

DX220LCA-2









KEY COMPONENTS NEWLY DEVELOPED/ENHANCED WITH DOOSAN'S TECHNOLOGIES

Doosan offers you excellent performance and durability with its own design and manufacturing technologies.



1 DB58TIS DOOSAN ENGINE

- DX220LCA-2 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 NEW DOOSAN MCV

Manufactured with Doosan's technologies, this new version of MCV is more fuel-efficient than its previous model.

HYDRAULIC SYSTEMS

proven to be high quality over a long period of time.



10 ENHANCEMENTS TO MAIN PUMP

This new main pump developed for DX220LCA-2 helps improve fuel economy with optimized cylinders and higher system pressures.



Travel device, swing device and center joint are also verified for their high quality.

DY220ca DOOSAN

(4) NEW DECALS

Bigger and more visible decals make DX220LCA-2 stand out anywhere of your job site.



6 HEAVY-DUTY FRONT

Reinforced castings and forged steel pivot points and reinforced heavy-duty arm and boom to withstand highimpact materials.

- To better protect the base of the arm, reinforced bars have been added and the arm center and end boss have been strengthened.



7 NEW GP (GENERAL PURPOSE) BUCKET

GP bucket installed onto DX220LCA-2 as a base spec with open type side cutters allows you to efficiently perform loading operations.

Count on us for all of your works. Main/bottom frames, undercarriage, swing bearing, sprocket roller,

DX220LCA-2 is built with the frames and hydraulic systems that are

5 QUALITY-PROVEN, RELIABLE FRAMES AND

Main/bottom frames, undercarriage, swing bearing, sprocket roller, boom and arm are designed for a high degree of durability that you can rely on.

* Above image may differ from actual product.

PRIDE OF DX220LCA-2, EXCELLENT WORK EFFICIENCY







FUEL EFFICIENCY UP UP UP!!

The enhancements to the hydraulic systems of DX220LCA-2 enable you to use engine power in a more effective manner. DX220LCA-2 is capable of performing the same intensity of operations at much lower fuel consumption than others of the same class, significantly increasing your work efficiency.

max.

* Above result is based on internal test, against the same operating weight machine.

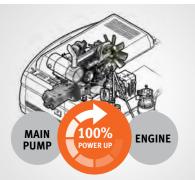
OPTIMIZED LEVER CONTROL & AUTO IDLE

When operator takes a break and leaves the control joystick fixed, both of the engine and the pump are kept in standby mode and prevents unnecessary fuel consumption.



PUMP MATCHING TECHNOLOGY

Engine & pump matching, the new technology of Doosan, fully resolves problems; low respones time of the system, unnecessary fuel consumption. Matching response time between pump and engine efficiently reduces unnecessary fuel consumption as well as exhaust fumes.





BREAKER SYSTEM CUSTOMIZED TO YOUR BUSINESS





DIFFERENT TYPES OF PERFORMANCE TESTINGS, **ENSURING BEST BREAKER PERFORMANCE**

- Performance testings of breaker carried out at actual job sites currently being operated in Korea and overseas regions
- Throughout these testings, DX220LCA-2 comes with a breaker that is more solid and powerful than before.
- The customers who took part in these testings were "very satisfied" with the performances of all equipment.



BREAKER PACKAGE (OPTION)

Do not think too much. All you need to do is to just select this breaker option.

- DX220LCA-2 is installed with a pedal tailored for breaker and a joystick with breaker-only button.



- On top of this, the breaker return line uses its own filter that will extend the life of hydraulic components during breaker operations.
- All of these features are available to you to conduct a crushing operation as effectively as you would hope.









1 MONITOR

- It is not confusing and complex anymore. You can get exactly the kind of information you need to know through this new monitor at
- When running your machine, it gives you the information you need most effectively with different modes as in the eco-zone mode activated for the most fuel-efficient sector, the power mode required for the most powerful operation and beyond.

COMFORTABLE JOYSTICK

With the completely redesigned joystick buttons, you can now use the most frequently used features at the tip of your fingers with this new joystick.



