

# SUPER LONG FRONT

**ZAXIS 470LCH/670LCH/870LCH**

**A P P L I C A T I O N   &   A T T A C H M E N T**

**Model Code : ZX470LCH-3**  
**Engine Rated Power : 260 kW (349 HP)**  
**Operating Weight : 49 500 - 51 600 kg**

**Model Code : ZX670LCH-3**  
**Engine Rated Power : 345 kW (463 HP)**  
**Operating Weight : 66 200 - 67 700 kg**

**Model Code : ZX870LCH-3**  
**Engine Rated Power : 397 kW (532 HP)**  
**Operating Weight : 81 200 - 84 000 kg**





# The Super Long Front in Action

## Extending Working Ranges Remarkably

The Hitachi long front makes possible efficient, productive excavation in wide working ranges, backed up with a lot of features, including smoothly combined operations, high stability and easy folding for transport.

### Smoothly Combined Operations

Simultaneous actions of the boom and arm are quick and smooth thanks to flow rate control valves built in boom and arm cylinder circuits, which eliminate sudden actions of the front.

### Rugged Front Attachment

The front structure is built ruggedly, using high-tensile steel plates whose thicknesses are optimally determined by model.

### Stable Actions

The super long front can move stably with an extra counterweight added.

### Eco- and Environment-Friendly Design

The long front features an economical and environment-friendly design. Benefits include low fuel consumption and carbon emissions per the current global emission regulations, through the OHC 4-valve engine, common rail type fuel injection system and cooled EGR\* system.

\*Exhaust Gas Recirculation

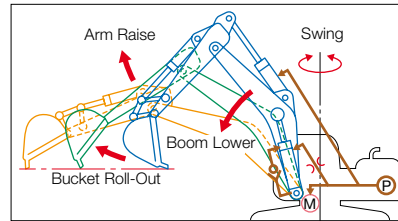




## Boosted Productivity

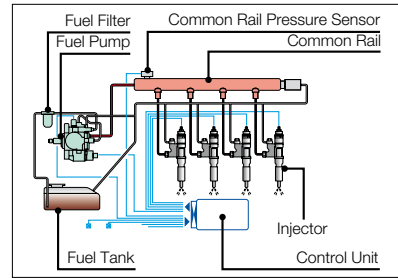
### Combined Operation of Boom and Arm

In combined operation of swing + boom lower + arm roll-out, or in leveling (boom lower + arm roll-out), arm roll-out speed can be increased greatly. Here's why. A variable throttle, provided in the arm circuit, adjusts the flow when needed to reduce hydraulic loss in combined operation with arm roll-out.



### Common Rail Type Fuel Injection System

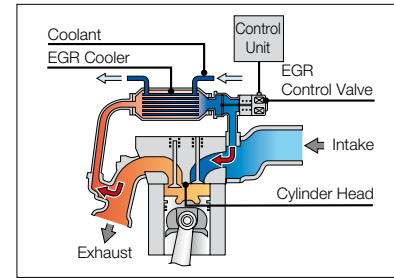
Electronic control common rail type fuel injection system drives an integrated fuel pump at an ultrahigh pressure to distribute fuel to each injector per cylinder through a common rail. This enables optimum combustion to generate big horsepower, and reduce PM\* (diesel plume) and fuel consumption.



### Cooled EGR\*\* System

Exhaust gas is partially mixed with intake air to lower combustion temperature for reducing NOx and fuel consumption. What's more, the EGR cooler cools down exhaust gas to increase air concentration for complete combustion, reducing PM\* (diesel plume).

\*Particulate Matter  
\*\*Exhaust Gas Recirculation



## A New Standard in Operator Comfort



The ZAXIS-3 series cab has been redesigned to meet demands of customers. From the operator's seat the operator has an excellent view of the jobsite. On the widescreen color LCD monitor the operator can see machine conditions and with the rear view camera, what is behind the machine. Ample legroom, short stroke levers and a suspension seat (optional) with heating ensure optimum working conditions. The seat features horizontal, vertical adjustments and has a backrest contoured for comfort, with a HITACHI logo.

Wide adjustable armrests and a retractable seat belt are included. Three switches on the lever (optional) can be set to operate attachments other than buckets. The cab is pressurized to keep out dust. Noise and vibrations are kept to a minimum due to the elastic mounts, filled with silicone oil, the cab rests on. Visibility is improved especially for the right downward view. A flat floor allows for easy cleaning. Ergonomic controls and switches, fully automatic air conditioner and a radio complete the package.

Full auto air conditioner/ AM/FM radio



Easy-to-control switches panel



Drink holder



Drink holder / Hot & cool box



Personal storage space



Generous storage space box



## Additional Features

Cab right bars



Evacuation hammer



Pilot control shut-off lever



## Embedded Information Technology

The ZAXIS-3 series is equipped with a widescreen color LCD monitor with adjustable contrast for day and night shifts. With the monitor the operator can check maintenance intervals, select work modes, monitor fuel consumption, and connect to the rear-view camera. A theft deterrent system and multi-12 languages selection are also available.



### Rear View Camera

The large color LCD monitor, teamed up with the rear view camera on the counterweight, gives the operator unobstructed rearward view. This system enhances safety during swing and reversing.



### Maintenance Support

The LCD monitor alerts the operator of the replacement timing of hydraulic oil and fuel filters according to user's setting, at each time when turning on the key switch. This scheduled maintenance can prevent machine failure.



### Fuel Consumption Monitoring

Fuel consumption per operating hour can be computed, and the result is displayed on the LCD monitor. This information suggests refueling timing, and assists in energy-saving operation and efficient job management.

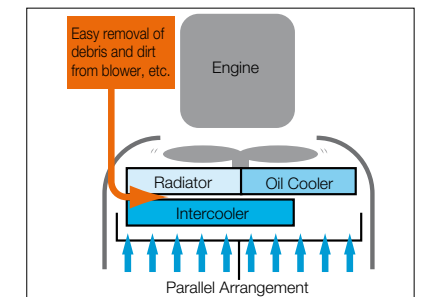
### Theft Deterrent System

The electronic immobiliser requires the entry of an encryption code to the multi function monitor each time when starting the engine to prevent theft and vandalism.

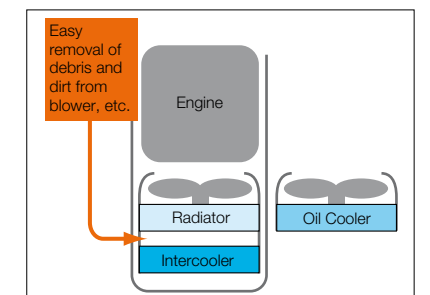
## Simplified Maintenance

The ZAXIS-3 series meet customer demands for simplified maintenance. Regular maintenance is the key for keeping equipment in top condition, which can help to prevent costly downtime. In addition, a regularly serviced machine has higher residual value. There are many service features to be found on the ZAXIS-3 series.

### ZX470LCH-3 / 670LCH-3



### ZX870LCH-3



The radiator and oil cooler are laid out in a parallel arrangement, instead of the conventional in-line arrangement. This parallel arrangement is significantly easier to clean around the engine. The air conditioner condenser can be opened for easy cleaning of the condenser and the radiator located behind.

# SPECIFICATIONS

## ZX470LCH-3

### ENGINE

Model.....	Isuzu AH-6WG1XYSA-01
Type.....	4-cycle water-cooled, direct injection
Aspiration.....	Turbocharged
No. of cylinders .....	6
Rated power	
ISO 9249, net .....	H/P mode :
(Without Fan)	260 kW (349 HP) at 1 800 min <sup>-1</sup> (rpm)
EEC 80/1269, net ..	H/P mode :
(Without Fan)	260 kW (349 HP) at 1 800 min <sup>-1</sup> (rpm)
SAE J1349, net .....	H/P mode :
(Without Fan)	260 kW (349 HP) at 1 800 min <sup>-1</sup> (rpm)
Maximum torque.....	1 580 N·m (161 kgf·m) at 1 500 min <sup>-1</sup> (rpm)
Piston displacement....	15.681 L
Bore and stroke .....	147 mm x 154 mm
Batteries.....	2 x 12 V / 170 AH

### HYDRAULIC SYSTEM

- Work mode selector  
General purpose mode / Attachment mode
- Engine speed sensing system

Main pumps.....	2 variable displacement axial piston pumps
Maximum oil flow ..	2 x 360 L/min
Pilot pump .....	1 gear pump
Maximum oil flow ..	30 L/min

### Hydraulic Motors

Travel .....	2 axial piston motors with parking brake
Swing.....	2 axial piston motors

### Relief Valve Settings

Implement circuit.....	31.9 MPa (325 kgf/cm <sup>2</sup> ) : TYPE 14
	28.9 MPa (295 kgf/cm <sup>2</sup> ) : TYPE 16 / TYPE 20
Swing circuit.....	28.4 MPa (290 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> )
Power boost .....	34.3 MPa (350 kgf/cm <sup>2</sup> )

### Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

### Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing/travel motor drain lines.

### CONTROLS

Pilot controls. Hitachi's original shockless valve.

Implement levers .....	2
Travel levers with pedals.....	2

### UPPERSTRUCTURE

#### Revolving Frame

Welded sturdy box construction, using heavy-gauge steel plates for ruggedness. D-section frame for resistance to deformation.

#### Swing Device

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row, shear-type ball bearing with induction-hardened internal gear. Internal gear and pinion gear are immersed in lubricant. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed .....	9.0 min <sup>-1</sup> (rpm)
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#### Operator's Cab

Independent spacious cab, 1 005 mm wide by 1 675 mm high, conforming to ISO\* Standards. (OPG top gourd fitted Level II, ISO 10262 compliant cab) Reinforced glass windows on 4 sides for visibility. Reclining seat with armrests; adjustable with or without control levers. \* International Standardization Organization

### UNDERCARRIAGE

#### Tracks

Tractor-type undercarriage. Welded track frame using selected materials. Side frame bolted to track frame. Lubricated track rollers, idlers, and sprockets with floating seals.

Track shoes with triple grousers made of induction-hardened rolled alloy. 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 .....	3
Lower rollers .....	9
Track shoes .....	53
Full track guard .....	1

#### Travel Device

Each track driven by axial piston motor through reduction gear for counterrotation of the tracks. Sprockets are replaceable. 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....	319 kN (32 500 kgf)
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Gradeability .....	70 % (35 degree ) continuous
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### WEIGHTS AND GROUND PRESSURE

#### ZX470LCH-3 TYPE 14 SUPER LONG FRONT :

Equipped with 8.2 m Boom, 4.9 m Arm, and 1.15 m<sup>3</sup> rock bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grouser	600 mm	49 500 kg	84 kPa (0.86 kgf/cm <sup>2</sup> )
	750 mm	50 300 kg	68 kPa (0.69 kgf/cm <sup>2</sup> )
	900 mm	51 000 kg	58 kPa (0.59 kgf/cm <sup>2</sup> )

#### ZX470LCH-3 TYPE 16 SUPER LONG FRONT :

Equipped with 8.2 m Boom, 7.3 m Arm, and 1.15 m<sup>3</sup> bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grouser	750 mm	50 200 kg	68 kPa (0.69 kgf/cm <sup>2</sup> )
	900 mm	50 800 kg	58 kPa (0.59 kgf/cm <sup>2</sup> )

#### ZX470LCH-3 TYPE 20 SUPER LONG FRONT :

Equipped with 11.5 m Boom, 8.5 m Arm, and 0.8 m<sup>3</sup> bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grouser	750 mm	50 900 kg	69 kPa (0.70 kgf/cm <sup>2</sup> )
	900 mm	51 600 kg	58 kPa (0.59 kgf/cm <sup>2</sup> )

Note : Depending on the jobsites conditions, 900 mm grouser shoe may not be recommended for rock, hard surface or forestry application.

### BACKHOE ATTACHMENTS

Boom and arms are of all-welded, box-section design.

Capacity SAE, PCSA heaped	Width without side cutter	weight
0.8 m <sup>3</sup>	1 030 mm	960 kg
1.15 m <sup>3</sup>	1 100 mm	1 070 kg

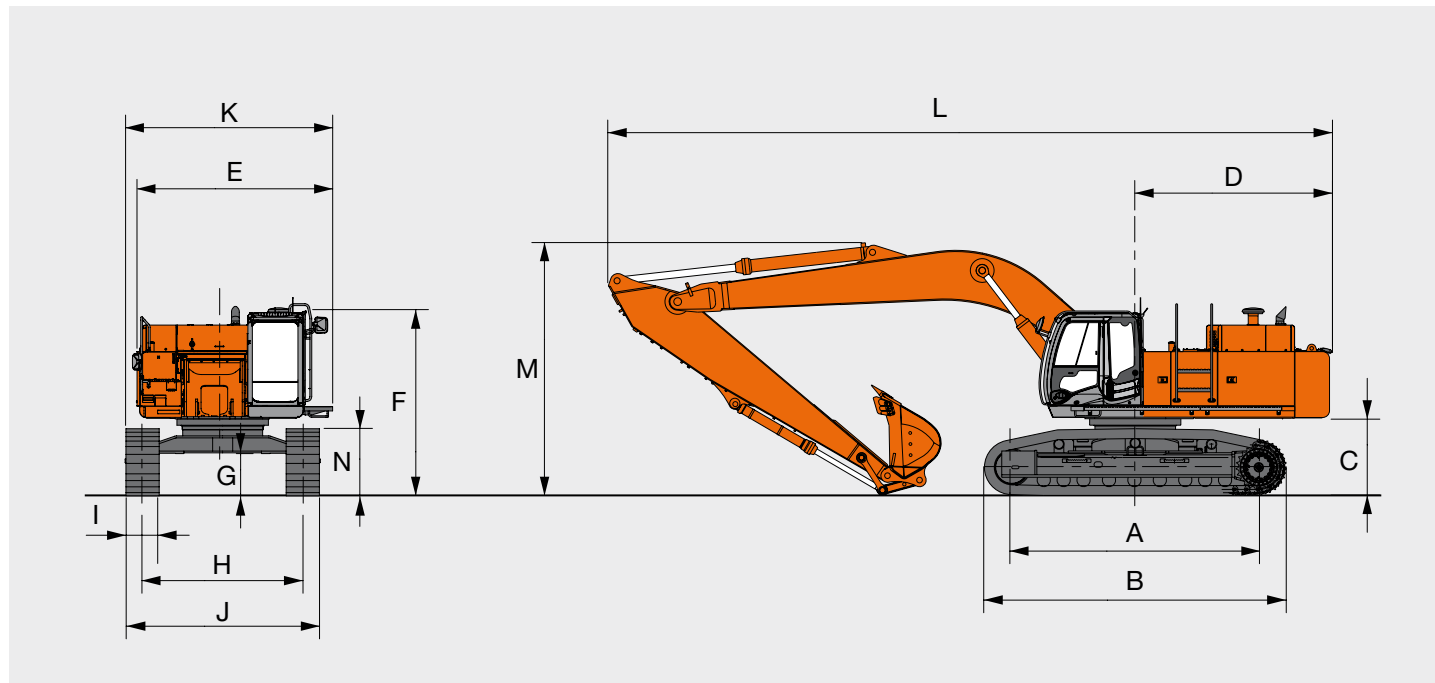
### SERVICE REFILL CAPACITIES

Fuel tank .....	725.0 L
Engine coolant .....	55.0 L
Engine oil .....	57.0 L
Swing device (each side) .....	6.5 L
Travel device (each side) .....	11.0 L
Hydraulic system.....	560.0 L
Hydraulic oil tank.....	330.0 L

