

**DOOSAN**

Construction Equipment

# DX140LCA DX140AF

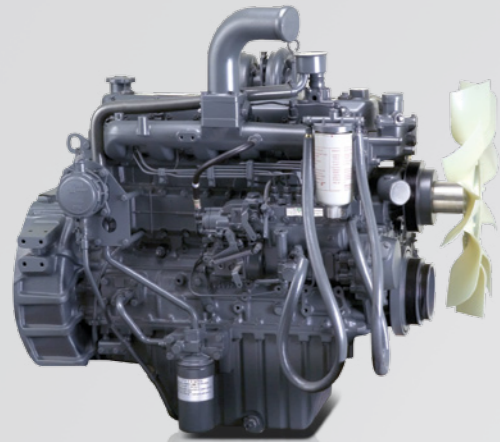
Engine Power	74 kW (100PS) @1,850 / 1,900 rpm
Operational Weight	14,000 / 16,800 kg
Bucket Capacity (SAE)	0.51 ~ 0.58 m <sup>3</sup>



# ✓ YOUR NEW DAILY WORK PARTNER DX140LCA & DX140AF

DX140<sub>LCA</sub>  
DX140<sub>AF</sub>

MEET OUR DX140LCA AND DX140AF, NEWLY IMPROVED AND DEVELOPED WITH DOOSAN'S RENOWNED MECHANICAL ENGINE FOR YOUR EVERYDAY OPERATION



## 1 DB58TIS DOOSAN ENGINE

DX140LCA/AF runs on Doosan DB58TIS engine, one of the most widely-used engines in Doosan. Doosan DB58TIS engine has already gained recognition in the market for reliability, low fuel consumption and easy maintenance with quality that has been validated.



## 2 WATER SEPARATOR

The fuel water separator filters out water from fuel, enhances the engine's durability, and reduces quality problems caused by the presence of water in fuel.



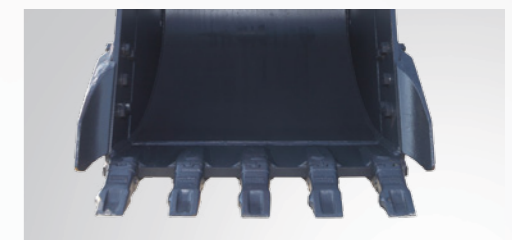
## 3 NEW DECALS

Bigger and more visible decals make DX140LCA/AF stand out anywhere of your job site.



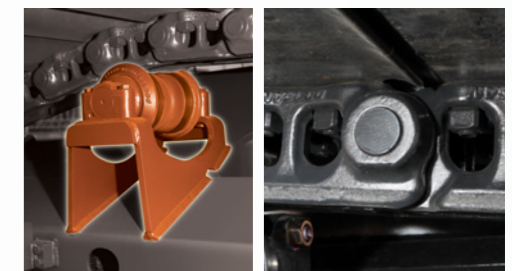
## 4 7-INCH MONITOR

The new, user-friendly LCD color monitor provides a clearer rear view and allows full access to machine settings and maintenance data. (Rear view camera is optional.)



## 5 NEW GP (GENERAL PURPOSE) BUCKET

GP bucket installed onto DX140LCA/AF as a base spec with open type side cutters allows you to efficiently perform loading operations.



## 6 REINFORCED UNDERCARRIAGE FOR BETTER DURABILITY ONLY DX140AF

\* The above image may differ from the actual product.



# DX140AF, THE RIGHT MACHINE FOR YOUR FOREST WORK

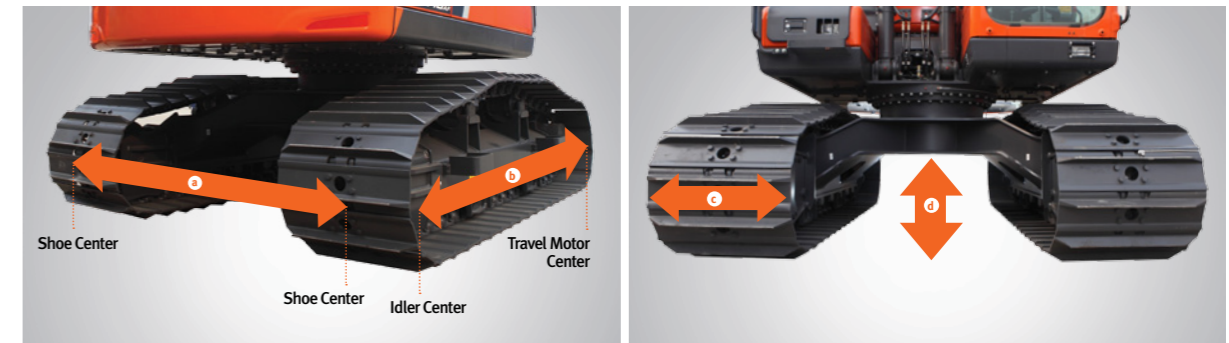
DX140AF

The Doosan DX140AF features a reinforced lower body to protect it against the harsh, damp forestry work environment and a powerful and simple large 6-liter mechanical engine to maximize work efficiency, making it the optimal excavator for forestry work in any environment including plains and mountains.



