DX140LCR-3 | Crawler Excavator

- **81 kW (108 HP) @ 2200 rpm**
- **15100 - 15500 kg**
- **0.24 - 0.76 m³**
Be part of the great Doosan family
The Doosan Group was founded in 1896. It is headquartered in Seoul, South Korea, and today is one of the fastest growing companies in the world:

From 1896, the first modern local store in Korea
20th century & beyond, major player in various industries all around the world
Today, a global leader in the Infrastructure Support Business (ISB) sector

AN EXPLOSIVE GROWTH RECORD

DOOSAN GROUP REVENUE

117 years of history
43100 employees in 34 countries
Global presence:
- 56 subsidiaries
- 3700 distributors worldwide
Dramatic growth over the past decade:
- 23% average annual revenue growth since 2000
- From 3.4 to 24.6 KRW trillion between 1998 and 2010

Doosan Group

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

Doosan Mecatec
- World N° 1 chemical process equipment company
- 60 000 tonnes annual production capacity

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

Doosan Heavy Industries & Construction
- World N° 1 in desalination plant
- World N° 1 in heat recovery steam generator market
- World N° 1 in mould & tool steel
- World N° 3 in crankshafts

Doosan Infracore
- World N° 1 in compact loaders
- World N° 1 in attachments
- World N° 1 in portable air compressors
- N° 1 in China: 22 000 excavators sold in 2010
Doosan – One-stop shop

- From machine manufacturer... TO FULL SOLUTION PROVIDER
All Doosan Infracore Construction Equipment products are designed and built to deliver the highest levels of performance and productivity. Parts and service support are intended to fully maintain the performance, productivity and reliability expected of our products throughout their entire lifetime as well as ensure the highest trade-in and residual values.

- Ask your dealer for a full range of services designed for you!
Your dealer is your local specialist to ensure you receive the maximum benefits from our integrated package. Think in advance, think to ensure the success of your equipment!

1. Genuine parts
2. Extension of warranty
3. Maintenance contract
4. Telematics
5. Monitoring systems
6. Financial solutions
7. Doosan approved attachments

Doosan Infracore Construction Equipment
We have been building a global production and business network since 1990 to become one of the world’s foremost construction equipment manufacturers. In addition to operating large-scale factories worldwide, we have also established sales subsidiaries, branches and a dealership network all over the globe, making us a truly global player in every respect.
TAKE A TOUR

Large, heavy-duty boom and arm cylinders for smooth, powerful operation

Reinforced heavy-duty arm and boom

Reinforced forged steel pivot points

Two-piece boom available for improved working range

Massive maximum bucket and arm digging forces of 11.1 and 7.7 t

Reliable and well protected hydraulic, electric and lubrication routings with simple, optimised layout

New work lights with improved illumination (standard: 1 front frame, 4 front & 2 rear cab-mounted, 2 boom mounted and 1 rear side)

All-round visibility with better view through the rear and right windows

EXPERT CONTROL
• Joystick and switches integrated in the control stand for precise operation. All switches grouped together and ergonomically positioned to the right
• 3 working and 3 power modes for maximum efficiency
• Proportional control (flow/pressure) to operate attachments smoothly and precisely
• New, user-friendly 7” TFT LCD colour monitor with full access to machine settings and maintenance data
• Rear camera and large side mirrors
• Battery disconnect switch
• Straight travel pedal (optional)
WITNESS COMPACTNESS, ENTER THE POWER

COMFORTABLE WORKSPACE
- Spacious ROPS cab with low noise and vibration levels
- Fully adjustable heated air suspension seat as standard
- Large sun roof for extra overhead visibility
- Air conditioning
- Extra-large door for easy access

MAXIMUM EFFICIENCY
- New powerful CUMMINS “Common Rail”, Stage III B compliant, non DPF (Diesel Particulate Filter), EGR 4 cylinder engine
- e-EPOS System (Electronic Power Optimising System) and hydraulic power boost function for optimised combustion and minimised emissions
- Efficient conversion of engine output into hydraulic performance for better fuel efficiency and lower costs
- Electronic fan clutch that reduces fuel consumption and noise level while improving cooling performance

EASY MAINTENANCE
- Easy access to all maintenance components
- Maintenance-free engine with no ash collection or removal
- Maintenance data available directly from control panel
- Fuel pre-filter with water separator
- PC access for maintenance and repairs
- Self-diagnosis function
- Reliable Doosan parts
- Battery cut-off switch

SOLID STRENGTH
- Heavy-duty X-shaped undercarriage with integrated track spring and idler plus durable box section track frame
- Extra durable undercarriage (standard: 2.59 m)
- Increased drawbar pull of 12.5 t

Standard additional counterweight provides superior lift capacity

Exclusive, passive, simplest and most reliable aftertreatment system designed without particulate filter & regeneration
All-round versatility and improved fuel efficiency

- Expect the best with combined performance, stability, comfort and compactness
Specifically designed for work in confined spaces, the DX140LCR-3 has an ultra short tail swing profile (1530 mm) to work in areas where conventional profile excavators would pose a safety risk. It is perfect for work in tight places and provides the top performance levels you expect from all Doosan equipment.
- Powerful and maintenance-free engine with compact catalyst delivering up to 5% more fuel economy
- Improved hydraulic system using the engine power more effectively
- Increased digging power, swing torque, lifting capacities and traction force combine for performance you can rely on day after day

