



# DX80R

Engine Power : 39.9kW(53.5 HP) @2,000 rpm (SAE J1349 ,net)

Operational Weight : 8,380 kg (18,474 lb)-rubber

Bucket capacity(SAE) : 0.28 m<sup>3</sup> (0.366 cu.yd)



Photo may include optional equipment



## Doosan DX80R Hydraulic Excavator : A New Model with Novel Features

# DX 80R



The new DX80R hydraulic excavator has all the advantages of the previous Doosan model, and now offers additional added value to the operator.

The new DX80R was developed with the concept of “providing optimum value to the end user.” In concrete terms, this translates, into :

**Increased production and improved fuel economy** due to the electronic optimization of the hydraulic system and the new generation engine.

**Improved ergonomics** which increases operator comfort, along with excellent all around visibility ensures a safe and pleasant working environment.

**Improved reliability** through the use of high performance materials combined with new methods of structural analysis, leading to increased component life expectancy, thus reducing operating costs.

**Reduced maintenance** increases machine availability and reduces operating costs of the excavator.

# Comfort

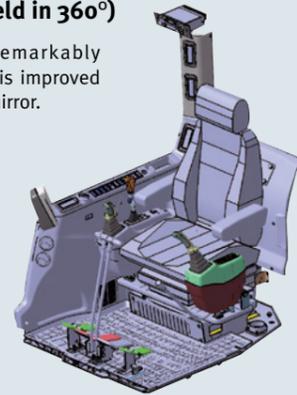
## DX80R

This standard-duty machine, offers a spacious operators cabin which is normally only found in medium and heavy-duty machines. The working controls in the cabin are ergonomically designed to ensure operator convenience and comfort.



### Good visibility (visual field in 360°)

The operator's cabin is remarkably increased and good visibility is improved by applying the left rear view mirror. (Left rear view mirror - Option)



### Comfortable Operators Cabin

The operating controls are arranged in a convenient and ergonomic fashion, to ensure maximum operating efficiency. A large capacity air-conditioning system has been installed for operator comfort in all weathers. The spacious cabin provides the operator with a wide field of view for the best possible working conditions.



Thermometer for cooling water  
Fuel gauge  
Fixed-type LED Instrument Panel

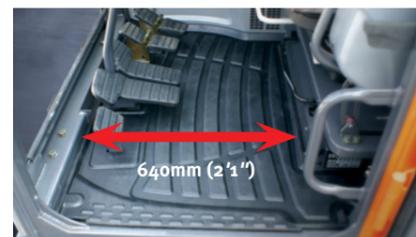
### Fixed-Type Instrument Panel

The centralized display panel provides comprehensive information about the status of the machine in an easy to read format. The high quality display panel can see all information at a glance.



### High-Output Air-Conditioner & Demister

A high capacity air-conditioner has been installed with vents located both in front and behind the operator's seat to maximize the efficiency of the air-conditioning efficiency. A defroster has been installed to prevent the front windshield from becoming frosted in the cold weather ensuring safer operation.



### Larged cabin entrance

A large door & clear entrance space ensure easy access into and out of the machine. A large open floor space means any inconvenience from operating equipment is minimized.



### Control Stand

The left and right control stands are ergonomically placed for convenient operation. The uni-body plastic design provides the operator with a spacious and comfortable cabin environment.



Comfortable 2-stage sliding seat    Comfortable tilting seat

### Suspension Seat

Since the seat cushion position and angle can be adjusted in addition to the 2-step slide control function, the seat can be adjusted in accordance with personal preference. Comfort is further improved with adjustable lumbar support and with the option of a seat heater.



### Switches

The ergonomically placed switches maximizes convenience for the operator.



### A/C Control Panel

A semi-automatic air conditioner is fitted with 5 switchable modes, allowing the operator to control the output performance and positions.



### Dozer Control

The Dozer Control Lever is positioned in the right-hand control stand to ensure easy and convenient operation.



### Floor Plate (Rubber mat)

The boom swing pedal, breaker(1&2way) pedal and foot rest are installed in a very spacious and convenient location. In addition the rubber mat contributes to an easy clean and comfortable enviroment.



### Joystick

The hydraulic joystick levers have very comfortable grips and allow the operator to perform precise operations very easily. As there are 3 switches on each lever, attachment can be easily operated.



