HYDRAULIC EXCAVATOR

Model Code: ZX33U-5A
Engine Rated Power: 21.2 kW (28.4 HP)
Operating Weight:
- Canopy: 3,130 - 3,540 kg
- Cab: 3,310 - 3,720 kg
Backhoe Bucket: ISO Heaped: 0.08 m³
Trustworthy and User-Friendly
New Compact Excavators

The new series of Hitachi compact excavators has evolved even more. We listen to customers’ needs, provide solutions, and adopt fresh ideas into our new products. The outcome is new excavators that are compact, productive and nimble. The round body is smart and its wide-opening covers provide direct access to service points for quick maintenance. The operator station is full of easy-to-use controls, an informative multi-monitor, and comfortable operator seat. A low fuel consumption design ensures better fuel efficiency.

HIGH PERFORMANCE
- Swift actions in narrow work place
- Excellent controllability
- Reduced fuel consumption

OPERATOR COMFORT
- Pleasant operator environment
- Sturdy operator stations by rigorous safety standards
- Easy-to-read multi-monitor

SIMPLIFIED MAINTENANCE
- Open-wide covers for easy maintenance
- Easy-to-clean cab floor
- Sloped track frame tops for easy mud removal

DURABILITY
- A line of Hitachi quality products
- Strong front attachment
- Rugged box-section blade
- Sturdy upperstructure

Notes: Standard and optional equipment may vary by country, so please consult your Hitachi dealer for details.
HIGH PERFORMANCE
Agility Stands for Efficiency

Swift Actions in Narrow Work Place
Short rear-end swing design allows for safe, confident operation in tight work areas.

Excellent Controllability
The Hitachi pilot control system is impressive. The control lever provides excellent fine control and low-effort handling to reduce operator fatigue. It is ergonomically positioned for easy operation. The multi-monitor allows selection of ECO and PWR modes to control the motion speed. With the engine control dial, you can also adjust engine speed with ease. The auto speed change system shifts down travel speed when the load exceeds a certain limit (for instance, when going downhill), and shifts up when the load is less.

Reduced Fuel Consumption
A new engine has an electronic governor that is a clue to low fuel consumption. With an electronic accelerator, you can achieve precision engine control for fuel economy. To conserve fuel, select ECO mode, and to get more power, select PWR mode. In short, you can choose an optimum mode according to job needs. The Auto Idle helps save fuel consumption, too. When moving the control lever to neutral, the Auto Idle automatically reduces engine speed to idling level four seconds later, reducing fuel consumption.
Easy-to-Read Multi-Monitor

The multi-monitor is bright, informative and easy-to-read, displaying machine conditions, settings and warnings. A clock is newly added.

Pleasant Operator Environment

Hitachi cabs and canopies have been traditionally praised for operator comfort. They are spacious with ample leg room. The console and seat are designed ergonomically, standing for operator comfort. When sitting in the operator station, the operator will not feel restricted. Cab door width increases by 80 mm for easy access and a better view of work place. The front windshield is enlarged for higher visibility. The foot step is lowered for easy access. A host of devices, including arm rests, drink holder and seat back box, enhance operator comfort.

Sturdy Operator Stations by Rigorous Safety Standards

The rugged cab and 4-pillar canopy well protect the operator in case of tipping. They are ruggedly designed by the ROPS* standard. All the models are protected with the OPG** top guard against falling objects. A seat belt, pilot control shut-off lever, swing parking brake and travel parking brake are all standard. The neutral engine start system further enhances safe operation, disabling engine starting unless the lever is in lock position.

*Roll-Over Protection Structure
**Operator Protection Guard

Easy-to-Read Multi-Monitor

1. Menu/Return Switch
2. Auto-Idle Selector Switch
3. ECO/PWR Mode Selector Switch

Items
- Coolant Temperature Gauge
- Fuel Gauge
- Hour Meter
- Clock
- Travel Mode Indicator
- Work Light Indicator
- Overheat Indicator
- Engine Oil Pressure Indicator
- Preheat Indicator
- Fuel Level Indicator

Steady Operator Stations by Rigorous Safety Standards
SIMPLIFIED MAINTENANCE

Easy Servicing, Day-in Day-out

Open-Wide Covers for Easy Maintenance

All covers are wide-opening for direct access to service points, allowing for quick daily inspection and replacement. A cover adjacent to the radiator extends vertically to easily clean the radiator. A refueling port is placed inside the cover to avoid dirt entry and fuel theft. A new tank cover is lightweight and wide-opening for easy refueling.