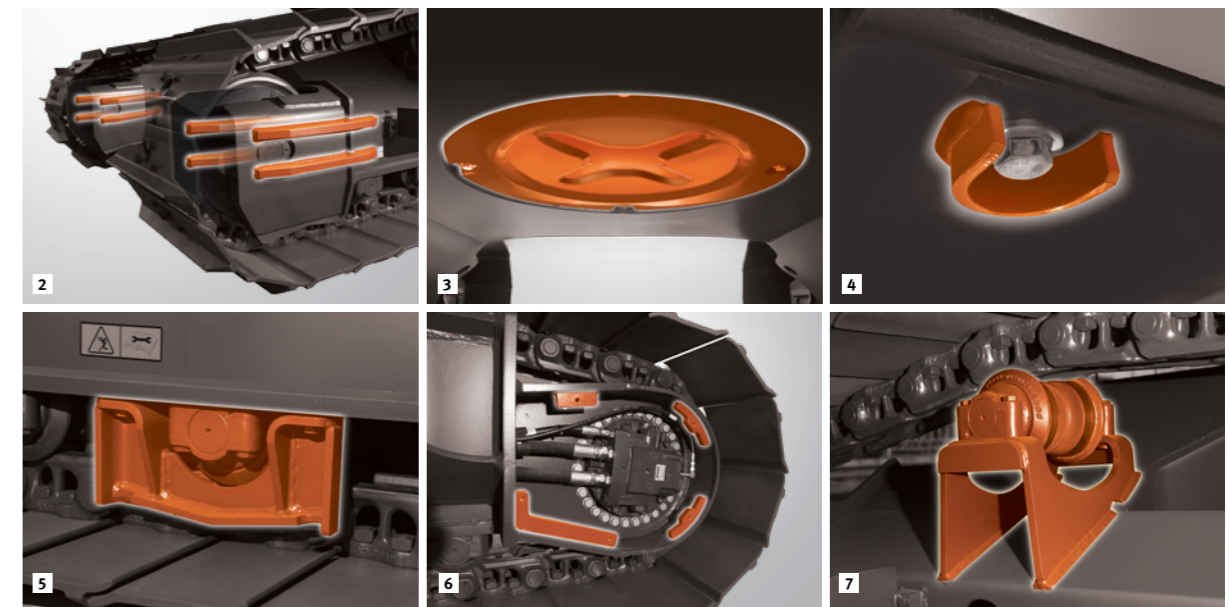
## REINFORCED UNDERCARRIAGE FOR BETTER DURABILITY

### 1 WIDER, HIGHER UNDERCARRIAGE FOR THE STABLE WORK.



- a Track gauge : 2,200mm
- b Tumbler distance : 3,180mm

- c Shoe width : 600 / 800 / 900 / 960mm
- d Ground clearance : 592mm



### 2 STRENGTHENED IDLER BRACKET

The idler bracket has been fitted with a reinforced bar to further protect the main components from external impacts.

### 5 A DEDICATED TRACK GUARD FOR FORESTRY

Installed on each side (2 per side) to protect the tracks, enabling more stable work.

### 3 HEAVY DUTY UNDERCOVER

The reinforced forestry undercover, pressed in an "x" shape, is specially designed to minimize external stress and to protect the excavator's main components from diverse external impacts resulting from rough surface environments.

### 6 SECURED TRAVEL MOTOR BY FOREST-DEDICATED T/M MOUNT

The travel motor, protected by a reinforced forest-dedicated travel motor mount to prevent it from being damaged by the typically harsh environment of logging sites.

### 4 CHANGED BOLT PROTECTOR

All bolts are protected by bolt protectors.

### 7 REINFORCED UPPER ROLLER AND MOUNT

Redesigned and strengthened mount to withstand the DX140AF's powerful traction, stably fixes the upper roller inside and outside to ensure reliable operation.

\* The above image may differ from the actual product.



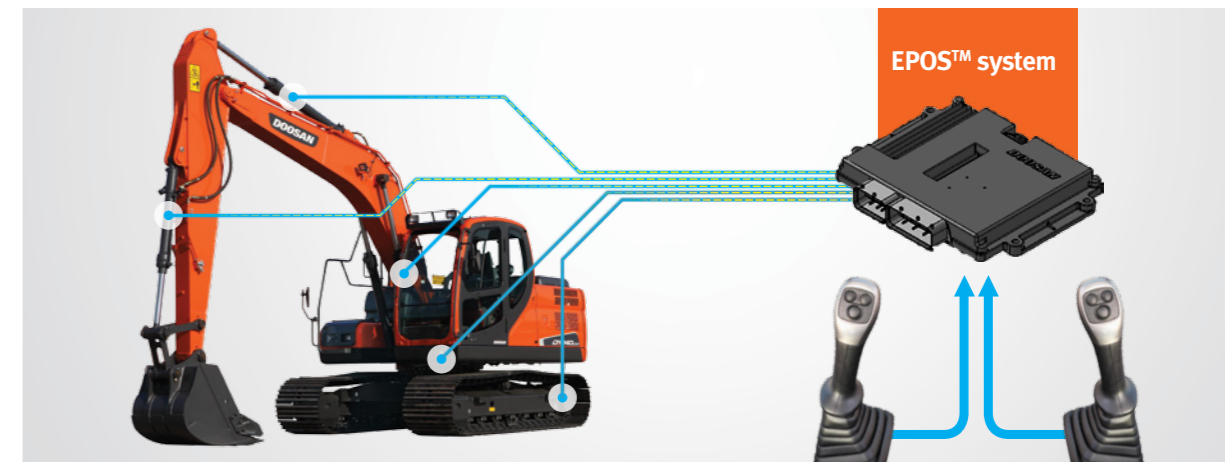
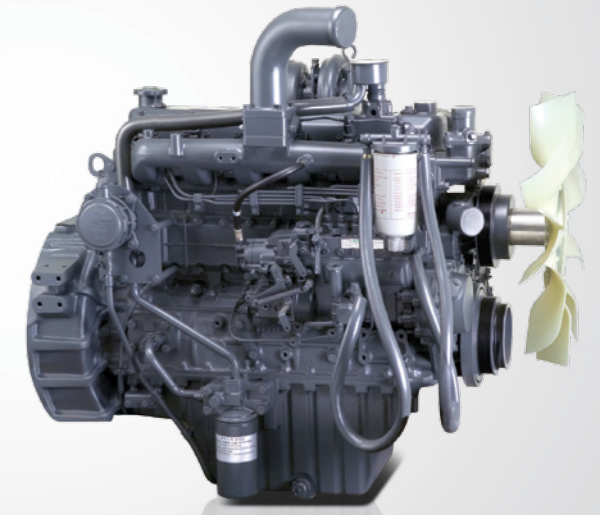
# RELIABLE COMPONENTS FOR SUPERIOR PERFORMANCE

**DX140<sub>LCA</sub>**  
**DX140<sub>AF</sub>**



## DOOSAN ENGINE (DB58TIS) FOR POWERFUL PERFORMANCE

DX140LCA and DX140AF are equipped with a 22-ton class engine (DB58TIS), the company's renowned in-house engine, to deliver superior performance to the existing 14-ton class machine engines. The DB58TIS is a simple yet powerful mechanical engine that minimizes machine downtime as it is easy to manage and repair at your job sites located far from any maintenance facility. Also, this Doosan engine is perfectly harmonized with the hydraulic system to ensure superior power that is needed to perform diverse tasks reliably and quickly even in harsh environments.



