

ZAXIS-3 series

HITACHI

ZAXIS
27



HYDRAULIC EXCAVATOR

- Model Code: ZX27-3
- Engine Rated Power: 19.1 kW (26.0 HP)
- Operating Weight: 2 790 kg
- Backhoe Bucket: 0.065 m³



The New ZX27-3 Full of Fresh Ideas for Diverse Job Needs

The Hitachi new ZX27-3 comes with performance enhancements. The machine can be easily transported by trailer. In response to diverse job needs, the machine is provided with advanced features: strengthened structures, simplified daily maintenance, and slashed running costs.

Boosted Productivity (Page 4)

- Three-pump hydraulic system for smooth combined operation.
- Low-noise engine for less environmental impact.
- Stack muffler delivers emission upward, diverting from surrounding plants.

Higher Durability (Page 5)

- The boom cylinder guard is angled for added strength, protecting the boom cylinder from damage.
- The box-section blade stays are utilized, and the arm cylinder bracket and boom top bracket are strengthened.



Notes: Some of the pictures in this brochure show an unmanned machine with attachments in an operating position. These were taken for demonstration purposes only and the actions shown are not recommended under normal operating conditions.

Machine width:
1 470 mm



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Compact Body for Easy Transport

Machine width is a merely 1 500 mm for ease of trailer transport.



Enhanced Operator Comfort (Page 6)

- Spacious operator cab per the EU standards.
- High backrest seat.
- Blade lever with two-speed travel switch.

Higher Maintainability (Page 7)

- Centralised servicing points for simple daily maintenance and servicing.
- Easy-to-open radiator cover for servicing convenience.
- Dustproof net protects the radiator from plugging.

Enhanced Safety (Page 7)

- The neutral engine start mechanism allows the engine to start only when the pilot-control shut-off lever is in the lock position.
- ROPS/OPG cab.

Get More Production

The three-pump hydraulic system makes combined operations smooth. The low-noise engine reduces environmental impact. The ZX27-3 runs greener than previous model with plenty of power.



- **The new engine complies with the Emission Regulations EU Stage III A**



Stack muffler

The proven low-noise engine boosts power and speed.

The three-pump hydraulic system makes combined operations smooth. The stack muffler releases emissions upward, reducing environment impact in urban or residential areas.

What's more, an array of other devices and options are further provided to meet diverse job needs and increase job efficiency.



Structures Getting Tougher

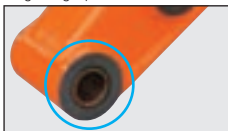
The front attachment and blade are strengthened for higher durability.



Reinforced Front Attachment



Large single pin

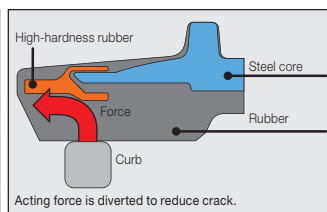


The vertical pin of the swing post employs a large single pin for reducing backlash.

The boom cylinder guard is angled for added strength, and the arm cylinder bracket and boom top bracket are strengthened, too.

WC thermal spraying is done at contact surfaces between arm top and bucket to reduce wear and jerking.

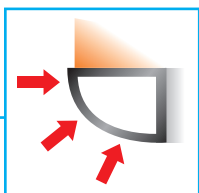
Reinforced Undercarriage



The box-section blade stays are utilized to increase ruggedness for productive leveling.

Each track shoe is reinforced with a steel core. So, the edge of track shoe has improved resistance to damage when riding on road shoulder, for example.

Reinforced Upperstructure



The job-proven D-section frame skirt is utilized to protect the frame skirt from damage.

Proven Operator Comfort

Hitachi knows what the operator wants most. Solutions are comfort-designed high backrest seat, short-stroke levers for low-effort control, and much more.



Blade lever with two-speed travel switch



Wrist-rest



Damper



Shock-absorbing rubbers

The spacious cab, conforming to the EU standards, is outfitted with a variety of elaborated devices. Comfortable seat with high backrest, blade lever with two-speed travel switch for easy speed shifting and ample foot space, unlike conventional foot pedal control, flat floor mat (standard) for easy cleaning, short-stroke levers, wrist rests, heater, and easy-to-read monitor are provided standard. What's more, the shock-absorbing rubber mounts, and damper at front window enhance pleasant ride.

Simple Maintenance and Safety Features

Hitachi design expertise eases pre-start check, shortens cleaning time, and simplifies daily servicing.



