

DOOSAN

Crawler Excavators |
DX140LCR-5



Maximum power: 115 HP
Operating weight: 15.4 t
Max. bucket capacity: 0.76 m³



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 40,000 employees in 38 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

▣ 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



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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



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.

⊙ **Productivity:** State-of-the-art bucket and arm digging forces.

⊙ **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.

⊙ **Safety:** Rear camera and large side mirrors, powerful lighting, & anti-slip steps and platforms. Guard rails on upper structure.

⊙ **Special applications:** Two-piece boom and dozer blade configurations are ideally suited for special applications.

Additionally, rubber pads are available as option - ideal for urban applications with their low ground disturbance.



⊙ **Easy-to-use attachments:** Set flow & pressure of the auxiliary lines directly from the control panel. Additionally, 10 pre-sets are available to record specific settings.

⊙ **Comfort:** One of the most spacious cabs in the market, with low noise & vibration levels and excellent all-round visibility. 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.

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

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

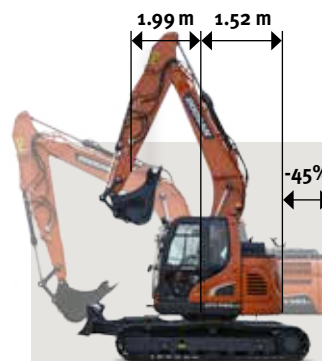
⊙ **Electric fan clutch:** For optimum cooling, fan speed is controlled electronically by a fan clutch, resulting in lower fan noise and better fuel efficiency.

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

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



⊙ **Undercarriage durability:** Forged steel and deep-hardened top rollers – oil-lubricated rollers – heat-treated sprocket – deep-hardened, heat-treated, grease lubricated & longer life track chains.



Reduced tail swing radius: To facilitate use in the city and in tight locations, the tail swing radius is 45% shorter & the front swing radius is 24% shorter compared to the conventional DX140LC-5. The smallest swing diameter is only 3.51 m.

Top performance and fuel efficiency



▣ The power to raise productivity

The DX140LCR-5 takes even the heaviest tasks in stride with efficient, dependable performance that saves you time and money:

- Improved hydraulic system uses the engine 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 DX140LCR-5 is equipped with a Perkins 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 an 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.



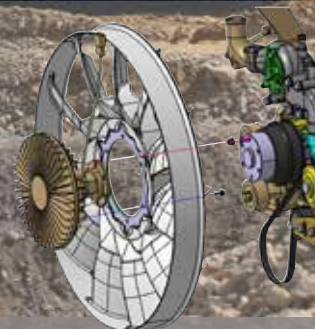
If the engine is the heart of the excavator, the e-EPOS is its brain - providing a perfectly synchronised communication link between the engine's ECU (Electronic Control Unit) and the hydraulic system. A CAN (Controller Area Network) system enables a constant flow of information between engine and hydraulic 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 viscous clutch resulting in a lower fan noise & better fuel efficiency



Wastegate turbocharger: Allows diverting of exhaust gases away from the turbine wheel to better regulate max boost pressure & protect engine. It also results in less lag time before turbo begins to spool/create boost maximizing torque, plus reduce 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.



Electronic 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 DX140LCR-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 Crawler 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.

Straight travel pedal

For straight machine movement – ensures comfort during on hill operation or front equipment combined movements such as boom/arm or boom/swing.

Two-way proportional pedal & joystick

For maximum comfort when operating attachments - operator can easily set his preference in the control panel to operate with the rollers on joystick or with the pedal (not available with two-piece boom configuration).

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

Optional MP3/USB radio or MP3/USB radio with CD player.

Storage space

The new cab contains many 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 is strut-assisted for easy, reliable adjustment and integrates a sun shade
7. Photo sensor detects radiant energy from the sun and adjusts temperature automatically
8. Improved visibility on the bottom right
9. Joysticks and switches are integrated in adjustable control consoles
10. Separate seat height adjustment lever and cushion tilting function
11. Pedal for auxiliary control 1 & 2 ways
12. Straight ergonomic pedals
13. Flat, spacious, easy-to-clean floor
14. Engine emergency stop switch
15. Two-piece boom or straight travel pedal

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 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 (either from joystick or pedal), 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. Filter oil information
11. Attachment management: stores up to 10 different attachment presets, enabling the operator to set hydraulic flow & pressure according to his needs

Trip meter

Allow operators to check fuel consumption daily (or over a desired period) directly from the control panel.