## EXCAVATOR CONTROL

Excavator control improved by the New EPOS™ system  
As the brain of the hydraulic excavator, the EPOS™ (Electronic Power Optimizing system) has been improved and perfectly synchronized with the newly adopted CAN (Controller Area Network) communication link.



## LARGER TRAVEL DEVICE FOR INCREASED TRACTION FORCE **ONLY DX140AF**

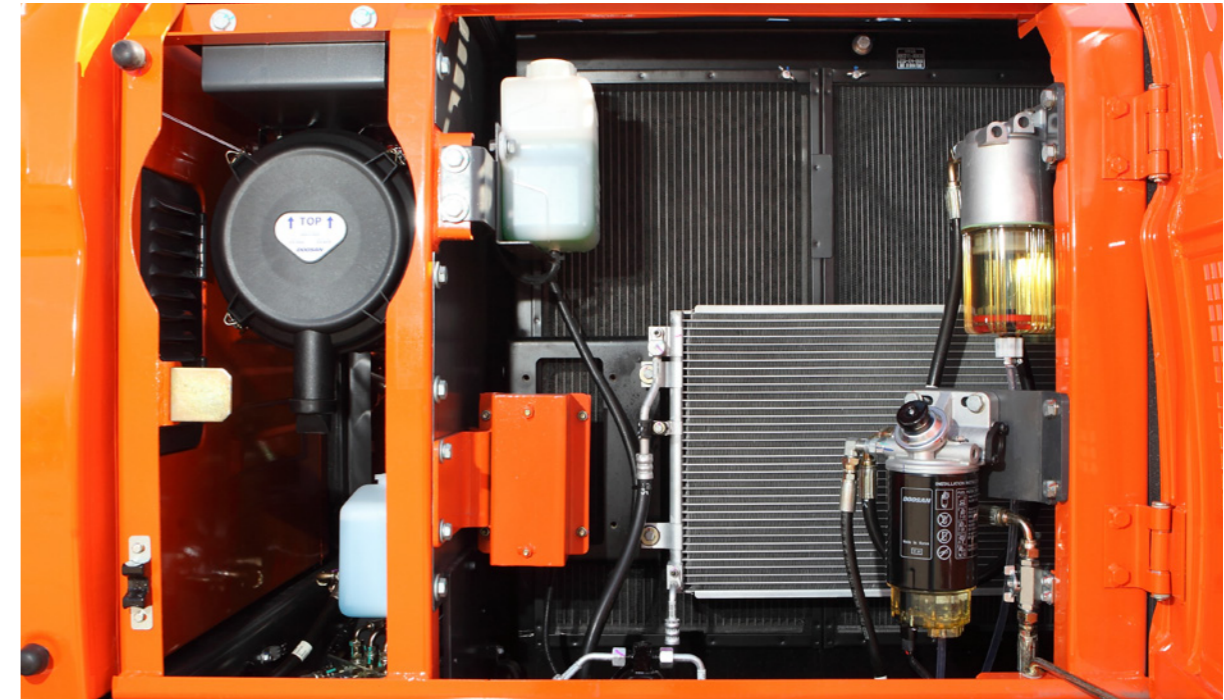
Equipped with a higher-class travel engine than the conventional 14-ton excavator, the travel device offers superior traction and is perfectly matched to the mechanical 6-liter Doosan engine (DB58TIS), providing reliable traction in any environment including wetlands, rough terrain and slopes.

\* The above image may differ from the actual product.



# EASY MAINTENANCE ANYTIME, ANYWHERE

**DX140<sub>LCA</sub>**  
**DX140<sub>AF</sub>**



### CENTRALIZED PARTS FOR EASY ACCESS

The DX140LCA and DX140AF are designed to improved productivity by minimizing on-site maintenance. The radiators and filters are well arranged on one side for easy maintenance. The Upper and side doors enable easier access to the main parts for convenient maintenance.



### 3-STAGE FUEL FILTRATION SYSTEM, PERFECT MATCH FOR YOUR FUEL QUALITY

The DX140AF is fitted with a 3-stage fuel filtration system to prevent engine system damages caused by the use of low-quality fuel containing contaminants, thereby reducing engine failure and increasing uptime.

- ① Water Separator with large capacity storage
- ② Pre Fuel Filter with water separator
- ③ Main Fuel Filter

\* The above image may differ from the actual product.

# TELEMATICS SERVICE (OPTIONAL)

# GLOBAL PARTS NETWORK

## TELECOMMUNICATIONS

Data flow from machine to web




**TELEMATICS SERVICE TERMINAL**

Telematics Service terminal is installed to machine / connected to EPOS™



**TELECOMMUNICATION**

GPS, EPOS™ data is sent to designated server by GSM, Satellite telecommunication



**DOOSAN TELEMATICS SERVICE WEB**

Doosan, Dealer, Customer can easily monitor the GPS, EPOS™ data from Core Telematics Service web

## BENEFITS

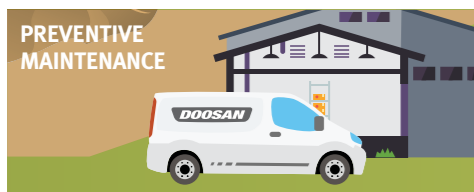
**JOB SITE MANAGEMENT**



**WORK EFFICIENCY MANAGEMENT**



**PREVENTIVE MAINTENANCE**



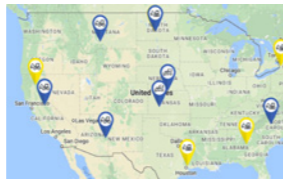
**PROACTIVE SERVICE**



## FUNCTIONS

**Location**

- GPS
- Geo-fence




**Operation Trend**

- Total operation hour
- Operation hour by mode



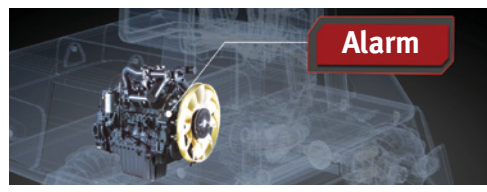
**Filter & Oil Management**

- Preventive maintenance by item replacement cycle



**Warning & Alert**

- Detect machine warnings
- Antenna disconnection
- Geo/Time fence



**Reports**

- Periodic operation report
- Utilization



**Fuel Efficiency\***

- Fuel level
- Fuel consumption



\* Functions may not be applied to all models. Please contact your sales representative to get more information of the service.

