DOOSAN

Construction Equipment

DX225NLCA

Rated power	SAE J1349, 102 kW (137 HP) @ 1,900 rpm
Operational weight	21,000 kg
Bucket capacity	0.81~1.28 m^3

DX225NLCA

Specifically designed for general construction and utility works, the DX225NLCA ensures working efficiency, reduces fuel consumption and increases revenue.

Engine

The new-generation DX225NLCA is equipped with mechanical engine that delivers hight fuel efficiency, less fuel sensitivity and excellent durability. And highly versatile engine accessories that will reduce customers' repair and maintenance costs.

Fuel Consumption

Low fuel consumption has been achieved through the adoption of relief cut off system and engine control technologies.

Enhanced Undercarriage Reliability

The strengthened undercarriage structure ensures reliable protection, suitable for long operating periods.

Adaptable to Poor-Quality Fuel

The improved filtering efficiency of the fuel filtering system and equipped in house mechanical engine make fully resist to poor-quality fuel.

Durable Boom, Arm and Bucket

Changed design of key components have greatly improved product's durability.

Narrow track

DX225NLCA is the narrow model, whose width is within 2.55m, thus much beneficial in transportation.

FUEL EFFICIENCY

PERFORMANCE

DX225NLCA

The performance of the Doosan machine has a direct effect on its productivity. Its new improved engine and new e-EPOS controlled hydraulic system have combined to create an unbeatable hydraulic excavator, with a cost/performance ratio that makes the Doosan machine even more appealing.

Engine

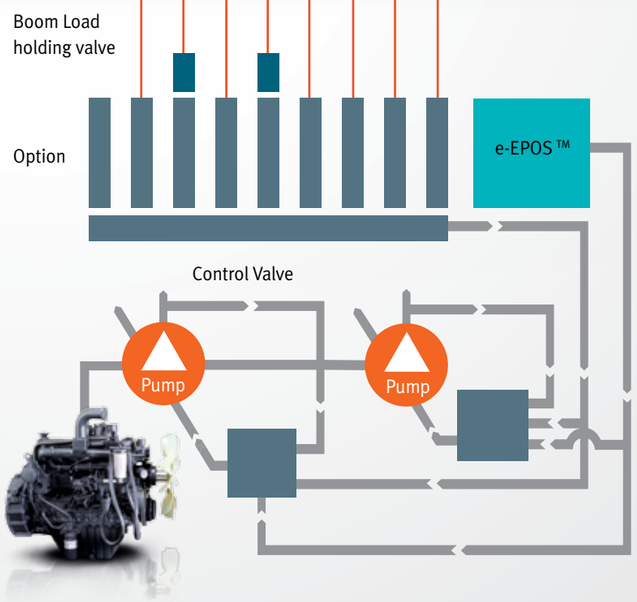
Manufacturer	Doosan
Power	GROSS POWER : 115 kW(157 PS, 155 HP) @ 1,900 rpm (SAE J1995) NET POWER : 102 kW(139 PS, 137 HP) @ 1,900 rpm (SAE J1349)
Emission certification	Meet Tier 2 emission
Number of cylinders	6
Displacement	5,785 cc

Excavator Control

New e-EPOS TM system (Electronic Power Optimizing System). The brains of the hydraulic excavator, the e-EPOS TM, have been improved, through a CAN (Controller Area Network) communication link, enabling a continuous exchange of information between the engine and the hydraulic system. These units are now perfectly synchronized.

The advantages of the new e-EPOS TM impacts at several levels, Ease of operation and user-friendliness:

- The availability of a power mode and standard mode guarantee maximum efficiency under all conditions.
- The automatic deceleration mode enables fuel saving.
- Regulation and precise control of the flow rate required by the equipment are available as standard.
- A self-diagnosis function enables technical problems to be resolved quickly and efficiently.
- An operational memory provides a graphic display of the status of the machine.
- Maintenance and oil change intervals can be displayed.



Digging force

DX225NLCA is equipped with powerful mechanical engine to ensure powerful performance.

Durable tough job performance

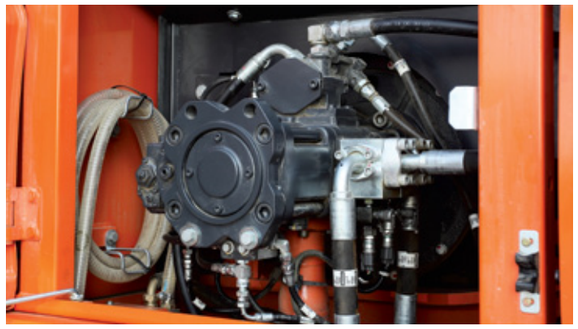
To get into digging force, change the front design and adapt large size cylinder.