Control of the auxiliary lines from joystick or pedals

Because controlling attachments (like shear or breaker) from the joystick may become uncomfortable after several hours or continuous repetition, this feature increases operator comfort. It's also helpful when precision is required – as the operator can keep full control of the excavator via the joystick while using the two-way pedal for attachments.

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

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 allow proportional control of attachments
3. "Short stroke" joysticks enable easy, precise control of all operations
4. Exclusive jog shuttle switch
5. Automatic travel speed switch
6. Working lights switch
7. Climate control & HVAC
8. Remote control of radio
9. Wipers control
10. 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.



Rear view camera



Large side mirrors

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.



Extra-strong X-chassis

Designed using Finite Element Analysis and 3D computer simulation, the X-shaped undercarriage ensures optimum structural integrity and durability.

Undercarriage durability

- The chain is composed of sealed, self-lubricating links for long-term dependability
- The track spring and idler are joined for long-lasting performance and easy maintenance
- Cast steel heavy-duty sprockets guarantee the highest resistance
- Track rollers lubricated for life

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.

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 making the cleaning and cartridge change intervals greater

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.



Dozer blade

Sturdy & reinforced dozer structure:

- Wide angles of lifting height and digging depth to fit any working site
- Big anchor points for a maximal durability
- Large protection of the cylinders & hoses
- Lifting eyes on dozer for secure transport
- Parts in contact with the ground have been carefully designed to prevent damage to the surface

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.



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 network of Doosan dealers & Parts Distribution centres worldwide, 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



Filters easy access



SCR Tank



Hour meter
(from ground level)

Technical specifications

Engine

Designed to deliver superior performance and fuel efficiency, the Perkins 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 Turbocharged, Exhaust Gas Recirculation (EGR) & Selective Catalytic Reduction (SCR) with no Diesel Particulate Filter (DPF).

DX140LCR-5	
Model	Perkins 1204F
No. of cylinders	4
Rated power at 2000 rpm	
(SAE J1995)	85.9 kW (115 HP)
(SAE J1349)	81.6 kW (109 HP)
(ISO 9249)	81.6 kW (110 PS)
Max. torque at 1400 rpm	51 kgf/m
Idle (low - high)	950 [± 10] - 2060 [± 25] rpm
Piston displacement	4400 cm ³
Bore × stroke	105 mm × 127 mm
Starter	24 V × 4.5 kW
Batteries - Alternator	2 × 12 V, 100 Ah - 24 V, 85 A
Air filter	Double element air cleaner

Undercarriage

Extremely robust construction throughout - made of high-quality, durable materials, with all welded structures designed to limit stresses.

- Track rollers lubricated for life
- Idlers and sprockets fitted with floating seals
- Track shoes made of induction-hardened alloy with triple grouser
- Heat-treated connecting pins
- Hydraulic track adjuster with shock-absorbing tension mechanism

Number of rollers and track shoes per side

DX140LCR-5	
Upper rollers (standard shoe)	1
Lower rollers	7
Number of links & shoes per side	46
Link pitch	171.5 mm
Overall track length	3755 mm

Weight

	Shoe width (mm)	Operating weight (t)	Ground pressure (kgf/cm ²)
Triple grouser	600 (Std)	15.4	0.39
	500	15.1	0.46
	700	15.5	0.34
Rubber	500	15.1	0.46

Component weights

Item	Unit	DX140LCR-5	Remarks
Upper structure without front	kg	7940	
Lower structure assembly	kg	5040	
Front assembly	kg	2380	
Counterweight	kg	3400	
Boom	mm / kg	4600 / 767	Including bushing
Boom, two piece	mm / kg	Upper: 3350 / 592 - Lower: 2000 / 384	Including bushing
Arms	mm / kg	2100 / 370 - 2500 / 414 - 3000 / 465	Including bushing

Hydraulic system

The e-EPOS (Electronic Power Optimising System) is the brain of the excavator - minimising fuel consumption and enabling the efficiency of the hydraulic system to be optimised 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

Pumps & system pressure

DX140LCR-5	
Main pumps, type:	1 × variable displacement tandem axial piston pump
Maximum flow at 2000 rpm	2 × 114 l/min
Pilot pump, type:	Gear pump
Maximum flow at 2000 rpm	30 l/min
Relief valve settings:	
Pressure up	350 kg/cm ²
Travel	330 kg/cm ²
Swing	275 kg/cm ²
Pilot	40 kg/cm ²

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	110 × 75 × 1103
Arm	1	115 × 80 × 1108
Bucket	1	100 × 70 × 900
Two-piece boom, lower	2	110 × 75 × 965
Two-piece boom, upper	1	140 × 85 × 720
Arm, two-piece boom	1	115 × 80 × 1068

➤ 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

► Swing speed & torque

DX140LCR-5	
Maximum swing speed	9.9 rpm
Maximum swing torque	4800 kgf/m

➤ Drive

Each track is driven by an independent, high-torque axial piston motor through a planetary reduction gearbox. Two levers / foot pedals guarantee smooth travel with counter-rotation on demand.