Easy-to-Clean Cab Floor

The radiator and oil cooler are arranged in parallel, instead of conventional in-line arrangement, to promote easy, efficient cleaning and cooling. Their wavy fins can be easily cleaned by air blowing. Dust-proof indoor nets provide for easy removal of debris and dirt. A split-type floor mat can easily be removed at a seam between foot pedals and cab floor, and its surface patterns allow for quick sweeping.

Sloped Track Frame Tops for Easy Mud Removal

Track frame tops are sloped to let mud slide away, curbing mud packing.
DURABILITY
Technological Prowess and Stringent Quality Control

A Line of Hitachi Quality Products
Hitachi has been acclaimed worldwide for technological prowess and high-performance products since the launch of its first hydraulic excavator in 1949. Its Design Division has adopted the 3D-CAD system for applied analysis and data crunching to churn out quality products and slash lead time in development. Newly developed products have been vigorously tested in multiple ways, such as long-hours durability test and evaluation test, at a Hitachi vast 427 hectares test field under critical operating conditions — for instance, tropical or freezing weather — before unveiling new products.

Strong Front Attachment
Front pins are jointed with a tight fit to reduce jerking and noise significantly, enhancing durability. Those pins are lubricated with HN bushings having an abundant grease-retaining capacity, extending greasing intervals up to 500 hours. Main hoses are sheathed with hose protectors at the swing post. The bottom side of the boom cylinder is protected with a V-shaped boom cylinder guard. The four-side reinforced arm is sturdy with high rigidity.

Rugged Box-Section Blade
The blade is box-section structure for higher ruggedness, and its stays have openings for easy flow-out of mud.

Sturdy Upperstructure
The upperstructure frame is reinforced with job-proven D-section skirts whose height is increased for larger cross section to boost durability against obstacles.

Technological Prowess and Stringent Quality Control

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The upperstructure frame is reinforced with job-proven D-section skirts whose height is increased for larger cross section to boost durability against obstacles.
**SPECIFICATIONS**

**ENGINE**
- Model: Yanmar EDM-3TNV88
- Type: 4 cycle water-cooled, direct injection
- No. of cylinders: 3
- Rated power: ISO 9249, net: 21.2 kW (28.4 HP) at 2 400 min⁻¹
- EEC 80/1269, net: 21.2 kW (28.4 HP) at 2 400 min⁻¹
- SAE J1349, net: 21.2 kW (28.4 HP) at 2 400 min⁻¹
- Maximum torque: 105.5 Nm (10.8 kft) at 1 000 min⁻¹
- Piston displacement: 1.64 L
- Bore and stroke: 88 mm x 90 mm
- Batteries: 1 x 12 V / 55 Ah

**HYDRAULIC SYSTEM**
- Hydraulic Pumps
  - Main pumps: 2 variable displacement axial piston pumps
  - Maximum oil flow: 2 x 38.4 L/min
  - Pilot pump: 1 gear pump
  - Maximum oil flow: 10.8 L/min
- Hydraulic Motors
  - Travel: 2 variable displacement axial piston motors
  - Swing: 1 axial piston motor
- Relief Valve Settings
  - Implement circuit: 24.5 MPa (250 kgf/cm²)
  - Swing circuit: 16.7 MPa (170 kgf/cm²)
  - Travel circuit: 24.5 MPa (250 kgf/cm²)
  - Pilot circuit: 3.9 MPa (40 kgf/cm²)

