

ZAXIS-5A series

**HITACHI**

Reliable solutions

# ZAXIS85USB



## HYDRAULIC EXCAVATOR

Model Code : ZX85USB-5A

Engine Rated Power : 34.1 kW (45.7HP)

Operating Weight : 8 390 kg - 8 600 kg

Backhoe Bucket : ISO Heaped : 0.13 - 0.33 m<sup>3</sup>

# Excellent Operator Visibility and Nimble Body for More Production Needs

The ZAXIS85USB is a short rear-end swing type excavator for productive job in narrow space. The body is nimble and agile, and has excellent operator visibility. When the front is swing to the left, operator's field of view is widened significantly through the glass door window. The cab is full of new designs, including a multifunction monitor and functional controls, for pleasant operation.

The ZAXIS 85USB is a fuel-thrifty machine too. The new electronically-controlled engine and fuel-efficient hydraulics enhance fuel-saving operations.

The ZAXIS 85USB will be your trusted partner when the going gets tough.



**ZAXIS** Empower your Vision.



## More Production with Less Fuel. Meeting Two Competing Needs

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- Short rear-end swing type excavator
- 9 % reduction in fuel consumption
- Increased front speeds
- Varied Jobs, Varied Options

## No Compromise on Operator Comfort

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- ROPS-Compliant cab
- New, Easy-to-Use Multifunction Monitor

## Simplified Maintenance to Reduce Downtime

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- Easy cleaning
- Remote concentrated servicing points
- Electric fuel refueling pump

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- Remote fleet management with global e-service
- Parts and services



Shown equipped with 2.12m arm, extra piping, hose rupture valve, pad shoe.  
Notes: Standard and optional equipment may vary by country, so please consult your Hitachi dealer for details.

# More Production with Less Fuel. Meeting Two Competing Needs



## Short rear-end swing type excavator

The ZAXIS 85USB is a short rear-end swing type excavator for productive job in tight space. The swing boom easily makes side ditching in width equivalent to the undercarriage. The machine can get the job done thanks to its big digging force and wide workings ranges.

## 9 %\* Reduction in Fuel Consumption

The new engine is teamed up with an electronic governor to save fuel. Electronic-control acceleration makes possible precision engine control and fuel saving. Fuel consumption comes down 9 %\* from the conventional ZX85USB-3. With a switch on the monitor, the operator can choose the ECO mode and the PWR mode. Select the ECO mode for fuel-efficient operation and the PWR mode for speedy, powerful operation.

\*Compared to the conventional ZX85USB-3 by JCMAS measuring method.