Simplified Maintenance



Split-type hydraulic hoses

The engine cover can be easily opened at a touch. The easy-to-open radiator cover and dustproof net are provided to protect the radiator from plugging and facilitate cleaning. The split-type hydraulic hoses can be disconnected at the base and boom back for quick replacement if a hose is punctured. A steel cover is utilized for tough operation, allowing easy repair if damaged.

Safety Features



Illustrated is ROPS/OPG cab (with top guard).

When shifting the pilot-control shut-off lever upward, front action, swing, travel and blade action can all be locked to avoid misoperation due to unintentional lever handling. The neutral engine start system allows the engine to start only when the pilot-control shut-off lever is in the lock position. What's more, the swing and travel parking brakes are equipped standard for easy operation on slope.

The world-class cab, conforming to the ROPS, TOPS and OPG top guard (level 1) standards, is utilized for operator protection.

ROPS: Roll-Over Protection Structure
TOPS: Tip-Over Protection Structure
OPG: Operator Protective Guards

SPECIFICATIONS

ENGINE

Model	Kubota V1505
Type	4-cycle water-cooled I combustion chamber injection
No. of cylinders	4
Rated power	
ISO 9249, net	19.1 kW (26.0 HP) at 2 300 min ⁻¹ (rpm)
EEC 80/1269, net ...	19.1 kW (26.0 HP) at 2 300 min ⁻¹ (rpm)
SAE J1349, net	19.1 kW (26.0 HP) at 2 300 min ⁻¹ (rpm)
Maximum torque	93.1 N·m (9.5 kgf·m) at 1 600 min ⁻¹ (rpm)
Piston displacement ...	1.498 L
Bore and stroke	78 mm x 78.4 mm
Electric system	
Voltage	12 V
Batteries	55 Ah
Alternator	40 A
Starter motor	1.4 kW

HYDRAULIC SYSTEM

Main pumps	2 variable displacement axial piston pumps 1 gear pump
Maximum oil flow ...	2 x 32.2 L/min 1 x 18.4 L/min
Pilot pump	1 gear pump
Maximum oil flow ...	6.21 L/min
Auxiliary pump	
Maximum oil flow ...	50.6 L/min

Hydraulic Motors

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

Relief Valve Settings

Implement circuit	22.6 MPa (230 kgf/cm ²)
Swing circuit	18.6 MPa (190 kgf/cm ²)
Travel circuit	22.6 MPa (230 kgf/cm ²)
Pilot circuit	3.9 MPa (40 kgf/cm ²)
Auxiliary circuit	22.6 MPa (230 kgf/cm ²)

Hydraulic Cylinders

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

Dimensions

	Quantity	Bore	Rod diameter	Stroke
Boom	1	75 mm	45 mm	567 mm
Arm	1	70 mm	40 mm	546 mm
Bucket	1	65 mm	40 mm	435 mm
Blade	1	80 mm	45 mm	135 mm
Boom swing	1	75 mm	40 mm	525 mm

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.

CONTROLS

Hydraulic pilot controls levers for all operations.

Implement levers	2
Travel levers	2
Blade lever	1

NOISE LEVEL

Noise level (LwA) (2000 / 14 / EC)	94 dB (A)
Noise level (LpA) (ISO 6396)	80 dB (A)

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 lubricated by hydraulic 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	9.4 min ⁻¹ (rpm)
Swing torque	3.83 kN·m (390 kgf·m)

Operator's Cab

Independent spacious cab, 970 mm wide by 1 595 mm high, conforming to ISO* Standards. Tempered glass windows on 4 sides for visibility. Front windows (upper) can be opened. Reclining seat.

* International Standardization Organization

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 rollers	1
Lower rollers	3

Travel Device

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

Parking brake is spring-set/hydraulic-released disc type.

Travel speeds	High: 0 to 4.4 km/h Low: 0 to 2.8 km/h
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Maximum traction force	20.1 kN (2 050 kgf)
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Gradeability	58% (30 degree) continuous
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WEIGHTS AND GROUND PRESSURE

Equipped with 2.10 m boom, 1.35 m arm and 0.065 m³ bucket (ISO heaped) rubber shoes 300 mm.

Cab type	Operating weight	Ground pressure
Cab	2 790 kg	27 kPa (0.28 kgf/cm ²)

* (Operating weight with 0.065 m³ bucket, fully serviced, +80 kg operator ISO 6016).

