



Doosan Infracore
Construction Equipment



ESCORTS
CONSTRUCTION EQUIPMENT

HD⁺

DX225LCB



Engine Power- SAE J1349:110 kW
148 HP @ 1,950 rpm

Operational Weight- 21.5 ~ 22.4 ton

Bucket Capacity (SAE)- 0.93 ~ 1.2 m³



Latest B Series HD⁺ version



Doosan's revolutionary design philosophy revolves around the common objective of "Optimum value to the End user".

Increased Productivity with Enhanced Fuel Efficiency

Electronic optimization of the Hydraulic system with the improved Doosan Engine.

- ▶ Fuel Efficient Doosan Engine
- ▶ Intelligent Hydraulics
- ▶ 9 spools for quick & efficient operations + extra spool for attachment
- ▶ Range of Buckets (0.93—2 cu.m)



**Reinforced
Idler Guard**

Heavy Duty LC undercarriage.

- ▶ 9 Track rollers with 2 track guards
- ▶ Reinforced Idler Guards
- ▶ Sturdy Tracks



Fuel Filler Pump

Improved ergonomics, increased comfort and excellent all round visibility ensure a fatigue free, safe and pleasant work environment-resulting in increased productivity and efficiency of operator.

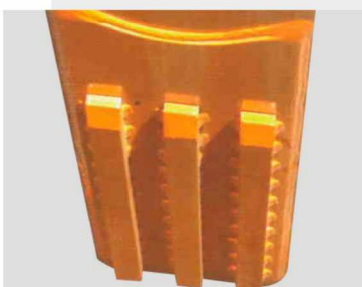
- ▶ Air conditioned cabin
- ▶ Better stability with LC undercarriage
- ▶ Improved front visibility from cabin
- ▶ Better rear visibility with low height of engine hood



Cast End Boom

Reduced maintenance and high availability of the DX225LCB reduces operating costs and assures continuous earnings to the owner.

- ▶ Long service intervals
- ▶ Lowest operating cost
- ▶ Ease of maintenance
 - ▶ Self – diagnosis function keeps a log of issues
 - ▶ Operational memory provides graphic display of status of the machine
 - ▶ Maintenance and oil change intervals can be displayed



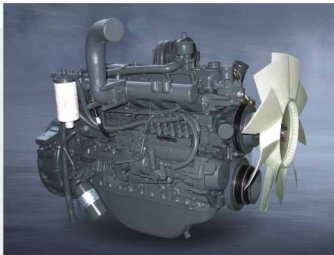
**Hardox
Reinforcement
Strips**

Improved reliability by the use of tested & proven sub-assemblies and high performance structural components. Reduced running cost with increased component life expectancies – Great savings in Operational Expenses.

- ▶ Heavy duty structures
 - ▶ Cast end structures
 - ▶ Hardox reinforcement strips
 - ▶ HD Bucket linkages
- ▶ Long undercarriage with reinforcements
- ▶ Enhanced engine life due to robust design

Performance

The well-matched combination of the improved Doosan engine with new e-EPOS controlled Hydraulic system has resulted in an unbeatable Hydraulic Excavator that offers great performance.



**DOOSAN
DB58T1A Engine**

At the heart of the hydraulic excavator is the improved DOOSAN DB58T1A engine. This coupled with the proven Hydraulic system and intelligent e-EPOS control ensures optimum utilization of power and increased fuel efficiency.

- ▶ Better performance by improved engine (Turbo, Intercooler)
- ▶ Reduced fuel consumption through energy efficiency and Auto Idle feature



Hydraulic Pump

The main pumps with combined maximum flow of 422/min, increases the speed of the hydraulic system resulting in reduced cycle times.



Swing Device

Designed to minimize the shocks during the rotation & features increased torque for faster cycle times.



Travel Device

Newly designed travel device is reinforced and has high durability even in tough underfoot conditions.

Handling

The impressive power, durability and precise controllability of the DX225LCB makes it the right machine for all working conditions.