# SPECIFICATIONS

## ZX470LCH-3 TYPE 14 SUPER LONG FRONT

### DIMENSIONS

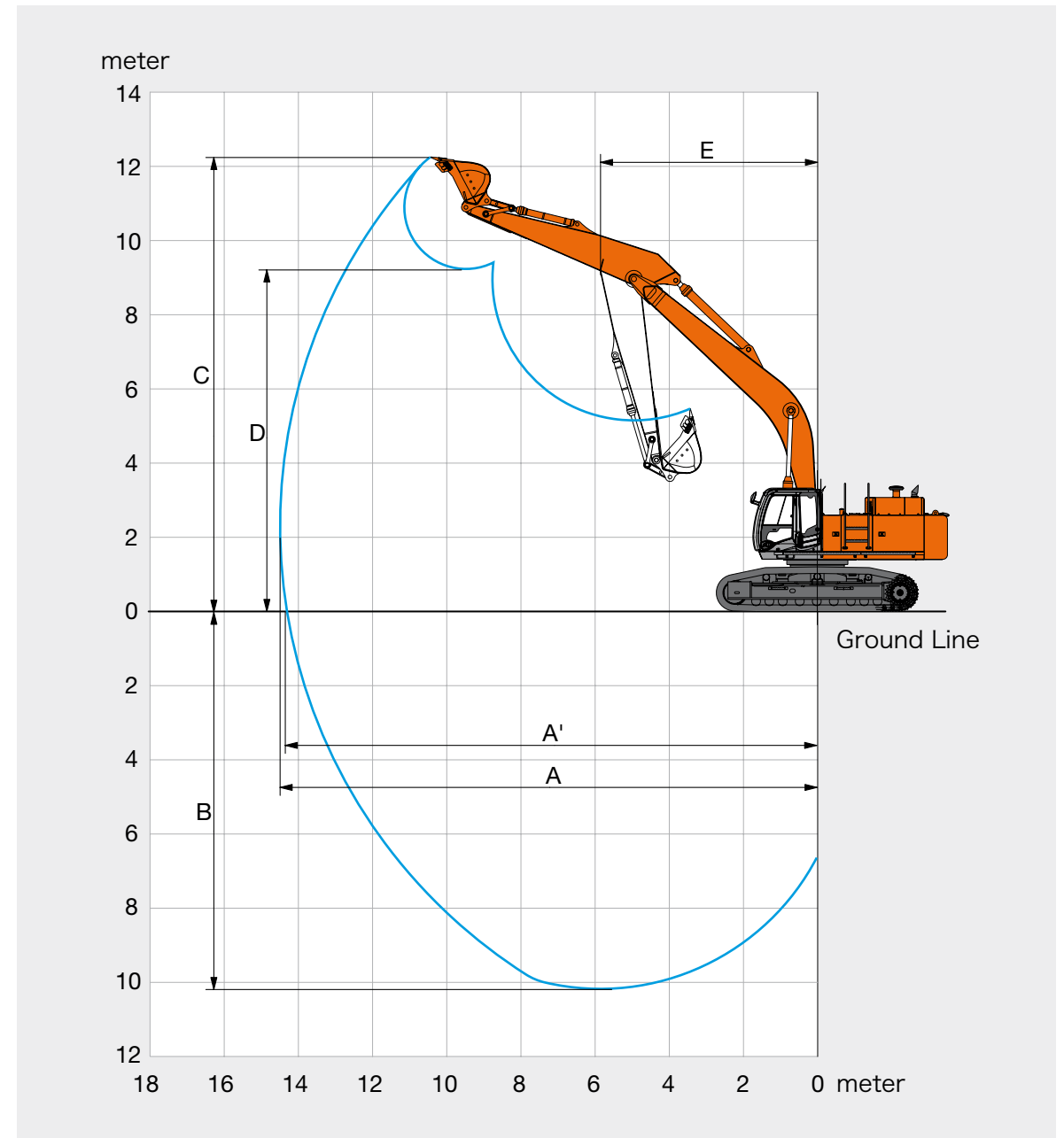


Unit: mm

ZX470LCH-3 TYPE 14 (8.2 m Boom and 4.9 m Arm)			
A	Distance between tumbler	4 470	
B	Undercarriage length	5 470	
*C	Counterweight clearance	1 360	
D	Rear-end swing radius	3 645	
E	Overall width of upperstructure	3 530	
F	Overall height of cab	3 330	
**G	Min. ground clearance	723	
H	Track gauge : Extended / Retracted	2 890 / 2 390	
I	Track shoe width	G 600	G 750 / G 900
J	Undercarriage width	Extended	3 490 / 3 640 / 3 790
		Retracted	2 990 / 3 140 / 3 290
K	Overall width	3 770	3 820 / 3 880
L	Overall length	13 090	
M	Overall height of boom	4 570	
N	Track height with triple grouser shoes	1 220	

- \* : Excluding track shoe lug
- \*\* : Triplegrouser shoe

### WORKING RANGES



Unit: mm

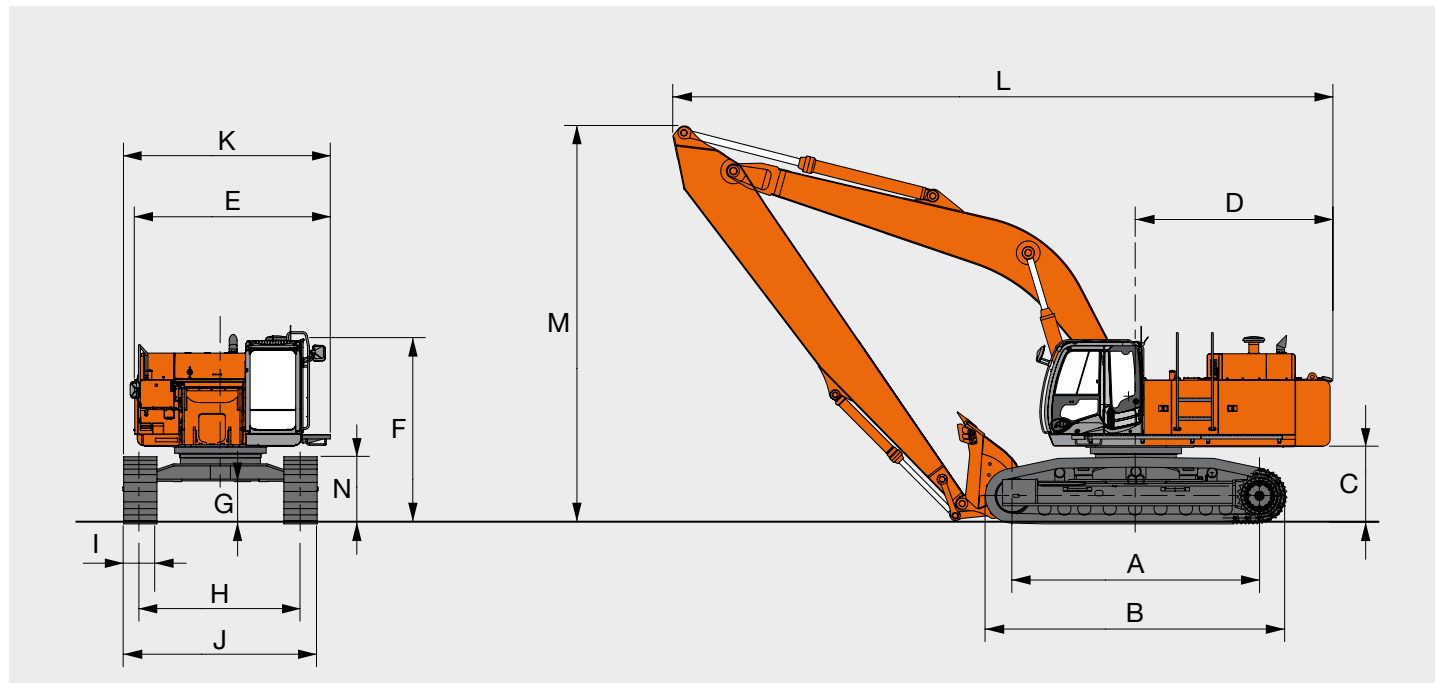
ZX470LCH-3 TYPE 14 (8.2 m Boom and 4.9 m Arm)		
A	Max. digging reach	14 510
A'	Max. digging reach (on ground)	14 330
B	Max. digging depth	10 230
C	Max. cutting height	12 240
D	Max. dumping height	9 220
E	Min. swing radius	5 870
Bucket digging force** ISO		231 kN (23 600 kgf)
Arm crowd force** ISO		172 kN (17 500 kgf)

- Excluding track shoe lug
- \*\* At power boost

# SPECIFICATIONS

## ZX470LCH-3 TYPE 16 SUPER LONG FRONT

### DIMENSIONS

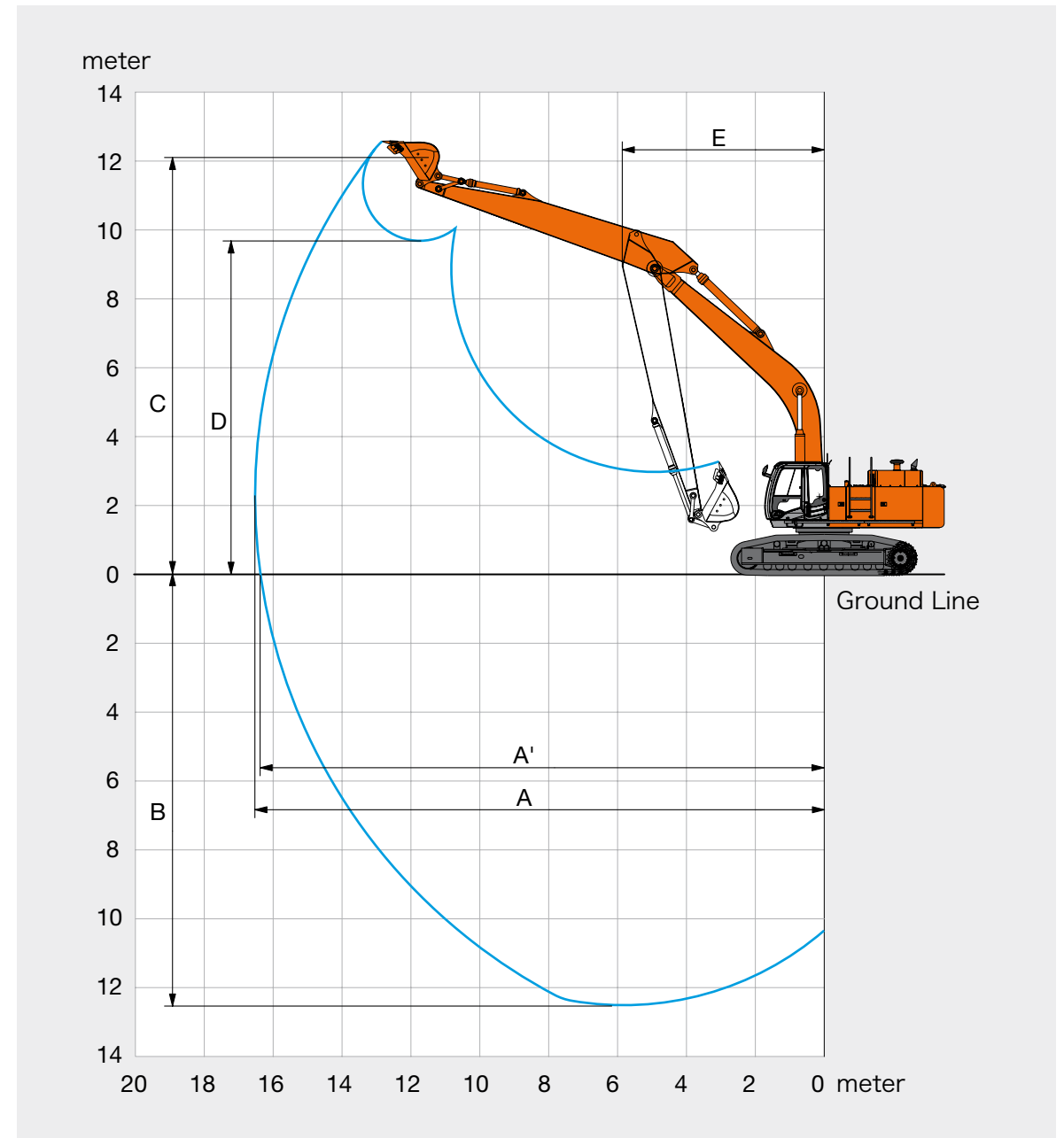


Unit: mm

ZX470LCH-3 TYPE 16 (8.2 m Boom and 7.3 m Arm)			
A	Distance between tumbler	4 470	
B	Undercarriage length	5 470	
*C	Counterweight clearance	1 360	
D	Rear-end swing radius	3 645	
E	Overall width of upperstructure	3 530	
F	Overall height of cab	3 330	
**G	Min. ground clearance	723	
H	Track gauge : Extended / Retracted	2 890 / 2 390	
I	Track shoe width	G 600	G 750 / G 900
J	Undercarriage width	Extended	3 490 / 3 640 / 3 790
		Retracted	2 990 / 3 140 / 3 290
K	Overall width	3 770	3 820 / 3 880
L	Overall length	11 930	
M	Overall height of boom	7 130	
N	Track height with triple grouser shoes	1 220	

- \* : Excluding track shoe lug
- \*\* : Triplegrouser shoe

### WORKING RANGES



Unit: mm

ZX470LCH-3 TYPE 16 (8.2 m Boom and 7.3 m Arm)		
A	Max. digging reach	16 650
A'	Max. digging reach (on ground)	16 490
B	Max. digging depth	12 600
C	Max. cutting height	12 670
D	Max. dumping height	9 760
E	Min. swing radius	6 000
Bucket digging force** ISO		194 kN (19 800 kgf)
Arm crowd force** ISO		106 kN (10 800 kgf)

