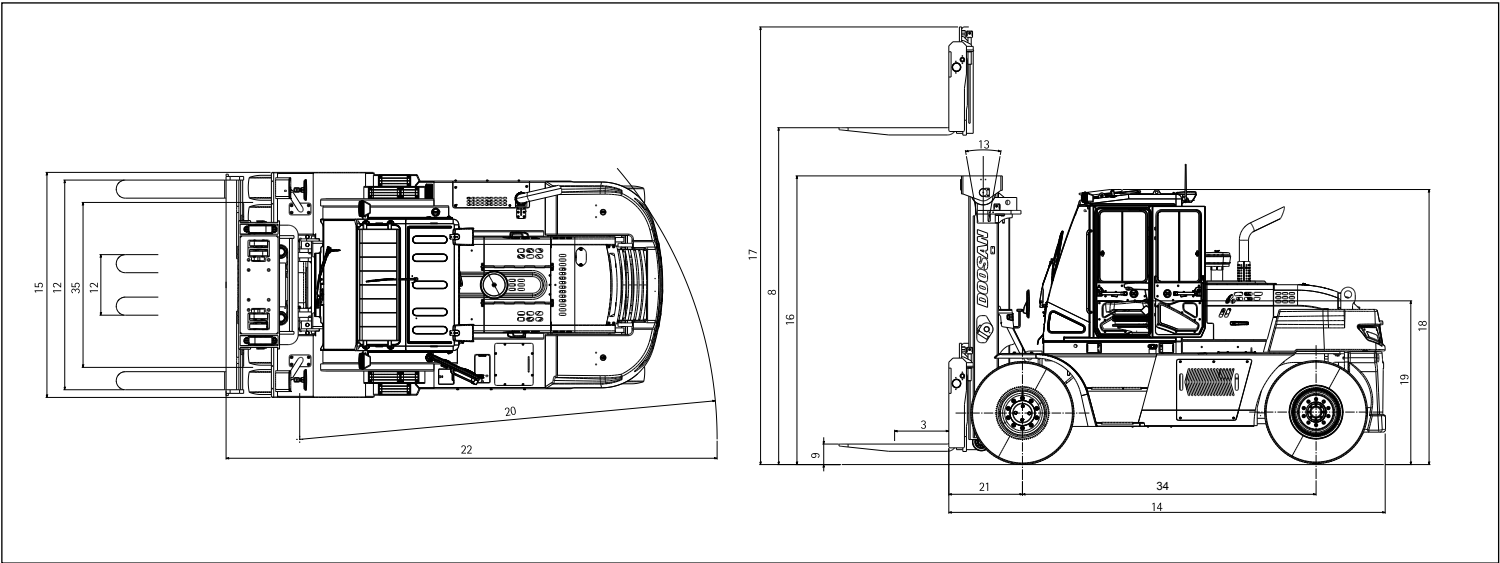
Lifting Your Dreams

GENERAL SPECIFICATION

CHARACTERISTICS				Tier IV / Stage IV			
1	Model			D100S-7	D120S-7	D140S-7	D160S-7
2	Capacity	at rated load center	kg	10000	12000	14000	16000
3	Load center	Distance	mm	600	600	600	600
4	Power type	Electric,Diesel,Gasoline,LP-Gas		Diesel	Diesel	Diesel	Diesel
5	Operator type	Stand-on, Rider-seated		Rider-seated	Rider-seated	Rider-seated	Rider-seated
6	Tire type	P=pneumatic, E=solid		P/E	P/E	P/E	P/E
7	Wheels(x=driven)	Number, front/rear		x4/2	x4/2	x4/2	x4/2
DIMENSIONS							
8	Maximum fork height	with STD 2-stage mast	mm	3000	3000	3100	3100
9	Free lift		mm	0	0	0	0
10	Fork carriage	ISO class		-	-	-	-
11	Forks	Thickness x Width x Length	mm	70x200x1350	80x200x1350	85x200x1350	85x200x1350
12		Fork spacing(min X Max)	mm	470x2140	470x2140	470x2290	470x2290
13	Tilt of mast	Forward / Backward	deg	15/12	15/12	15/12	15/12
14	Overall Dimensions	Length to forkface	mm	4490	4505	4830	4830
15		Width	mm	2350	2350	2490	2490
16		Mast lowered height	mm	2970	2970	3170	3170
17		Mast extended height	mm	4470	4470	4670	4670
18		Overhead guard height(Cabin)	mm	2890(2990)	2890(2990)	2950(3050)	2950(3050)
19		Seat height	mm	1455	1455	1526	1526
20	Minimum ouside Turning Radius		mm	4290	4290	4620	4620
21	Load moment constant		mm	755	770	815	815
22	90°stacking aisle (add load length and clearance)		mm	5045	5060	5435	5435
PERFORMANCE							
23	Speed	Ttravel, loaded/unloaded	km/h	34/37	33/36	26/30	25/29
24		Lift, loaded/unloaded	mm/s	410/470	400/470	370/430	360/430
25		Lowering, loaded/unloaded	mm/s	430/410	430/410	430/410	430/410
26	Drawbar pull	at 1.6 km/h, loaded	kg	9430	9350	10590	10520
27	Gradeability	at 1.6 km/h, loaded	%	42	36	36	32
WEIGHT				Full Cabin			
28	Total weight	Unloaded	kg	15190	16190	17995	18995
29	Axle load	with loaded, front/rear	kg	21985/3205	24960/3230	28630/3365	31525/3470
30		without loaded, front/rear	kg	7470/7720	7480/8710	8640/9355	8665/10330
CHASSIS							
31	Tires	Number of front/rear		4/2	4/2	4/2	4/2
32		Size, front		10.00X20-16PR	10.00X20-16PR	12.00X20-18PR	12.00X20-18PR
33		Size, rear		10.00X20-16PR	10.00X20-16PR	12.00X20-18PR	12.00X20-18PR