The track frame protects the travel motor, brake and planetary gears. The multi-disc track brakes are spring-applied and hydraulic released.

► Speed & traction

DX140LCR-5	
Travel speed (low - high)	2.8 - 4.7 km/h
Maximum traction	16.4 t
Maximum gradeability	35° / 70%

➤ Fluid capacities

DX140LCR-5	
Fuel tank	210 l
Cooling system (radiator)	25 l
Urea (def) tank	19 l
Hydraulic oil tank	130 l
Engine oil	8 l
Swing drive	3 l
Travel device	2 × 2 l

➤ Cab

The air-conditioning and heating systems are integrated for optimal climate control. An automatically-controlled fan supplies the pressurised and filtered cab air, which is distributed throughout the cab from multiple vents.

The heated air suspension, adjustable operator's seat includes a seat belt. The operator can adjust the ergonomic seat and joystick console separately according to his preferences.

► Noise emission

DX140LCR-5	
A-weighted emission sound pressure level at the operator's position, LpAd (ISO 6396:2008)	73 dB(A)
A-weighted sound power level, LwAd (2000/14/EC)	Declared : 100 dB(A) Measured : 98 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.

➤ Buckets

Bucket Type	Capacity (m³) SAE	Width (mm)		Weight (kg)	One-piece boom			Two-piece boom	
		With side cutters	W/O side cutters		Arm 2.1 m	Arm 2.5 m	Arm 3.0 m	Arm 2.1 m	Arm 2.5 m
					Shoe 600 mm	Shoe 600 mm	Shoe 800 mm	Shoe 600 mm	Shoe 800 mm
GP	0.24	534	464	275	A	A	A	A	A
	0.39	820	736	341	A	A	A	A	A
	0.45	911	821	381	A	A	A	A	A
	0.51	991	907	393	A	A	A	A	B
	0.59	1081	997	413	A	A	A	A	A
	0.64	1167	1083	435	A	A	B	A	B
	0.76	1339	1255	484	A	B	C	C	C
HD	0.42	827	762	462	A	A	A	A	A
	0.49	913	848	497	A	A	A	A	A
	0.54	981	916	517	A	A	A	A	A

Bucket Type	Capacity (m³) SAE	Width (mm)		Weight (kg)	One-piece boom		
		With side cutters	W/O side cutters		Arm 2.1 m	Arm 2.5 m	Arm 3.0 m
					Rubber shoe 500 mm	Rubber shoe 500 mm	Rubber shoe 500 mm
GP	0.24	534	464	275	A	A	A
	0.39	820	736	341	A	A	A
	0.45	911	821	381	A	A	A
	0.51	991	907	393	A	A	B
	0.59	1081	997	413	A	A	A
	0.64	1167	1083	435	A	A	B
	0.76	1339	1255	484	B	C	C
HD	0.42	827	762	462	A	A	A
	0.49	913	848	497	A	A	A
	0.54	981	916	517	A	A	A

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

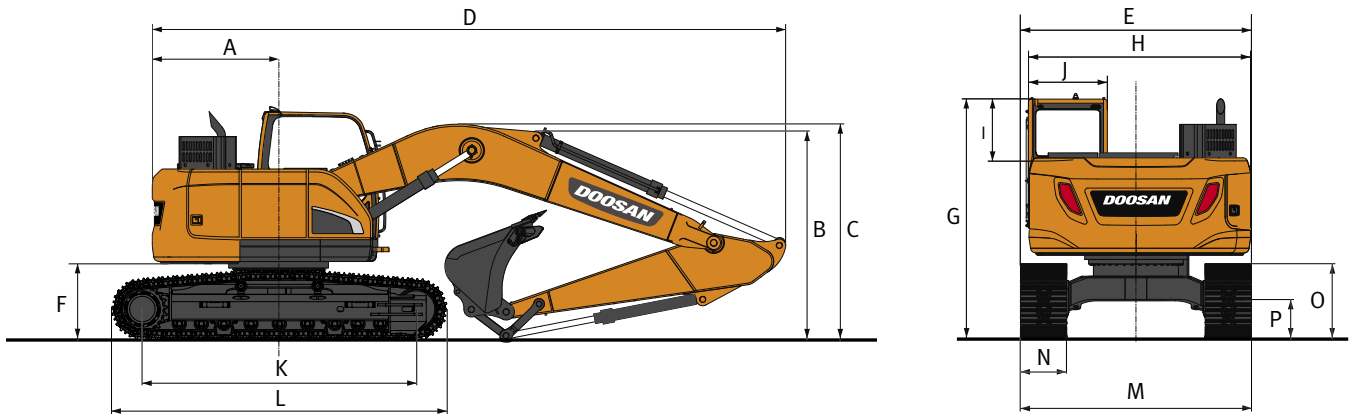
B: Suitable for materials with a density less than or equal to 1800 kg/m³

