

\* | 15.8 kW / 21.2 Hp at 2200 rpm

▲ | 2790 kg

📏 | 2490 - 2690 mm

\* | 18.1 kW / 24.3 Hp at 2400 rpm

▲ | 3180 kg

📏 | 2838 - 2948 mm



## DX27z - DX30z | Compact Equipment



# DOOSAN DX27z & DX30z hydraulic excavators: two new models with novel features

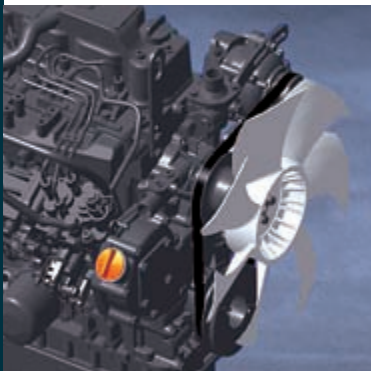


The new DX27z & DX30z (zero tail swing) hydraulic excavators offer additional value to the operator.

These new models were developed with the concept of “providing optimum value to the end user”.

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.
- **Improved reliability**, using high performance materials combined with new methods of structural stress analysis, have lead to increased component life expectancy, thus reducing running costs.
- **Reduced maintenance** increases the availability and lowers the operating costs of the excavator.



# Technical specifications



## \* Engine

### • Model

<b>DX27z</b>	Yanmar, 3TNV82A-SDB
<b>DX30z</b>	Yanmar, 3TNV82A-PDB

### • Number of cylinders / Piston displacement

3 / 1331 cc

### • Nominal flywheel power

<b>DX27z</b>	15.8 kW (21.5 Ps) at 2200 rpm 15.8 kW (21.2 Hp) at 2200 rpm
<b>DX30z</b>	18.1 kW (24.6 Ps) at 2400 rpm 18.1 kW (24.3 Hp) at 2400 rpm

### • Max torque

<b>DX27z</b>	8.97 kgf/m (88 Nm) at 1000 rpm
<b>DX30z</b>	8.97 kgf/m (88 Nm) at 1200 rpm

### • Bore & stroke

82 mm x 84 mm

### • Alternator

12 V / 40 Ah

## \* Operator's cab

### • Noise Levels (dynamic value)

<b>DX27z</b>	<b>LwA External noise</b> Guaranteed Sound Power Level 93 dB (A) (2000/14/EC) <b>LpA Operator noise</b> 79 dB (A) (ISO 6396)
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<b>DX30z</b>	<b>LwA External noise</b> Guaranteed Sound Power Level 94 dB (A) (2000/14/EC) <b>LpA Operator noise</b> 81 dB (A) (ISO 6396)
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## \* Hydraulic system

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

### • Main pumps

2 variable displacement axial piston pumps	
Max flow:	<b>DX27z</b> 2 x 26.4 l/min + 18.9 l/min <b>DX30z</b> 2 x 37.2 l/min + 20.4 l/min

### • Pilot pump

Gear pump - max flow:	
<b>DX27z</b>	11.2 l/min
<b>DX30z</b>	10.8 l/min

### • Maximum system pressure

Boom/Arm/Bucket:	
<b>DX27z</b>	220 kgf/cm <sup>2</sup> (215 bar)
<b>DX30z</b>	210 kgf/cm <sup>2</sup> (205 bar)
Travel :	
<b>DX27z</b>	220 kgf/cm <sup>2</sup> (215 bar)
<b>DX30z</b>	210 kgf/cm <sup>2</sup> (205 bar)
Swing :	
<b>DX27z</b>	170 kgf/cm <sup>2</sup> (167 bar)
<b>DX30z</b>	195 kgf/cm <sup>2</sup> (191 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.