6 ASSETS FOR YOUR BENEFIT!
- Power: 81 kW (108 HP) at 2200 rpm, 4 cylinder engine
- Productivity: side lifting capacity at 6 m reach and 3 m height: 2.33 t
- Excavation: max. arm digging force: 7.7 t
- Traction: max. drawbar pull: 12.5 t
- Manoeuvrability: max. swing torque: 36.7 kNm
- Size: Ideal dimensions and working range
EFFICIENT MANAGEMENT OF FUEL AND HYDRAULICS WITH THE ONLY FULLY PASSIVE AFTERTREATMENT SYSTEM IN THE MARKET FOR ENGINES FROM 56-129 KW (75 HP TO 173 HP)

"Common Rail" Cummins QSB4.5 engine
The heart of the DX140LCR-3 is the "Common Rail" Cummins 4 cylinder engine, carefully designed with common rail injection and 4 valves per cylinder. The engine delivers 81 kW (110 PS / 108 HP) at only 2200 rpm. Powerful torque allows efficient use of the hydraulic system and faster working cycles.

Already known for its outstanding reliability, the Cummins QSB4.5 engine has been optimised for the DX140LCR-3 and is now compliant with the Stage IIIB European regulations using EGR (Exhaust Gas Recirculation). In combination with the e-EPOS electronic control system, it offers the ultimate in power delivery and fuel economy.

Variable Flow Turbocharger
Drives cooled EGR and improves boost compared to wastegate turbocharger system & preserves transient response and low end torque. This turbo is proven with both high reliability and a simple mechanism variable turbine with both an inner and outer section. This simple turbine allows for lower complexity and fewer moving parts, which leads to higher durability.

“fit and forget” aftertreatment system with maintenance-free catalyst
Designed to last the entire life of the engine this simplest, most reliable aftertreatment system in this competitive power band – with the lowest cost of operation, is totally passive & does not require any need of any operator interaction, no lamps, no regeneration, no burners, no diesel particulate filter. It is achieved with a catalytic coating and substrate uniquely tailored to this generation of engine. By passively oxidising PM from the exhaust stream with the simplicity of a small flow-through catalyst, Doosan, with this new Cummins engine, is able to achieve new Stage IIIB emissions levels with uncompromising engine transient response and reliability at highest load factors or in the toughest applications.

ADVANCED TECHNOLOGY FOR OPTIMUM POWER MANAGEMENT

e-EPOS system (Electronic Power Optimising System)
If the engine is the heart of the excavator, the e-EPOS is its brain. It provides 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 the engine and hydraulic system, ensuring power is delivered exactly as needed.

Simple and efficient
- Choice between 3 power modes and 3 working modes guarantees optimum performance in all conditions
- Proportional auxiliary control for attachments
- Regulation and precise control of the flow rate required by the work group
- Self-diagnosis function allows technical problems to be resolved quickly and efficiently
- Operational memory provides a graphic display of the machine status
- Maintenance and oil change intervals can be displayed

Fuel efficiency
- Auto-idle function enables fuel saving (lowered from 1000 to 800 rpm)
- New electronic fan clutch optimises cooling for more fuel savings
- Improved Main Control Valve (MCV) performance reduces energy loss
- Additional sensor allows a more efficient selection of flow/pressure/rpm according to load requirements

Reduced tail swing radius
To facilitate use in the city and in tight locations, the tail swing radius is reduced by 30%. The smallest swing diameter is only 3355 mm.

Quick and efficient
The main hydraulic pumps have an increased capacity of 2 x 114 l/min, reducing cycle times for heightened productivity. A high capacity gear pump improves pilot line efficiency.

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.
The ideal workspace – designed around you

The DX140LCR-3 is designed to provide you with the best possible working conditions. The sophisticated pressurised ROPS 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 maximise your productivity and return on investment.

**Heated air suspension seat (standard)**
As well as being adjustable and offering lumbar support, the seat has an air suspension system to reduce vibrations. It also features a button to activate the seat heating system.

**Storage space and cup holder**
Plenty of storage space means you can keep all your personal belongings within reach.

**Air conditioning**
Temperature of cab is adjusted automatically to the temperature set by operator. A recirculated air function is also available.

**MP3/USB radio**
MP3/USB radio with CD player optional.
ERGONOMIC OPERATOR ENVIRONMENT

Feel the comfort of a seat that fits you perfectly:
Using a dual positioning cursor, you can slide the seat back from the joysticks for the best working position. You can also slide the entire seat assembly to adjust the reach to the control pedals to your leg length.

1. Large sun roof
2. Sun visor
3. Robust ergonomic pedals
4. Flat, spacious, easy-to-clean floor
5. Upper front window is strut-assisted for easy, reliable adjustment and integrates a sun shade
6. Joysticks and switches are integrated in adjustable control consoles
7. Separate seat height adjustment lever and cushion tilting function
8. Storage compartment
Maximum controllability in every situation

Proportional auxiliary flow means that the excavator’s huge power is matched by smooth, confident manoeuvres. Using highly sensitive joysticks and clear controls positioned for convenient access, you are able to work safely and confidently with minimum effort. Even the switches have been ergonomically placed on the right-hand control stand and positioned according to the frequency with which they are used. The highest standards of efficiency are just a finger’s reach away.

