

# DOOSAN

Wheeled Excavators |  
DX210W-5



Maximum power: 189 HP  
Operating weight: 21.4 t  
Max. bucket capacity: 1.32 m<sup>3</sup>



# Doosan Group – Building your tomorrow today

## Be part of the great Doosan family

The Doosan Group – founded in 1896 and headquartered in Seoul, South Korea – is one of the fastest-growing companies in the world:

- With more than 43,100 employees in 34 countries, we are a major player in a variety of industries worldwide
- We are a global leader in the Infrastructure Support Business (ISB), with 56 subsidiaries and 3,700 distributors worldwide
- Dramatic growth over the past decade, with 23% average annual revenue growth since 2000 and rising from €2.4 billion in 1998 to €18.0 billion in 2011

## Doosan Group – a top player worldwide



### Doosan Engines

- World N° 2 in medium-speed marine diesel engines



### Doosan Engineering & Construction

A pioneering leader in construction of residential and public buildings, civil works and industrial facilities.

- World N° 1 chemical process equipment products



### Doosan Heavy Industries & Construction

- World N° 1 in desalination plant construction
- World N° 1 in heat recovery steam generator market
- World N° 1 in mould & tool steel
- World N° 3 in crankshafts



### Doosan Infracore

- Among the world's Top 5 manufacturers of construction equipment
- World N° 1 in compact loaders
- World N° 1 in attachments
- World N° 1 in portable air compressors



## Doosan Infracore Construction Equipment

### Creating construction equipment for over 40 years

For over 40 years, we've been building a global production and business network to become one of the world's foremost construction equipment manufacturers.

### A solid partner, close to you

A truly global player in every respect, we have large-scale factories, sales subsidiaries and dealers all over the world.



Doosan facilities in Europe



▣ **From machine manufacturer... to full solution provider**

To ensure the highest trade-in and residual values, our parts and service support professionals maintain the performance, productivity and reliability that you expect of our products throughout their lifetime.

▣ **Ask your dealer for a full range of services designed especially for you!**

As your local specialist, your dealer ensures that you receive the maximum benefit from our integrated package. Plan ahead to ensure the success of your equipment!



Doosan approved attachments



Genuine parts



Extension of warranty



Financial solutions



Maintenance contract



Telematics



Monitoring systems



Dealer Locator

Europe

Select a country

City, Country

Search

**Dealer locator**

Advanced Services

- Articulated dump trucks
- Mini excavators
- Crawler Excavators
- Wheeled Excavators
- Wheel Loaders

▣ **Simplicity works when it comes to Doosan's product range...**



Articulated Dump Trucks



Special Applications



Wheel Loaders



Wheeled Excavators



Mini Excavators



Crawler Excavators

# Raise profits, productivity & fuel efficiency

## ► High productivity & low cost of ownership

Delivers higher productivity & reduced fuel consumption in an efficient & comfortable work environment.

☉ **Work lights:** As standard: 2 front frame, 4 front & 2 rear cab-mounted, 2 boom mounted and 1 rear side.

☉ **Reliability:** Reinforced castings and forged steel pivot points and reinforced heavy-duty arm and boom to withstand high-impact materials. Large, robust boom and arm cylinders for smooth, powerful operation. Advanced pin & bushing technology.

☉ **Productivity:** Increased digging power, lifting capacities and traction force.

☉ **Safety:** Rear camera as standard and side camera as option, large side mirrors, powerful lighting, anti-slip steps. Guard rails on upper structure.

☉ **Various applications:** one-piece & two-piece boom configurations are available to suit your different applications.

☉ **Connectivity:** Core TMS as standard helps monitor the machine's condition remotely and plan maintenance.

☉ **Front axle oscillation:** For more comfort. Can be automatically or manually activated for better lifting or digging.

☉ **Frame durability:** Chassis frame and outrigger frames have been reinforced to reduce stress and improve durability.





⊙ **Comfort:** One of the most spacious cabs in the market, with low noise & vibration levels and excellent all-round visibility. Extra-large door for easy access. Fully adjustable heated air suspension seat, air conditioning with climate control as standard.

⊙ **Controllability:** Exclusive jog shuttle switch, 4 work & 4 power modes, proportional control, user-friendly 7" TFT LCD colour monitor. 2 speeds (high, low + creep) with cruise control and 3 front axle oscillation lock modes (On/Off/Auto)

⊙ **Power:** Exceptionally powerful - with high torque at low revs - the Stage IV compliant Doosan DLo6P engines are free from Diesel Particulate Filter (DPF) and associated regeneration system for more fuel efficiency.

⊙ **Efficient fuel management:** The evolution of the Doosan DLo6 to DLo6P allows up to 5% fuel saving. A new SPC (Smart Power Control) system, combined with settable engine shut-off & auto-idle, provides an additional reduction of up to 5%.

⊙ **Electric fan clutch:** For optimum cooling, fan speed is controlled electronically by a fan clutch, resulting in lower fan noise and better fuel efficiency.

⊙ **Easy maintenance:** Easy access to all compartments. Maintenance data directly available from control panel.

⊙ **Advanced filtration:** Highest efficiency filters & cleaners remove water, dust & particles to protect your investment optimally.



**Efficient & safe:** Excellent ground clearance for better protection in rough terrain.

# Top performance and fuel efficiency



## ▣ The power to raise productivity

The DX210W-5 takes even the heaviest tasks in its stride with efficient, dependable performance that saves you time and money:

- Improved hydraulic system uses the engine's power more effectively, maximising pump output and offering more comfort, smoothness and accuracy
- Increased digging power, lifting capacities and traction force combine for performance you can rely on, day after day
- Greater fuel efficiency means you can keep costs down and reduce environmental impact



## OPTIMISED POWER MANAGEMENT

The DX210W-5 is equipped with a Doosan engine. Famous for excellent fuel efficiency, reliability and long service life, it combines exceptional power output and high torque at low revs. Engine is fitted with common rail fuel injection combined with a wastegate turbocharger, which increases the density of the air, enabling the engine to produce more power.

Selective Catalytic Reduction (SCR) technology - combined with a Diesel Oxidation Catalyst (DOC) - ensures compliance with Stage IV regulations. As there is no need for a particulate filter, there is no need for regeneration.



If the engine is the heart of the excavator, the e-EPOS is its brain - providing a perfectly synchronised communication link between the engine's ECU (Electronic Control Unit) and the hydraulic system. A CAN (Controller Area Network) system enables a constant flow of information between engine and hydraulic system, so that power is delivered exactly as needed.

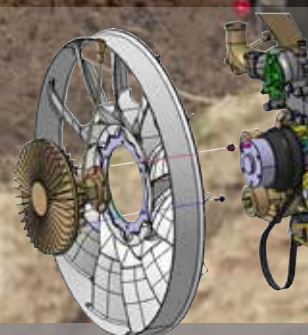
## EFFICIENT FUEL MANAGEMENT

- Choice between 4 power modes and 4 working modes guarantees optimum performance in all conditions
- SPC (Smart Power Control): reduces engine RPM during low load demand & ensures pump torque control, thus ensuring fuel efficiency and low emissions
- Engine auto-shut-off: shuts down the engine after the machine has been idling for a specified time
- Electronic control of fuel consumption optimises efficiency
- Auto-idle function saves fuel
- Eco guidance in real-time: eco gauge provides information about fuel consumption relative to machine performance in real-time. By trying to keep the right-hand LED bar from rising, the operator can teach himself how to save fuel and work efficiently
- For optimum cooling, fan speed is controlled by a electrical viscous fan clutch resulting in a lower fan noise & better fuel efficiency





**Wastegate turbocharger:** Diverts exhaust gases away from the turbine wheel to better regulate max boost pressure & protect engine. Also reduces lag time before turbo begins to spool/create boost maximising torque, plus reduces wear in high rpm & low load conditions. Turbocharger increases the density of the air, enabling the engine to produce more power with few effects from altitude.