<b>• Swing speed</b>	<b>DX27z</b>	<b>DX30z</b>
	9.63 rpm	9.67 rpm
<b>• Rear swing radius</b>		
	760 mm	775 mm

## \* Drive

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

<b>• Travel speed (high/low)</b>	<b>DX27z</b>	<b>DX30z</b>
	4.3/2.4 km/h	4.6/2.6 km/h
<b>• Maximum traction force</b>		
	2400 kgf	2750 kgf
<b>• Maximum grade</b>		
	30° / 58 %	30° / 59 %

## \* Weight

	<b>DX27z</b>	<b>DX30z</b>
Boom	2000 mm	2280 mm
Bucket SAE	0.08 m <sup>3</sup>	0.091 m <sup>3</sup>
Shoe	300 mm	300 mm
Arm	1100 mm	1190 mm
Operating weight	2790 kg	3180 kg
Ground pressure	0.27 kgf/cm <sup>2</sup>	0.29 kgf/cm <sup>2</sup>

## \* Undercarriage

Tractor type undercarriage. Heavy-duty track frame, all welded stressrelieved 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.

	<b>DX27z</b>	<b>DX30z</b>
Lower rollers (per side)	3	4
Track shoes	Rubber	Rubber
Overall track length	1970 mm	2100 mm
Shoe width	300 mm	300 mm

## \* Refill capacities

Fuel tank	30 l
Cooling system (radiator capacity)	3.5 l
Engine oil	5.5 l
Final drive (each)	0.5 l
Hydraulic tank	30 l

# Performance

The highest performance is guaranteed in any working condition.

The advanced hydraulic system combined with a powerful engine provides the biggest break out and tractive forces for efficient operation.

As a result the DX27z and DX30z provide outstanding performance, work efficiency and the ability to adapt to any work environment.

## E/G Control Lever

The engine speed lever convenient location allows easy engine control.

## 3TNV82A-SDB (DX27z) – 3TNV82A-PDB (DX30z) engine

The DX27z and DX30z have a powerful and eco-friendly heart, that always provides high operating efficiency and pleasant working conditions.

## Powerful Digging Force (Bucket)

Powerful, efficient, and with increased digging force.

Bucket Digging force: 2000 kgf (DX27z) – 2800 kgf (DX30z)

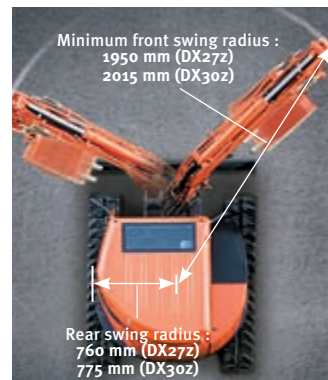
## Dozer Blade

Welded, unitized blade provides durability even under harsh working conditions.

## Boom swing

The boom swing function permits to work in very narrow areas.

The newly designed swing bracket and the increased boom cylinder size ensures powerful and stable swing performance.



# Comfort

The cabin has been ergonomically designed with comfort in mind.

Starting a fresh, the newly designed DX27z and DX30z provide the operator with maximum comfort and various convenient features. The DX27z and DX30z are the result of an innovative technical design!

The cabin space is more comfortable than any other excavator in its class.

## Comfortable Operating Cabin

A ROPS-TOPS roomy, 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.

The ergonomically placed switches maximize convenience for the operator.

## 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 cabin environment.

## Joystick

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

## Arm Rest

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

## Cup Holder

The conveniently located cup holders add to the operator's comfort.

## Defroster

The high capacity defroster, installed on the right, eliminating both frost and moisture very efficiently, provides a safer working condition for the operator. (Cabin Type Only)

## Floor Plate (Rubber mat)

The breaker pedal (left) and boom swing pedal (right) are installed in a very spacious and convenient location. In addition, the rubber floor mats contribute to a very comfortable environment. The door opening has been increased by removing the lower lip which provides easy cleaning of the interior.



# Maintenance

The status and condition of all components can be seen at a glance.  
The convenient and easy serviceability is really distinguished.

The most advanced technology developed by Doosan Infracore Co., Ltd. was integrated into the DX27z and DX30z excavators for powerful performance and simple, easy maintenance. This provides the operator with convenient maintenance check points and maximizes the work efficiency of the DX27z and DX30z.

## Easy maintenance

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

## Air cleaner

The large capacity forced air cleaner removes over 99% of airborne particles, reducing the risk of engine contamination, increasing the cleaning and cartridge change intervals.

## Air Breather

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

## Strengthened Boom

The shape of the boom has been optimally designed using finite elements and 3-dimensional computer simulation, allowing the loads to be better distributed throughout the structure. This combined with increased material thickness means improved durability and reliability by limiting element fatigue.