C: Suitable for materials with a density less than or equal to 1500 kg/m³

D: Suitable for materials with a density less than or equal to 1200 kg/m³

Based on ISO 10567 and SAE J296, arm length without quick-coupler. For reference only.

Dimensions



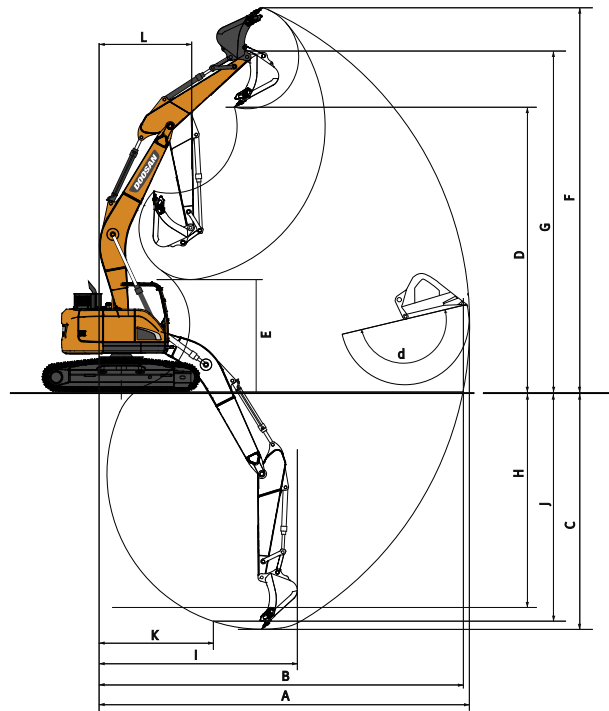
Dimensions

Boom length - mm	One-piece boom			Two-piece boom	
	4600			4987 (3350 LB + 2000 UB)	
Arm length - mm	2100	2500	3000	2100	2500
Bucket capacity - m ³	0.51	0.45	0.39	0.51	0.45
A Tail swing radius - mm	1525	1525	1525	1525	1525
B Shipping height (boom) - mm	2480	2635	3060	2615	2800
C Shipping height (hose) - mm	2595	2770	3135	2990	3170
D Shipping length - mm	7365	7360	7320	7725	7650
E Shipping width std. - mm	2590	2590	2590	2590	2590
F Counterweight clearance - mm	895	895	895	895	895
G Height over cab - mm	2835	2835	2835	2835	2835
H House width - mm	2440	2440	2440	2440	2440
I Cab height above house - mm	730	730	730	730	730
J Cab width - mm	1020	1020	1020	1020	1020
K Tumbler distance - mm	3035	3035	3035	3035	3035
L Track length - mm	3755	3755	3755	3755	3755
M Undercarriage width - mm	2590	2590	2590	2590	2590
N Shoe width - mm	600	600	600	600	600
O Track height - mm	795	795	795	795	795
P Ground clearance - mm	410	410	410	410	410

Digging forces (ISO)

Boom length - mm	One-piece boom			Two-piece boom	
	4600			4987 (3350 LB + 2000 UB)	
Arm length - mm	2100	2500	3000	2100	2500
Bucket capacity - m ³	0.51	0.45	0.39	0.51	0.45
BUCKET (Normal/Press. Up) - ton	9.1 / 9.7	9.1 / 9.7	9.1 / 9.7	9.1 / 9.7	9.1 / 9.7
ARM (Normal/Press. Up) - ton	7.2 / 7.7	6.2 / 6.5	5.6 / 6.0	7.2 / 7.7	6.2 / 6.5

