

**DOOSAN**

Wheel Loaders

# DL200-7

|                   |                    |
|-------------------|--------------------|
| Maximum power     | 144 hp             |
| Operating weight  | 12.0 t             |
| Bucket capacity   | 2.0 m <sup>3</sup> |
| Emission standard | Stage V            |





**DOOSAN DL200-7 WHEEL LOADER:**

# **MEET THE NEW GENERATION OF DOOSAN MACHINES**

Boost your productivity with the new DL200-7  
Doosan wheel loader.

Exceptional power – combined with the finest  
workmanship – results in a machine  
that performs at the highest level.











#### **The DL200-7 enhances your output from every angle**

Impressive breakout force and high traction make penetration easy and allow you to tackle the hardest materials.

- Powerful hydraulic system makes work quick and efficient.
- Perkins 1204J engine provides the power you need while meeting Stage V environmental regulations.

The combination of these features gives Doosan wheel loaders excellent penetration power, ensuring optimum bucket load in each cycle.



# TOP PERFORMANCE AND FUEL EFFICIENCY

## ENVIRONMENT-FRIENDLY POWER

The DL200-7 is powered by a Perkins 1204J engine compliant with the Stage V emissions regulations. High-pressure fuel injection and precise timing provide highly efficient fuel burn and perfect combustion. The aftertreatment system is composed of a selective catalytic reduction module, an oxidation catalyst, and a long-life particulate filter to reduce emissions.

## EFFICIENT POWER MANAGEMENT

You can select from 3 different engine working modes – Eco, Standard and Power – while the Power-up function lets you switch the parameters to level-up working mode with lower transmission shift intervals by fully applying the acceleration pedal.

## SAVE FUEL, SAVE MONEY

### - Auto Idle

The standard auto idle feature automatically reduces the engine revs to standby idle a few seconds after the steering wheel, gearshift control lever and accelerator cease movement. This reduces noise, improves jobsite communications and saves fuel. When you move the controls, the loader automatically returns to working idle.

### - Auto Shutdown

When enabled, the engine automatically shuts down after idle time reaches a specified elapsed time (3 to 60 minutes).







## RELIABILITY – THE HABIT OF A LIFETIME

In your profession, you need equipment you can depend on. At Doosan, we put durability and reliability at the core of our machines' development. Our materials and structures undergo stringent testing for strength and resilience under the most extreme conditions.



# DESIGNED FOR LONG-TERM, ALL-ROUND, HEAVY-DUTY PERFORMANCE

## POWERTRAIN

The Hydrostatic Transmission (HST) boosts acceleration performance and delivers smooth, shock-free operation in all situations. The HST unit provides:

- 4 ranges steps to limit final speed
- 5 different traction modes, for all application challenges
- Setting of engine revs in combination with 7 speed limits in 1<sup>st</sup> gear = Optimizing hydraulic tool applications

## AXLE

New stronger axle allows you to carry more.

- Automatic TPD at front and rear axle ensure optimized operator comfort, less tire wear and low axle temperature on solid ground.
- Optional limited slip differentials at the front and rear automatically ensure maximum traction and easy driving over soft and muddy ground with no need for a manual differential lock.
- The brake discs in the planetary reduction gears are reinforced, ensuring long hours of operation and easy maintenance access.

## ROBUST AND RELIABLE

We pay the closest attention to the design and manufacture of structural components. Finite Element Analysis is used to ensure an extended lifetime for main structures such as the chassis, joints and lift arm. Then, after modelling, they are subjected to intensive laboratory and field testing in extreme conditions. Ongoing statistical analysis is used to continually increase reliability.

## DURABLE STEEL PARTS

Rear parts – such as the radiator grille, engine hood and fenders – are made of durable steel. They're also designed for easy repair, reducing the need to replace them if they are damaged.

## EXHAUST

The inner exhaust pipe sucks air out of the engine compartment through an outer pipe – this 'chimney' effect provides constant air circulation and prevents deposits of flammable material on hot parts.

## FAST CYCLE TIMES

The entire Doosan wheel loader lineup is carefully engineered for a perfect balance of speed and controllability – so you benefit from optimal production. Variable displacement piston pumps in all models allow Doosan wheel loaders to power through difficult jobs with minimal fuel consumption and multifunction operation of the lift arm and bucket.