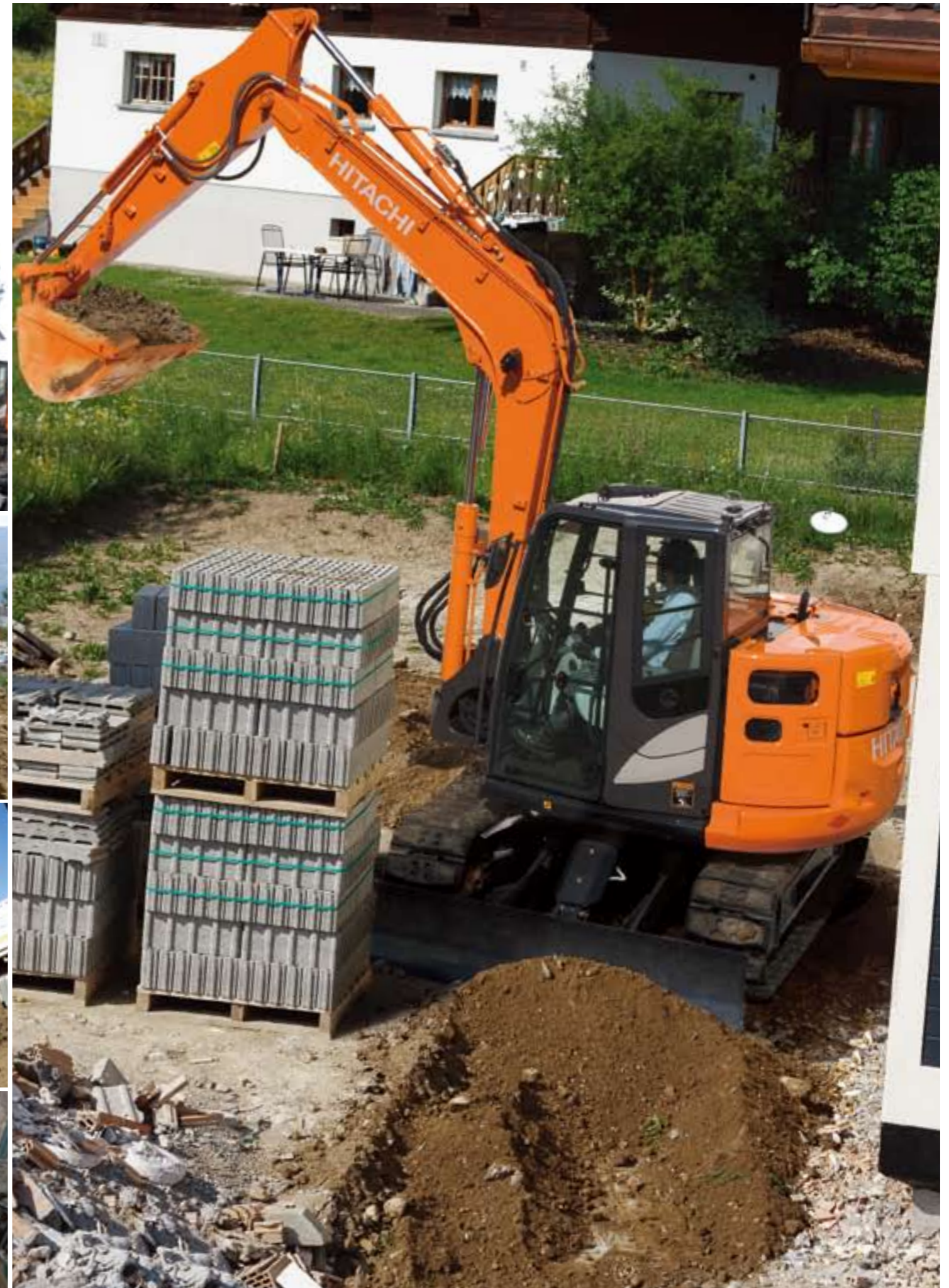
## Increased Front Speeds

The Hitachi hydraulic system has evolved even more to increase front speeds. Hydraulic lines and piping are streamlined to reduce resistance, increasing front speeds as follows.

- Arm roll-out speed : 23 % up**
- Arm roll-in speed : 22 % up**
- Boom lower speed : 25 % up**

## Varied Jobs, Varied Options

The hose rupture valve (optional) is added to reduce oil leaks, and prevent the attachment from lowering, especially when a grapple or cutter is used, or when a front hose is punctured.



Shown equipped with 2.12m arm, extra piping, hose rupture valve and pad shoe.

# Enhanced Operator Comfort with Refined Controls and Cab Interior



## ROPS-compliant Cab

The ROPS-compliant cab protects you from the potential risks of the job site. The Roll-over Protective Structure (ROPS) is designed to protect the operator in the unlikely event of the machine tipping or rolling over. When getting in the Hitachi cab, the operator will feel comfortable and confident. There are plenty of refinements and improvements in the cab. The seat and console are redesigned for easy operation. The operator does not feel confined through wide glass windows and door. When the offset front is swung to the left, the operator can see traces of excavation with ease. A drink holder with hot and cool function, a lot more air outlets are arranged to enhance operator comfort. A seat belt, pilot-controlled shutoff lever, swing parking brake, and travel parking brake are provided standard for safe operation. Neutral engine start feature enhances safety. The engine can start only when the shutoff lever is in its lock position.

## New, Easy-to-Use Multifunction Monitor

The new multi-language, multifunction monitoring system is composed of a 7-inch high-resolution color monitor and a multifunction controller. The monitor allows the operator to check varying operating variables: oil temperature, fuel level, work mode, full-auto air conditioner, AM/FM radio, rear view monitor camera (optional), maintenance support, and attachment flow adjustment. Menu items can be selected and adjusted by a multifunction controller on the control panel.



Shown equipped with suspension seat and attachment pedal.

