

DOOSAN

Crawler Excavators

DX50Z DX55R

	DX50Z	DX55R
Maximum power	36.4 kW	36.4 kW
Operating weight	5438 kg	5740 kg
Bucket capacity	0.16 m ³	0.16 m ³
Emission standard	Stage V	Stage V



TECHNICAL SPECIFICATIONS

ENGINE

Designed to deliver superior performance and fuel efficiency, the Doosan D18 diesel engine fully meets the latest Stage V emission regulations. To optimize machine performance, the engine uses high-pressure fuel injectors, air-to-air inter-cooler and electronic engine controls. 4-Cycle Water-Cooled, Wastegate Turbocharged, Diesel Oxidation Catalyst (DOC), Diesel Particulate Filter (DPF) and EGR.

Model

Doosan D18

No. of cylinders

3

Rated power at 2200 rpm

SAE J1995 36.4 kW (48.8 hp)

Max. torque at 1600 rpm

18.4 kgf·m

Idle (low - high)

1150 - 2000 rpm

Displacement

1800 cm³

Bore × stroke

90 mm × 94 mm

Starter

12 V / 2.7 kW

Batteries - Alternator

1 × 12 V, 100 Ah – 12 V, 90 A

Air filter

Double element air cleaner

UNDERCARRIAGE

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

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

Upper rollers (standard shoe)

1

Lower rollers

4

Number of links & shoes per side

39

Link pitch

135 mm

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 harmonize 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.

- 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 pump

Variable axial piston pump

Maximum flow at 2200 rpm 138.6 l/min

	Relief valve settings	
	DX50Z	DX55R
Implement	250 kgf/cm ²	280 kgf/cm ²
Travel	250 kgf/cm ²	280 kgf/cm ²
Swing	220 kgf/cm ²	

HYDRAULIC CYLINDERS

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

Cylinders	Quantity	Bore × rod diameter × stroke (mm)
Boom	1	95 × 55 × 678
Arm	1	80 × 55 × 726
Bucket	1	70 × 45 × 600
Dozer	1	110 × 60 × 197
Boom swing	1	95 × 60 × 449

CAB

The air-conditioning and heating systems are integrated for optimal climate control. An automatically-controlled fan supplies the pressurized 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.

A-weighted emission sound pressure level at the operator's position, LpAd (ISO 6396:2008)

Declared: 78 dB(A)

A-weighted sound power level, LwAd (2000/14/EC)

Declared: 97 dB(A)

Measured: 96 dB(A)

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

9.8 rpm

Maximum swing torque

1380 kgf·m

FLUID CAPACITIES

Fuel tank	78 l
Cooling system (radiator)	10.8 l
Hydraulic oil tank	67 l
Engine oil	9.2 l
Travel device	2 × 0.9 l

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)

2.6 - 4.4 km/h

Maximum traction

4.58 t

Maximum gradeability

35° / 70%

WEIGHT & GROUND PRESSURE

	Machine weight (kg)		Ground pressure (kgf/cm ²)	
	DX50Z	DX55R	DX50Z	DX55R
400 mm rubber shoes	5438	5740	0.30	0.32
400 mm steel tracks	5607	5908	0.31	0.33

TECHNICAL SPECIFICATIONS

COMPONENT WEIGHTS

Item	Weight (kg)		Remarks
	DX50Z	DX55R	
Upper structure without front	2494	2496	Without counterweight
Counterweight	270	550	
Lower structure assembly	1914	1914	Rubber
Front assembly	753	774	
Boom assembly	220	220	
Arm assembly	105	115	
Bucket	130	130	
Boom cylinder	61	62	
Arm cylinder	51.5	55.6	
Bucket cylinder	32	33.5	
Dozer	254	254	
Dozer cylinder	36	36	