Working range



Working range

	One-piece boom			Two-piece boom	
	2100	2500	3000	4987 (3350 LB + 2000 UB)	2500
Boom length - mm	4600			4987 (3350 LB + 2000 UB)	
Arm length - mm	2100	2500	3000	2100	2500
Bucket capacity - m ³	0.51	0.45	0.39	0.51	0.45
A Max. digging reach - mm	7815	8285	8665	8260	8720
B Max. digging reach (ground) - mm	7660	8140	8530	8115	8585
C Max. digging depth - mm	5085	5485	5985	5305	5735
D Max. loading height - mm	6380	6855	7080	6580	7045
E Min. loading height - mm	2890	2525	2120	3210	2865
F Max. digging height - mm	8760	9265	9470	8940	9445
G Max. bucket pin height - mm	7600	8075	8300	7795	8265
H Max. vertical wall depth - mm	3705	4490	4680	4120	4690
I Max. radius vertical - mm	5745	5605	5970	5870	5725
J Max. digging depth (8° level) - mm	4780	5260	5765	5185	5625
K Min. radius 8° line - mm	1995	2110	2040	910	910
L Min. swing radius - mm	1825	1995	2320	2610	2820
d Bucket angle - °	174	174	174	174	174

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.

Lifting capacities

➤ Standard track width: 2590 mm • W/O Bucket

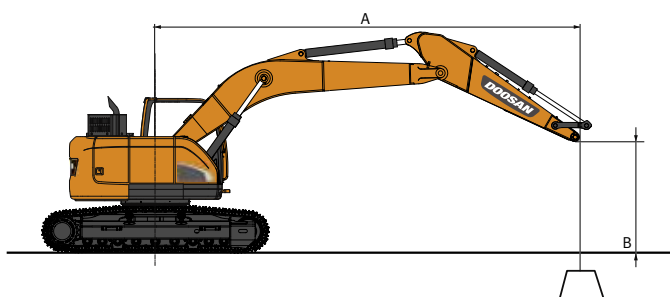
Unit: 1000 kg	A B	Chassis Frame Attachment	1.5 m		3.0 m		4.5 m		6.0 m		Max. reach			
			🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	A	
One-piece boom 4.60 m Arm 2.5 m Shoe 600 mm Counterweight 3.4 t	7.5 m	Dozer up			3.80 *	3.80 *						2.74 *	2.74 *	3.63
		W/O dozer			3.80 *	3.80 *						2.74 *	2.74 *	3.63
	6.0 m	Dozer up					3.67 *	3.67 *				2.17 *	2.17 *	5.42
		W/O dozer					3.67 *	3.67 *				2.17 *	2.17 *	5.42
	4.5 m	Dozer up			3.98 *	3.98 *	4.26 *	4.18	3.20 *	2.64		2.01 *	2.01 *	6.40
		W/O dozer			3.98 *	3.98 *	4.26 *	3.96	3.20 *	2.49		2.01 *	2.01 *	6.40
	3.0 m	Dozer up			7.25 *	7.25 *	5.27 *	3.98	4.31	2.58		2.00 *	2.00 *	6.91
		W/O dozer			7.25 *	7.07	5.27 *	3.75	3.82	2.42		2.00 *	1.93	6.91
	1.5 m	Dozer up			8.30 *	6.74	6.38 *	3.74	4.2	2.48		2.11 *	1.95	7.07
		W/O dozer			8.30 *	6.35	5.77	3.51	3.71	2.32		2.11 *	1.82	7.07
	0.0 m	Dozer up			7.16 *	6.45	6.31	3.57	4.11	2.4		2.37 *	1.98	6.90
		W/O dozer			7.16 *	6.06	5.58	3.34	3.62	2.24		2.37 *	1.85	6.90
	-1.5 m	Dozer up	5.40 *	5.40 *	10.35 *	6.43	6.24	3.51	4.08	2.38		2.90 *	2.2	6.36
		W/O dozer	5.40 *	5.40 *	10.35 *	6.04	5.51	3.28	3.59	2.22		2.90 *	2.06	6.36
	-3.0 m	Dozer up	9.21 *	9.21 *	8.79 *	6.54	6.00 *	3.56				4.22 *	2.82	5.37
		W/O dozer	9.21 *	9.21 *	8.79 *	6.15	5.57	3.33				4.22 *	2.64	5.37