Colour LCD monitor panel
The upgraded 7” TFT LCD panel features a day and night display and has been relocated within the operator’s line of sight. The monitor is user-friendly and 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 Jog shuttle switch.

Other safety features include: automatic overheating prevention, low oil pressure sensor, engine emergency cut-off switch, auxiliary mode switch (to stop the pump if the control system malfunctions), overload warning device. An optional travel/swing alarm is also available.
Excellent digging and lifting performance provides quick cycle times.

**Dynamic power management**
- Automatic travel speed function
- Activation of the power boost control system increases digging power by 10%
- A one-touch deceleration button immediately reduces engine speed to low or idle
- Auto-idling starts after 4 seconds at low rpm. This decreases fuel consumption and reduces noise levels in the cab

**Simple operation**
- "Short stroke" joysticks enable easy, precise control of all operations
- A thumb wheel switch and buttons on the joysticks allow proportional control of attachments such as grabs, crushers and grapples
- A straight travel pedal can be installed to facilitate operation when moving in a straight line
Quality you can rely on

- Designed for long-term all-round heavy duty operation

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 in the most extreme conditions.

RESILIENT CHAIN FOR FIRST CLASS RELIABILITY

The DX140LCR-3 is fitted with a super-strong chain. The 17.1 cm link pitch, 3.6 cm pin diameter and heavy-duty running gear are ideally suited for long, trouble-free service in the roughest conditions.

- Track chains: the sealed and lubricated track chains are specifically designed for better pin and bushing retention. Exclusive heat treatment gives the links a consistent surface and strong core hardness, enhancing their durability
- Track guards: two guards per track frame (standard) protect against track derailment

Protected hydraulics
The hydraulic line routing is straight and simple for a neat, compact design that enhances its durability and minimises the pressure lost.

Extra-strong X-chassis
The X-shaped undercarriage has been designed using Finite Element Analysis and 3D computer simulation to ensure optimum structural integrity and durability. The swing gear is solid and stable.

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

Arm assembly
Cast elements and reinforcements have been added to give the arm assembly greater strength and a longer lifetime. The arm link boss and side plates have been combined for increased durability.

Heavy-duty sprocket
The sprocket is deep induction hardened and the depth pattern on the entire tooth profile is optimised for long-lasting service. Cast steel sprockets guarantee the highest resistance and durability even in the most severe applications. The sprocket tooth shape has been redesigned to prevent popping and increase component life.

Integrated track spring and idler
The track spring and idler have been joined together for long-lasting performance and convenient maintenance. A new seal and cylinder body rod have been used to avoid leakage. Special heat treatment ensures optimum hardness and long-lasting resistance to wear.

Tracks
For long-term dependability in all conditions, the chain is composed of sealed, self-lubricating links which are isolated from all external contamination. The tracks are locked by mechanically bolted pins. In areas subjected to great stress, the track link thickness has been reinforced.
The heavy-duty undercarriage provides excellent stability and durability. It is designed to excel in tough working environments.

Extra robust parallel dozer
1 Large reinforced covers protect the dozer and stabilizer cylinders.
2 The shape of the dozer blade is designed to facilitate pulling and mixing of materials.
3 Dozer forward design, large working angle and reinforced components to ensure optimum stability when lifting or while working on sloped terrain.

Cast counterweight and steel compartment access
A cast counterweight minimises deformation resulting from external impact. Operating stability has been increased by use of a low centre of gravity design. All external compartment panels are made of steel for extra durability.

Bushing and polymer shim
A highly lubricated metal is used for the boom pivot in order to increase the component lifetime and extend the greasing intervals. A polymer shim is added to the bucket pivot to maintain precise control over the equipment and extend greasing intervals.
More value – less maintenance

Short maintenance operations at long intervals mean you can depend on your equipment being available on site when it’s needed. The DX140LCR-3 is designed for simple routine maintenance, while skilled Doosan technicians are available to provide extra support when you need it. You can 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 handrails are installed along with anti-slip steps and plates, for safer, easier access to the engine compartment
- A battery cut-off switch makes it easy to disconnect the battery during long-term storage or before servicing
- The hour meter display can be easily checked from ground level
- Cock valves have been fitted on the pre-filter piping line and fuel tank drain piping to make servicing easier and prevent pollution from leakage

Access to components
- Engine parts can be easily reached via the top and side panels
- Access to the various radiators and filters is very easy, making routine maintenance easier

Protective oil return filter
The protection of the hydraulic system is made more effective by the use of glass fibre technology in the main oil return filter. With more than 99.5% of foreign particles filtered out, the oil change interval is extended.

Fuel pre-filter with water separator sensor
High efficiency fuel filtration is attained by the use of multiple filters. These include a fuel pre-filter fitted with a water separator that removes moisture, dirt and debris from the fuel. A warning sensor is added to each fuel filter to indicate when water draining is required.

