DOOSAN

Mini Excavators |

DX35Z

Maximum power: 24.8 hp
Operating weight: 3.499 t
Max. bucket capacity: 0.11 m³

Doosan DX35Z high-performance hydraulic excavator

A model with novel features

Developed with the concept of 'providing optimum value to the end-user', the DX35Z (zero tail swing) hydraulic excavator offers additional value to the operator. In concrete terms, this translates into:

- Increased production and improved fuel economy achieved with the electronic optimization of the hydraulic system and the new generation engine
- Improved ergonomics, increased comfort and excellent all-round visibility, ensuring a safe and pleasant working environment
- High-performance materials, combined with new methods of structural stress analysis, have improved reliability and increased component life expectancy, thus reducing running costs
- Reduced maintenance increases the availability and lowers the operating costs of the excavator

The highest performance is guaranteed in all working conditions

The advanced hydraulic system, combined with a powerful engine, provides the biggest break-out and tractive forces for efficient operation. As a result, the DX35Z delivers outstanding performance, work efficiency, and the ability to adapt to any work environment.

Engine speed lever

The conveniently located engine speed lever allows easy engine control.

Kubota D1703-M-D1-E4B-BC-2 engine

The DX35Z has a powerful and eco-friendly heart, which always provides high operating efficiency and pleasant working conditions.

Powerful digging force (bucket)

Powerful, efficient, and with increased digging force with standard arm. Bucket digging force: 20790 N

Dozer blade

Welded, unitized blade provides durability even under harsh working conditions. Automatically controlled blade floating for quick and easy performance of leveling operations.

Boom swing

The boom swing function allows you to work in very narrow areas.

Second speed, auto-shift and auto-idle

The travel motors automatically return to high speed after downshifting under load. This allows smoother turns and easier dozing work. Auto-idle is available as an option to reduce fuel consumption.

Rear swing radius:
875 mm

Minimum front swing radius:
2267 mm

Right swing angle: 55°

Left swing angle: 75°

Slew rate: 8.6 rpm

Comfort

The cab has been ergonomically designed with comfort in mind

Starting fresh, the DX35Z is the result of an innovative technical design!
The cab space is more comfortable than any other excavator in its class - and the variety of convenient features provide the operator with maximum comfort.

Comfortable sliding seat

Control stand tilting function

Comfortable operating cab

A roomy ROPS-TOPS, independant minimal shock and low noise operator's cab with safety glass provides all-round visibility. The right side window opens for ventilation and the front window slides up.

Monitor

The centralized display panel provides comprehensive information about the machine in an easy-to-read format. The high-quality display panel is waterproof and all information can be seen at a glance.

Control stand

The left and right control stands are ergonomically placed for convenient operation. The control stand surfaces have ample room to install several option switches. The uni-body plastic design provides the operator with a spacious and comfortable cab environment.

Joystick

The hydraulic joystick levers have very comfortable grips that allow the operator to perform precise operations very easily.

Thumb control for boom swing and auxiliary hydraulics

A thumb control is integrated in the joystick for better metering of the boom swing and the proportional auxiliary hydraulics.

Suspension seat

A fully adjustable suspension seat provides operator comfort during long working days.

Cup holder

The conveniently located cup holder adds to the operator's comfort.

Air conditioning

The Doosan advanced climate control system keeps you comfortable even in extreme weather conditions. The heat and air-conditioning vents allow you to direct airflow where you need it most.

Transportability
Easy to transport with the new integrated upper-structure tie-down points.

Maintenance

Simple and easy

The status and condition of all components can be seen at a glance. The convenient and easy serviceability is really impressive. The most advanced technology developed by Doosan Infracore Co., Ltd. was integrated into the DX35Z excavator for powerful performance and simple, easy maintenance. This provides the operator with convenient maintenance check points and maximizes the DX35Z's work efficiency.

Easy maintenance

Access to the various coolers is very easy, making cleaning more convenient. The washer fluid level can be checked easily.

Air breather

The hydraulic system was designed to prevent the pump from cavitating.

Strengthened boom

Using finite elements and 3-dimensional computer simulation, the shape of the boom has been optimally designed for better load distribution throughout the structure. This enhancement, combined with increased material thickness, limit element fatigue for improved durability and reliability.

Engine room

The engine compartment is designed for easier service, and the sturdy sound-proofing inside the engine cover reduces the noise to provide a more comfortable environment for the operator and those working around the machine.