**HYDRAULIC CYLINDERS**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Bore</th>
<th>Rod diameter</th>
<th>Stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boom (canopy)</td>
<td>1</td>
<td>80 mm</td>
<td>45 mm</td>
</tr>
<tr>
<td>Boom (cab)</td>
<td>1</td>
<td>80 mm</td>
<td>45 mm</td>
</tr>
<tr>
<td>Arm</td>
<td>1</td>
<td>70 mm</td>
<td>40 mm</td>
</tr>
<tr>
<td>Bucket</td>
<td>1</td>
<td>65 mm</td>
<td>40 mm</td>
</tr>
<tr>
<td>Blade</td>
<td>1</td>
<td>85 mm</td>
<td>45 mm</td>
</tr>
<tr>
<td>Boom swing</td>
<td>1</td>
<td>85 mm</td>
<td>45 mm</td>
</tr>
</tbody>
</table>

**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: 9.1 m/min
  - Swing torque: 5.1 kNm (520 kgf·m)

**Operator's Cab**
- Independent spacious cab, 1,049 mm wide by 1,611 mm high, conforming to ISO Standards. Reinforced glass windows on 4 sides for visibility. Front windows (upper and lower) can be opened. Padded seating.

**UNDERCARRIAGE**
- Tracks
  - Tractor-type undercarriage. Welded track frame using selected materials. Side frame welded to track frame.
- Numbers of Rollers on Each Side
  - Upper roller: 1
  - Lower rollers: 4
- 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 4.3 km/h
  - Low: 0 to 2.8 km/h
- Maximum traction force: 27 kN (2,750 kgf)
- Gradability: 58% (30 degree) continuous

**SERVICE REFILL CAPACITIES**
- Fuel tank: 42.0 L
- Engine coolant: 3.9 L
- Engine oil: 7.2 L
- Travel device (each side): 0.6 L
- Hydraulic system: 56.0 L
- Hydraulic oil tank: 32.0 L

**WEIGHTS AND GROUND PRESSURE**
- Operating Weight and Ground Pressure
  - 4 PILLAR CANOPY

<table>
<thead>
<tr>
<th>Shoe type</th>
<th>Shoe width</th>
<th>Arm length</th>
<th>kg</th>
<th>kPa/kgf/cm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubber shoe</td>
<td>300 mm</td>
<td>1.17 m</td>
<td>3.130</td>
<td>28 (0.28)</td>
</tr>
<tr>
<td>Grouser shoe</td>
<td>300 mm</td>
<td>1.17 m</td>
<td>3.320</td>
<td>30 (0.30)</td>
</tr>
<tr>
<td>Pad crawler shoe</td>
<td>300 mm</td>
<td>1.17 m</td>
<td>3.340</td>
<td>30 (0.30)</td>
</tr>
</tbody>
</table>

* Including 0.08 m² (ISO heaped), bucket weight 87 kg, additional counterweight (190 kg).

- CAB

<table>
<thead>
<tr>
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<th>kg</th>
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<tr>
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<td>300 mm</td>
<td>1.17 m</td>
<td>3.130</td>
<td>30 (0.30)</td>
</tr>
<tr>
<td>Grouser shoe</td>
<td>300 mm</td>
<td>1.17 m</td>
<td>3.400</td>
<td>35 (0.35)</td>
</tr>
<tr>
<td>Pad crawler shoe</td>
<td>300 mm</td>
<td>1.17 m</td>
<td>3.520</td>
<td>35 (0.35)</td>
</tr>
</tbody>
</table>

* Including 0.08 m² (ISO heaped), bucket weight 87 kg, additional counterweight (190 kg).

**BUCKET AND ARM DIGGING FORCE**
- Arm length: 1.17 m
- Bucket digging force ISO: 27.2 kN (2,770 kgf)
- Bucket digging force SAE: 21.2 kW (28.4 HP)
- Arm crowd force SAE: 105.5 Nm (10.8 kgfm)
- Arm crowd force ISO: 105.5 Nm (10.8 kgfm)

* Including 0.08 m² (ISO heaped), bucket weight 87 kg, additional counterweight (190 kg).
SPECIFICATIONS