Engine oil filter
The engine oil filter offers a high level of filtration allowing a long interval between changes. It is easy to access and is positioned to avoid contaminating the surrounding environment.
Convenient fuse box
The fuse box is located in the storage compartment behind the seat, providing a clean environment and convenient access.

Fuel filler pump
Automatic shut-off fuel filler pump for safer and easier refuelling.

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

PC monitoring
A PC monitoring function enables connection to the e-EPOS system. Thus, various parameters can be checked during maintenance, including pump pressures and engine speed. This information can be saved and printed for analysis.
**Technical specifications**

**Engine**

- **Model**
  - Cummins QSB4.5
  - 4-Cycle Water-Cooled, Turbocharged,
  - Common Rail Direct Injection, Exhaust Gas Recirculation (EGR)
  - Cummins Compact Passive Catalyst System
- **No. of cylinders**
  - 4
- **Rated power at 2200 rpm**
  - 76 kW (103 PS) (DIN 6271)
  - 81 kW (108 HP) (SAE J1995)
  - 76 kW (102 HP) (SAE J1349)
- **Max. torque at 1500 rpm**
  - 49.8 kgf/m (488 Nm)
- **Idle (low - high)**
  - 800 [± 50] - 2270 [± 50] rpm
- **Piston displacement**
  - 4500 cm³
- **Bore x stroke**
  - 107 mm x 124 mm
- **Starter**
  - 24 V / 4.5 kW
- **Batteries – Alternator**
  - 2 x 12 V / 100 Ah – 24 V, 70 A
- **Air filter**
  - Double element with automatic dust evacuation.

**Hydraulic system**

The brain of the excavator is the e-EPOS (Electronic Power Optimising System). It allows the efficiency of the hydraulic system to be optimised for all working conditions and minimises fuel consumption. The e-EPOS is connected to the engine’s electronic control unit (ECU) via a data transfer link to harmonise the operation of the engine and hydraulics.

- The hydraulic system enables independent or combined operations
- Two travel speeds offer either increased torque or high speed
- Cross-sensing pump system for fuel savings
- Auto deceleration system
- Three operating modes, three power modes
- Button control of flow in auxiliary hydraulic circuits
- Computer-aided pump flow control

**Pumps**

<table>
<thead>
<tr>
<th>Pump</th>
<th>Type</th>
<th>Displacement (cm³/rev)</th>
<th>Max. flow @ 2000 rpm (l/min)</th>
<th>Relief valve pressure (kgf/cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main (2)</td>
<td>Swash plate, Axial piston</td>
<td>2 x 57.9</td>
<td>2 x 114</td>
<td>-</td>
</tr>
<tr>
<td>Pilot</td>
<td>Gear</td>
<td>15</td>
<td>22.7</td>
<td>40.0</td>
</tr>
</tbody>
</table>

**Maximum system pressure**

- Boom/arm/bucket: 330 kg/cm² [+10/0]
- Rotation: 275 kg/cm²
- Power: 350 kg/cm² [+10/0]

**Weight**

<table>
<thead>
<tr>
<th>Shoe width (mm)</th>
<th>Operating weight (t)</th>
<th>Ground pressure (kgf/cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triple grouser</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel / 600 (Std)</td>
<td>15.3</td>
<td>0.39</td>
</tr>
<tr>
<td>Steel / 500</td>
<td>15.1</td>
<td>0.46</td>
</tr>
<tr>
<td>Steel / 700</td>
<td>15.5</td>
<td>0.34</td>
</tr>
<tr>
<td>Rubber / 500</td>
<td>15.1</td>
<td>0.46</td>
</tr>
</tbody>
</table>

**Undercarriage**


**Number of rollers and track shoes per side**

- Upper rollers (standard shoe): 1 (ø 120 mm)
- Lower rollers: 7 (ø 140 mm)
- Number of links & shoes per side: 46
- Overall track length: 3755

**Hydraulic cylinders**

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

<table>
<thead>
<tr>
<th>Cylinders</th>
<th>Quantity</th>
<th>Bore x rod diameter x stroke (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-piece boom</td>
<td>2</td>
<td>110 x 75 x 1103</td>
</tr>
<tr>
<td>Arm</td>
<td>1</td>
<td>115 x 80 x 1108</td>
</tr>
<tr>
<td>Bucket</td>
<td>1</td>
<td>100 x 70 x 900</td>
</tr>
<tr>
<td>Two-piece boom</td>
<td>2</td>
<td>110 x 75 x 965</td>
</tr>
<tr>
<td>Two-piece boom, lower</td>
<td>1</td>
<td>140 x 85 x 720</td>
</tr>
<tr>
<td>Two-piece boom, upper</td>
<td>1</td>
<td>115 x 80 x 1068</td>
</tr>
</tbody>
</table>
**Swing mechanism**

- High-torque, axial piston motor with planetary reduction gear bathed in oil
- Swing circle: single-row, shear type ball bearing with induction-hardened internal gear
- Internal gear and pinion immersed in lubricant
- Max. swing speed: 0 to 10.7 rpm
- Max. swing torque: 3740 kgf/m (Eff.=78%)

**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.

- **Travel speed (low - high)**
  3.2 - 5.3 km/h
- **Maximum traction (low - high)**
  6.8 - 12.5 t
- **Maximum gradeability**
  35° / 70%

**Fluid capacities**

- **Fuel tank**
  220 l
- **Cooling system (radiator capacity)**
  21 l
- **Hydraulic oil tank**
  131 l
- **Engine oil**
  11 l
- **Swing drive**
  5 l
- **Travel device**
  2 x 3 l

**Environment**

Noise levels comply with environmental regulations (dynamic values).

