

ZAXIS series

HITACHI

Reliable solutions

ZAXIS120

Southeast Asia



## HYDRAULIC EXCAVATOR

Model Code : ZX120

Engine Rated Power : 65 kW (87 HP)

Operating Weight : 12 000 - 12 600 kg

Backhoe Bucket : ISO Heaped : 0.45 - 0.50 m<sup>3</sup>

# ZX120 is Purpose Built for Harsh Civil Engineering.

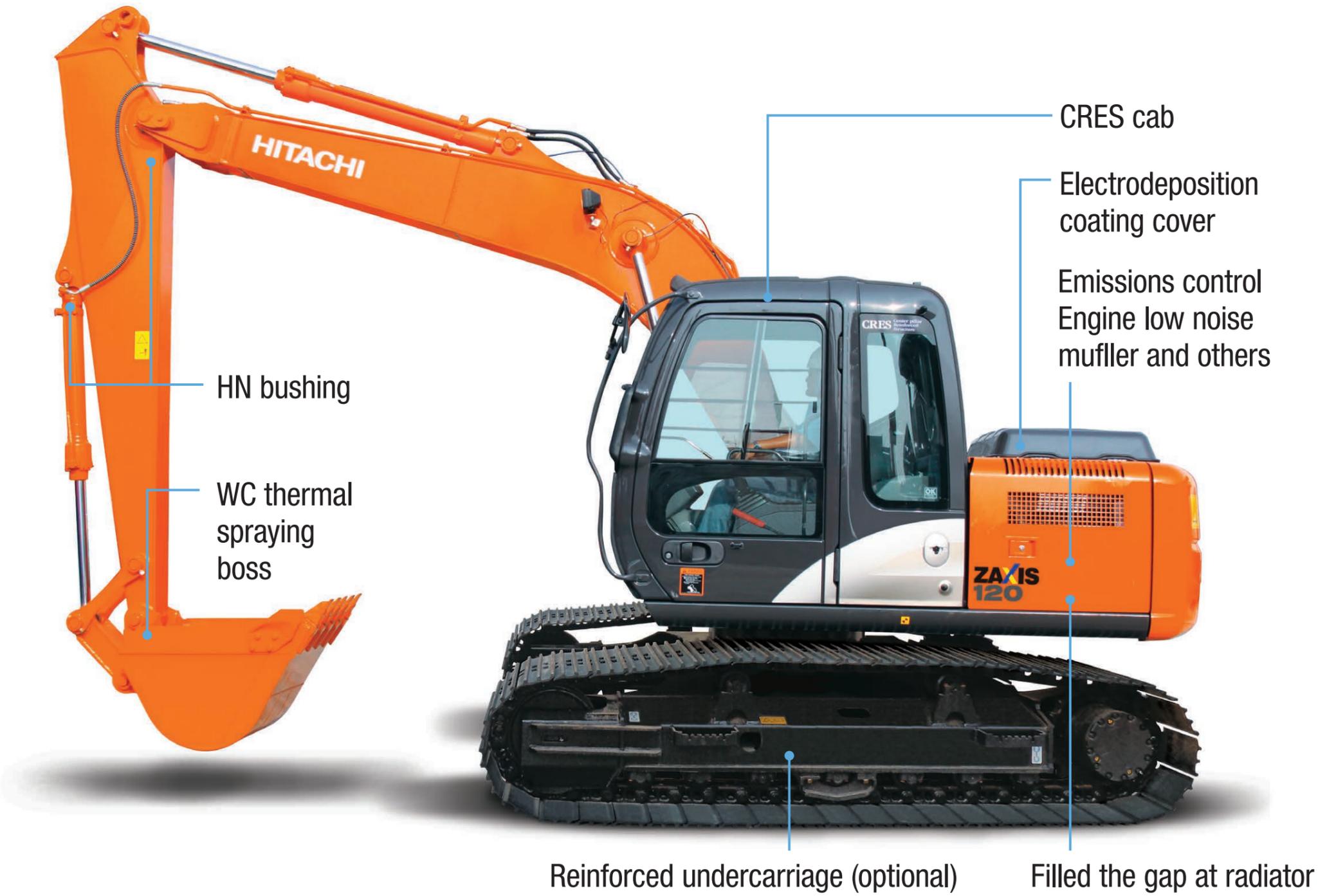
The Hitachi ZX120 comes with advanced technologies, including impressive cooling ability to well suppress overheating, and the fuel-efficient non-common rail type engines for productive operations.