### TELEMATICS SERVICE BENEFITS

#### Customer

- Improve work efficiency
- Timely and preventive service
- Improve operator's skills by comparing work pattern
- Manage fleet more effectively

#### Dealer

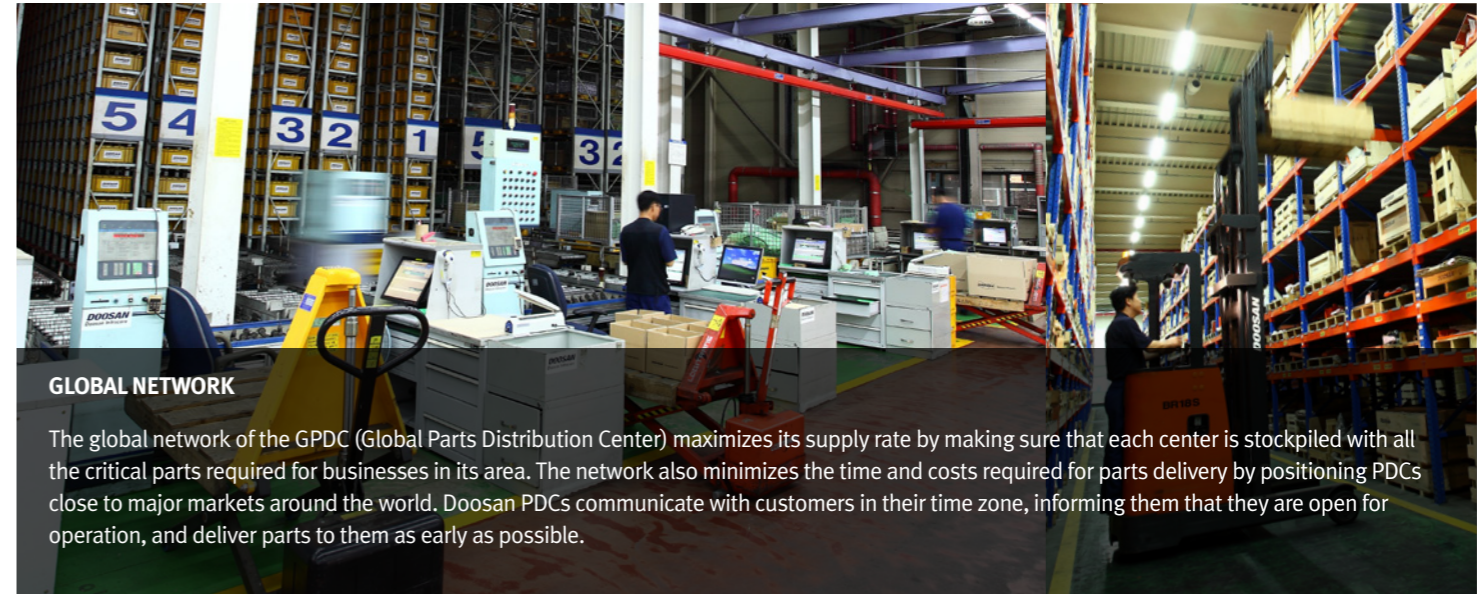
- Better service for customers
- Provide better quality of service
- Maintain machine value
- Better understanding of market needs

#### Doosan

- Responsive to customer's voice
- Utilize quality-related field data
- Apply customer's usage profile to developing new machine

## GLOBAL PDC (PARTS DISTRIBUTION CENTER) NETWORK

Doosan provides fast and precise worldwide delivery of genuine Doosan parts through its global PDC (parts distribution center) network.