Fast loading

Fast lifting and lowering of the boom and arm, combined with larger swing torque for fast loading and dumping.

Fast cycle time

DX225NLCA is the most productive model. Cycle time is fast and production volume also huge.



Efficient hydraulic pump

The DX225NLCA is equipped with large-capacity hydraulic pumps, recognized for their greater power, reliability and durability, to enhance operational efficiency.

Even more powerful driving force

The DX225NLCA's advanced travel units provide more robust driving force, while the higher ground clearance of the undercarriage makes it more adaptable to rugged terrain.

COMFORT

Air conditioning

The high performance air conditioning provides an air flow which is adjusted and electronically controlled for the conditions. Five operating modes enable even the most demanding operator to be satisfied.

Air suspension seat (Optional)

An Air Suspension Seat is available as an option, which further reduces any vibration being transmitted to the operator while working or travelling. In addition, this option is fitted with a heating system for operator comfort in cold weather.

New gauge panel

- 7 inch monitor
- Rear view camera (OPT)
- Display selector
- Working modes
- Auto idle & flow rate control

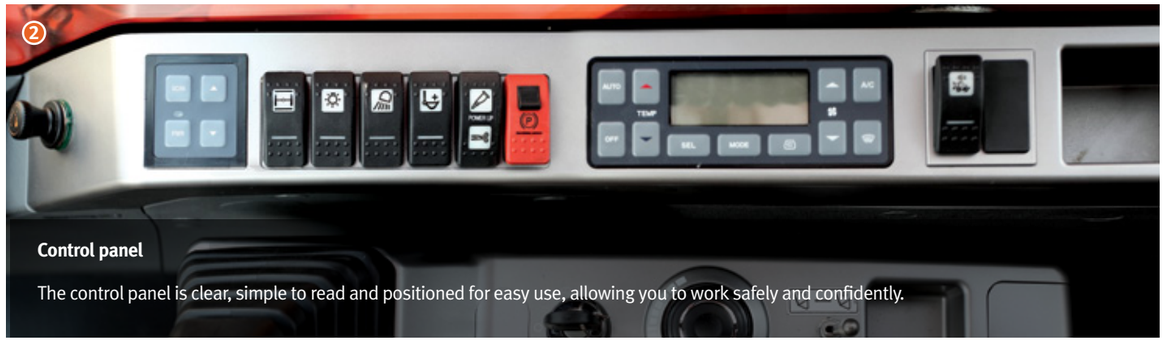
Comfortable 2-stage sliding seat

MP3/CD Player (Optional)

Audio Button

Audio Button has been positioned in a way that the driver can turn on/off the radio, control the volume, and select a channel conveniently.

Control stand (Telescopic Function)



Control panel

The control panel is clear, simple to read and positioned for easy use, allowing you to work safely and confidently.

Rear view camera (Optional)

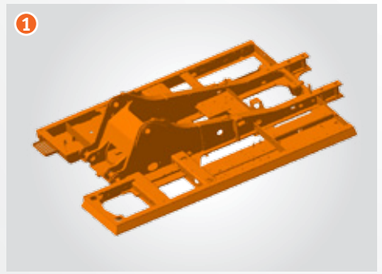
3 Storage space
4 Cellular phone box

RELIABILITY

DX225NLCA

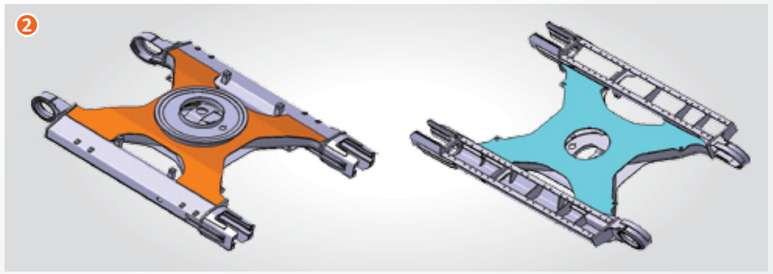
Reliability has been enhanced with more advanced design and repeated verification.

The product's life expectancy has been maximized by more advanced computer 3D design and a variety of simulation tests, creating higher added value for clients.