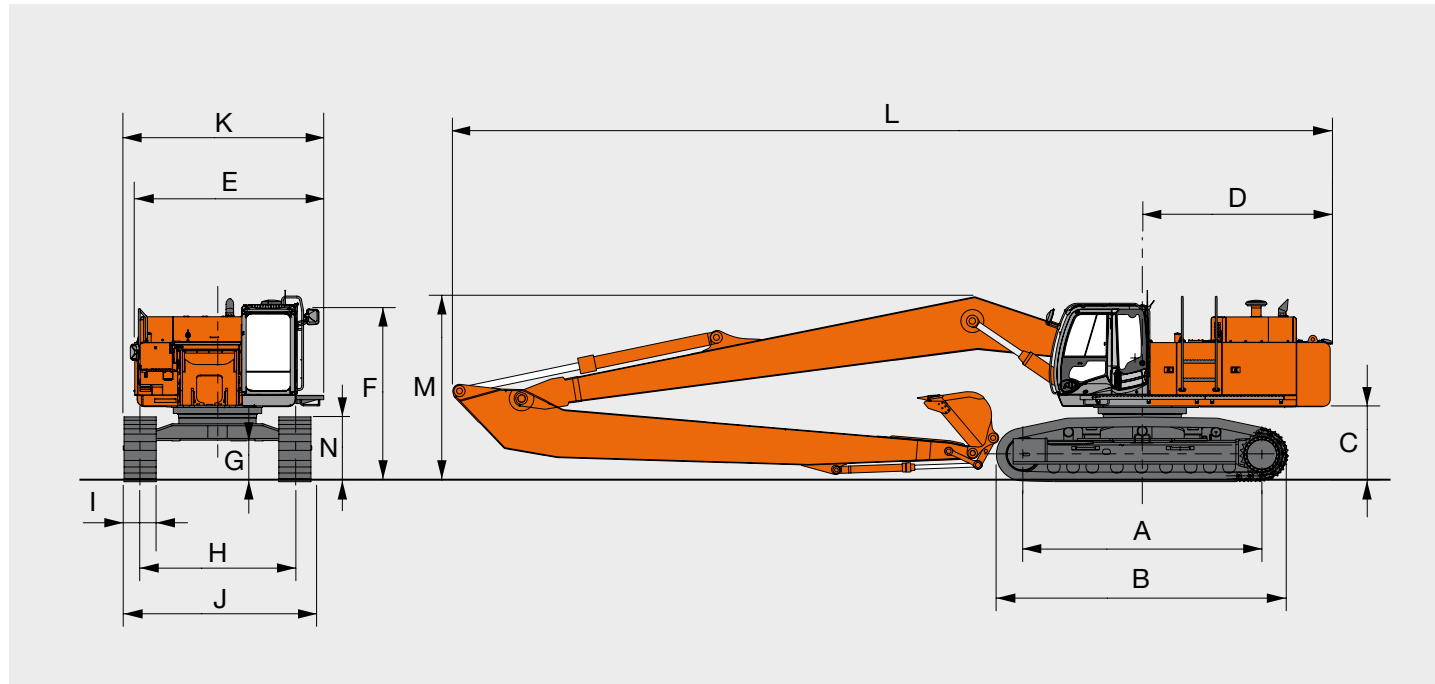
- Excluding track shoe lug
- \*\* At power boost



# SPECIFICATIONS

## ZX470LCH-3 TYPE 20 SUPER LONG FRONT

### DIMENSIONS



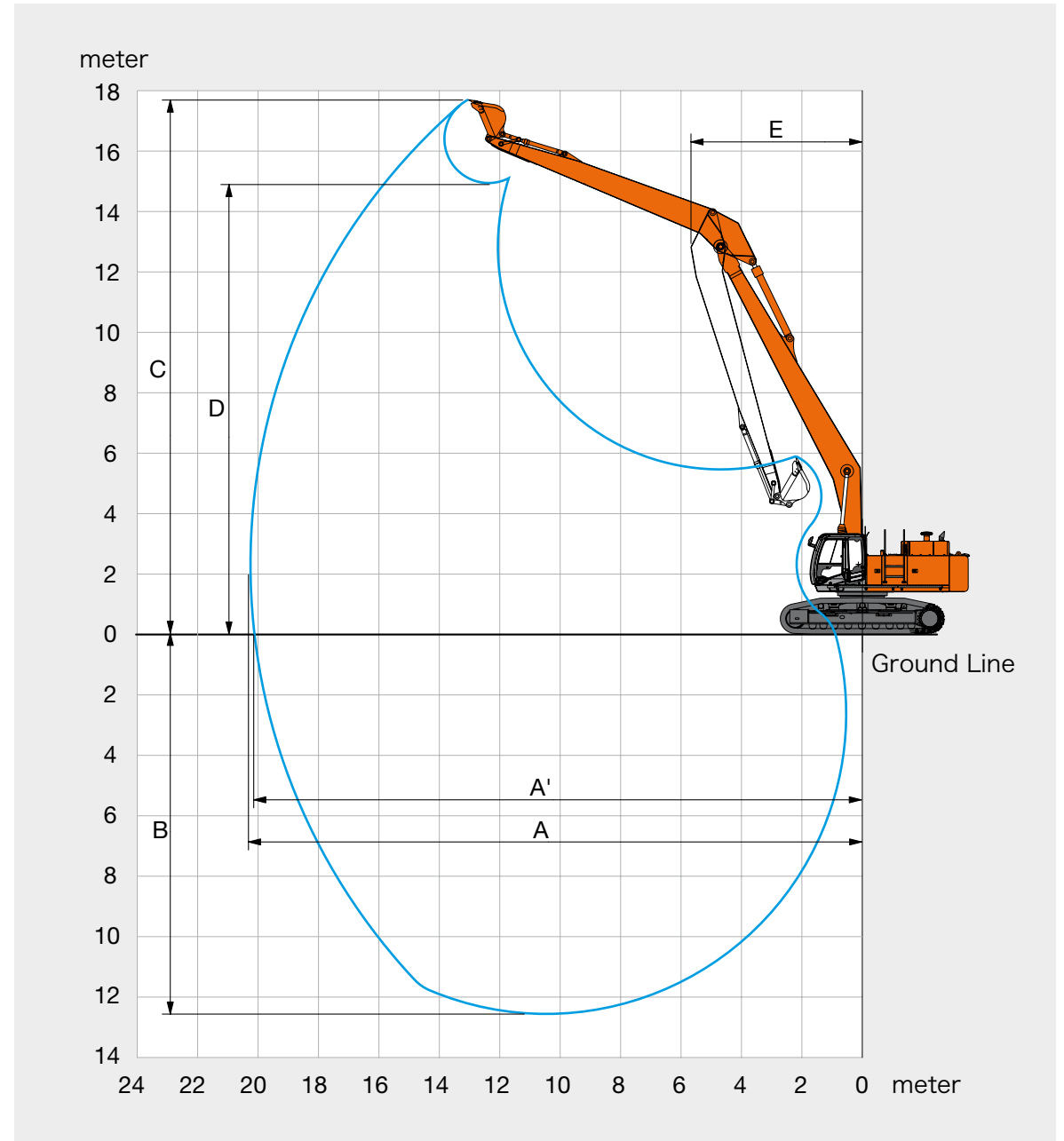
Unit: mm

ZX470LCH-3 TYPE 20 (11.5 m Boom and 8.5 m Arm)			
A	Distance between tumblers	4 470	
B	Undercarriage length	5 470	
*C	Counterweight clearance	1 360	
D	Rear-end swing radius	3 645	
E	Overall width of upperstructure	3 530	
F	Overall height of cab	3 330	
**G	Min. ground clearance	723	
H	Track gauge : Extended / Retracted	2 890 / 2 390	
I	Track shoe width	G 600	G 750 / G 900
J	Undercarriage width	Extended	3 490 / 3 640 / 3 790
		Retracted	2 990 / 3 140 / 3 290
K	Overall width	3 770 / 3 820 / 3 880	
L	Overall length	16 540	
M	Overall height of boom	3 560	
N	Track height with triple grouser shoes	1 220	

•• : Excluding track shoe lug

•••: Triplegrouser shoe

### WORKING RANGES



Unit: mm

ZX470LCH-3 TYPE 20 (11.5 m Boom and 8.5 m Arm)		
A	Max. digging reach	20 340
A'	Max. digging reach (on ground)	20 200
B	Max. digging depth	12 670
C	Max. cutting height	17 710
D	Max. dumping height	14 940
E	Min. swing radius	5 700
Bucket digging force** ISO		144 kN (14 700 kgf)
Arm crowd force** ISO		105 kN (10 700 kgf)

• Excluding track shoe lug

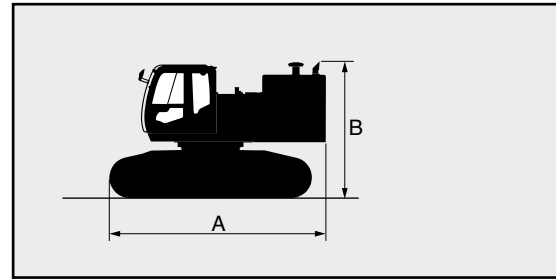
•• At power boost

# TRANSPORTATION

ZX470LCH-3

## TRANSPORTATION

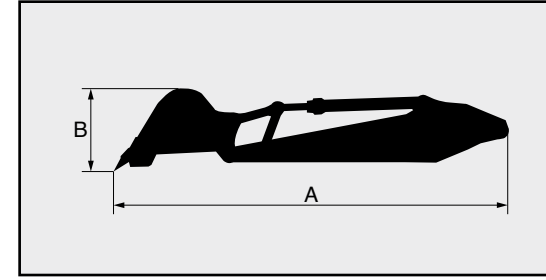
### BASIC MACHINE (WITHOUT COUNTERWEIGHT)



Shoe width	Overall width*	Weight	A	B
600 mm	3 000 mm	29 100 kg	5 630 mm	3 420 mm
750 mm	3 140 mm	29 900 kg		
900 mm	3 290 mm	30 600 kg		

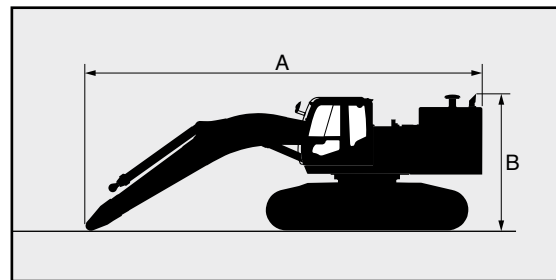
\* Undercarriage retracted

### ARM



Arm	Bucket SAE heaped	A	B	Overall width	Weight
4.9 m	1.15 m <sup>3</sup>	7 760 mm	1 170 mm	2 130 mm	3 700 kg
7.3 m	1.15 m <sup>3</sup>	10 160 mm	1 180 mm	1 230 mm	3 500 kg
8.5 m	0.80 m <sup>3</sup>	11 270 mm	1 320 mm	1 150 mm	3 500 kg

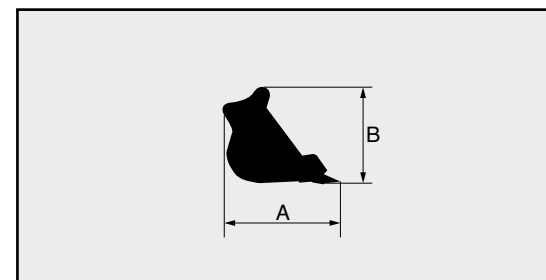
### BASIC MACHINE FITTED WITH BOOM AND NO SIDEWALK



Boom length	Shoe width	Overall width*	Weight	A	B
8.2 m	600 mm	3 000 mm	34 000 kg	11 130 mm	3 420 mm
	750 mm	3 140 mm	34 800 kg		
	900 mm	3 290 mm	35 500 kg		
11.5 m	600 mm	3 000 mm	34 800 kg	14 500 mm	
	750 mm	3 140 mm	35 600 kg		
	900 mm	3 290 mm	36 300 kg		

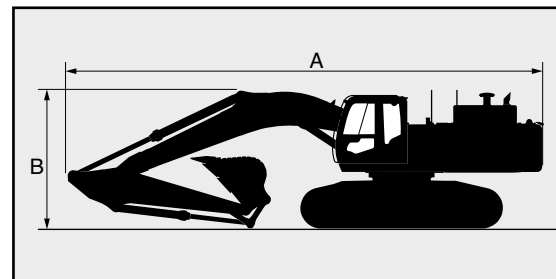
\* Undercarriage retracted

### BUCKET



Bucket		A	B	Overall width	Weight
PCSA heaped	CECE heaped				
1.15 m <sup>3</sup>	1.00 m <sup>3</sup>	1 800 mm	1 350 mm	1 210 mm	1 070 kg
0.80 m <sup>3</sup>	0.70 m <sup>3</sup>	1 480 mm	1 260 mm	1 140 mm	960 kg

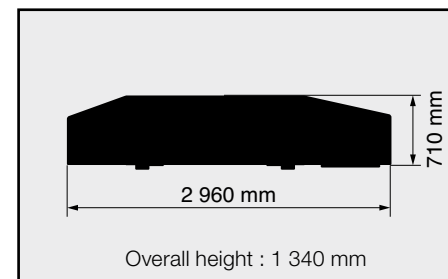
### BASIC MACHINE WITH FRONT AND SIDEWALK



Boom length	Arm length	Shoe width	Overall width*	Weight	A	B
8.2 m	4.9 m	600 mm	3 000 mm	49 500 kg	13 090 mm	4 570 mm
		750 mm	3 140 mm	50 300 kg		
		900 mm	3 290 mm	51 000 kg		
	7.3 m	750 mm	3 140 mm	50 200 kg	11 930 mm	7 130 mm
900 mm		3 290 mm	50 800 kg			
11.5 m	8.5 m	750 mm	3 140 mm	50 900 kg	16 540 mm	3 560 mm
		900 mm	3 290 mm	51 600 kg		

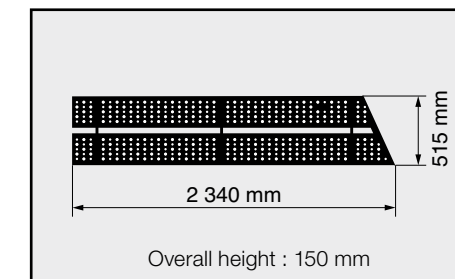
\* Undercarriage retracted

### COUNTERWEIGHT

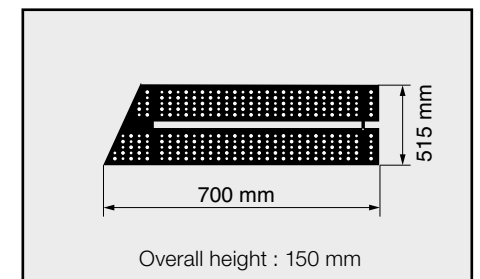


	Weight
Type 14	9 150 kg
Type 16	9 820 kg
Type 20	11 650 kg

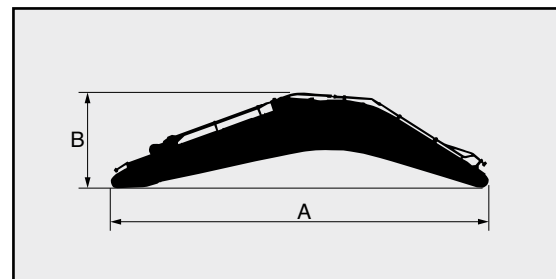
### LEFT SIDEWALK 44 kg



### LEFT SIDEWALK 30 kg



### BOOM



Boom	A	B	Overall width	Weight
8.2 m	8 510 mm	1 930 mm	1 100 mm	4 830 kg
11.5 m	1 170 mm	1 600 mm	1 100 mm	5 350 kg

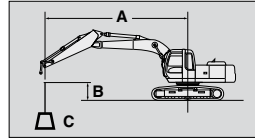


# LIFTING CAPACITIES

## ZX470LCH-3

### Metric measure

- Notes: 1. Ratings are based on ISO 10567.  
 2. Lifting capacity of the ZAXIS Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of 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.



