

DOOSAN

Crawler Excavators

DX85R-7

Maximum power	48.5 kW
Operating weight	9528 kg
Bucket capacity	0.28 m ³
Emission standard	Stage V



TECHNICAL SPECIFICATIONS

ENGINE

Designed to deliver superior performance and fuel efficiency, the Doosan D24 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 D24

No. of cylinders

4

Rated power at 2100 rpm

ISO 14396 48.5 kW (65 hp)

Max. torque at 1600 rpm

248 Nm

Idle (low - high)

1000 - 2100 rpm

Displacement

2392 cm³

Bore × stroke

90 mm × 94 mm

Starter

12 V / 2.5 kW

Batteries - Alternator

1 × 12 V, 100 Ah – 13.5 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

5

Number of links & shoes per side

40

Link pitch

154 mm

HYDRAULIC SYSTEM

The e-EPOS (Electronic Power Optimizing System) is the brain of the excavator – minimizing 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
- Flow and pressure control of auxiliary hydraulic circuits from control panel
- Computer-aided pump flow control

Main pump

Tandem axial piston pump (load sensing)

Maximum flow at 2100 rpm 149 l/min

Relief valve settings

Implement	285 kgf/cm ²
Travel	300 kgf/cm ²
Swing	214 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	115 × 70 × 775
Arm	1	100 × 65 × 846
Bucket	1	90 (Mono) × 60 × 690 85 (Arti) × 55 × 690
Dozer	1	130 × 80 × 185
Boom swing	1	110 × 60 × 684
Articulated boom	2	100 × 55 × 410

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 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: 98 dB(A)

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

Declared: 75 dB(A)

Measured: 74 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

9.9 rpm

Maximum swing torque

1954 kgf·m

FLUID CAPACITIES

Fuel tank	160 l
Cooling system (radiator)	10 l
Hydraulic oil tank	140 l
Engine oil	8.6 l
Travel device	2 × 1.6 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)

2.9 - 4.8 km/h

Maximum traction

6.6 t

Maximum gradeability

35° / 58%

WEIGHT & GROUND PRESSURE

	Machine weight (kg)	Ground pressure (kgf/cm ²)
	DX85R-7	DX85R-7
450 mm rubber shoes	8600	0.39
450 mm steel tracks	8630	0.39

TECHNICAL SPECIFICATIONS

COMPONENT WEIGHTS

Item		Weight (kg)	Remarks
Upper structure without front		4870	Without counterweight
Counterweight		1450	
Lower structure assembly		3250	Rubber shoe
Front assembly		1280	Mono, 1.7 arm, 0.28 bucket
Boom assembly	3.38 m	413	
Articulated boom	1.89 m (lower)	275	
	1.88 m (upper)	259	
Arm assembly	1.7 m	173	
	2.25 m	230	
Bucket	0.28 m ³	234	
Boom cylinder		109	
Arm cylinder		77	
Arti. cylinder		46	
Bucket cylinder		56	
Dozer blade		423	
Dozer blade cylinder		63.6	

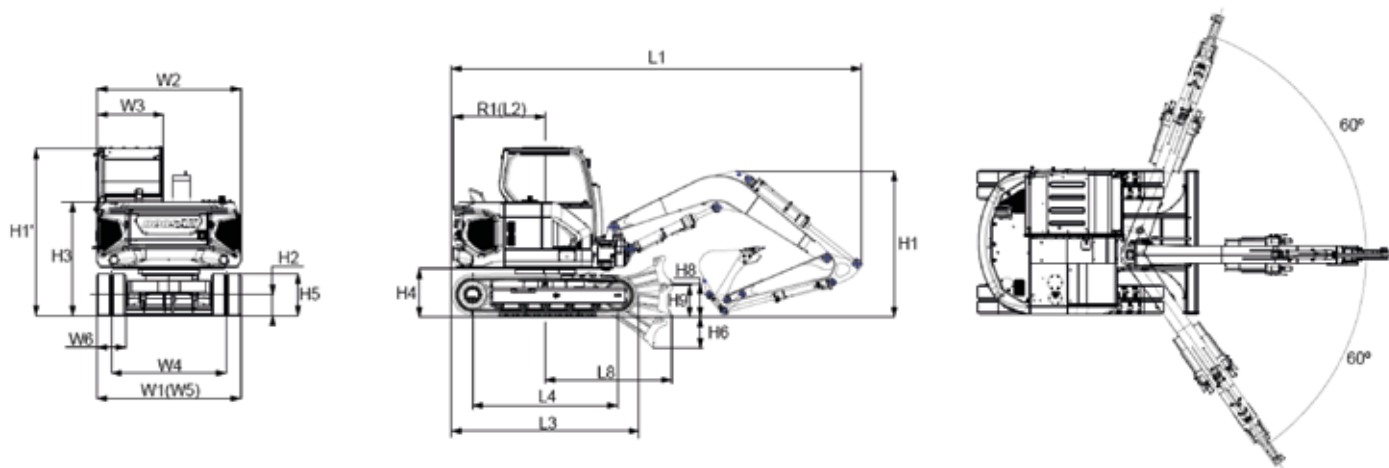
ARMS

	Length (mm)	Weight (kg)	Digging forces (ISO)
Standard arm	1700	173	4.46
Long arm	2250	230	3.72