## FULL FENDERS

To keep them clean and avoid mud splashing on the windows or accidents on slippery steps, Doosan's wheel loaders are standard equipped with full fenders and mud guards. Enlarged front fenders protect front windows and ensure maximum operator visibility.

## DRIVING ASSISTANCE

- Automatic stepless hydrostatic transmission
- Automatic Limited Slip Differential Lock (optional)
- Automatic Load Isolation System (LIS)
- Automatic kick-out function on lift arm
- Automatic return to dig position
- Automatic reversing fan







1

2


3

4

8



# OPERATING IN HIGH COMFORT

- 
1. Doosan Smart Touch
  2. Intuitive gauge panel
  3. Steering wheel adjustable in all directions
  4. Integrated armrest with joystick
  5. Control panel
  6. Cup holders
  7. Storage compartments
  8. Premium seat with 3-point safety belt

## ADJUSTABLE STEERING COLUMN

Enhance your driving comfort, and work without fatigue, by easily adjusting the steering column's tilt and telescopic movements to fit your preferred position.

## DOOSAN SMART TOUCH

- An easy to read and use 8" touch screen integrates all functions in one place.
- All information about the machine, settings, rear-view camera, A/C control, multimedia.
- Help function - operators can quickly and easily understand all functions without referring to the operator's manual.

## ELECTRONIC JOYSTICK

Reduce your cycle times with fully integrated electronic joystick in right armrest. Sensitivity settings and shock prevention are designed to ensure maximum machine controllability and operator comfort. Less movement for repetitive tasks with auto-leveling function.

### - Return to Dig

Sensors on the lift arm and bucket linkage allow you to change your 'return to dig' setting from inside the cab. The cylinders and cutting edge return to the same position every time, enabling more efficient, consistent work.

### - Lift Kickout

Set the maximum lift height for working inside buildings or other areas with height restrictions. Simply pull back on the control joystick to override.

## LUXURY CHAIR

Improved high comfortable seat with vertical and horizontal low-frequency suspension, pneumatic lumbar support, heating and 3-point safety belt with alarm icon on gauge panel and in Doosan Smart Touch.







# TAKE A SEAT IN BUSINESS CLASS

The ergonomic controls and the easy-to-view color monitor place the machine firmly in your hands.



# TOTAL CONTROL IN ALL SIMPLICITY

## DOOSAN SMART KEY

We bring automotive standards and comfort to construction machinery

- Search function
- Coming/leaving home light function
- Remote door opening
- Keyless engine start

## DOOSAN SMART GUIDANCE SYSTEM

Boost your performance and reduce fuel consumption based on the system's recommendation. The machine automatically monitors and analyses driving strategy and recommends how to improve settings.

## SPACIOUS CAB

Re-designed interior offers much larger, quieter and more comfortable operator environment, which improves safety and productivity and helps the operator work with high concentration. Increased leg room with re-designed accelerator and brake pedal position. Enlarged storage area and cool-box position increase operator comfort. Improved air conditioning system, with optimized air circulation, ensures a pleasant working environment.

## VISIBILITY

Completely re-designed cab improves operator comfort and safety. Enlarged front windshield ensures better front visibility, while larger mirrors extend operator's view on the sides and rear - providing maximum safety for pedestrians and machine and improving productivity at the same time.

## COMFORTABLE AUTOMATIC LIFT ARM

Save time and reduce the number of operations with the new bucket leveling function. Automatically return the bucket to dig position from roll back or dump position. Automatic function is also available for lift arm positions.

## EASY ENTRY AND EXIT

Grab handles and offset steps with slip-resistant surfaces provide safe & easy access to the cab and easy exit when work is finished. The door opens 180° - and can be locked in the open position - to provide a wide opening for moving in and out of the machine.





# RAISE PROFITS, PRODUCTIVITY & FUEL EFFICIENCY

## STRENGTH AND INTELLIGENCE – A WINNING COMBINATION!

With tremendous lift height and capacity, along with enough torque to bite into the toughest materials, Doosan wheel loaders go a step beyond scooping, carrying and loading. It's your ticket to making harder work easier, longer days more enjoyable, and every minute more productive and profitable.

