

DOOSAN

Construction Equipment

DL300A

Engine Power	SAE J1995, gross 156 kW (209 HP) @ 2,100 rpm
Operational Weight	17,640 kg
Bucket Capacity (SAE)	2.7 ~ 6.0 m ³ (3.3 ~ 7.8 yd ³)



DOOSAN DL300A WHEEL LOADER :
**A POWERFUL WHEEL LOADER
WITH NOVEL FEATURES**

DL 300A

THE NEW DL300A WHEEL LOADER HAS ALL THE ADVANTAGES

The new DL300A wheel loader has all the advantages of the previous model, The key phrase used during the development of the DL300A was “giving optimum value to the end user.”

INCREASED PRODUCTION, due to the powerful 8 liter engine and the excellent synchronisation of the drive train with the hydraulics system

IMPROVED ERGONOMICS, increased comfort and excellent all round visibility ensuring safe and pleasant working conditions.

IMPROVED RELIABILITY, through the use of higher performance new materials, the development of new computer-assisted structural design techniques and by intensive and systematic test programs. All of these combine to increase the life of vital components and reduce operating costs.





PERFORMANCE & PRODUCTIVITY

DL300A

The DL300A is a machine that delivers a powerful, highly effective force, offering superior penetration of the hardest materials. The exceptional drawbar pull at the wheels, is reinforced further by providing limited-slip differentials as standard equipment. The engine offers high power and torque characteristics. As a result, the hydraulic system is able to multi-function with power and speed.



DOOSAN "DE08TIS" ENGINE



Doosan product gives high performance through in-house engine

Our many years of experience in engine design and production have resulted in the emergence of a highly efficient and very powerful engine that boasts the highest power in its class.

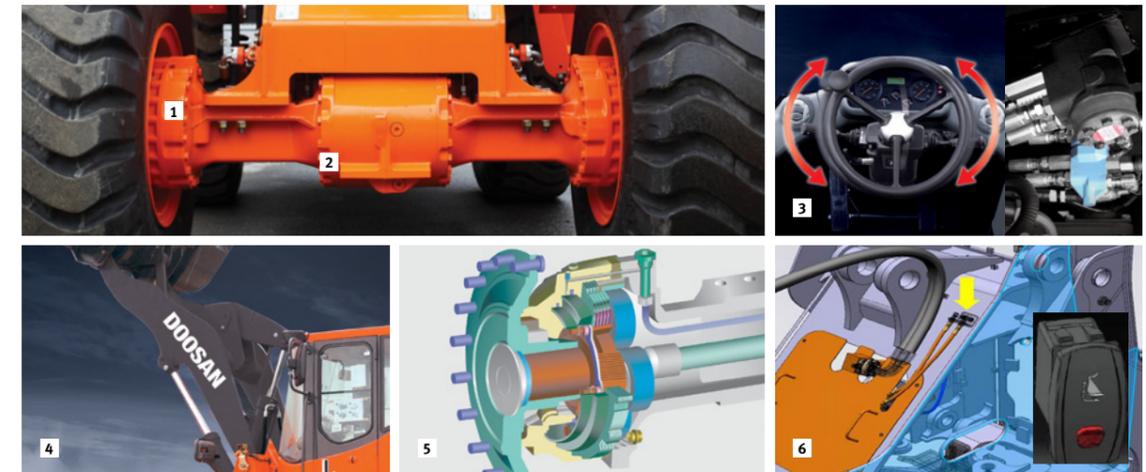
FULL AUTO TRANSMISSION



The electronic powershift transmission is particularly smooth and gear ratios perfectly spaced to give optimal speed. That gives comfort at the same time that it delivers excellent traction in every working conditions. Built-in electronic controls enhance productivity and durability.

The transmission has three modes of operation:

- Manual
- Automatic (automatic shift for all gears)
- Semi - Automatic (automatic with a "kick down" for first gear)



1 AXLE

Improved internal oil flow greatly reduced the temperature difference between the hub and the differential, as well as prevents premature disc wear due to overheating of the internal hub components.

2 LIMITED SLIP ZF DIFFERENTIAL

The standard equipment limited slip differential allows easy driving through soft and swampy grounds.

3 HYDRAULIC POWER STEERING

Works with a flow amplifier and priority valve. And the emergency steering system is equipped as an option to secure a safety against a malfunction of steering system during traveling.

4 HIGH LIFT (OPTIONAL)

As High Lift is equipped besides Standard Lift, customers have further options.

5 INCREASED AXLE DURABILITY

The brake discs have been repositioned to the rear part of the reduction gear where the rotation speed is lower. As a result, the discs are exposed to lower rpm's and heat generation is reduced and the life span of the discs is greatly extended. Automatic disc clearance regulator has been intergrated into the design and the disc clearance is maintained at the optimum level at all times as the discs wear out. These prevents any lag in brake response. Another convenient feature is that brake disc wear can easily be measured without disassembling the hub.

The brake piping has been redesigned into the axle housing and is protected from damage from external shock as the machine drives over rough terrain.