- **Noise level LwA**
  Guaranteed / measured: 101 dB(A) / 100 dB(A) (2000/14/EC)
- **Operator LpA**
  72 dB(A) (ISO 6396)

**Buckets**

<table>
<thead>
<tr>
<th>Bucket Type</th>
<th>Capacity (m³)</th>
<th>Width (mm)</th>
<th>Weight (kg)</th>
<th>Boom: 4600 mm</th>
<th>Two-piece boom: 4987 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAE</td>
<td>With side cutters</td>
<td>Without side cutters</td>
<td>Arm: 2100 mm</td>
<td>Arm: 2100 mm</td>
</tr>
<tr>
<td>GP</td>
<td>0.24</td>
<td>534</td>
<td>464</td>
<td>272</td>
<td>A / A</td>
</tr>
<tr>
<td>GP</td>
<td>0.39</td>
<td>820</td>
<td>736</td>
<td>350</td>
<td>A / A</td>
</tr>
<tr>
<td>GP</td>
<td>0.45</td>
<td>911</td>
<td>821</td>
<td>384</td>
<td>A / A</td>
</tr>
<tr>
<td>GP</td>
<td>0.51</td>
<td>991</td>
<td>907</td>
<td>389</td>
<td>A / A</td>
</tr>
<tr>
<td>GP</td>
<td>0.59</td>
<td>1081</td>
<td>997</td>
<td>408</td>
<td>A / A</td>
</tr>
<tr>
<td>GP</td>
<td>0.64</td>
<td>1167</td>
<td>1083</td>
<td>431</td>
<td>A / A</td>
</tr>
<tr>
<td>HD</td>
<td>0.76</td>
<td>1339</td>
<td>1255</td>
<td>479</td>
<td>A / B</td>
</tr>
<tr>
<td>HD</td>
<td>0.42</td>
<td>827</td>
<td>762</td>
<td>456</td>
<td>A / A</td>
</tr>
<tr>
<td>HD</td>
<td>0.49</td>
<td>913</td>
<td>848</td>
<td>491</td>
<td>A / A</td>
</tr>
<tr>
<td>HD</td>
<td>0.54</td>
<td>981</td>
<td>916</td>
<td>511</td>
<td>A / A</td>
</tr>
</tbody>
</table>

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

**Digging forces (ISO)**

<table>
<thead>
<tr>
<th>Bucket (Normal / Press. Up)</th>
<th>Boom: 4.6 m Arm: 2.5 m Bucket: 0.45 m³</th>
<th>Boom: 4.6 m Arm: 2.1 m Bucket: 0.39 m³</th>
<th>Boom: 4.6 m Arm: 3.0 m Bucket: 0.51 m³</th>
<th>Two-piece boom: 4.9 m Arm: 2.5 m Bucket: 0.45 m³</th>
<th>Two-piece boom: 4.9 m Arm: 2.1 m Bucket: 0.51 m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kN</td>
<td>10.4 / 11.1</td>
<td>10.4 / 11.1</td>
<td>10.4 / 11.1</td>
<td>10.4 / 11.1</td>
<td>10.4 / 11.1</td>
</tr>
<tr>
<td>1 t</td>
<td>101.9 / 108.8</td>
<td>101.9 / 108.8</td>
<td>101.9 / 108.8</td>
<td>101.9 / 108.8</td>
<td>101.9 / 108.8</td>
</tr>
<tr>
<td>2 kN</td>
<td>7.2 / 7.7</td>
<td>7.2 / 7.7</td>
<td>7.2 / 7.7</td>
<td>7.2 / 7.7</td>
<td>7.2 / 7.7</td>
</tr>
<tr>
<td>2 t</td>
<td>54.9 / 58.8</td>
<td>54.9 / 58.8</td>
<td>54.9 / 58.8</td>
<td>54.9 / 58.8</td>
<td>54.9 / 58.8</td>
</tr>
</tbody>
</table>
### Dimensions one-piece and two-piece boom