## For Southeast Asia

The ZX120, built on years of operating experience in Southeast Asia, offers high productivity and durability what customers expect most on tough job sites.

## By HITACHI

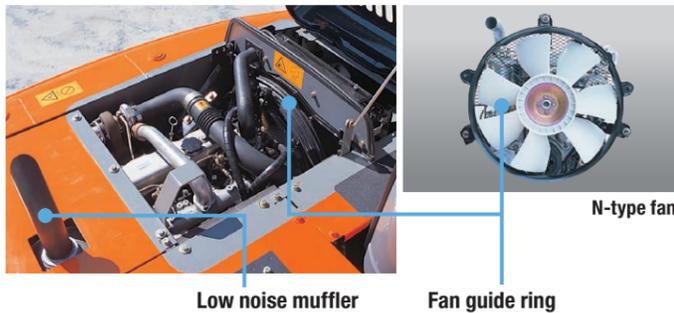
The ZX120, designed and built on Hitachi original technologies and manufacturing prowess, to allow for productive, reliable construction work.



## Performance

### Emissions Control Engine (Non-Common Rail Type)

Conforms to U.S. EPA Tier 2 and EU Stage II emission regulations.



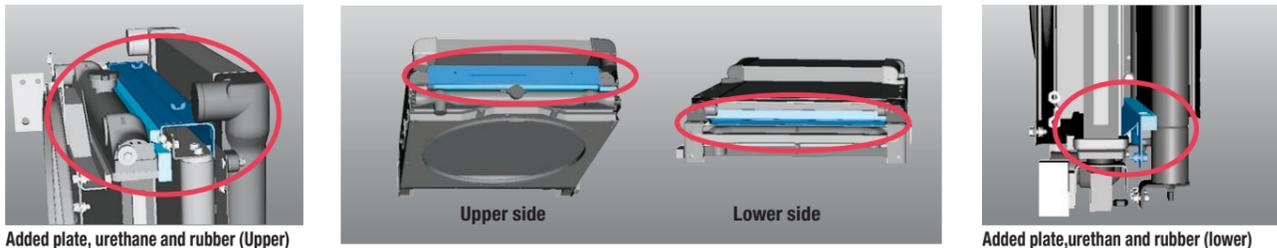
### Low Noise

Engine compartment noise is well suppressed with a low-noise muffler, resin fan, fan guide and likes for low-noise operations.

## Maintenance

### Keeping Cool

The radiator is well encapsulated to prevent its heated air discharge, keeping the engine and hydraulic oil cool even in high-temperature environments.

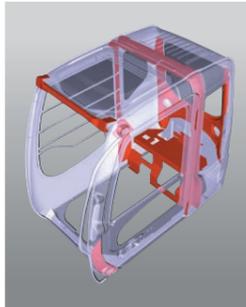


# Durability

## CRES (Center pillar Reinforced Structure)

The cab is provided with "just in case" protection to safeguard the operator from injury in the case of an emergency.

\* The CRES cab meets OPG top guard level (ISO).



Reinforced sections shown in red.

## Electroplated for High Corrosion Protection

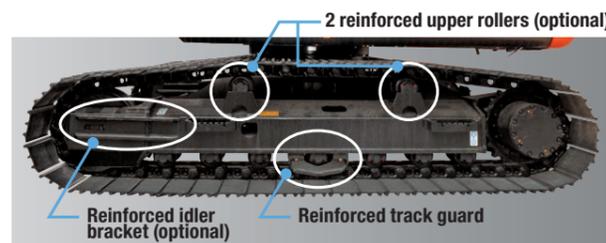
The cab and body are painted by electrodeposition coating, which is immersion coating by electrolysis.

This is especially effective at corrosion-prone areas, such as flat surfaces, edges and boxes, for high corrosion resistance. The refined ED process leaves no spatter marks, as with spray painting, giving a smooth mark-free surface.



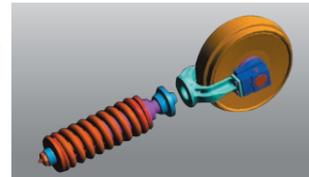
## Reinforced Undercarriage

The undercarriage is reinforced with track guards (one on each track). Reinforced idler brackets (one on each track) and reinforced upper rollers (two on each side) are optionally available for further strengthening.



## Rigid Undercarriage

The undercarriage is reinforced with insert type idler yokes and the like to increase durability on harsh job sites.