A: Load radius  
 B: Load point height  
 C: Lifting capacity

**ZX470LCH-3 TYPE 14 (8.2 m Boom / 4.9 m Arm without Bucket)** Rating over-front Rating over-side or 360 degrees Unit: 1 000 kg

Conditions	Load point height	Load radius												At max. reach		
		2 m		4 m		6 m		8 m		10 m		12 m		meter		
Boom 8.2 m Arm 4.9 m Shoe 600 mm	8 m									*7.8	7.3			*5.7	*5.7	11.5
	6 m									*8.3	7.1	*6.9	5.2	*5.6	4.9	12.3
	4 m					*13.5	*13.5	*10.6	9.5	*9.1	6.8	7.9	5.0	*5.7	4.5	12.7
	2 m					*16.6	13.1	*12.1	8.8	*9.9	6.4	7.7	4.8	*6.0	4.3	12.8
	0 (Ground)					*18.4	12.2	*13.3	8.3	9.8	6.1	7.6	4.7	*6.5	4.3	12.6
	-2 m	*6.6	*6.6	*11.5	*11.5	*18.9	11.8	13.3	7.9	9.6	5.9	7.5	4.6	7.2	4.5	12.1
	-4 m	*12.0	*12.0	*17.6	*17.6	*18.2	11.8	13.2	7.9	9.6	5.9			8.0	5.1	11.2
	-6 m	*18.3	*18.3	*22.3	*22.3	*16.1	12.0	*12.1	8.0					*9.0	6.2	9.8
	-8 m			*15.9	*15.9	*11.7	*11.7							*8.5	9.2	7.6

Conditions	Load point height	Load radius												At max. reach		
		2 m		4 m		6 m		8 m		10 m		12 m		meter		
Boom 8.2 m Arm 4.9 m Shoe 900 mm	8 m									*7.8	7.5			*5.7	*5.7	11.5
	6 m									*8.3	7.3	*6.9	5.3	*5.6	5.1	12.3
	4 m					*13.5	*13.5	*10.6	9.8	*9.1	7.0	8.2	5.2	*5.7	4.7	12.7
	2 m					*16.6	13.4	*12.1	9.1	*9.9	6.6	8.0	5.0	*6.0	4.5	12.8
	0 (Ground)					*18.4	12.5	*13.3	8.5	10.2	6.3	7.8	4.8	*6.5	4.5	12.6
	-2 m	*6.6	*6.6	*11.5	*11.5	*18.9	12.2	13.7	8.2	10.0	6.1	7.8	4.8	*7.4	4.7	12.1
	-4 m	*12.0	*12.0	*17.6	*17.6	*18.2	12.1	*13.6	8.1	9.9	6.1			8.3	5.3	11.2
	-6 m	*18.3	*18.3	*22.3	*22.3	*16.1	12.4	*12.1	8.3					*9.0	6.4	9.8
	-8 m			*15.9	*15.9	*11.7	*11.7							*8.5	9.4	7.6

**ZX470LCH-3 TYPE 16 (8.2 m Boom / 7.3 m Arm without Bucket)** Rating over-front Rating over-side or 360 degrees Unit: 1 000 kg

Conditions	Load point height	Load radius										At max. reach						
		6 m		8 m		10 m		12 m		14 m		meter						
Boom 8.2 m Arm 7.3 m Shoe 750 mm	8 m															*2.8	*2.8	13.8
	6 m											*4.7	*4.7	*3.8	*3.8	*2.8	*2.8	14.5
	4 m											*5.1	*5.1	*4.5	4.0	*2.9	*2.9	14.8
	2 m							*7.6	*7.6	*6.3	*6.3	*5.6	5.1	*5.1	3.8	*3.0	*3.0	14.9
	0 (Ground)	*12.3	*12.3	*9.0	8.9	*7.2	6.4	*6.1	4.8	*5.3	3.7	*3.2	*3.2	14.8				
	-2 m	*13.9	12.3	*10.0	8.2	*7.8	6.0	*6.4	4.5	*4.8	3.5	*3.6	3.4	14.3				
	-4 m	*14.5	11.8	*10.5	7.8	*8.1	5.7	*6.6	4.4			*4.2	3.7	13.5				
	-6 m	*14.2	11.7	*10.3	7.7	*8.0	5.7	*6.2	4.4			*5.2	4.2	12.4				
	-8 m	*12.7	11.9	*9.3	7.9	*6.9	5.8					*5.9	5.2	10.8				
	-10 m	*9.5	*9.5	*6.6	*6.6							*5.9	*5.9	8.4				

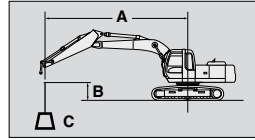
Conditions	Load point height	Load radius										At max. reach						
		6 m		8 m		10 m		12 m		14 m		meter						
Boom 8.2 m Arm 7.3 m Shoe 900 mm	8 m															*2.8	*2.8	13.8
	6 m											*4.7	*4.7	*3.8	*3.8	*2.8	*2.8	14.5
	4 m											*5.1	*5.1	*4.5	4.1	*2.9	*2.9	14.8
	2 m							*7.6	*7.6	*6.3	*6.3	*5.6	5.2	*5.1	3.9	*3.0	*3.0	14.9
	0 (Ground)	*12.3	*12.3	*9.0	*9.0	*7.2	6.5	*6.1	4.9	*5.3	3.7	*3.2	*3.2	14.8				
	-2 m	*13.9	12.5	*10.0	8.4	*7.8	6.1	*6.4	4.6	*4.8	3.6	*3.6	3.5	14.3				
	-4 m	*14.5	12.0	*10.5	8.0	*8.1	5.8	*6.6	4.5			*4.2	3.8	13.5				
	-6 m	*14.2	11.9	*10.3	7.9	*8.0	5.8	*6.2	4.5			*5.2	4.3	12.4				
	-8 m	*12.7	12.1	*9.3	8.0	*6.9	5.9					*5.9	5.4	10.8				
	-10 m	*9.5	*9.5	*6.6	*6.6							*5.9	*5.9	8.4				

# LIFTING CAPACITIES

## ZX470LCH-3

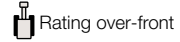
### Metric measure

- Notes: 1. Ratings are based on ISO 10567.  
 2. Lifting capacity of the ZAXIS Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of 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.



- A: Load radius  
 B: Load point height  
 C: Lifting capacity

### ZX470LCH-3 TYPE 20 (11.5 m Boom / 8.5 m Arm without Bucket)



Unit: 1 000 kg

Conditions	Load point height	Load radius										At max. reach		
		10 m		12 m		14 m		16 m		18 m		meter	meter	meter
		Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees			
Boom 11.5 m Arm 8.5 m Shoe 750 mm	14 m					*3.0	*3.0					*2.3	*2.3	14.7
	12 m					*3.3	*3.3	*2.4	*2.4			*2.2	*2.2	16.1
	10 m					*3.3	*3.3	*3.1	*3.1			*2.2	*2.2	17.1
	8 m			*3.9	*3.9	*3.4	*3.4	*3.1	*3.1			*2.2	*2.2	17.9
	6 m	*4.9	*4.9	*4.1	*4.1	*3.6	*3.6	*3.2	*3.2	*2.9	2.5	*2.2	*2.2	18.4
	4 m	*5.3	*5.3	*4.4	*4.4	*3.7	*3.7	*3.3	3.1	*2.9	2.4	*2.3	2.1	18.7
	2 m	*5.7	*5.7	*4.6	*4.6	*3.9	3.8	*3.4	2.9	*2.9	2.3	*2.5	2.0	18.8
	0 (Ground)	*6.0	5.8	*4.8	4.4	*4.0	3.5	*3.4	2.7	*2.9	2.1	*2.7	2.0	18.7
	-2 m	*6.2	5.3	*4.9	4.1	*4.1	3.2	*3.4	2.5	*2.8	2.0	*2.7	2.0	18.3
	-4 m	*6.1	4.9	*4.9	3.8	*4.0	3.0	*3.3	2.4			*2.7	2.0	17.7
	-6 m	*5.8	4.8	*4.7	3.7	*3.8	3.0	*3.1	2.4			*2.7	2.2	16.9
-8 m	*5.3	4.8	*4.3	3.7	*3.4	3.0					*2.6	*2.5	15.7	
-10 m	*4.4	*4.4	*3.5	*3.5	*2.6	*2.6					*2.4	*2.4	14.2	

Conditions	Load point height	Load radius										At max. reach		
		10 m		12 m		14 m		16 m		18 m		meter	meter	meter
		Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees			
Boom 11.5 m Arm 8.5 m Shoe 900 mm	14 m					*3.0	*3.0					*2.3	*2.3	14.7
	12 m					*3.3	*3.3	*2.4	*2.4			*2.2	*2.2	16.1
	10 m					*3.3	*3.3	*3.1	*3.1			*2.2	*2.2	17.1
	8 m			*3.9	*3.9	*3.4	*3.4	*3.1	*3.1			*2.2	*2.2	17.9
	6 m	*4.9	*4.9	*4.1	*4.1	*3.6	*3.6	*3.2	*3.2	*2.9	2.6	*2.2	*2.2	18.4
	4 m	*5.3	*5.3	*4.4	*4.4	*3.7	*3.7	*3.3	3.2	*2.9	2.5	*2.3	2.2	18.7
	2 m	*5.7	*5.7	*4.6	*4.6	*3.9	3.8	*3.4	3.0	*2.9	2.3	*2.5	2.1	18.8
	0 (Ground)	*6.0	5.9	*4.8	4.5	*4.0	3.5	*3.4	2.8	*2.9	2.2	*2.7	2.0	18.7
	-2 m	*6.2	5.4	*4.9	4.2	*4.1	3.3	*3.4	2.6	*2.8	2.1	*2.7	2.0	18.3
	-4 m	*6.1	5.1	*4.9	3.9	*4.0	3.1	*3.3	2.5			*2.7	2.1	17.7
	-6 m	*5.8	4.9	*4.7	3.8	*3.8	3.0	*3.1	2.5			*2.7	2.3	16.9
-8 m	*5.3	5.0	*4.3	3.8	*3.4	3.1					*2.6	*2.6	15.7	
-10 m	*4.4	*4.4	*3.5	*3.5	*2.6	*2.6					*2.4	*2.4	14.2	

# EQUIPMENT

## ZX470LCH-3

### STANDARD EQUIPMENT

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

#### ENGINE

- H/P mode control
- P mode control
- E mode control
- 50 A alternator
- Dry-type air double filter with evacuator valve (with air filter restriction switch for monitor)
- Cartridge-type engine oil filter
- Cartridge-type fuel filter
- Fuel pre-filter
- Radiator, oil cooler and intercooler with dust protective net
- Radiator reserve tank
- Fan guard
- Isolation-mounted engine
- Auto-idle system

#### HYDRAULIC SYSTEM

- Work mode selector
- Engine speed sensing system
- E-P control system
- Power boost (except for Type 16 and Type 20)
- Auto power lift
- Boom mode selector system
- Shockless valve in pilot circuit
- Control valve with main relief valve
- Extra port for control valve
- Suction filter
- Full-flow filter
- Pilot filter
- Drain filter
- Quick warm-up system for pilot circuit

#### CAB

- CRES II cab
- OPG top guard fitted Level II (ISO10262) compliant cab
- All-weather sound suppressed steel cab
- Laminated round glass (green color) front window
- Left side window can be opened
- 6 fluid-filled elastic mounts
- Intermittent windshield wipers
- Front window washer
- Adjustable reclining suspension seat with adjustable armrests
- Footrest
- Electric double horn
- AM-FM radio with digital clock
- Auto-idle selector
- Retractable seat belt
- Drink holder
- Cigarette lighter
- Ashtray
- Storage box
- Glove compartment
- Floor mat
- Short wrist control levers
- Pilot control shut-off lever
- Auto control air conditioner
- Pilot control shut-off lever
- Engine shut-off switch
- Transparent roof with slide curtain

#### MONITOR SYSTEM

- Display of meters: water temperature, hour, fuel rate, clock
- Other displays: work mode, auto-idle, glow, rear view monitor, operating conditions, etc
- Alarms: overheat, engine warning, engine oil pressure, alternator, minimum fuel level, hydraulic filter restriction, air filter restriction, work mode, overload, etc
- Alarm buzzers: overheat, engine oil pressure, overload

#### LIGHTS

- 2 working lights
- 2 cab lights

#### UPPERSTRUCTURE

- 4.5 mm thickness Undercover
- For Type 14 : 9 150 kg counterweight
- For Type 16 : 9 820 kg counterweight
- For Type 20 : 11 650 kg counterweight
- Fuel level float
- Rear view camera
- 170 Ah batteries
- Hydraulic oil level gauge
- Tool box
- Utility space
- Rear view mirror (right & left side)
- Swing parking brake
- Ladder
- Electric fuel refilling pump with auto-stop
- Electric grease gun with hose-reel

#### UNDERCARRIAGE

- Travel parking brake
- Travel motor covers
- Hydraulic track adjuster
- Idler track guard
- Bolt-on sprocket
- Upper and lower rollers
- Reinforced track links with pin seals

#### FRONT ATTACHMENTS

- Flanged pin
- Monolithically cast bucket link A
- Centralized lubrication system
- Dirt seal on all bucket pins

#### MISCELLANEOUS

- Standard tool kit
- Lockable machine covers
- Lockable fuel refilling cap
- Skid-resistant tapes, plates and handrails
- Travel direction mark on track frame
- Onboard information controller

### OPTIONAL EQUIPMENT

Optional equipment may vary by country, so please consult your Hitachi dealer for details.

- Hose rupture valves
- Swing motion alarm device with lamps
- Travel motion alarm device
- Biodegradable oil
- Extinguisher
- Pre cleaner
- Cab front step
- Auto-grease lubricator
- Rain guard for cab
- Sun visor
- 12 V power source
- Additional fuse box
- Overload alarm
- Rear view camera
- Front glass lower guard
- Front glass upper guard
- Counterweight removal device

# SPECIFICATIONS

## ZX670LCH-3

### ENGINE

Model .....	Isuzu AH-6WG1XYSA-02
Type .....	4-cycle water-cooled, direct injection
Aspiration .....	Turbocharged
No. of cylinders .....	6
Rated power	
ISO 9249, net.....	H/P mode :
(Without Fan)	345 kW (463 HP) at 1 800 min <sup>-1</sup> (rpm)
EEC 80/1269, net ...	H/P mode :
(Without Fan)	345 kW (463 HP) at 1 800 min <sup>-1</sup> (rpm)
SAE J1349, net.....	H/P mode :
(Without Fan)	345 kW (463 HP) at 1 800 min <sup>-1</sup> (rpm)
Maximum torque .....	1 980 N·m (202 kgf·m) at 1 500 min <sup>-1</sup> (rpm)
Piston displacement ...	15.681 L
Bore and stroke .....	147 mm x 154 mm
Batteries .....	2 x 12 V / 170 Ah

### HYDRAULIC SYSTEM

- Work mode selector
  - General purpose mode / Attachment mode
- Engine speed sensing system

Main pumps .....	2 variable displacement axial piston pumps
Maximum oil flow...	2 x 456 L/min
Pilot pump .....	1 gear pump
Maximum oil flow ...	30 L/min

### Hydraulic Motors

Travel .....	2 axial piston motors with parking brake
Swing .....	2 axial piston motors

### Relief Valve Settings

Implement circuit .....	31.9 MPa (325 kgf/cm <sup>2</sup> )
Swing circuit .....	29.4 MPa (300 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> )
Power boost .....	34.3 MPa (350 kgf/cm <sup>2</sup> )

### Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

### Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing/travel motor drain lines.

### CONTROLS

Pilot controls. Hitachi's original shock less valve and quick warm-up system built in the pilot circuit.

Implement levers .....	2
Travel levers with pedals .....	2

### UPPERSTRUCTURE

#### Revolving Frame

Welded sturdy box construction, using heavy-gauge steel plates for ruggedness. D-section frame for resistance to deformation.

