

## SPECIFICATIONS

### ENGINE

Model	Isuzu 4J4LE3X
Type	4-cylinder water-cooled, direct injection
Aspiration	Turbocharged, intercooled
No. of cylinders	4
Rated power	
EEC 80/1261 (without FAN) ...	40.5 kW (54.2 HP) at 2 000 min <sup>-1</sup> (rpm)
SAE J1940 (without FAN) ...	40.5 kW (54.2 HP) at 2 000 min <sup>-1</sup> (rpm)
ISO 9249, net ...	39.4 kW (52.8 HP) at 2 000 min <sup>-1</sup> (rpm)
EEC 80/1261, net ...	39.4 kW (52.8 HP) at 2 000 min <sup>-1</sup> (rpm)
SAE J1940, net ...	39.4 kW (52.8 HP) at 2 000 min <sup>-1</sup> (rpm)
Maximum torque	215 N·m (15.9 kgf·m) at 1 500 min <sup>-1</sup> (rpm)
Piston displacement	2.173 L
Bore and stroke	85 mm x 95 mm
Batteries	2 x 12 V / 52 Ah

### HYDRAULIC SYSTEM

- Swing independent 3 pump hydraulic system
  - OHS (Optimum Hydraulic System) assures fully independent and combined operations
  - Automatic 2-speed motor increase traction force and travel speed
  - High speed sensing system
- |                  |  |
|------------------|--|
| Main pumps       | 3 variable displacement axial piston pumps |
| Maximum oil flow | 2 x 792 L/min<br>1 x 615 L/min             |
| Relief pump      | 1 gear pump                                |
| Maximum oil flow | 22.0 L/min                                 |

### Hydraulic Motors

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

### Relief Valve Settings

Implement circuit	25.0 MPa (355 kgf/cm <sup>2</sup> )
Swing circuit	25.0 MPa (355 kgf/cm <sup>2</sup> )
Travel circuit	21.4 MPa (300 kgf/cm <sup>2</sup> )
Backhoes	9.8 MPa (140 kgf/cm <sup>2</sup> )

### Hydraulic Cylinders

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

### Dimensions

	Quantity	Bore	Rod diameter
Boom	1	115 mm	35 mm
Arm	1	85 mm	30 mm
Bucket	1	85 mm	35 mm
Boom swing	1	110 mm	30 mm

### UPPERSTRUCTURE

#### Revolving Frame

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

#### Swing Device

Axis motor 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-solhydraulic-released disc type.

Swing speed: 10.5 min<sup>-1</sup> (rpm)  
Swing torque: 16.0 kN·m (1 133 kgf·m)

#### Operator's Cab

Independent spacious cab, 1 056 mm wide by 1 556 mm high, conforming to ISO Standards. Reinforced glass windows on 4 sides for visibility. Front windows (upper and lower) can be opened. Reclining seat with armrests, adjustable with or without control levers.

\* International Standardization Organization

### UNDERCARRIAGE

#### Tracks

Track-type undercarriage. Welded track frame using selected materials. Side frame welded to track frame. Lubricated track rollers, idlers, and sprockets with loading pads.

Track shoes with triple grousers made of induction-hardened rolled alloy. Heat-treated connecting pin with dirt seal. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

#### Numbers of Rollers and Shoes on Each Side

Upper rollers	1
Lower rollers	5
Track shoes	40

#### Travel Device

Each track driven by 2-cocked axial piston motor through planetary reduction gear for counterrotation of the tracks. Sprockets are replaceable.

Parking brake is spring-solhydraulic-released disc type. Travel shockless relief valve built in travel motor absorbs shocks when stopping travel.

Automatic transmission system: High-Low

Travel speeds	High: 0 to 5.0 km/h Low: 0 to 3.1 km/h
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Maximum traction force: 71.0 kN (7 940 kgf)

Gradeability: 70% (35° degree) continuous

### WEIGHTS AND GROUND PRESSURE

Equipped with 3.67 m non-crook boom, 1.62 m arm, 0.26 m<sup>3</sup> (SAE, PCSA heaped) bucket and blade.