6 QUICK COUPLER PIPING (OPTIONAL)

Versatility improvement

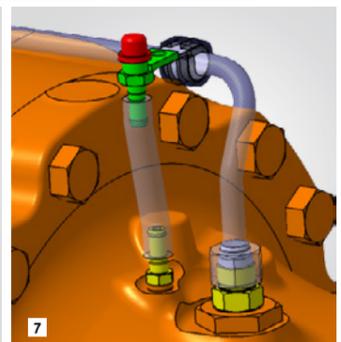
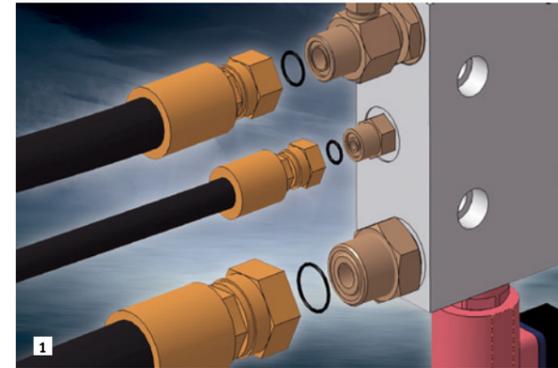
- Add piping, valve and switch for quick coupler
- Customer can use a quick coupler easily



DURABILITY & RELIABILITY

DL300A

Every morning, when the operators commence work, they know that things will go smoothly- because Doosan has taken care of it. The product is solid. Operators know that they have significant reserves at hand and that they won't have to push the machine to its limit. The Doosan DL300A wheel loader is designed and built to last. For Doosan, 'reliable' means availability, accessibility and simplicity.



1 ORFS-ALL PORTS (EVEN IN PILOT LINE AND LOW PRESSURE LINE)

2 2-PIECE TYPE TOOTH (PIN-ON+BOLT-ON ADAPTER)

3 PROPELLER SHAFT
A protective cover has been installed to protect the oil seal from dust, foreign objects and premature wear.

4 RADIATOR GRILL (STEEL STRUCTURE)

5 LARGE CAPACITY TRANSMISSION OIL COOLER
The large capacity transmission oil cooler ensures durable and stable operation of transmission.

6 REINFORCED BUCKET
The lower and side panels of the bucket have been reinforced with additional plates (standard)
- Reinforcement : At both sides - 1 point each
At lower panel - 3 point

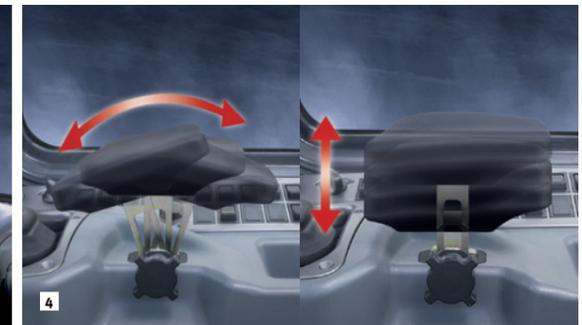
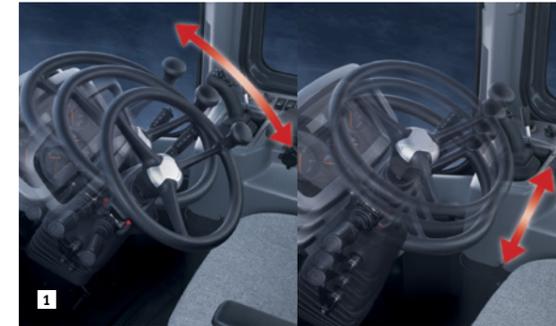
7 REMOTE TYPE AXLE BREATHER
Axle durability improvement
- Add remote type axle breather for rear axle like a front axle
- Increase length of front axle breather for prevention of pollution from particle matter



OPERATOR COMFORT

DL300A

From the beginning, Doosan has had great concern for machine operators. People need to work in a well designed and comfortable environment. The work area is spacious, with several places for storage. The checking and monitoring devices are comprehensive. There is an open view of the work area. For night work, operators are provided with powerful front and rear lighting.



1 THE STEERING COLUMN

The steering column features both tilting and telescopic functions.

2 VARIOUS CONTROL LEVER (OPTIONAL)

The joystick installed in compliance with various needs and preferences of operators ensures more convenient work.

3 CENTRAL MONITOR PANEL

The compact central monitor panel is ergonomically designed and allows the operator to monitor the status and warning lights at a single glance.

4 ARM REST

The tilting and telescopic wrist rest allows the operator to work more comfortably.

5 SWITCH PANEL

The ergonomically laid out switch panel in line with the natural movements of the body allows for very convenient operation. The spare switch cut-outs allows easy installation of additional electric accessories.

6 SUNVISOR & ROOM MIRROR

7 REAR VIEW CAMERA (OPTIONAL)

AIR-SUSPENSION SEAT (OPTIONAL)

Now available Air-suspension seats provide more comfort and support for the operator.

AIR CONDITIONING & DEFROSTER SYSTEM

Double filtered air cab, air ducts are properly placed all around the cab with proportional sensitive controls and air re-circulation facility, we offer the same comfort as a passenger car.





EASY MAINTENANCE

DL300A

A liquid crystal display conveys information to the operator relative to the ZF transmission. At the same time, it reports the nature of a problem (if one exists). When servicing the loader, a specialised apparatus can be used to adjust the clutch disks to compensate for their wear. Additionally, by connecting a laptop computer, a complete transmission diagnostic can be performed.



1 CENTRAL JOINTS

A good accessibility at the articulation joint is essential for an easy maintenance.

