

DOOSAN

Crawler Excavators

DX140LC-7

Maximum power	115 hp
Operating weight	14.4 t
Bucket capacity	0.51 m ³
Emission standard	Stage V



TECHNICAL SPECIFICATIONS

ENGINE

Designed to deliver superior performance and fuel efficiency, the Doosan G2 D34 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) & Selective Catalytic Reduction (SCR) and Diesel Particulate Filter (DPF), without EGR.

Model

Doosan G2 D34

No. of cylinders

4

Rated power at 2000 rpm

SAE J1995 86 kW (115 hp)
SAE J1349 81.6 kW (109 hp)

Max. torque at 1400 rpm

46.9 kgf·m

Idle (low - high)

950 [±10] - 2000 [±25] rpm

Displacement

3409 cm³

Bore × stroke

98 mm × 113 mm

Starter

24 V / 5 kW

Batteries - Alternator

2 × 12 V, 100 Ah – 24 V, 100 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

7

Number of links & shoes per side

46

Link pitch

171.45 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

2 × variable displacement tandem axial piston pump
Maximum flow at 2000 rpm 2 × 114 l/min

Pilot pump

Gear pump
Maximum flow at 2000 rpm 30 l/min

Relief valve settings

Implement	330 kgf/cm ²
Travel	350 kgf/cm ²
Swing	275 kgf/cm ²
Pilot	40 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)
Mono boom	2	110 × 75 × 1085
Articulated boom	2	110 × 75 × 970
Arm for mono boom	1	115 × 80 × 1108
Arm for articulated boom	1	115 × 80 × 1068
Bucket	1	100 × 70 × 900

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: 69 dB(A)

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

Declared: 100 dB(A)

Measured: 99 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

10.13 rpm

Maximum swing torque

4888 kgf·m

FLUID CAPACITIES

Fuel tank	265 l
Cooling system (radiator)	27.1 l
AdBlue® (DEF) tank	25 l
Hydraulic oil tank	145 l
Engine oil	12.6 l
Swing drive	3 l
Travel device	2 × 2 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 - 4.7 km/h

Maximum traction

15.2 t

Maximum gradeability

35° / 70%

WEIGHT

	Shoe width (mm)	Machine weight (t)	Ground pressure (kgf/cm ²)
Triple grouser	500	14200	0.43
	600 (STD)	14400	0.37
	700	14600	0.32
Rubber shoe (road liner)	500	14100	0.43

COMPONENT WEIGHTS

Item	Unit	Weight	Remarks
Upper structure without front (mono boom)	kg	6898	Wwith counterweight
Upper structure without front (articulated boom)	kg	6986	With counterweight
Lower structure assembly	kg	5007	
Counterweight	kg	2200	
Front assembly	kg	2434	
4.6 m mono boom	kg	780	Including bushing
4.98 m articulated boom (upper / lower)	kg	592 / 381	Including bushing
Arm (2.1 m / 2.5 m / 3.0 m)	kg	370 / 414 / 456	Including bushing

TECHNICAL SPECIFICATIONS

BUCKETS

Bucket Type	Capacity (m ³) SAE	Width (mm)		Weight (kg)	4600 mm mono boom			4980 mm articulated boom	
		With side cutters	W/O side cutters		2100 mm arm	2500 mm arm	3000 mm arm	2100 mm arm	2500 mm arm
GP	0.24	534	464	275	A	A	A	A	A
	0.39	820	736	341	A	A	A	A	A
	0.45	911	821	381	A	A	A	A	A
	0.51	991	907	393	A	A	A	A	B
	0.59	1081	997	413	A	B	C	B	C
	0.64	1167	1083	435	A	B	C	C	D
	0.76	1339	1255	484	C	C	D	D	D
DC Class	0.45	-	1500	357	A	A	A	A	A
	0.54	-	1800	403	A	A	B	A	B
H Class	0.31	642	600	372	A	A	A	A	A
	0.42	792	750	420	A	A	A	A	A
	0.52	942	900	478	A	A	B	B	C
	0.60	1042	1000	510	A	B	C	C	D
	0.67	1142	1100	542	B	C	D	C	D
	0.74	1242	1200	585	C	D	-	D	-

A: Suitable for materials with a density less than or equal to 2100 kg/m³

B: Suitable for materials with a density less than or equal to 1800 kg/m³

C: Suitable for materials with a density less than or equal to 1500 kg/m³

D: Suitable for materials with a density less than or equal to 1200 kg/m³

Based on ISO 10567 and SAE J296, arm length without quick-coupler. For reference only.