Shoe type	Shoe width	Operating weight	Ground pressure
Track grouser	400 mm	8 000 kg	35 kPa (0.33 kgf/cm <sup>2</sup> )
	600 mm	8 000 kg	27 kPa (0.26 kgf/cm <sup>2</sup> )
Flat	400 mm	8 072 kg	35 kPa (0.37 kgf/cm <sup>2</sup> )
Rubber	400 mm	8 102 kg	35 kPa (0.34 kgf/cm <sup>2</sup> )

Weights of the back machine (including 486 kg counterweight and triple grouser shoes and blade, excluding front-end attachment, fuel, hydraulic oil, urethane oil and coolant etc.) are:

#### with Blade

ZX85USB: 5 030 kg with 430 mm blade

### SERVICE REFILL CAPACITIES

Fuel tank	13
Engine coolant	1
Engine oil	1
Travel (each side)	
Hydraulic system	10
Hydraulic oil tank	5

### BACKHOE ATTACHMENTS

Boom and arm are of welded, box-section design. 3.7 m boom, and 1.62 m and 2.12 m arms are available.

### BUCKETS

Capacity		Width		No. of teeth	Weight	Recommendation	
SAE PCSA heaped	CECF heaped	Without side cutters	With side cutters			ZX85USB <sup>1</sup>	3.72 m boom
						1.62 m arm	2.12 m arm
0.10 m <sup>3</sup>	0.12 m <sup>3</sup>	300 mm	400 mm	3	141 kg	⊗	⊗
0.11 m <sup>3</sup>	0.15 m <sup>3</sup>	400 mm	500 mm	3	160 kg	⊗	⊗
0.16 m <sup>3</sup>	0.17 m <sup>3</sup>	400 mm	500 mm	3	175 kg	⊗	⊗
0.20 m <sup>3</sup>	0.20 m <sup>3</sup>	500 mm	600 mm	3	181 kg	⊗	⊗
0.28 m <sup>3</sup>	0.24 m <sup>3</sup>	600 mm	750 mm	4	211 kg	⊗	⊗ <sup>2</sup>
0.30 m <sup>3</sup>	0.29 m <sup>3</sup>	710 mm	800 mm	5	220 kg	⊗	—
0.20 m <sup>3</sup>	0.20 m <sup>3</sup>	500 mm	600 mm	3	225 kg	⊗	⊗
0.28 m <sup>3</sup>	0.24 m <sup>3</sup>	600 mm	750 mm	4	254 kg	⊗	⊗ <sup>2</sup>
0.30 m <sup>3</sup>	0.29 m <sup>3</sup>	710 mm	800 mm	5	277 kg	⊗	—

<sup>1</sup> Reference based

<sup>2</sup> With 600 mm excavator

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

⊗ Suitable for material with density of 1 000 kg/m<sup>3</sup> or less

⊙ Slope-feeding service

— Not applicable

## LIFTING CAPACITIES

- Notes: 1. Ratings are based on SAE J1107.  
 2. Lifting capacity of the ZAXIS Series does not exceed 75 % of tipping load with the machine on firm, level ground or 87 % full hydraulic capacity.  
 3. The load point is a hook (not standard equipment) located on the back of the bucket.  
 4. \*Indicates load limited by hydraulic capacity.  
 5. 0 m = Ground.



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

### ZN85USB-3: Back down

Rating over-side or 360 degree

Rating over-front

Unit: 1 000 kg

Conditions	Load point height	Load radius												At max. reach				
		2.0 m		3.2 m		4.0 m		5.0 m		6.0 m		7.0 m		m	m	m		
Bucket SAC, PCSA 0.26 m <sup>3</sup> Arm 1.02 m Counterweight 1.811 kg Greaser Size 650 mm	5.0 m															1.00	1.96	5.72
	4.0 m							1.33	*1.65							0.60	*1.14	5.32
	3.0 m					1.67	*2.11	1.29	*1.60	0.90	*1.65					0.75	*1.10	6.75
	2.0 m					1.73	*2.60	1.23	*2.08	0.90	*1.75					0.70	*1.20	6.69
	1.0 m					1.81	*3.24	1.18	*2.30	0.67	*1.68					0.69	*1.30	6.64
	0 (Ground)					1.96	*3.83	1.12	*2.69	0.68	*1.80					0.73	*1.47	6.59
	-1.5 m			2.05	*3.29	1.06	*3.23	1.10	*2.42	0.64	*1.63					0.60	*1.62	6.00
	-2.0 m			2.12	*3.46	1.07	*3.77	1.12	*2.98							1.02	*1.46	5.25
	-3.0 m					1.83	*1.65											