2 AIR-CLEANER FILTER

The high capacity air cleaner eliminates harmful particles from the air and extends the life of the engine and replacement intervals.

3 REMOTE GREASING LUBRICATION PORTS

The front pins can be lubricated from the outside of the machine without crawling under the machine or in awkward positions through the lubrication ports.

4 TRANSMISSION FILTER

The transmission filters are within easy reach and like the rest of the machine's service components, can be checked from ground level.

5 CONVENIENT TRANSMISSION OIL FILLING

The oil filler pipe is located near the articulation joint for easy access.

6 REMOTE GREASING LUBRICATION PORTS

The front pins can be lubricated from the outside of the machine without crawling under the machine or in awkward positions through the lubrication ports.

7 HYDRAULIC OIL RETURN FILTER

The high-efficiency, large-capacity return filter manufactured with the glass-fiber media can eliminate foreign substances up to 99.5 percent to protect the costly hydraulic equipment and substantially extend the replacement cycle.

8 HYDRAULICALLY OPERATED FAN

Hydraulically operated fan can swing out and is very easy to clean the cooler cores. Air conditioning condenser is combined with radiator assembly and can be tilt for easier cleaning.

SIGHT GAUGES

Well-located, yet easily visible sight gauges for the hydraulic oil and radiator coolant allow easy daily checks while reducing the risk of contaminants entering the systems.

* Option spec info is included to the images contained in this material and may not be the same with the actual specs.

TELEMATICS SERVICE (OPTIONAL)

GLOBAL PARTS NETWORK

TELECOMMUNICATIONS

Data flow from machine to web



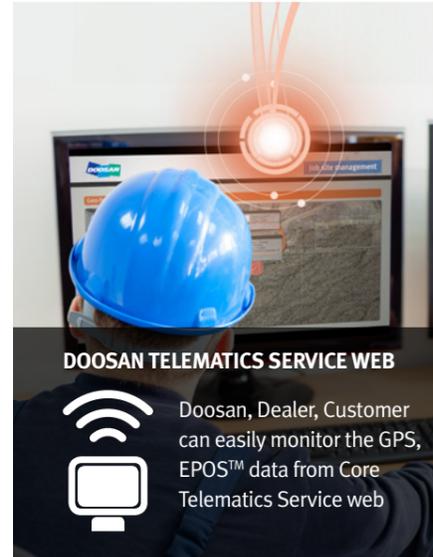
TELEMATICS SERVICE TERMINAL

Telematics Service terminal is installed to machine / connected to EPOS™



TELECOMMUNICATION

GPS, EPOS™ data is sent to designated server by GSM, Satellite telecommunication



DOOSAN TELEMATICS SERVICE WEB

Doosan, Dealer, Customer can easily monitor the GPS, EPOS™ data from Core Telematics Service web

FUNCTIONS

Doosan Telematics Service provides various functions to support your great performance

TELEMATICS SERVICE BENEFITS

Doosan and dealer support customers to improve work efficiency with timely and responsive services

Customer

- Improve work efficiency
- Timely and preventive service
- Improve operator's skills by comparing work pattern
- Manage fleet more effectively

Dealer

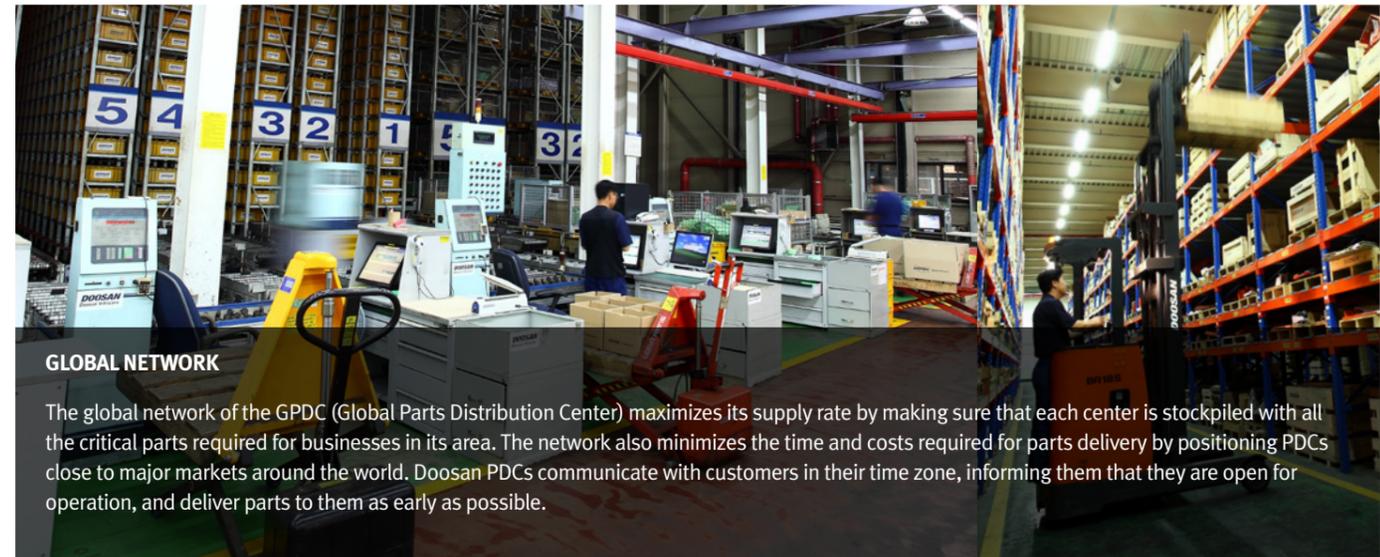
- Better service for customers
- Provide better quality of service
- Maintain machine value
- Better understanding of market needs

Doosan

- Responsive to customer's voice
- Utilize quality-related field data
- Apply customer's usage profile to developing new machine

GLOBAL PDC (PARTS DISTRIBUTION CENTER) NETWORK

Doosan provides fast and precise worldwide delivery of genuine Doosan parts through its global PDC (parts distribution center) network.