- ▶ Gauges
- ▶ Navigation modes, rear view camera, display selector
- ▶ Working modes, auto-idle & flow rate control



Choice of operating modes

- ▶ **Power:** uses 100% engine power for heavy work
- ▶ **Standard:** uses 85% engine power for all work
- ▶ **Economy mode:** uses 70% of engine power for reduced fuel consumption

Control lever: The DX225 features precise controllability of hydraulic functions through responsive hand levers. Additional control buttons provided on the lever as a standard feature facilitate fitment of rock breaker, grabs, clam shovels crushers and other implements with ease and alteration to original layout.

Comfort

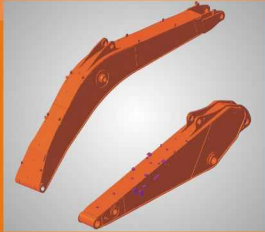
More space, better visibility, powerful air-conditioning and an ergonomic, adjustable air suspension seat ensure that the operator can work for hours without stress or fatigue in the comfortable, safe working environment.



- ▶ Control panel correct positioning with clear controls makes the operator's task easier.
- ▶ The high performance air—conditioning provides air flow which is adjusted and electronically controlled for a comfortable working environment.
- ▶ Air suspension seat equipped with various functions of back and forth adjustment and lumbar support. This effectively reduces the transmission of vibrations during work.

Reliability

DOOSAN uses computer—assisted design techniques and highly durable base materials in the manufacture of structures. Further, these components undergo stress and fault analysis testing, thus ensuring that they perform well in arduous conditions.



Strengthened Boom & Arm Assembly

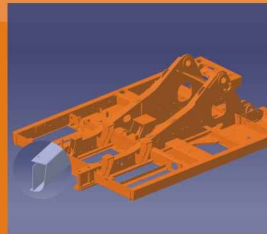
The shape of the boom has been optimized using finite elements design, allowing the loads to be better distributed throughout the structure. This combined with increased material thickness results in improved durability and reliability by limiting material fatigue.

The arm assembly has an increased life and greater strength as a result of being manufactured with cast elements and reinforcement around the boss—area.



X – Chassis

The X—chassis frame section has been designed using finite elements and 3—dimensional computer simulation techniques, to ensure greater durability and optimum structural integrity.



D – Type Frame

The D—type cross section of the chassis frame adds to its strength and minimizes distortions due to shocks that occur during machine operation.



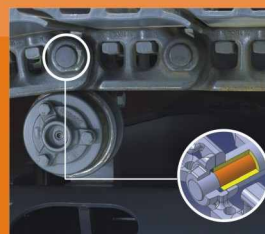
Integrated Track Spring and Idler

The track spring and the idler have been joined directly to achieve high durability and improved convenience of maintenance.



Polymer Shim

A polymer shim is added to the bucket pivot pin to maintain precise control over the equipment.



Tracks

The chain is composed of self – lubricating sealed links isolated from all external contamination. The tracks are locked by mechanically bolted pins.

Maintenance

Longer intervals of service schedules increase the availability of the excavator for use at site. DOOSAN has developed the DX225LCB with an objective to achieve higher profitability for the equipment owner.



Easy Maintenance

Access to the radiator, oil cooler and most filters is easy and maintenance can be carried out from ground level.



Hydraulic Oil Return Filter

The glass fibre filter technology used in the main oil return filter ensures that more than 99.5% of foreign particles are filtered out, and as a result the oil change interval is increased.



Engine Oil Filter

The engine oil filter offers a higher efficiency of filtration allowing the oil change intervals to be increased to 500 hours.



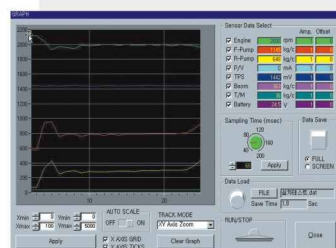
Air Cleaner

The large capacity air cleaner removes over 99% of airborne particles, reducing the risk of engine contamination.



Water Separator

A high-efficiency & large capacity water separator protects the engine by removing most moisture from the fuel.



PC Monitoring (DMS)

A PC monitoring function enables connection to the e-EPOS system, allowing various parameters such as pump pressures, engine rotation speed, etc. to be checked during maintenance.