Wide Storage space



Seat back pocket

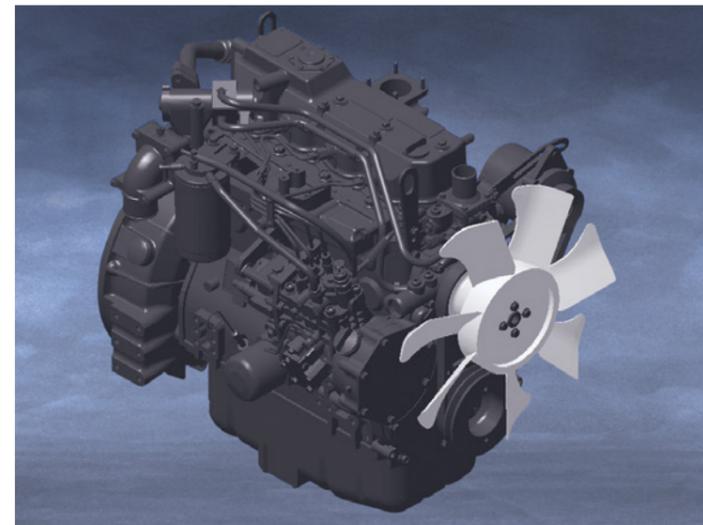


Rubber mounting

# Performance

DX80R

DX80R ensures best performance with a powerful excavating force and a high-tech hydraulic system for better operating efficiency at any work site! Excellent performance is its basic feature! Overall safety and convenience are also key factors when considering excellent performance.



### YANMAR 4TNV98

The 53.5HP (SAE J1349, net) engine produces outstanding power and is known for its durability and excellent operation in high-load applications. In addition its low noise and low emissions make it suitable for operation in noise sensitive areas and at night.



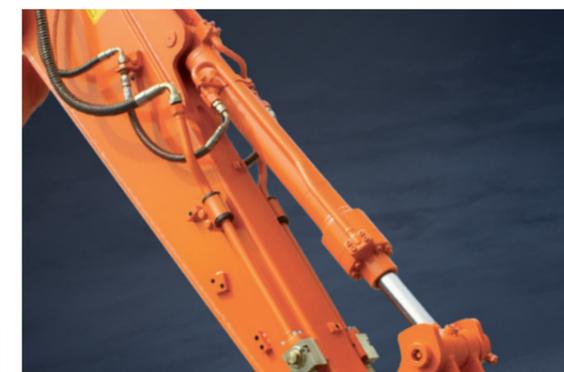
### RPM dial / Auto idle

Electronic engine rpm control allows the optimum engine rpm to be set for the work being done, and the standard auto idle function helps to reduce fuel wastage.



### Dozer Blade

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



### Arm cylinder

A large arm cylinder ensures powerful excavating force, for optimum digging performance.



### Boom swing

The convenient boom swing function provides the ability to work in very narrow locations, and the robustly designed swing bracket and large boom swing cylinder ensures powerful and stable boom swing performance.



### Higher gradeability and work capability

Thanks to the strong tractive effort combined with excellent engine power and the highest swing torque in its the class, the DX80R shows distinguished capability when working on a slope.



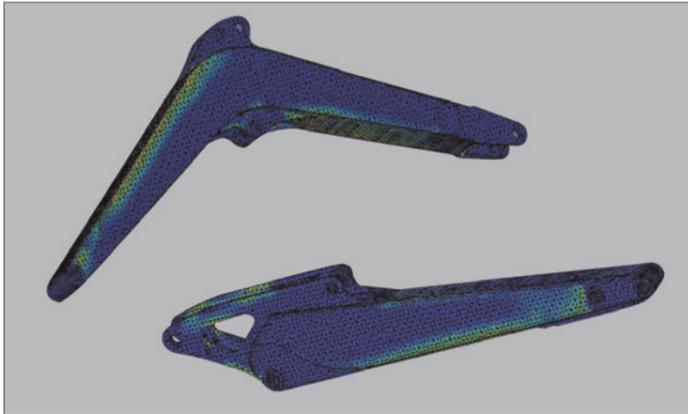
### Main control valve

The machine can be precisely controlled in both single and combined operations. In combined operations, the circuit ensures the optimal flow of oil to each function irrespective of load. The boom holding function prevents the boom from self-lowering.