## Arm Assembly

In the arm assembly greater strength is gained by using cast elements and reinforcement around the bosses to increase the life of the component.

## X-chassis

The X-chassis frame section has been designed using finite element and 3-dimensional computer simulation, to ensure greater durability and optimum structural integrity. The swing gear is solid and stable.

## D-type Frame

The D-type frame and chassis frame add strength and minimize distortion due to shocks.

## 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 around it.

## Bucket

Hardened bucket teeth provide durability and can be easily unbolted for removal, straightening or replacing.

## 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, 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.

## Standard and optional equipment

### \* Standard equipment

#### • Cabin & Interior

- All weather sound suppressed type cab
- Adjustable suspension seat
- Pull-up type front window and removable lower front window
- Room light
- Cigarette lighter
- Cup holder
- Heater and defroster
- Fresh air filter
- Storage box

#### • Safety

- ROPS & TOPS Cabin
- Hydraulic safety lock lever
- Side mirror
- Safety glass
- Hammer for emergency escape

#### • Others

- Double element air cleaner
- Water separator
- Alternator (12 V, 40 Ah)
- Electric horn
- Working lights
  - Boom mounted 1
  - Cabin mounted 2
- Piping for hammer (One way) & for rotation (Two way)
- Rubber shoe
- Maintenance free battery

### \* Optional equipment

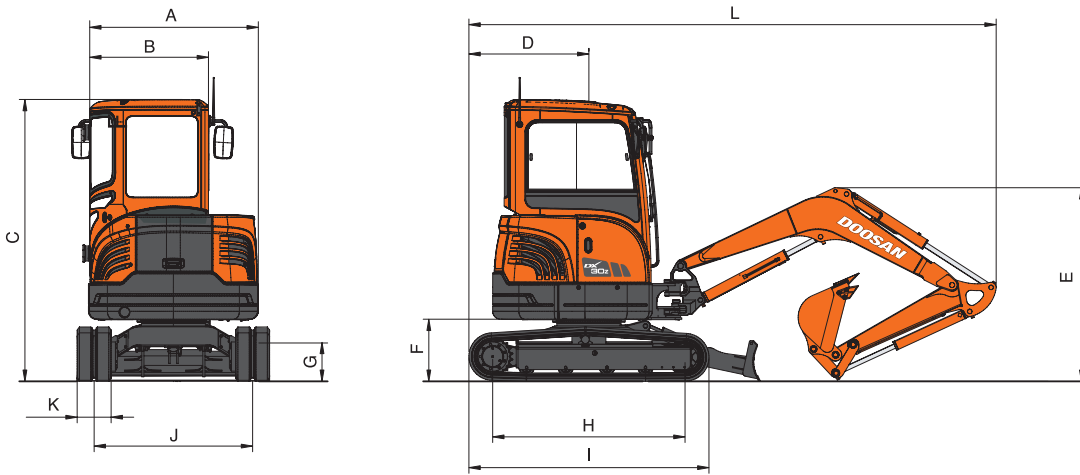
#### • Safety

- ROPS & TOPS Canopy (4-Pillar)
- Rotating beacon
- Accumulator
- Travel alarm

#### • Others

- Track guards (front)
- Piping for quick clamp
- Lever pattern changing valve
- Air-conditioner

