

# DX235DM-5 DX530DM-5



# FROM DEMOLITION TO REINVENTION

# **BOOM JOINT SYSTEM**

The modular boom design and hydraulic lock mechanism provide customers with a complete, flexible solution that allows them to use the same excavator for applications on-site in addition to demolition. (1)

The quick coupler enables faster changeover from a demolition boom to an earthmoving boom. (2)

# **TILTING CAB**

The 30° tilting cab provides better visibility and reduces fatigue during high elevation demolition work.

# STABILITY WARNING SYSTEM

The tipping limit is calculated according to the attached tool. The system warns with alarm when approaching the safety limit, and stops the movement of cylinders when the limit is reached.

# **SAFETY**

Rear camera and large side mirrors, powerful lighting, & anti-slip steps and platforms. Guard rails on upper structure. FOGS (Falling Object Guard Structure) cab with top and front cab guards (ISO 10262).











# **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.

# **ADVANCED FILTRATION**

Highest efficiency filters & cleaners remove water, dust & particles to protect your investment optimally.

# HYDRAULICALLY ADJUSTABLE TRACK

The track can be extended and retracted hydraulically for maximum stability when working and minimized width for transportation.

# **CONTROLLABILITY**

Exclusive jog shuttle switch, 4 work & 4 power modes, proportional control, user-friendly 7" TFT LCD color monitor.

# **VARIOUS SELECTABLE DEMOLITION ATTACHMENTS**



Fixed Pulverizer



**Rotating Crusher** 



**Multi-Processor** 



Multi-Grapple



**Quick Coupler** 



Doosan demolition excavators are built for power for 2 main reasons: the power to tear down the toughest structures, and the power and stability to keep the operator completely safe.

# **KEEPING DEMOLITION WORKS SAFE**

#### **TILTING CAB**

Thanks to the tilting cab, the operator can maintain a comfortable posture and experience less fatigue during demolition work. Safety valves are located in the cab and behind it. In case of an emergency, the cab can be lowered by the operator or from outside the cab.

# **STANDARD SAFETY FEATURES**

- FOGS: Protects the operator from falling or flying objects
- Camera and mirrors: Provide all-round visibility in compliance with ISO 5006 (DX235 – rear and side-view camera, DX530 – rear-view camera)
- Safety valve for cylinders: Holds front attachment when hydraulic hose or pipe is ruptured.

# HYDRAULICALLY ADJUSTABLE TRACK (EXTENDED TRACK)

The hydraulically adjustable track maximizes machine stability. Extending the track provides very good lifting capacity over the side, and the machine stays stable as the upper body swings around.

# STABILITY WARNING SYSTEM

The stability warning system keeps the operator safe by monitoring the exact position of the machine and the work tool. The system warns the operator when the safety limit is being approached; and the system stops the machine's operation when the limit is reached.







# **OPERATING IN COMFORT**

# THE IDEAL WORKSPACE - DESIGNED AROUND YOU

The DX235DM-5 and DX530DM-5 are 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 hill or combination operation.

# TWO-WAY PROPORTIONAL PEDAL

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.

# **HEATED AIR SUSPENSION SEAT (STANDARD)**

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

# AIR CONDITIONING WITH CLIMATE CONTROL

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

# **MP3/USB RADIO**

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

#### STORAGE SPACE

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

#### **CABSUS MOUNT**

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





# 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

#### **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. For improved protection, alignment and performance, there are 3 types of guard available: normal, double, and full-length, according to the application
- The track spring and idler are joined for long-lasting performance and easy maintenance
- Cast steel heavy-duty sprockets guarantee the highest resistance
- The track rollers are lubricated for life

# STRENGTHENED BOOM AND ARM

During the development of our machines, we use intensive testing 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 center and end boss have been strengthened.

#### ADVANCED FILTRATION

- Fuel filters and water separator: a filter-type high-performance water separator effectively captures moisture in the fuel, reducing impurities and helping minimize any fuel-related issues. Pre-filters and dual main filters as standard achieve a high degree of purity that minimizes fuel system failures.
- Cyclonic air pre-cleaner: air filter life and engine efficiency are directly related to the amount of debris ingested through the engine's air intake. Therefore, a cyclonic air pre-cleaner (as standard) is the first stage of an air intake system that prevents the majority of heavier-than-air particles from entering. Selfcleaning and maintenance-free, the system is able to expel all types of mixed debris, including mud, snow, rain, leaves, sawdust, chaff, etc.