WORKING RANGES

<table>
<thead>
<tr>
<th>Arm length</th>
<th>1.1 m</th>
<th>1.52 m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-Pillar Canopy</td>
<td>Cab</td>
</tr>
<tr>
<td>A Max. digging reach</td>
<td>4 690</td>
<td>5 170</td>
</tr>
<tr>
<td>A' Max. digging reach (on ground)</td>
<td>4 750</td>
<td>5 040</td>
</tr>
<tr>
<td>B Max. digging depth</td>
<td>2 720</td>
<td>3 130</td>
</tr>
<tr>
<td>C Max. cutting height</td>
<td>4 020</td>
<td>4 020</td>
</tr>
<tr>
<td>D Max. dumping height</td>
<td>3 020</td>
<td>3 020</td>
</tr>
<tr>
<td>D' Min. dumping height</td>
<td>1 310</td>
<td>1 220</td>
</tr>
<tr>
<td>E Min. swing radius</td>
<td>1 970</td>
<td>2 150</td>
</tr>
<tr>
<td>F Max. vertical wall digging depth</td>
<td>2 300</td>
<td>2 300</td>
</tr>
<tr>
<td>G Front height at Min. swing radius</td>
<td>3 530</td>
<td>3 440</td>
</tr>
<tr>
<td>H Min. level crowding distance</td>
<td>1 810</td>
<td>1 480</td>
</tr>
<tr>
<td>I Working radius at Min. swing radius (Max. boom-swing angle)</td>
<td>1 580</td>
<td>1 820</td>
</tr>
<tr>
<td>J Blade bottom highest position above ground</td>
<td>380</td>
<td>360</td>
</tr>
<tr>
<td>K Blade bottom lowest position above ground</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>L/L' Offset distance</td>
<td>610 / 735</td>
<td>610 / 700</td>
</tr>
<tr>
<td>with hose rupture valve with assist pipes</td>
<td>520 / 725</td>
<td>520 / 700</td>
</tr>
<tr>
<td>Max. boom-swing angle (deg.)</td>
<td>72 / 62</td>
<td>62 / 62</td>
</tr>
<tr>
<td>with hose rupture valve (deg.)</td>
<td>72 / 52</td>
<td>62 / 52</td>
</tr>
<tr>
<td>with assist pipes (deg.)</td>
<td>62 / 45</td>
<td>62 / 45</td>
</tr>
</tbody>
</table>

Excluding track shoe lug.

DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>2ZK5M (ex)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Distance between tumblers</td>
<td>1 680 (1 670)</td>
</tr>
<tr>
<td>B Undercarriage length</td>
<td>2 110 (2 130)</td>
</tr>
<tr>
<td>C Countertweight clearance</td>
<td>550 (545)</td>
</tr>
<tr>
<td>D Rear-end swing radius</td>
<td>875</td>
</tr>
<tr>
<td>D' Rear-end length</td>
<td>875</td>
</tr>
<tr>
<td>E Overall width of apparatus</td>
<td>1 550</td>
</tr>
<tr>
<td>F Overall height of cab</td>
<td>2 480 (2 470)</td>
</tr>
<tr>
<td>G Min. ground clearance</td>
<td>280 (270)</td>
</tr>
<tr>
<td>H Track gauge</td>
<td>1 250</td>
</tr>
<tr>
<td>I Track shoe width</td>
<td>300</td>
</tr>
<tr>
<td>J Undercarriage width</td>
<td>1 550</td>
</tr>
<tr>
<td>K Overall width (blade width)</td>
<td>1 550</td>
</tr>
<tr>
<td>L Overall length</td>
<td>4 450</td>
</tr>
<tr>
<td>With 1.17 m arm</td>
<td>4 530</td>
</tr>
<tr>
<td>With 1.52 m arm</td>
<td>1 510</td>
</tr>
<tr>
<td>M Overall height of boom</td>
<td>480 (475)</td>
</tr>
<tr>
<td>With 1.17 m arm</td>
<td>1 550</td>
</tr>
<tr>
<td>With 1.52 m arm</td>
<td>1 510</td>
</tr>
<tr>
<td>N Track height</td>
<td>390</td>
</tr>
<tr>
<td>O Engine cover-height</td>
<td>1 530 (1 520)</td>
</tr>
<tr>
<td>P Horizontal distance to blade</td>
<td>1 620</td>
</tr>
<tr>
<td>Q Blade height</td>
<td>390</td>
</tr>
</tbody>
</table>

* Excluding track shoe lug. Data in () are dimensions of grouser shoe.
## Lifting Capacities (Without Bucket)