34	Wheel base		mm	3000	3000	3250	3250
35	Tread	Front/Rear	mm	1724/1860	1724/1860	1825/1910	1825/1910
36	Ground clearance	loaded, at the lowest point	mm	270	270	270	270
37		loaded, at center of wheelbase	mm	360	360	370	370
38	Brakes	Service brake		Disc	Disc	Disc	Disc
39		Parking brake		Rachet	Rachet	Rachet	Rachet
DRIVE							
40	Battery	Voltage/Capacity	V/AH	24/100	24/100	24/100	24/100
41	Engine	Manufacturer/Model		DI/DL06P	DI/DL06P	DI/DL06P	DI/DL06P
42		Rated output (at rpm)	ps/rpm	175/2100	175/2100	175/2100	175/2100
			kW/rpm	128.7/2100	128.7/2100	128.7/2100	128.7/2100
43		Max. Torque	Nm/ rpm	725.7/1400	725.7/1400	725.7/1400	725.7/1400
44		Cycle/Cylinders/Displacement	cc	4/6/5890	4/6/5890	4/6/5890	4/6/5890
45	Transmission	Type		Full Auto	Full Auto	Full Auto	Full Auto
46		No. speeds forward/reverse		3/3	3/3	3/3	3/3
47	Operating pressure	System/Attachment	bar	190/160	210/160	210/160	225/160

Note : Specification values quoted in this specification sheet has been rounded. Performance may vary due to operation conditions. Products and specifications are subject to improvement and change without prior notices.

DIMENSIONAL DRAWING



MAST SPECIFICATIONS and RATED CAPACITIES

D100S-7

Mast type	Maximum Fork Height		Maximum Lowered Height		Fully Extended Height		Free Lift		Rated Load Capacities			
									D100S-7			
					With Load Backrest		With Load Backrest		Tilt Angle		Load Capacities	
									Double Pneumatic		Double Pneumatic	
	mm	in	mm	in	mm	in	mm	in	deg	deg	kg	lb
STD	3000	118	2965	117	4465	176	0	0	15	12	10000	22000
	3500	138	3215	127	4965	195	0	0	15	12	10000	22000
	4000	157	3465	136	5465	215	0	0	15	12	10000	22000
	4500	177	3715	146	5965	235	0	0	15	12	10000	22000
	5000	197	4165	164	6665	262	0	0	15	12	10000	22000
	5500	217	4415	174	7165	282	0	0	15	12	10000	22000
	6000	236	4665	184	7665	302	0	0	15	12	10000	22000
FFT	4000	118	2815	111	5500	217	1385	55	15	10	10000	22000
	4500	138	2980	117	6000	236	1550	61	15	10	10000	22000
	5000	157	3145	124	6500	256	1720	68	15	10	10000	22000
	5500	217	3315	131	7000	276	1885	74	15	10	10000	22000
	6000	236	3480	137	7500	295	2050	81	15	10	10000	22000

