DOOSAN

Mini Excavators

DX27Z-7
DX35Z-7

	DX27Z-7	DX35Z-7
Maximum power	18.4 kW	18.4 kW
Operating weight	2798 kg	3995 kg
Bucket capacity	0.06 m^3	0.11 m^3
Emission standard	Stage V	Stage V

TECHNICAL SPECIFICATIONS DX27Z-7

ENGINE

Designed to deliver superior performance and fuel efficiency, the Doosan DN1.7 diesel engine fully meets the latest Stage V emission regulations. To optimize machine performance, the engine uses high-pressure fuel injectors, natural aspiration, and electronic engine controls. 4-Cycle Water-Cooled, with EGR.

Model

DN1.7

No. of cylinders

3

Rated power at 2400 rpm

ISO 14396 18.4 kW (25 hp)

Max. torque at 1600 rpm

97 N.m

Idle (low - high)

1300 - 2400 rpm

Displacement

1647 cm^3

Bore × stroke

87 mm × 92.4 mm

Starter

12 V / 1.7 kW

Batteries - Alternator

1 × 12 V, 55 Ah – 13.5 V, 75 A

Air filter

Double element air cleaner

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
- 3 operating modes
- Flow and pressure control of auxiliary hydraulic circuits from control panel
- Computer-aided pump flow control

Main pumps

Variable axial pistons pumps	2 × 28.8 l/min
Gear pump	1 × 19.2 l/min

Pilot pump

Gear pump	
Maximum flow at 2400 rpm	10.8 l/min

Relief valve settings

Implement	220 kgf/cm^2
Travel	220 kgf/cm^2
Swing	170 kgf/cm^2
Pilot	23 kgf/cm^2

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

3

Number of links & shoes per side

44

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	70 × 40 × 575
Arm	1	70 × 40 × 506
Bucket	1	65 × 35 × 435
Dozer	1	85 × 40 × 129
Boom swing	1	80 × 45 × 643

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)

FLUID CAPACITIES

Fuel tank	43 l
Cooling system (radiator)	4.8 l
Hydraulic oil tank	38 l
Engine oil	5.8 l
Travel device	2 × 0.9 l

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

9.3 rpm

Maximum swing torque

868.3 kgf·m

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)

2.4 - 4.2 km/h

Maximum traction

3.13 t

Maximum gradeability

25° / 70%

WEIGHT & GROUND PRESSURE

	Machine weight (kg)	Ground pressure (kgf/cm²)
300 mm rubber shoes	2798	0.28

FRONT ATTACHMENTS

	Length (mm)	Weight (kg)	Digging forces (ISO) (ton)
Std. boom	2090	96.5	–
Std. arm	1300	55	1.30
Short arm	1100	47	1.45

TECHNICAL SPECIFICATIONS DX35Z-7

ENGINE

Designed to deliver superior performance and fuel efficiency, the Doosan DN1.7 diesel engine fully meets the latest Stage V emission regulations. To optimize machine performance, the engine uses high-pressure fuel injectors, natural aspiration, and electronic engine controls. 4-Cycle Water-Cooled, with EGR.

Model
DN1.7

No. of cylinders
3

Rated power at 2200 rpm
ISO 14396 18.4 kW (25 hp)

Max. torque at 1600 rpm
97 N.m

Idle (low - high)
1300 - 2350 rpm

Displacement
1647 cm^3

Bore × stroke
87 mm × 92.4 mm

Starter
12 V / 1.7 kW

Batteries - Alternator
1 × 12 V, 55 Ah – 13.5 V, 75 A

Air filter
Double element air cleaner

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
- 3 operating modes
- Flow and pressure control of auxiliary hydraulic circuits from control panel
- Computer-aided pump flow control

Main pump

Variable axial piston pump	2 × 37 l/min
Gear pump	20.7 l/min

Pilot pump

Gear pump	
Maximum flow at 2200 rpm	10.8 l/min

Relief valve settings

Implement	250 kgf/cm^2
Travel	250 kgf/cm^2
Swing	220 kgf/cm^2
Pilot	23 kgf/cm^2

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
3

Number of links & shoes per side
44

Link pitch
101.6 mm

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	85 × 50 × 633
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)

FLUID CAPACITIES

Fuel tank	43 l
Cooling system (radiator)	4.8 l
Hydraulic oil tank	38 l
Engine oil	5.8 l
Travel device	2 × 0.9 l

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

8.3 rpm

Maximum swing torque

868.3 kgf·m

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)

2.4 - 4.2 km/h

Maximum traction

3.13 t

Maximum gradeability

25° / 70%

WEIGHT & GROUND PRESSURE

	Machine weight (kg)	Ground pressure (kgf/cm²)
300 mm rubber shoes	3995	0.36

FRONT ATTACHMENTS

	Length (mm)	Weight (kg)	Digging forces (ISO) (ton)
Std. boom	2535	136	–
Std. arm	1500	81.5	1.95
Short arm	1330	74.3	2.12