**Electrical viscous fan clutch:** For optimum cooling, fan speed is controlled electronically by a fan clutch, resulting in lower fan noise and better fuel efficiency.

# Operating in comfort

## ▣ The ideal workspace – designed around you

The DX210W-5 is designed to provide you with the best possible working conditions. The pressurised cab is ISO-certified for your safety. Its spacious interior offers a fully adjustable, heated air suspension seat. Comfortably seated, you have easy access to several storage compartments and a clear all-round view of the worksite. Noise and vibration levels have been reduced, while air conditioning and automatic climate control allow you to keep working for hours on end without feeling tired.



### Best-in-class operator environment

Doosan Wheeled Excavators are powered by industry-leading engines that save on fuel and meet the latest Stage IV European regulations in addition to all noise regulations.

The low levels of cab vibration and noise provide exceptional operator comfort - and the cab air is filtered to ensure a healthy work environment.

### Comfortable & safe workspace

Doosan offers one of the most spacious cabs in the market. The cab also features Roll Over Protective Structure (ROPS) - meeting the ISO 12117-2 standard - in the event the machine rolls over.

### Fully adjustable steering column

The easily adjustable and narrow steering column ensures optimal visibility.

### Heated air suspension seat (standard)

In addition to being adjustable and providing lumbar support, the seat has an air suspension system to reduce vibrations. It also features a seat heating system (activated at the touch of a button). A storage box has been placed under the seat for extra convenience.

### Air conditioning with climate control

The operator can choose from 5 different modes to regulate the airflow, while the system adjusts the air temperature & fan speed to maintain the operator's selected temperature. A recirculated air function is also available.

### MP3/USB radio

MP3 player (MP3/USB radio with CD player optional).

### Storage space

The new cab contains 7 storage compartments including one hot/cool box (linked to the HVAC system).

### CabSus mount

The cab's new suspension system (CabSus mount) dampens high vibrations and provides outstanding protection against impact. The system absorbs shocks and vibrations much more effectively than a conventional viscous suspension system.





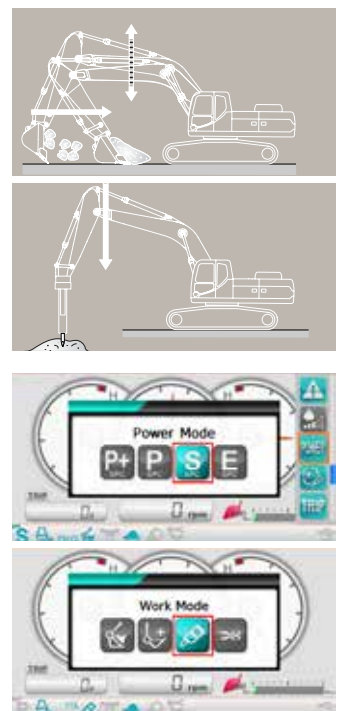
1. Large sun roof
2. Sun visor
3. Storage compartment for sunglasses
4. Window grip
5. Hot/cool box
6. Upper front window includes a sun shade and is strut-assisted for easy, reliable adjustment
7. Photo sensor detects radiant energy from the sun and adjusts temperature automatically
8. Joysticks and switches are integrated in adjustable control consoles
9. Improved visibility on the bottom right
10. Separate seat height adjustment lever and cushion tilting function
11. Pedal for auxiliary control 1 & 2 ways
12. Flat, spacious, easy-to-clean floor
13. Engine emergency stop switch

# Total control in all simplicity

## ▣ The highest standards of efficiency at your fingertips

The advanced & user-friendly technologies are just some of the many advantages of this new generation. The ergonomic controls and the easy-to-view colour monitor place the machine firmly in your hands.

- The new multi-function 7" TFT LCD monitor displays a comprehensive range of useful technical information, allowing you to check the machine's status and settings at a glance
- Highly sensitive & low-effort joysticks and clear convenient controls enable you to work safely, smoothly & confidently with minimum effort for increased comfort, efficiency and production
- Doosan's unique jog shuttle switch gives you easy, precise control over all machine functions
- Proportional auxiliary flow means precision control, smoothness & efficiency when using attachments



### TFT LCD colour monitor panel

The upgraded 7" Thin-Film-Transistor (TFT is a technology that improves image quality) LCD panel features a day and night display. The user-friendly monitor gives full access to machine settings and maintenance data. Any abnormality is clearly displayed on the screen, allowing you to work safely and confidently with an accurate overview of all conditions. All functions are totally controllable, directly via the screen or using the exclusive jog shuttle switch.

1. Fuel consumption level: current, total & daily average fuel consumption
2. Fuel level
3. AdBlue® level
4. Eco symbol: changes colour when operating conditions change (idle, normal or loading)
5. Eco gauge: shows the average fuel efficiency
6. Engine coolant and hydraulic oil temperatures
7. Warning symbols
8. New shortcut menu: displayed on the right for rapid access to main functions
9. Optional anti-theft password-controlled starting
10. Oil filter information
11. Attachment management: stores up to 10 different attachment presets, enabling the operator to set hydraulic flow & pressure according to his needs

### Dynamic power management

- Automatic travel speed function
- Activating the power boost control system increases digging force by 10%
- A one-touch deceleration button immediately reduces engine speed to low or idle
- Auto-idling starts 4 seconds after all controls are returned to neutral - decreasing fuel consumption and reducing noise levels in the cab

### Intelligent floating boom mode (optional)

The "intelligent floating boom" function allows the boom to move up & down freely according to the application:

- Hydraulic breaker setting: during boom down operation, the boom moves down freely under its own weight, which reduces vibration and stress on the machine & increases breaker life
- Fully floating mode: during boom down selection, the boom is allowed to rise & fall as required while the bucket is drawn across the ground

### 4 Work modes & 4 Power modes

Deliver the needed power according to your specific application while minimising fuel consumption:

- 1-way mode, 2-way mode, Digging mode and Lifting mode
- Power-plus mode, Power mode, Standard mode, Economy mode





**Simple control:** Doosan's exclusive jog shuttle switch for easy and precise control over all machine functions.



1. Power Boost switch & One-touch deceleration switch
2. Thumb wheel switch allows proportional control of attachments
3. FNR selector switch
4. "Short stroke" joysticks enable easy, precise control of all operations
5. Axle RAM lock
6. Exclusive jog shuttle switch
7. Working lights switch
8. Smart Power Control
9. Travel speed selector switch
10. Climate control
11. Remote control of radio
12. Parking brake
13. Floating boom switch
14. Power socket 12V

**Your safety:** Standard cab and boom lights, large side mirrors and rear view camera improve all-round visibility and thus safety. Other standard safety features: anti-slip plates, automatic overheating alarm warning, low oil pressure sensor, engine emergency cut-off switch, auxiliary mode switch (allows a safe level of hydraulics operation in case of EPOS failure), overload warning device. Optional travel/swing alarm and side view camera are also available.