GLOBAL NETWORK

The global network of the GPDC (Global Parts Distribution Center) maximizes its supply rate by making sure that each center is stockpiled with all the critical parts required for businesses in its area. The network also minimizes the time and costs required for parts delivery by positioning PDCs close to major markets around the world. Doosan PDCs communicate with customers in their time zone, informing them that they are open for operation, and deliver parts to them as early as possible.

The Global Parts Distribution Center Network

PDCs had been set up as shown below, including Mother PDC in Ansan, Korea. The seven other PDCs include one in China (Yantai), one in the USA (Chicago), one in Brazil (Campinas), two in Europe (Germany and the UK), one in the Middle East (Dubai), and one in Asia (Singapore).

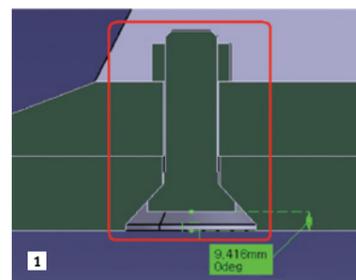
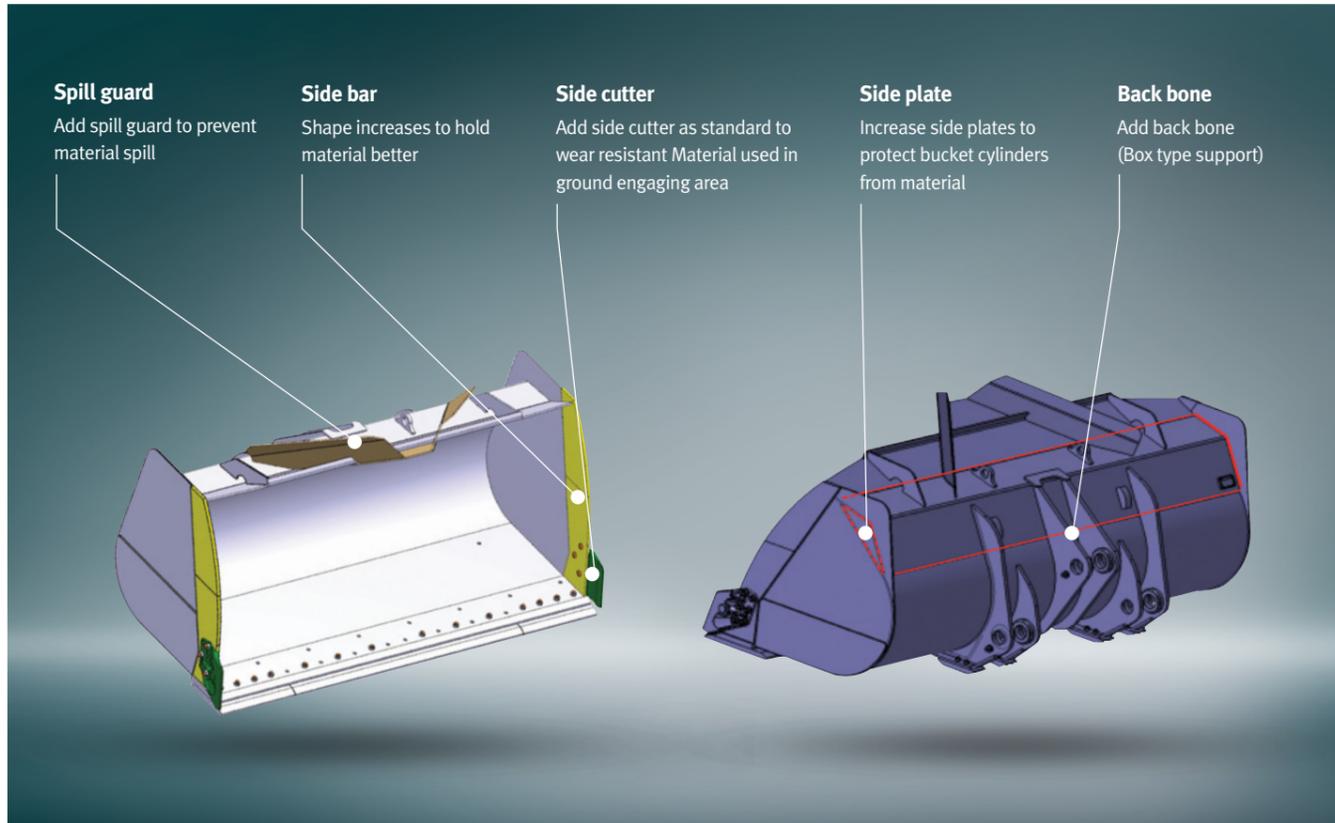