DOOSAN BUCKETS

4 More. More choice - More durable - More strength - More performance!

General Construction Bucket



The General purpose bucket is designed for digging and re-handling soft to medium materials (e.g. materials with low wear characteristics such as top-soil, loam, coal).

Heavy Construction Bucket



The Heavy duty bucket is designed for mass excavations in dense materials such as hard packed clay, shot limestone, limited rock content and gravel.

Severe Mining Bucket



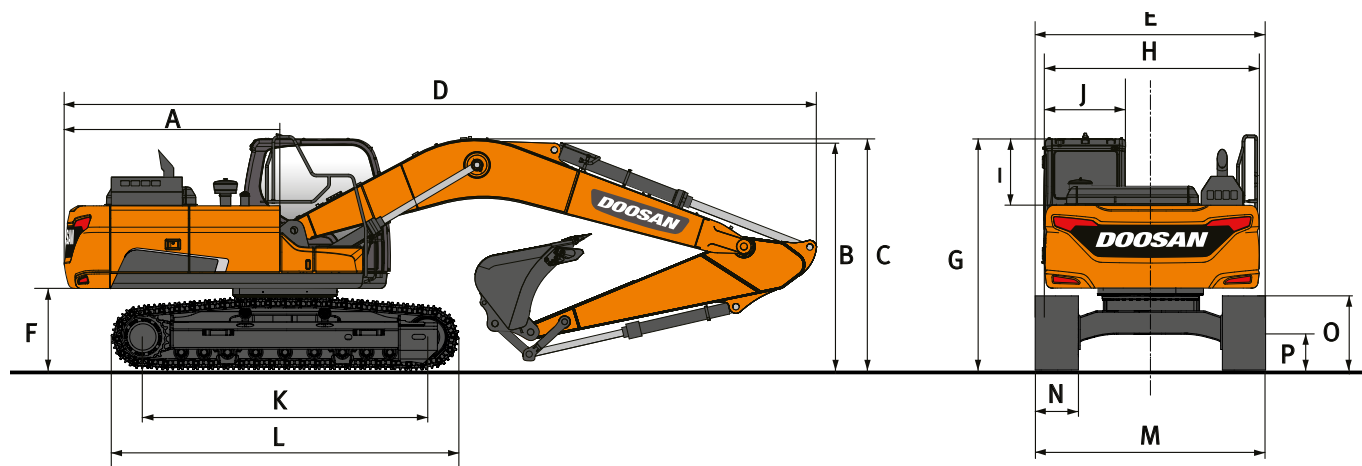
The Severe duty bucket is designed for durability in digging compact materials like loose or blasted rock, hard packed clay and stone.

X-treme Mining Bucket



The X-treme duty bucket is designed as a long-life version of the Severe duty bucket for digging in the most abrasive materials.