## Simplified Maintenance to Reduce Downtime



Dust-proof indoor net

### Easy Cleaning

The radiator front is fitted with a dust-proof indoor net, which can swing out for quick cleaning. Air conditioner filters and air cleaner are also easy to clean. The X-beam track top is inclined steeply to let mud slide away smoothly.

### Remote Concentrated Servicing Points

Servicing points are remote clustered on both sides of the machine for convenient ground-level maintenance, including filter replacement and oil level check.



Electric fuel refilling pump (optional)

### Electric Fuel Refueling Pump (optional)

An optional electric fuel refueling pump is housed inside the right cover for easy refueling from an fuel drum.



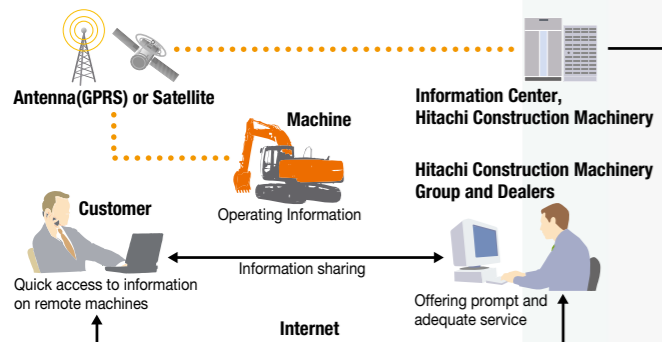
# Hitachi Support Chain

Hitachi Support Chain is a full customer support system offered after buying a Hitachi machine.

## Remote Fleet Management with Global e-Service (Optional)

### Easy Access to On-Site Machines through the Internet

This on-line fleet management system allows you to access each on-site machine from a PC in your office. You can get its operating information and location to increase productivity of the fleet and reduce downtime. Operating data and log are sent to a Hitachi server for processing, and then to customer and dealers around the world. This system is available 24 hours a day, all the year around.



Note: In Some Regions, Global e-Service Is Not Available by Local Regulations.

### Main Features of Global e-Service

#### Functions

Global e-Service provides easy access to a machine on site, conveying operating information and log, including daily operating hours, fuel level, temperatures, pressures, and likes.

#### Maintenance

Maintenance data and log are displayed on a easy-to-read monitor screen, suggesting recommended maintenance for efficient fleet management.



## Parts and Service

Hitachi full customer support is available every area on the globe for full customer satisfaction through Hitachi local dealers.

### Parts

Hitachi Global Online Network, a parts supply system, is linked with Japan Parts Center, overseas depots and over 150 dealers abroad to deliver on-line parts information, including in-stock parts, order receptions, shipments and delivery period of over one million parts and components.

#### Genuine Hitachi Parts

Genuine Hitachi parts, meeting Hitachi stringent quality standards, are guaranteed according to Hitachi warranty standards. The use of genuine Hitachi parts, including engine, fuel, hydraulic oil and filters, may slash running costs, and extend machine life.

#### Ground Engaging Tools (GETs)

Hitachi provides an array of Hitachi Ground Engaging Tools developed and built for a variety of applications.

Using high-quality, well-maintained GETs will help you get customers' trust.

Note: Some dealers do not handle Hitachi GETs.

#### Remanufactured Components

Hitachi components are remanufactured according to the stringent remanufacturing standards at four factories around the world. They have high quality equivalent to new ones, and backed up by Hitachi warranty system.

Note: Some dealers do not handle Hitachi Remanufactured Components.

### Service

#### Extended Warranty — HELP

Hitachi Standard Warranty System is available on all new Hitachi machines. In addition, Hitachi offers Hitachi Extended Life Programs (HELPS) to suit customer expectations –

protecting machines under tough operating conditions, avoiding unexpected downtime, and reducing repair costs.

Note: Warranty conditions vary by equipment.

#### Diagnostic Tools — Maintenance Pro

Electronic control system needs quick on-site solutions, apart from mechanical repairs. Hitachi's Maintenance Pro can diagnose machine failures in a short time by plugging a PC into a failed machine.

#### Technical Training

On-site servicing matters despite locations to keep the machine at peak performance and reduce downtime. Technical Training Center (TTC), located in Japan, educates and trains service technicians and service support personnel coming from Hitachi dealers and factories on the globe according to the international training programs.