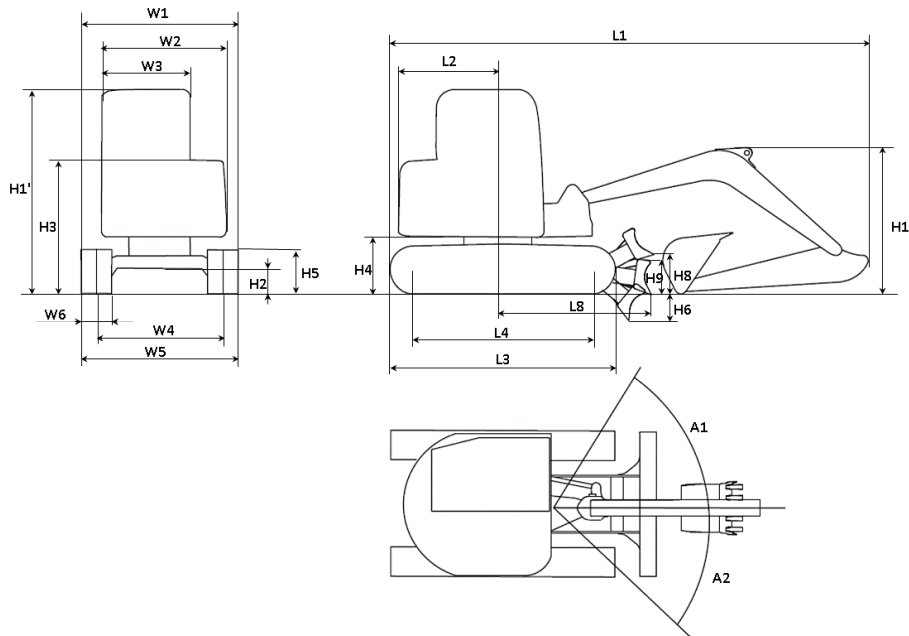
ARMS

	Length (mm)	Weight (kg)	Digging forces (ISO)
DX50Z (Standard)	1450	117.4	2.35
DX55R (Standard)	1600	119	2.79

BUCKETS

	Capacity (m³) SAE	Width (mm)		Weight (kg)	Digging forces (ISO)
		With side cutters	W/O side cutters		
DX50Z (Standard)	0.16	669	627	130	3.45
DX55R (Standard)					4.43