WORK MODE SELECTOR BUTTON

Breaker mode activated when this button is pushed, a indicator light in monitor turns

HORN BUTTON

This button is for blowing a horn



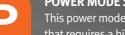
AUTO IDLE SELECTOR BUTTON

Auto idle system is activated when the auto idle selector button is pushed, an indicator light turns on



BREAKER OPERATING BUTTON

When this button is pushed, hydraulic flow supplied to auxiliary hydraulic line



POWER MODE SELECTOR BUTTON

This power mode is suitable for heavy duty work that requires a high operating speed. Push this button to turn power mode "ON" or "Off"



PRIDE OF DOOSAN, DOOSAN MAINTENANCE







1 PRE-CLEANER

A rotor type of pre-cleaner in DX220LCA-2 filters out particles larger than 20 microns with over 99% accuracy.



2 WATER SEPARATOR

A greater capacity of water separator This new reserve tank, that is bigger A larger cooling module and a longer helps improve engine durability.



1 ENHANCED RESERVE TANK

in size and more effective in UV protection, has reduced failure risks.



4 GREATER COOLING CAPACITY

life for your machine.



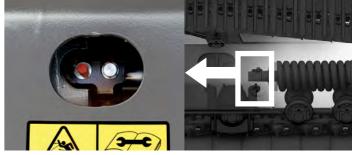
NEW VERTICAL FUEL LEVEL SENSOR

You can get more accurate information about the remaining fuel level regardless of the product positions.



HARNESS

Fixing connectors onto a certain location with excellent quality of harnesses further enhanced thermal resistance performance of the harnesses



NEW GREASE VALVE FOR IDLER CYLINDER

Separate design of injection and discharge of grease reduced a failure risk in valves.



TELEMATICS SERVICE (OPTIONAL)

GLOBAL PARTS NETWORK

TELECOMMUNICATIONS

Data flow from machine to web







BENEFITS

FUNCTIONS

Location

Geo-fence





Periodic operation Utilization





· Total operation hour · Operation hour by mode



Fuel Efficiency*

· Fuel level · Fuel consumption





Filter & Oil Management

Preventive maintenance by item replacement cycle





Warning & Alert

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



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

TELEMATICS SERVICE BENEFITS

Improve work efficiency

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

Better service for customers

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

Responsive to customer's voice

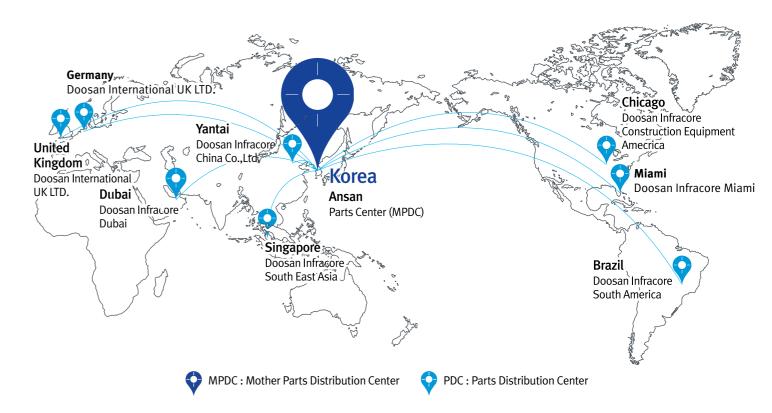
- · Utilize quality-related field data
- · Apply customer's usage profile to developing new machine

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.