# SPECIFICATIONS

## ENGINE

Model ..... Yanmar 4TNV94L (EU Stage IIIA)  
 Type ..... 4-cycle water-cooled, direct injection  
 No. of cylinders ..... 4  
 Rated power  
 ISO 9249, net ..... 34.1 kW (45.7 HP) at 2 000 min<sup>-1</sup> (rpm)  
 EEC 80/1269, net ..... 34.1 kW (45.7 HP) at 2 000 min<sup>-1</sup> (rpm)  
 SAE J1349, net ..... 34.1 kW (45.7 HP) at 2 000 min<sup>-1</sup> (rpm)  
 Maximum torque ..... 204.1 Nm (20.8 kgfm) at 1 000 min<sup>-1</sup> (rpm)  
 Piston displacement ..... 3.053 L  
 Bore and stroke ..... 94 mm x 110 mm  
 Batteries ..... 2 x 12 V / 52 Ah

## HYDRAULIC SYSTEM

### Hydraulic Pumps

Main pumps ..... 3 variable displacement axial piston pumps  
 Maximum oil flow ..... 2 x 72 L/min  
 1 x 56 L/min  
 Pilot pump ..... 1 gear pump  
 Maximum oil flow ..... 20.0 L/min

### Hydraulic Motors

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

### Relief Valve Settings

Implement circuit ..... 26.0 MPa (265 kgf/cm<sup>2</sup>)  
 Swing circuit ..... 26.5 MPa (270 kgf/cm<sup>2</sup>)  
 Travel circuit ..... 31.4 MPa (320 kgf/cm<sup>2</sup>)  
 Pilot circuit ..... 3.9 MPa (40 kgf/cm<sup>2</sup>)

### Hydraulic Cylinders

	Quantity	Bore	Rod diameter	Stroke
Boom	1	115 mm	65 mm	885 mm
Arm	1	95 mm	60 mm	900 mm
Bucket	1	85 mm	55 mm	730 mm
Blade	1	120 mm	70 mm	145 mm
Boom swing	1	110 mm	60 mm	563 mm

## UPPERSTRUCTURE

### Revolving Frame

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. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed ..... 10.5 min<sup>-1</sup> (rpm)  
 Swing torque ..... 16.6 kNm (1 690 kgfm)

### Operator's Cab

Independent spacious cab, 1 065 mm wide by 1 655 mm high, conforming to the "ROPS for excavator" (ISO\* 12117-2). Reinforced glass windows on 4 sides for visibility. Front windows (upper and lower) can be opened. Reclining seat.

\* International Organization for Standardization

## UNDERCARRIAGE

### Tracks

Tractor-type undercarriage. Welded track frame using selected materials. Side frame welded to track frame.

### Numbers of Rollers and shoes on Each Side

Upper roller ..... 1  
 Lower rollers ..... 5  
 Track shoes ..... 40

### Travel 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 5.0 km/h  
 Low : 0 to 3.1 km/h

Maximum traction force 65.2 kN (6 650 kgf)

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

## SERVICE REFILL CAPACITIES

Fuel tank ..... 120.0 L  
 Engine coolant ..... 7.0 L  
 Engine oil ..... 12.3 L  
 Travel device (each side) ..... 1.2 L  
 Hydraulic system ..... 100.0 L  
 Hydraulic oil tank ..... 56.0 L