# Dimensions and working ranges



**DX  
27z**

**DX  
30z**

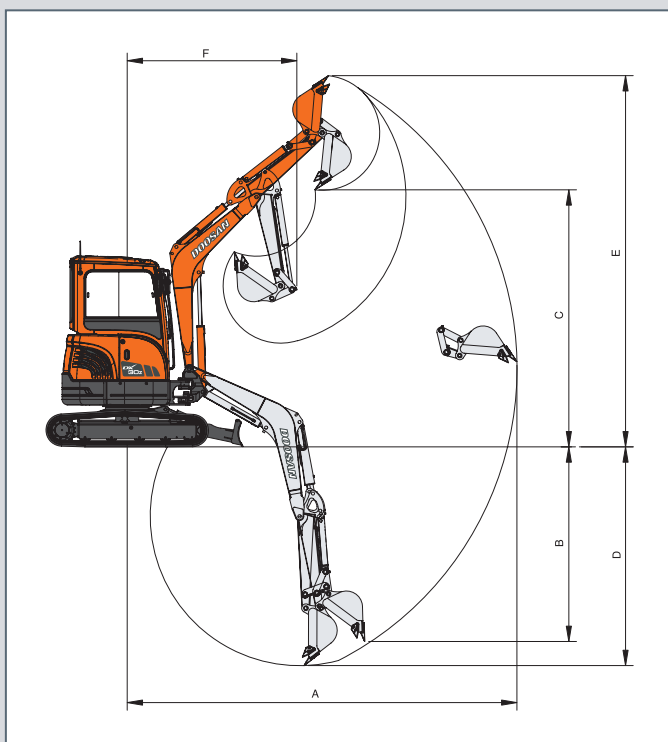
## \* Dimensions

	DX27z	DX30z
Boom type	2000 mm	2280 mm
Arm type	1100 mm	1190 mm
A Overall width of upper structure	1440 mm	1440 mm
B Overall width of cabin	1030 mm	1030 mm
C Overall height of cabin	2445 mm	2480 mm
D Tail swing radius	760 mm	775 mm
E Boom transport height	1488 mm	1590 mm
F Clearance under counterweight	520 mm	535 mm
G Ground clearance	440 mm	450 mm
H Tumbler distance	1550 mm	1650 mm
I Track length	1970 mm	2100 mm
J Track gauge	1270 mm	1250 mm
K Track shoe width	300 mm	300 mm
L Overall length	4060 mm	4507 mm

## \* Digging force (ISO)

	DX27z		DX30z	
<b>Bucket (PCSA)</b>	<b>0.08 m<sup>3</sup></b>		<b>0.091 m<sup>3</sup></b>	
Digging force	2020 kgf		2800 kgf	
<b>Arm</b>	<b>1100 mm</b>	<b>1300 mm</b>	<b>1190 mm</b>	<b>1300 mm</b>
Digging force	1400 kgf	1260 kgf	1800 kgf	1700 kgf

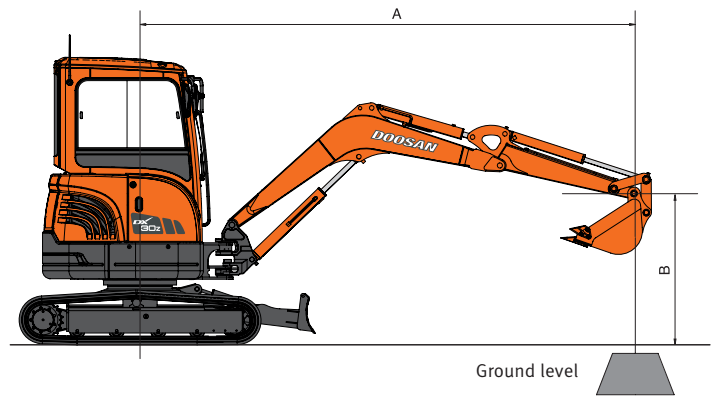
At power boost (ISO)



## \* Working range

		DX27z		DX30z	
	mm	2000	1300	2280	1300
<b>Boom type</b>	mm	2000	1300	2280	1300
<b>Arm type</b>	mm	1100	1300	1190	1300
<b>Bucket type (SAE)</b>	m <sup>3</sup>	0.08	0.08	0.09	0.09
A Max. digging reach	mm	4505	4690	4882	4984
B Max. vertical wall depth	mm	2295	2500	2278	2383
C Max. loading height	mm	2775	2935	3122	3185
D Max. digging depth	mm	2490	2690	2838	2948
E Max. digging height	mm	4165	4280	4555	4618
F Min. swing radius	mm	1950	1985	2015	2034