# Reliability

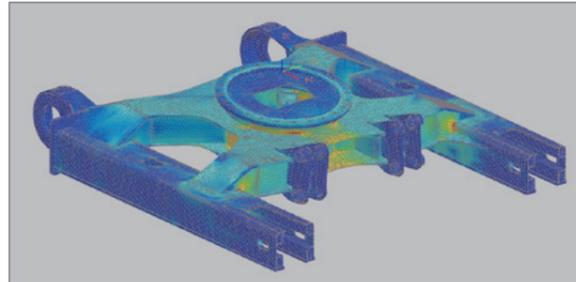
DX80R

The reliability of a machine contributes to its overall lifetime operating costs. DOOSAN uses computer-assisted design techniques, highly durable materials and structures which are tested under extreme conditions, to achieve this. Durability of materials and longevity of structures are our first priorities.

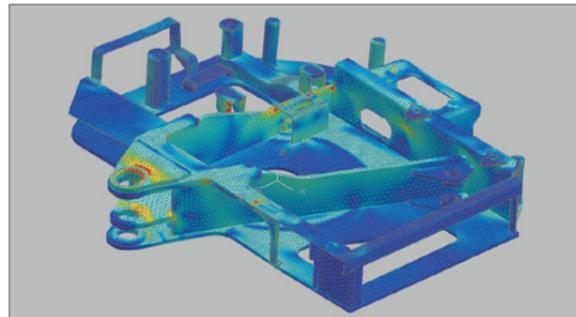


**Strong Boom**  
The shape of the boom has been optimized by finite elements design, allowing uniform load distribution throughout the structure, to ensure excellent durability and reliability.

**Arm Assembly**  
In the arm assembly great strength has been gained by using cast elements and reinforcement around the bosses to give increased life.



**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.



**Frame**  
The frame design adds strength and minimizes distortion due to shocks.



**Rubber tracks**  
The rubber tracks not only offer greater non-slip and grip capabilities but are also less harmful to pavements and road surfaces in urban environments than conventional steel shoes. These rubber tracks can be easily installed or removed with the idler, sprocket and other main parts.



**Bushing**  
A highly lubricated metal (sintered bushing) is used for the boom, arm and bucket pivots in order to extend the greasing intervals to upto 250 hours and increase the bush life.



**Polymer shim**  
As polymer shims are adopted, the connection and wear on the lateral surface of pin joints is prevented.



**Front oil leakage preventing valve**  
The operating method of the valve is such that oil does not leak even under high pressure, thereby ensuring the stable work performance.



**Bucket**  
Hardened bucket teeth provide durability and can be easily unbolted for strengthening or replacing.



**Front lamp**



**Integrated Track Spring and Idler**  
The track spring and the idler have been joined directly to achieve high durability and improved maintenance convenience.



**Lower track roller**  
Forged rollers offer upto 75% greater strength compared to cast items, improving their wear resistant properties.



**Fabricated Track Guide**  
The track guides which protects the vital track components are fabricated components and can be easily replaced.

# Maintenance

## DX80R

The most advanced technology developed by Doosan was integrated into the DX80R excavator providing powerful performance and simple, easy maintenance. This provides the operator with convenient maintenance check points and maximizes the work efficiency of the DX80R.



**Tilting cabin for easy maintenance**



**Counterweight & hood**

A cast counterweight is used which means deformation by impact is minimized. The bonnet made of metton further protects the engine from external damage.



**Easy maintenance**

Access to the radiator and coolers is very easy, making cleaning simple. Access to the various parts of the engine is from the side.



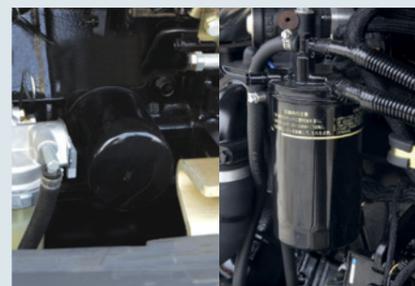
**Grease Piping**

Centralized grease piping is designed for easy maintenance of the swing bearing and swing cylinder bushes.



**Radiator**

The large-capacity radiator provides excellent performance in severe and continuous operations.



**Oil filter/Fuel filter**

The engine oil filter is attached to the engine body and extends out for easy maintenance.



**Air cleaner**

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



**Convenient Fuse Box**

The fuse box is conveniently located in a section of the storage compartment below the operator's seat.