<table>
<thead>
<tr>
<th>Component</th>
<th>One-piece boom: 4600</th>
<th>Two-piece boom: 4987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm length - mm</td>
<td>2100</td>
<td>2500</td>
</tr>
<tr>
<td>Bucket capacity - m³</td>
<td>0.51</td>
<td>0.45</td>
</tr>
<tr>
<td>A  Tail swing radius - mm</td>
<td>1530</td>
<td>1530</td>
</tr>
<tr>
<td>B  Shipping height (boom) - mm</td>
<td>2480</td>
<td>2630</td>
</tr>
<tr>
<td>C  Shipping height (hose) - mm</td>
<td>2595</td>
<td>2770</td>
</tr>
<tr>
<td>D  Shipping length - mm</td>
<td>7360</td>
<td>7360</td>
</tr>
<tr>
<td>E  Shipping width std. - mm</td>
<td>2590</td>
<td>2590</td>
</tr>
<tr>
<td>F  Counterweight clearance - mm</td>
<td>895</td>
<td>895</td>
</tr>
<tr>
<td>G  Height over cab - mm</td>
<td>2795</td>
<td>2795</td>
</tr>
<tr>
<td>H  House width - mm</td>
<td>2440</td>
<td>2440</td>
</tr>
<tr>
<td>I  Cab height above house - mm</td>
<td>450</td>
<td>450</td>
</tr>
<tr>
<td>J  Cab width - mm</td>
<td>980</td>
<td>980</td>
</tr>
<tr>
<td>K  Tumbler distance - mm</td>
<td>3034</td>
<td>3034</td>
</tr>
<tr>
<td>L  Track length - mm</td>
<td>3755</td>
<td>3755</td>
</tr>
<tr>
<td>M  Undercarriage width std. - mm</td>
<td>2590</td>
<td>2590</td>
</tr>
<tr>
<td>N  Shoe width std. - mm</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>O  Track height - mm</td>
<td>728</td>
<td>728</td>
</tr>
<tr>
<td>P  Ground clearance - mm</td>
<td>410</td>
<td>410</td>
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</table>

### Component weights

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper structure without front</td>
<td>kg</td>
<td>7870</td>
</tr>
<tr>
<td>Counterweight std.</td>
<td>kg</td>
<td>3500</td>
</tr>
<tr>
<td>Lower structure assembly</td>
<td>kg</td>
<td>5069</td>
</tr>
<tr>
<td>Front assembly</td>
<td>kg</td>
<td>2439</td>
</tr>
<tr>
<td>Boom 4.6 m</td>
<td>kg</td>
<td>795</td>
</tr>
<tr>
<td>Including bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm 2.5 m</td>
<td>kg</td>
<td>430</td>
</tr>
<tr>
<td>Including bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket 0.45 m³</td>
<td>kg</td>
<td>384</td>
</tr>
<tr>
<td>Boom cylinder (each)</td>
<td>kg</td>
<td>240</td>
</tr>
<tr>
<td>Including bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm cylinder</td>
<td>kg</td>
<td>143</td>
</tr>
<tr>
<td>Including bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket cylinder</td>
<td>kg</td>
<td>95</td>
</tr>
<tr>
<td>Including bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dozer blade (2590 mm)</td>
<td>kg</td>
<td>619</td>
</tr>
<tr>
<td>600 mm shoe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dozer cylinder (each)</td>
<td>kg</td>
<td>82</td>
</tr>
<tr>
<td>Two-piece boom lower / upper</td>
<td>kg</td>
<td>385 / 592</td>
</tr>
<tr>
<td>Including bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-piece boom, cylinder</td>
<td>kg</td>
<td>150</td>
</tr>
<tr>
<td>Including bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm 2.1 m</td>
<td>kg</td>
<td>374</td>
</tr>
<tr>
<td>Including bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm 3.0 m</td>
<td>kg</td>
<td>499</td>
</tr>
<tr>
<td>Including bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dozer blade (2490 mm)</td>
<td>kg</td>
<td>606</td>
</tr>
<tr>
<td>500 mm shoe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dozer blade (2690 mm)</td>
<td>kg</td>
<td>632</td>
</tr>
<tr>
<td>700 mm shoe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Working range one-piece and two-piece boom

<table>
<thead>
<tr>
<th>Bucket capacity - m³</th>
<th>One-piece boom: 4600</th>
<th>Two-piece boom: 4987</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Max. digging reach - mm</td>
<td>7815</td>
<td>8285</td>
</tr>
<tr>
<td>B Max. digging reach (ground) - mm</td>
<td>7660</td>
<td>8140</td>
</tr>
<tr>
<td>C Max. digging depth - mm</td>
<td>5085</td>
<td>5485</td>
</tr>
<tr>
<td>D Max. loading height - mm</td>
<td>6380</td>
<td>6855</td>
</tr>
<tr>
<td>E Min. loading height - mm</td>
<td>2890</td>
<td>2525</td>
</tr>
<tr>
<td>F Max. digging height - mm</td>
<td>8760</td>
<td>9265</td>
</tr>
<tr>
<td>G Max. bucket pin height - mm</td>
<td>7600</td>
<td>8075</td>
</tr>
<tr>
<td>H Max. vertical wall depth - mm</td>
<td>3705</td>
<td>4490</td>
</tr>
<tr>
<td>I Max. radius vertical - mm</td>
<td>5745</td>
<td>5605</td>
</tr>
<tr>
<td>J Max. digging depth (8´ level) - mm</td>
<td>4780</td>
<td>5260</td>
</tr>
<tr>
<td>K Min. radius 8´ line - mm</td>
<td>1995</td>
<td>2110</td>
</tr>
<tr>
<td>L Min. digging reach - mm</td>
<td>950</td>
<td>375</td>
</tr>
<tr>
<td>M Min. swing radius - mm</td>
<td>1825</td>
<td>1995</td>
</tr>
<tr>
<td>d Bucket angle - °</td>
<td>174</td>
<td>174</td>
</tr>
</tbody>
</table>
### Lifting capacities