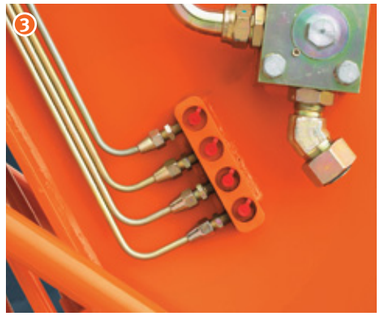
Strengthened main structure

Large cross-section, fine-tuning materials and reinforced plates all contribute to the product's longer life expectancy.



Improved undercarriage and connecting rod structures

The upper plate, lower plate and connecting rod of the undercarriage feature an integral design to effectively eliminate cracks resulting from poor welding in outdoor areas.

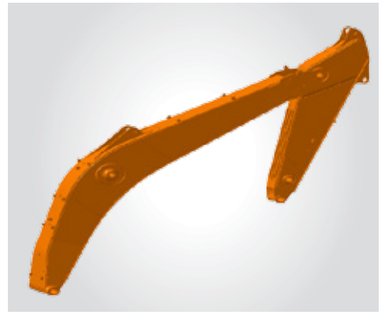


Centralized grease inlets for easy maintenance

The arm grease inlets are grouped for easy access.

Pre cleaner

Extremely dusty applications may require a pre-cleaner to ensure that the engine is provided with continuously clean and fresh air.

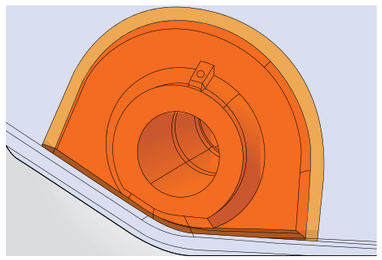


Strengthened boom and arm

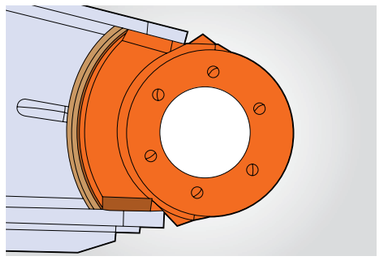
Reinforced plates in the key components greatly improve durability, enhancing adaptability to harsh working conditions.

5 Optimized structure

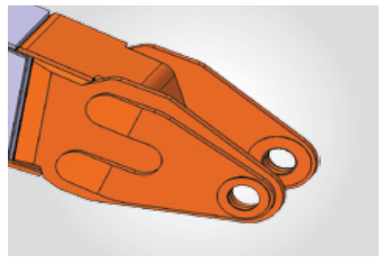
Larger stress area in the front-link point, thicker plates, and improved manufacturing process all contribute to longer life expectancy.



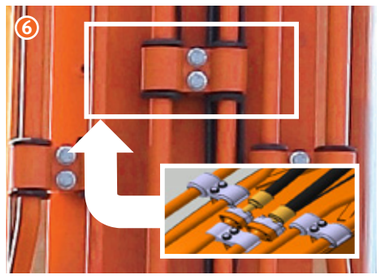
Central boss of the arm



End boss of the arm

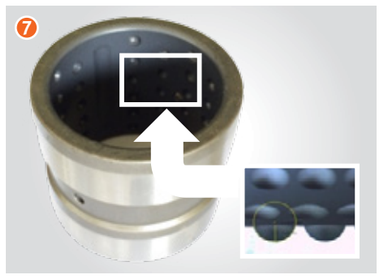


Boom end



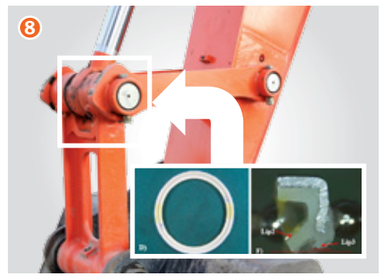
Boom - pipeline

Piping vibration has been greatly reduced by shortening the fixed tube clamp spacing, thereby improving durability and reducing oil leakage.



Wear-resistant bushing

The surface of bushing is coated with a self-lubricating substance to realize optimum lubrication and debris cleaning, thereby improving anti-seizure capacity and extending life expectancy.



Cylinder

- The durability of the boom and arm's cylinder has been enhanced to reduce maintenance costs and deliver long-term operational sustainability.
- The cylinder seal ring in a dual-lip structure ensures better sealing performance.

MAINTENANCE

Fast, convenient, economic layout

Convenient and easy-to-access parts layout helps faster and easier maintenance.

Additional Hand Rails for Easy Access

The DX225NLCA is also equipped with a hand rails and a large non-skid panel ensures easier access. The non-skid plate also provides shock-absorbing feature.