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 Maximum Parts supply rate Reduction



Shortest distance/time parts delivery







downtime

TECHNICAL SPECIFICATIONS

ENGINE

Model

DOOSAN DB58TIS

Type

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

Number of cylinders

6

RATED HORSE POWER

113 kW (154 PS) @ 1,800 rpm (SAE J1995, Gross) 109 kW (148 PS) @ 1,800 rpm (SAE J1349, net)

Max torque

66 kgf.m @ 1,400 rpm

Piston displacement

5,785cc

Bore & stroke

Ø 102 mm x 118 mm

STARTING MOTOR

24 V x 4.5 kW

Batteries 24 V (12 V x 2 / 100 AH)

Air cleaner

Double element

HYDRAULIC SYSTEM

Main pumps

Swash Plate, Axial Piston Max. Flow: 2 x 207 l/min Displacement: 115 X 2 cc/rev

Pilot pump

Gear pump - max flow : 27 l/min Pilot pump : 15 cc/rev

Main relief Pressure

Maximum system pressure: 350 kgf/cm²
Main system pressure: 350kgf/cm²
Travel system pressure: 350kgf/cm²
Swing system pressure: 270kgf/cm²

WEIGHT

5.7 m Heavy Duty Boom, 2.9 m Heavy Duty Arm, 0.92 m³ Bucket, 3.8 Ton Counterweight

Shoe width (mm)	Ground p	pressure	Machine Weight			
Silve width (min)	LC Track (kgf/cm²)	STD Track (kgf/cm²)	LC Track (Ton)	STD Track (Ton)		
600	0.45	0.49	21.3	20.8		
800	0.35	0.38	22.0	21.4		

BUCKET LC Track, 3.8 Ton Counterweight, 600 mm Shoe

Bucket	Capacity (m³)	Width	n (mm)	Wainshi (ka)	5.7 MONO Boom (HD)				
Туре	SAE/PCSA	W/O Cutter With Cutter		Weight (kg)	2.4m Arm	2.9m Arm (HD)			
CD	0.92	1,316	1,367	871	Α	A			
GP	1.05	1,458	1,509	930	Α	В			
	0.92	1,050	1,096	867	Α	В			
H-CLASS	1.08	1,200	1,246	939	В	С			
	1.40	1,500	1,546	1,101	D	-			
Maximum load nin-on (nayload + hucket) 3.017 2.7									

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

A : Suitable for materials with density of 2,100 kg/m 3 (3,500 lb/yd 3) or less

B: Suitable for materials with density of 1,800 kg/m 3 (3,000 lb/yd 3) or less C: Suitable for materials with density of 1,500 kg/m 3 (2,500 lb/yd 3) or less

D : Suitable for materials with density of 1,200 kg/m 3 (2,000 lb/yd 3) or less -: Not recommended



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.

Quantity	Bore x Rod diameter x stroke	
2	120 X 85 X 1,263 mm	
1	135 X 95 X 1,450 mm	
1	115 X 80 X 1,060 mm	
	Quantity 2 1 1	2 120 X 85 X 1,263 mm 1 135 X 95 X 1,450 mm

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 shockabsorbing tension mechanism.

Upper rollers - 2

Lower rollers - 8 for LC track, 7 for STD track **Track shoes** - 49 for LC track, 45 for STD track

Overall track length - 4,445 mm for LC track, 4,065 mm for STD track

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.

Swing speed - 10.9 rpm **Swing Torque** - 6.46 ton.m

DRIVI

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) - 3.01 / 5.56 km/h Maximum traction force - 22.50 / 10.28 ton

Gradeability - 70%

REFILL CAPACITIES

Fuel tank - 392 l Cooling system - 25.6 l Engine oil - 28 l Swing drive - 5 l Final drive - 2 x 3.3 l Hydraulic tank - 131 l

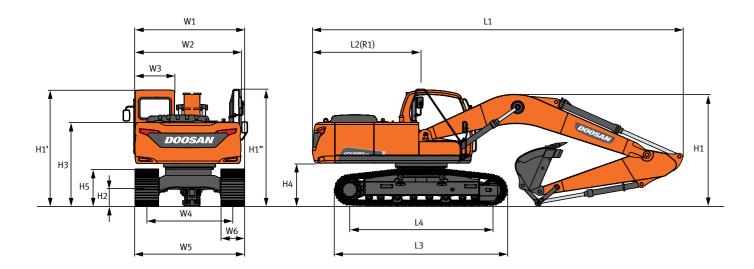
BUCKET DIGGING FORCES

Ducket Tune	Capacity (m³)	Widtl	ı (mm)	Discring force (Ton)			
Bucket Type	SAE/PCSA	W/O Cutter	With Cutter	Digging force (Ton)			
GP	0.92	1,316	1,367	[SAE] 12.6, [ISO] 14.0			
GP	1.05	1,458	1,509	[SAE] 12.0, [ISO] 14.0			
	0.92	1,050	1,096				
H-Class	1.08	1,200	1,246	[SAE] 12.6, [ISO] 14.0			
	1.40	1,500	1,546				