TECHNICAL SPECIFICATIONS

COMPONENT WEIGHTS (KG)

Item	DX27Z-7		DX35Z-7		Remarks
	STD	OPT	STD	OPT	
Upper structure without front (cab/canopy)	1448	1528	1603		Without counterweight
Counterweight	146		630		
Additional counterweight	60		100		
Lower structure assembly	886		1117		Rubber
Front assembly	316	369	492	499	
Boom assembly	96		145		
Arm assembly	53	54	100	107	
Bucket	49.6	58	86		
Boom cylinder	22	22.5	30		
Arm cylinder	21	21.5	31.5		
Bucket cylinder	15.7		24		
Dozer	92		184		
Dozer cylinder	16		16		

DIGGING FORCES (ISO) – ARM TEAROUT FORCE

	Boom (m)	Arm (m)	Arm tearout force (kN)	Arm tearout force (kg)
DX27Z-7	2.09	1.3	12.7	1300
		1.1	14.2	1450
DX35Z-7	2.54	1.5	19.1	1950
		1.33	20.8	2120

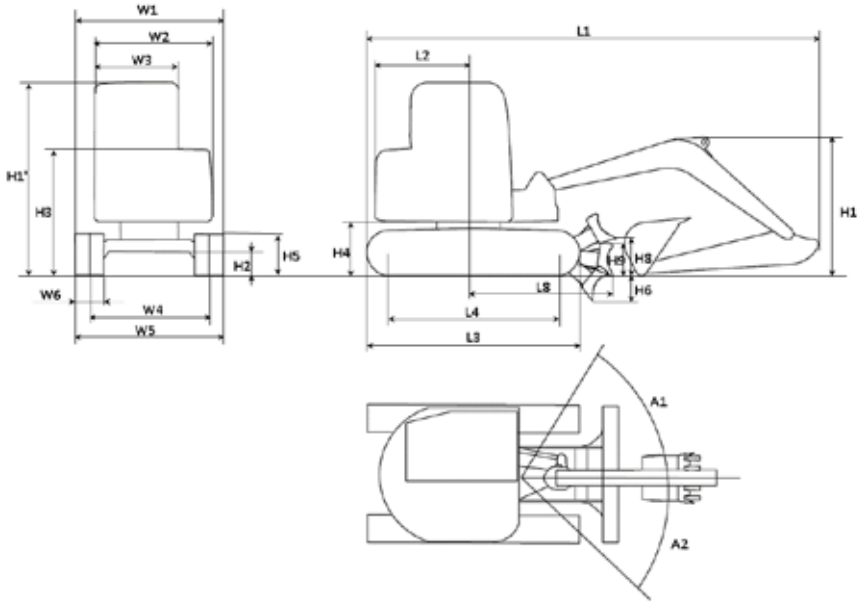
DIGGING FORCES (ISO) – BUCKET BREAKOUT FORCE

	Capacity (SAE) (m^3)	Bucket breakout force (kN)	Bucket breakout force (kg)
DX27Z-7	0.08	21.8	2220
	0.06	21.8	2220
DX35Z-7	0.11	31.8	3240

BUCKETS

		Capacity (SAE) (m^3)	Width (mm)		Weight (kg)
			With side cutters	W/O side cutters	
DX27Z-7	STD	0.08	476	450	58.5
	OPT	0.06	398	372	46
DX35Z-7	STD	0.11	576	550	85