## WEIGHTS AND GROUND PRESSURE

### Operating Weight and Ground Pressure

Monoblock boom

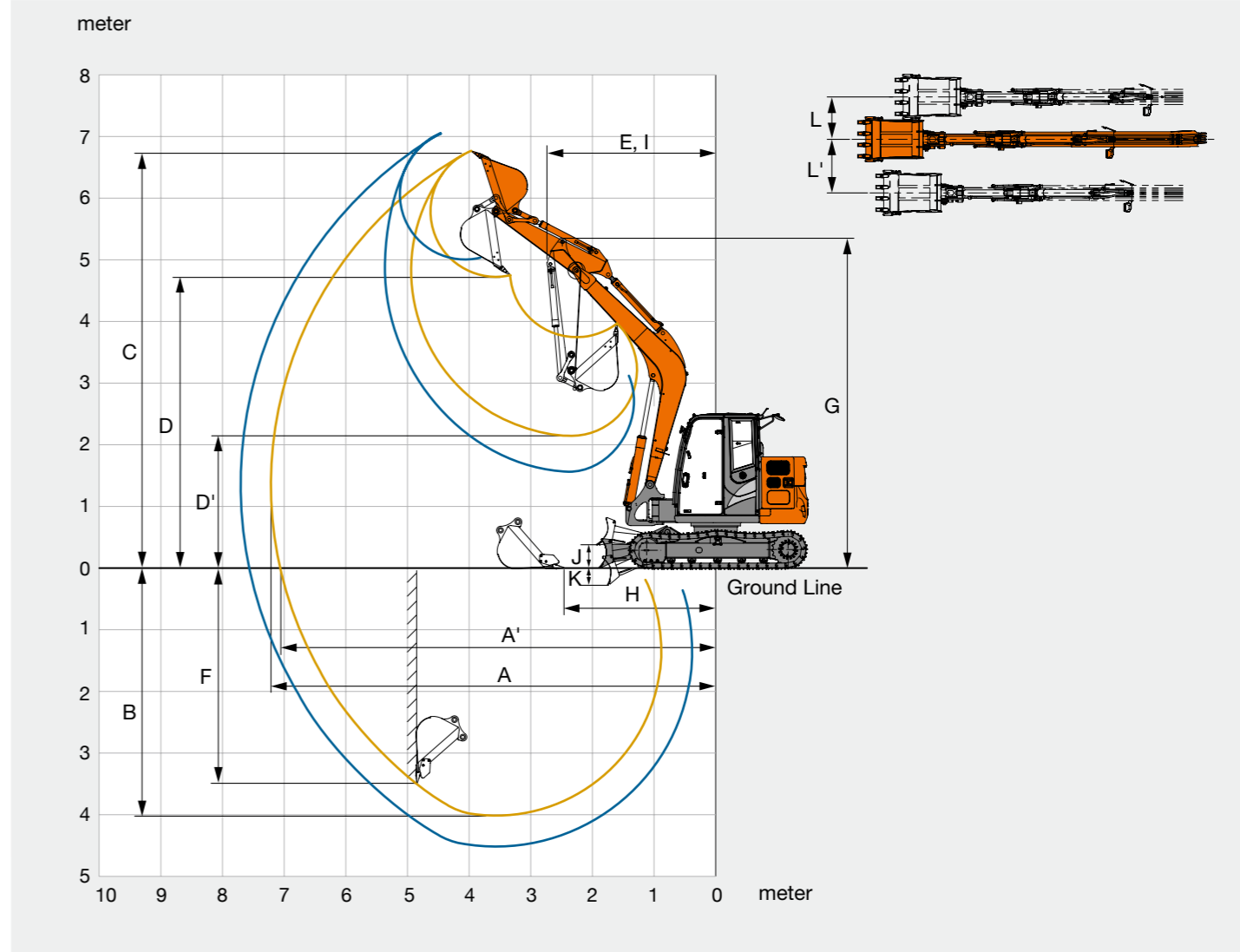
Shoe type	Shoe width	Arm length	kg	kPa(kgf/cm <sup>2</sup> )
Grouser shoe	450 mm	1.62 m	8 390	36 (0.37)
		2.12 m	8 430	37 (0.37)
Rubber shoe	600 mm	1.62 m	8 560	28 (0.28)
		2.12 m	8 600	28 (0.29)
Pad crawler shoe	450 mm	1.62 m	8 410	36 (0.37)
		2.12 m	8 450	37 (0.37)
Pad crawler shoe	450 mm	1.62 m	8 440	36 (0.37)
		2.12 m	8 480	36 (0.37)

Including 0.28 m<sup>3</sup> (ISO heaped) bucket weight (211 kg).