# Lifting capacity



## DX27z

**STANDARD** – Boom: 2000 mm - Arm: 1100 mm - Bucket: SAE 0,08 m<sup>3</sup> (CECE 0,07 m<sup>3</sup>) - Shoe: 300 mm

Units: 1000 kg

A (m)	2		2.5		3		3.5		Max. reach													
	Dozer up		Dozer down		Dozer up		Dozer down		Dozer up		Dozer down											
	☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	A (m)	☺	☹	A (m)								
3																						
2.5																						
2																						
1.5	0.98	0.79	*1.17	0.79	0.68	0.56	*0.85	0.56	0.51	0.42	0.39	0.33	*0.60	0.33	0.35	0.29	3.76	*0.62	0.29	3.76		
1					0.66	0.54	*1.04	0.54	0.50	0.41	*0.81	0.41	0.39	0.32	*0.69	0.32	0.34	0.28	3.80	*0.64	0.28	3.80
0.5	0.93	0.74	*1.24	0.74	0.65	0.53	*1.17	0.53	0.49	0.40	*0.89	0.40	0.39	0.32	*0.73	0.32	0.34	0.28	3.76	*0.66	0.28	3.76
O (ground)	0.92	0.74	*1.67	0.74	0.64	0.52	*1.22	0.52	0.48	0.40	*0.92	0.40	0.38	0.32	*0.74	0.32	0.36	0.30	3.63	*0.69	0.30	3.63
-0.5	0.92	0.74	*1.66	0.74	0.64	0.52	*1.19	0.52	0.48	0.40	*0.90	0.40					0.40	0.33	3.40	*0.72	0.33	3.40
-1	0.93	0.74	*1.46	0.74	0.64	0.53	*1.07	0.53	0.49	0.40	*0.77	0.40					0.48	0.39	3.04	*0.75	0.39	3.04
-1.5	0.94	0.76	*1.09	0.76													0.67	0.55	2.46	*0.76	0.55	2.46

**OPTION** – Boom: 2000 mm - Arm: 1300 mm - Bucket: SAE 0,08 m<sup>3</sup> (CECE 0,07 m<sup>3</sup>) - Shoe: 300 mm

Units: 1000 kg

A (m)	2		2.5		3		3.5		Max. reach													
	Dozer up		Dozer down		Dozer up		Dozer down		Dozer up		Dozer down											
	☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	A (m)	☺	☹	A (m)								
3.5																						
3																						
2.5																						
2																						
1.5	*0.98	0.88	*0.98	0.88	0.74	0.61	*0.75	0.61	0.55	0.46	*0.65	0.46	0.43	0.36	*0.59	0.36	0.35	0.29	3.95	*0.57	0.29	3.95
1	1.04	0.84	*1.12	0.84	0.72	0.60	*0.96	0.60	0.54	0.45	*0.76	0.45	0.43	0.35	*0.65	0.35	0.35	0.29	3.99	*0.59	0.29	3.99
0.5	1.01	0.81	*1.48	0.81	0.71	0.58	*1.12	0.58	0.53	0.44	*0.85	0.44	0.42	0.35	*0.70	0.35	0.35	0.29	3.95	*0.61	0.29	3.95
O (ground)	1.00	0.80	*1.65	0.80	0.70	0.57	*1.20	0.57	0.53	0.44	*0.90	0.44	0.42	0.35	*0.73	0.35	0.36	0.30	3.83	*0.64	0.30	3.83
-0.5	1.00	0.80	*1.71	0.80	0.70	0.57	*1.20	0.57	0.53	0.43	*0.91	0.43	0.42	0.35	*0.71	0.35	0.40	0.33	3.61	*0.67	0.33	3.61
-1	1.01	0.81	*1.56	0.81	0.70	0.57	*1.12	0.57	0.53	0.44	*0.84	0.43					0.46	0.38	3.28	*0.70	0.38	3.28
-1.5	1.02	0.82	*1.27	0.82	0.71	0.58	*0.90	0.58									0.60	0.50	2.78	*0.73	0.50	2.78