**A/C Compressor**

Sufficient space is provided for easy fan belt tension adjustment or replacement, and the use of a B-type belt leads to servicing intervals of 250HRS.



**Engine mounting rubber**

A sandwich-type engine mounting rubber with excellent durability and dustproof properties are used to ensure that engines vibration is not transmitted to the machine.

# DX80R

## Technical specifications

### ENGINE

<b>Model</b>	4TNV98-ZWDB8
<b>Number of cylinders</b>	4
<b>Nominal flywheel power</b>	39.9kW(53.5 HP) @2,000 rpm (SAE J1349 ,net)
<b>Max torque</b>	22.7~24.7 kgf.m / 1,300 +/- 100 rpm
<b>Piston displacement</b>	3,319cc (202.5 cu.in)
<b>Bore &amp; stroke</b>	Φ98 mm x 110 mm (3.8" X 4.3")
<b>Starter</b>	12 V x 3.0 kW
<b>Batteries</b>	1 x 12 V / 100 Ah
<b>Alternator</b>	12 V / 60 A

### HYDRAULIC CYLINDERS

High-strength piston rods and tubes are used.

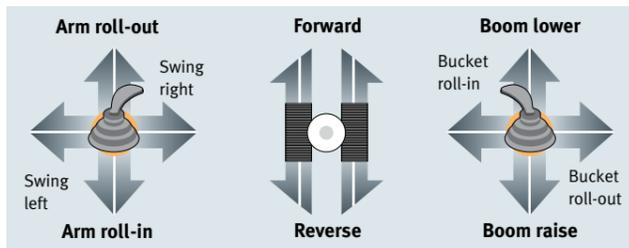
A cylinder cushion mechanism is provided for the boom and arm cylinders to assure shock-free operation and extend the life of the cylinders.

Cylinders	Quantity	Bore X Rod diameter X stroke
Boom	1	115 X 70 X 775mm(4.5" X 2.8" X 2'7")
Arm	1	100 X 65 X 866mm(3.9" X 2.6" X 2'10")
Bucket	1	85 X 55 X 690mm(3.3" X 2.2" X 2'3")

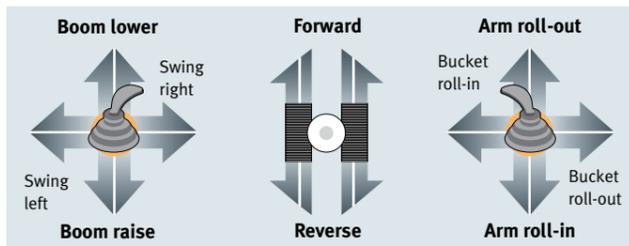
### CONTROL.2 IMPLEMENT LEVERS

Travel lever pedal pilot pressure control type. In ISO type, right lever is boom and bucket, left lever for swing and arm control. In BHL type right lever is arm and bucket, left lever for swing and boom control if pattern change equipped.

#### ISO



#### BHL



### HYDRAULIC SYSTEM

Single variable displacement axial piston pump with tandem gear pump. 10 spool main control valve of sandwich construction. This original design enables both independent and combined operations of all functions. Pilot joystick and pedal control type operation.

<b>Main pumps</b>	Variable displacement axial piston pump max flow: 144 l / min (38 US gpm, 31.7 Imp gpm)
<b>Pilot pump</b>	Gear pump - max flow: 22 l / min (5.81 US gpm, 4.84 Imp gpm)
<b>Maximum system pressure</b>	Boom/Arm/Bucket: 300 kgf/cm <sup>2</sup> (294 bar) Travel: 280 kgf/cm <sup>2</sup> (275 bar) Swing: 220 kgf/cm <sup>2</sup> (215 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. Swing parking brake is spring-set, hydraulic-released disc type.

<b>Swing speed</b>	9.6 rpm
<b>Rear swing radius</b>	1,300mm(4'3")

### SUPER-STRUCTURE REVOLVING FRAME

A deep, full-reinforced box section. Heavy gauge steel plates used for ruggedness.

### 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.

### OPERATOR'S CAB

A roomy, independent, shock and noise-free operator's cab, four-side safety glass windows gives all-round visibility.

Front window slides up and stores in the roof and side window can be opened for ventilation. Fully adjustable suspension seat. Air conditioner. ISO standard cab.