BUCKETS

	Capacity (m ³) SAE	Width (mm)		Weight (kg)	Digging forces (ISO)
		With side cutters	W/O side cutters		
Recommended	0.28	813	707	234	6.70

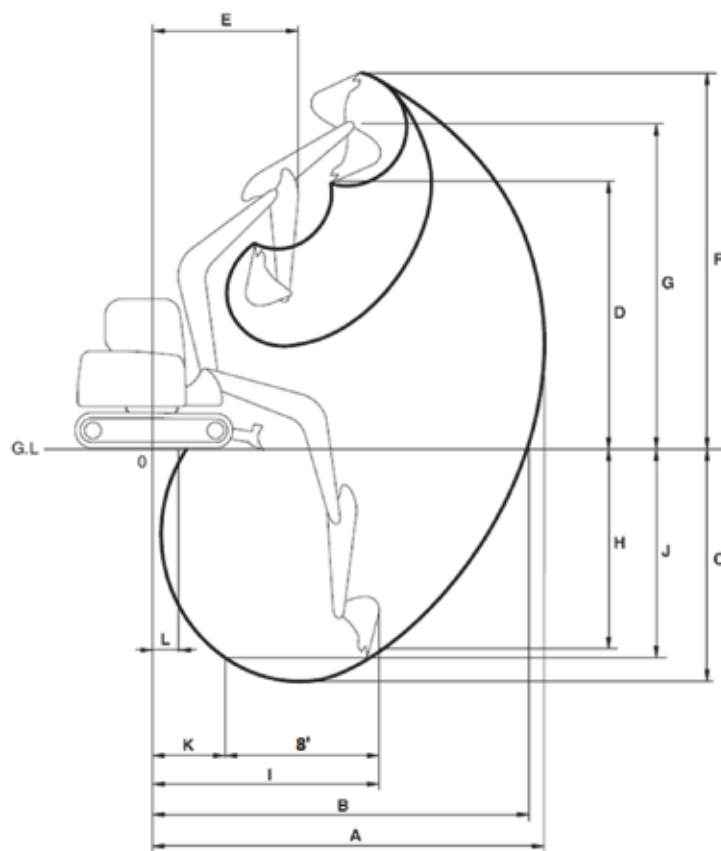
DIMENSIONS



DIMENSIONS

Boom type			Unit	Mono boom		Articulated boom
Boom length			mm	3380	3380	-
Arm length			mm	1700	2250	1700
Bucket capacity			m³	0.28	0.28	0.28
Undercarriage (track + grouser)			-	Rubber	Rubber	Rubber
L1	Overall length		mm	6430	6450	6640
H1	Overall height	Boom	mm	2335	2665	2120
		Cab	mm	2657	2657	2657
W1	Overall width		mm	2250	2250	2250
R1	Rear swing radius	Standard	mm	1465	1465	1465
H2	Ground clearance		mm	294	294	294
L2	Rear end distance	Standard	mm	1449	1449	1449
W2	House width		mm	2250	2250	2250
W3	Cab width		mm	1040	1040	1040
H3	Height over cover		mm	1778	1778	1778
H4	Counterweight clearance		mm	758	758	758
H5	Track height		mm	656	656	656
L3	Track length		mm	2952	2952	2952
L4	Tumbler distance		mm	2315	2315	2315
W4	Track gauge		mm	1800	1800	1800
W5	Undercarriage width	Standard	mm	2250	2250	2250
W6	Shoe width		mm	450	450	450
	Grouser height		mm	30	30	30
H6	Dozer digging depth		mm	511	511	511
H8	Dozer lift clearance		mm	502	502	502
H9	Dozer blade height		mm	454	454	454
L8	Distance to dozer end		mm	1972	1972	1972

WORKING RANGE



WORKING RANGE

Boom type	Unit	Mono boom		Articulated boom
Boom length	mm	3380		Arti (1890 + 1880)
Arm length	mm	1700	2250	1700
Bucket capacity	m ³	0.28		0.28
A Max. digging reach	mm	7015	7530	7280
B Max. digging reach (ground level)	mm	6850	7380	7130
C Max. digging depth	mm	4110	4670	4040
D Max. dumping height	mm	4705	5050	5425
E Min. swing radius (boom swing)	mm	2775 (2080)	2945 (2250)	2755 (2060)
F Max. digging height	mm	6690	7035	7440
G Max. bucket pin height	mm	5715	6060	6430
H Max. vertical wall depth	mm	3180	3700	3490
I Max. radius vertical	mm	4825	5005	4630
J Max. depth to 8' line	mm	3735	4345	3870

STANDARD AND OPTIONAL EQUIPMENT

● Standard ○ Optional

Engine

- Doosan D24 - 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
- Clamshell

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 (on the boom)
- Lockable fuel cap
- LED additional work lights (1x front cabin)
- Falling Objects Guard System – top and front cab guards (ISO 10262 level II and SAE J1356)
- Rear view camera (with LED light)
- Around view camera

Other

- DX85R-7: 3380 mm mono boom – 1700 mm arm – 1450 kg counterweight
- Fuel filler pump
- 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
- Long arm: 2250 mm
- Articulated boom (1890 mm + 1880 mm) with 1700 mm arm

Undercarriage

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



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