## BOOST YOUR PRODUCTIVITY

- Ride control – Load Isolation System
- Bucket auto leveling function
- End-stroke cushioning for smooth arm and work tools movements
- Break by inching

## MAXIMUM SAFETY

- Rear-view camera
- Hand rails for safe maintenance
- Up to 12 LED working lights available
- Rear-view mirrors with electric adjustment possibility
- 3-point safety belt

## READY FOR VERSATILITY

- Attachments fully tailored for application
- Wide selection of tires
- 4<sup>th</sup> spool valve available

## MAXIMIZE YOUR UPTIME

- Massive frame
- Wide fin radiator and reversible fan
- DoosanConnect fleet management





### BUSINESS CLASS OPERATOR COMFORT

The new spacious cab offers an operator-friendly environment with top-class all-round visibility. It centers around a high comfortable seat with 3-point safety belt for maximum operator safety. The joystick is fully integrated in the seat's right armrest. The electrically adjustable rear mirror contributes to maximum operator comfort.



### ALL-IN-ONE FOR BETTER PERFORMANCE

All important functions are easily accessible on the Doosan Smart Touch

- Machine settings
- Rear-view camera
- Radio
- HVAC
- Doosan Smart Guidance

### BETTER FUEL EFFICIENCY

The DL200-7 is equipped with a powerful, new engine with low fuel consumption.

### BRAKE BY INCHING

Initial use of brake pedal provides inching function, which brakes the machine completely hydraulically. This saves fuel, reduces axle temperature and provides faster hydraulic movement.

### HYDROSTATIC TRANSMISSION

1 hydrostatic pump and 2 hydrostatic travel motors provide fast and fuel-saving movement. The stepless hydrostatic transmission optimizes operator comfort and total cost of ownership.











# SIMPLE MAINTENANCE FOR MAXIMUM UPTIME

## COOLING PACKAGE

Wide pitch fin radiators coupling with reversible fan keep the cooling system performing constantly - minimizing machine downtime and reducing daily maintenance. The operator can easily set standard intervals for fan reverse from the Doosan Smart Touch. Performance is regulated for lower fuel consumption and shorter warm-up periods.

## AIR INTAKE

Maintenance-free cyclone air pre-filter separates more than 99% of particles 20 microns in size and larger. Cleaning and cartridge replacement are only needed at long intervals. In addition to extending the air filter's lifetime, the pre-filter also ensures better combustion and a longer engine lifetime.

## WE ARE HERE FOR YOU

Boost your productivity and machine uptime with our genuine Doosan parts; Protection+, an extended warranty covering parts, travel and service (check with your local dealer); and a maintenance contract in which your dealer supports you with routine service at regular intervals.

## FLEET MANAGEMENT

With DoosanConnect, you can proactively react to machine status, properly plan maintenance, and reduce downtime.

## SAFE ACCESS

To facilitate access and mobility on the machine, multiple platforms and hand-rails ensure that the operator always has a firm support to hold on to and 3-point contacts.





# TECHNICAL SPECIFICATIONS

## ENGINE

Designed to deliver superior performance and fuel efficiency, the Perkins 1204J diesel engine fully meets the latest Stage V emission regulations. To optimize machine performance, the engine uses high-pressure fuel injectors, air-to-air intercooler and electronic engine controls. 4-Cycle Water-Cooled, Turbocharger with wastegate, Diesel Oxidation Catalyst (DOC), Selective Catalytic Reduction (SCR), Diesel Particulate Filter (DPF) and Exhaust Gas Recirculation (EGR).

### Model

Perkins 1204J

### No. of cylinders

4

### Max. power (SAE J1995)

106 kW/144 hp @ 2200 rpm

### Max. torque (SAE J1995)

560 N·m @ 1400 rpm

### Displacement

4400 cm<sup>3</sup>

### Bore × stroke

105 mm × 127 mm

### Starter

24 V / 5.5 kW

### Batteries - Alternator

2 × 12 V - 24 V/85 A

### Air filter

Centrifugal pre-cleaner Top Spin™ Donaldson® with 2-stage dry filter

### Cooling

Cooling package with automatic reversing fan to facilitate radiator cleaning. Automatic rotation speed adjustment according to temperature conditions.

### Radiator

Wide fin radiator – Intercooler/Hydraulic oil cooler/Transmission oil cooler

## AXLES

Front & rear axles manufactured by DANA with outboard planetary reduction gears.

8.3 t traction power allows operation on slopes of 30°.