<b>LwA External noise</b>	
Guaranteed Sound Power Level	98dB(A)(2000/14/EC)
<b>LpA Operator noise</b>	74dB (A) (ISO 6396)

### WEIGHT

Boom 3,380 mm (11'1") / Bucket SAE 0.28 m<sup>3</sup>(0.366 yd<sup>3</sup>) / Shoe 450m (1'6")

Arm Length	Operating Weight	Ground Pressure
1,700 mm(5'7")-rubber	8,330 kg (18,364 lb)	0.39kgf/cm <sup>2</sup> (38 kpa, 5.5 psi)
1,700 mm(5'7")-steel	8,380 kg (18,606 lb)	0.39kgf/cm <sup>2</sup> (38 kpa, 5.5 psi)

### BUCKET

Capacity		Width		Weight
PCSA, heaped	CECE heaped	Without side cutters	With side cutters	
0.28m <sup>3</sup> (0.366yd <sup>3</sup> )	0.24m <sup>3</sup> (0.31yd <sup>3</sup> )	707mm (2'4")	812mm (2'8")	232 kg (511 lb)
0.20m <sup>3</sup> (0.26yd <sup>3</sup> )	0.18m <sup>3</sup> (0.24yd <sup>3</sup> )	540mm (1'9")	646mm (2'1")	199 kg (439 lb)

### DRIVE

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

<b>Travel speed (fast/slow)</b>	4.6/2.9 km/h (2.9 /1.8 mph)
<b>Maximum traction force</b>	6.2/3.6ton (13,668/7,937 lbf)
<b>Maximum grade</b>	30° / 58%

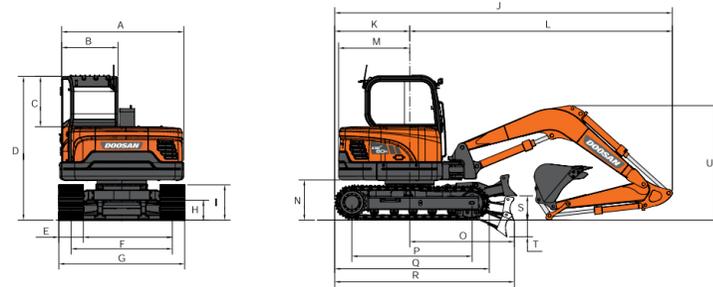
### REFILL CAPACITIES

<b>Fuel tank</b>	115 l (30.3 US gal, 25.3 Imp gal)
<b>Cooling system (Radiator capacity)</b>	10 l (2.64 US gal, 2.20 Imp gal)
<b>Engine oil</b>	11.6 l (3.06 US gal, 2.55 Imp gal)
<b>Final drive (each)</b>	1.2 l (0.32 US gal, 0.26 Imp gal)
<b>Hydraulic system</b>	127 l (33.5 US gal, 27.9 Imp gal)
<b>Hydraulic tank</b>	73 l (19.3 US gal, 16.1 Imp gal)

# DX80R

## Dimensions & Working range

### DIMENSIONS

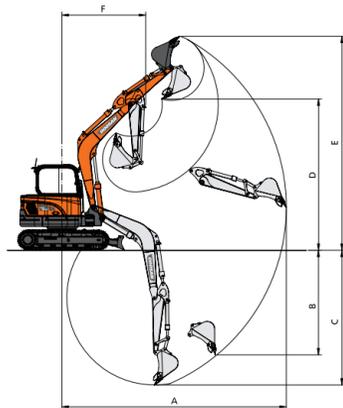


Boom type	3,380mm(11'1")	
Arm type	1,700mm(6'2")	2,250mm(7'5")
A	2,266mm(7'5")	—
B	1,030mm(3'5")	—
C	923mm(3')	—
D	2,638mm(8'8")	—
E	450mm(1'6")	—
F	1,850mm(6'1")	—
G	2,300mm(7'7")	—
H	362mm(1'2")	—
I	648mm(2'2")	—
J	6,167mm(20'3")	6,265mm(20'7")
K	1,370mm(4'6")	—
L	4,797mm(15'9")	4,890mm(16'5")
M	1,298mm(4'3")	—
N	737mm(2'5")	—
O	1,912mm(6'3")	—
P	2,200mm(7'2")	—
Q	2,823mm(9'3")	—
R	3,282mm(10'9")	—
S	446mm(1'6")	—
T	304mm(1')	—
U	2,085mm(6'11")	2,410mm(7'11")