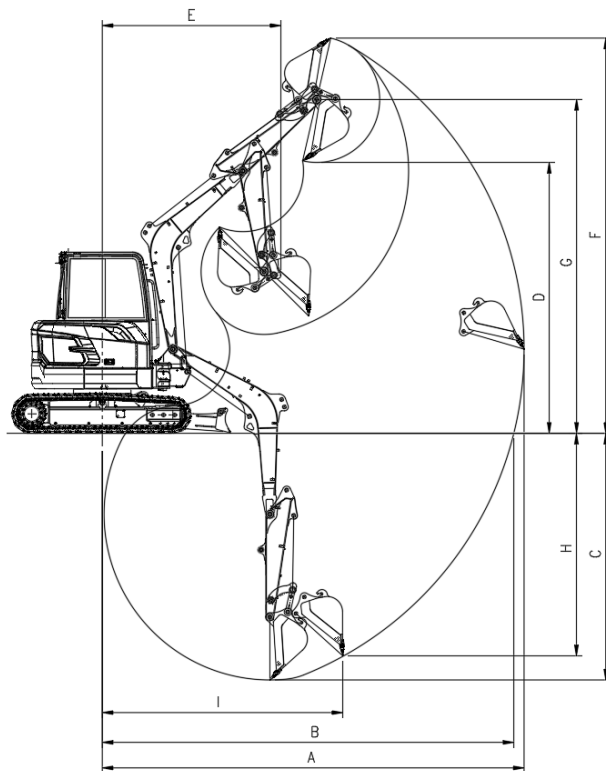
DIMENSIONS



DIMENSIONS

		Unit	DX50Z	DX55R
Boom length		mm	2700	2700
Arm length		mm	1450	1600
Bucket capacity		m³	0.16	0.16
Undercarriage (track + grouser)		-	Rubber	Rubber
L1	Overall length	mm	5386	5400
H1	Overall height	Boom	mm	2060
		Cab	mm	2575
W1	Overall width	mm	1980	1980
R1	Rear swing radius	mm	1000	1050
H2	Ground clearance	mm	209.5	209.5
W2	House width	mm	1750	1750
W3	Cab width	mm	1150	1150
H3	Height over cover	mm	1588	1588
H4	Counterweight clearance	mm	628	628
A1/A2	Boom swing angle (left/right)	mm	60/53	60/53
H5	Track height	mm	562	562
L3	Track length	mm	2497	2497
L4	Tumbler distance	mm	1990	1990
W4	Track gauge	mm	1580	1580
W5	Undercarriage width	mm	1980	1980
W6	Shoe width	mm	400	400
etc.	Grouser height	mm	14	14
H6	Dozer digging depth	mm	450	450
H8	Dozer lift clearance	mm	470	470
H9	Dozer blade height	mm	349	349
L8	Distance to dozer end	mm	1811	1811

WORKING RANGE



WORKING RANGE

	Unit	DX50Z	DX55R
Boom length	mm	2700	2700
Arm length	mm	1450	1600
Bucket capacity	m³	0.16	0.16
A Max. digging reach	mm	5945	6090
B Max. digging reach (ground)	mm	5800	5950
C Max. digging depth	mm	3480	3630
D Max. dumping height	mm	3820	3925
E Min. swing radius	mm	2520	2550
F Max. digging height	mm	5575	5680
G Max. bucket pin height	mm	4710	4815
H Max. vertical wall depth	mm	3140	3285
I Max. radius vertical	mm	3390	3430

STANDARD AND OPTIONAL EQUIPMENT

● Standard ○ Optional

Engine

- Doosan D18 - Common rail diesel engine with direct fuel injection, Stage V compliant
- Auto-idle function

Hydraulic system

- Variable pistons pump
- Breaker piping with direct return to the tank
- 2-way high flow auxiliary line with settings from the display panel
- Cylinder cushioning & contamination seals
- Rotation line (Pero)
- Quick coupler line

Cab & interior

- Pressurized, sound-insulated cab
- Air suspension seat with heater
- Air conditioning
- Pull-up type front window and removable lower front window
- Sliding right windows with lock
- Ceiling light
- Intermittent upper windshield wiper
- Multiple storage compartments
- Flat, spacious, easy-to-clean floor
- Cup holder
- Anti-theft protection
- DOOSAN Smart Touch – 8" touch screen, all-in-one
- Electric horn
- Engine speed (RPM) control dial
- Hydrostatic 2-speed travel system with manual or automatic shift
- DAB radio with handsfree call system
- USB charger & 12 V power socket
- Serial communication port for laptop PC interface
- Adjustable PPC for arm, boom, bucket and swing, with sliding proportional control for attachments and auxiliary hydraulic buttons
- Travel pedals and hand levers
- Master key

Safety

- Roll Over Protective Structure (ROPS)
- Boom and arm cylinder safety valves
- Overload warning device
- Rotating beacon
- Hydraulic safety lock lever
- Safety glass
- Hammer for emergency escape
- Right and left rearview mirrors
- Emergency engine stop switch
- Reinforced cast steel pivot points
- Battery cut-off switch
- LED work light (1 on the boom)
- Lockable fuel cap
- LED work lights (2 additional lamps on top of the cab)
- Falling Objects Guard System – top and front cab guards (ISO 10262 level II and SAE J1356)
- Rear camera

Other

- DX50Z: 2700 mm mono boom – 1450 mm arm – 270 kg counterweight
- DX55R: 2700 mm mono boom – 1600 mm arm – 550 kg counterweight
- DoosanCONNECT (telematic system)
- Boom cylinder guard
- Double element air cleaner
- Self-diagnostic function
- Battery (12 V, 100 Ah), alternator (12 V, 80 A)
- Remote greasing for swing circle and workgroup pivot points
- DX55R: 200 kg counterweight

Undercarriage

- Fixed undercarriage
- Hydraulic track adjuster
- 400 mm rubber tracks
- Dozer blade with floating function
- Greased and sealed track links
- Dozer double check valve (kit)
- 400 mm steel tracks

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DOOSAN