Easy to use Engine hood

The bonnet hood is large enough to ensure convenient accessibility for maintenance

Convenient Fuse Box

The fuse box is conveniently located in a section of the storage compartment behind the operator's seat providing a clean environment and easy access.

PC monitoring

A PC monitoring function enables connection to the e-POS system. Thus, various parameters can be checked during maintenance, including pump pressures, engine rotation and engine speed.

Fuel filter

High efficiency fuel filtration is attained by the use of multiple filters, including a fuel pre-filter fitted with a water separator that removes most moisture from the fuel.

Fuel Tank Cap

Double locking design effectively prevents fuel theft incidents.

Hydraulic oil return filter

The protection of the hydraulic system is more effective, using glass fiber filter technology in the main oil return filter. This means that with more than 99.5% of foreign particles filtered out, the oil change interval is increased.

TECHNICAL SPECIFICATIONS

DX225NLCA

Engine

Model

DOOSAN DB58TIS
2 valves per cylinder, vertical injectors, water cooled,
turbo charged with air to air intercooler. The emission levels are
well below the values required for Tier II.

Type

WATER-COOLED, 4-CYCLE DIRECT

Number of cylinders

6

Nominal flywheel power

GROSS POWER : 115 kW(157 PS, 155 HP) @ 1,900 rpm (SAE J1995)
NET POWER : 102 kW(139 PS, 137 HP) @ 1,900 rpm (SAE J1349)

Max torque

67 kgf.m @ 1,400 rpm

Piston displacement

5,785 cc (353 cu.in)

Bore & stroke

102 mm x 118 mm

Starter

24 V / 4.5 kW

Batteries

2 x 12 V / 150 AH

Air cleaner

Double element with auto dust evacuation.

Hydraulic System

The heart of the system is the e-EPOS™ (Electronic Power Optimizing System). It allows the efficiency of the system to be optimized for all working conditions and minimizes fuel consumption.

- 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.
- Two operating modes, two power modes.
- Button control of flow in auxiliary equipment circuits.
- Computer-aided pump power control.

Main pumps

2 variable displacement axial piston pumps
Max flow : 2 x 206.5 Liter/min
Displacement : 2 x 108.7 cc/rev
Weight : 133.59 kg

Pilot pump

Gear Pump - Max Flow Rate : 28.5 Liter/min
Displacement : 15 cc/rev
Relief valve Pressure : 40 kgf/cm²

Maximum system pressure

Boom/Arm/Bucket : Normal mode : 330 kgf/cm² (324 bar)
Power mode : 350 kgf/cm² (343 bar)
Travel : 330 kgf/cm² (324 bar)
Swing : 270 kgf/cm² (264 bar)

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	125 x 85 x 1,260
Arm	1	140 x 100 x 1,450
Bucket	1	120 x 80 x 1,060

Weight

Shoe Width (mm)	Ground Pressure (kgf/cm²)	Machine Weight (ton)
STD. 500G	0.54	21.0 / *21.2
OPT. 600G	0.45	21.3 / *21.5

★ : for ROPS

Digging force (ISO)

		Boom : 5,200 mm Arm : 2,400 mm Bucket : 1.05m³ - CW : 4.1t	Boom : 5,700 mm Arm : 2,900 mm Bucket : 0.92m³ - CW : 4.1t	Boom : 5,700 mm Arm : 2,900 mm Bucket : 0.81m³ - CW : 4.1t
Bucket	t	14.3 / 15.2	14.3 / 15.2	14.3 / 15.2
	kN	142 / 151	142 / 151	142 / 151
Arm	t	11.9 / 12.6	10.2 / 10.8	10.2 / 10.8
	kN	119 / 126	102 / 108	102 / 108

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 double grouser. Heat-treated connecting pins. Hydraulic track adjuster with shock-absorbing tension mechanism.

Number of rollers and track shoes per side

Upper rollers	2 ea
Lower rollers	8 ea
Track shoes	49 ea
Track length	4,445 mm

Environment

Noise levels comply with environmental regulations (dynamic values).

Sound level guarantee

103 dB(A) (2000/14/EC)

Cab sound level

72 dB(A) (ISO 6396)

Swing Mechanism

- An axial piston motor with two-stage planetary reduction gear is used for the swing.
- Increased swing torque reduces swing time.
- Internal induction-hardened gear.
- Internal gear and pinion immersed in lubricant bath.
- The swing brake for parking is activated by spring and released hydraulically.