MPDC : Mother Parts Distribution Center PDC : Parts Distribution Center

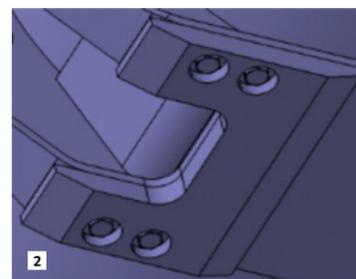
FUNCTION	EXCAVATOR	WHEEL LOADER	ADT
GPS	Location Geo-fence	All models	All models
E-mail reports	Daily, Weekly, Monthly report	All models	All models
Operation hours	Total operation hours Operation hours by mode	All models Tier 4 only	All models
Maintenance parts	Preventive maintenance by item replacement cycle	All models	Tier 4 only
Fault code/ Warning	Fault code Machine Warnings on Gauge Panel	All models	Tier 4 only
Fuel information	Fuel level Fuel consumption	All models Tier 4 only	All models
Dump capacity	Dump tonnage Count of Work Cycle	N/A	All models

PDC BENEFIT

Material handler bucket, is the most commonly used bucket in the construction equipment market and is designed mainly for use in heavy construction but also used in low density mining and quarry application.



PLOW BOLT FOR CHANGEABLE PARTS
New plow bolt will be applied on tooth adaptor and cutting edge



CHANGEABLE BOTTOM PLATES
Operator can change wear plate easily

BUCKETS



	General Purpose	Light Material	Material Handler
GENERAL PURPOSE	Direct mount Quick coupling	Capacity 2.7 / 2.9 / 3.0 / 3.2 / 3.3 m ³ 3.0 m ³	Width 2,920 mm 2,920 mm
LIGHT MATERIAL	Direct mount Quick coupling	Capacity 3.5 / 6.0 m ³ 3.5 / 6.0 m ³	Width 3,000 / 3,174 mm 3,000 / 3,174 mm
MATERIAL HANDLER	Direct mount	Capacity 3.0 / 3.2 / 3.3 / 3.5 m ³	Width 2,920 mm

CONNECTING



Quick Coupler

	Model	Mounting type	Weight
QUICK COUPLER	Quick coupling	DLQC30	530 kg

MATERIAL HANDLING



	Model	Length
PALLET FORK	DLPF30	48" / 60" / 72"
	Model	Type
LOG GRAPPLE	DLLG30	General purpose Tropical type Sorting type

TECHNICAL SPECIFICATIONS

ENGINE

The high performance Doosan DE08TIS 6 cylinder, direct injection, turbo charged, air-air intercooler engine offers low fuel consumption and low exhaust emissions, which are well below the requirements of the Phase II legislation

-GROSS SAE J1995

Rated Power

156 kW(209 HP) @ 2,100 rpm (SAE J1995, gross)

Max Torque

92 kgf.m (902 N.m) @ 1,300 rpm

Displacement

8,070 cc (492 cu.in)

Bore x stroke

∅ 111 x 139 mm

3 stages Air cleaner including a very efficient pre-cleaner, main and safety elements.

Hydraulically driven puller type fan with possibility of adjustment.

Battery

System voltage : 24 V

Quantity : 12 V x 2

Capacity (AMP) : 150 Ah

Starter power

24 V / 6.6 kW

Alternator output

24 V / 60 A

AXLES

The front and rear axles with planetary hub reductions are built on the base of very reputed components.

Fitted as standard, the front and rear limited slip differentials, ensure the traction is optimal in all circumstances.

Type

Fully floating planetary-type

Limited slip Differential (front and rear)

30 %

Oscillation angle

+/- 12°

Brake

Dual circuit multi-plate wet discs.
Hydraulic actuation with pump and accumulator.

The sintered metal brake discs extended discs service intervals : increased three times

A spring applied and hydraulically released parking brake is mounted on the transmission shaft.

TRANSMISSION

“Full Power Shift” transmission. It can be used in manual or automatic modes.

This transmission is based on components having excellent worldwide reputations. It is equipped with a modulation system allowing soft gear shifting and inversion of travel direction. Safety devices also protect the transmission of bad operations.

The gear and direction shifting is operated by a single lever to the left of the steering wheel. A travel direction control is also mounted on the hydraulic joystick. (Optional)

With a special electronic device, the transmission can be tested and adjusted easily for optimum performance and efficiently.

The transmission can be de-clutched by the operation of brake pedal to increase the power available to the hydraulic pumps.

A safety device prevents the starting of the engine when not in neutral.

Torque converter

Type : Single stage, one phase,

Stall ratio : 3.06

Travel speed, kph

Forward : 6.3 - 11.6 - 21.4 - 34.4 (1 - 2 - 3 - 4)

Reverse : 6 - 12.2 - 22.3 (1 - 2 - 3)

HYDRAULIC SYSTEM

The hydraulic system uses tandem vane pumps with automatic wear compensation.

Pilot actuation with standard single lever.

Automatic boom kick out and bucket return to dig. is standard.

All of hydraulic lines are equipped with special seals (ORFS)

Max flow main

132 / 145 / 41 ℓ/min (34.9 /38.3 /10.8 gal/min)

Working Pressure

200 bars

Pressure of the pilot circuit

30 bars

Filtration capacity on the return line

10 microns

Loading cycles time

Lifting speed (loaded) : 6 seconds

Dumping speed (loaded) : 1.8 seconds

Lowering speed (empty) : 3.3 seconds

OPERATOR' CAB

The modular cab allows excellent visibility in all directions. The optimal ventilation is obtained by numerous ventilation outlets. Touch buttons control the air re-circulation air conditioning and heating systems. The air of the cab is filtered.