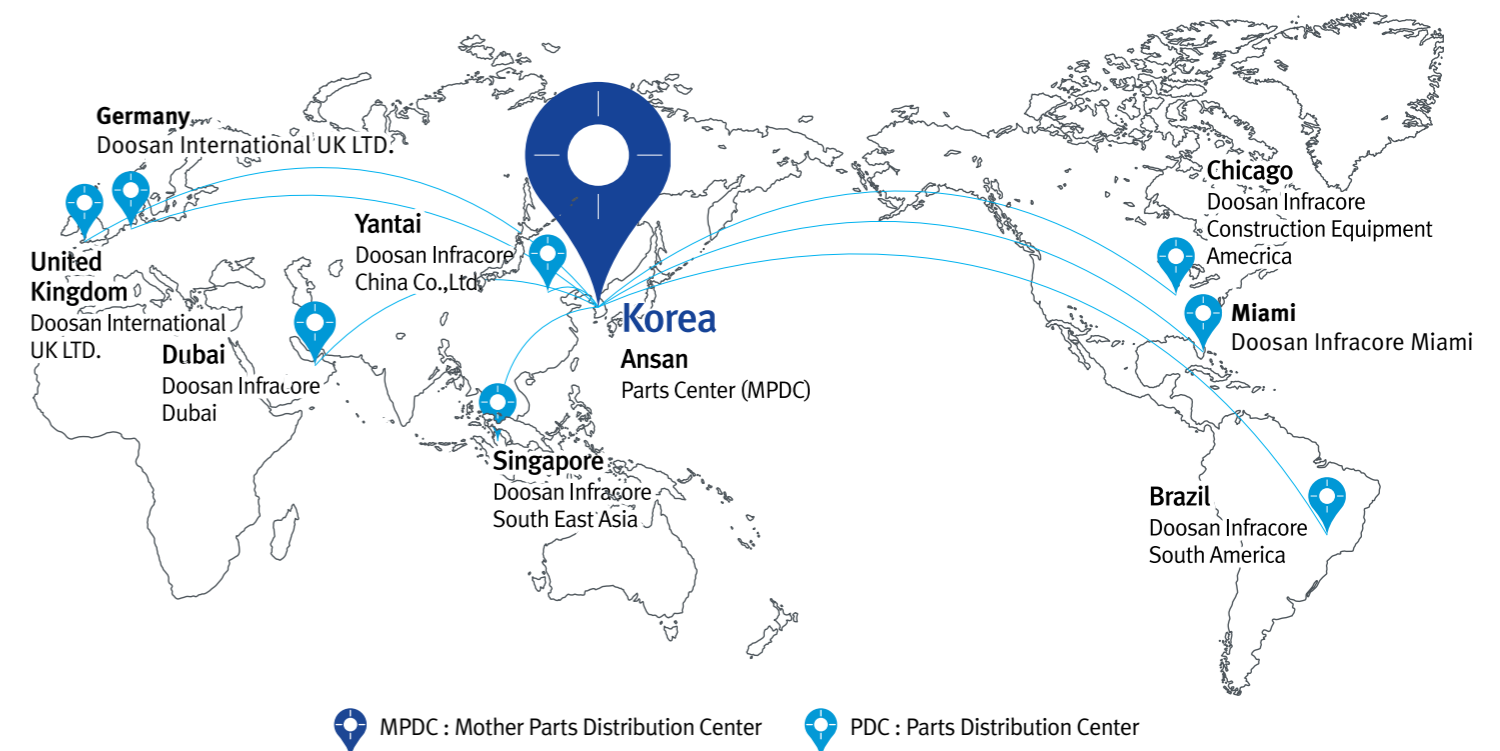
**GLOBAL NETWORK**

The global network of the GPDC (Global Parts Distribution Center) maximizes its supply rate by making sure that each center is stocked with all the critical parts required for businesses in its area. The network also minimizes the time and costs required for parts delivery by positioning PDCs close to major markets around the world. Doosan PDCs communicate with customers in their time zone, informing them that they are open for operation, and deliver parts to them as early as possible.


### The Global Parts

#### Distribution Center Network

PDCs had been set up as shown below, including Mother PDC in Ansan, Korea. The eight other PDCs include one in China (Yantai), two in the USA (Chicago and Miami), one in Brazil (Campinas), two in Europe (Germany and the UK), one in the Middle East (Dubai), and one in Asia (Singapore).



### PDC BENEFIT



- Distribution Cost Reduction**
- Maximum Parts supply rate**
- Shortest distance/time parts delivery**
- Real-time service support**
- Minimum downtime**

# TECHNICAL SPECIFICATIONS

## ENGINE

<b>Model</b>	DOOSAN DB58TIS
<b>Type</b>	4 - cycle, turbo charged, air to water intercooler
<b>Number of cylinders</b>	6
<b>RATED HORSE POWER</b>	74 kW (100 PS) @ 1,850 rpm [DX140LCA] 74 kW (100 PS) @ 1,900 rpm [DX140AF]
<b>Max torque</b>	42 kgf.m @ 1,400 rpm
<b>Piston displacement</b>	5,785 cc
<b>Bore &amp; stroke</b>	∅ 102 mm X 118 mm [DX140LCA] ∅ 100 mm X 125 mm [DX140AF]
<b>STARTING MOTOR</b>	24 V X 4.5 kW
<b>Batteries</b>	12 V X 2 / 100 AH
<b>Air cleaner</b>	Double element

## HYDRAULIC CYLINDERS

The piston rods and cylinder bodies are made of high-strength steel. A shock absorbing mechanism is fitted in all cylinders to ensure shock-free operation and extend piston life.

Cylinders	Quantity	Bore x Rod diameter x stroke
Boom	2	110 X 75 X 1,085 mm
Arm	1	115 X 80 X 1,099 mm
Bucket	1	100 X 70 X 900 mm

## WEIGHT

### Triple grouser

	Shoe width	GROUND PRESSURE	MACHINE WEIGHT
DX140LCA	700 mm TG	0.30 kgf/cm <sup>2</sup>	14,000 kg
	600 mm TG	0.35 kgf/cm <sup>2</sup>	13,890 kg
DX140AF	960 mm SG	0.26 kgf/cm <sup>2</sup>	17,500 kg
	900 mm SG	0.28 kgf/cm <sup>2</sup>	17,200 kg
	800 mm SG	0.31 kgf/cm <sup>2</sup>	16,900 kg

## HYDRAULIC SYSTEM

The heart of the system is the EPOS™ (Electronic Power Optimizing System). It allows the efficiency of the system to be optimized for all working conditions and minimizes fuel consumption. The new EPOS™ is connected to the engine electronic control via a data transfer link to harmonize the operation of the engine and hydraulics.

- The hydraulic system enables independent or combined operations.
- Two travel speeds offer either increased torque or high speed tracking.
- Cross-sensing pump system for fuel savings.
- Auto deceleration system.
- Button control of flow in auxiliary equipment circuits.
- Computer-aided pump power control.

### Main pumps

Tandem, Axial Piston  
Max flow : 2 X 114 l/min  
Displacement : 61.6 X 2 cc/rev

### Pilot pump

Gear pump - max flow : 26.4 l/min  
Pilot pump : 15 cc/rev  
Relief valve pressure : 40 kgf/cm<sup>2</sup>

### Main relief Pressure

Normal Working : 330 kgf/cm<sup>2</sup>  
Pressure-Up, Travel : 350 kgf/cm<sup>2</sup>

## SWING MECHANISM

High-torque, axial piston motor with planetary reduction gear bathed in oil. Swing circle is singlerow, shear type ball bearing with induction-hardened internal gear. Internal gear and pinion gear immersed in lubricant.

**Max. Swing speed** - 10.9 rpm [DX140LCA]  
- 10.1 rpm [DX140AF]

**Max. Swing Torque** - 3,330 kgf.m [DX140LCA]  
- 3,655 kgf.m [DX140AF]

## UNDERCARRIAGE

Chassis are of very robust construction, all welded structures are designed to limit stresses. High-quality material used for durability. Lateral chassis welded and rigidly attached to the undercarriage. Track rollers lubricated for life, idlers and sprockets fitted with floating seals. Tracks shoes made of induction-hardened alloy with triple grousers. Heat-treated connecting pins. Hydraulic track adjuster with shock-absorbing tension mechanism.