➤ Standard track width: 2590 mm • W/O Bucket

Unit: 1000 kg	A B	Chassis Frame Attachment	1.5 m		3.0 m		4.5 m		6.0 m		Max. reach			
			🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	A	
One-piece boom 4.60 m Arm 3.0 m Shoe 700 mm Counterweight 3.4 t	7.5 m	Dozer up										2.42 *	2.42 *	4.34
		W/O dozer										2.42 *	2.42 *	4.34
	6.0 m	Dozer up					3.28 *	3.28 *				2.05 *	2.05 *	5.91
		W/O dozer					3.28 *	3.28 *				2.05 *	2.05 *	5.91
	4.5 m	Dozer up					3.56 *	3.56 *	3.21 *	2.53		1.94 *	1.94 *	6.82
		W/O dozer					3.56 *	3.56 *	3.21 *	2.56		1.94 *	1.94 *	6.82
	3.0 m	Dozer up			5.82 *	5.82 *	4.76 *	3.82	3.85	2.45		1.96 *	1.77	7.30
		W/O dozer			5.82 *	5.82 *	4.76 *	3.86	3.89	2.47		1.96 *	1.79	7.30
	1.5 m	Dozer up			9.28 *	6.51	5.82	3.55	3.72	2.33		2.08 *	1.67	7.45
		W/O dozer			9.28 *	6.58	5.89	3.59	3.76	2.36		2.08 *	1.69	7.45
	0.0 m	Dozer up			8.35 *	6.06	5.58	3.34	3.61	2.23		2.35 *	1.69	7.29
		W/O dozer			8.35 *	6.14	5.65	3.38	3.65	2.26		2.35 *	1.71	7.29
	-1.5 m	Dozer up	5.20 *	5.20 *	10.13 *	5.96	5.47	3.25	3.56	2.18		2.86 *	1.85	6.79
		W/O dozer	5.20 *	5.20 *	10.13 *	6.03	5.53	3.29	3.6	2.21		2.86 *	1.87	6.79
	-3.0 m	Dozer up	8.20 *	8.20 *	9.55 *	6.03	5.48	3.26				3.71	2.28	5.87
		W/O dozer	8.20 *	8.20 *	9.55 *	6.1	5.55	3.3				3.75	2.31	5.87
	-4.5 m	Dozer up			6.60 *	6.26						4.42 *	3.72	4.24
		W/O dozer			6.60 *	6.33						4.42 *	3.76	4.24

➤ Standard track width: 2590 mm • W/O Bucket

Unit: 1000 kg	A B	Chassis Frame Attachment	1.5 m		3.0 m		4.5 m		6.0 m		Max. reach			
			🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	🏗️	A	
One-piece boom 4.60 m Arm 2.5 m Shoe 500 mm Rubber Counterweight 3.4 t	7.5 m	Dozer up			3.80 *	3.80 *						2.74 *	2.74 *	3.63
		W/O dozer			3.80 *	3.80 *						2.74 *	2.74 *	3.63
	6.0 m	Dozer up					3.67 *	3.67 *				2.17 *	2.17 *	5.42
		W/O dozer					3.67 *	3.67 *				2.17 *	2.17 *	5.42
	4.5 m	Dozer up			3.98 *	3.98 *	4.26 *	3.89	3.20 *	2.45		2.01 *	2.01 *	6.40
		W/O dozer			3.98 *	3.98 *	4.26 *	3.89	3.20 *	2.45		2.01 *	2.01 *	6.40
	3.0 m	Dozer up			7.25 *	7.25 *	5.27 *	3.91	4.23	2.53		2.00 *	2.00 *	6.91
		W/O dozer			7.25 *	6.96	5.27 *	3.69	3.75	2.38		2.00 *	1.89	6.91
	1.5 m	Dozer up			8.30 *	6.63	6.38 *	3.67	4.13	2.43		2.11 *	1.91	7.07
		W/O dozer			8.30 *	6.24	5.67	3.45	3.64	2.28		2.11 *	1.78	7.07
	0.0 m	Dozer up			7.16 *	6.34	6.2	3.5	4.04	2.35		2.37 *	1.94	6.90
		W/O dozer			7.16 *	5.95	5.47	3.28	3.55	2.2		2.37 *	1.81	6.90
	-1.5 m	Dozer up	5.40 *	5.40 *	10.35 *	6.32	6.14	3.44	4.01	2.33		2.90 *	2.16	6.36
		W/O dozer	5.40 *	5.40 *	10.35 *	5.92	5.41	3.22	3.53	2.18		2.90 *	2.02	6.36
	-3.0 m	Dozer up	9.21 *	9.21 *	8.79 *	6.43	6.00 *	3.49				4.22 *	2.77	5.37
		W/O dozer	9.21 *	9.21 *	8.79 *	6.04	5.46	3.27				4.21	2.59	5.37



🏗️ : 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.