# ADVANCED PIN AND BUSHING TECHNOLOGY

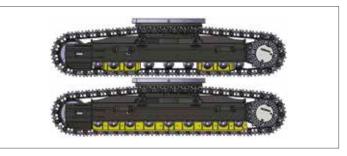
Highly lubricated metal is used for the boom pivot to increase the component's lifetime and lengthen greasing intervals. The bucket pivot features EM (Enhanced Macrosurface) bushings. These have a tailored surface pattern and self-lubricating coating for optimized greasing and more efficient debris removal.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











**Track guards:** to provide better protection, track alignment, and performance of machine while travelling. 3 guards per track as standard for DX235DM-5 & DX530DM-5 (full-length track guard optional). These various track guard options provide you with optimal solutions for your extreme applications.

# TECHNICAL SPECIFICATIONS DX235DM-5

# **ENGINE**

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

#### Model

Doosan DLo6P

### No. of cylinders

6

#### Rated power at 1800 rpm

SAE J1995 124 kW (166 hp) SAE J1349 121 kW (162 hp) ISO 9249 121 kW (162 hp)

# Max. torque

77 kgf·m (755 Nm) @ 1400 rpm

# Idle (low - high)

800 [±10] - 1900 [±25] rpm

#### **Displacement**

5890 cm3

# Bore × stroke

100 mm × 125 mm

### **Starter**

 $24 \text{ V} \times 6 \text{ kW}$ 

# **Batteries - Alternator**

2 × 12 V, 150 Ah - 24 V, 80 A

#### <u> Air filte</u>

Double element air cleaner and pre-filtered Turbo dust separator

# **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

# **Maximum swing speed**

10.9 rpm

# **Maximum swing torque**

8400 kgf⋅m

#### **HYDRAULIC SYSTEM**

The e-EPOS (Electronic Power Optimising System) is the brain of the excavator - minimising fuel consumption and optimizing the efficiency of the hydraulic system for all working conditions. To harmonise the operation of the engine and the hydraulics, the e-EPOS is connected to the engine's electronic control unit (ECU) via a data transfer link.

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

#### Main pumps

2 × variable displacement tandem axial piston pumps Maximum flow at 1800 rpm 2 × 206.5 l/min

### Pilot pump

Gear pump

Maximum flow at 1800 rpm 27 l/min

# **Relief valve settings**

Pressure up 350 kg/cm²
Travel 330 kg/cm²
Swing 270 kg/cm²
Pilot 40 kg/cm²

# 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.

# **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.

# Travel speed (low - high)

3.0 - 5.5 km/h

#### **Maximum traction**

27.5 t

# **Maximum gradeability**

35° / 70%

# **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

# **Upper rollers (standard shoe)**

2

# **Lower rollers**

8

# Number of links & shoes per side

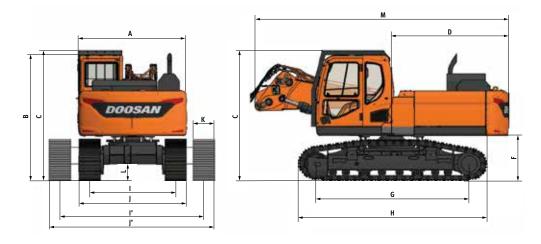
49

# Link pitch

190 mm

# **FLUID CAPACITIES**

Fuel tank	339 l
Cooling system (radiator)	38.41
Urea (def) tank	31.5 l
Hydraulic oil tank	200 l
Engine oil	27 l
Swing drive	5 l
Travel device	2 × 3 l



# **DIMENSIONS & WEIGHT - BASE MACHINE**

	Unit	DX235DM-5
A Width superstructure	mm	2545
B Overall height	mm	2960
C Overall height (incl. FOG)	mm	3055
D Tail swing radius	mm	2755
F Minimum counterweight clearance*	mm	1070
G Tumbler length	mm	3650
H Track length	mm	4445
I Track gauge (retracted)	mm	2040
l' Track gauge (extended)	mm	3240
J Track width (retracted)	mm	2540
J' Track width (extended)	mm	3740
K Shoe width	mm	500
L Minimum ground clearance*	mm	420
M Overall length (without arm)	mm	5960
Weight	kg	24000