**Upper rollers(Standard shoe)** - 1

**Lower rollers** - 7

**Track shoes** - 46 [DX140LCA]  
- 44 [DX140AF]

**Overall track length** - 3,035 mm [DX140LCA]  
- 3,180 mm [DX140AF]

## DRIVE

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

**Travel speed (High / low)** - 5.1 / 3.0 km/h [140LCA]  
- 4.3 / 2.5 km/h [140AF]

**Maximum traction force** - 15.5 ton [140LCA]  
- 16.4 ton [140AF]

**Grade ability** - 70%

## REFILL CAPACITIES

**Fuel tank** - 267 l

**Cooling System** - 20 l

**Engine Oil** - 27 l

**Swing Drive** - 3 l

**Travel Device (each)** - 2 X 2.2 l

**Hydraulic tank (FULL)** - 267 l

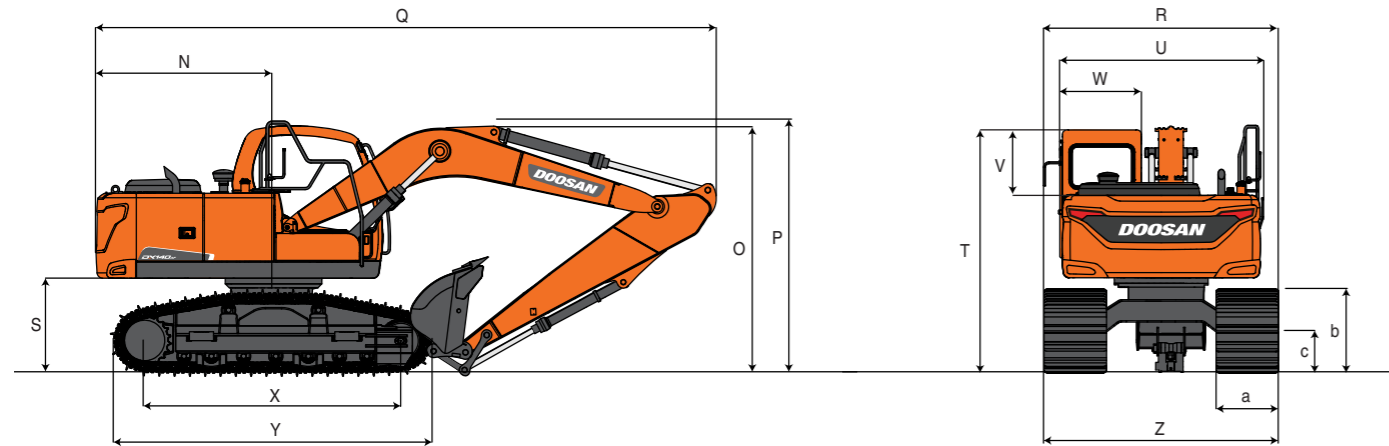
## BUCKET

	Capacity (m <sup>3</sup> )		Width (mm)		Digging Force (NOM./PRESS.UP, ton)
	SAE	CECE	W/O Cutter	With Cutter	
<b>OPT</b>	0.58	0.51	1,023	1,107.8	SAE 9.0/9.6 ISO 10.3/10.9
<b>STD</b>	0.51	0.46	903.2	990.9	SAE 9.0/9.6 ISO 10.3/10.9

## DIGGING FORCES (ISO)

	Length	Weight	Digging force (Nom. / Press. up, ton)
STD. Arm	3,000 mm	489.5 kg	SAE 5.5 / 5.8 ISO 5.6 / 6.0
OPT. Arm	2,500 mm	405.7 kg	SAE 5.9 / 6.3 ISO 6.1 / 6.5

# DIMENSIONS

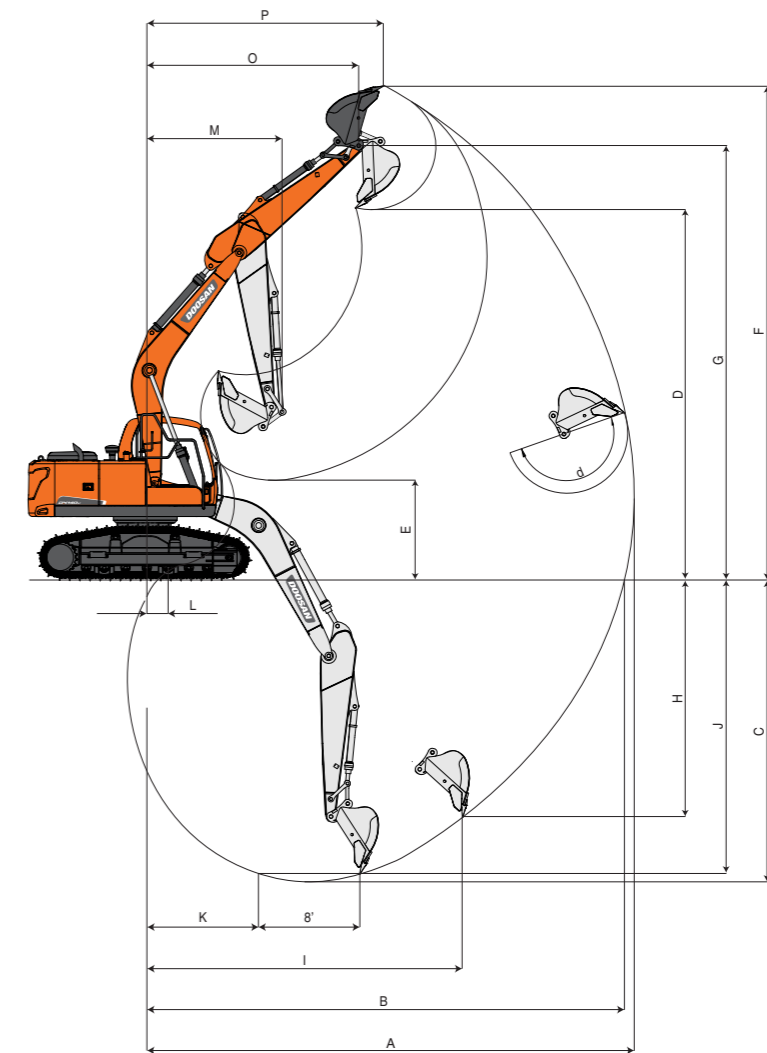


## STANDARD

			DX140LCA	DX140AF
Boom Type	(mm)		4,600	4,600
Arm Type	(mm)		3,000	3,000
Bucket Type (SAE/PCSA)	(m <sup>3</sup> )		0.51	0.51
Tail Swing Radius	(mm)	N	2,205	2,203
Shipping Height (Boom)	(mm)	O	3,035	3,076
Shipping Height (Hose)	(mm)	P	3,095	3,243
Shipping Length	(mm)	Q	7,645	7,703
Shipping Width (Std.)	(mm)	R	2,690	3,160
C/Weight Clearance *	(mm)	S	869	1,199
Height Over Cab.	(mm)	T	2,780	3,090
House Width	(mm)	U	2,540	2,533
Cab. Height Above House	(mm)	V	830	832
Cab. Width	(mm)	W	1,010	1,010
Tumbler Distance	(mm)	X	3,035	3,180
Track Length	(mm)	Y	3,750	4,045
Undercarriage Width	(mm)	Z	2,690	3,160
Shoe Width	(mm)	a	700	800
Track Height *	(mm)	b	743	1,068
Car Body Clearance *	(mm)	c	385	650