Oil gauge

Hydraulic oil level can be easily checked through the gauge on the side of the hydraulic tank.

Grease piping

Integrated grease piping is designed for easy maintenance of the swing bearing and boom swing cylinder.

Rubber tracks

The rubber tracks offer greater non-slip and grip capabilities, and are less harmful to sidewalks and road surfaces in urban environments. These rubber shoes can be easily installed or removed with the idler, sprocket and other main parts.

External fuel cap

The external lockable fuel cap makes refueling easy and safe. For extra convenience, a warning beep sounds when the maximum fuel level has been reached.

Technical specifications

Engine

	DX35Z
Make/model	Kubota/D1703-M-D1-E4B-BC-2 Stage V
Fuel/cooling	Diesel/Liquid, forced circulation
No. of cylinders	3
Piston displacement	1642 cm³
Nominal flywheel power	18.2 kw (24.8 hp) at 2200 rpm (ISO 14396)
Max torque	97.4 Nm (SAE)
Bore × stroke	87 mm × 92.4 mm
Alternator	12 V / 90 Ah

Fluid capacities

	DX35Z
Cooling system (radiator capacity)	8 l
Engine lubrication plus oil filter	5.2 l
Fuel tank	52 l
Hydraulic tank	8.3 l
Hydraulic system	39.7 l
Final drive case (each)	0.5 l

Environment

Noise levels comply with environmental regulations (dynamic values).

Noise emission & vibration

	DX35Z
Noise level LpA (EU Directive 2006/42/EC)	77 dB(A)
Noise level LwA (EU Directive 2006/14/EC)	94 dB(A)
Whole body vibration (ISO 2631–1)	0.11 ms-2
Hand-arm vibration (ISO 5349–1)	0.34 ms-2

Undercarriage

Tractor-type undercarriage. Heavy-duty track frame, all welded stress-relieved structure. Top-grade materials are used for toughness. Side frames are welded, securely and rigidly, to the track frame. Lifetime-lubricated track rollers, idlers with floating seals. Hydraulic track adjusters with shock-absorbing recoil springs.

Number of rollers and track shoes

	DX35Z
Lower rollers (per side)	4
Track shoes	Rubber
Overall track length	2074 mm
Shoe width	300 mm

Hydraulic system

This original design enables both independent and combined operations of all functions, joystick control type operations.

Pump

	DX35Z
Type	Single outlet variable displacement, load sensing torque limited pump with gear pumps
Total hydraulic capacity	101.2 l/min
Auxiliary flow	63.9 l/min
Auxiliary relief	206 bar

Maximum system pressure

	DX35Z
Boom	290 bar
Arm / bucket / travel	270 bar
Swing	216 bar

Swing mechanism

High-torque, axial piston motor with planetary reduction gear bathed in oil. Swing circle is single-row, shear type ball bearing with induction-hardened internal gear. Internal gear and pinion gear immersed in lubricant. A two position swing lock secures the upper structure for transportation.

Swing system

	DX35Z
Boom swing, left	75°
Boom swing, right	55°
Slew rate	8.6 rpm

Drive

Each track is driven by an independent, high-torque, axial piston motor through planetary reduction gears. Two control levers provide smooth travel or counter-rotation upon demand.

Speed & traction

	DX35Z
Travel speed (low - high)	2.6 - 4.7 km/h
Traction force	3480 kgf
Gradeability	30°

Digging forces (ISO 6015)

At power boost.

	DX35Z
Digging force, standard arm (ISO 6015)	20790 N
Digging force, long arm (ISO 6015)	18010 N
Digging force, bucket (ISO 6015)	33430 N
Drawbar pull	34132 N

Weight

	DX35Z
Operating weight with cab and bucket (ISO 6016)	3499 kg
Ground pressure with rubber tracks	0.33 kgf/cm²
Transport mass (no attachment)	3335 kg
Weight reduction with canopy	-118 kg
Additional weight for cab with HVAC	19 kg
Additional weight for steel tracks	96 kg
Additional weight for long arm	12 kg
Additional weight for heavy counterweight	291 kg