Rear and side view cameras



Work lights

# Reliability, the habit of a lifetime

## ▣ Designed for long-term all-round heavy-duty performance

In your profession, you need equipment you can depend on. At Doosan, we use highly specialised design and analysis tools to make sure our machines are as robust and durable as can be. Our materials and structures undergo stringent testing for strength and resilience under the most extreme conditions.

And we continually manufacture the most durable machines to ensure lower cost of ownership.



### Undercarriage durability

A rigid, welded frame provides excellent durability. Efficient routing of hydraulic lines, transmission and rear differential protection and heavy-duty axles make the undercarriage perfect for wheeled excavator applications. An oscillating axle lock is available.

### New drive line concept

The new travel motor and powershift transmission control in the drive line provide comfortable travel due to increased smoothness, improved hydraulic retarding and improved gear shifting.

### Advanced disc brake system

The new improved system allows a more efficient braking of the machine. This eliminates the rocking effect associated with working on wheels. The ZF axles are designed for low maintenance, and the oil change intervals have been increased to 2000 hours, further reducing owning and operating costs.

### Heavy-duty axles

The front axle offers wide oscillating and steering angles. The transmission is mounted directly on the rear axle for protection and optimum ground clearance.

### Advanced filtration

- Fuel filters & water separator: a filter-type high-performance water separator effectively captures moisture in the fuel, reducing impurities and helping minimise any fuel-related issues. Pre-filters and dual main filters as standard minimise fuel system failures
- Air cleaner: The large capacity forced air cleaner removes over 99% of airborne particles, reducing the risk of engine contamination and extending the cleaning and cartridge change intervals

### Pin & bushing advanced technology

Highly lubricated metal is used for the boom pivot to increase the component's lifetime and lengthen greasing intervals. The bucket pivot features EM (Enhanced Macrosurface) bushings, which have a tailored surface pattern and self-lubricating coating to optimise greasing and make removal of debris more efficient. Ultra-hard wear-resistant discs & bucket pivot polymer shim increase durability even more.

### Strengthened boom & arm

Finite Element Analysis has been used to calculate the best load distribution throughout the boom structure. Combined with thicker material, this means that element fatigue is limited and both reliability and component life are increased.

To better protect the base of the arm, reinforced bars have been added and the arm centre and end boss have been strengthened.





**Exclusive parallel dozer and independent stabiliser design:**

1. Large reinforced covers protect the dozer and stabiliser cylinders
2. The dozer blade design facilitates pulling and mixing of materials
3. The Stabilisers are kept well within the machine envelope and the position of the pins is kept high to avoid bumping while moving over the ground
4. Parts in contact with the ground have been carefully designed to prevent damage to the surface
5. Wide pads to reduce ground pressure
6. Lifting eyes on dozer for secure transport, additional 4 eyes are on the undercarriage



# Simple maintenance with maximum uptime

## ▣ Excellent service accessibility

Short maintenance operations at long intervals mean you can depend on your equipment being available on site when it's needed. Our machines are designed for simple routine maintenance, while skilled Doosan technicians are available to provide extra support, should you need it. Choose the package you need from a broad range of service agreements to get the most out of your machine. Uptime, productivity and residual value are all maximised, making these excavators an economical and rewarding choice.

Building further on the success of the Stage IIIB engines, the new Stage IV Doosan DLo6P engine has no need for a DPF filter to meet the Stage IV emissions requirements - which means no maintenance required, so more uptime!



### Maintenance access made simple

- Large guard rails are installed along with anti-slip steps and plates, for safer, easier access to the whole upper structure
- The cab's air-conditioning filter is lockable and placed on the side of the cab for easy access
- A battery cut-off switch makes it easy to disconnect the battery during long-term storage
- The hour meter display can be easily checked from ground level
- Shut-off valves have been fitted on the pre-filter piping line and fuel tank drain piping to make servicing easier and prevent pollution from leakage
- Engine parts can be easily reached via the top and side panels
- For extra accessibility and servicing convenience, all filters (engine oil filter, fuel pre-filter, fuel filter and pilot filter) are located in the pump compartment

### Longer service intervals

More than 99.5% of foreign particles are filtered out in oil return filters and engine oil filters - so the oil & filter change interval is longer.

### Global Doosan network

With a worldwide network of Doosan dealers & Parts Distribution centres, your Doosan excavator can be serviced & maintained wherever you are.

### Full solution provider

- The Doosan Telematic system is available as standard - offering you all of the features for reading out vehicle operating & production parameters remotely, and providing you with complete peace of mind
- Protection+ : extended warranty covering parts, travel and service (check with your local dealer)
- Maintenance contract: your dealer will support you with routine service at regular intervals
- Genuine parts: manufactured and tested to ensure they always meet the same high quality standards as the original components

### SCR Tank

Connected to the ECU, sensors in tank detect low level of AdBlue® & any system malfunction

### Centralised greasing points

To make maintenance easier, the greasing points have been centralised.





Battery cut-off switch



Guard rails



SCR Tank



Hour meter  
(from ground level)



# Technical specifications

## Engine

Designed to deliver superior performance and fuel efficiency, the Doosan Stage IV diesel engine fully meets the latest emissions regulations. To optimise machine performance, the engine uses high-pressure fuel injectors, air-to-air inter-cooler and electronic engine controls. 4-Cycle Water-Cooled, Wastegate Turbocharger, Exhaust Gas Recirculation (EGR) & Selective Catalytic Reduction (SCR) with no Diesel Particulate Filter (DPF).

DX210W-5	
Model	Doosan DLo6P
No. of cylinders	6
Rated power at 1900 rpm (SAE J1995)	141.2 kW (189.3 HP, 192 PS)
(SAE J1349)	138.9 kW (186.2 HP, 188.9 PS)
Max. torque at 1400 rpm	82 kgf.m (804 Nm)
Idle (low - high)	800 [±10] - 2000 [±25] rpm
Piston displacement	5890 cm <sup>3</sup>
Bore × stroke	100 mm × 125 mm
Starter	24 V × 6 kW
Batteries - Alternator	2 × 12 V, 150 Ah - 24 V, 80 A
Air filter	Double element air cleaner and pre-filtered Turbo dust separator

## Undercarriage

Extremely robust construction throughout - made of high-quality, durable materials, with all welded structures designed to limit stresses. Heat-treated connecting pins. 10.00-20-16PR (OTR) double tyres with tyre spacer. Heavy-duty front axle with automatic or operator-controlled (on/off/auto) front axle oscillation lock.

### Front axle oscillation

DX210W-5	
	+/- 8° with automatic ram lock

## Brakes

Dual multi-disc circuit with sintered metal discs for extended service life. Braking system activated by a pump and accumulator circuits. Spring-applied, hydraulically released parking brake mounted on the transmission shaft.