All necessary information for the operator are centralized in front of him.

The main functions are actuated via switches located on a console at the right of the operator.

Generous storage places are well located. The cab, mounted on viscous element and equiped with an air suspended seat, offers a better comfort for the operator.

Access door : 1

Emergency exits : 2

The cab conforms ROPS ISO 3471 and

FOPS : ISO 3449

Guaranteed external noise level Lwa

(following ISO 6395) 110 dB(A)

STEERING

The steering system is a load sensing type with a flow amplifier and a priority valve.

Steering angle

40°

Oil flow

145 ℓ /min(38.3 gal/min) @ 2,300 rpm, high

Working pressure

185 bars

Steering cylinders (2)

bore x stroke : 80 x 450 mm

Emergency steering system with hydraulic pump driven by electric motor. (Optional)

LIFTING SYSTEM

The lifting system with two cylinders and Z configuration is designed for the toughest jobs. The breakout force (18 ton with a 3.0m3 bucket) is very important and the bucket movements are fast.

The bucket angles are well kept in good positions on all the range of bucket movement.

Lifting cylinders (2)

bore x stroke : 150 x 831 mm

Bucket cylinders (1)

bore x stroke : 200 x 505 mm

MAINTENANCE

Maintenance is easy due to excellent access.

The radiator fan swivels to aid cleaning.

The transmission is electronically controlled. An error coding system allows easy diagnosis of the systems and proper intervention.

Engine (oil) - 21 ℓ (5.5 US gal)

Radiator (cooling liquid) - 50 ℓ (13.2 US gal)

Fuel - 304 ℓ (80.31 US gal)

Hydraulic oil - 210 ℓ (55.5 US gal) - ST

Gear box and torque converter - 48 ℓ (12.7 US gal)

Front axle - 42 ℓ (11.1 US gal)

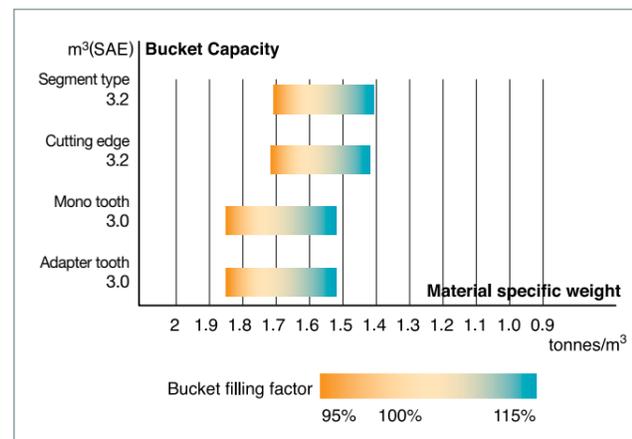
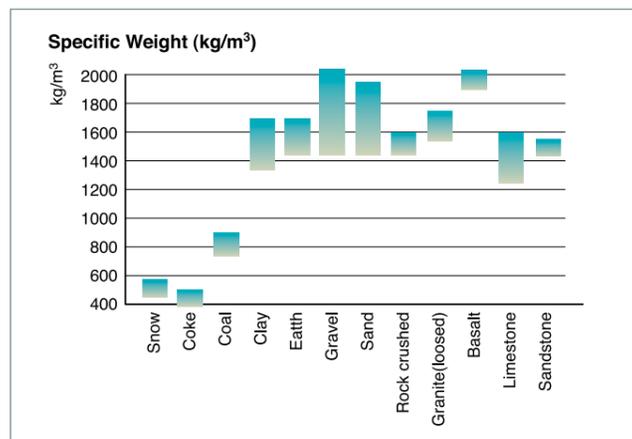
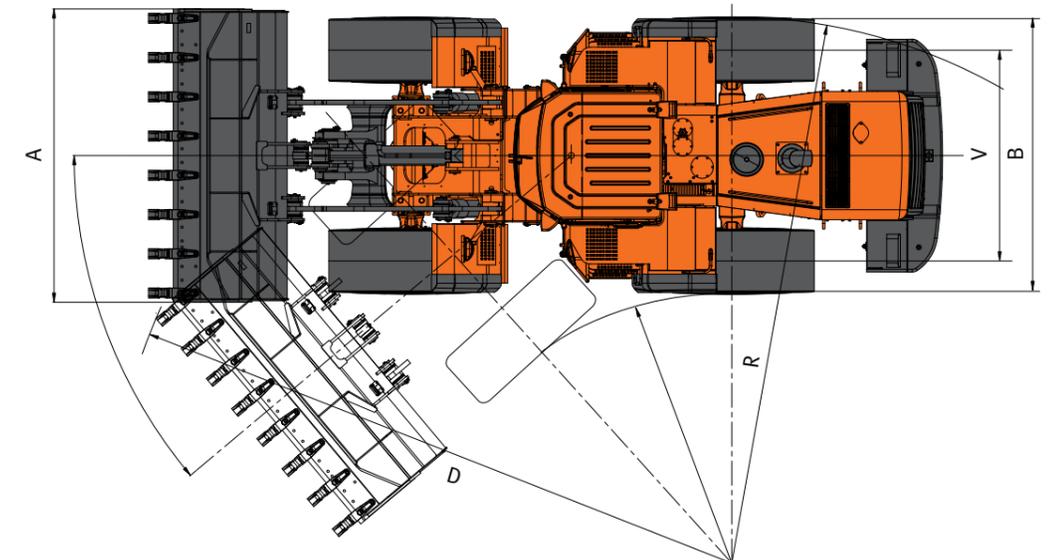
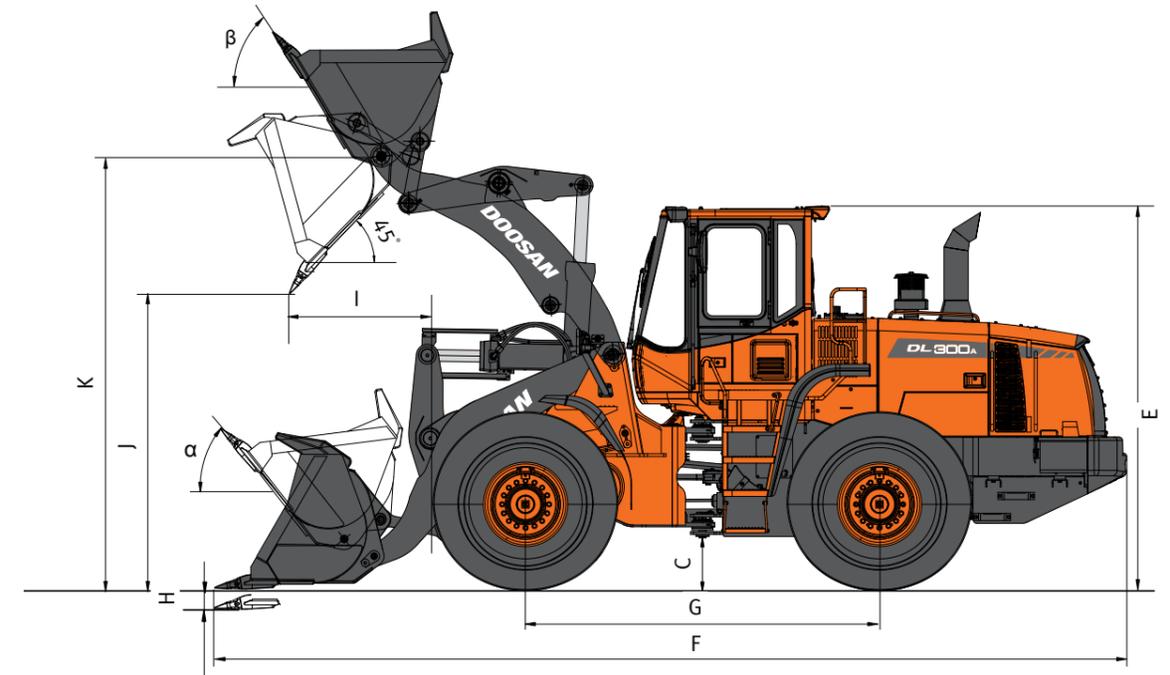
Rear axle - 42 ℓ (11.1 US gal)