ARM DIGGING FORCES

Arm	Length (mm)	Weight (kg)	Digging force (Ton)
HD Arm	2,900	751	[SAE] 9.5, [ISO] 9.9
SHORT Arm	2,400	669	[SAE] 11.0, [ISO] 11.5

DIMENSIONS

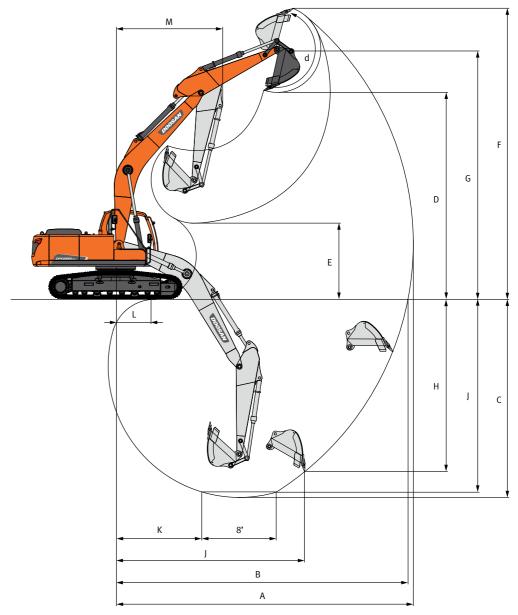


STANDARD

Boom Type		(mm)		5,7	700
Arm Type		(mm)		2,900	2,400
Bucket Type (SAE/PC	CSA)	(m³)		0.92	1.05
Overall Length		(mm)	L1	9,505	9,545
	Boom	(mm)		2,860	2,960
O	Hose	(mm)	H1	3,005	3,125
Overall Height	Cabin	(mm)] "1	2,955	←
	Hand/Guard Rail	(mm)]	2,990	←
Overall Width	(mm)	W1	2,990	←	
Rear Swing Radius		(mm)	R1	2,840	←
Ground Clearance *	(mm)	H2	* 450.5	←	
Rear End Distance		(mm)	L2	2,792	←
House Width		(mm)	W2	2,710	←
Cabin Width		(mm)	W3	1,010	←
Height Over Cover		(mm)	Н3	2,113	←
Counterweight Clear	ance *	(mm)	H4	* 1,066	←
Track Height *		(mm)	H5	* 883	←
Track Length (LC Trac	:k)	(mm)	L3	4,445	←
Tumbler Distance (LC	Track)	(mm)	L4	3,650	←
Track Gauge	<u> </u>			2,390	+
Undercarriage Width	Indercarriage Width			2,990	←
Shoe Width				600	←
Grouser Height		(mm)		26	←