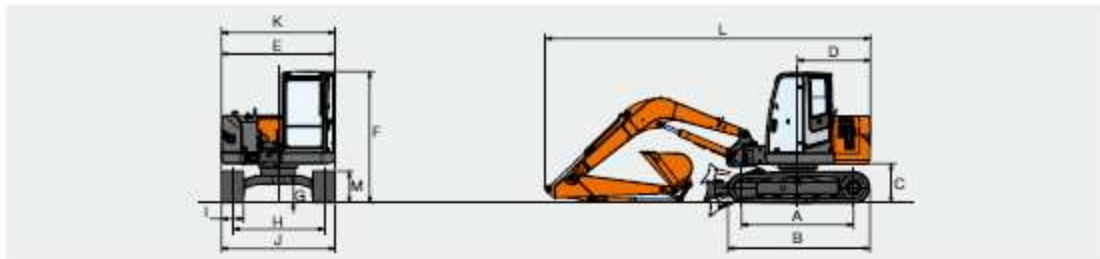
Conditions	Load point height	Load radius												At max. reach				
		2.0 m		3.2 m		4.0 m		5.0 m		6.0 m		7.0 m		m	m	m		
Bucket SAC, PCSA 0.26 m <sup>3</sup> Arm 1.12 m Counterweight 1.811 kg Greaser Size 650 mm	5.0 m							1.37	*1.61							0.90	1.90	6.24
	4.0 m							1.27	*1.61	0.90	*1.65					0.75	*0.67	6.18
	3.0 m							1.33	*1.60	0.97	*1.65					0.66	*0.90	7.26
	2.0 m					1.62	*2.43	1.21	*1.92	0.68	*1.85					0.62	*1.21	7.36
	1.0 m					1.70	*3.14	1.21	*2.35	0.90	*1.62	0.69	*1.37			0.60	*1.08	7.34
	0 (Ground)					1.82	*3.82	1.16	*2.62	0.67	*1.80					0.66	*1.21	7.71
	-1.5 m			2.01	*2.94	1.00	*3.43	1.14	*2.52	0.66	*1.64					0.73	*1.42	6.80
	-2.0 m			2.07	*3.22	1.00	*3.92	1.12	*2.93	0.66	*1.71					0.69	*1.46	5.94
	-3.0 m			2.00	*3.25	1.02	*2.80	1.16	*1.77									

# HITACHI

# ZAXIS

# 85 USB

## DIMENSIONS

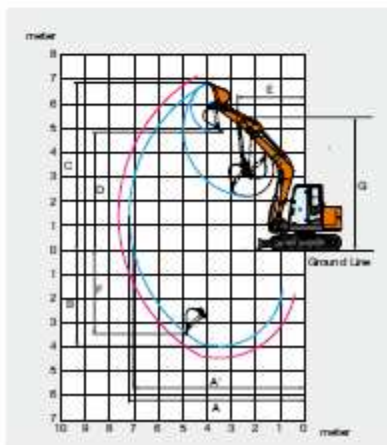


Unit: mm

	ZX85USB-s
A Distance between tumblers	2 290
B Undercarriage length	2 920
* C Counterweight clearance	760
D Rear-end swing radius	1 490
E Overall width of upperstructure	2 320
F Overall height of cab	2 690
* G Min. ground clearance	360
H Track gauge	1 870
I Track shoe width	G 450
J Undercarriage width	2 320
K Overall width	2 320
L Overall length	
With 1.82 m arm	6 640
With 2.12 m arm	6 810
* M Track height with triple grouser shoes	650

\* Excluding track shoe lug    G: Triple grouser shoe

## WORKING RANGES

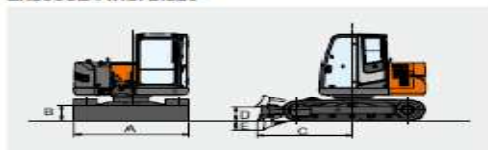


Unit: mm

Arm length	ZX85USB-s	
	1.82 m	2.12 m
A Max. digging reach	7 210	7 700
A' Max. digging reach (on ground)	7 060	7 550
B Max. digging depth	3 970	4 470
C Max. cutting height	6 810	7 180
D Max. dumping height	4 700	5 140
E Min. swing radius	2 740	2 890
F Max. vertical wall	3 450	4 030
G Max. boom-swing angle	Left 60° / Right 60°	
H Max. offset distance	Left 910 / Right 720	
Bucket digging force* ISO	55 kN (5 600 kgf)	
Bucket digging force* SAE : PCSA	47 kN (4 800 kgf)	
Arm crowd force* ISO	26 kN (3 900 kgf)	32 kN (3 300 kgf)
Arm crowd force* SAE : PCSA	26 kN (3 700 kgf)	31 kN (3 200 kgf)

Excluding track shoe lug    \* At power boost

## ZX85USB-s with Blade



A Overall width of blade	2 320 mm
B Overall height of blade	460 mm
C Blade distance	1 890 mm
*D Max. raising height above ground	360 mm
*E Max. lowering depth from ground	300 mm

\* Excluding track shoe lug

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