## Component weights

Item	Unit	Weight	Remarks
Upper structure without front	kg	10030	With counterweight
Undercarriage	kg	7360	Including stabilisers and dozer blade
Front assembly	kg	4010	
Counterweight	kg	4000	3200 kg with two-piece boom
Boom 5.6 m	kg	1337	Including bushing
Arm 2.4 m	kg	571	Including bushing
Two-piece boom, lower	kg	500	Including bushing
Two-piece boom, upper	kg	1010	Including bushing
Arm 2.75 m / 3.0 m	kg	619 / 671	
Dozer	kg	660	
Dozer cylinders (2)	kg	83	
Stabilisers (2)	kg	680	
Stabiliser cylinders (2)	kg	107	

## Hydraulic system

The e-EPOS (Electronic Power Optimising System) is the brain of the excavator - minimising fuel consumption and optimising the efficiency of the hydraulic system for all working conditions.

To harmonise the operation of the engine and the hydraulics, the e-EPOS is connected to the engine's electronic control unit (ECU) via a data transfer link.

- The hydraulic system enables independent or combined operations
- 2 travel speeds offer either increased torque or high speed
- Cross-sensing pump system for fuel savings
- Auto-deceleration system
- 4 operating modes, 4 power modes
- Flow and pressure control of auxiliary hydraulic circuits from control panel
- Computer-aided pump flow control

### Maximum system pressure

DX210W-5	
Implement	38 MPa
Travel/Work	35 / 35 MPa

## Pumps

Pump	Type	Max. flow @ 2000 rpm	Relief valve pressure
Main (2)	Parallel, Bent-Axis, Axial piston	2 × 236 l/min	-
Pilot	Gear	27.4 l/min	4 MPa
Steering	Gear	69 l/min	18 MPa
Brake	Gear	22.4 l/min	15.4 MPa

## Hydraulic cylinders

High-strength steel piston rods and cylinder bodies. Shock-absorbing mechanism fitted in all cylinders for shock-free operation and extended piston life.

Cylinders	Quantity	Bore × rod diameter × stroke (mm)
One-piece boom	2	120 × 85 × 1240
Arm, one-piece boom	1	135 × 95 × 1450
Two-piece boom, lower	2	120 × 85 × 1045
Two-piece boom, upper	1	170 × 105 × 748
Arm, two-piece boom	1	135 × 95 × 1450
Bucket	1	120 × 80 × 1060
Blade	2	130 × 80 × 160
Stabilisers	2	130 × 80 × 391



## ➤ Swing mechanism

The swing mechanism uses an axial piston motor, driving a 2-stage planetary reduction gear bathed in oil for maximum torque.

- Swing bearing: single-row, shear type ball bearing with induction hardened internal gear
- Internal gear and pinion immersed in lubricant
- Increased swing torque reduces swing time
- The swing brake for parking is activated by spring and released hydraulically

### ► Swing speed & torque

	DX210W-5
Maximum swing speed	9.8 rpm
Maximum swing torque	6387 kgf/m

## ➤ Drive

The wheels are driven by an axial piston motor via a two-speed powershift transmission. In addition to the two-speed powershift transmission, there is also an economy mode and a switch for the creep speed. A button makes it possible to pass from high to low in work mode.

Two travel speed ranges offer a choice between increased torque or high speed.

### ► Speed & traction

	DX210W-5
Travel speed (creep - low - high)	4 - 9 - 35 km/h
Maximum traction	12 t
Minimum turning radius	7.2 m
Gradeability	65% (33°)

## ➤ Buckets

Bucket Type	Capacity (m³) SAE	Width (mm)		Weight (kg)	Front dozer & rear stabilisers down			Front & rear stabilisers down			
		With side cutters	W/O side cutters		One-piece boom		Two-piece boom		One-piece boom		Two-piece boom
					Arm 2.75 m	Arm 3.0 m	Arm 2.4 m	Arm 2.75 m	Arm 3.0 m	Arm 2.4 m	
GP	0.51	772	722	534	A	A	A	A	A	A	
	0.81	1126	1064	667	A	A	A	A	A	A	
	0.86	1180	1117	690	A	A	A	A	A	A	
	1.05	1370	1308	759	A	A	A	A	A	A	
	1.17	1491	1428	817	A	A	A	A	A	A	
HD	1.28	1605	1542	856	A	B	A	A	A	A	
	0.73	982	916	729	A	A	A	A	A	A	
	0.90	1130	1064	799	A	A	A	A	A	A	
	1.07	1286	1220	860	A	A	A	A	A	A	
	1.24	1438	1372	918	A	B	A	A	A	A	
	1.32	1516	1450	961	B	B	B	A	A	A	

A: Suitable for materials with a density less than or equal to 2100 kg/m³

B: Suitable for materials with a density less than or equal to 1800 kg/m³

## ➤ Fluid capacities

	DX210W-5
Fuel tank	300 l
Cooling system (radiator)	24 l
Hydraulic oil system	205 l
Engine oil	25 l
Swing drive	5 l
Front axle hub	2 × 2.5 l
Rear axle hub	2 × 2.5 l
Front Axle Case	11 l
Rear Axle Case	14.5 l
Transmission	2.5 l
Urea tank	31.5 l

## ➤ Cab

ROPS cab, large and roomy interior. One-way travel pedal with FNR switch on the right joystick. Audio system with remote control, independently adjustable joystick consoles. Excellent all-round visibility, transparent roof hatch, 2-piece sliding door window, narrow and easily adjustable steering column. The removable lower front glass can be stored behind the seat. Interior lighting. The pressurised and filtered cab air is supplied by numerous vents. Climate-control provides fast defrosting and high cooling and heating performance. Viscous/spring mounted suspension cushions reduce vibrations. Heated air suspension seat with adjustable seat suspension, height, tilt, recline and forward-backward settings. Adjustable, easy to read 7" LCD colour monitor provides real-time information on machine functions and diagnostic information and is switchable to rear view camera (std) or side view camera (optional).

### ► Noise emission

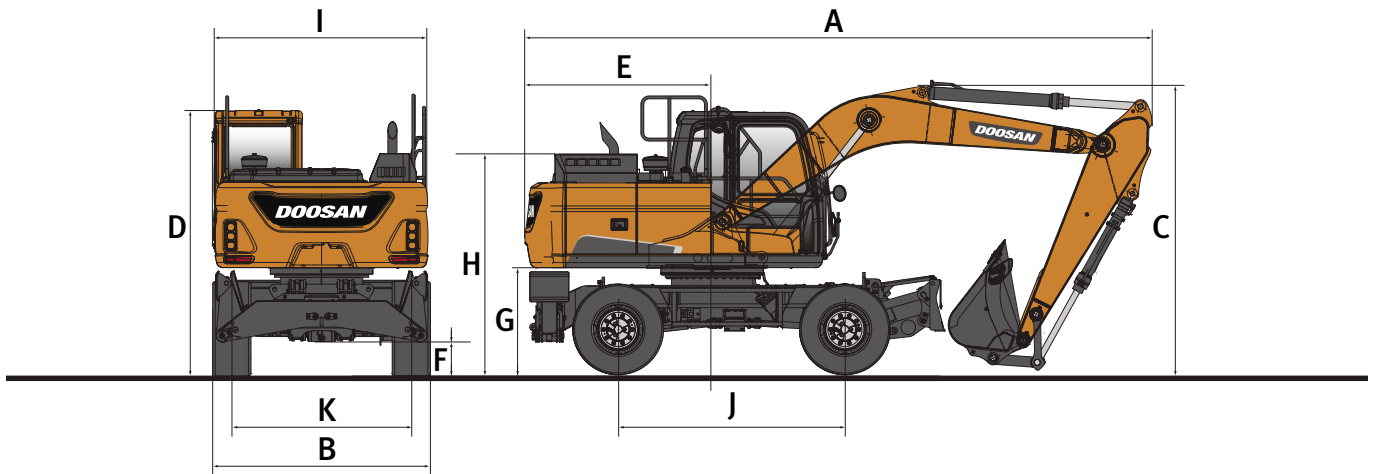
	DX210W-5
A-weighted emission sound pressure level at the operator's position, LpAd (ISO 6396:2008)	Declared : 72 dB(A)
A-weighted sound power level, LwAd (2000/14/EC)	Guaranteed : 102 dB(A) Measured : 99.8 dB(A)

Note – Declared single-number noise emission values are the sum of measured values and the associated uncertainty, and they represent upper boundaries of the range of values which is likely to occur in measurements.