Insertion type idler yoke

## HN Bushings

The HN bushings, containing HITASOL (solid molybdenum-based lubricant), are utilized at the boom-arm joint and arm cylinder mounting area for better lubrication and higher durability. (At other joints, conventional HN bushings are utilized.)



New HN Bushing

## Reinforced Resin Thrust Plates

Provided to reduce noise and resist wear.



## WC Thermal Spraying (Tungsten Carbide)

Provided at arm end and bucket connection to increase wear resistance and reduce jerking.



# SPECIFICATIONS

## ENGINE

Model	Isuzu CC-4BG1TC
Type	4-cycle water-cooled, direct injection
Aspiration	Turbocharged, intercooled
No. of cylinders	4
Rated power	
ISO 9249, net	65 kW (87 HP) at 2 150 min <sup>-1</sup> (rpm)
SAE J1349, net	65 kW (87 HP) at 2 150 min <sup>-1</sup> (rpm)
Maximum torque	340 N·m (35 kgf·m) at 1 600 min <sup>-1</sup> (rpm)
Piston displacement	4.329 L
Bore and stroke	105 mm X 125 mm
Batteries	2 x 12 V / 55 Ah
Governor	Mechanical speed control with stepping motor

## HYDRAULIC SYSTEM

### Hydraulic Pumps

Main pumps	2 variable displacement axial piston pumps
Maximum oil flow	2 x 105 L/min
Pilot pump	1 gear pump
Maximum oil flow	33 L/min

### Hydraulic Motors

Travel	2 variable displacement axial piston motors
Swing	1 axial piston motor

### Relief Valve Settings

Implement circuit	34.3 MPa (350 kgf/cm <sup>2</sup> )
Swing circuit	32.3 MPa (330 kgf/cm <sup>2</sup> )
Travel circuit	34.3 MPa (350 kgf/cm <sup>2</sup> )
Pilot circuit	3.9 MPa (40 kgf/cm <sup>2</sup> )

### Hydraulic Cylinders

	Quantity	Bore	Rod diameter
Boom	2	105 mm	70 mm
Arm	1	115 mm	80 mm
Bucket	1	100 mm	70 mm

## UPPERSTRUCTURE

### Revolving Frame

D-section skilt for resistance to deformation.

### Swing Mechanism

Axial piston motor with planetary reduction gear is bathed in oil. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed	13.7 min <sup>-1</sup> (rpm)
Swing torque	34.0 kNm (3 470 kgfm)

### Operator's Cab

Independent roomy cab, 1 005 mm wide by 1 675 mm high, conforming to ISO\* Standards.

\* International Standardization Organization

## UNDERCARRIAGE

### Tracks

Heat-treated connecting pins with dirt seals. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

### Numbers of Rollers and Shoes on Each Side

Upper rollers	1
Lower rollers	7
Track shoes	44
Reinforced upper rollers (option)	2

### Traction Device

Each track driven by 2-speed axial piston motor. Parking brake is spring-set/hydraulic-released disc type. Automatic transmission system: High-Low.

Travel speeds	High : 0 to 5.5 km/h
	Low : 0 to 3.4 km/h

Maximum traction force .. 102 kN (10 400 kgf)

Gradeability ..... 70% (35 degree) continuous

## SERVICE REFILL CAPACITIES

Fuel tank	250.0 L
Engine coolant	19.0 L
Engine oil	15.8 L
Swing device	3.2 L
Travel device (each side)	4.0 L
Hydraulic system	130.0 L
Hydraulic oil tank	69.0 L

## WEIGHTS AND GROUND PRESSURE

Equipped with 4.60 m boom, 2.52 m arm and 0.45 m<sup>3</sup> bucket (ISO heaped), 2 450 kg counterweight.

Shoe type	Shoe width	kg	kPa(kgf/cm <sup>2</sup> )
Triple grouser	500 mm	12 000	37 (0.38)
	600 mm	12 300	32 (0.33)
	700 mm	12 500	28 (0.29)

Equipped with 4.60 m boom, 3.01 m arm and 0.45 m<sup>3</sup> bucket (ISO heaped), 2 450 kg counterweight.