SERVICE REFILL CAPACITIES

Fuel tank	47.0 L
Engine coolant	5.3 L
Engine oil	6.2 L
Travel device (each side)	0.5 L
Hydraulic system	56.0 L
Hydraulic oil tank	32.4 L

BACKHOE ATTACHMENTS

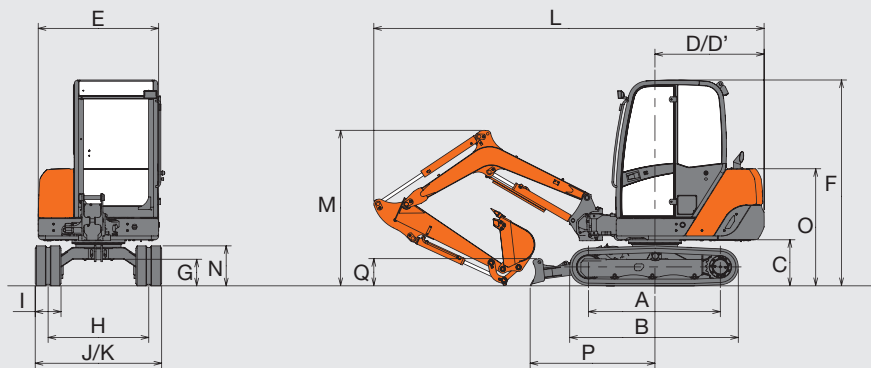
Boom and arms are of welded, box-section design. 2.10 m boom, 1.35 m and 1.17 m arms are available.

Bucket

Capacity ISO heaped	Width without side cutters	Weight
0.065 m ³	350 mm	66 kg

SPECIFICATIONS

DIMENSIONS



Unit: mm

Model code	ZX27-3	
	1.17 m arm	1.35 m arm
A Distance between tumblers	1 530	
B Undercarriage length	1 960	
*C Counterweight clearance	538 (525)	
D Rear-end swing radius	1 270	
D' Rear-end length	1 270	
E Overall width of upperstructure	1 400	
F Overall height of cab	2 390 (2 380)	
*G Min. ground clearance	300 (290)	
H Track gauge	1 170	
I Track shoe width	300	
J Undercarriage width	1 470	
K Overall width	1 470	
L Overall length	4 520	4 540
M Overall height of boom	1 720	1 800
N Track height	465 (455)	
O Engine cover height	1 360 (1350)	
P Horizontal distance to blade	1 440	
Q Blade height	300	

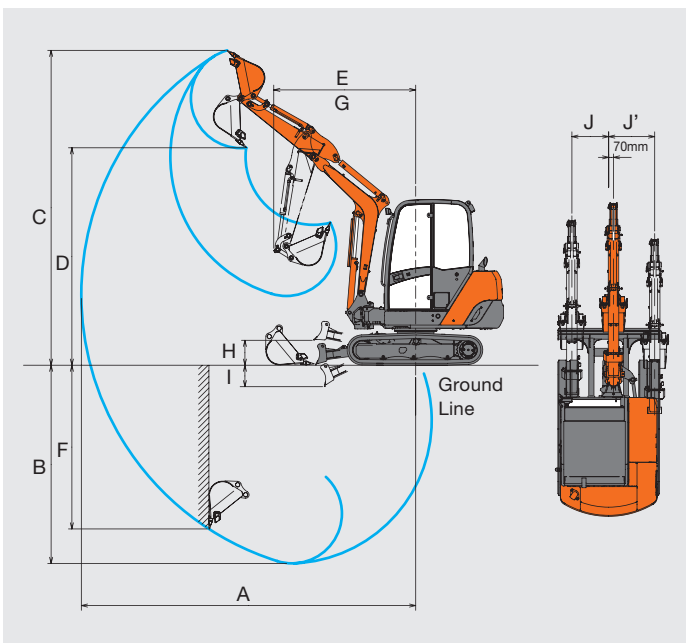
Data in () are dimensions of grouser shoe.

This illustration shows the ZX27-3 equipment with 1.35 m arm, 0.065 m³ bucket and 300 mm rubber shoes.

*Excluding track shoe lug.