#### Swing Device

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row, shear-type ball bearing with induction-hardened internal gear. Internal gear and pinion gear are immersed in lubricant. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed .....	9.5 min <sup>-1</sup> (rpm)
-------------------	-----------------------------

#### Operator's Cab

Independent spacious cab, 1 005 mm wide by 1 675 mm high, conforming to ISO\* Standards. (OPG top guard fitted Level II (ISO 10262) compliant cab) Reinforced glass windows on 4 sides for visibility. Reclining seat with armrests; adjustable with or without control levers. \* International Standardization Organization

### UNDERCARRIAGE

#### Tracks

Tractor-type undercarriage. Welded track frame using selected materials. Side frame bolted to track frame. Lubricated track rollers, idlers, and sprockets with floating seals. Track shoes with double grousers made of induction-hardened rolled alloy. 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 .....	3
Lower rollers .....	8
Track shoes .....	47
Full track guard .....	1

#### Travel Device

Each track driven by axial piston motor through reduction gear for counterrotation of the tracks. Sprockets are replaceable. Parking brake is spring-set/hydraulic-released disc type. Automatic transmission system: High-Low.

Travel speeds .....	High : 0 to 4.9 km/h
	Low : 0 to 3.4 km/h

Maximum traction force ...	460 kN (46 920 kgf)
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Gradeability .....	70 % (35 degree) continuous
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### WEIGHTS AND GROUND PRESSURE

#### ZX670LCH-3 TYPE 16 SUPER LONG FRONT:

Equipped with 9.2 m Boom, 5.3 m Arm and 1.5 m<sup>3</sup> bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Double grouser	650 mm	66 200 kg	99 kPa (1.01 kgf/cm <sup>2</sup> )
	750 mm	66 800 kg	87 kPa (0.89 kgf/cm <sup>2</sup> )
	900 mm	67 700 kg	74 kPa (0.75 kgf/cm <sup>2</sup> )

Note : Depending on the jobsites conditions, 900 mm grouser shoe may not be recommended for rock, hard surface or forestry application.

### SERVICE REFILL CAPACITIES

Fuel tank .....	900.0 L
Engine coolant .....	57.0 L
Engine oil .....	57.0 L
Pump drive.....	6.7 L
Swing device (each side) .....	10.5 L
Travel device (each side) .....	16.0 L
Hydraulic system.....	680.0 L
Hydraulic oil tank.....	380.0 L

### BACKHOE ATTACHMENTS

Boom and arms are of all-welded, box-section design.

### BACKHOE BUCKET

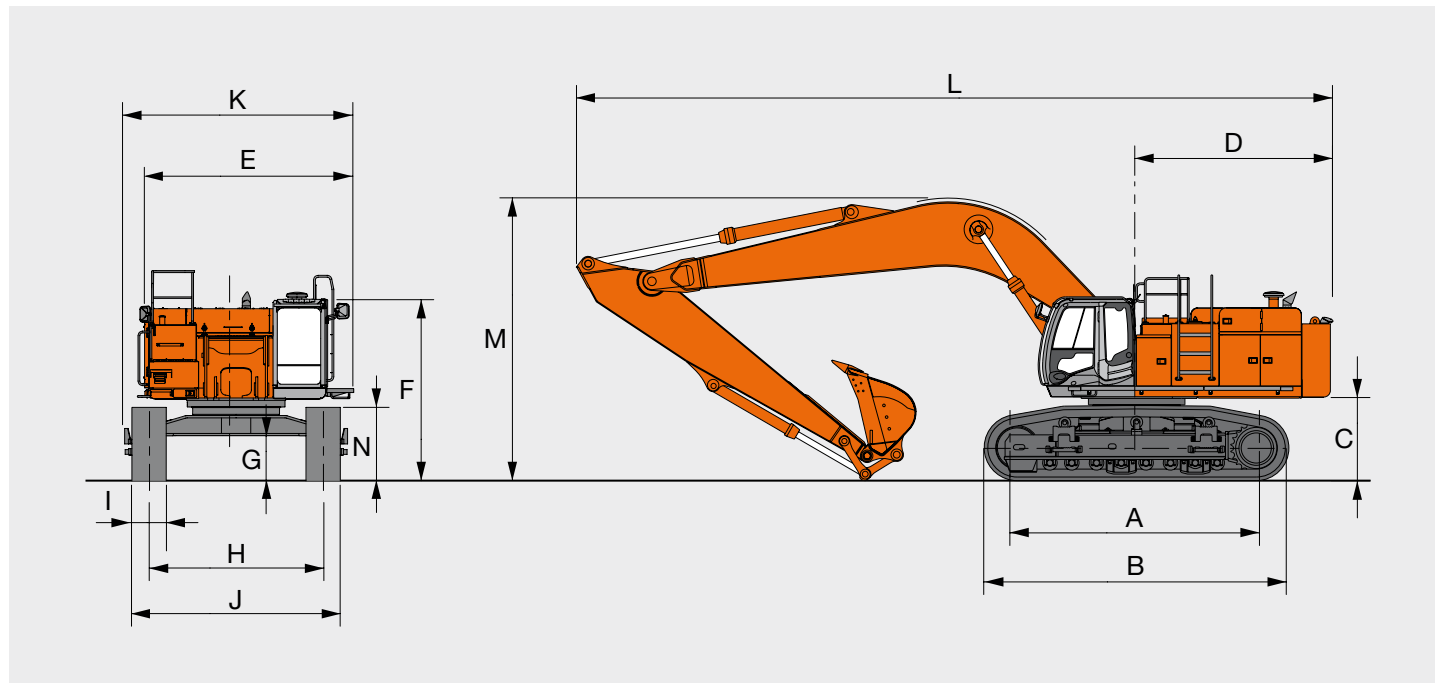
Capacity SAE, PCSA heaped	Width without side cutters	Weight
1.5 m <sup>3</sup>	1 180 mm	1 540 kg



# SPECIFICATIONS

## ZX670LCH-3 TYPE 16 SUPER LONG FRONT

### DIMENSIONS



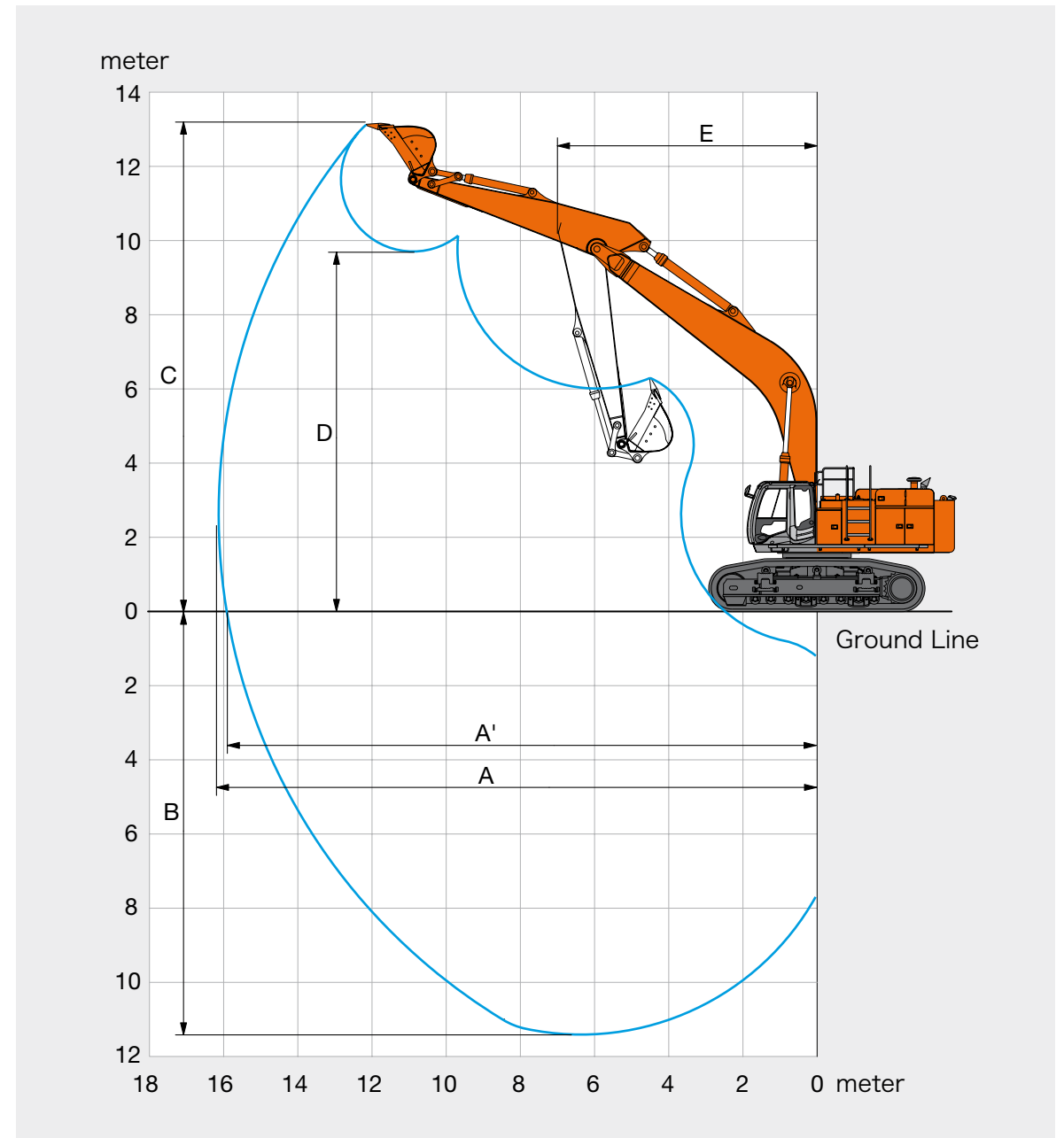
Unit: mm

ZX670LCH-3 TYPE 16 (9.2 m Boom and 5.3 m Arm)			
A	Distance between tumbler	4 590	
B	Undercarriage length	5 840	
*C	Counterweight clearance	1 530	
D	Rear-end swing radius	3 850	
E	Overall width of upperstructure	4 100	
F	Overall height of cab	3 450	
**G	Min. ground clearance	860	
H	Track gauge	3 300	
I	Track shoe width	G 650	G 750      G 900
J	Undercarriage width	Extended	3 950      4 050      4 200
		Retracted	3 480      3 580      3 730
K	Overall width	4 340	
L	Overall length	14 470	
M	Overall height of boom	5 420	
N	Track height with triple grouser shoes	1 390	

•\* : Excluding track shoe lug

•\*\* : Triple grouser shoe

### WORKING RANGES



Unit: mm

ZX670LCH-3 TYPE 16 (9.2 m Boom and 5.3 m Arm)		
A	Max. digging reach	16 170
A'	Max. digging reach (on ground)	15 960
B	Max. digging depth	11 480
C	Max. cutting height	13 110
D	Max. dumping height	9 680
E	Min. swing radius	6 990
Bucket digging force** ISO		278 kN (28 300 kgf)
Arm crowd force** ISO		190 kN (19 400 kgf)

• Excluding track shoe lug

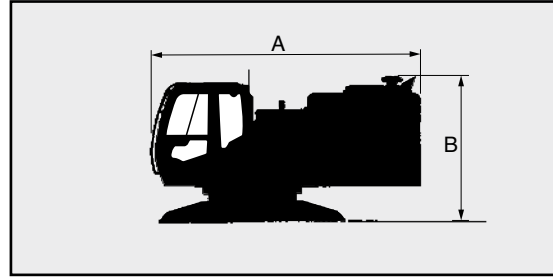
•\*\* At power boost

# TRANSPORTATION

ZX670LCH-3

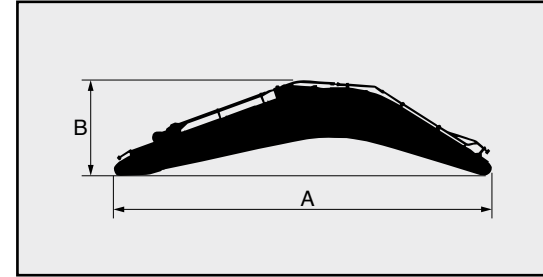
## TRANSPORTATION

### UPPERSTRUCTURE



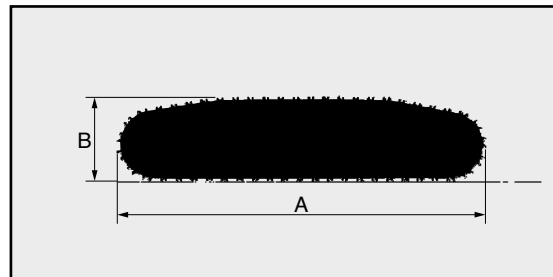
A	B	Overall width	Weight
5 060 mm	2 740 mm	3 470 mm	20 100 kg

### BOOM



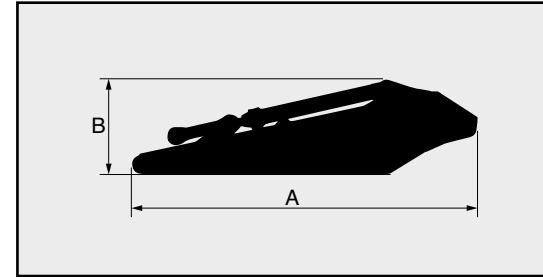
Boom	A	B	Overall width	Weight
9.2 m	9 520 mm	2 610 mm	1 390 mm	7 680 kg

### SIDE FRAME



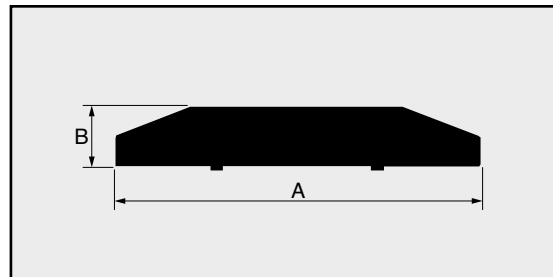
Shoe width	A	B	Overall width	Weight
650 mm	5 840 mm	1 450 mm	1 250 mm	10 600 kg
750 mm			1 250 mm	10 900 kg
900 mm			1 320 mm	11 400 kg

### ARM



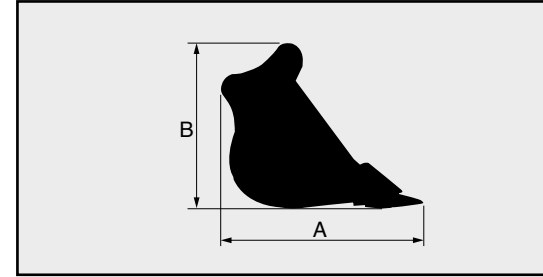
Arm	A	B	Overall width	Weight
5.3 m	6 720 mm	1 290 mm	800 mm	3 630 kg

### COUNTERWEIGHT



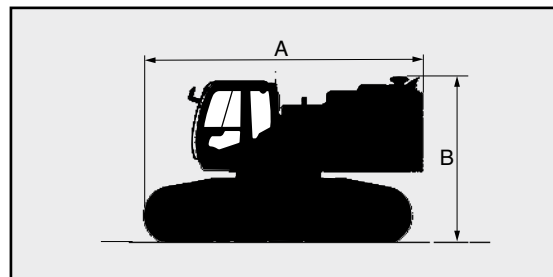
A	B	Overall width	Weight
3 360 mm	590 mm	1 550 mm	12 100 kg

### BUCKET



Bucket		A	B	Overall width	Weight
PCSA heaped	CECE heaped				
1.5 m³	1.3 m³	2 010 mm	1 570 mm	1 320 mm	1 540 kg

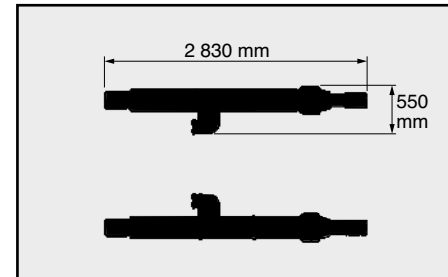
### BASIC MACHINE (WITHOUT COUNTERWEIGHT)



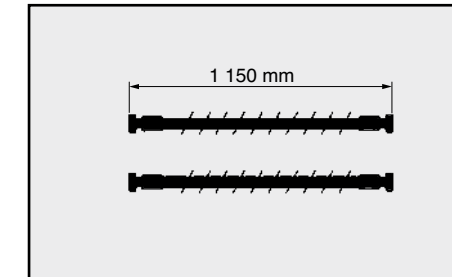
Shoe width	Overall width*	Weight	A	B
650 mm	3 600 mm	41 900 kg	6 100 mm	3 640 mm
750 mm	3 600 mm	42 600 kg		
900 mm	3 730 mm	43 500 kg		

\* Undercarriage retracted

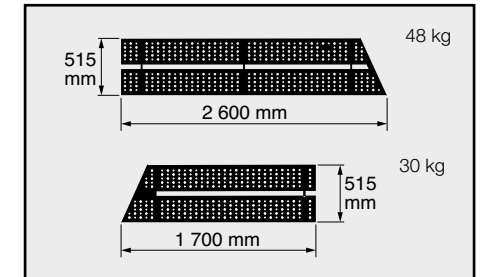
### BOOM CYLINDERS 550 kg x 2



### HOSE OF BOOM CYLINDERS 7 kg x 2 / 10 kg x 2



### LEFT SIDEWALK

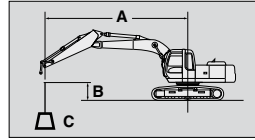


# LIFTING CAPACITIES

## ZX670LCH-3

### Metric measure

- Notes: 1. Ratings are based on ISO 10567.  
 2. Lifting capacity of the ZAXIS Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of 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.