Shoe type	Shoe width	kg	kPa(kgf/cm <sup>2</sup> )
Triple grouser	500 mm	12 100	38 (0.39)
	600 mm	12 400	32 (0.33)
	700 mm	12 600	28 (0.29)

## WEIGHT: BASIC MACHINE and COMPONENTS

### Basic Machine Weight

Weights of the basic machines [including 2 450 kg counterweight and triple grouser shoes, excluding front-end attachment, fuel, hydraulic oil, engine oil and coolant etc.] are:

Shoe width	Weight
500 mm	9 500 kg
600 mm	9 800 kg
700 mm	10 000 kg

### Component weights

	Weight
Counterweight	2 450 kg
4.60 m boom(with arm cylinder)	1 220 kg
2.52 m arm(with bucket cylinder)	600 kg
3.01 m arm(with bucket cylinder)	660 kg
0.45 m <sup>3</sup> bucket	400 kg
0.50 m <sup>3</sup> bucket	410 kg

## BUCKET AND ARM DIGGING FORCES

Arm length	2.52 m	3.01 m
Bucket digging force ISO	99 kN (10 100 kgf)	
Bucket digging force SAE : PCSA	86 kN (8 800 kgf)	
Arm crowd force ISO	65 kN (6 600 kgf)	58 kN (5 900 kgf)
Arm crowd force SAE : PCSA	63 kN (6 400 kgf)	57 kN (5 800 kgf)

## BACKHOE ATTACHMENTS

Boom and arms are of welded, box-section design. Bucket is of welded steel structure. Side clearance adjust mechanism provided on the bucket joint bracket.

### Buckets

Capacity	Width		No. Of teeth	Weight	Recommendation	
	Without side cutters	With side cutters			2.52 m arm	3.01 m arm
0.45 m <sup>3</sup>	850 mm	970 mm	5	400 kg	◎	○
*1 0.45 m <sup>3</sup>	850 mm	970 mm	5	410 kg	◎	○
0.50 m <sup>3</sup>	890 mm	1 010 mm	5	410 kg	◎	○
*1 0.50 m <sup>3</sup>	890 mm	1 010 mm	5	420 kg	◎	○