## ➤ Weight

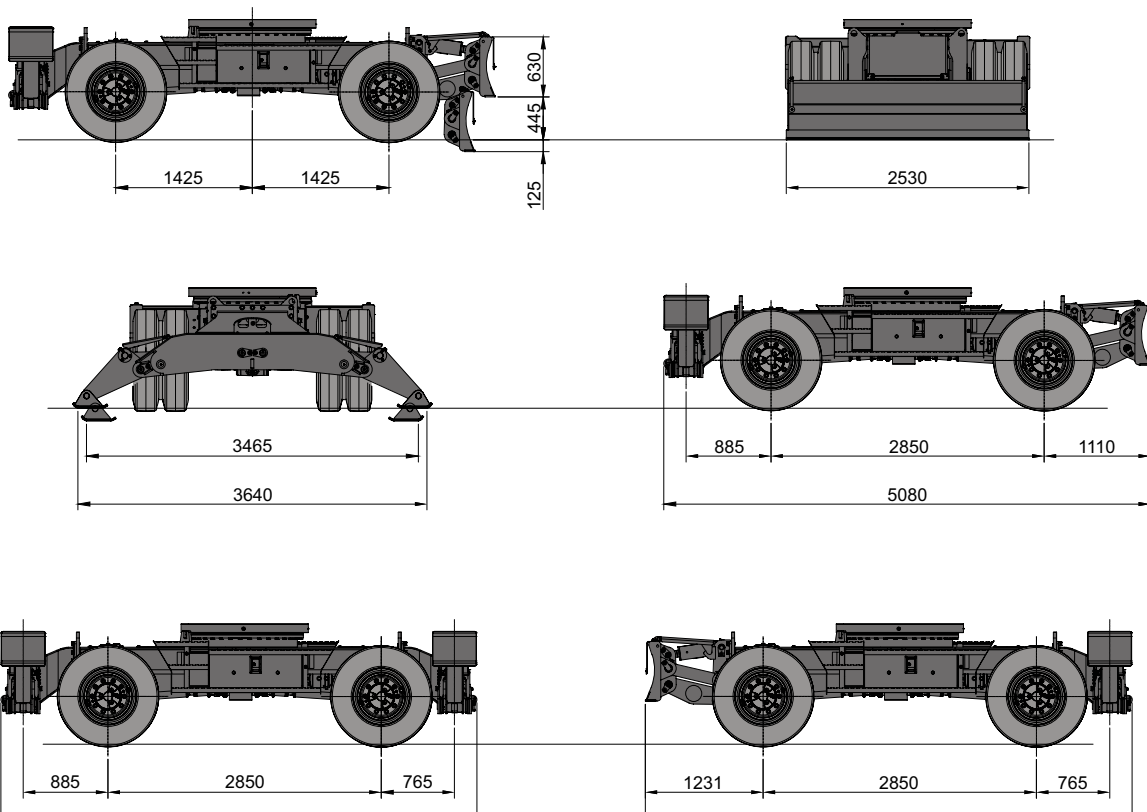
Boom (mm)	Arm (mm)	Bucket (m³)	C/W (tonne)	Chassis Front	Chassis Rear	Total weight (kg)
One-piece boom (5600)	2750	0.86	4.0	Dozer	Stab	21.387
		0.86	4.0	Stab	Dozer	21.478
		0.86	4.0	Stab	Stab	21.629
	3000	0.86	4.0	Dozer	Stab	21.439
		0.86	4.0	Stab	Dozer	21.530
		0.86	4.0	Stab	Stab	21.681
Two-piece boom (5400: 1920 + 3840)	2400	0.86	3.2	Dozer	Stab	21.485
		0.86	3.2	Stab	Dozer	21.576
		0.86	3.2	Stab	Stab	21.726

# Dimensions



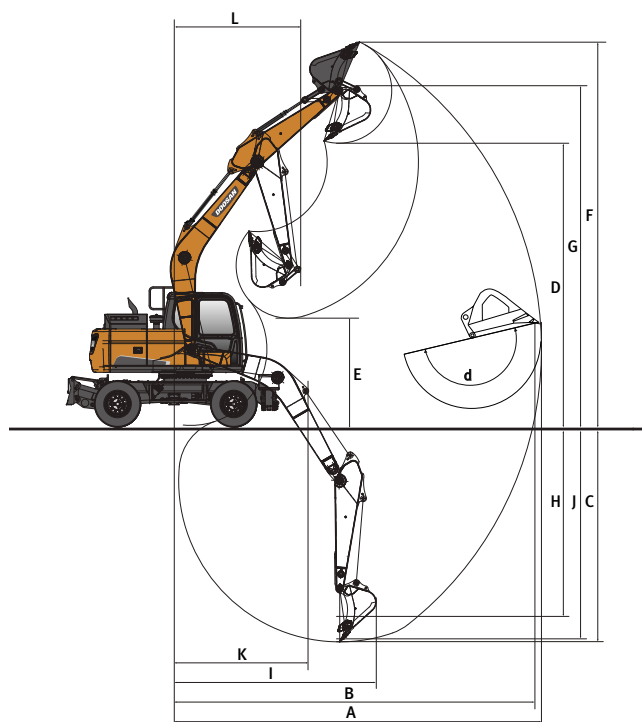
## Dimensions

Boom length - mm Arm length - mm	One-piece boom		Two-piece boom
	5600	3000	5400 (1920 LB + 3840 UB)
A Shipping length - mm	9473	9448	9225
B Shipping width - mm	2530	2530	2530
C Shipping height (boom) - mm	3357	3289	3140
D Height over cab - mm	3141	3141	3141
E Tail swing radius - mm	2755	2755	2755
F Ground clearance - mm	336	336	336
G Counterweight clearance - mm	1255	1255	1255
H Engine cover height - mm	2302	2302	2302
I Upper housing width - mm	2530	2530	2530
J Wheel base - mm	2850	2850	2850
K Tread width - mm	1914	1914	1914





# Working range



## Working range

	One-piece boom		Two-piece boom
	5600		5400 (1920 LB + 3840 UB)
Boom length - mm			
Arm length - mm	2750	3000	2400
Bucket capacity - m <sup>3</sup>	0.86	0.86	0.86
A Max. digging reach - mm	9705	9980	9385
B Max. digging reach (ground) - mm	9505	9785	9175
C Max. digging depth - mm	5905	6160	5605
D Max. loading height - mm	7115	7350	7530
E Min. loading height - mm	2840	2630	3310
F Max. digging height - mm	9870	10140	10435
G Max. bucket pin height - mm	8570	8805	8985
H Max. vertical wall depth - mm	5280	5715	4830
I Max. radius vertical - mm	6365	6260	5060
J Max. digging depth (8° level) - mm	5715	5980	5460
K Min. radius 8° line - mm	3180	3180	1062
L Min. swing radius - mm	3300	3445	3285
d Bucket angle - °	177	177	177