TYPE	AXIAL PISTON
Swing speed	10.6 rpm
MAX SWING TORQUE	8,400 kgf.m

Drive

Each track is driven by an independent axial piston motor through a planetary reduction gearbox. Two levers with control pedals guarantee smooth travel with counter-rotation on demand.

Travel speed (fast/slow)	2.9 / 5.4 km/hr
Maximum traction force	29.2 / 15.82 ton
Maximum grade	70 %

Refill Capacities

Fuel tank

340 ℓ

Cooling system (Radiator capacity)

24 ℓ

Engine oil

27 ℓ

Swing device

5 ℓ

Travel device

2 x 4 ℓ

Oil tank

200 ℓ

Bucket

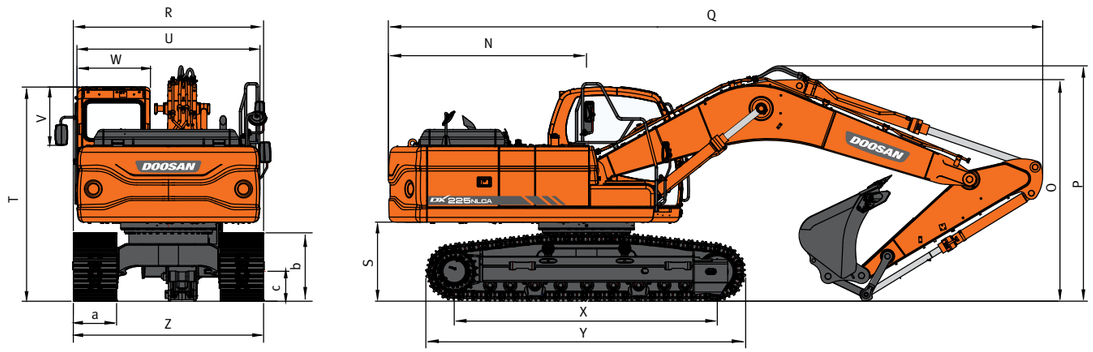
Bucket Type	Capacity (m³) SAE	Bucket Width (mm) W/ Cutter	Bucket Width (mm) W/O Cutter	Weight (kg)	5.2 MONO Boom 2.4A	5.2 MONO Boom 2.9A	5.2 MONO Boom 3.5A	5.7 MONO Boom 2.4A	5.7 MONO Boom 2.9A	5.7 MONO Boom 3.5A
G.P	0.51	722	722	534	A	A	A	A	A	A
	0.81	1,126	1,064	667	A	A	A	A	A	A
	0.92	1,236	1,172	707	A	A	A	A	B	B
	1.05	1,370	1,308	759	A	B	B	B	C	C
	1.17	1,491	1,428	817	B	C	C	C	D	D
	1.28	1,605	1,542	856	C	C	C	D	D	D
H.D	0.6	-	750	651	A	A	A	A	A	A
	0.8	-	900	722	A	A	A	A	A	A
	0.9	-	1,050	813	A	A	A	B	B	C
	1.1	-	1,200	884	B	C	C	C	D	D
	1.2	-	1,350	955	C	D	D	D	D	X
Maximum load pin-on (payload+bucket)					3,025	2,813	2,784	2,665	2,483	2,432

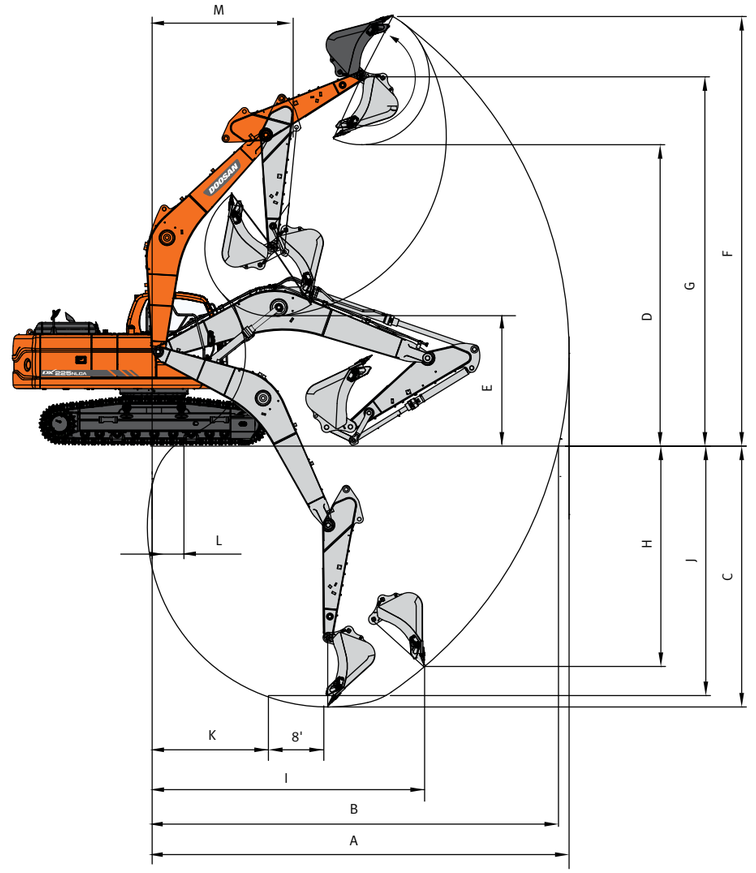
Based on ISO 10567 and SAE J296, arm length without quick change clamp