### DIGGING FORCE (ISO)

Bucket (PCSA)	0.20m <sup>3</sup>		0.28m <sup>3</sup>	
	Digging force	5,600 kgf	5,600 kgf	54.9 kN
	12,346 lbf	12,346 lbf		
Arm	1,700mm(5'7")		2,250mm(7'5")	
	Digging force	4,200 kgf	3,500 kgf	41.2 kN
	9,259 lbf	7,716 lbf		

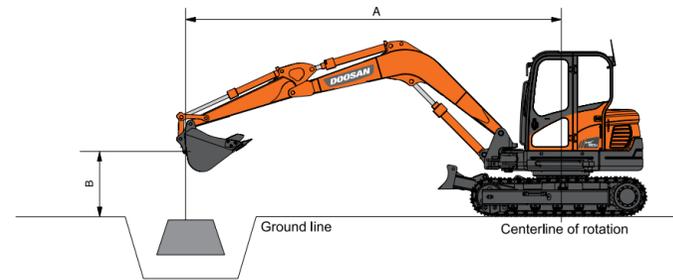
### WORKING RANGE



Boom type	3,380mm(11'1")	
Arm type	1,700mm(6'2")	2,250mm(7'5")
Bucket type (SAE)	0.28m <sup>3</sup> (0.366yd <sup>3</sup> )	0.20m <sup>3</sup> (0.261yd <sup>3</sup> )
A Max. digging reach	6,915mm(22'8")	7,430mm(24'4")
B Max. vertical wall depth	3,245mm(10'8")	3,760mm(12'4")
C Max. digging depth	4,180mm(13'9")	4,730mm(15'6")
D Max. loading height	4,640mm(15'3")	4,990mm(16'4")
E Max. digging height	6,625mm(21'9")	6,975mm(22'11")
F Min. swing radius	2,500mm(8'2")	2,615mm(8'7")

# DX80R

## Lifting Capacity



### [ Dozer up ]

Metric Boom : 3,380mm (11'1") Arm : 1,700mm (5'7") Bucket : 0.28m<sup>3</sup> (0.366 yd<sup>3</sup>) Shoe : 450mm (1'6") Unit : 1,000kg

A(m)	2		3		4		5		Max. Reach		
B(m)	☺	☺☺	☺	☺☺	☺	☺☺	☺	☺☺	☺	☺☺	A(m)
5					*1.71	*1.71			*1.68	1.51	4.41
4					*1.71	*1.71	*1.75	1.23	*1.60	1.13	5.23
3					*2.04	1.74	*1.85	1.21	*1.63	0.96	5.71
2			*3.75	2.59	*2.55	1.66	*2.07	1.18	*1.73	0.88	5.95
1			*4.83	2.43	*3.05	1.59	*2.30	1.14	*1.90	0.86	5.98
O (Ground)	*1.95	*1.95	*4.97	2.37	*3.30	1.54	*2.43	1.11	*1.98	0.89	5.81
-1	*3.73	*3.73	*4.76	2.36	*3.24	1.53	*2.36	1.10	*2.06	0.98	5.42
-2	*5.75	4.89	*4.05	2.39	*2.81	1.54			*2.13	1.21	4.73
-3	*3.96	*3.96	*2.63	2.46					*2.09	1.92	3.52

### Feet

Unit : 1,000lb

A(ft)	10		15		Max. Reach		
B(ft)	☺	☺☺	☺	☺☺	☺	☺☺	A(R)
15			*3.83	3.15	*3.59	2.88	15.9
10			*4.19	3.09	*3.58	2.14	18.8
5	*9.36	5.38	*5.29	2.93	*3.98	1.91	19.8
O (Ground)	*10.87	5.10	*6.04	2.80	*4.36	1.96	19.1
-5	*9.61	5.10	*5.60	2.77	*4.63	2.37	16.9
-10	*5.47	5.29			*4.57	4.40	11.3

### [ Dozer up ]

Metric Boom : 3,380mm (11'1") Arm : 2,250mm (7'5") Bucket : 0.28m<sup>3</sup> (0.366 yd<sup>3</sup>) Shoe : 450mm (1'6") Unit : 1,000kg