## BUCKET AND ARM DIGGING FORCE

Arm length	1.62 m	2.12 m
Bucket digging force ISO	55.0 kN (5 600 kgf)	
Bucket digging force SAE : PCSA	47.0 kN (4 800 kgf)	
Arm crowd force ISO	38.0 kN (3 900 kgf)	32.0 kN (3 300 kgf)
Arm crowd force SAE : PCSA	36.0 kN (3 700 kgf)	31.0 kN (3 200 kgf)

## WORKING RANGES



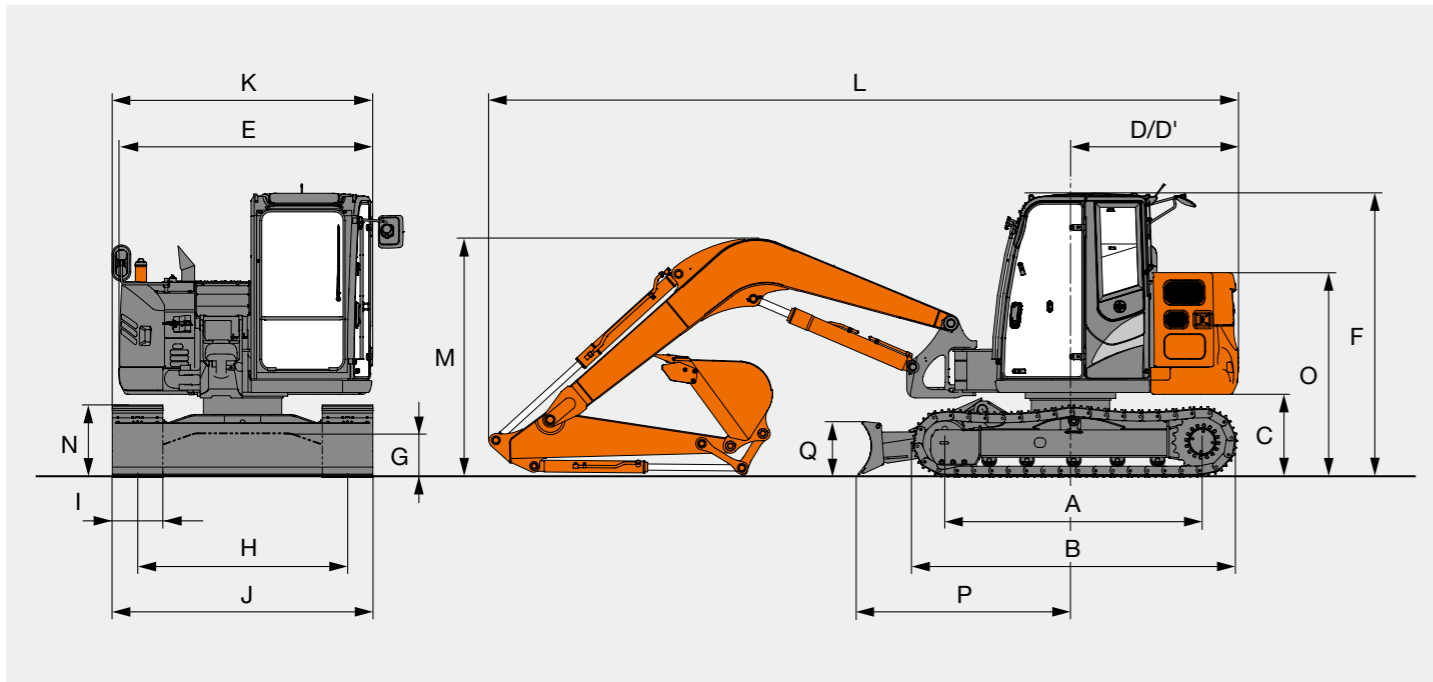
Unit: mm

Arm length	1.62 m	2.12 m
A Max. digging reach	7 210	7 700
A' Max. digging reach (on ground)	7 060	7 560
B Max. digging depth	3 990	4 510
C Max. cutting height	6 790	7 140
D Max. dumping height	4 770	5 080
D' Min. dumping height	2 130	1 670
E Min. swing radius	2 740	2 890
F Max. vertical wall	3 470	4 050
G Front height at Min. swing radius	5 370	5 400
H Min. level crowding distance	2 470	2 310
I Working radius at Min. swing radius (Max. boom-swing angle)	-	-
J Blade bottom highest position above ground	360	360
K Blade bottom lowest position above ground	300	300
L/L' Offset distance (Max. boom-swing angle)	1 150 / 1 150	1 150 / 1 150
Max. boom-swing angle (deg.)	60 / 60	60 / 60

Excluding track shoe lug.