Technical Specifications

ENGINE

Model	DOOSAN DB58TIA Water-Cooled, 4-Cycle Direct Injection, Turbocharged
Number of Cylinders	6
Rated flywheel horse power	110 kW (148 HP) @ 1,950 rpm (SAE J1349)
Max torque	58.5 kgf.m (573.7 Nm) at 1,400 rpm
Piston displacement	5,785 cc
Bore & stroke	102 mm x 118 mm
Starter	24V / 4.5 kW
Batteries	2 X 12V / 100 Ah
Air cleaner	Double element with auto dust evacuation

UNDER CARRIAGE

Upper Rollers	2
Lower Rollers	9
Shoes	49

HYDRAULIC CYLINDERS

The piston rods and cylinder bodies are made of high-strength steel. A shock absorbing mechanism is fitted in all cylinders to ensure shock-free operation and extended piston life.

Cylinders	Quantity	Bore x Rod diameter x Stroke
Boom	2	120 x 85 x 1,260 mm
Arm	1	140 x 100 x 1,450 mm
Bucket	1	120 x 85 x 1,060 mm

REFILL CAPACITIES

Fuel Tank	400 l
Cooling System (Radiator capacity)	24 l
Engine Oil	25 l
Swing Drive Gear Oil	5 l
Travel Drive (Each) Gear Oil	2 x 3.3 l
Hydraulic Tank	140 l

BUCKET

Capacity	Recommendation
SAE, heaped	5,700 mm (18'8") Boom 2,400 mm (7'10") Arm
0.93 m ³	Density upto 2200 kg/cu.m & block handling application
1.0 m ³	Density upto 2000 kg/cu.m
1.2 m ³	Light material upto 1400 kg/cu.m and Loose Sand Handling

WEIGHT

Considering Boom 5,700 mm (18'8") : Arm 2,400 mm (7'10")

Bucket SAE 1.0 m ³ (1.30 yd ³)	Shoe width	Operating weight	Ground pressure (kgf/cm ²)
Triple Grouser	(STD) 600 mm (2')	21,500 kg (47,399 lb)	0.45 kgf/cm ² (44 kpa, 6.40 psi)
	700 mm (2'4")	21,800 kg (48,060 lb)	0.40 kgf/cm ² (39 kpa, 5.69 psi)
	800 mm (2'8")	22,100 kg (48,721 lb)	0.40 kgf/cm ² (34 kpa, 4.78 psi)

HYDRAULIC SYSTEM

The heart of the system is the e-EPOS (Electronic Power Optimizing System). It allows the efficiency of the system to be optimized for all working conditions and minimizes fuel consumption.

- ▶ The hydraulic system enables independent or combined operations.
- ▶ Cross-sensing pump system for fuel savings.
- ▶ Button control of flow in auxiliary equipment circuits.
- ▶ Computer-aided pump power control.
- ▶ Main Pumps 2 x Tandem Axial Piston
Max Flow: 2 x 21 l / min
- ▶ Pilot Pump Gear pump - Max Flow: 28.5 l/min
- ▶ **Maximum system pressure**
 - Boom/Arm/Bucket
 - Normal mode 330 kgf/cm² (324 bar)
 - Travel 330 kgf/cm² (324 bar)
 - Swing 270 kgf/cm² (264 bar)

SWING MECHANISM

- ▶ An axial piston motor with 2-stage planetary reduction gear is used for the swing.
- ▶ Increased swing torque reduces swing time.
- ▶ Internal induction-hardened gear.
- ▶ Internal gear and pinion immersed in lubricant bath.
- ▶ The swing brake for parking is activated by spring and released hydraulically.