Lifting capacities

➤ Standard track width: 2590 mm • W/O Bucket

Unit: 1000 kg	A B	Chassis Frame Attachment	1.5 m		3.0 m		4.5 m		6.0 m		Max. reach			
			⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	A	
Two-piece boom 4.98 m Arm 2.5 m Shoe 600 mm Counterweight 3.4 t	7.5 m	Dozer up			2.46 *	2.46 *						1.92 *	1.92 *	4.59
		W/O dozer			2.46 *	2.46 *						1.92 *	1.92 *	4.59
	6.0 m	Dozer up			3.37 *	3.37 *	2.20 *	2.20 *				1.51 *	1.51 *	6.11
		W/O dozer			3.37 *	3.37 *	2.20 *	2.20 *				1.51 *	1.51 *	6.11
	4.5 m	Dozer up			3.83 *	3.83 *	3.66 *	2.65				1.36 *	1.36 *	6.98
		W/O dozer			3.83 *	3.83 *	3.66 *	2.49				1.36 *	1.36 *	6.98
	3.0 m	Dozer up			4.86 *	3.92	4.06 *	2.55				1.31 *	1.31 *	7.46
		W/O dozer			4.86 *	3.7	3.82	2.4				1.31 *	1.31 *	7.46
	1.5 m	Dozer up			6.03 *	3.64	4.17	2.43	2.24 *	1.75		1.33 *	1.33 *	7.60
		W/O dozer			5.72	3.42	3.69	2.28	2.24 *	1.63		1.33 *	1.33 *	7.60
	0.0 m	Dozer up			6.24	3.47	4.07	2.34				1.42 *	1.42 *	7.45
		W/O dozer			5.51	3.24	3.59	2.18				1.42 *	1.42 *	7.45
	-1.5 m	Dozer up	7.43 *	6.28	6.17	3.41	4.03	2.31				1.62 *	1.62 *	6.96
		W/O dozer	7.43 *	5.89	5.45	3.19	3.55	2.15				1.62 *	1.62 *	6.96
	-3.0 m	Dozer up	9.31 *	6.41	6.23	3.46	3.06 *	2.38				2.04 *	2.04 *	6.06
		W/O dozer	9.31 *	6.01	5.51	3.24	3.06 *	2.22				2.04 *	2.04 *	6.06

➤ Standard track width: 2590 mm • W/O Bucket

Unit: 1000 kg	A B	Chassis Frame Attachment	3.0 m		4.5 m		6.0 m		7.5 m		Max. reach			
			⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	A		
Two-piece boom 4.98 m Arm 2.1 m Shoe 600 mm Counterweight 3.4 t	7.5 m	Dozer up										2.99 *	2.99 *	3.77
		W/O dozer										2.99 *	2.99 *	3.77
	6.0 m	Dozer up			3.80 *	3.80 *						2.34 *	2.34 *	5.52
		W/O dozer			3.80 *	3.80 *						2.34 *	2.34 *	5.52
	4.5 m	Dozer up	5.00 *	5.00 *	4.22 *	4.12	3.97 *	2.62				2.15 *	2.15 *	6.48
		W/O dozer	5.00 *	5.00 *	4.22 *	3.89	3.89	2.46				2.15 *	2.15 *	6.48
	3.0 m	Dozer up			5.24 *	3.87	4.28	2.53				2.12 *	1.99	6.98
		W/O dozer			5.24 *	3.65	3.8	2.38				2.12 *	1.86	6.98
	1.5 m	Dozer up			6.33 *	3.62	4.17	2.43				2.21 *	1.89	7.14
		W/O dozer			5.68	3.39	3.68	2.27				2.21 *	1.76	7.14
	0.0 m	Dozer up			6.24	3.47	4.08	2.35				2.44 *	1.92	6.97
		W/O dozer			5.52	3.25	3.6	2.2				2.44 *	1.79	6.97
	-1.5 m	Dozer up	8.60 *	6.37	6.21	3.45	4.07	2.34				2.91 *	2.14	6.45
		W/O dozer	8.60 *	5.98	5.49	3.23	3.59	2.19				2.91 *	2	6.45
	-3.0 m	Dozer up			6.11 *	3.53						4.08 *	2.73	5.47
		W/O dozer			5.58	3.3						4.08 *	2.56	5.47