Lifting capacities

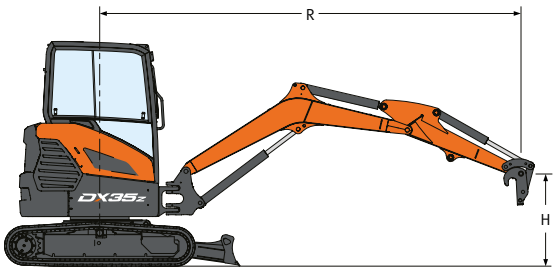
DX35Z

With cab • standard arm (1325 mm) • standard counterweight • without bucket

Lift Point Height [H]	Over blade, blade down				Over side, blade up				Max. radius [R] (mm)
	Lift at max. radius (kg)	Lift radius [R] (kg)			Lift at max. radius (kg)	Lift radius [R] (kg)			
		2.0 m	3.0 m	4.0 m		2.0 m	3.0 m	4.0 m	
3.0 m	702*	-	-	-	325	-	-	-	3950
2.0 m	759*	-	869*	759*	257	-	498	317	4420
1.0 m	816*	-	1224*	883*	241	-	458	299	4560
0.0 m	928*	2017*	1487*	1007*	250	821	431	289	4420
-1.0 m	965*	2283*	1401*	-	302	900	441	-	3950

With cab • long arm (1625 mm) • heavy counterweight • without bucket

Lift Point Height [H]	Over blade, blade down				Over side, blade up				Max. radius [R] (mm)
	Lift at max. radius (kg)	Lift radius [R] (kg)			Lift at max. radius (kg)	Lift radius [R] (kg)			
		2.0 m	3.0 m	4.0 m		2.0 m	3.0 m	4.0 m	
4.0 m	602*	-	-	-	602*	-	-	-	3480
3.0 m	638*	-	-	612*	473	-	-	552	4330
2.0 m	680*	-	705*	679*	410	-	705*	532	4760
1.0 m	726*	-	1126*	831*	387	-	780	516	4870
0.0 m	787*	2272*	1448*	980*	395	1293	743	494	4800
-1.0 m	861*	2295*	1509*	961*	456	1372	737	497	4330

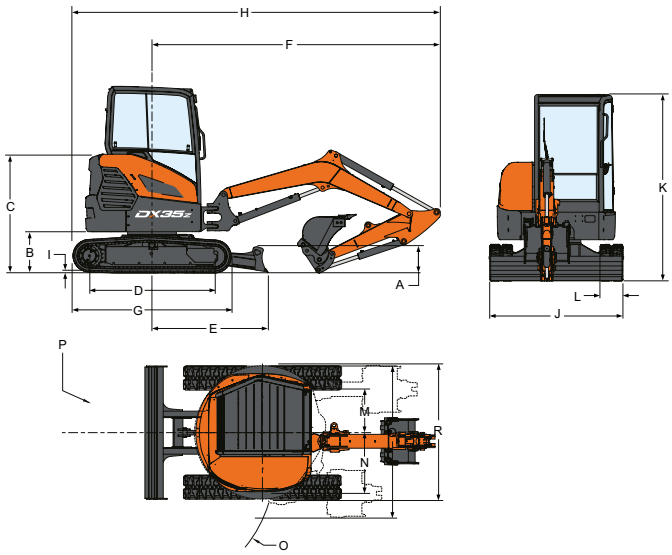


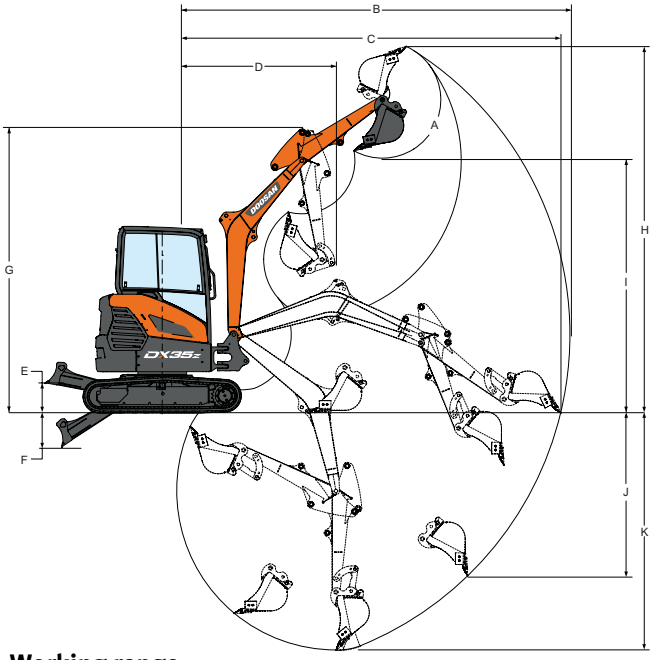
Center line of rotation Ground level

: Over front
: Over side or 360°

1. The nominal forces are based on the SAE J1097 standard.
2. * = The nominal loads are based on hydraulic capacity.
3. The nominal loads do not exceed 87% of the hydraulic capacity or 75% of the capacity of the swing.