OPERATIONAL DATA

Bucket Type			General purpose						High Lift	
Configuration	Code	Unit	Teeth	Teeth	Teeth (std.)	Teeth	Bolt-on edge	Bolt-on edge	Teeth & segments	Bolt-on edge
Capacity heaped ISO/SAE		m ³	2.7	3.0	3.0	3.3	2.9	3.2	3.2	3.2
Tooth type			Adapter tooth	-	Mono tooth	Mono tooth	-	-	Adapter tooth	-
Bucket width	A	mm	2,920	2,920	2,920	2,920	2,920	2,920	2,920	2,920
Breakout force		kN	176	168	168	168	176	167	167	161
Static tipping load (straight)		kg	13,650	13,350	13,670	13,390	13,520	13,225	13,190	10,930
Static tipping load (at full turn)		kg	11,860	11,600	11,880	11,635	11,750	11,495	11,465	9,500
Dump height (at 45°) ¹⁾ (at fully raised)	J	mm	2,800	2,730	2,800	2,800	2,920	2,850	2,730	3,400
Dump reach (at 45°) ¹⁾ (at fully raised)	I	mm	1,295	1,295	1,290	1,290	1,165	1,165	1,265	1,195
Digging depth	H	mm	80	120	80	80	80	120	120	245
Height at bucket pivot point	K	mm	3,980	3,980	3,980	3,980	3,980	3,980	3,980	4,530
Max. tilt angle at carry position	α	degree	48	48	48	48	48	48	48	51
Max. tilt angle at fully raised	β	degree	58	58	58	58	58	58	58	55
Max. tilt angle on ground		degree	45	45	45	45	45	45	45	45
External radius at tire side	R	mm	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800
External radius at bucket edge	D	mm	6,420	6,455	6,430	6,430	6,375	6,405	6,455	6,645
Wheel base	G	mm	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200
Width at tires	B	mm	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760
Tread	V	mm	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150
Ground clearance	C	mm	460	460	460	460	460	460	460	460
Overall length	F	mm	8,190	8,275	8,240	8,240	8,015	8,100	8,275	8,615
Overall height	E	mm	3,435	3,435	3,435	3,435	3,435	3,435	3,435	3,435
Operating weight		kg	17,855	17,910	17,640	17,870	17,980	18,030	18,065	18,155

1) Measured to the tip of the bucket teeth or bolt-on edge.
2) All measurements with tires 23.5-25-16PR(L3).