<sup>\*</sup> with shoe grouser

# TECHNICAL SPECIFICATIONS DX530DM-5

# **ENGINE**

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

#### Model

Scania DC13

# No. of cylinders

6

#### Rated power at 1800 rpm

SAE J1995 283 kW (380 hp) SAE J1349 278 kW (373 hp) ISO 9249 283 kW (380 hp)

#### Max. torque

179.9 kgf·m (1765 Nm) @ 1300 rpm

# Idle (low - high)

750 [±20] - 1900 [±25] rpm

#### **Displacement**

12700 cm<sup>3</sup>

# Bore × stroke

130 mm × 160 mm

### **Starter**

 $24 \text{ V} \times 6 \text{ kW}$ 

# **Batteries - Alternator**

2 × 12 V, 200 Ah - 28 V, 100 Ah

#### <u> Air filte</u>

Double element air cleaner and pre-filtered Cyclone Turbo dust separator

# **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

# **Maximum swing speed**

8.6 rpm

# **Maximum swing torque**

20130 kgf⋅m

#### **HYDRAULIC SYSTEM**

The e-EPOS (Electronic Power Optimising System) is the brain of the excavator - minimising fuel consumption and optimizing the efficiency of the hydraulic system for all working conditions. To harmonise the operation of the engine and the hydraulics, the e-EPOS is connected to the engine's electronic control unit (ECU) via a data transfer link.

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

#### Main pumps

2 × variable displacement tandem axial piston pumps Maximum flow at 1800 rpm 2 × 355 l/min

### Pilot pump

Gear pump

Maximum flow at 1800 rpm 24.12 l/min

#### Relief valve settings

 Implement
 350 kg/cm²

 Travel
 350 kg/cm²

 Swing
 300 kg/cm²

 Pilot
 40.8 kg/cm²

# 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.

# **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.

# Travel speed (low - high)

3.1 - 5.4 km/h

#### **Maximum traction**

38.8 t

# **Maximum gradeability**

35° / 70%

# **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

# **Upper rollers (standard shoe)**

3

# **Lower rollers**

9

# Number of links & shoes per side

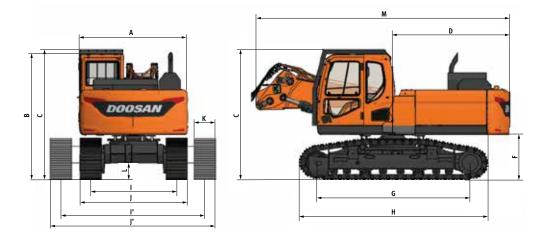
53

# Link pitch

216 mm

# **FLUID CAPACITIES**

Fuel tank	685 l
Cooling system (radiator)	90 l
Urea (def) tank	70 l
Hydraulic oil tank	390 l
Engine oil	45 l
Swing drive	2 × 5 l
Travel device	2 × 10 l

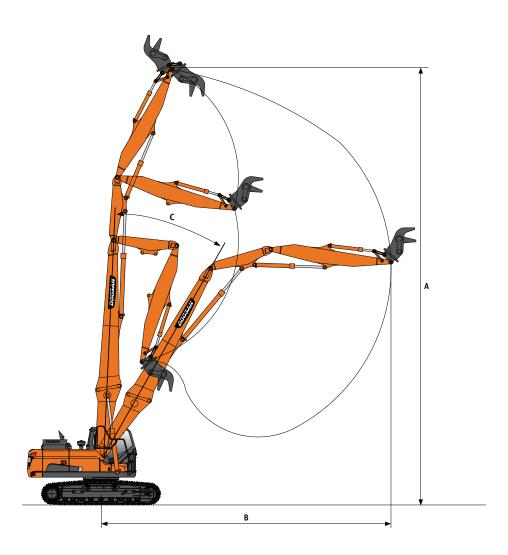


# **DIMENSIONS & WEIGHT - BASE MACHINE**

	Unit	DX530DM-5
A Width superstructure	mm	2990
B Overall height	mm	3275
C Overall height (incl. FOG)	mm	3360
D Tail swing radius	mm	3800
F Minimum counterweight clearance*	mm	1450
G Tumbler length	mm	4475
H Track length	mm	5455
Track gauge (retracted)	mm	2370
l' Track gauge (extended)	mm	3770
J Track width (retracted)	mm	2970
J' Track width (extended)	mm	4370
K Shoe width	mm	600
L Minimum ground clearance*	mm	525
M Overall length (without arm)	mm	8200
Weight	kg	50800