## DX30z

**STANDARD** – Boom: 2280 mm - Arm: 1190 mm - Bucket: SAE 0,09 m<sup>3</sup> (CECE 0,078 m<sup>3</sup>) - Shoe: 300 mm

Units: 1000 kg

A (m)	2		2.5		3		3.5		Max. reach													
	Dozer up		Dozer down		Dozer up		Dozer down		Dozer up		Dozer down											
	☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	A (m)	☺	☹	A (m)								
3																						
2.5																						
2	0.90	0.88	0.90	0.90	0.73	0.61	0.73	0.65	*0.55	0.46	0.55	0.49	0.52	0.35	0.56	0.38	0.44	0.30	3.81	0.59	0.33	3.81
1.5					0.88	0.59	0.98	0.63	0.65	0.44	0.78	0.48	0.51	0.34	0.68	0.37	0.38	0.26	4.12	0.63	0.28	4.12
1					0.85	0.56	1.22	0.61	0.64	0.43	0.92	0.46	0.50	0.34	0.76	0.36	0.38	0.25	4.16	0.66	0.27	4.16
0.5					0.84	0.55	1.38	0.59	0.63	0.42	1.02	0.45	0.49	0.33	0.83	0.36	0.38	0.25	4.12	0.69	0.28	4.12
O (ground)	1.29	0.77	1.27	0.83	0.83	0.54	1.45	0.59	0.62	0.41	1.09	0.45	0.49	0.33	0.87	0.36	0.40	0.26	4.00	0.72	0.29	4.00
-0.5	1.22	0.77	2.00	0.83	0.83	0.54	1.44	0.59	0.62	0.41	1.10	0.45	0.49	0.32	0.87	0.35	0.43	0.29	3.80	0.76	0.31	3.80
-1	1.23	0.78	1.88	0.84	0.83	0.55	1.37	0.59	0.62	0.41	1.05	0.45					0.49	0.33	3.49	0.81	0.36	3.49
-1.5	1.24	0.79	1.63	0.85	0.84	0.56	1.20	0.60	0.63	0.42	0.88	0.46					0.62	0.42	3.02	0.87	0.45	3.02

**OPTION** – Boom: 2280 mm - Arm: 1300 mm - Bucket: SAE 0,09 m<sup>3</sup> (CECE 0,078 m<sup>3</sup>) - Shoe: 300 mm

Units: 1000 kg

A (m)	2		2.5		3		3.5		Max. reach													
	Dozer up		Dozer down		Dozer up		Dozer down		Dozer up		Dozer down											
	☺	☹	☺	☹	☺	☹	☺	☹	☺	☹	A (m)	☺	☹	A (m)								
3																						
2.5																						
2					0.66	0.66	0.66	0.66	0.61	0.49	0.61	0.49	0.55	0.38	0.58	0.38	0.42	0.28	4.11	0.58	0.28	4.11
1.5					0.92	0.63	0.92	0.63	0.70	0.48	0.74	0.48	0.55	0.37	0.65	0.37	0.40	0.27	4.22	0.60	0.27	4.22
1					0.92	0.61	1.17	0.61	0.69	0.46	0.88	0.46	0.54	0.36	0.74	0.36	0.39	0.26	4.26	0.63	0.26	4.26
0.5					0.90	0.59	1.34	0.59	0.68	0.45	1.00	0.45	0.53	0.36	0.81	0.36	0.39	0.26	4.22	0.66	0.26	4.22
O (ground)	1.29	0.82	1.29	0.82	0.89	0.58	1.43	0.58	0.67	0.45	1.07	0.45	0.53	0.35	0.86	0.35	0.41	0.27	4.11	0.69	0.27	4.11
-0.5	1.30	0.83	1.90	0.83	0.89	0.58	1.44	0.58	0.67	0.44	1.09	0.44	0.52	0.35	0.87	0.35	0.44	0.30	3.91	0.73	0.30	3.91
-1	1.31	0.83	1.92	0.83	0.89	0.59	1.39	0.59	0.67	0.44	1.06	0.44	0.53	0.35	0.83	0.35	0.50	0.34	3.61	0.78	0.34	3.61
-1.5	1.33	0.84	1.70	0.84	0.90	0.59	1.24	0.59	0.67	0.45	0.93	0.45					0.62	0.41	3.18	0.83	0.41	3.18

1. The nominal forces are based on the SAE J1097 standard.

2. The load point is the hook at the rear of the bucket.

3. \* = The nominal loads are based on hydraulic capacity.

4. The nominal loads do not exceed 87% of the hydraulic capacity or 75% of the capacity of the swing.

☺ : Over front

☹ : Over side or 360°



[www.doosanequipment.eu](http://www.doosanequipment.eu)