## Digging forces (ISO)

	One-piece boom		Two-piece boom
	5600		5400 (1920 LB + 3840 UB)
Boom length - mm			
Arm length - mm	2750	3000	2400
Bucket capacity - m <sup>3</sup>	0.86	0.86	0.86
BUCKET (Normal/Press. Up) - ton	15.2 / 16.0	15.2 / 16.0	15.2 / 16.0
ARM (Normal/Press. Up) - ton	10.3 / 10.9	10.2 / 10.8	11. / 12.2

# Lifting capacities

## DX210W-5

W/O Bucket

Unit: 1000 kg	A		Chassis Frame Attachment		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		Max. reach			
	B		☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	A	
One-piece boom 5.6 m Arm 2.75 m Counterweight 4.0 t	7.5 m	F-Stabiliser + R-Stabiliser Down									4.73 *	4.73 *			4.54 *	4.54 *	6.05	
		F-Stabiliser + R-Stabiliser Up									4.73 *	3.94			4.54 *	3.89		
		F-Dozer + R-Stabiliser Down										4.73 *	4.73 *			4.54 *		4.54 *
		F-Dozer + R-Stabiliser Up										4.73 *	3.91			4.54 *		3.85
	6.0 m	F-Stabiliser + R-Stabiliser Down										5.68 *	5.68 *			4.22 *	4.22 *	7.17
		F-Stabiliser + R-Stabiliser Up										5.68 *	3.95			4.22 *	2.91	
		F-Dozer + R-Stabiliser Down										5.68 *	5.68 *			4.22 *	4.22 *	
		F-Dozer + R-Stabiliser Up										5.68 *	3.92			4.22 *	2.88	
	4.5 m	F-Stabiliser + R-Stabiliser Down							7.32 *	7.32 *	6.18 *	6.18 *	5.62 *	5.11	4.16 *	4.16 *	7.84	
		F-Stabiliser + R-Stabiliser Up							7.32 *	5.86	5.68	3.8	3.99	2.66	3.7	2.45		
		F-Dozer + R-Stabiliser Down							7.32 *	7.32 *	6.18 *	5.97	5.62 *	4.18	4.16 *	3.88		
		F-Dozer + R-Stabiliser Up							7.32 *	5.81	5.71	3.77	4	2.63	3.71	2.43		
	3.0 m	F-Stabiliser + R-Stabiliser Down							9.05 *	9.05 *	6.94 *	6.94 *	5.89 *	5.01	4.29 *	4.29 *	8.18	
		F-Stabiliser + R-Stabiliser Up							8.39	5.35	5.44	3.58	3.89	2.56	3.39	2.22		
		F-Dozer + R-Stabiliser Down							9.05 *	8.86	6.94 *	5.72	5.89 *	4.09	4.29 *	3.56		
		F-Dozer + R-Stabiliser Up							8.42	5.3	5.46	3.54	3.9	2.54	3.4	2.2		
	1.5 m	F-Stabiliser + R-Stabiliser Down							10.44 *	10.44 *	7.64 *	6.81	6.19 *	4.89	4.59 *	4.26	8.24	
		F-Stabiliser + R-Stabiliser Up							7.9	4.93	5.21	3.37	3.78	2.46	3.29	2.14		
		F-Dozer + R-Stabiliser Down							10.44 *	8.36	7.64 *	5.48	6.19 *	3.97	4.59 *	3.46		
		F-Dozer + R-Stabiliser Up							7.93	4.88	5.23	3.33	3.79	2.44	3.31	2.12		
	0.0 m	F-Stabiliser + R-Stabiliser Down							10.91 *	10.4	7.99 *	6.65	6.28 *	4.81	5.16 *	4.39	8.01	
		F-Stabiliser + R-Stabiliser Up							7.66	4.71	5.05	3.23	3.7	2.39	3.38	2.19		
		F-Dozer + R-Stabiliser Down							10.91 *	8.11	7.99 *	5.33	6.28 *	3.9	5.16 *	3.56		
		F-Dozer + R-Stabiliser Up							7.69	4.67	5.07	3.19	3.72	2.37	3.4	2.16		
-1.5 m	F-Stabiliser + R-Stabiliser Down			11.62 *	11.62 *	10.48 *	10.35	7.78 *	6.59					5.85 *	4.83	7.48		
	F-Stabiliser + R-Stabiliser Up			11.62 *	8.49	7.61	4.67	5	3.18					3.72	2.4			
	F-Dozer + R-Stabiliser Down			11.62 *	11.62 *	10.48 *	8.06	7.78 *	5.27					5.85 *	3.91			
	F-Dozer + R-Stabiliser Up			11.62 *	8.4	7.64	4.62	5.02	3.14					3.73	2.37			
-3.0 m	F-Stabiliser + R-Stabiliser Down			12.41 *	12.41 *	9.13 *	9.13 *	6.70 *	6.66					5.78 *	5.78 *	6.55		
	F-Stabiliser + R-Stabiliser Up			12.41 *	8.68	7.7	4.75	5.06	3.24					4.51	2.91			
	F-Dozer + R-Stabiliser Down			12.41 *	12.41 *	9.13 *	8.16	6.70 *	5.34					5.78 *	4.75			
	F-Dozer + R-Stabiliser Up			12.41 *	8.59	7.73	4.7	5.09	3.2					4.53	2.88			
One-piece boom 5.6 m Arm 3.0 m Counterweight 4.0 t	7.5 m	F-Stabiliser + R-Stabiliser Down									5.46 *	5.46 *			4.39 *	4.39 *	6.42	
		F-Stabiliser + R-Stabiliser Up									5.46 *	4			4.39 *	3.53		
		F-Dozer + R-Stabiliser Down										5.46 *	5.46 *			4.39 *		4.39 *
		F-Dozer + R-Stabiliser Up										5.46 *	3.97			4.39 *		3.5
	6.0 m	F-Stabiliser + R-Stabiliser Down										5.43 *	5.43 *			4.08 *	4.08 *	7.48
		F-Stabiliser + R-Stabiliser Up										5.43 *	3.98			4.05	2.71	
		F-Dozer + R-Stabiliser Down										5.43 *	5.43 *			4.08 *	4.08 *	
		F-Dozer + R-Stabiliser Up										5.43 *	3.95			4.07	2.68	
	4.5 m	F-Stabiliser + R-Stabiliser Down					6.96 *	6.96 *	5.95 *	5.95 *	5.43 *	5.13			4.00 *	4.00 *	8.13	
		F-Stabiliser + R-Stabiliser Up					6.96 *	5.92	5.71	3.82	4	2.67			3.49	2.31		
		F-Dozer + R-Stabiliser Down					6.96 *	6.96 *	5.95 *	5.95 *	5.43 *	4.2			4.00 *	3.67		
		F-Dozer + R-Stabiliser Up					6.96 *	5.87	5.73	3.79	4.02	2.64			3.5	2.28		
	3.0 m	F-Stabiliser + R-Stabiliser Down					8.71 *	8.71 *	6.74 *	6.74 *	5.75 *	5.01			4.09 *	4.09 *	8.46	
		F-Stabiliser + R-Stabiliser Up					8.45	5.4	5.46	3.59	3.89	2.56			3.21	2.1		
		F-Dozer + R-Stabiliser Down					8.71 *	8.71 *	6.74 *	6.74 *	5.75 *	4.09			4.09 *	3.38		
		F-Dozer + R-Stabiliser Up					8.48	5.35	5.48	3.56	3.91	2.54			3.23	2.08		
	1.5 m	F-Stabiliser + R-Stabiliser Down					10.21 *	10.21 *	7.49 *	6.82	6.09 *	4.88			4.34 *	4.04	8.51	
		F-Stabiliser + R-Stabiliser Up					7.92	4.94	5.2	3.36	3.77	2.45			3.12	2.02		
		F-Dozer + R-Stabiliser Down					10.21 *	8.38	7.49 *	5.48	6.09 *	3.96			4.34 *	3.29		
		F-Dozer + R-Stabiliser Up					7.95	4.89	5.23	3.33	3.78	2.42			3.14	2		
	0.0 m	F-Stabiliser + R-Stabiliser Down					10.84 *	10.38	7.92 *	6.63	6.25 *	4.79			4.81 *	4.15	8.30	
		F-Stabiliser + R-Stabiliser Up					7.63	4.69	5.03	3.2	3.68	2.37			3.2	2.06		
		F-Dozer + R-Stabiliser Down					10.84 *	8.09	7.92 *	5.31	6.25 *	3.87			4.81 *	3.37		
		F-Dozer + R-Stabiliser Up					7.67	4.64	5.05	3.17	3.69	2.34			3.21	2.04		
-1.5 m	F-Stabiliser + R-Stabiliser Down	6.82 *	6.82 *	10.81 *	10.81 *	10.57 *	10.3	7.82 *	6.55	5.96 *	4.77			5.60 *	4.54	7.78		
	F-Stabiliser + R-Stabiliser Up	6.82 *	6.82 *	10.81 *	8.38	7.55	4.62	4.96	3.14	3.66	2.35			3.49	2.25			
	F-Dozer + R-Stabiliser Down	6.82 *	6.82 *	10.81 *	10.81 *	10.57 *	8.01	7.82 *	5.23	5.96 *	3.85			5.60 *	3.68			
	F-Dozer + R-Stabiliser Up	6.82 *	6.82 *	10.81 *	8.29	7.59	4.57	4.98	3.11	3.67	2.32			3.51	2.22			
-3.0 m	F-Stabiliser + R-Stabiliser Down			13.02 *	13.02 *	9.40 *	9.40 *	6.94 *	6.6					5.54 *	5.43	6.90		
	F-Stabiliser + R-Stabiliser Up			13.02 *	8.55	7.63	4.68	5	3.18					4.16	2.68			
	F-Dozer + R-Stabiliser Down			13.02 *	13.02 *	9.40 *	8.08	6.94 *	5.28					5.54 *	4.38			
	F-Dozer + R-Stabiliser Up			13.02 *	8.47	7.66	4.64	5.03	3.15					4.18	2.65			
-4.5 m	F-Stabiliser + R-Stabiliser Down					6.80 *	6.80 *							5.05 *	5.05 *	5.48		
	F-Stabiliser + R-Stabiliser Up					6.80 *	4.9							5.05 *	3.8			
	F-Dozer + R-Stabiliser Down					6.80 *	6.80 *							5.05 *	5.05 *			
	F-Dozer + R-Stabiliser Up					6.80 *	4.85							5.05 *	3.76			