### Oscillation angle

+/- 11°

### Tire size - standard

20.5R25

## TRANSMISSION

Hydrostatic transmission to boost acceleration performance, especially for short turns. 4 ranges steps working stepless for smooth and shock-free operating comfort. Operator's choice of 5 traction modes for different ground conditions. 1 HST pump and 2 HST travel motors optimize hydrostatic flow and pressure, according to machine speed and required force.

### Type

Hydrostatic (HST)

### Speeds - forward 1 / 2 / 3 / 4

2 - 13 / 13 / 20 / 38

### Speeds - reverse 1 / 2 / 3

2 - 13 / 13 / 20

### Maximum traction

8.3 ton

### Maximum gradeability

30° (58%)

## HYDRAULIC SYSTEM

### Type

Load sensing – closed center hydraulic system

### Main pump

Dual variable displacement axial pistons pumps

### Maximum flow

155 l/min

### Maximum pressure

265 bar

### EMCV

Automatic functions for positioning the bucket ready to dig and a function for stopping the lift arm at the desired height.

### Filtration

In the oil return to the tank, the fiberglass filter has a filtering capability of 10 micron.



## LIFT ARM

Z-kinematics with simple lifting piston system designed for heavy-duty applications. 104 kN breakout force combined with a bucket angle that is maintained throughout the range of movement. Bucket angles are optimized in the travelling position and at ground level. Load Isolation System (LIS) is fitted as standard for improved operator comfort, output and lifetime.

### Load cycle

|                 |       |
|-----------------|-------|
| Lift arm – up   | 5.6 s |
| Lift arm – down | 2.8 s |
| Bucket – dump   | 1.4 s |

## 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) |
|-----------|----------|-----------------------------------|
| Lift      | 2        | 115 × 75 × 676                    |
| Bucket    | 1        | 120 × 75 × 509                    |

## 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 is mounted on the transmission shaft and accumulator circuits and is electronically activated. Brake type: spring-applied / hydraulically released. Brake pump with variable displacement axial pistons provide 28 l/min. The emergency brakes are composed of a double system continually under pressure by accumulators.

### Braking distance

7.6 m at 32.9 km/h

## CAB

Safety compliance with Roll Over Protection System (ROPS) and Falling Object Protective Structure (FOPS) requirements. Spacious modular cab with excellent all-round visibility and ample storage space. Good overview of the bucket, tires and loading area thanks to wide windows. Pushbutton controlled air conditioning and heating with air recirculation function. Double cab air filter installed in the cab with extra protection for the operator in dusty or polluted environments. Viscous suspension mount for maximum comfort. Adjustable high-quality heated seat with air suspension, arm rests and height and tilt adjustable steering column. All operating information clearly displayed in front of the operator. Control functions are centralized on a console on the right.

### Safety standards

ROPS ISO 3471:2008

FOPS ISO 3449

### Noise emissions

|  |        |
|--|--------|
| Operator Sound Pressure Level (ISO 6396) | 69 dB  |
| Exterior Sound Power Level (ISO 6395)    | 103 dB |