<sup>\*</sup> with shoe grouser

# **DEMOLITION CONFIGURATION**



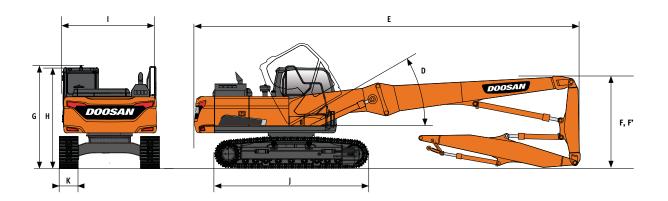
# **DEMOLITION CONFIGURATION**

	Unit	DX235DM-5	DX530DM-5
Max. tool weight	kg	1800 - 2100	2600 - 3000
Variable undercarriage width	mm	2540 - 3740	2970 - 4370
Total weight	kg	28500	60500

# **WORKING RANGE**

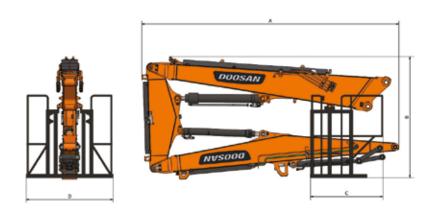
	Unit	DX235DM-5	DX53oDM-5
A Max. height at pin	mm	18070	27500
B Max. reach*	mm	12900	16500
C Max. permitted angle	0	30	30

<sup>\*</sup> the maximum reach values refer to 360°



# **TRANSPORT DIMENSIONS & WEIGHTS**

	Unit	DX235DM-5	DX530DM-5
D Cab tilting angle	0	30	30
E Overall length (incl. demolition arm)	mm	11460	18500
F Demolition boom height	mm	3050	3080
F' Overall height (incl. demolition arm)	mm	3070	3100
G Max. height with protection grid	mm	3055	3360
H Cab height	mm	2960	3275
I Transport width	mm	2540	2970
J Length with variable undercarriage	mm	4445	5455
K Shoe width	mm	500	600
Weight	kg	28500	60500

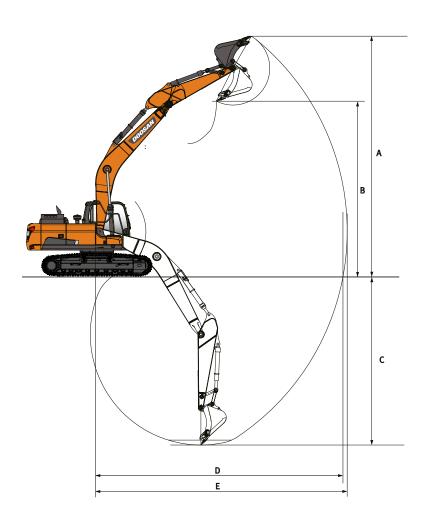


# **DIMENSIONS & WEIGHT – WORK EQUIPMENT**

	Unit	DX235DM-5	DX530DM-5
A Overall length	mm	6390	12500
B Overall height	mm	3050	3100
C Length of cradle support	mm	1800	1800
D Width of cradle support	mm	2160	2160
Weight of demolition boom with transport cradle	kg	4700	9700

<sup>\*</sup> with shoe grouser

# **DIGGING CONFIGURATION**



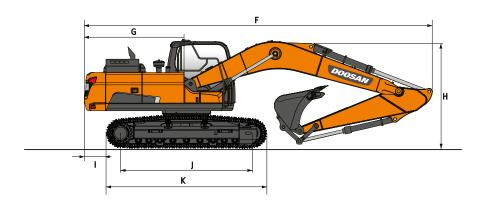
# **DIGGING CONFIGURATION**

	Unit	DX235DM-5	DX530DM-5
Arm length	mm	2400	3350
Max. bucket capacity	m³	1.0	2.86
Max. tool weight	kg	2200	5000
Total weight	kg	26000	56800