DIMENSIONS

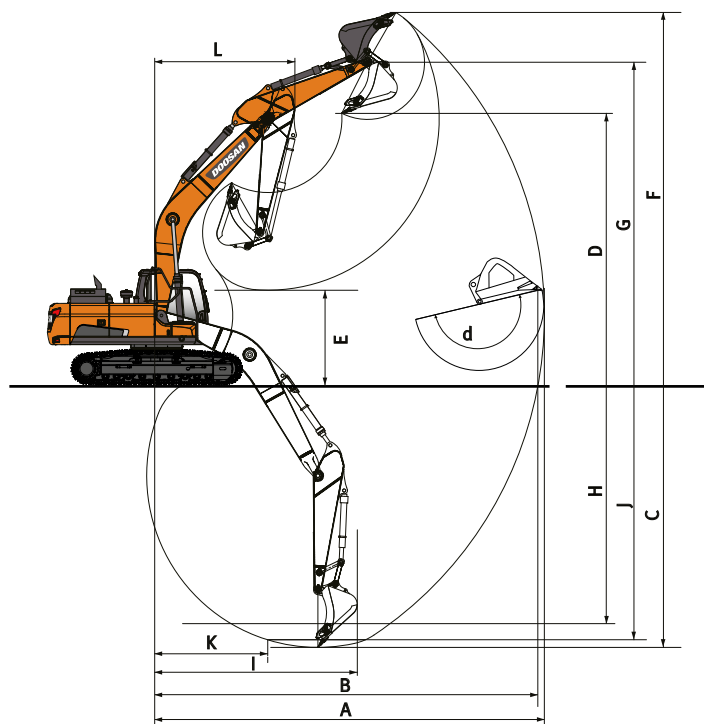


DIMENSIONS

	Unit	Mono boom			Articulated boom	
		4600	2500	3000	4980	2500
Boom length	mm					
Arm length	mm	2100	2500	3000	2100	2500
Bucket capacity	m³	0.59	0.51	0.45	0.45	0.45
A Tail swing radius	mm	2205	2205	2205	2205	2205
B Shipping height (boom)	mm	2480	2635	3065	2615	2800
C Shipping height (hose)	mm	2640	2820	3180	2840	3000
D Shipping length	mm	7690	7685	7640	8050	7975
E Shipping width	mm	2590	2590	2590	2590	2590
F Counterweight clearance*	mm	895	895	895	895	895
G Height over cab	mm	2785	2785	2785	2785	2785
H House width	mm	2540	2540	2540	2540	2540
I Cab height above house	mm	840	840	840	840	840
J Cab width	mm	1010	1010	1010	1010	1010
K Tumbler distance	mm	3035	3035	3035	3035	3035
L Track length	mm	3755	3755	3755	3755	3755
M Undercarriage width STD/LC	mm	2590	2590	2590	2590	2590
N Shoe width	mm	600	600	600	600	600
O Track height *	mm	795	795	795	795	795
P Ground clearance *	mm	410	410	410	410	410

* : without grouser

WORKING RANGE



WORKING RANGE

	Unit	Mono boom			Articulated boom	
Boom length	mm	4600			4980	
Arm length	mm	2100	2500	3000	2100	2500
Bucket capacity	m³	0.51	0.51	0.51	0.51	0.51
A Max. digging reach	mm	7815	8285	8665	8260	8720
B Max. digging reach (ground)	mm	7660	8140	8530	8115	8585
C Max. digging depth	mm	5235	5635	6135	5405	5835
D Max. loading height	mm	5865	6315	6440	6395	6855
E Min. loading height	mm	2575	2230	1725	3070	2715
F Max. digging height	mm	8150	8660	8745	8730	9235
G Max. bucket pin height	mm	7080	7535	7655	7615	8075
H Max. vertical wall depth	mm	3710	4495	4685	3895	4200
I Max. radius vertical	mm	5745	5605	5970	6180	6525
J Max. digging depth (8'level)	mm	4910	5395	5890	5285	5725
K Min. radius 8'level	mm	1805	1915	1825	895	900
L Min. swing radius	mm	2285	2600	2625	2775	2970
d Bucket angle	°	174	174	174	174	174

DIGGING FORCES (ISO)

	Unit	Mono boom			Articulated boom	
Boom length	mm	4600			4980	
Arm length	mm	2100	2500	3000	2100	2500
Bucket capacity	m³	0.51	0.51	0.51	0.51	0.51
BUCKET (Normal/Press. Up)	ton	10.5 / 11.1	10.5 / 11.1	10.5 / 11.1	10.5 / 11.1	10.5 / 11.1
ARM (Normal/Press. Up)	ton	7.2/7.7	6.2/6.5	5.6/6.0	7.2/7.7	6.2/6.5

LIFTING CAPACITIES

MONO BOOM • W/O BUCKET

(UNIT: 1000 KG)

A	1.5 m		3.0 m		4.5 m		6.0 m		Max. reach		
											A

Mono boom 4.6 m • Arm 2.5 m • Shoe 500 mm • Counterweight 2.2 t • Dozer up

7.5 m									2.74 *	2.74 *	3.61
6.0 m					3.64 *	3.64 *			2.16 *	2.16 *	5.42
4.5 m					3.92 *	3.92 *	3.18 *	2.65	2.00 *	2.00 *	6.39
3.0 m			6.64 *	6.64 *	4.92 *	3.99	3.63	2.59	1.99 *	1.99 *	6.91
1.5 m			8.33 *	6.77	5.5	3.75	3.52	2.49	2.10 *	1.95	7.07
0.0 m			7.17 *	6.48	5.3	3.58	3.43	2.41	2.36 *	1.99	6.90
-1.5 m	5.40 *	5.40 *	10.35 *	6.46	5.23	3.52	3.41	2.38	2.89 *	2.21	6.37
-3.0 m	9.21 *	9.21 *	9.81 *	6.57	5.29	3.57			4.07	2.83	5.37