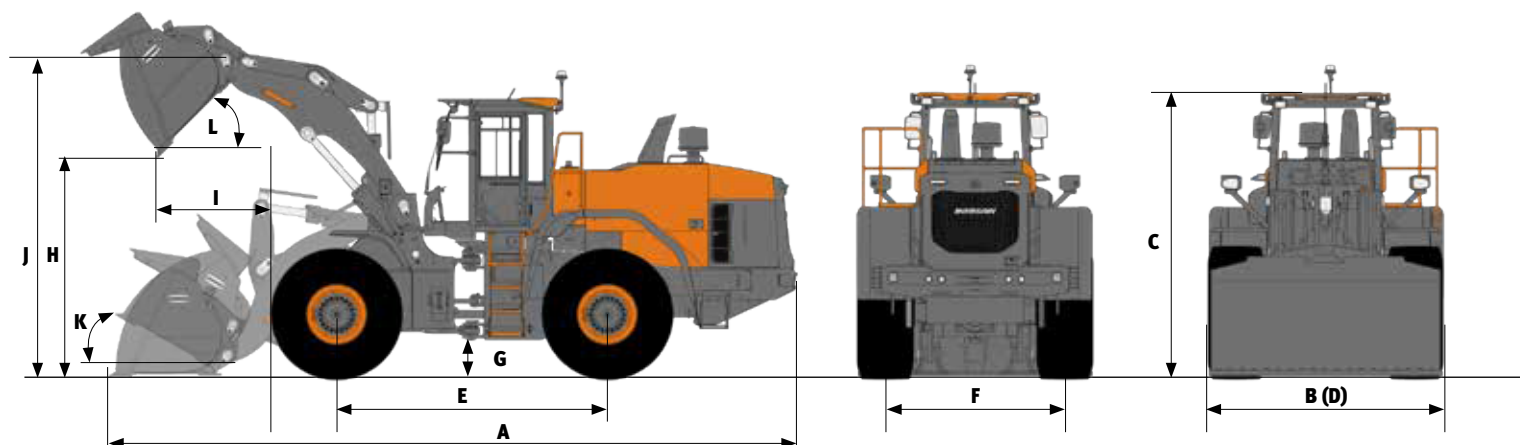
## FLUID CAPACITIES

|                           |        |
|---------------------------|--------|
| Fuel tank                 | 235 l  |
| DEF (AdBlue®) tank        | 19 l   |
| Cooling system (radiator) | 32.6 l |
| Engine oil                | 11.8 l |
| Front axle                | 19.6 l |
| Rear axle                 | 22.2 l |
| Hydraulic system          | 120 l  |
| Hydraulic oil tank        | 85 l   |
| Transmission oil          | 2.7 l  |





# PERFORMANCE DATA & DIMENSIONS



## DL200-7

| Pin-on                |                                       | Unit | Eco bucket      |                | Performance bucket |                 |                   |                 | High lift |
|-----------------------|---------------------------------------|------|-----------------|----------------|--------------------|-----------------|-------------------|-----------------|-----------|
|                       |                                       |      | General purpose |                | General purpose    |                 | Material handling |                 |           |
| Ground engaging tools |                                       |      | 1.9 m³<br>TEETH | 2.0 m³<br>BOCE | 2.2 m³<br>BOCE     | 2.2 m³<br>TEETH | 2.2 m³<br>BOCE    | 2.2 m³<br>TEETH |           |
|                       | Capacity heaped ISO/SAE               | m³   | 1,9             | 2              | 2,2                | 2,2             | 2,2               | 2,2             | =         |
|                       | Capacity at 110% fill factor          | m³   | 2,1             | 2,2            | 2,4                | 2,4             | 2,4               | 2,4             | =         |
| B                     | Bucket width                          | mm   | 2550            | 2550           | 2550               | 2550            | 2550              | 2550            | =         |
|                       | Breakout force                        | kN   | 104             | 98             | 90                 | 95              | 93                | 98              | +1        |
|                       | Static tipping load (straight)        | kg   | 10181           | 10124          | 9883               | 9933            | 9952              | 10036           | -1788     |
|                       | Static tipping load (full turn - 40°) | kg   | 8990            | 8933           | 8698               | 8748            | 8765              | 8849            | -1579     |
| H                     | Dump height (at 45° - fully raised)   | mm   | 2644            | 2718           | 2647               | 2571            | 2670              | 2594            | +515      |
| I                     | Dump reach (at 45°- fully raised)     | mm   | 1019            | 961            | 991                | 1094            | 971               | 1073            | +46       |
|                       | Digging depth                         | mm   | 83              | 77             | 102                | 78              | 102               | 78              | +143      |
| J                     | Height at bucket pivot point          | mm   | 3716            | 3716           | 3716               | 3716            | 3716              | 3716            | +478      |
|                       | Max. tilt angle in carry position     | °    | 47              | 47             | 46                 | 46              | 46                | 46              | +3        |
|                       | Max. tilt angle fully raised          | °    | 60              | 60             | 60                 | 60              | 60                | 60              | +3        |
| K                     | Max. tilt angle on ground             | °    | 44              | 44             | 43                 | 42              | 43                | 42              | =         |
|                       | Max. tilt angle at max. reach         | °    | 59              | 59             | 59                 | 59              | 59                | 59              | -1        |
|                       | Max. dump angle at max. reach         | °    | 48              | 48             | 48                 | 48              | 48                | 48              | -4        |
|                       | Max. dump angle on ground             | °    | 64              | 64             | 64                 | 64              | 64                | 64              | -8        |
| L                     | Max. dump angle fully raised          | °    | 63              | 63             | 62                 | 63              | 62                | 63              | -5        |
|                       | External radius - tire side           | mm   | 5889            | 5849           | 5887               | 5930            | 5875              | 5918            | +192      |
|                       | External radius - bucket edge         | mm   | 5414            | 5414           | 5414               | 5414            | 5414              | 5414            | =         |
| E                     | Wheel base                            | mm   | 2980            | 2980           | 2980               | 2980            | 2980              | 2980            | =         |
| D                     | Width at tires edge                   | mm   | 2539            | 2539           | 2539               | 2539            | 2539              | 2539            | =         |
| F                     | Tread                                 | mm   | 1930            | 1930           | 1930               | 1930            | 1930              | 1930            | =         |
| G                     | Ground clearance (at 12° osc.)        | mm   | 434             | 434            | 434                | 434             | 434               | 434             | =         |
| A                     | Overall length                        | mm   | 7308            | 7208           | 7303               | 7406            | 7273              | 7376            | +435      |
| C                     | Overall height                        | mm   | 3313            | 3313           | 3313               | 3313            | 3313              | 3313            | =         |
|                       | Operating weight                      | kg   | 11989           | 12047          | 12238              | 12187           | 12186             | 12100           | +186      |