A: Load radius  
 B: Load point height  
 C: Lifting capacity

### ZX670LCH-3 TYPE 16 (9.2 m Boom / 5.3 m Arm without Bucket)

Rating over-front Rating over-side or 360 degrees Unit: 1 000 kg

Conditions	Load point height	Load radius												At max. reach		
		4 m		6 m		8 m		10 m		12 m		14 m				Meters
Boom 9.2 m	10 m									*5.9	*5.9			*5.4	*5.4	12.1
Arm 5.3 m	8 m									*8.6	8.1			*5.3	*5.3	13.1
Shoe 650 mm	6 m									*9.8	*9.8	*9.1	7.8			
	4 m			*18.2	*18.2	*13.4	*13.4	*11.1	10.0	*9.8	7.4	*6.4	5.6	*5.4	*5.4	14.1
	2 m			*22.3	19.2	*15.7	12.9	*12.5	9.3	10.2	7.0	*7.2	5.4	*5.7	5.3	14.2
	0 m			*18.8	17.9	*17.4	12.0	12.8	8.8	9.8	6.7			*6.2	5.3	13.9
	-2 m	*10.5	*10.5	*22.0	17.4	17.2	11.5	12.5	8.4	9.6	6.5			*7.0	5.5	13.4
	-4 m	*16.5	*16.5	*24.9	17.5	17.1	11.4	12.3	8.3	9.6	6.5			*8.3	6.1	12.5
	-6 m	*24.2	*24.2	*23.2	17.9	17.3	11.6	12.5	8.5					10.4	7.3	11.2
	-8 m	*27.1	*27.1	*19.7	18.7	14.7	12.2							*11.6	9.9	9.4

Conditions	Load point height	Load radius												At max. reach		
		4 m		6 m		8 m		10 m		12 m		14 m				Meters
Boom 9.2 m	10 m									*5.9	*5.9			*5.4	*5.4	12.1
Arm 5.3 m	8 m									*8.6	8.3			*5.3	*5.3	13.1
Shoe 900 mm	6 m									*9.8	*9.8	*9.1	8.0			
	4 m			*18.2	*18.2	*13.4	*13.4	*11.1	10.3	*9.8	7.6	*6.4	5.8	*5.4	*5.4	14.1
	2 m			*22.3	19.6	*15.7	13.2	*12.5	9.6	10.2	7.2	*7.2	5.6	*5.7	5.4	14.2
	0 m			*18.8	18.4	*17.4	12.3	12.8	9.0	9.8	6.9			*6.2	5.5	13.9
	-2 m	*10.5	*10.5	*22.0	17.9	17.3	11.9	12.5	8.7	9.6	6.7			*7.0	5.7	13.4
	-4 m	*16.5	*16.5	*24.9	18.0	17.1	11.7	12.4	8.6	9.6	6.7			*8.3	6.3	12.5
	-6 m	*24.2	*24.2	*23.2	18.4	17.4	11.9	12.6	8.8					10.7	7.5	11.2
	-8 m	*27.1	*27.1	*19.7	19.2	*14.7	12.5							*11.6	10.1	9.4

# EQUIPMENT

## STANDARD EQUIPMENT

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

### ENGINE

- H/P mode control
- P mode control
- E mode control
- 50 A alternator
- Dry-type air double filter with evacuator valve (with air filter restriction switch for monitor)
- Cartridge-type engine oil filter
- Cartridge-type fuel filter
- Fuel pre-filter
- Radiator, oil cooler and intercooler with dust protective net
- Radiator reserve tank
- Fan guard
- Isolation-mounted engine
- Auto-idle system

### HYDRAULIC SYSTEM

- Work mode selector
- Engine speed sensing system
- E-P control system
- Power boost
- Auto power lift
- Boom mode selector system
- Shockless valve in pilot circuit
- Control valve with main relief valve
- Extra port for control valve
- Suction filter
- Full-flow filter
- Pilot filter
- Drain filter
- Quick warm-up system for pilot circuit

### CAB

- CRES II cab
- OPG top guard fitted Level II (ISO10262) compliant cab
- All-weather sound suppressed steel cab
- Laminated round glass (green color) front window
- Left side window can be opened
- 6 fluid-filled elastic mounts
- Intermittent windshield wipers
- Front window washer
- Adjustable reclining suspension seat with adjustable armrests
- Footrest
- Electric double horn
- AM-FM radio with digital clock
- Auto-idle selector
- Retractable seat belt
- Drink holder
- Cigarette lighter
- Ashtray
- Storage box
- Glove compartment
- Floor mat
- Short wrist control levers
- Auto control air conditioner
- Pilot control shut-off lever
- Engine shut-off switch
- Transparent roof with slide curtain

### MONITORING SYSTEM

- Display of meters: water temperature, hour, fuel rate, clock
- Other displays: work mode, auto-idle, glow, rear view monitor (when optional rear view camera is equipped), operating conditions, etc
- Alarms: overheat, engine warning, engine oil pressure, alternator, minimum fuel level, hydraulic filter restriction, air filter restriction, work mode, overload, etc
- Alarm buzzers: overheat, engine oil pressure, overload

### LIGHTS

- 2 working lights
- 2 cab lights

### UPPERSTRUCTURE

- 4.5 mm thickness Undercover
- 12 100 kg counterweight
- Fuel level float
- Rear view camera
- 170 Ah batteries
- Hydraulic oil level gauge
- Tool box
- Utility space
- Rear view mirror (right & left side)
- Swing parking brake
- Ladder
- Electrical fuel refilling pump with auto-stop
- Electric grease gun with hose-reel

### UNDERCARRIAGE

- Travel parking brake
- Travel motor covers
- Hydraulic track adjuster
- Idler track guard
- Bolt-on sprocket
- Upper and lower rollers
- Reinforced track links with pin seals
- Double grouser shoes

### FRONT ATTACHMENTS

- Flanged pin
- Centralized lubrication system
- Dirt seal on all bucket pins

### MISCELLANEOUS

- Standard tool kit
- Lockable machine covers
- Lockable fuel filling cap
- Skid-resistant tapes, plates, handrails and sidewalk
- Travel direction mark on track frame
- Onboard information controller
- Theft deterrent system

## OPTIONAL EQUIPMENT

Optional equipment may vary by country, so please consult your Hitachi dealer for details.

- Hose rupture valves
- Swing motion alarm device with lamps
- Travel motion alarm device
- Biodegradable oil
- Extinguisher
- Pre cleaner
- Cab front step
- Auto-grease lubricator
- Sun visor
- Rain guard for cab
- 12 V power source
- Additional fuse box
- Overload alarm
- Front glass lower guard
- Front glass upper guard
- Counterweight removal device



# SPECIFICATIONS

## ZX870LCH-3

### ENGINE

Model .....	Isuzu AH-6WG1XYSA-03
Type .....	4-cycle water-cooled, direct injection
Aspiration .....	Turbocharged
No. of cylinders .....	6
Rated power	
ISO 9249, net.....	H/P mode :
(Without Fan)	397 kW (532 HP) at 1 800 min <sup>-1</sup> (rpm)
EEC 80/1269, net ...	H/P mode :
(Without Fan)	397 kW (532 HP) at 1 800 min <sup>-1</sup> (rpm)
SAE J1349, net.....	H/P mode :
(Without Fan)	397 kW (532 HP) at 1 800 min <sup>-1</sup> (rpm)
Maximum torque .....	2 250 N·m (229 kgf·m) at 1 600 min <sup>-1</sup> (rpm)
Piston displacement ...	15.681 L
Bore and stroke .....	147 mm x 154 mm
Batteries .....	2 x 12 V / 170 Ah

### HYDRAULIC SYSTEM

- Work mode selector  
General purpose mode / Attachment mode
- Engine speed sensing system

Main pumps .....	2 variable displacement axial piston pumps
Maximum oil flow...	2 x 528 L/min
Pilot pump .....	1 gear pump
Maximum oil flow ...	30 L/min

### Hydraulic Motors

Travel .....	2 axial piston motors with parking brake
Swing .....	2 axial piston motors

### Relief Valve Settings

Implement circuit .....	31.9 MPa (325 kgf/cm <sup>2</sup> ) : TYPE 17 29.4 MPa (300 kgf/cm <sup>2</sup> ) : TYPE 21
Swing circuit .....	28.4 MPa (290 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> )
Power boost .....	34.3 MPa (350 kgf/cm <sup>2</sup> )

### Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

### Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing/travel motor drain lines.

### CONTROLS

Pilot controls. Hitachi's original shock less valve and quick warm-up system built in the pilot circuit.

Implement levers .....	2
Travel levers with pedals .....	2

### UPPERSTRUCTURE

#### Revolving Frame

Welded sturdy box construction, using heavy-gauge steel plates for ruggedness. D-section frame for resistance to deformation.

#### Swing Device

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row, shear-type ball bearing with induction-hardened internal gear. Internal gear and pinion gear are immersed in lubricant. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed .....	7.3 min <sup>-1</sup> (rpm)
-------------------	-----------------------------

#### Operator's Cab

Independent spacious cab, 1 005 mm wide by 1 675 mm high, conforming to ISO\* Standards. (OPG top guard fitted Level II, ISO 10262 compliant cab) Reinforced glass windows on 4 sides for visibility. Reclining seat with armrests; adjustable with or without control levers.  
\* International Standardization Organization

### UNDERCARRIAGE

#### Tracks

Tractor-type undercarriage. Welded track frame using selected materials. Side frame bolted to track frame. Lubricated track rollers, idlers, and sprockets with floating seals. Track shoes with double grousers made of induction-hardened rolled alloy. 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 .....	3
Lower rollers .....	9
Track shoes .....	51
Full track guard .....	1

#### Travel Device

Each track driven by axial piston motor through reduction gear for counterrotation of the tracks. Sprockets are replaceable. Parking brake is spring-set/hydraulic-released disc type. Automatic transmission system: High-Low.

Travel speeds .....	High : 0 to 4.1 km/h Low : 0 to 3.1 km/h
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Maximum traction force ...	560 kN (57 100 kgf)
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Gradeability .....	70 % (35 degree) continuous
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### WEIGHTS AND GROUND PRESSURE

#### ZX870LCH-3 TYPE 17 SUPER LONG FRONT:

Equipped with 10.0 m Boom, 5.4 m Arm and 1.9 m<sup>3</sup> bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Double grouser	650 mm	81 200 kg	110 kPa (1.12 kgf/cm <sup>2</sup> )
	750 mm	81 900 kg	97 kPa (0.99 kgf/cm <sup>2</sup> )
	900 mm	82 900 kg	81 kPa (0.83 kgf/cm <sup>2</sup> )

#### ZX870LCH-3 TYPE 21 SUPER LONG FRONT:

Equipped with 10.0 m Boom, 9.5 m Arm and 1.5 m<sup>3</sup> bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Double grouser	750 mm	83 100 kg	98 kPa (1.00 kgf/cm <sup>2</sup> )
	900 mm	84 000 kg	83 kPa (0.85 kgf/cm <sup>2</sup> )

Note : Depending on the jobsites conditions, 900 mm grouser shoe may not be recommended for rock, hard surface or forestry application.

### SERVICE REFILL CAPACITIES

Fuel tank .....	1 120.0 L
Engine coolant .....	116.0 L
Engine oil .....	57.0 L
Pump drive.....	6.2 L
Swing device (each side) .....	15.0 L
Travel device (each side) .....	19.0 L
Hydraulic system.....	790.0 L
Hydraulic oil tank.....	500.0 L

### BACKHOE ATTACHMENTS

Boom and arms are of all-welded, box-section design.