A : Suitable for materials with density of 2,100kg/m³ (3500lb/yd³) or less
B : Suitable for materials with density of 1,800kg/m³ (3000lb/yd³) or less
C : Suitable for materials with density of 1,500kg/m³ (2500lb/yd³) or less
D : Suitable for materials with density of 1,200kg/m³ (2000lb/yd³) or less
- : Not recommended

TECHNICAL SPECIFICATIONS

Technical Specifications





BOOM TYPE (ONE PIECE)	(mm)		5,200	5,700	
ARM TYPE	(mm)		2,400	2,900	3,500
BUCKET TYPE (PCSA)	(m^3)		1.05	0.92	0.81
TAIL SWING RADIUS	(mm)	N	2,750	←	←
SHIPPING HEIGHT (BOOM)	(mm)	O	2,985	2,940	3,225
SHIPPING HEIGHT (HOSE)	(mm)	P	3,050	3,005	3,290
SHIPPING LENGTH	(mm)	Q	8,990	9,485	9,500
SHIPPING WIDTH	(mm)	R	2,540	←	←
C/WEIGHT CLEARANCE	(mm)	S	1,090	←	←
HEIGHT OVER CAB.	(mm)	T	2,970	←	←
HOUSE WIDTH	(mm)	U	2,540	←	←
CAB. HEIGHT ABOVE HOUSE	(mm)	V	835	←	←
CAB. WIDTH	(mm)	W	1,010	←	←
TUMBLER DISTANCE	(mm)	X	3,650	←	←
TRACK LENGTH	(mm)	Y	4,445	←	←
UNDERCARRIAGE WIDTH	(mm)	Z	2,540	←	←
SHOE WIDTH	(mm)	a	500	←	←
TRACK HEIGHT	(mm)	b	935	←	←
GROUND CLEARANCE	(mm)	c	475	←	←

BOOM TYPE (ONE PIECE)	(mm)		5,200	5,700	
ARM TYPE	(mm)		2,400	2,900	3,500
BUCKET TYPE (PCSA)	(m^3)		1.05	0.92	0.81
MAX. DIGGING REACH	(mm)	A	8,950	9,900	10,400
MAX. DIGGING REACH (GROUND)	(mm)	B	8,755	9,725	10,235
MAX. DIGGING DEPTH	(mm)	C	5,755	6,610	7,215
MAX. LOADING HEIGHT	(mm)	D	6,295	6,985	7,140
MIN. LOADING HEIGHT	(mm)	E	2,615	2,555	1,955
MAX. DIGGING HEIGHT	(mm)	F	9,060	9,740	9,865
MAX. BUCKET PIN HEIGHT	(mm)	G	7,765	8,455	8,610
MAX. VERTICAL WALL DEPTH	(mm)	H	4,875	5,640	6,005
MAX. RADIUS VERTICAL	(mm)	I	5,840	6,405	6,750
MAX. DEPTH TO 8' LINE	(mm)	J	5,545	6,430	7,045
MIN. RADIUS 8' LINE	(mm)	K	2,505	2,865	2,830
MIN. DIGGING REACH	(mm)	L	640	520	-225
MIN. SWING RADIUS	(mm)	M	3,195	3,410	3,440
BUCKET ANGLE	(deg)	d	177	177	177

A Solid Promise

Published in October 2015_EN

Doosan Infracore Korea Office (HQ)
27/F, Doosan Tower 18-12, Euljiro-6Ga, Jung-Gu
Seoul 100-730 Korea
Tel : 82 2 3398 8114

www.doosaninfracore.com/ce/