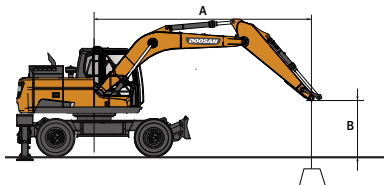


# Lifting capacities

## DX210W-5

### W/O Bucket

Unit: 1000 kg	A		Chassis Frame Attachment		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		
	B		☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	A
Two-piece boom 5.4 m Arm 2.4 m Counterweight 3.2 t	7.5 m	F-Stabiliser + R-Stabiliser Down					5.17 *	5.17 *							4.66 *	4.66 *	5.60
		F-Stabiliser + R-Stabiliser Up					4.86 *	4.86 *							4.40 *	3.93	
		F-Dozer + R-Stabiliser Down					5.17 *	5.17 *							4.66 *	4.66 *	
		F-Dozer + R-Stabiliser Up					4.86 *	4.86 *							4.40 *	3.89	
	6.0 m	F-Stabiliser + R-Stabiliser Down					5.33 *	5.33 *			5.34 *	5.34 *			4.01 *	4.01 *	6.80
		F-Stabiliser + R-Stabiliser Up					5.01 *	5.01 *	5.02 *	3.58					3.78 *	2.83	
		F-Dozer + R-Stabiliser Down					5.33 *	5.33 *	5.34 *	5.34 *					4.01 *	4.01 *	
		F-Dozer + R-Stabiliser Up					5.01 *	5.01 *	5.02 *	3.55					3.78 *	2.8	
	4.5 m	F-Stabiliser + R-Stabiliser Down					6.55 *	6.55 *	5.77 *	5.77 *	3.75 *	3.75 *	3.75 *	3.75 *	3.75 *	3.75 *	7.50
		F-Stabiliser + R-Stabiliser Up					6.16 *	5.37	5.32	3.46	3.54 *	2.35	3.53 *	2.35			
		F-Dozer + R-Stabiliser Down					6.55 *	6.55 *	5.77 *	5.59	3.75 *	3.75 *	3.75 *	3.75 *	3.75 *	3.75 *	
		F-Dozer + R-Stabiliser Up					6.16 *	5.32	5.34	3.43	3.54 *	2.33	3.53 *	2.33			
	3.0 m	F-Stabiliser + R-Stabiliser Down					8.47 *	8.47 *	6.61 *	6.61 *	5.92 *	4.72	3.68 *	3.68 *			7.86
		F-Stabiliser + R-Stabiliser Up					7.86	4.88	5.09	3.25	3.62	2.31	3.35	2.13			
		F-Dozer + R-Stabiliser Down					8.47 *	8.31	6.61 *	5.36	5.92 *	3.81	3.68 *	3.53			
		F-Dozer + R-Stabiliser Up					7.89	4.83	5.11	3.22	3.64	2.28	3.37	2.1			
	1.5 m	F-Stabiliser + R-Stabiliser Down					10.27 *	10.11	7.54 *	6.46	6.34 *	4.63	3.78 *	3.78 *			7.92
		F-Stabiliser + R-Stabiliser Up					7.4	4.48	4.87	3.06	3.53	2.23	3.26	2.06			
		F-Dozer + R-Stabiliser Down					10.27 *	7.83	7.54 *	5.14	6.34 *	3.72	3.78 *	3.44			
		F-Dozer + R-Stabiliser Up					7.43	4.43	4.9	3.02	3.55	2.2	3.28	2.03			
	0.0 m	F-Stabiliser + R-Stabiliser Down					11.31 *	9.88	8.24 *	6.31	6.67 *	4.59	4.06 *	4.06 *			7.68
		F-Stabiliser + R-Stabiliser Up					7.19	4.3	4.74	2.94	3.49	2.19	3.39	2.13			
		F-Dozer + R-Stabiliser Down					11.31 *	7.62	8.24 *	5	6.67 *	3.68	4.06 *	3.57			
		F-Dozer + R-Stabiliser Up					7.22	4.25	4.76	2.9	3.51	2.16	3.4	2.1			
-1.5 m	F-Stabiliser + R-Stabiliser Down				12.50 *	12.50 *	11.53 *	9.87	8.48 *	6.29			4.63 *	4.63 *		7.12	
	F-Stabiliser + R-Stabiliser Up					11.87 *	7.85	7.18	4.29	4.72	2.92		3.79	2.38			
	F-Dozer + R-Stabiliser Down					12.50 *	12.50 *	11.53 *	7.61	8.48 *	4.99		4.63 *	3.99			
	F-Dozer + R-Stabiliser Up					11.87 *	7.76	7.21	4.24	4.74	2.89		3.8	2.36			



☺ : Rating over front.  
☹ : Rating over side or 360°.