Swing Speed: 0 to 11.0 rpm, **Swing Torque:** 6,477 kgf.m

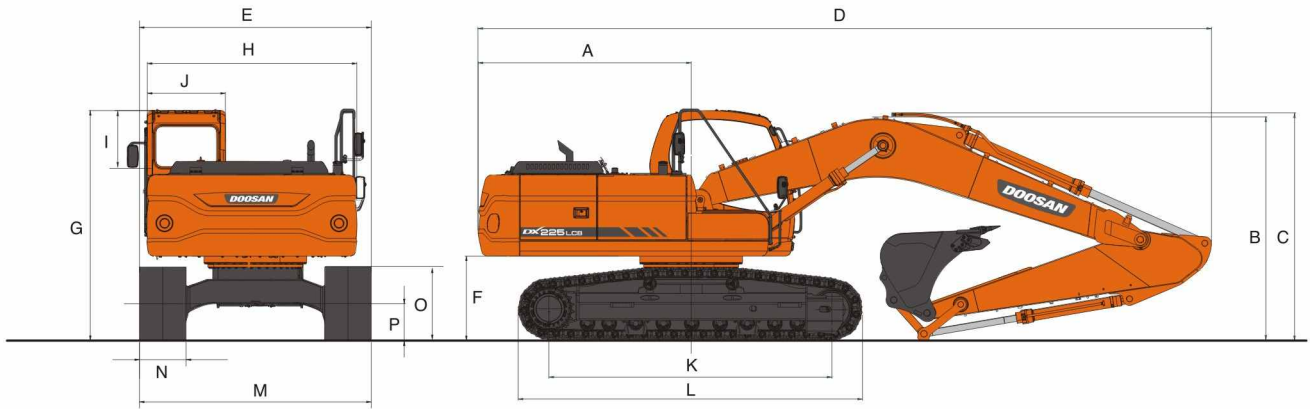
DRIVE

Each track is driven by an independent axial piston motor through a 3 stage planetary reduction gearbox.

Two levers control pedals guarantee smooth travel with counter-rotation on demand.

Travel Speed (fast/slow)	5.5/3.0 km/hr
Maximum traction force	22.2 ton/11.7 ton
Maximum Gradeability	70% (35°)

Dimensions



DIMENSIONS

Boom Type (One piece)	(mm)	5,700	8,500
Arm Type	(mm)	2,400	6,200
Bucket Capacity (SAE)	(m ³)	1.1	0.4
A Tail Swing Radius	(mm)	2,790	2,790
B Shipping Height (Boom)	(mm)	3,045	3,175
C Shipping Height (Hose)	(mm)	3,110	3,254
D Shipping Length	(mm)	9,540	12,317
E Shipping Width	(mm)	2,990	2,990
F C/Weight Clearance	(mm)	1,055	1,055
G Height Over Cab.	(mm)	2,975	2,975

H House Width	(mm)	2,710	2,710
I Cab. Height Above House	(mm)	845	845
J Cab. Width	(mm)	960	960
K Tumbler Distance	(mm)	3,650	3,650
L Track Length	(mm)	4,445	4,445
M Undercarriage Width	(mm)	2,990	2,990
N Shoe Width	(mm)	600	600
O Track Height	(mm)	947	947
P Car Body Clearance	(mm)	480	480

DIGGING FORCE (ISO)

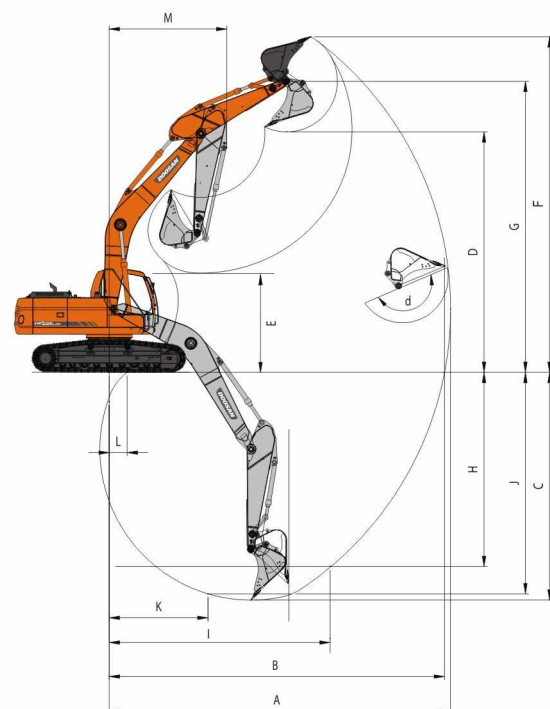
Bucket (SAE)	1.0 m ³
Digging force	13.9 ton

Arm	2,400 mm
Digging force	11.7 ton

At power boost (ISO)