WORKING RANGES



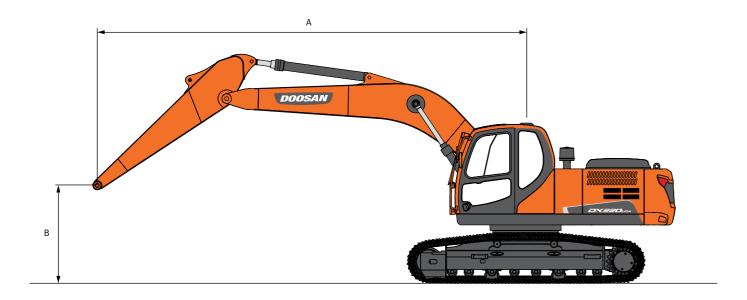


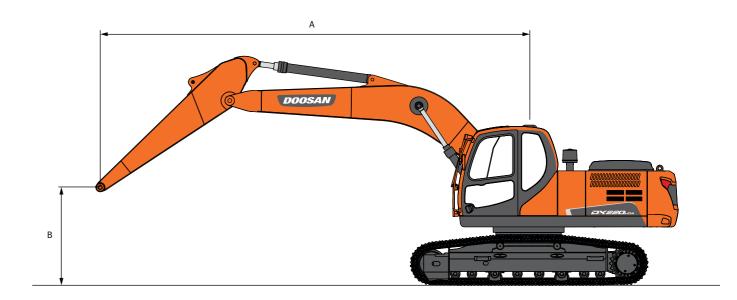
WORKING RANGES

Boom Type (One Piece)	(mm)		5,7	700
Arm Type	(mm)		2,900	2,400
Bucket Type (SAE/PCSA)	(m³)		0.92	1.05
Max. Digging Reach	(mm)	Α	9,875	9,390
Max. Digging Reach (Ground)	(mm)	В	9,700	9,210
Max. Digging Depth	(mm)	С	6,595	6,095
Max. Loading Height	(mm)	D	6,840	6,690
Min. Loading Height	(mm)	E	2,500	2,995
Max. Digging Height	(mm)	F	9,625	9,495
Max. Bucket Pin Height	(mm)	G	8,280	8,130
Max. Vertical Wall Depth	(mm)	Н	5,735	5,410
Max. Radius Vertical	(mm)	I	6,180	5,910
Max. Depth To 2,500mm Line	(mm)	J	6,410	5,860
Min. Radius 2,500mm Line	(mm)	K	2,860	2,790
Min. Digging Reach	(mm)	L	117	975
Min. Swing Radius	(mm)	M	3,555	3,575
Bucket Angle	(deg)	d	177	177

LIFTING CAPACITY







STANDARD

Metric

Boom: 5,700 mm (18' 7") Arm: 2,900 mm (9' 5") Shoe: 800 mm (2' 6") Counter Weight: 3,840 kg (8,466 lb) STD track

Unit: 1,000 kg

: Rating Over Front

🚰 : Rating Over Side or 360 Degree

(m)	1	.5		3	4.5		6		7.5		Max. Reach		
B(m)	<u>u</u>	(c	4	(4	(-	5	(c	- G	(c	4	(C	A(m)
7.5							4.66 *	4.61			4.05 *	4.05 *	6.20
6							4.81 *	4.61			3.76 *	3.25	7.31
4.5							5.27 *	4.43	4.53	3.06	3.70 *	2.73	7.99
3					7.72 *	6.38	5.99 *	4.17	4.41	2.95	3.71	2.46	8.35
1.5					9.15 *	5.85	5.97	3.91	4.28	2.83	3.59	2.36	8.42
0			5.70 *	5.70 *	8.95	5.56	5.78	3.73	4.18	2.73	3.67	2.4	8.23
-1.5	6.22 *	6.22 *	9.82 *	9.82 *	8.86	5.49	5.7	3.66	4.16	2.71	3.99	2.61	7.74
-3	10.59 *	10.59 *	12.38 *	10.69	8.88 *	5.56	5.75	3.71			4.76	3.11	6.88
-4.5			9.38 *	9.38 *	6.84 *	5.81					5.20 *	4.4	5.51

Feet												U	nit : 1,000 lb
A(ft)	5 10 15 20 25 Max. Reach												
B(ft)	4	F	F=	(-	<u>u</u>	(C	4	(-	Œ	ū	(-	A(m)