- Lifting capacities are in compliance with ISO 10567:2007(E).
- The load point is at the end of the arm.
- \* = The nominal loads are based on hydraulic capacity.
- The nominal loads shown do not exceed 75% of tipping loads or 87% of hydraulic lifting capacity.
- For lifting capacity with bucket, simply subtract the actual weight of the bucket from the values.
- The configurations indicated do not necessarily reflect the standard equipment of the machine.

## Doosan Buckets

4 More. More choice - More durable - More strength - More performance!

### General Construction Bucket



The General purpose bucket is designed for digging and re-handling soft to medium materials (e.g. materials with low wear characteristics such as top-soil, loam, coal).

### Heavy Construction Bucket



The Heavy duty bucket is designed for mass excavations in dense materials such as hard packed clay, shot limestone, limited rock content and gravel.

### Severe Mining Bucket



The Severe duty bucket is designed for durability in digging compact materials like loose or blasted rock, hard packed clay and stone.

### X-treme Mining Bucket



The X-treme duty bucket is designed as a long-life version of the Severe duty bucket for digging in the most abrasive materials.

# Standard and optional equipment

## ➤ Engine

Doosan DLo6P, Stage IV compliant, SCR, EGR, DOC, water-cooled diesel engine with Wastegate Turbocharger and air-to-air intercooler	●
Auto-idle function	●
Auto shut-off	●
No DPF	●

## ➤ Hydraulic system

Boom and arm flow regeneration	●
Swing anti-rebound valves	●
Spare ports (valve)	●
One-touch power boost function	●
Smart Power Control (SPC)	●
Breaker piping	●
Cylinder cushioning & contamination seals	●
Control of auxiliary hydraulic flow and pressure from the display panel	●

## ➤ Cab & Interior

Pressurised, sound-insulated and CabSus mounted cab	●
Heated, adjustable air suspension seat with adjustable headrest and armrest	●
Air conditioning with climate control	●
Pull-up type front window with sun roller blind and removable lower front window	●
Sliding left window	●
Intermittent upper and lower windshield wiper	●
Rain visor	●
Rear window defroster switch	●
Adjustable PPC wrist control levers for arm, boom, bucket and swing	●
Joysticks and pedal provide proportional control of auxiliary lines for attachments	●
Adjustable tiltable steering column	●
Pedal for auxiliary control 1 & 2 ways	●
Jog shuttle switch	●
7" (18 cm) TFT LCD colour monitor panel	●
Attachment management system with 10 presets	●
Engine speed (RPM) control dial	●
Automatic travel speed	●
4 operating modes & 4 working modes	●
Electric horn	●
Cigarette lighter	●
Ceiling light	●
Cup holder	●
Multiple storage compartments (e.g. document holder under seat)	●
Storage area (tools, etc.)	●
Hot and cool box	●
Flat, spacious, easy-to-clean floor	●
Master key	●
Anti-theft protection	●
12 V spare power socket	●
Serial communication port for laptop PC interface	●
Remote radio ON/OFF switch	●
Loudspeakers and connections for radio	●
MP3/USB radio or MP3/USB radio with CD player	○

## ➤ Safety

Roll Over Protective Structure (ROPS)	●
Boom and arm cylinder safety valves	●
Overload warning device	●
Large guard rails on upper structure and steps	●
Rotating beacon	●
Rear-view camera	●
Punched metal anti-slip plates	●
Hydraulic safety lock lever	●
Safety glass	●
Hammer for emergency escape	●
Right and left rear-view mirrors	●
Lockable fuel cap and covers	●
Battery cut-off switch	●
Engine restart prevention system	●
Parking brake	●
Work lights (2 front frame, 4 front cab-mounted, 2 rear cab-mounted, 2 boom-mounted and 1 rear side)	●
Emergency engine stop switch and hydraulic pump control switch	●
FOGS cab - top and front cab guards (ISO 10262)	○
Front window upper and lower guards	○
Side-view camera	○

## ➤ Other

Boom: 5600 mm – arm: 3000 mm – counterweight: 4000 kg	●
"CORE TMS" Telematic system	●
Auto shut-off fuel filler pump	●
Double element air cleaner and pre-filtered Cyclone Turbo dust separator	●
Fuel pre-filter with water separator sensor	●
Dust screen for radiator/oil cooler	●
Self-diagnostic function	●
Alternator (24 V, 80 A) - Battery (2 × 12 V, 150 Ah)	●
Powershift 2-speed transmission + creep mode	●
Remote greasing for swing circle and work group pivot points	●

Guards for work lights	●
Arms: 2400 mm or 2750 mm	○
Booms: two-piece boom 5400 mm – counterweight: 3200 kg	○
Doosan buckets: full range of GP, HD & Rock buckets	○
Doosan breakers and Doosan quick-couplers	○
Hydraulic piping for crusher, quick-coupler, clamshell, tilting and rotating buckets	○
Additional filter for breaker piping	○
Floating boom	○
Double pump flow	○
Bio oil	○
Automatic lubrication system	○
Road homologation (depending on countries)	○
Alarm for travel & swing	○

## ➤ Undercarriage

Front parallel dozer blade and rear independent Stabilisers	●
Double tyres 10.00-20-16PR	●
Front axle oscillation lock modes (On/Off/Auto)	●
Piston rod protection of Stabiliser cylinders	●
Lockable tool box (left side)	●
Rear & front chain tightening eyes	●
Lockable tool box (right side)	○
2 or 4 independent Stabilisers with cylinder protection	○
Rear parallel dozer blade	○

Standard: ●  
Optional: ○



Side-view camera



Tool box



Double pump flow (for attachments requiring high hydraulic capacity)



Two-piece boom



Doosan buckets



Doosan breakers and quick-couplers

Some of these options may be standard in some markets. Some of these options may not be available for certain markets. Please check with your local DOOSAN dealer for more information about availability or to adapt your machine to your application needs.





**The "CORE TMS" Doosan Telematic system:** is the technology of sending, receiving and storing information via telecommunication devices in conjunction with controlling remote objects. In dual mode (satellite, GSM), the system provides many details about the performance of your equipment, including: operation hours, fuel efficiency, GPS, fault code/warning and reports.



# SIMPLICITY WORKS

WHEN IT COMES TO DOOSAN...