All capacities according ISO 7546, with straight blade [measure at the tip of bucket teeth or cutting edge], tires 20.5R25 (L3), base EU configuration.



# STANDARD AND OPTIONAL EQUIPMENT

● Standard ○ Optional

## Engine

- Exhaust aftertreatment (DOC + DPF + SCR + EGR)
- Auto idle function
- Auto shutdown function
- Air pre-cleaner (centrifugal)
- Engine management
- Fan – reversible, variable speed, with automatic function
- Wide fin radiator

## Powertrain

- Hydrostatic transmission (HST)
- Transmission mode management
- Axle differential – Torque Proportional Differential (TPD)
- Axle differential – Limited Slip Differential (LSD)

## Hydraulic

- Load sensing hydraulic system, variable displacement pump
- EMCV (Electric main control valve)
- 3<sup>rd</sup> spool valve
- MCV (Hydraulic pilot control)
- 4<sup>th</sup> spool valve

## Lift arm

- Standard lift arm, Z-bar kinematic
- Hydraulic lift arm suspension – Load Isolation System (LIS)
- Smooth end position bucket & arm (only with EMCV)
- Position memories
- Automatic bucket position "return to dig"
- High lift arm, Z-bar kinematic

## Work tools

- DOOSAN quick coupler
- DOOSAN bucket
- DOOSAN performance bucket

## Cab & operator comfort

- ROPS (ISO 3471:2008)/FOPS (ISO 3449) pressurized cab
- Grammer seat with vertical and horizontal low-frequency suspension, pneumatic lumbar support, heating, 3-point safety belt
- Joystick lever with FNR and thumbwheel roller integrated to the seat's right armrest
- DOOSAN Smart Key
- Door remote opening
- DOOSAN Smart Touch – 8" touch screen, all-in-one
- DOOSAN Smart Guidance System
- Rear-view mirrors – heated
- DoosanCONNECT (telematic system)
- 12V socket
- USB socket
- Fingertip control
- Rear-view mirrors – heated, electric adjustment

## Safety

- Safety belt alarm
- Rear-view camera
- Strobe reversing light
- LED working lights on cab (2× front + 2× rear)
- LED working lights on cab (4× front + 4× rear)
- LED working lights on cab (6× front + 6× rear)

## Other

- 20.5R25 (L3)
- 20.5R25 (L4)
- 20.5R25 (L5)
- Automatic lubrication system
- Additional counterweight

## DOOSAN CONNECT

### OPERATION TREND

Total operation hours and operation hours by mode

### FUEL EFFICIENCY\*

Fuel level and fuel consumption

### LOCATION

GPS and geo-fence

### REPORTS

Operation report & utilization

### WARNING & ALERT

Detect machine warnings, antenna disconnection, and geo/time fence

### FILTER & OIL MANAGEMENT

Preventive maintenance by item replacement cycle

### TELEMATICS TERMINAL

Terminal device is installed and connected to a machine to get machine data.

### TELECOMMUNICATION

Doosan provides dual-mode (Mobile, Satellite) communication to maximize communication coverage.

### DOOSANCONNECT WEB

Users can monitor machine status from DoosanCONNECT Web.

# Powered by Innovation

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DL200-7



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