A(II)		5			1			.0			l .		
B(ft)	4	G	4	G	5	(-	5		5	G	4	(A(m)
25							10.26 *	10.16			8.92 *	8.92 *	20.33
20							10.61 *	10.16			8.29 *	7.16	23.97
15							11.61 *	9.77	10	6.75	8.16 *	6.01	26.21
10					17.02 *	14.07	13.20 *	9.19	9.73	6.51	8.18	5.43	27.39
5					20.17 *	12.89	13.17	8.62	9.44	6.23	7.92	5.21	27.64
0			12.56 *	12.56 *	19.73	12.26	12.73	8.23	9.22	6.03	8.09	5.3	26.99
-5	13.71 *	13.71 *	21.66 *	21.66 *	19.54	12.1	12.56	8.07	9.17	5.98	8.8	5.75	25.38
-10	23.34 *	23.34 *	27.29 *	23.57	19.58 *	12.26	12.67	8.17			10.49	6.86	22.59
-15			20.68 *	20.68 *	15.09 *	12.81					11.46 *	9.71	18.07

- 1. 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 minimun tipping loads or 87 % of hydraulic capacities.
 The least stable position is over the side.
- Lift capacities apply only to the machine as originally manufactured and normally equipped by the manufacturer.
 Lift capacities are in compliance with iso 10567.

OPTION

Metric

Boom: 5,700 mm (18' 7") Arm: 2,900 mm (9' 5") Shoe: 600 mm (2' 0") Counter Weight: 3,840 kg (8,466 lb) LC track

Unit: 1,000 kg

A(m)	1.5 3		3	4.5		6		7.5		Max. Reach			
B(m)	ū	Œ	5	G	<u>u</u>	(<u>u</u>	(=	7	(d e	<u> </u>	(c	A(m)
7.5							4.66 *	4.66 *			4.05 *	4.05 *	6.20
6							4.81 *	4.81 *			3.76 *	3.53	7.31
4.5							5.27 *	4.81	4.85 *	3.33	3.70 *	2.97	7.99
3					7.72 *	7	5.99 *	4.54	4.98	3.22	3.80 *	2.69	8.35
1.5					9.15 *	6.45	6.71 *	4.28	4.85	3.09	4.05 *	2.59	8.42
0			5.70 *	5.70 *	9.83 *	6.15	6.61	4.1	4.74	3	4.15	2.63	8.23
-1.5	6.22 *	6.22 *	9.82 *	9.82 *	9.74 *	6.08	6.53	4.03	4.72	2.98	4.52	2.86	7.74
-3	10.59 *	10.59 *	12.38 *	12.09	8.88 *	6.16	6.58 *	4.07			5.38 *	3.41	6.88
-4.5			9.38 *	9.38 *	6.84 *	6.41					5.20 *	4.83	5.51

Feet Unit: 1,000 lb

A(ft)		5	1	0	1	5	2	0	2	5	Max. Reach		
B(ft)	4	G	-	(-	-	(C	-		-	(-	-	(A(m)
25							10.26 *	10.26 *			8.92 *	8.92 *	20.33
20							10.61 *	10.61 *			8.29 *	7.78	23.97
15							11.61 *	10.61	10.70 *	7.34	8.16 *	6.55	26.21
10					17.02 *	15.43	13.20 *	10.02	10.99	7.09	8.37 *	5.94	27.39
5					20.17 *	14.22	14.79 *	9.44	10.68	6.82	8.92 *	5.71	27.64
0			12.56 *	12.56 *	21.68 *	13.57	14.57	9.04	10.46	6.61	9.15	5.81	26.99
-5	13.71 *	13.71 *	21.66 *	21.66 *	21.47 *	13.4	14.39	8.88	10.4	6.56	9.97	6.31	25.38
-10	23.34 *	23.34 *	27.29 *	26.64	19.58 *	13.57	14.51 *	8.98			11.85 *	7.52	22.59
-15			20.68 *	20.68 *	15.09 *	14.13					11.46 *	10.64	18.07

- 1. Load point is the end of the arm.
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 Lift capacities shown do not exceed 75 % of minimun tipping loads or 87 % of hydraulic capacities.
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- 5. Lift capacities apply only to the machine as originally manufactured and normally equipped by the manufacturer.
- 6. Lift capacities are in compliance with iso 10567.