Dimensions & working range





Dimensions

			DX35Z
A	Blade height	mm	322
B	Clearance under counterweight	mm	540
C	Height to top of engine cover	mm	1557
D	Tumbler distance	mm	1647
E	Center line to blade	mm	1528
F	Front length - std arm	mm	3787
F	Front length - long arm	mm	3796
G	Overall length of track assembly	mm	2074
H	Shipping length - std arm	mm	4823
H	Shipping length - long arm	mm	4832
I	Grouser height	mm	25
J	Blade width	mm	1750
K	Overall height	mm	2468
L	Track width	mm	300
M	Machine center line to working equipment center line, left-hand rotation	mm	575
N	Machine center line to working equipment center line, right-hand rotation	mm	795
O	Minimum turning radius - std arm	mm	1788
O	Minimum turning radius - long arm	mm	1841
P	Rear swing radius - std arm/std counterweight	mm	875
P	Rear swing radius - long arm/heavy counterweight	mm	965
Q	Working width at maximum right-hand rotation	mm	1841
R	Working width at maximum left-hand rotation	mm	1805

Working range

			DX35Z
A	Max. bucket angle	°	185
B	Max. forward reach - std arm	mm	5351
B	Max. forward reach - long arm	mm	5633
C	Max. digging reach - std arm	mm	5230
C	Max. digging reach - long arm	mm	5520
D	Min. front swing radius - std arm	mm	2267
D	Min. front swing radius - long arm	mm	2324
E	Blade lift height	mm	382
F	Blade cutting depth	mm	456
G	Max. height with arm retracted - std arm	mm	3708
G	Max. height with arm retracted - long arm	mm	3708
H	Max. digging height - std arm	mm	4804
H	Max. digging height - long arm	mm	4985
I	Max. dump height - std arm	mm	3340
I	Max. dump height - long arm	mm	3521
J	Max. vertical wall depth - std arm	mm	2136
J	Max. vertical wall depth - long arm	mm	2414
K	Max. digging depth - std arm	mm	3117
K	Max. digging depth - long arm	mm	3417

Standard and optional equipment

Cab & interior

Dix textile suspension seat	●
Hydraulic joystick controls	●
Proportional fingertip auxiliary and boom swing offset hydraulic control	●
Control console locks	●
Cupholder	●
Foldable and ergonomic pedals	●
Retractable seat belt	●
Air conditioning (cab with HVAC)	○
AM/FM MP3 stereo Bluetooth radio	○
TOPS/ROPS/FOPS cab with heater	

Safety

Battery disconnect	●
Full fuel warning alarm	●
Horn	●
Engine/hydraulic monitor with shutdown	●
Upper structure four-point tie down	●
Object handling device (safety valves + overload warning device + lifteye)	○
Travel motion alarm	○

Other

1750 mm dozer blade	●
300 mm rubber tracks	●
Adjustable double acting auxiliary hydraulic (AUX 1) with quick couplers on arm with blind caps	●
Auto idle	●
Blade float feature	●
Two-speed travel with Auto shift	●
Water separator	●
Work light (boom)	●
2nd AUX hydraulics (boom, arm) on arm with blind caps	○
Additional lights (2+1)	○
Direct-to-tank-AUX1 line	○
Heavy counterweight with long arm	○

Standard: ●
Optional: ○

Some of these options may be standard in some markets. Some of these options may not be available for certain markets. Please check with your local DOOSAN dealer for more information about availability or to adapt your machine to your application needs.

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Certain specification(s) are based on engineering calculations and are not actual measurements. Specification(s) are provided for comparison purposes only and are subject to change without notice. Specification(s) for your individual Doosan equipment will vary based on normal variations in design, manufacturing, operating conditions, and other factors. Pictures of Doosan units may show other than standard equipment.

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Doosan Infracore Europe B.V., IBC - Pobřežní 620/3, 186 00 Praha 8-Karlín, Czech Republic