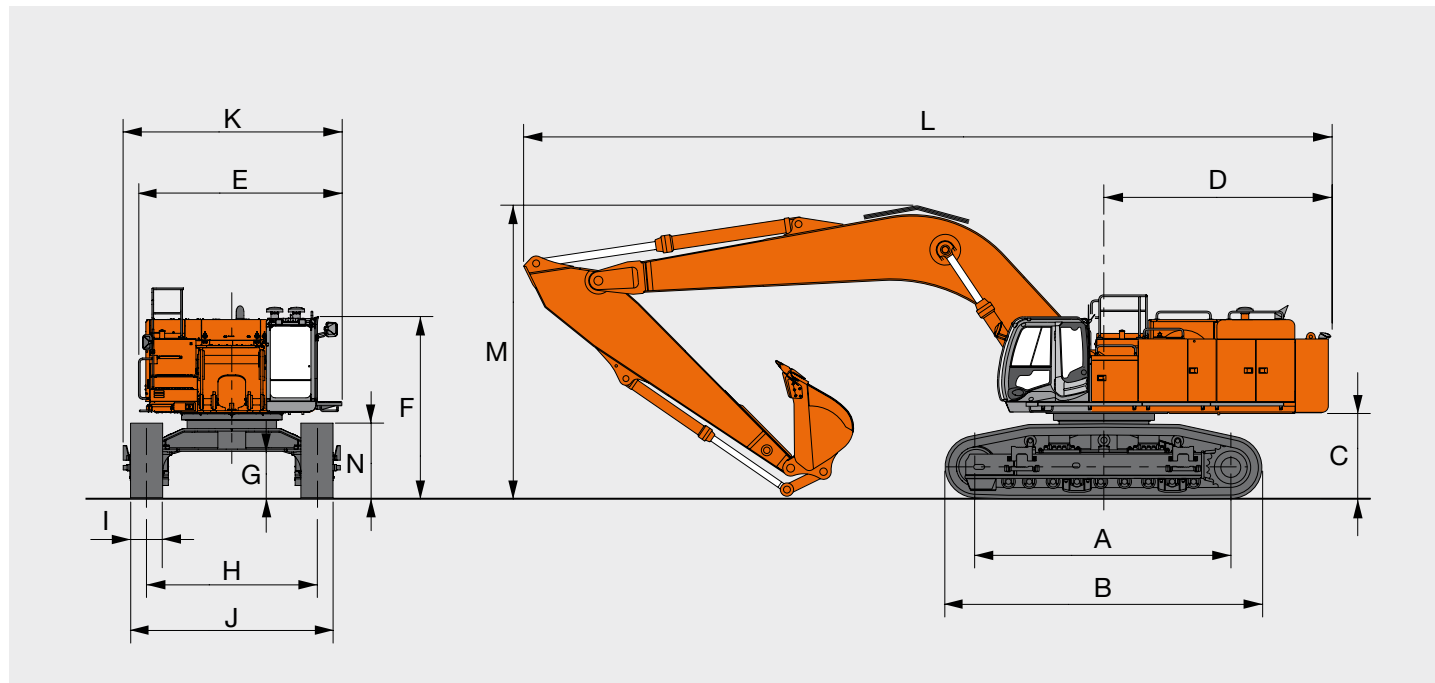
### BACKHOE BUCKET

Capacity SAE, PCSA heaped	Width without side cutters	Weight
1.5 m <sup>3</sup>	1 270 mm	1 260 kg
1.9 m <sup>3</sup>	1 400 mm	1 590 kg

# SPECIFICATIONS

## ZX870LCH-3 TYPE 17 SUPER LONG FRONT

### DIMENSIONS

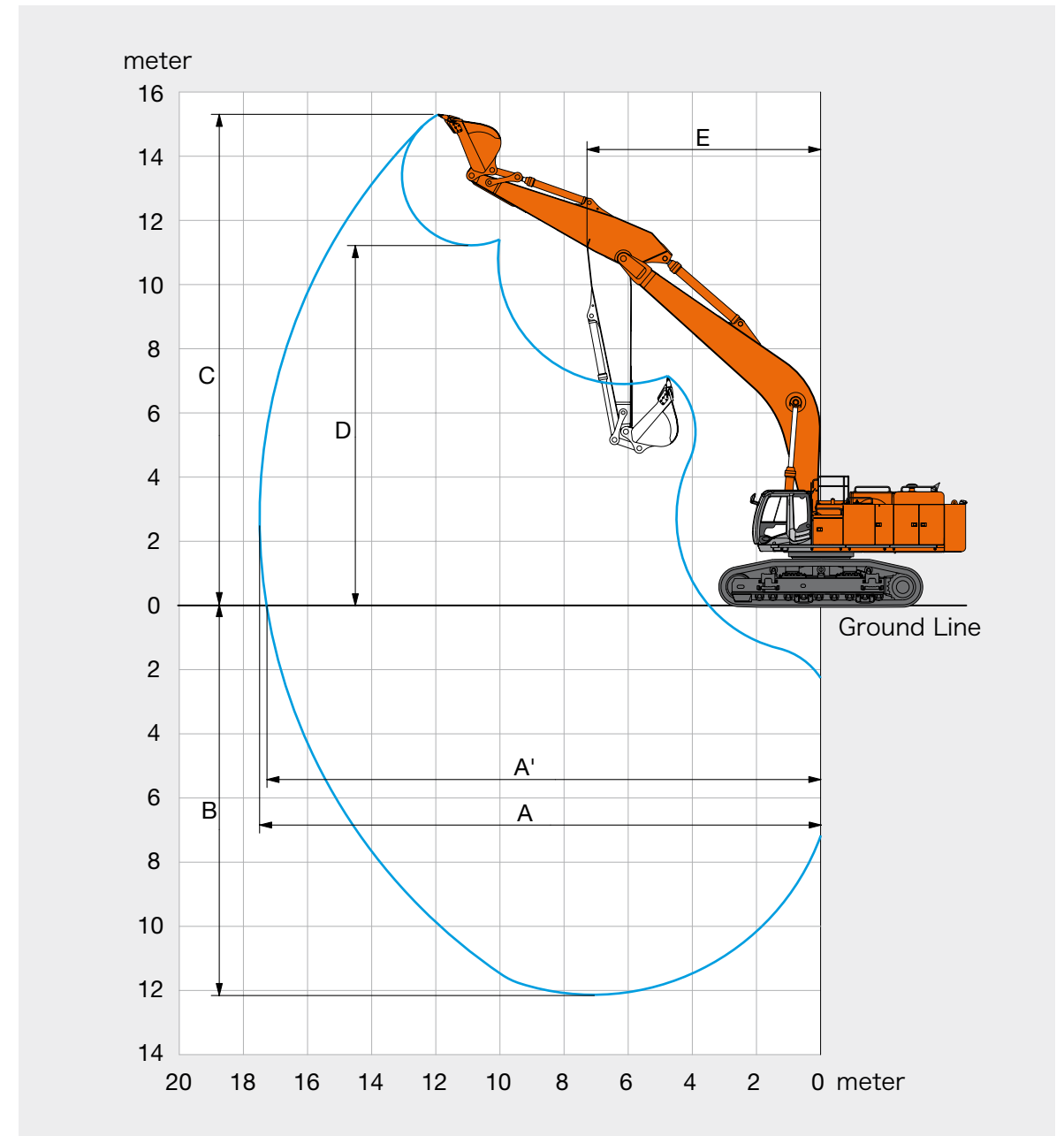


Unit: mm

ZX870LCH-3 TYPE 17 (10 m Boom and 5.4 m Arm)			
A	Distance between tumbler	5 110	
B	Undercarriage length	6 360	
*C	Counterweight clearance	1 680	
D	Rear-end swing radius	4 600	
E	Overall width of upperstructure	4 120	
F	Overall height of cab	3 630	
**G	Min. ground clearance	890	
H	Track gauge	3 450	
I	Track shoe width	G 650	G 750 G 900
J	Undercarriage width	Extended	4 100 4 200 4 350
		Retracted	3 480 3 580 3 730
K	Overall width	4 430 4 430 4 430	
L	Overall length	16 210	
M	Overall height of boom	5 900	
N	Track height with triple grouser shoes	1 500	

- \* : Excluding track shoe lug
- \*\* : Triple grouser shoe

### WORKING RANGES



Unit: mm

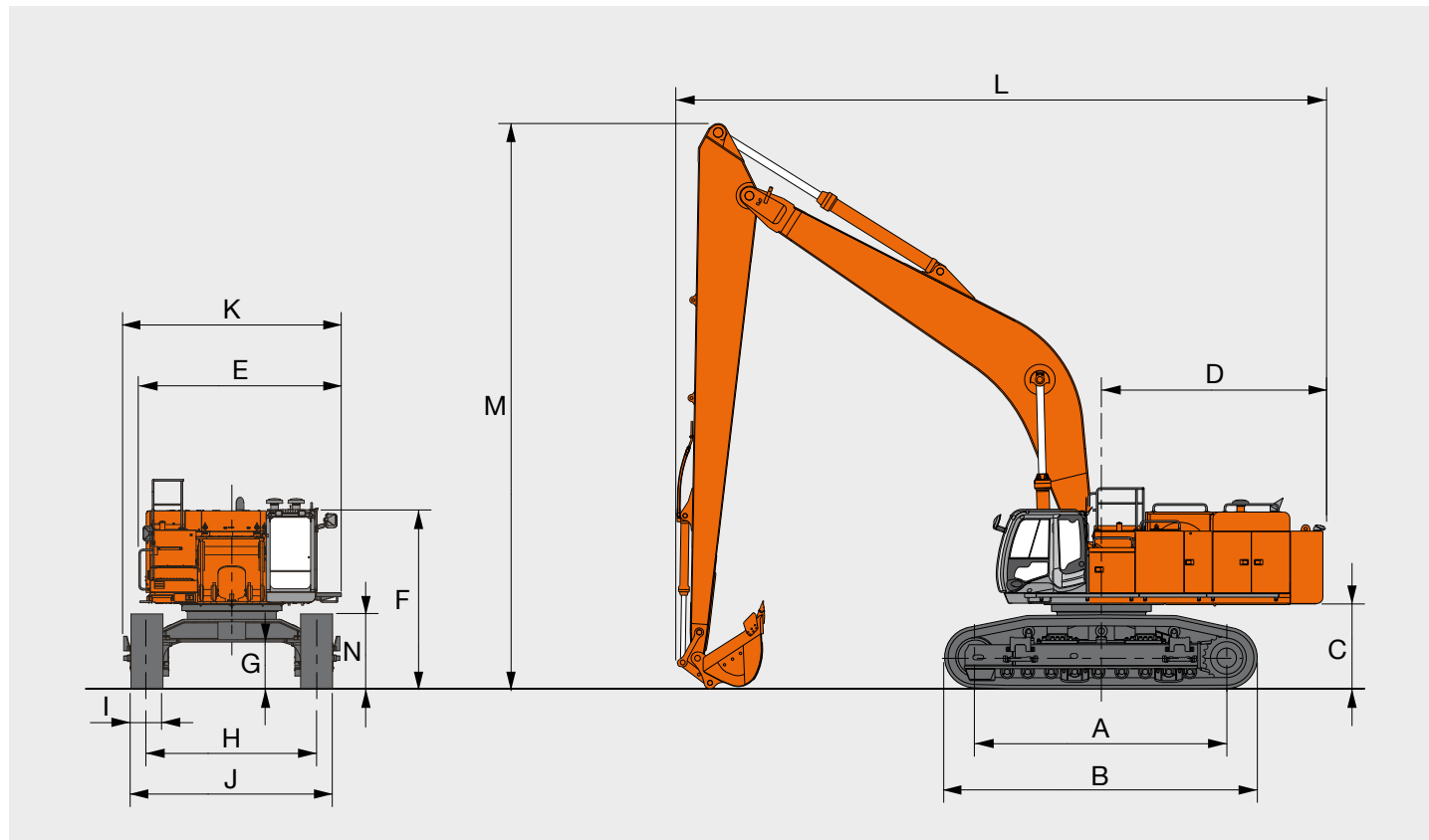
ZX870LCH-3 TYPE 17 (10 m Boom and 5.4 m)		
A	Max. digging reach	17 560
A'	Max. digging reach (on ground)	17 340
B	Max. digging depth	12 160
C	Max. cutting height	15 340
D	Max. dumping height	11 260
E	Min. swing radius	7 320
Bucket digging force** ISO		324 kN (33 100 kgf)
Arm crowd force** ISO		243 kN (24 800 kgf)

- Excluding track shoe lug
- \*\* At power boost

# SPECIFICATIONS

## ZX870LCH-3 TYPE 21 SUPER LONG FRONT

### DIMENSIONS



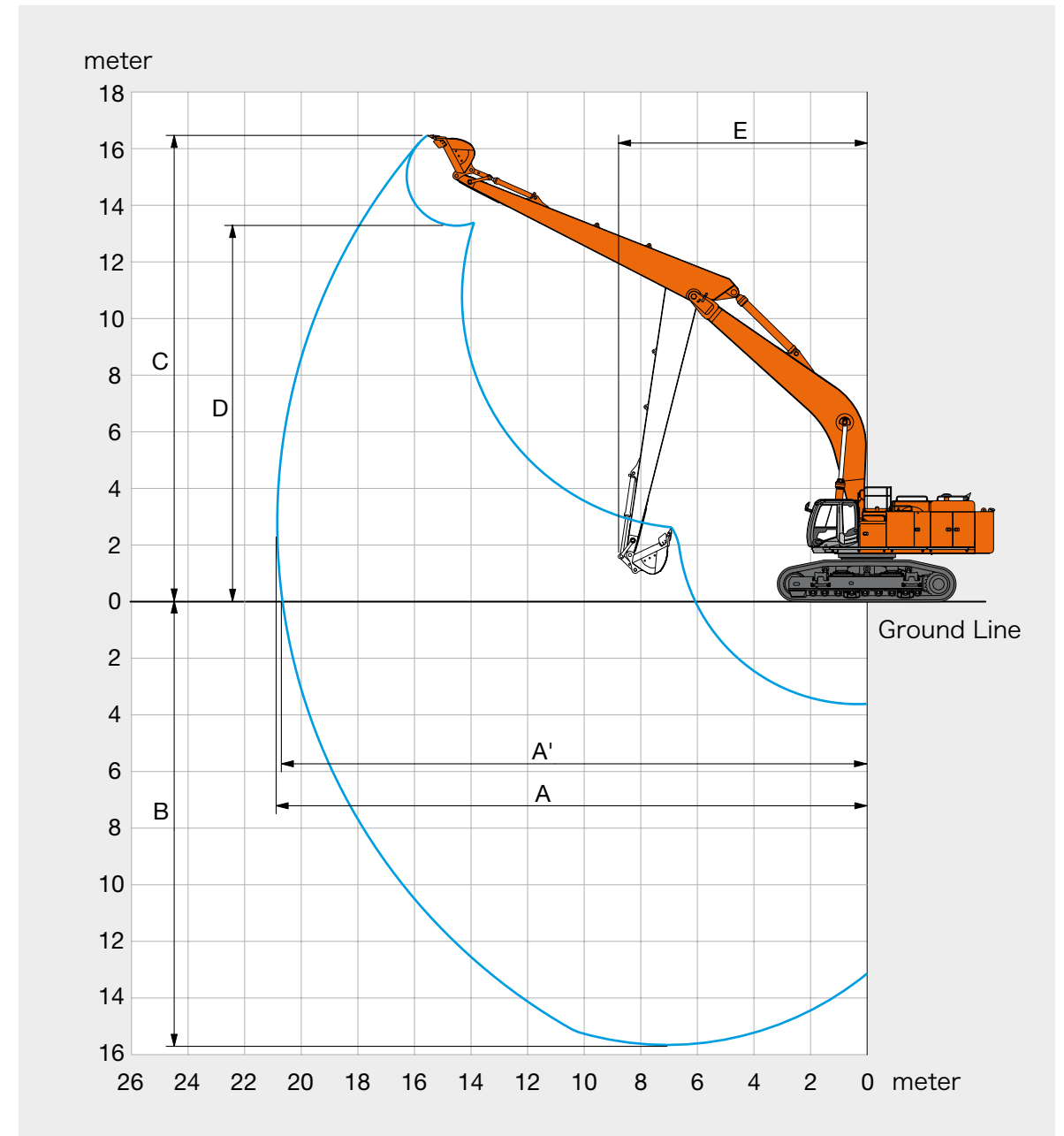
Unit: mm

ZX870LCH-3 TYPE 21 (10.0 m Boom and 9.5 m Arm)			
A	Distance between tumbler	5 110	
B	Undercarriage length	6 360	
*C	Counterweight clearance	1 680	
D	Rear-end swing radius	4 600	
E	Overall width of upperstructure	4 120	
F	Overall height of cab	3 630	
**G	Min. ground clearance	890	
H	Track gauge	3 450	
I	Track shoe width	G 650	G 750 G 900
J	Undercarriage width	Extended	4 100 4 200 4 350
		Retracted	3 480 3 580 3 730
K	Overall width	4 430	
L	Overall length	13 180	
M	Overall height of boom	11 540	
N	Track height with triple grouser shoes	1 500	