Mono boom 4.6 m • Arm 3.0 m • Shoe 700 mm • Counterweight 2.2 t • Dozer up

7.5 m									2.42 *	2.42 *	4.34
6.0 m									2.05 *	2.05 *	5.91
4.5 m					3.35 *	3.35 *	3.20 *	2.78	1.94 *	1.94 *	6.81
3.0 m			5.41 *	5.41 *	4.38 *	4.18	3.78	2.7	1.96 *	1.96 *	7.30
1.5 m			8.90 *	7.14	5.72 *	3.91	3.66	2.58	2.08 *	1.87	7.45
0.0 m			8.35 *	6.69	5.49	3.7	3.55	2.48	2.34 *	1.89	7.29
-1.5 m	5.20 *	5.20 *	10.12 *	6.59	5.38	3.6	3.49	2.43	2.85 *	2.06	6.79
-3.0 m	8.19 *	8.19 *	10.41 *	6.65	5.39	3.62			3.64	2.53	5.87
-4.5 m			7.94 *	6.89					5.36 *	4.09	4.25

Mono boom 4.6 m • Arm 3.0 m • Shoe 700 mm • Counterweight 2.2 t • Without dozer

7.5 m									2.42 *	2.42 *	4.34
6.0 m									2.05 *	2.05 *	5.91
4.5 m					3.35 *	3.35 *	3.20 *	2.61	1.94 *	1.94 *	6.81
3.0 m			5.41 *	5.41 *	4.38 *	3.93	3.8	2.52	1.96 *	1.83	7.30
1.5 m			8.90 *	6.7	5.72 *	3.66	3.67	2.41	2.08 *	1.73	7.45
0.0 m			8.35 *	6.25	5.51	3.45	3.56	2.31	2.34 *	1.75	7.29
-1.5 m	5.20 *	5.20 *	10.12 *	6.15	5.4	3.36	3.51	2.26	2.85 *	1.91	6.79
-3.0 m	8.19 *	8.19 *	10.41 *	6.21	5.41	3.37			3.65	2.36	5.87
-4.5 m			7.94 *	6.45					5.36 *	3.82	4.25

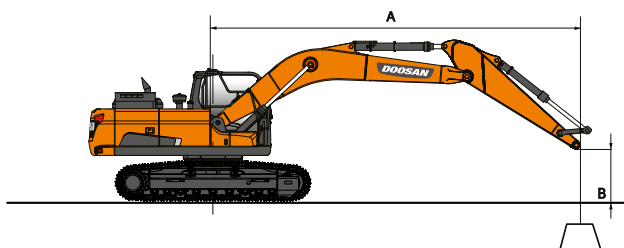
ARTICULATED BOOM • W/O BUCKET

(UNIT: 1000 KG)

A	3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		
											A

Articulated boom 4.98 m • Arm 2.5 m • Shoe 700 mm • Counterweight 2.2 t • Dozer up

7.5 m									2.76 *	2.76 *	4.43
6.0 m			2.89 *	2.89 *					2.29 *	2.29 *	5.98
4.5 m			3.38 *	3.38 *	3.39 *	2.76			2.13 *	2.13 *	6.88
3.0 m			4.48 *	4.09	3.78	2.66			2.11 *	1.92	7.36
1.5 m			5.65	3.8	3.64	2.54	2.24 *	1.82	2.20 *	1.82	7.50
0.0 m			5.44	3.62	3.54	2.44			2.42 *	1.85	7.34
-1.5 m	7.42 *	6.55	5.37	3.56	3.5	2.41			2.86 *	2.03	6.85
-3.0 m	10.16 *	6.67	5.43	3.61					3.62	2.5	5.94



: Rating over front.
 : Rating over side or 360°.

- Lifting capacities are in compliance with ISO 10567:2007(E).
- The load point is at the end of the arm.
- * = The nominal loads are based on hydraulic capacity.
- The nominal loads shown do not exceed 75% of tipping loads or 87% of hydraulic lifting capacity.
- For lifting capacity with bucket, simply subtract the actual weight of the bucket from the values.
- The configurations indicated do not necessarily reflect the standard equipment of the machine.