WORKING RANGE

Boom Type (One piece)	(mm)	5,700	8,500
Arm Type	(mm)	2,400	6,200
Bucket Capacity (SAE)	(m ³)	1.1	0.4
A Max. Digging Reach	(mm)	9,495	15,379
B Max. Digging Reach (ground)	(mm)	9,313	15,268
C Max. Digging Depth	(mm)	6,125	11,661
D Max. Loading Height	(mm)	6,814	11,148
E Min. Loading Height	(mm)	3,055	2,009
F Max. Digging Height	(mm)	9,737	13,403
G Max. Bucket Pin Height	(mm)	8,298	12,380
H Max. Vertical Wall Depth	(mm)	5,932	9,729
I Max. Radius Vertical	(mm)	5,228	10,064
J Max. Depth 8' Line	(mm)	5,925	11,561
K Min. Radius 8' Line	(mm)	2,881	4,854
L Min. Digging Reach	(mm)	1,675	196
M Min. Swing Radius	(mm)	3,409	4,714
d Bucket Angle	(deg)	177	166



Standard and Optional Equipment

STANDARD EQUIPMENT

HYDRAULIC SYSTEM

- ▶ Boom and arm flow regeneration
- ▶ Swing anti-rebound valves
- ▶ Spare Ports (Control valve)

CABIN & INTERIOR

- ▶ Air suspension seat
- ▶ Viscous cab mounts
- ▶ All weather sound suppressed type cab
- ▶ Air conditioner & Heater
- ▶ Adjustable suspension seat with head rest and adjustable arm rest
- ▶ Pull-up type front window and removable lower front window
- ▶ Room light
- ▶ Intermittent windshield wiper
- ▶ Engine overheat prevention system
- ▶ Cup holder

- ▶ LCD color monitor panel
- ▶ Engine RPM control dial
- ▶ AM/FM radio
- ▶ 12V spare power socket
- ▶ Serial communication port for laptop PC interface
- ▶ Joystick lever with 2 switches
- ▶ Sun roof

SAFETY

- ▶ Large handrails and step
- ▶ Convex metal anti-slip plates
- ▶ Seat belt
- ▶ Hydraulic safety lock lever
- ▶ Safety glass
- ▶ Hammer for emergency escape
- ▶ Right and left rear view mirrors
- ▶ Battery protector cover

OTHERS

- ▶ Double element air cleaner
- ▶ Water separator
- ▶ Fuel filter
- ▶ Dust screen for radiator/oil cooler
- ▶ Engine restart prevention system
- ▶ Self-diagnostic system
- ▶ Alternator (24V, 50 amps)
- ▶ Electric horn
- ▶ Halogen working lights (frame mounted 1, boom mounted 2)
- ▶ Track guards
- ▶ Greased and sealed track link
- ▶ Hydraulic oil tank air breather filter
- ▶ Fuel filter pump
- ▶ Hydraulic track adjuster

OPTIONAL EQUIPMENT

Some optional equipment may be standard in some markets. You must check with the local DOOSAN dealer to know more about the availability or to release the adaptation following the needs of the applications.

CABIN & INTERIOR

- ▶ Rain shield

SAFETY

- ▶ Boom and arm hose rupture protection valve
- ▶ Overload warning device
- ▶ Cabin Top/ Front guard (ISO 10262, FOGS standard)
- ▶ Travel & swing alarm
- ▶ Rotation beacon
- ▶ Lock valve

OTHERS

- ▶ Piping for crushe
- ▶ Piping for quick clamp
- ▶ Piping option
 - Breaker with flow control valve
 - Clamshell-quick clamp
- ▶ 700 mm/800 mm/900 mm shoe
- ▶ Lower wiper
- ▶ Fuel heater
- ▶ 80A alternator

- ▶ Working lights
 - 4-front/2-rear on cabin
 - 2-front on cabin
 - 1 on counterweight
- ▶ Counterweight
- ▶ Superlong configuration
- ▶ GPRS- Remote monitoring system
- ▶ Full track guard



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Disclaimer : * Accessories shown in the images are not a part of standard equipment. Photographs are for illustration purpose only.

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