•\* : Excluding track shoe lug

•\*\* : Triple grouser shoe

### WORKING RANGES



Unit: mm

ZX870LCH-3 TYPE 21 (10.0 m Boom and 9.5 m Arm)		
A	Max. digging reach	21 050
A'	Max. digging reach (on ground)	20 870
B	Max. digging depth	15 850
C	Max. cutting height	16 590
D	Max. dumping height	13 370
E	Min. swing radius	8 880
Bucket digging force** ISO		182 kN (18 600 kgf)
Arm crowd force** ISO		150 kN (15 300 kgf)

• Excluding track shoe lug

•\*\* At power boost

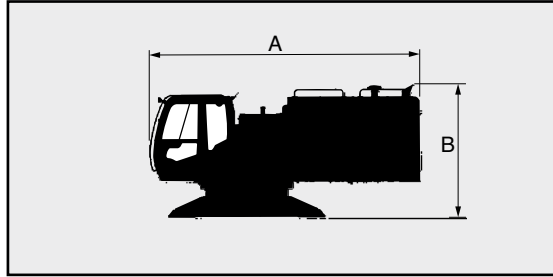


# TRANSPORTATION

ZX870LCH-3

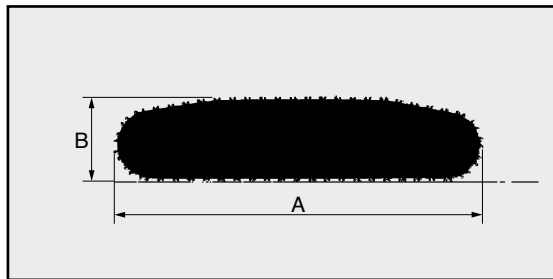
## TRANSPORTATION

### UPPERSTRUCTURE



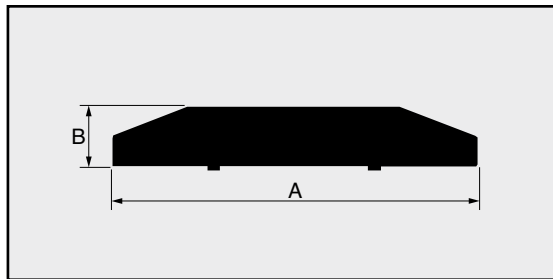
A	B	Overall width	Weight
6 040 mm	2 960 mm	3 500 mm	27 500 kg

### SIDE FRAME



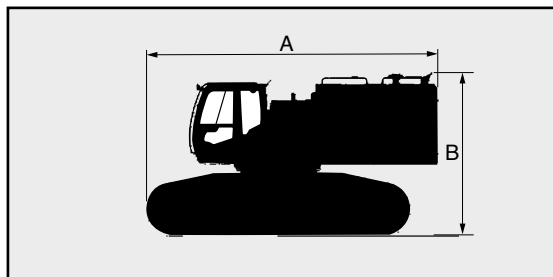
Shoe width	A	B	Overall width	Weight
650 mm	6 360 mm	1 500 mm	1 330 mm	12 400 kg
750 mm			1 330 mm	12 800 kg
900 mm			1 410 mm	13 200 kg

### COUNTERWEIGHT



Front attachment	A	B	Overall width	Weight
Type 17	3 360 mm	720 mm	1 620 mm	13 300 kg
Type 21	3 360 mm	720 mm	1 620 mm	14 300 kg

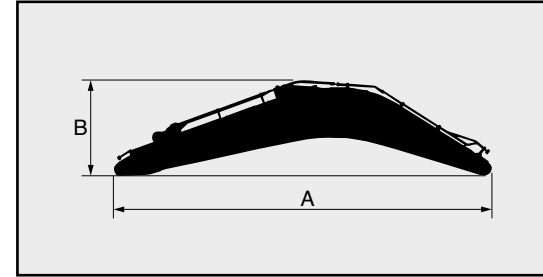
### BASIC MACHINE (WITHOUT COUNTERWEIGHT)



Shoe width	Overall width*	Weight	A	B
650 mm	3 600 mm	52 400 kg	7 080 mm	3 790 mm
750 mm	3 600 mm	53 100 kg		
900 mm	3 750 mm	54 000 kg		

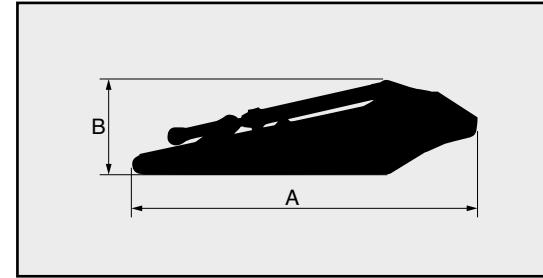
\* Undercarriage retracted

### BOOM



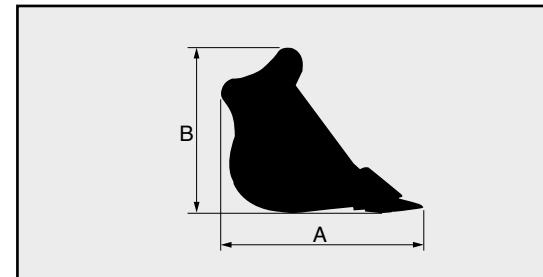
Boom	A	B	Overall width	Weight
10.0 m	10 350 mm	2 690 mm	1 450 mm	9 380 kg

### ARM



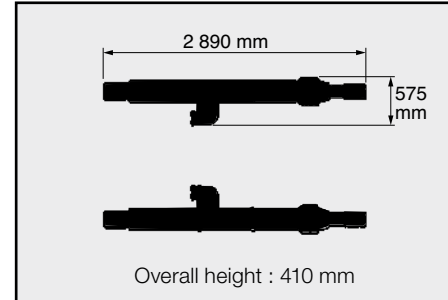
Arm	A	B	Overall width	Weight
5.4 m	6 820 mm	1 540 mm	820 mm	4 940 kg
9.5 m	10 970 mm	1 340 mm	775 mm	5 150 kg

### BUCKET

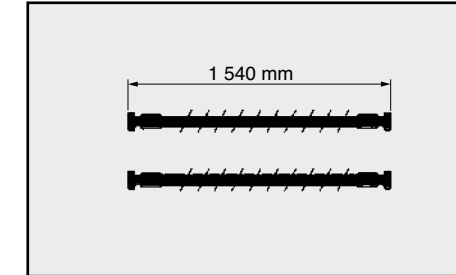


Bucket		A	B	Overall width	Weight
PCSA heaped	CECE heaped				
1.9 m³	1.7 m³	1 960 mm	1 570 mm	1 540 mm	1 590 kg
1.5 m³	1.3 m³	1 840 mm	1 460 mm	1 400 mm	1 260 kg

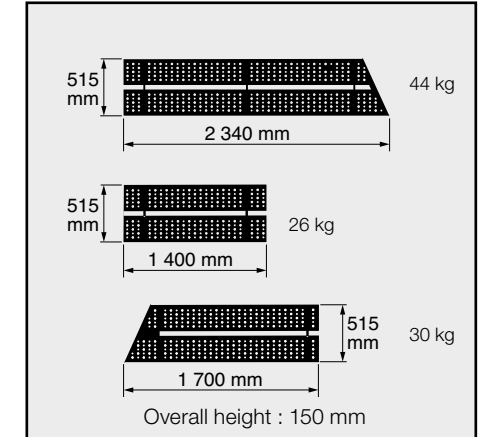
### BOOM CYLINDERS 850 kg x 2



### HOSE OF BOOM CYLINDERS 13 kg x 2 / 9 kg x 2



### LEFT SIDEWALK

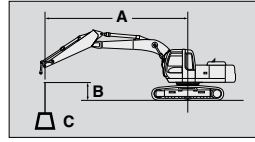


# LIFTING CAPACITIES

## ZX870LCH-3

### Metric measure

- Notes: 1. Ratings are based on ISO 10567.  
 2. Lifting capacity of the ZAXIS Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of 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.



A: Load radius  
 B: Load point height  
 C: Lifting capacity

### ZX870LCH-3 TYPE 17 (10.0 m Boom / 5.4 m Arm without Bucket)



Rating over-front



Rating over-side or 360 degrees

Unit: 1 000 kg

Conditions	Load point height	Load radius												At max. reach		
		4 m		6 m		8 m		10 m		12 m		14 m		Meters	Meters	Meters
		Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees			
Boom 10.0 m Arm 5.4 m Shoe 650 mm	10 m									*10.1	*10.1			*6.8	*6.8	13.5
	8 m									*10.5	*10.5	*9.0	8.8	*6.6	*6.6	14.4
	6 m							*12.8	*12.8	*11.4	*11.4	*10.6	8.6	*6.6	*6.6	15.0
	4 m					*18.3	*18.3	*14.6	14.3	*12.4	10.8	*11.2	8.3	*6.8	*6.8	15.3
	2 m					*21.1	18.3	*16.2	13.4	*13.5	10.2	*11.8	7.9	*7.1	6.7	15.4
	0 m					*22.9	17.2	*17.5	12.7	*14.3	9.7	*11.9	7.7	*7.7	6.8	15.1
	-2 m			*16.7	*16.7	*23.6	16.7	*18.3	12.2	14.7	9.4	11.8	7.5	*8.5	7.1	14.6
	-4 m	*14.6	*14.6	*24.7	*24.7	*23.4	16.6	*18.3	12.1	14.6	9.3			*9.8	7.7	13.8
	-6 m	*23.1	*23.1	*29.1	26.2	*22.1	16.8	*17.3	12.2	*13.6	9.5			*12.1	9.0	12.6
	-8 m	*34.1	*34.1	*25.0	*25.0	*19.2	17.4	*14.6	12.7					*12.4	11.5	10.9

Conditions	Load point height	Load radius												At max. reach		
		4 m		6 m		8 m		10 m		12 m		14 m		Meters	Meters	Meters
		Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees			
Boom 10.0 m Arm 5.4 m Shoe 900 mm	10 m									*10.1	*10.1			*6.8	*6.8	13.5
	8 m									*10.5	*10.5	*9.0	9.0	*6.6	*6.6	14.4
	6 m							*12.8	*12.8	*11.4	*11.4	*10.6	8.8	*6.6	*6.6	15.0
	4 m					*18.3	*18.3	*14.6	14.6	*12.4	11.0	*11.2	8.5	*6.8	*6.8	15.3
	2 m					*21.1	18.7	*16.2	13.7	*13.5	10.4	*11.8	8.1	*7.1	6.9	15.4
	0 m					*22.9	17.6	*17.5	12.9	*14.3	10.0	12.2	7.9	*7.7	6.9	15.1
	-2 m			*16.7	*16.7	*23.6	17.1	*18.3	12.5	*14.8	9.6	12.0	7.7	*8.5	7.2	14.6
	-4 m	*14.6	*14.6	*24.7	*24.7	*23.4	17.0	*18.3	12.3	*14.7	9.6			*9.8	7.9	13.8
	-6 m	*23.1	*23.1	*29.1	26.2	*22.1	17.2	*17.3	12.5	*13.6	9.8			*12.1	9.2	12.6
	-8 m	*34.1	*34.1	*25.0	*25.0	*19.2	17.8	*14.6	13.0					*12.4	11.8	10.9

### ZX870LCH-3 TYPE 21 (10.0 m Boom / 9.5 m Arm without Bucket)



Rating over-front



Rating over-side or 360 degrees

Unit: 1 000 kg

Conditions	Load point height	Load radius												At max. reach											
		8 m		10 m		12 m		14 m		16 m		18 m		Meters	Meters	Meters									
		Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees												
Boom 10.0 m Arm 9.5 m Shoe 750 mm	12 m													*5.3	*5.3			*4.2	*4.2	16.8					
	10 m													*5.8	*5.8			*4.1	*4.1	17.7					
	8 m													*5.9	*5.9	*4.9	*4.9	*4.0	*4.0	18.4					
	6 m													*6.3	*6.3	*5.6	*5.6	*4.0	*4.0	18.9					
	4 m												*7.0	*7.0	*6.7	*6.7	*6.1	*6.1	*4.1	*4.1	19.1				
	2 m												*10.0	*10.0	*8.7	*8.7	*7.8	*7.8	*7.2	*7.2	*6.5	6.1	*4.2	*4.2	19.2
	0 m	*14.8	*14.8	*11.7	*11.7	*9.8	*9.8	*8.6	*8.6	*7.7	7.2	*6.8	5.9	*4.4	*4.4	19.0									
	-2 m	*17.0	*17.0	*13.1	*13.1	*10.8	10.7	*9.3	8.5	*8.2	6.9	*6.6	5.7	*4.8	*4.8	18.6									
	-4 m	*18.4	17.7	*14.2	*13.1	*11.5	10.2	*9.8	8.2	*8.5	6.7			*5.2	*5.2	17.9									
	-6 m	*19.1	17.2	*14.7	*12.6	*12.0	9.9	*10.0	8.0	*8.5	6.6			*5.9	*5.9	17.0									
	-8 m	*19.0	17.0	*14.8	*12.5	*11.9	9.7	*9.8	7.9					*6.9	6.8	15.8									
	-10 m	*18.0	17.2	*14.0	*12.6	*11.2	9.9	*8.7	8.2					*8.3	8.0	14.2									
	-12 m	*15.6	*15.6	*12.0	*12.0	*8.8	*8.8							*8.5	*8.5	12.1									

Conditions	Load point height	Load radius												At max. reach											
		8 m		10 m		12 m		14 m		16 m		18 m		Meters	Meters	Meters									
		Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees	Rating over-front	Rating over-side or 360 degrees												
Boom 10.0 m Arm 9.5 m Shoe 900 mm	12 m													*5.3	*5.3			*4.2	*4.2	16.8					
	10 m													*5.8	*5.8			*4.1	*4.1	17.7					
	8 m													*5.9	*5.9	*4.9	*4.9	*4.0	*4.0	18.4					
	6 m													*6.3	*6.3	*5.6	*5.6	*4.0	*4.0	18.9					
	4 m												*7.0	*7.0	*6.7	*6.7	*6.1	*6.1	*4.1	*4.1	19.1				
	2 m												*10.0	*10.0	*8.7	*8.7	*7.8	*7.8	*7.2	*7.2	*6.5	6.2	*4.2	*4.2	19.2
	0 m	*14.8	*14.8	*11.7	*11.7	*9.8	*9.8	*8.6	*8.6	*7.7	7.3	*6.8	6.0	*4.4	*4.4	19.0									
	-2 m	*17.0	*17.0	*13.1	*13.1	*10.8	*10.8	*9.3	8.6	*8.2	7.0	*6.6	5.8	*4.8	*4.8	18.6									
	-4 m	*18.4	17.9	*14.2	*13.1	*11.5	10.3	*9.8	8.3	*8.5	6.8			*5.2	*5.2	17.9									
	-6 m	*19.1	17.4	*14.7	*12.6	*12.0	10.0	*10.0	8.1	*8.5	6.7			*5.9	*5.9	17.0									
	-8 m	*19.0	17.2	*14.8	*12.5	*11.9	9.9	*9.8	8.0					*6.9	6.9	15.8									
	-10 m	*18.0	17.4	*14.0	*12.6	*11.2	10.0	*8.7	8.3					*8.3	8.1	14.2									
	-12 m	*15.6	*15.6	*12.0	*12.0	*8.8	*8.8							*8.5	*8.5	12.1									





Prior to operating this machine, including satellite communication system, in a country other than a country of its intended use, it may be necessary to make modifications to it so that it complies with the local regulatory standards (including safety standards) and legal requirements of that particular country. Please do not export or operate this machine outside the country of its intended use until such compliance has been confirmed. Please contact your Hitachi dealer in case of questions about compliance.

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



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