➤ Standard track width: 2590 mm • W/O Bucket

Unit: 1000 kg	A B	Chassis Frame Attachment	3.0 m		4.5 m		6.0 m		7.5 m		Max. reach			
			⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	A		
Two-piece boom 4.98 m Arm 2.5 m Shoe 500 mm Rubber Counterweight 3.4 t	7.5 m	Dozer up			2.46 *	2.46 *						1.92 *	1.92 *	4.59
		W/O dozer			2.46 *	2.46 *						1.92 *	1.92 *	4.59
	6.0 m	Dozer up			3.37 *	3.37 *	2.20 *	2.20 *				1.51 *	1.51 *	6.11
		W/O dozer			3.37 *	3.37 *	2.20 *	2.20 *				1.51 *	1.51 *	6.11
	4.5 m	Dozer up			3.83 *	3.83 *	3.66 *	2.6				1.36 *	1.36 *	6.98
		W/O dozer			3.83 *	3.83 *	3.66 *	2.45				1.36 *	1.36 *	6.98
	3.0 m	Dozer up			4.86 *	3.85	4.06 *	2.5				1.31 *	1.31 *	7.46
		W/O dozer			4.86 *	3.63	3.75	2.35				1.31 *	1.31 *	7.46
	1.5 m	Dozer up			6.03 *	3.57	4.09	2.38	2.24 *	1.71		1.33 *	1.33 *	7.60
		W/O dozer			5.6	3.36	3.61	2.23	2.24 *	1.59		1.33 *	1.33 *	7.60
	0.0 m	Dozer up			6.12	3.39	3.99	2.29				1.42 *	1.42 *	7.45
		W/O dozer			5.4	3.18	3.51	2.14				1.42 *	1.42 *	7.45
	-1.5 m	Dozer up	7.43 *	6.15	6.05	3.34	3.96	2.26				1.62 *	1.62 *	6.96
		W/O dozer	7.43 *	5.77	5.34	3.13	3.48	2.11				1.62 *	1.62 *	6.96
	-3.0 m	Dozer up	9.31 *	6.28	6.11	3.39	3.06 *	2.33				2.04 *	2.04 *	6.06
		W/O dozer	9.31 *	5.9	5.39	3.17	3.06 *	2.18				2.04 *	2.04 *	6.06

Standard and optional equipment

Engine

Perkins 1204F, 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 pedals provide proportional control of auxiliary lines for attachments	●
Travel pedals and hand levers	●
Jog shuttle switch	●
7" (18 cm) TFT LCD colour monitor panel	●
Attachment management system	●
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	○

Other

Boom: 4600 mm – arm: 2500 mm – counterweight: 3400 kg	●
"CORE TMS" Telematic system	●
Auto shut-off fuel filler pump	●
Double element air cleaner	●
Fuel pre-filter with water separator sensor	●
Dust screen for radiator/oil cooler	●
Self-diagnostic function	●
Alternator (24 V, 85 A) - Battery (2 × 12 V, 100 Ah)	●
Hydrostatic 2-speed travel system with automatic shift	●
Remote greasing for swing circle and work group pivot points	●
Guards for work lights	●
Arms: one-piece boom: 2100 mm or 3000 mm	○

Arms: two-piece boom: 2100 mm or 2500 mm	○
Booms: two-piece boom 4987 mm	○
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	○
Straight travel pedal (not to be combined with two-piece boom)	○
Bio oil	○
Automatic lubrication system	○

Undercarriage

Hydraulic track adjuster	●
Normal track guards	●
Greased and sealed track links	●
600 mm triple grouser shoe	●
500, 700 mm triple grouser shoe	○
500 mm rubber shoe	○
Dozer blade (width: 2490 mm for 500 mm shoe)	○
Dozer blade (width: 2590 mm for 600 mm shoe)	○
Dozer blade (width: 2690 mm for 700 mm shoe)	○

Standard: ●
Optional: ○



Dozer blade



Rubber pads



Straight travel pedal



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.



"CORE TMS" Doosan Telematic system: is the technology of sending, receiving and storing information via telecommunication devices in conjunction with affecting control on remote objects. It will provide in a dual mode (satellite, GSM) many details about the performances of your equipment such as operation hours, fuel efficiency, GPS, fault code/warning and reports.

SIMPLICITY WORKS

WHEN IT COMES TO DOOSAN...