# SPECIFICATIONS

## DIMENSIONS



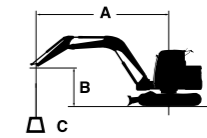
Unit: mm

	ZX85USB-5A
A Distance between tumblers	2 290
B Undercarriage length	2 920
* C Counterweight clearance	720
D Rear-end swing radius	1 490
D' Rear-end length	1 490
E Overall width of upperstructure	2 260
F Overall height of cab	2 530
* G Min. ground clearance	360
H Track gauge	1 750
I Track shoe width	450
J Undercarriage width	2 200
K Overall width	2 260
L Overall length	
With 1.62 m arm	6 640
With 2.12 m arm	6 820
* M Overall height of boom	
With 1.62 m arm	2 610
With 2.12 m arm	2 610
N Track height	650
O Engine cover-height	1 810
P Horizontal distance to blade	1 880
Q Blade height	480

\* 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.



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

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

## ZX85USB-5A Monoblock boom, Blade above Ground

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

Conditions	Load point height m	Load radius										At max. reach		
		2.0 m		3.0 m		4.0 m		5.0 m		6.0 m		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 3.67 m	4					*2 180	1 990	1 680	1 410			1 480	1 240	5.41
Arm 1.62 m	3			*3 580	2 930	2 320	1 910	1 650	1 380			1 290	1 080	5.88
Counterweight 1 400 kg	2					2 210	1 810	1 600	1 330	1 230	1 020	1 200	1 000	6.11
Grouser shoe 450 mm	1					2 120	1 720	1 560	1 280	1 210	1 000	1 170	970	6.14
	0 (Ground)			*2 280	*2 280	2 080	1 680	1 520	1 250			1 200	1 000	5.97
	-1	*2 750	*2 750	3 230	2 540	2 070	1 670	1 510	1 240			1 320	1 090	5.57
	-2			3 270	2 570	2 090	1 690					1 590	1 300	4.89

## ZX85USB-5A Monoblock boom, Blade on Ground

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

Conditions	Load point height m	Load radius										At max. reach		
		2.0 m		3.0 m		4.0 m		5.0 m		6.0 m		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 3.67 m	4					*2 180	1 990	*2 040	1 410			*1 920	1 240	5.41
Arm 1.62 m	3			*3 580	2 930	*2 590	1 910	*2 190	1 380			*1 920	1 070	5.88
Counterweight 1 400 kg	2					*3 150	1 810	*2 430	1 330	*2 070	1 020	*2 000	1 000	6.11
Grouser shoe 450 mm	1					*3 560	1 720	*2 630	1 250	*2 140	1 000	*2 080	970	6.14
	0 (Ground)			*2 280	*2 280	*3 650	1 680	*2 710	1 240			*2 120	1 000	5.97
	-1	*2 750	*2 750	*4 430	2 540	*3 440	1 670	*2 570				*2 150	1 090	5.58
	-2			*3 890	2 570	*2 900	1 690					*2 130	1 300	4.89

## ZX85USB-5A Monoblock boom, Blade above Ground

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

Conditions	Load point height m	Load radius										At max. reach		
		2.0 m		3.0 m		4.0 m		5.0 m		6.0 m		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 3.67 m	5							1 700	1 420			1 550	1 300	5.29
Arm 2.12 m	4							1 700	1 420			1 270	1 060	5.98
Counterweight 1 400 kg	3					*2 240	1 940	1 660	1 390	1 250	1 040	1 130	940	6.39
Grouser shoe 450 mm	2					2 240	1 830	1 610	1 330	1 230	1 020	1 060	880	6.61
	1					2 130	1 730	1 550	1 280	1 200	990	1 030	860	6.63
	0 (Ground)			*2 440	*2 440	2 060	1 670	1 510	1 240	1 170	970	1 060	870	6.48
	-1	*2 220	*2 220	3 170	2 490	2 040	1 640	1 490	1 220	1 160	960	1 140	940	6.12
	-2	*3 710	*3 710	3 200	2 510	2 040	1 650	1 490	1 220			1 310	1 080	5.52
	-3			3 260	2 570	2 080	1 690					1 740	1 430	4.55