\* without Grouser - Grouser height : 25mm (for TG) [DX140LCA]

# WORKING RANGES

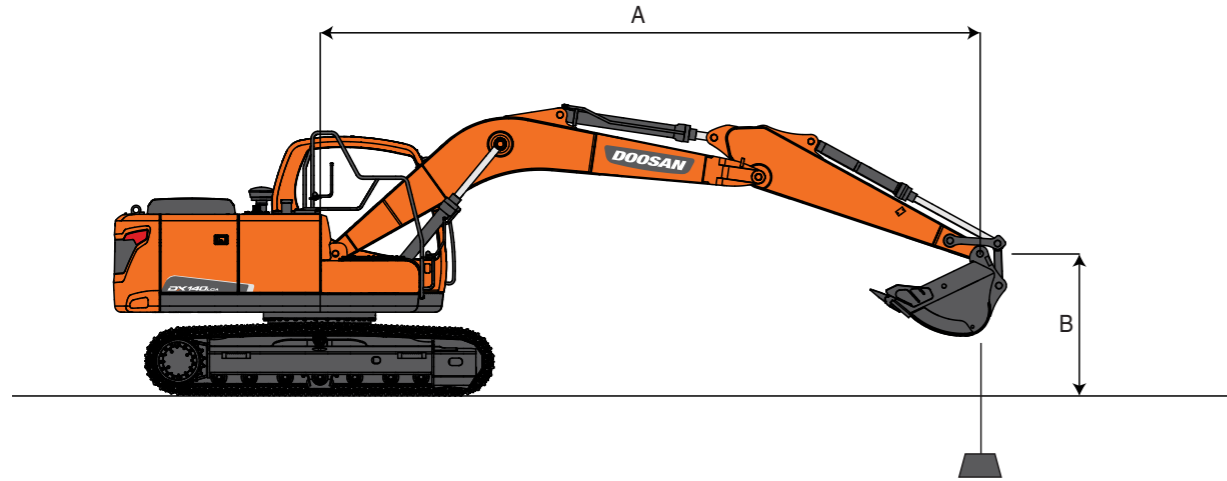


## WORKING RANGES

			DX140LCA	DX140AF
Boom Type (One Piece)	(mm)		4,600	4,600
Arm Type	(mm)		3,000	3,000
Bucket Type (SAE)	(m <sup>3</sup> )		0.51	0.51
MAX. digging reach	(mm)	A	8,651	8,651
Max. digging reach (Ground)	(mm)	B	8,527	8,461
MAX. digging depth	(mm)	C	6,144	5,814
Max. loading height	(mm)	D	6,420	6,750
Min. loading height	(mm)	E	1,726	2,056
Max. digging height	(mm)	F	8,801	9,129
Max. bucket pin height	(mm)	G	7,629	7,959
Max. vertical wall depth	(mm)	H	1,947	1,617
Max. radius vertical	(mm)	I	7,916	7,916
Max. depth to 8' line	(mm)	J	5,916	5,587
Min. radius 8' line	(mm)	K	1,875	1,860
Min. digging reach	(mm)	L	20.6	559
Min. swing radius	(mm)	M	2,203	2,203
Reach to bucket pin center at maximum height	(mm)	O	4,117	4,117
Reach at maximum height	(mm)	P	4,410	4,410
Bucket angle	(deg)	d	179	179



# LIFTING CAPACITY



## DX140LCA

### Metric

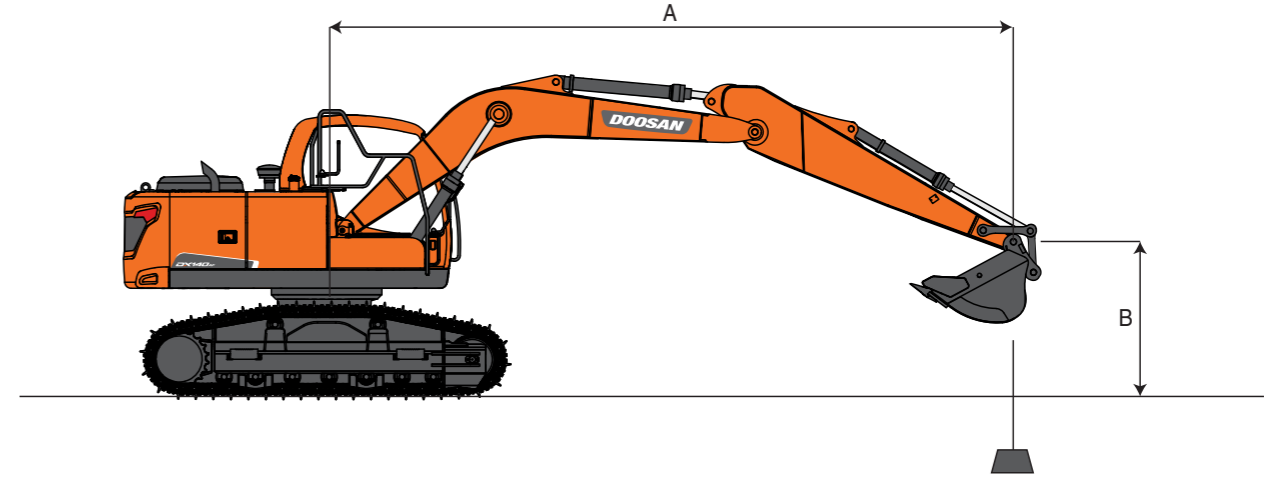
Boom : 4.6m Arm : 3.0m Bucket : SAE 0.51 m<sup>3</sup> heaped Shoe : 700mm Counter Weight : 2,200 kg