WORKING RANGES

Unit: mm



Model code	ZX27-3	
	1.17 m arm	1.35 m arm
A Max. digging reach	4 660	4 830
B Max. digging depth	2 680	2 860
C Max. cutting height	4 440	4 550
D Max. dumping height	3 020	3 140
E Min. swing radius	2 030	2 050
F Max. vertical wall	2 190	2 370
G Working radius at Min. swing radius (Max. boom-swing angle)	1 660	1 680
H Blade bottom highest position above ground	360	
I Blade bottom lowest position above ground	310	
J/J' Offset distance	532/666	
Bucket digging force ISO: PCSA kN (kgf)	25.0 (2 550)	
Bucket digging force SAE kN (kgf)	21.1 (2 150)	
Arm crowd force ISO: PCSA kN (kgf)	16.3 (1 660)	14.6 (1 490)
Arm crowd force SAE kN (kgf)	15.3 (1 560)	13.8 (1 410)

This illustration shows the ZX27-3 equipment with 1.35 m arm, 0.065 m³ bucket and 300 mm rubber shoes.

LIFTING CAPACITIES

Notes: 1. Rating are based on ISO 10567.

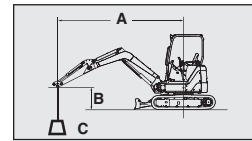
2. Lifting capacity of the ZAXIS Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.

3. Load point is the center-line of the bucket pivot mounting pin on the arm.

Side: Rating over-side or 360 degrees

Front: Rating over-front

4. An asterisk mark (*) indicates load limited by hydraulic capacity.



A: Load radius

B: Load point height

C: Lifting capacity

ZX27-3 Blade above Ground, 1.17 m Arm



Rating over-side or 360 degrees



Rating over-front

Unit: kg

Conditions	Load point height	Load radius								At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		meter		
Rubber shoes 300 mm	2.0 m					570	660			400	460	3.79
	1.0 m					540	630			360	420	3.95
	0 (Ground)			930	1 120	520	600			380	440	3.77
	-1.0 m	*2 010	*2 010	940	1 130	520	610			480	550	3.21

ZX27-3 Blade on Ground, 1.17 m Arm

Unit: kg

Conditions	Load point height	Load radius								At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		meter		
Rubber shoes 300 mm	2.0 m					570	*730			400	*700	3.79
	1.0 m					540	*950			360	*730	3.95
	0 (Ground)			930	*1 980	520	*1 080			380	*780	3.77
	-1.0 m	*2 010	*2 010	940	*1 700	520	*960			480	*840	3.21

ZX27-3 Blade above Ground, 1.35 m Arm

Unit: kg

Conditions	Load point height	Load radius								At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		meter		
Rubber shoes 300 mm	2.0 m					570	*660			370	420	3.97
	1.0 m					540	630	350	410	340	390	4.12
	0 (Ground)			920	1 120	510	600			350	410	3.95
	-1.0 m	*1 740	*1 740	920	1 120	510	600			430	500	3.42
	-2.0 m			*930	*930					*800	*800	2.17

ZX27-3 Blade on Ground, 1.35 m Arm

Unit: kg

Conditions	Load point height	Load radius								At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		meter		
Rubber shoes 300 mm	2.0 m					570	*660			370	*650	3.97
	1.0 m					540	*900	350	*700	340	*690	4.12
	0 (Ground)			920	*1,970	510	*1,060			350	*730	3.95
	-1.0 m	*1,740	*1,740	920	*1,790	510	*1,000			430	*790	3.42
	-2.0 m			*930	*930					*800	*800	2.17

EQUIPMENT

STANDARD EQUIPMENT

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

ENGINE

- Water-separator for engine fuel
- Radiator reserve tank
- Electrical fuel feed pump
- Cartridge-type engine oil filter
- Fuel filter

HYDRAULIC SYSTEM

- Hydraulic pilot type control levers
- Pilot control shut-off lever with neutral engine start system
- Swing parking brake
- Travel parking brake
- Two-speed travel system
- Suction filter
- Full-flow filter
- Pilot filter
- Valve for extra piping

CAB

- ROPS/OPG cab
- Heater
- Window washer
- Defroster
- Reclining seat
- Suspension seat
- Seat belt
- Wrist rests
- Spare power supply
- Wiper
- Drink holder
- Electric horn
- Aux socket
- Floor mat
- Ashtray

UPPERSTRUCTURE

- Side view mirror
- Tool box

UNDERCARRIAGE

- 300 mm rubber shoes

FRONT ATTACHMENTS

- HN bushing
- 1.35 m arm
- Extra piping

OPTIONAL EQUIPMENT

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

CAB

- AM/FM radio

UPPERSTRUCTURE

- Pilot accumulator
- Theft deterrent system
- Travel pedal

UNDERCARRIAGE

- 300 mm grouser shoes
- 300 mm pad crawler shoes

FRONT ATTACHMENTS

- 1.17 m arm

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.