### ZX33U-ta 4-Pillar Canopy Version, Blade above Ground

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Load point height m</th>
<th>Load radius 1.0 m</th>
<th>Load radius 2.0 m</th>
<th>Load radius 3.0 m</th>
<th>Load radius 4.0 m</th>
<th>At max. reach</th>
<th>meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boom 2.28 m</td>
<td>3</td>
<td>0.33</td>
<td>0.64</td>
<td>0.98</td>
<td>1.33</td>
<td>0.53</td>
<td>0.41</td>
</tr>
<tr>
<td>Arm 1.17 m</td>
<td>2</td>
<td>0.26</td>
<td>0.58</td>
<td>0.91</td>
<td>1.24</td>
<td>0.44</td>
<td>0.34</td>
</tr>
<tr>
<td>Additional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.41</td>
<td>0.34</td>
</tr>
<tr>
<td>counterweight 190 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.41</td>
<td>0.34</td>
</tr>
<tr>
<td>Rubber shoe 300 mm</td>
<td>-1</td>
<td><em>1.47</em></td>
<td><em>1.47</em></td>
<td><em>1.47</em></td>
<td><em>1.47</em></td>
<td>0.53</td>
<td>0.41</td>
</tr>
<tr>
<td></td>
<td>-2</td>
<td><em>1.51</em></td>
<td><em>1.03</em></td>
<td></td>
<td></td>
<td>0.53</td>
<td>0.41</td>
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*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. *Ground: For lifting capacities, subtract bucket and quick hitch weight from lifting capacities without bucket.

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### EQUIPMENT

#### ENGINE
- Auto idle system
- Cartridge-type engine oil filter
- Dust-Proof indoor net
- Electrical fuel feed pump
- Fuel main filter
- Radiator reserve tank
- Water-separator for engine fuel

#### HYDRAULIC SYSTEM
- Boom anti-drift 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 parking brake
- Travel parking brake
- Two-speed travel system
- Valve for extra piping

#### 4-PILLAR CANOPY
- Anti-slip plate
- Armrests
- Auxiliary function lever (AFL)
- Drink holder
- Electric horn
- Floor mat
- Retracting seat
- Retractable seat belt
- ROPS/OPG canopy
- Spare power supply
- Suspension seat

#### CAB
- Air conditioner
- AM/FM radio
- Anti-slip plate
- Armrests
- Auxiliary function lever (AFL)
- Defroster
- Drink holder
- Electric horn
- Floor mat
- Heater
- Retracting seat
- Retractable seat belt
- ROPS/OPG cab
- Spare power supply
- Suspension seat
- Window washer
- Wipe

#### UPPERSTRUCTURE
- Auxiliary overload relief valve
- Pilot accumulator
- Rear view mirror
- Stack muffler
- 190 kg additional counterweight

#### UNDERCARRIAGE
- 300 mm grouser shoe
- 300 mm pad crawler shoe
- 300 mm rubber shoe

#### FRONT ATTACHMENTS
- Assist piping
- Extra piping
- HN bushing
- 1.17 m arm
- 1.52 m arm

#### MISCELLANEOUS
- Theft deterrent system*

* Hitachi Construction Machinery cannot be held liable for theft, any system will just minimize the risk of theft.

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

### MEMO
Built on the foundation of superb technological capabilities, Hitachi Construction Machinery is committed to providing leading-edge solutions and services to contribute as a reliable partner to the business of customers worldwide.

Reducing Environmental Impact by New ZAXIS

Hitachi makes a green way to cut carbon emissions for global warming prevention according to LCA*. New ZAXIS utilizes lots of technological advances, including the new ECO mode, and Isochronous Control. Hitachi has long been committed to recycling of components, such as aluminum parts in radiators and oil cooler. Resin parts are marked for recycling.

*Life Cycle Assessment – ISO 14040

The Hitachi Group released the Environmental Vision 2025 to curb annual carbon dioxide emissions. The Group is committed to global production while reducing environmental impact in life cycles of all products, and realizing a sustainable society by tackling three goals — prevention of global warming, conservation of resources, and preservation of ecosystem.