A(m)	2		3		4		5		6		Max. Reach		
B(m)	☺	☺☺	☺	☺☺	☺	☺☺	☺	☺☺	☺	☺☺	☺	A(m)	
5							*1.48	1.23			*1.30	1.17	5.14
4							*1.43	1.24			*1.24	0.93	5.84
3							*1.57	1.21	*1.55	0.88	*1.25	0.81	6.27
2			*2.88	2.66	*2.16	1.68	*1.83	1.17	*1.65	0.86	*1.31	0.75	6.48
1			*4.26	2.46	*2.75	1.59	*2.12	1.13	*1.78	0.84	*1.43	0.73	6.51
O (Ground)	*1.85	1.85	*4.93	2.35	*3.15	1.52	*2.33	1.09	*1.86	0.82	*1.62	0.75	6.36
-1	*3.04	3.04	*4.94	2.31	*3.26	1.49	*2.39	1.07	*1.81	0.81	*1.80	0.81	6.01
-2	*4.51	4.51	*4.49	2.32	*3.05	1.49	*2.19	1.07			*1.88	0.95	5.41
-3	*5.84	4.84	*3.51	2.36	*2.38	1.51					*1.95	1.30	4.45

### Feet

Unit : 1,000lb

A(ft)	10		15		20		Max. Reach		
B(ft)	☺	☺☺	☺	☺☺	☺	☺☺	☺	☺☺	A(ft)
15			*2.98	*2.98			*2.79	2.31	17.12
10			*3.48	3.11	*3.41	1.89	*2.76	1.80	20.6
5	*7.73	5.49	*4.71	2.92	*3.74	1.83	*3.00	1.62	21.5
O (Ground)	*10.58	5.05	*5.77	2.75	*4.03	1.76	*3.58	1.65	20.10
-5	*10.27	4.97	*5.84	2.68			*4.07	1.92	18.10
-10	*7.46	5.08					*4.29	2.93	14.5

1. Load point is the end of the arm.  
2. \*Rated loads are based on hydraulic capacity.  
3. Rated loads do not exceed 87% of HYD. Capacity or 75% of tipping capacity.

☺ : Rating Over Front  
☺☺ : Rating Over Side or 360 degree

# DX80R

## Standard & Optional equipment

### STANDARD EQUIPMENT

#### Hydraulic system

- Arm flow regeneration
- Boom holding valve
- Spare spool

#### Cabin & Interior

- Rubber cab mounts
- Air conditioning
- Adjustable suspension seat with head rest and adjustable arm rests
- Pull-up type front window and removable lower front window
- Room light
- Intermittent windshield wiper
- Storage box (including Cup holder)
- Engine speed(RPM) control dial
- AM/FM radio and cassette player (set)
- Remote radio ON/OFF switch
- 12V spare powers socket
- Serial communication port for laptop PC interface
- Joystick lever with 3 switches
- Aircon filter
- Antenna

#### Safety

- Large handrails
- Seat belt
- Hydraulic safety lock lever
- Safety glass
- Hammer for emergency escape
- Emergency engine stop
- Accumulator

#### Undercarriage

- Hydraulic track adjuster
- Track guards (Steel track)
- 450mm shoe
- 2,300mm dozer blade

#### Others

- Double element air cleaner
- Engine overheat prevention system
- Engine restart prevention system
- Self-diagnostic system
- Alternator(12V, 60 amps)
- Electric horn
- Halogen working lights(boom mounted 2)
- Auto idle

### OPTIONAL EQUIPMENT

In some markets optional equipment may not be available and may also be of standard type only. It is advisable to contact the local Doosan dealer for information on availability and specific application requirements.

#### Safety

- Boom lock valve
- Arm lock valve
- Dozer lock valve
- Pattern change valve
- Overload warning device
- Travel alarm
- Rotating beacon
- Left review mirror

#### Cabin & Interior

- Seat Heater
- AM/FM radio and MP3/CD player (each)
- Additional working lamp
- Sunvisor
- Fogs guard
- Roof guard

#### Others

- Piping for tilt
- Piping for quick clamp
- Fuel feed pump
- Rubber track
- Long arm (2,250 mm)
- Narrow bucket (0.20m<sup>3</sup>/PCSA)
- Piping for clamshell

# World Class meets First Class Bobcat & Doosan



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