STANDARD AND OPTIONAL EQUIPMENT

● Standard ○ Optional

Engine

- Doosan D34 G2 - Common rail 4 cylinder engine with direct fuel injection and electronic control, 4 valves per cylinder, vertical injectors, water cooled, turbo charged with air-to-air intercooler, Stage V compliant, SCR, DOC and DPF post treatment
- Auto-idle function
- Auto shut-off
- No EGR

Hydraulic system

- Boom and arm flow regeneration
- Fine swing mode, on or off from cab
- Swing anti-rebound valves
- Spare ports (valve)
- One-touch power boost function
- Double way line high flow + Breaker piping (PE3C)
- Smart Power Control (SPC3)
- Cylinder cushioning & contamination seals
- Clamshell piping (diverter valve from bucket cylinder)
- Hydraulic piping low flow for rotating or tilting tool (joystick control)
- Hydraulic piping for quick-coupler
- Floating boom
- Double pump flow

Cab & interior

- Pressurized sound-insulated and CabSus mounted cab
- Fully adjustable air suspension seat with heater
- Air conditioning with climate control
- Pull-up type front window sun roller blind and removable lower front window
- Sliding left window
- Intermittent upper and lower windshield parallel wiper
- Rain visor
- Rear window defroster switch
- Adjustable PPC wrist control levers for arm boom bucket and swing
- Joysticks & pedal provide proportional control of auxiliary hydraulic lines
- Pedal for auxiliary control 1 & 2 ways
- Jog shuttle switch
- DOOSAN Smart Touch – 8" touch screen, all-in-one
- Attachment management system
- Engine speed (RPM) control dial
- Automatic travel speed
- 4 operating modes & 4 working modes
- Electric horn
- Cigarette lighter
- Ceiling light
- Cup holder
- Multiple storage compartments (e.g. document holder under seat)
- Heating and cooling lunch box
- Flat spacious easy-to-clean floor
- Keyless start (Doosan Smart Key) & remote door lock/unlock
- Anti-theft protection
- 12 V spare power socket
- Serial communication port for laptop PC interface
- Remote radio ON/OFF switch
- Loudspeakers and connections for radio
- Radio + MP3 (stereo) with Bluetooth streaming and handsfree call system
- Rear and side view camera
- 360° all-around view camera (AVM)
- 360° all-around view camera (AVM) + ultra sonic detection
- Fully adjustable air suspension seat (heating & cooling)

Safety

- Roll Over Protective Structure (ROPS)
- Boom and arm cylinder safety valves
- Overload warning device
- Large guard rails on upper structure and steps
- Rotating beacon
- 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
- Emergency engine stop switch and hydraulic pump control switch
- Guard rails (ISO 2867:2011)
- Parking brake
- LED 8 work lights (2 boom lamp, 4 body lamps, 2 additional lamps on cab)
- LED work lights 4 additional lamps (2 in the front, 2 in the rear of the cab)
- Falling Objects Guard System – top and front cab guards (ISO 10262 level II and SAE J1356)
- Front window upper and lower guards

Other

- 4600 mm mono boom – 2500 mm arm – 2200 kg counterweight
- DoosanCONNECT (telematic system)
- Auto shut-off fuel filler pump
- Double element air cleaner and pre-filtered Turbo dust separator
- Fuel pre-filter with water separator sensor
- Dust screen for radiator/oil cooler
- Self-diagnostic function
- Alternator (24 V 100 A) – Battery (2 × 12 V 100 Ah)
- Hydrostatic drive with 2-speed power shift transmission
- Remote greasing for swing circle and work group pivot points
- 2100 mm arm
- 3000 mm arm for mono boom only
- 4980 mm articulated boom
- DOOSAN buckets: full range of GP HD & rock buckets
- DOOSAN breakers and DOOSAN quick-couplers
- Automatic lubrication system
- Air compressor

Undercarriage

- Standard fixed undercarriage 2590 mm with 600 mm shoes
- 600 mm triple grouser shoes
- 500 mm triple grouser shoes
- 500 mm rubber shoes (road liner)
- 700 mm triple grouser shoes
- Dozer blade for 500, 600, 700 mm shoes

Powered by **Innovation**

DOOSAN