D120S-7

Mast type	Maximum Fork Height		Maximum Lowered Height		Fully Extended Height		Free Lift		Rated Load Capacities			
									D120S-7			
					With Load Backrest		With Load Backrest		Tilt Angle		Load Capacities	
									Double Pneumatic		Double Pneumatic	
	mm	in	mm	in	mm	in	mm	in	deg	deg	kg	lb
STD	3000	118	2965	117	4465	176	0	0	15	12	12000	26450
	3500	138	3215	127	4965	195	0	0	15	12	12000	26450
	4000	157	3465	136	5465	215	0	0	15	12	12000	26450
	4500	177	3715	146	5965	235	0	0	15	12	12000	26450
	5000	197	4165	164	6665	262	0	0	15	12	12000	26450
	5500	217	4415	174	7165	282	0	0	15	12	12000	26450
	6000	236	4665	184	7665	302	0	0	15	12	12000	26450
FFT	4000	118	2815	111	5495	216	1400	55	15	10	12000	26450
	4500	138	2980	117	5995	236	1565	62	15	10	12000	26450
	5000	157	3145	124	6495	256	1735	68	15	10	12000	26450
	5500	217	3315	131	6995	275	1900	75	15	10	11800	25850
	6000	236	3480	137	7495	295	2065	81	15	10	11425	25850

Note : Mast Specifications & Rated Capacities are based on standard chassis with dual pneumatic tire and without side shifter.

D140S-7

Mast type	Maximum Fork Height		Maximum Lowered Height		Fully Extended Height		Free Lift		Rated Load Capacities			
									D140S-7			
					With Load Backrest		With Load Backrest		Tilt Angle		Load Capacities	
									Double Pneumatic		Double Pneumatic	
	mm	in	mm	in	mm	in	mm	in	FWD	BWD	LC600mm	LC24in
									deg	deg	kg	lb
STD	3000	118	3170	125	4670	184	0	0	15	12	14000	30850
	3500	138	3420	135	5170	204	0	0	15	12	14000	30850
	4000	157	3670	144	5670	223	0	0	15	12	14000	30850
	4500	177	3920	154	6170	243	0	0	15	12	14000	30850
	5000	197	4370	172	6870	270	0	0	15	12	14000	30850
	5500	217	4620	182	7370	290	0	0	15	12	14000	30850
	6000	236	4870	192	7870	310	0	0	15	12	13925	30500
FFT	3700	146	2930	115	5330	210	1380	54	15	8	14000	30850
	4000	157	3030	119	5630	222	1480	58	15	8	14000	30850
	4500	177	3195	126	6130	241	1645	65	15	8	13950	30550
	5000	197	3360	132	6630	261	1815	71	15	8	13525	29650
	5500	217	3530	139	7130	281	1980	78	15	8	13100	28700
	6000	236	3695	145	7630	300	2145	84	15	8	12675	27800

D160S-7

Mast type	Maximum Fork Height		Maximum Lowered Height		Fully Extended Height		Free Lift		Rated Load Capacities			
									D160S-7			
					With Load Backrest		With Load Backrest		Tilt Angle		Load Capacities	
									Double Pneumatic		Double Pneumatic	
	mm	in	mm	in	mm	in	mm	in	FWD	BWD	LC600mm	LC24in
									deg	deg	kg	lb
STD	3000	118	3170	125	4670	184	0	0	15	12	16000	36000
	3500	138	3420	135	5170	204	0	0	15	12	16000	36000
	4000	157	3670	144	5670	223	0	0	15	12	16000	36000
	4500	177	3920	154	6170	243	0	0	15	12	16000	36000
	5000	197	4370	172	6870	270	0	0	15	12	16000	36000
	5500	217	4620	182	7370	290	0	0	15	12	15950	34900
	6000	236	4870	192	7870	310	0	0	15	12	15475	33950
FFT	3700	146	2930	115	5330	210	1380	54	15	8	16000	35750
	4000	157	3030	119	5630	222	1480	58	15	8	16000	35100
	4500	177	3195	126	6130	241	1645	65	15	8	15525	34050
	5000	197	3360	132	6630	261	1815	71	15	8	15075	33000
	5500	217	3530	139	7130	281	1980	78	15	8	14600	31950
	6000	236	3695	145	7630	300	2145	84	15	8	14150	30950

Note : Mast Specifications & Rated Capacities are based on standard chassis with dual pneumatic tire and without side shifter.



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