#### Standard configuration

**Standard undercarriage width:** 2590 mm • **Boom:** 4600 mm • **Arm:** 2500 mm • **W/O Bucket:** 600 mm • **Shoe:** 600 mm • **Counterweight:** 3500 kg  
**Units:** 1000 kg

<table>
<thead>
<tr>
<th>a (m)</th>
<th>Dozer</th>
<th>1.5</th>
<th>3.0</th>
<th>4.5</th>
<th>6.0</th>
<th>Max. lift</th>
<th>A (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>Without</td>
<td>3.80 * 3.80 *</td>
<td>3.66 * 3.66 *</td>
<td>3.97 * 3.97 *</td>
<td>3.80 * 3.80 *</td>
<td>3.74 * 3.74 *</td>
<td>3.63</td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>3.80 * 3.80 *</td>
<td>3.66 * 3.66 *</td>
<td>3.97 * 3.97 *</td>
<td>3.80 * 3.80 *</td>
<td>3.74 * 3.74 *</td>
<td>3.63</td>
</tr>
<tr>
<td>4.5</td>
<td>Without</td>
<td>3.80 * 3.80 *</td>
<td>4.25 * 3.83</td>
<td>3.97 * 3.97 *</td>
<td>4.25 * 4.04</td>
<td>3.19 * 2.94</td>
<td>2.00 * 2.00 *</td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>3.80 * 3.80 *</td>
<td>4.25 * 3.83</td>
<td>3.97 * 3.97 *</td>
<td>4.25 * 4.04</td>
<td>3.19 * 2.94</td>
<td>2.00 * 2.00 *</td>
</tr>
</tbody>
</table>

#### Option 1 Rubber pads

**Standard undercarriage width:** 2490 mm • **Boom:** 4600 mm • **Arm:** 2500 mm • **W/O Bucket:** 500 mm Rubber • **Shoe:** 600 mm • **Counterweight:** 3500 kg  
**Units:** 1000 kg

<table>
<thead>
<tr>
<th>a (m)</th>
<th>Dozer</th>
<th>1.5</th>
<th>3.0</th>
<th>4.5</th>
<th>6.0</th>
<th>Max. lift</th>
<th>A (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>Without</td>
<td>3.80 * 3.80 *</td>
<td>3.66 * 3.66 *</td>
<td>3.97 * 3.97 *</td>
<td>3.80 * 3.80 *</td>
<td>3.74 * 3.74 *</td>
<td>3.63</td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>3.80 * 3.80 *</td>
<td>3.66 * 3.66 *</td>
<td>3.97 * 3.97 *</td>
<td>3.80 * 3.80 *</td>
<td>3.74 * 3.74 *</td>
<td>3.63</td>
</tr>
</tbody>
</table>

---

1. Lifting capacities are in compliance with ISO 10567:2007(E).
2. The load point is at the end of the arm.
3. * = The nominal loads are based on hydraulic capacity.
4. The nominal loads shown do not exceed 75% of tipping loads or 87% of hydraulic lifting capacity.
5. For lifting capacity with bucket, simply subtract the actual weight of the bucket from the values.
6. The configurations indicated do not necessarily reflect the standard equipment of the machine.
### Option 2 Two-piece boom

Standard undercarriage width: 2590 mm • Boom: 4987 mm • Arm: 2500 mm • W/O Bucket • Shoe: 600 mm • Counterweight: 3500 kg

Units: 1000 kg

<table>
<thead>
<tr>
<th>h (m)</th>
<th>Dozer</th>
<th>3.0</th>
<th>4.5</th>
<th>6.0</th>
<th>7.5</th>
<th>Max. lift</th>
<th>A (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>Without</td>
<td>2.77*</td>
<td>2.77*</td>
<td>4.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>2.77*</td>
<td>2.77*</td>
<td>4.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td>Without</td>
<td>3.35*</td>
<td>3.35*</td>
<td>5.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>2.29*</td>
<td>2.29*</td>
<td>5.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.5</td>
<td>Without</td>
<td>3.81*</td>
<td>3.81*</td>
<td>2.39</td>
<td>2.13*</td>
<td>1.87</td>
<td>6.88</td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>3.63*</td>
<td>2.53</td>
<td>2.13*</td>
<td>1.99</td>
<td>6.88</td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>Without</td>
<td>4.83*</td>
<td>3.76</td>
<td>2.43</td>
<td>2.12*</td>
<td>1.74</td>
<td>7.36</td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>4.04*</td>
<td>2.43</td>
<td>2.12*</td>
<td>1.74</td>
<td>7.36</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>Without</td>
<td>5.49</td>
<td>3.26</td>
<td>2.16</td>
<td>2.24*</td>
<td>1.54</td>
<td>7.50</td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>5.99*</td>
<td>3.97</td>
<td>2.31</td>
<td>2.24*</td>
<td>1.65</td>
<td>7.50</td>
</tr>
<tr>
<td>0 (Ground)</td>
<td>Without</td>
<td>5.28</td>
<td>3.43</td>
<td>2.07</td>
<td>2.43*</td>
<td>1.56</td>
<td>7.34</td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>3.86</td>
<td>2.21</td>
<td>2.43*</td>
<td>1.67</td>
<td>7.34</td>
<td></td>
</tr>
<tr>
<td>-1.5</td>
<td>Without</td>
<td>7.42*</td>
<td>5.59</td>
<td>3.02</td>
<td>3.90</td>
<td>3.83</td>
<td>1.71</td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>5.86</td>
<td>3.22</td>
<td>3.82</td>
<td>2.17</td>
<td>2.87*</td>
<td>1.83</td>
</tr>
<tr>
<td>-3.0</td>
<td>Without</td>
<td>9.24*</td>
<td>5.72</td>
<td>3.07</td>
<td>3.52</td>
<td>2.13</td>
<td>5.94</td>
</tr>
<tr>
<td></td>
<td>Dozer up</td>
<td>6.08</td>
<td>3.27</td>
<td>3.83*</td>
<td>2.27</td>
<td>5.94</td>
<td></td>
</tr>
</tbody>
</table>
Standard and optional equipment