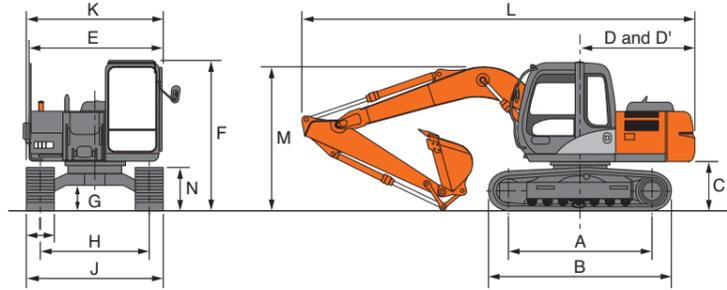
\*1 side-pin-type

◎ Suitable for materials with density of 2 000 kg/m<sup>3</sup> or less

○ Suitable for materials with density of 1 600 kg/m<sup>3</sup> or less

# SPECIFICATIONS

## DIMENSIONS

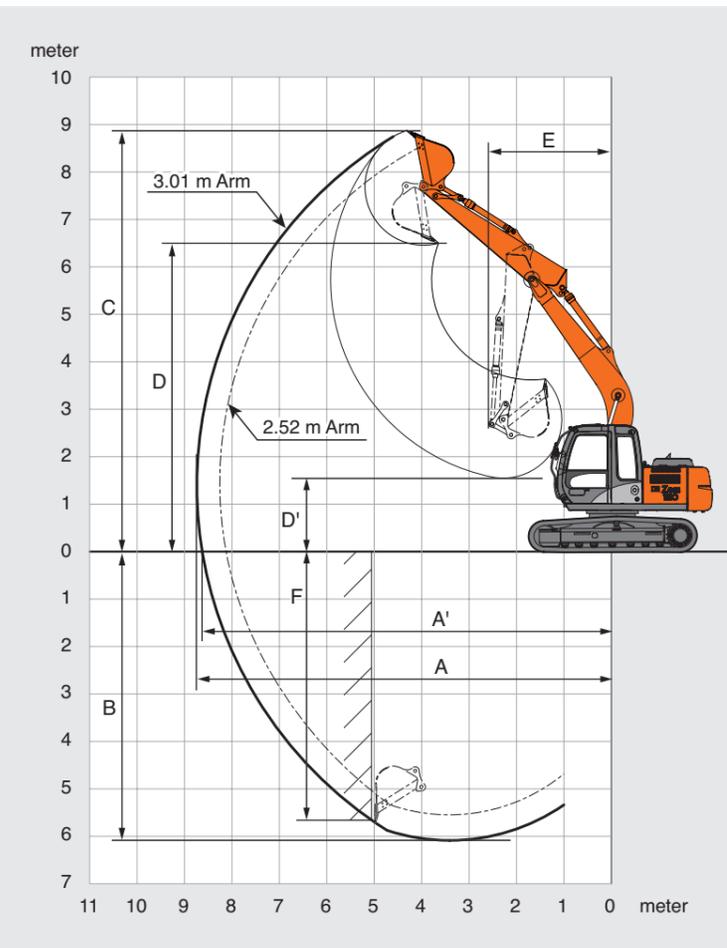


Unit: mm

	ZX120
A Distance between tumbler	2 880
B Undercarriage length	3 580
*C Counterweight clearance	890
D Rear-end swing radius	2 130
D' Rear-end length	2 130
E Overall width of upperstructure	2 460
F Overall height of cab	2 740
*G Min. ground clearance	440
H Track gauge	1 990
I Track shoe width	G 500/G 600/G 700
J Undercarriage width	2 490/2 590/2 690
K Overall width	2 500/2 590/2 690
L Overall length	
With 2.52 m arm / 3.01 m arm	7 610 / ** 7 620
M Overall height of boom	
With 2.52 m arm / 3.01 m arm	2 680 / ** 2 680
*N Track height with triple grouser shoes	790

\* Excluding track shoe lug      G: Triple grouser shoes  
 \*\* The dimension is shown in the transportation hole position of the arm

## WORKING RANGES



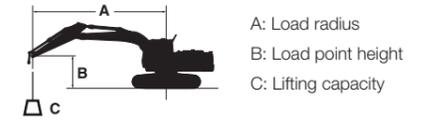
Unit: mm

Arm length	2.52 m	3.01 m
A Max. digging reach	8 270	8 740
A' Max. digging reach (on ground)	8 140	8 620
B Max. digging depth	5 570	6 060
C Max. cutting height	8 570	8 900
D Max. dumping height	6 160	6 490
D' Min. dumping height	2 040	1 580
E Min. swing radius	2 340	2 590
F Max. vertical wall digging depth	5 020	5 500

Excluding track shoe lug

# LIFTING CAPACITIES

- Notes: 1. Ratings are based on ISO 10567.  
 2. Lifting capacity does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.  
 3. The load point is the center-line of the bucket pivot mounting pin on the arm.  
 4. \*Indicates load limited by hydraulic capacity.  
 5. 0 m = Ground.



For lifting capacities, subtract bucket and quick hitch weight from lifting capacities without bucket.

## ZX120

Rating over-front    Rating over-side or 360 degrees    Unit : kg

Conditions	Load point height m	Load radius								At max. reach		
		1.5 m		3.0 m		4.5 m		6.0 m				
												meter
Boom 4.60 m Arm 2.52 m Withot Bucket Shoe 500 mm	4.5					*3 350	*3 350	3 040	2 110	*2 310	1 920	6.32
	3.0			*5 460	*5 460	*4 070	3 200	2 980	2 050	*2 300	1 640	6.86
	1.5			*7 890	5 380	4 470	2 980	2 880	1 960	2 250	1 530	7.04
	0(Ground)			*6 730	5 070	4 280	2 810	2 790	1 880	2 290	1 550	6.89
	-1.5	*4 630	*4 630	8 440	5 030	4 200	2 740	2 760	1 850	2 540	1 710	6.39
	-3.0	*8 540	*8 540	*7 340	5 120	4 240	2 780			3 240	2 170	5.43

Conditions	Load point height m	Load radius										At max. reach			
		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m					
														meter	
Boom 4.60 m Arm 3.01 m Withot Bucket Shoe 500 mm	6.0												*2 160	*2 160	5.92
	4.5					*2 920	*2 920	*2 970	2 160				*2 020	1 700	6.84
	3.0			*4 550	*4 550	*3 660	3 270	3 010	2 080				*2 010	1 480	7.34
	1.5			*7 110	5 530	4 520	3 020	2 890	1 970	2 050	1 390		2 040	1 390	7.51
	0(Ground)			*7 420	5 070	4 280	2 810	2 790	1 870				2 060	1 390	7.37
	-1.5	*4 130	*4 130	8 350	4 950	4 170	2 710	2 730	1 820				2 250	1 510	6.90
	-3.0	*7 190	*7 190	*7 840	5 000	4 170	2 710	2 760	1 850				2 740	1 840	6.03
	-4.5			*5 730	5 210	*3 550	2 860						*3 530	2 850	4.51

# EQUIPMENT

Standard and optional equipment may vary by country, so please consult your Hitachi dealer for details.