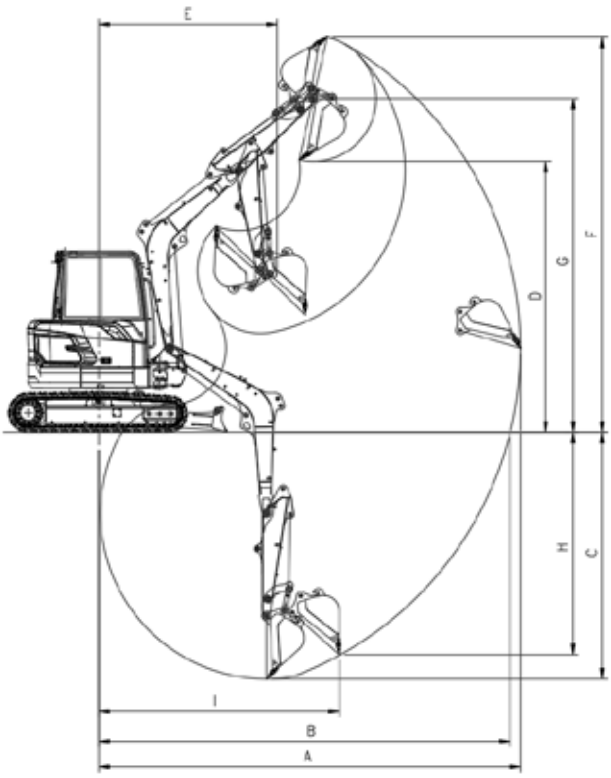
DIMENSIONS



DIMENSIONS

			Unit	DX27Z-7		DX35Z-7	
Front			–	**Cab**	**Canopy**	**Cab**	
Counterweight			–	**Additional**	**–**	**Additional**	**–**
Boom length			**mm**	**2090**		**2535**	
Arm length			**mm**	**1300**	**1100**	**1500**	**1330**
Bucket capacity (ISO)			**m³**	**0.06**		**0.11**	
Undercarriage / Shoe			–	**STD / Rubber**		**STD / Rubber**	
L1	Overall length		mm	4191	4186	4777	4760
H1	Overall height	Boom	mm	1688	1556	1679	1589
		Cab	mm	2448		2479	
W1	Overall width		mm	1550		1700	
R1	Rear swing radius		mm	855	790	945	875
H2	Ground clearance		mm	217		235	
L2	Rear end distance		mm	855	790	945	875
W2	House width		mm	1500			
W3	Cab width		mm	1062			
H3	Height over cover		mm	1471		1508	
H4	Counterweight clearance		mm	512		537	
A1/A2	Boom swing angle (left/right)		mm	66.5 / 53.5			
H5	Track height		mm	451		475.5	
L3	Track length		mm	1960		2121	
L4	Tumbler distance		mm	1540		1700	
W4	Track gauge		mm	1250		1400	
W5	Undercarriage width		mm	1550		1700	
W6	Shoe width		mm	300			
H6	Dozer digging depth		mm	335		429	
H8	Dozer lift clearance		mm	383		410	
H9	Dozer blade height		mm	259		380	
L8	Distance to dozer end		mm	1450		1605	

WORKING RANGE



WORKING RANGE

		Unit	DX27Z-7		DX35Z-7	
Boom length		**mm**	**2090**		**2535**	
Arm length		**mm**	**1300**	**1100**	**1500**	**1330**
Bucket capacity (SAE)		**m³**	**0.06**		**0.11**	
A	Max. digging reach	mm	4845	4655	5515	5355
B	Max. digging reach (ground)	mm	4720	4520	5400	5235
C	Max. digging depth	mm	2845	2645	3445	3275
D	Max. dumping height	mm	3065	2935	3700	3580
E	Min. swing radius	mm	2095	2045	2145	2115
F	Max. digging height	mm	4515	4385	5215	5095
G	Max. bucket pin height	mm	3795	3665	4460	4345
H	Max. vertical wall depth	mm	1690	1565	2045	1980
I	Max. radius vertical	mm	3815	3670	4350	4215

STANDARD AND OPTIONAL EQUIPMENT

● Standard ○ Optional

Engine

- ● Doosan DN1.7 - Common rail diesel engine with direct fuel injection, Stage V compliant
- ● Auto-idle function

Hydraulic system

- ● 2 × variable pistons pumps + 2 gears pumps
- ● 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

- ● 4-pillar canopy with 5.7 inch digtal gauge panel for DX27Z-7
- ● Pressurized, sound-insulated heated cab for DX35Z-7
- ● Mechanical suspension seat
- ● Pull-up type front window and removable lower front window
- ● Sliding right windows with lock
- ● Ceiling light
- ● Intermittent windshield wiper (not for DX27Z-7 canopy)
- ● Multiple storage compartments
- ● Flat, spacious, easy-to-clean floor
- ● Cup holder
- ● Anti-theft protection
- ● 5.7 inch Digtal Gauge Panel
- ● 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
- ○ Pressurized, sound-insulated heated cab for DX27Z-7
- ○ Air conditioning option for DX27/35 cab

Safety

- ● Roll Over Protective Structure (ROPS)
- ● Boom and arm cylinder safety valves
- ● Overload warning device
- ● Rotating beacon (exception DX27Z-7 canopy)
- ● 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)
- ○ Rear camera (available by kit)

Other

- ● DX27Z-7: 2090 mm mono boom – 1100 mm arm
- ● DX35Z-7: 2540 mm mono boom – 1330 mm arm
- ● DoosanCONNECT (telematic system)
- ● Boom cylinder guard
- ● Double element air cleaner
- ● Self-diagnostic function
- ● Battery (12 V, 55 Ah), alternator (12 V, 75 A)
- ● Remote greasing for swing circle and workgroup pivot points
- ○ DX27Z-7: 2090 mm mono boom – 1300 mm arm – 60 kg additional counterweight
- ○ DX35Z-7: 2540 mm mono boom – 1500 mm arm – 100 kg additional counterweight

Undercarriage

- ● Fixed undercarriage
- ● Hydraulic track adjuster
- ● 300 mm rubber tracks
- ● Dozer blade
- ● Greased and sealed track links

Powered by **Innovation**

DISCOVER MORE:
DX27Z-7

DX35Z-7

DOOSAN

©2022 DOOSAN D4601120-EN (02-22)

Doosan Infracore Europe s.r.o., IBC - Pobřežní 620/3, 186 00 Praha 8-Karlín, Czech Republic