**Standard equipment**

**Engine**
- Cummins QSB4.5 Diesel engine combined with e-EPOS System,
- Common Rail direct injection, EU Stage IIIb compliant
- EGR and Cummins Compact Catalyst system
- Auto-idle

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

**Cab & Interior**
- Roll Over Protective Structure (ROPS)
- Heated, adjustable air suspension seat with adjustable headrest and armrest
- Attachment management system
- Air conditioning
- Pull-up type front window with sun roller blind and removable lower front window
- Sliding left windows
- Ceiling light
- Intermittent upper windshield wiper
- Multiple storage compartments
- Rain visor
- Flat, spacious, easy-to-clean floor
- Cigarette lighter and ashtray
- Cup holder
- Anti-theft protection
- Fuel control dial
- 7” (18 cm) LCD colour monitor panel
- Engine speed (RPM) control dial
- Hydrostatic 2-speed travel system with manual or automatic shift
- Automatic rear window defroster
- 3 operating modes & 3 working modes
- Radio-ready and remote radio ON/OFF switch
- 12 V power socket
- Sensor communication port for laptop PC interface
- Adjustable PPC wrist control levers for arm, boom and bucket with sliding proportional control for attachments, auxiliary hydraulic buttons and one-touch power boost
- Tool storage area
- Travel pedals and hand levers
- Master key

**Safety**
- Boom and arm cylinder safety valves
- Overload warning device
- Large handrail and step
- Rotating beacon
- Rear view camera
- Punched metal anti-slip plates
- Hydraulic safety lock lever
- Safety glass
- Hammer for emergency escape
- Right and left rearview mirrors
- Emergency engine stop and hydraulic pump control switches
- Engine heat limitation and restart prevention system
- Parking brake and cab swing lock pin
- Reinforced cast steel pivot points
- Upperstructure maintenance compartment doors and lockable fuel cap
- Battery cut-off switch
- Halogen work lights (1 front frame, 4 front cab-mounted, 2 rear cab-mounted, 2 boom-mounted and 1 rear side)
- Mirror on counterweight

**Other**
- Mono boom: 4600 mm – arm: 2500 mm
- Counterweight: 3500 kg
- Auto shut-off fuel filler pump
- Double element air cleaner
- Fuel pre-filter with water separator sensor
- Dust screen for radiator/oil cooler
- Separated engine hoods with gas spring
- Self-diagnostic function
- Battery (2 x 12 V, 100 AH, alternator (24 V, 70 A)
- Electric horn
- Remote greasing for swing circle and workgroup pivot points
- Guards for boom lights

**Undercarriage**
- Fixed undercarriage 2590 mm
- Hydraulic track adjuster
- Normal track guards
- Greased and sealed track links
- 600 mm triple grouser shoe

**Optional equipment**

**Cab & Interior**
- MP3/USB radio with CD player
- FOGS cab - top and front cab guards (ISO 10262)

**Safety**
- Two-piece boom: 4987 mm with 2100 or 2500 mm arm
- Arms: 2100 or 3000 mm
- Doosan buckets: full range of GP, HD & Rock buckets
- Doosan breaker: DXB100H and Doosan quick-couplers
- Hydraulic piping for crusher, quick coupler, clamshell, tilting and rotating buckets
- Additional filter for breaker piping
- Wiper for lower front window
- Straight travel pedal
- Telescopic rotating beacon
- Bio oil
- Automatic lubrication system
- Alarm for travel & swing
- Alarm for travel

**Undercarriage**
- 590 or 790 mm triple grouser shoe and 500 mm rubber pads
- Dozer blade: 2490 or 2690 mm

**Rubber pads**
- Reduce noise and vibrations and help minimize damage on asphalt, pavement or any easily damaged surfaces.

**Two-piece boom**
- Two-piece boom configuration offering a maximum digging reach of 8720 mm.

**Straight travel pedal**
- Allows more operator comfort when multi-tasking.

**Doosan buckets**
- A range of dependable Doosan buckets is available to cover several applications.

**Doosan breakers and quick-couplers**
- Doosan provides the tough, reliable equipment you need for demolition work.

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.
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A partner you can trust

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Our well-developed dealer network has the knowledge and experience to take the best care of our Doosan customers. No matter where you are, you’ll get the service you expect - and can rely on!

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• Large, dedicated staff of factory-trained aftermarket professionals in the field