## ZX85USB-5A Monoblock boom, Blade on Ground

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

Conditions	Load point height m	Load radius										At max. reach		
		2.0 m		3.0 m		4.0 m		5.0 m		6.0 m		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 3.67 m	5							*1 780	1 420			*1 650	1 300	5.29
Arm 2.12 m	4							*1 780	1 420			*1 550	1 060	5.98
Counterweight 1 400 kg	3					*2 240	1 940	*1 960	1 390	*1 820	1 040	*1 540	940	6.39
Grouser shoe 450 mm	2					*2 830	1 840	*2 240	1 330	*1 930	1 020	*1 590	880	6.61
	1					*3 360	1 730	*2 500	1 280	*2 050	990	*1 700	860	6.63
	0 (Ground)			*2 440	*2 440	*3 610	1 670	*2 660	1 240	*2 110	970	*1 890	870	6.48
	-1	*2 220	*2 220	*3 760	2 490	*3 560	1 640	*2 640	1 220	*2 020	960	*1 940	940	6.12
	-2	*3 710	*3 710	*4 490	2 510	*3 200	1 650	*2 360	1 220			*1 960	1 080	5.52
	-3			*3 310	2 570	*2 370	1 690					*1 870	1 430	4.55



# EQUIPMENT

● : Standard equipment

○ : Optional equipment

## ENGINE

Air cleaner double filters	●
Auto idle system	●
Cartridge-type engine oil filter	●
Cartridge-type fuel filter	●
Dust-proof indoor net	●
Dry-type air filter with evacuator valve (with air filter restriction indicator)	●
Electric fuel feed pump	●
Fan guard	●
Fuel main filter	●
PWR/ECO mode control	●
Radiator reserve tank	●
Radiator, oil cooler with dust-proof indoor net	●
Water-separator for engine fuel	●
60 A alternator	●

## HYDRAULIC SYSTEM

Boom anti-drift valve	●
Extra port for control valve	●
Full-flow filter	●
Hose rupture valve	○
Hydraulic pilot type control levers	●
Pilot control shut-off lever with neutral engine start system	●
Pilot filter	●
Suction filter	●
Swing drain filter	●
Swing parking brake	●
Travel parking brake	●
Two-speed travel system	●
Valve for extra piping	●

## CAB

Air suspension seat with heater	●
AM/FM radio	●
Anti-slip plate	●
Armrests	●
Ashtray	●
Auto control air conditioner	●
AUX. terminal and storage	●
Defroster	●
Drink holder	●
Electric horn	●
Floor mat	●
Glove compartment	●
Mechanical suspension seat with heater	○
Rain guard	○
Reclining seat	●
Reinforced, tinted glass window	●
Retractable seat belt	●
ROPS/OPG cab	●
Spare power supply	●
Storage box	●
Sun visor	○
Transparency roof with roll curtain	●
Window washer	●
Wiper	●
4 fluid-filled elastic mounts	●
12 V power source	○

## LIGHTS

Additional boom lights with cover	○
Additional cab roof front lights	○
Additional cab roof rear lights	○
Rotating lamp	○
2 working lights	●

## UPPER STRUCTURE

Auxiliary overload relief valve	○
Electrical fuel refilling pump with auto stop	○
Fuel level float	●
Pilot accumulator	○
Rear view camera	○
Rear view mirror (right, left side & cab rear)	●
Stack muffler	●
Tool box	●
Undercover	●
1 400 kg counterweight	●
370 kg additional counterweight	○

## UNDERCARRIAGE

Blade	●
Reinforced track links with pin seals	●
Travel motor covers	●
4 tie down hooks	●
450 mm grouser shoe	●
450 mm pad crawler shoe	○
450 mm rubber shoe	○
600 mm grouser shoe	○

## FRONT ATTACHMENTS

Assist piping	○
Dirt seal on all bucket pins	●
Extra piping	●
Flanged pin	●
HN bushing	●
Reinforced resin thrust plate	●
WC (tungsten-carbide) thermal spraying	●
1.62 m arm	○
2.12 m arm	●

## MISCELLANEOUS

Global e-service	○
Theft deterrent system*	●

Standard and optional equipment may vary by country, so please consult your Hitachi dealer for details.  
\* Hitachi Construction Machinery cannot be held liable for theft, any system will just minimize the risk of theft.

Before using a machine with a satellite communication system, please make sure that the satellite communication system complies with local regulations, safety standards and legal requirements. If not so, please make modifications accordingly.

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.