● : Standard equipment ○ : Optional equipment

	ZX120
<b>ENGINE</b>	
Auto idle system	●
Cartridge-type engine oil filter	●
Cartridge-type fuel pre-filter	●
Cartridge-type fuel main filter	●
Double air filter	●
Dust-Proof indoor net	●
E-P control system	●
Engine warm-up device	●
Fan guard	●
Radiator reserve tank	●
Water separator	●
50 A alternator	●
<b>HYDRAULIC SYSTEM</b>	
Control valve with main relief valve	●
Full-flow filter	●
Pilot filter	●
Suction filter	●
One extra port for control valve	●
Work mode selector	●
<b>CAB</b>	
All-weather sound suppressed steel cab	●
AM-FM radio with digital clock	●
Ashtray	●
Auto control air conditioner	●
Cab (Center pillar reinforced structure)	●
Drink holder	●
Electric double horn	●
Engine shut-off lever	●
Evacuation hammer	●
Floor mat	●
Footrest	●
Front window washer	●
Front window on upper, lower and left side can be opened	●
Glove compartment	●
Intermittent windshield wipers	●
OPG top guard Level I (ISO10262) compliant cab	●
Pilot control shut-off lever	●
Rear tray	●
Seat belt	●
Seat : Fabric seat	●
Seat adjustment part: backrest, armrest, height and angle, slide forward/back	●
Short wrist control levers	●
Storage box	●
4 fluid-filled elastic mounts	●
24 V cigarette lighter	●

<b>MONITOR SYSTEM</b>	
Alarm buzzers: Engine oil pressure and engine overheat	●
Meters: Hourmeter and trip-meter, engine coolant temperature gauge and fuel gauge.	●
Pilot lamps: Engine preheat, work light, auto-idle, auto-acceleration, digging mode and attachment mode.	●
Warning lamps: Alternator charge, air filter restriction and minimum fuel level.	●

<b>LIGHTS</b>	
Additional cab roof front lights	○
Additional boom light with cover	○
2 working lights	●

<b>UPPERSTRUCTURE</b>	
Fuel level float	●
Gap filled radiator	●
Hydraulic oil level gauge	●
Tropical cover	●
Rear view mirror (right & left side)	●
Swing parking brake	●
Tool box	●
Undercover	●
Utility space	●
2 450 kg counterweight	●
2 x 55 Ah batteries	●

<b>UNDERCARRIAGE</b>	
Bolt-on sprocket	●
Reinforced track links with pin seals	●
Reinforced upper 2 rollers	○
Reinforced idler bracket	○
Reinforced track guard (1 unit each side)	●
Hydraulic track adjuster	●
Upper and Lower rollers	●
500 mm triple grouser shoes	○
600 mm triple grouser shoes	●
700 mm triple grouser shoes	○

<b>FRONT ATTACHMENTS</b>	
Centralized lubrication system	●
Dirt seal on all bucket pins	●
Flanged pin	●
HN bushing	●
Reinforced resin thrust plate	●
Reinforced link A	●
Link B	●
WC (tungsten-carbide) thermal spraying	●
0.45 m <sup>3</sup> bucket (ISO heaped)	●
0.45 m <sup>3</sup> bucket (ISO heaped) (side pin type for Point tooth)	○
0.5 m <sup>3</sup> bucket (ISO heaped)	○
0.5 m <sup>3</sup> bucket (ISO heaped) (side pin type for Point tooth)	○
4.60 m boom	●
4.60 m H-boom	○
2.52 m arm	○
3.01 m arm	●

<b>ATTACHMENTS</b>	
Attachment basic piping	○
Breaker and crusher piping	○
High mesh full flow filter with restriction indicator	○
Parts for breaker and crusher	○
2 pump combined flow for attachment basic piping	○
Line filter	○

<b>MISCELLANEOUS</b>	
Lockable fuel refilling cap	●
Lockable machine covers	●
Onboard information controller	●
Skid-resistant tapes, plates and handrails	●
Standard tool kit	●
Travel direction mark on track frame	●
Global e-Service	●

These specifications are subject to change without notice.

Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in color and features.

Before use, read and understand the Operator's Manual for proper operation.