# **WORKING RANGE**

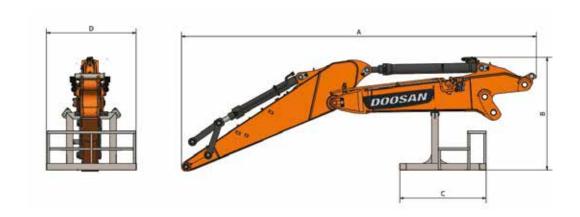
	Unit	DX235DM-5		DX530DM-5	
		Straight	Bent	Straight	Bent
A Max. digging height	mm	11200	9560	13500	11050
B Max. loading height	mm	8330	6900	10100	7865
C Max. digging depth	mm	5540	6275	6300	7790
D Max. digging distance at ground level	mm	9940	9470	12300	11865
E Max. digging distance	mm	1011	9640	12550	12125

 $<sup>{}^{\</sup>star}$  without additional counterweight



# **TRANSPORT DIMENSIONS & WEIGHTS**

	Unit	DX235DM-5	DX530DM-5
F Overall length	mm	9590	12230
G Tail swing radius	mm	2755	3800
H Boom height	mm	3110	3705
I Rear overhang	mm	500	1075
J Tumbler center distance	mm	3650	4475
K Undercarriage length	mm	4445	5455
Weight	kg	26000	56800



# **DIMENSIONS & WEIGHT – WORK EQUIPMENT**

	Unit	DX235DM-5	DX530DM-5
A Overall length	mm	6390	7500
B Overall height	mm	2030	2850
C Length of cradle support	mm	1560	1560
D Width of cradle support	mm	1620	1620
Weight of digging boom with transport cradle	kg	2700	6000

<sup>\*</sup> with shoe grouser

# STANDARD EQUIPMENT DX235DM-5 & DX530DM-5

#### **Engine**

- DX235DM-5: Doosan DLo6P, Stage IV compliant, SCR, EGR, DOC, watercooled diesel engine with Wastegate Turbocharger and air-to-air intercooler
- DX530DM-5: Scania, Stage IV compliant, SCR, EGR, DOC, water-cooled diesel engine with Variable Turbo Charger 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)
- One & two way auxiliary hydraulic line for opening & closing of tool (with pedal & joystick control)
- 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 (slow / fast)
- 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 (from control panel)
- 12 V spare power socket
- Serial communication port for laptop PC interface
- Remote radio ON/OFF switch
- Loudspeakers and connections for radio
- Tilting cabin

#### Safety

- Roll Over Protective Structure (ROPS)
- FOGS cab top and front cab guards (ISO 10262)
- 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
- DX235DM-5: Side-view camera

#### Other

- DX235DM-5: 18 m High Reach Demolition front
- DX530DM-5: 27.5 m High Reach Demolition front
- DX235DM-5: Digging front: 5700 mm boom, 2400 mm arm
- DX530DM-5: Digging front: 7100 mm boom, 3350 mm arm
- Doosan Connect Telematic system
- Auto shut-off fuel filler pump
- Double element air cleaner and pre-filtered Cyclone Turbo dust separator
- Fuel pre-filter with water separator sensor
- Dust screen for radiator/oil cooler
- Self-diagnostic function
- DX235DM-5: Alternator (24 V, 80 A) Battery (2 × 12 V, 150 Ah)
- DX530DM-5: Alternator (28 V, 100 A) Battery (2 × 12 V, 200 Ah)
- Hydrostatic 2-speed travel system with automatic shift
- Remote greasing for swing circle and work group pivot points
- Guards for work lights
- Hydraulic piping for crusher, quick-coupler, clamshell, tilting and rotating buckets
- Double pump flow

# **Undercarriage**

- DX235DM-5: Hydraulically adjustable undercarriage: 2.54 m to 3.74 m
- DX530DM-5: Hydraulically adjustable undercarriage: 2.97 m to 4.37 m
- Hydraulic track adjuster
- Normal track guards
- Greased and sealed track links
- DX235DM-5: 500 mm HD 12 mm triple grouser shoe
- DX530DM-5: 600 mm triple grouser shoe



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

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

Users can monitor machine status from DoosanCONNECT Web.