: Rating Over Front

: Rating Over Side or 360 Degree

STANDARD & OPTION

STANDARD EQUIPMENT

Fronts

- 5.9 m Heavy Duty Boom
- 2.9 m Heavy Duty Arm

Hydraulic system

- Boom and Arm flow regeneration
- Boom and Arm holding valves
- Swing anti-rebound valves

Cabin & Interior

- Viscous cab mounts
- E/G RPM control dial
- Serial communication port for laptop PC interface
- Cup holder
- Seat belt
- 12V spare power socket
- Room light
- All weather sound suppressed type CAB.
- Viscous cab mounts

Safety

- Handrail and step
- Safety glass
- Hammer for emergency escape
- Battery protector cover

Others

- Double element air cleaner with two stage filtration
- Dry type Pre Air Cleaner
- Two stage water separator
- Fuel filter
- Engine overheat prevention system
- Engine restart prevention system
- Self-diagnostic system
- Alternator (24 V, 60 A)
- Electric horn
- Working lights (1 boom mounted, 1 storage box mounted)
- Hydraulic track adjuster
- Track guards
- Greased and sealed track link
- Hydraulic oil tank air breather filter

DOOSAN HB Breaker

HB series Breaker is designed for mainly focusing on breaking job. Doosan's focus is to optimize impact power, enhance durability, satisfy customer convenience and maintain easily in order to be faithful to the original function of hydraulic breaker.







* Housing / Top / Side type bracket are available

Technical Specification

Model	Weight	Tool dia.	Oil Flow	Operating Pressure	Frequency
	[kg]	[mm]	[l/min]	[kg/cm²]	[bpm]
HB20	1,860	135	130 ~ 150	160 ~ 200	400 ~ 800



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

• 2.4m Mass Excavation Arm

Bucket

Arm

- 0.92 m³ General Duty Bucket
- 1.05 m³ General Duty Bucket
- 0.92 m3 H Class Bucket
- 1.08 m3 H Class Bucket
- 1.4 m³ H Class Bucket

Auxiliary Hydraulic

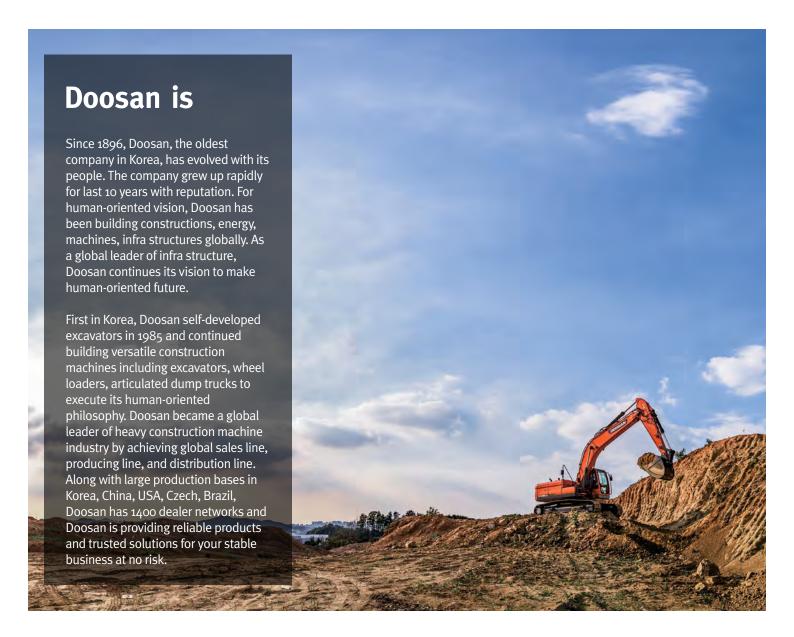
- One-way for Hammer
- Hydraulic Filter for One-way return line

Undercarriage

- Long & Fixed Track
- Standard & Fixed Track
- Undercover for Track Frame
- 600 mm / 700 mm / 800 mm Triple Grouser Shoe

Cabin Sub Group

- Mechanical type Suspension Seat
- Upper and Lower Guard
- Side Mirror
- 2 Working lamp
- Wiper
- MP3 Radio
- MP3 Raulu
- Air Conditioner and Heater
- TMS (Doosan Telematics System)





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