Unit : 1,000kg

A(m) B(m)	2		3		4		5		6		Max. Reach		
													A(m)
7							2.22	2.22			2.06 *	2.06 *	@ 5.3
6							2.96 *	2.96 *			1.89 *	1.89 *	@ 6.15
5							3.06 *	3.06	2.8 *	2.8	1.81 *	1.81 *	@ 6.73
4					3.45 *	3.45 *	3.41 *	3.41	3.27 *	3.27	1.80 *	1.80 *	@ 7.12
3			5.25 *	5.25 *	4.4 *	4.4	3.95 *	3.95	3.7	3.21	1.82 *	1.82 *	@ 7.36
2			7.47 *	7.47	5.52 *	5.52	4.59	4.09	4.07	3.12	1.89 *	1.89 *	@ 7.45
1			9.24 *	8.55	6.54	5.47	5.20	3.95	4.4	3.04	2.01 *	2.01 *	@ 7.4
0 (GROUND)			7.91 *	7.91	7.26	5.31	5.68	3.85	4.33	2.98	2.20 *	2.20 *	@ 7.21
-1	5.12	5.12	8.86 *	8.21	7.62	5.22	5.62	3.79	4.28	2.94	2.50 *	2.41	@ 6.87
-2	6.91 *	6.91 *	10.26 *	8.22	7.61	5.19	5.59	3.77	4.28	2.93	2.98 *	2.65	@ 6.35
-3	9.23 *	9.23 *	9.56 *	8.29	7.2	5.23	5.62	3.79			3.90 *	3.12	@ 5.6
-4	11.52 *	11.52 *	8.19 *	8.19	6.17 *	5.33					4.86 *	4.13	@ 4.52

- LOAD POINT IS THE END OF THE ARM.
- CAPACITIES MARKED WITH AN ASTERISK (\*) ARE LIMITED BY HYDRAULIC CAPACITIES.
- LIFT CAPACITIES SHOWN DO NOT EXCEED 75 % OF MINIMUM TIPPING LOADS OR 87 % OF HYDRAULIC CAPACITIES.
- THE LEAST STABLE POSITION IS OVER THE SIDE.
- THE TOTAL MASS OF MACHINE IS 15,100 kg INCLUDED IN THIS MASS BOOM 4.60 m, ARM 2.50 m, 2,200 kg COUNTERWEIGHT, BUCKET WEIGHT 0 kg, ALL OPERATING FLUIDS AND A 75 kg OPERATOR.
- LIFT CAPACITIES ARE IN COMPLIANCE WITH ISO 10567.

: Rating Over Front  
 : Rating Over Side or 360 Degree



## DX140AF

### Metric

Boom : 4.6m Arm : 3.0m Bucket : SAE 0.51 m<sup>3</sup> heaped Shoe : 800mm Counter Weight : 2,200 kg

Unit : 1,000kg

A(m) B(m)	2		3		4		5		6		Max. Reach		
													A(m)
7							2.22	2.22			2.06 *	2.06 *	@ 5.08
6							2.96 *	2.96 *			1.89 *	1.89 *	@ 6.00
5							3.06 *	3.06	2.8 *	2.8	1.81 *	1.81 *	@ 6.63
4					3.45 *	3.45 *	3.41 *	3.41	3.27 *	3.27	1.80 *	1.80 *	@ 7.06
3			5.25 *	5.25 *	4.4 *	4.4	3.95 *	3.95	3.7	3.21	1.82 *	1.82 *	@ 7.32
2			7.47 *	7.47	5.52 *	5.52	4.59	4.09	4.07	3.12	1.89 *	1.89 *	@ 7.44
1			9.24 *	8.55	6.54	5.47	5.20	3.95	4.4	3.04	2.01 *	2.01 *	@ 7.42
0 (GROUND)			7.91 *	7.91	7.26	5.31	5.68	3.85	4.33	2.98	2.20 *	2.20 *	@ 7.27
-1	5.12	5.12	8.86 *	8.21	7.62	5.22	5.62	3.79	4.28	2.94	2.50 *	2.41	@ 6.96
-2	6.91 *	6.91 *	10.26 *	8.22	7.61	5.19	5.59	3.77	4.28	2.93	2.98 *	2.65	@ 6.48
-3	9.23 *	9.23 *	9.56 *	8.29	7.2	5.23	5.62	3.79			3.90 *	3.12	@ 5.79
-4	11.52 *	11.52 *	8.19 *	8.19	6.17 *	5.33					4.86 *	4.13	@ 4.79

- \* RATED LOADS ARE BASED ON HYDRAULIC CAPACITY.
- RATED LOADS DO NOT EXCEED 87% OF HYD. CAPACITY OR 75% OF TIPPING CAPACITY.

: Rating Over Front  
 : Rating Over Side or 360 Degree

# OPTIONAL EQUIPMENT

Some of optional equipments may be standard in some markets. Some of this optional equipment is not available in some markets. You must check with the local DOOSAN dealer to know about the availability or to release the adaptation following the needs of the applications

## Arm

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- 3.0m Forestry Arm with Bucket Cylinder
- 3.0m Forestry Arm without Bucket Cylinder
- 2.5m Arm

## Bucket

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- 0.51m<sup>3</sup> bucket
- 0.58m<sup>3</sup> bucket
- Only Dummy Link No Bucket

## Track Shoe

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- 600 mm Shoe (Triple Grouser)
- 700 mm Shoe (Triple Grouser)
- 800 mm Shoe (Single Grouser) **ONLY DX140AF**
- 900 mm Shoe (Single Grouser) **ONLY DX140AF**
- 960 mm Shoe (Single Grouser) **ONLY DX140AF**

## One-Way Piping

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- One Way Piping
- Two Way Piping

## Rotating Piping (PERO)

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- Rotating Piping (PERO)

## Quick Coupler Piping

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- Quick Coupler Piping

## Alarm

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- Alarm for Travel and Swing
- Alarm for Travel Only

## Additional Working Lamp

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- 2 Additional Working Lamp (HAL)
- Non Additional Working Lamp

## Camera

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- Rear View Camera

## Rear Lamp

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- Rear Lamp

## Rotating Beacom

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- Telescopic Beacon
- Rotating Beacom

## Cabin Roof Cover

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- Plastic Roof Cover
- Steel Roof Cover

# Doosan is

Since 1896, Doosan, the oldest company in Korea, has evolved with its people. The company grew up rapidly for last 10 years with reputation. For human-oriented vision, Doosan has been building constructions, energy, machines, infra structures globally. As a global leader of infra structure, Doosan continues its vision to make human-oriented future.

First in Korea, Doosan self-developed excavators in 1985 and continued building versatile construction machines including excavators, wheel loaders, articulated dump trucks to execute its human-oriented philosophy. Doosan became a global leader of heavy construction machine industry by achieving global sales line, producing line, and distribution line. Along with large production bases in Korea, China, USA, Czech, Brazil, Doosan has 1400 dealer networks and Doosan is providing reliable products and trusted solutions for your stable business at no risk.



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