DIMENSIONS



The specific weight of material largely depends on moisture rate, compacting value, percentage of various components etc... This chart is given only for information.

The Bucket filling factor depends also of the nature of material, the working conditions and the operator ability.

Measured to the tip of the bucket teeth or bolt on edge with tires 23.5-25-16PR(L3)

STANDARD AND OPTIONAL EQUIPMENT

STANDARD EQUIPMENT

Engine

- DOOSAN DE08TIS Diesel engine
- Air cleaner - Double element cartridge + Cyclone filtration in prior stage
- Fuel filter - Main fuel filter and fuel pre-filter with water separator
- External drains for engine oil and coolant changes
- Hydraulic radiator fan
- Fuel filler pump

Hydraulic System

- Hydraulic control valve - 2 spool
- Hydraulic main pump - Triple tandem vane
- Hydraulic control levers
- Boom kick out - Automatic
- Bucket return to dig - Automatic

Cabin and Interior

- 12V power socket
- Double filtered air cab
- Air conditioner and heater with recirculation function
- Cup holder
- Tinted glasses
- Floor mat
- AM/FM Radio + MP3(USB)
- Windshield washer front and rear
- Windshield wipers front and rear
- Cigarette lighter
- Multiple storage compartments
- Sun visor
- Glass antenna
- Seat - Mechanical suspension
- ROPS cabin - ISO 3471
- FOPS cabin - ISO 3449
- Adjustable steering column
- Rear view mirrors - Interior 2
- Rear view mirrors - Exterior 2

Electrical and lighting

- Battery cut-off switch
- Working light - Front 2 + Rear 4
- Driving light - Low and high beams
- Tail indicators - Stop, reversing lights
- Reversing alarm
- Electric horn
- Alternator - 24V, 60A
- Self-diagnostic system

Linkage

- Z-bar loader linkage

Drivetrain and Brake system

- Gear shift switch - Manual, Auto 1 ↔ 4, Auto 2 ↔ 4
- Kickdown and travelling direction selection
- Starting safety system
- Dual brake circuits with accumulator
- Dual service brake pedals
- Secondary brake system
- Parking brake - Electrical, hydraulic
- Differential - Limited slip

Steering system

- Load sensing steering system

External equipment

- Fender

OPTIONAL EQUIPMENT

Some of these optional equipments may be standard in some markets. Some of these optional equipments cannot be available on some markets. You must check with the local Doosan dealer to know about the availability or to release the adaptation following the needs of the application.

Hydraulic System

- Hydraulic Oil - VG32 Cold Weather
- Hydraulic Oil - VG46 Normal Weather
- Hydraulic Oil - VG68 Tropical Weather
- Hydraulic control valve - 3 spool
- Load isolation system (LIS)
- Hydraulic control levers - Mono
- Hydraulic control levers - FNR
- Hydraulic control levers - Finger tip
- Quick coupler piping and switch

Cabin and Interior

- Seat - Air suspension with heater
- Seat - Air suspension
- Camera - Rear view

Electrical and lighting

- License lamp
- Beacon - Rotating
- EMI Filter

Linkage

- Z-bar high lift loader linkage

Drivetrain and Brake system

- High effort brake pedal

Steering system

- Emergency steering pump

External equipment

- Fender - Full fender + rubber protector
- Fender - Rubber protector
- Wheel chocks
- Anti-noise Kit
- Counterweight - 0.24t
- Tool Kit

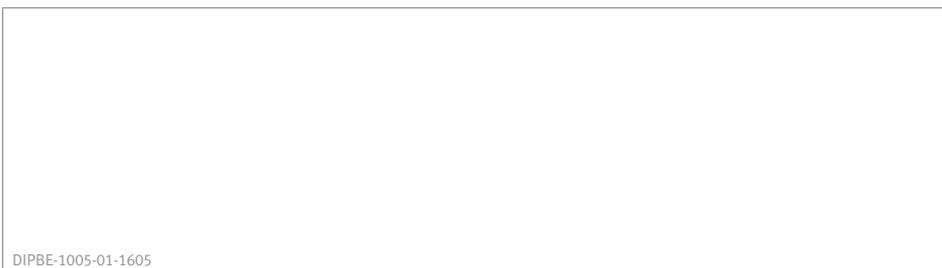
* Standard specification and options may vary by country.

** Specification is subject to change without prior notice for quality enhancement.

Doosan is

Since 1896, Doosan, the oldest company in Korea, has evolved with its people. The company grew up rapidly for last 10 years with reputation. For human-oriented vision, Doosan has been building constructions, energy, machines, infra structures globally. As a global leader of infra structure, Doosan continues its vision to make human-oriented future.

First in Korea, Doosan self-developed excavators in 1985 and continued building versatile construction machines including excavators, wheel loaders, articulated dump trucks to execute its human-oriented philosophy. Doosan became a global leader of heavy construction machine industry by achieving global sales line, producing line, and distribution line. Along with large production bases in Korea, China, USA, Belgium, Czech, Brazil, Doosan has 1400 dealer networks and Doosan is providing reliable products and trusted solutions for your stable business at no risk.



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