CLAMSHELL TELESCOPIC ARM

ZAXIS350LC

APPLICATION & ATTACHMENT

Model Code  ZAXIS350LC-5B
Engine Rated Power  202 kW (271 HP)
Operating Weight  46 200 kg
PRODUCTIVITY

The Hitachi Zaxis-5 excavators equipped with clamshell telescopic arms have been designed to boost productivity on complex and challenging excavation projects. They can be used to remove soil from depths of 30 metres below ground and load trucks to transport the material swiftly off site. With enhanced hydraulics and cleaner exhaust emissions to meet the latest EU regulations, the new Zaxis-5 range can be relied upon to operate smoothly and safely to meet tight deadlines.
Smooth and rapid operation guarantees high levels of efficiency

**Clamshell Telescopic Arm**

Using a technologically advanced combination of rope and hydraulic cylinders, the clamshell telescopic arm extends and retracts smoothly with a full load in a matter of seconds. The hydraulic circuit has been enhanced for the new Zaxis-5 excavator range, offering even higher levels of productivity. They have proved to be quicker than the traditional skips and crane method of below-ground excavation, for example. The new models can also be fitted with an optional standard arm, which provides greater versatility on busy job sites.

**Sliding cab**

The cab of the Zaxis-5 excavator equipped with a clamshell telescopic arm is positioned 960mm further forward than on a conventional Hitachi model. It also has the capacity to slide 1,300mm further forward, so an additional 2,260mm can be gained over a conventional machine. This provides enhanced visibility of the site below ground for the operator, who can remain seated in a comfortable position while working.

For additional safety, a sliding cab operation switch prevents any unintended movements of the cab. Furthermore, easy access to the cab is provided by the lengthy walkway and handrail.

**Twin rope system**

One of several safety features incorporated into the design of the Zaxis-5 range of clamshell telescopic excavators is the twin-rope system. This means that, in the unlikely event that one rope should break, the other will hold the telescopic arm firmly in place, until it can be repaired. This is one of the many ways in which the Hitachi excavator contributes to the safe and successful operation of any job site.

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**Key features**

- Clamshell telescopic arm
- Sliding cab
- Twin rope system
The reliable and efficient operation of your Zaxis-5 excavator can have a strong impact on the success of your business. Taking this into account, Hitachi engineers have designed the latest clamshell telescopic models with several performance-enhancing features. We believe the performance of the new Zaxis-5 range of clamshell telescopic excavators will extend beyond your expectations, increasing productivity, enhancing efficiency and providing you with a quick return on your investment.
Excellent versatility

The Zaxis-5 clamshell telescopic excavators have been designed to work on job sites with a limited load-bearing capacity as well as in confined spaces. Their reduced operating weight and ground pressure enhances their versatility for working on a variety of projects. Further advantages of the Zaxis-5 excavators include proven fuel efficiency, easy maintenance and durability.

Excellent shock absorption

For the safe and smooth loading of trucks, the Zaxis-5 excavators with clamshell telescopic arms are fitted with a shock-absorbing device that limits the end of stroke impact.

Key features

- Large clamshell bucket
- Quick arm extension
- Reduced vibration
The ultimate aim behind the Zaxis-5 range of clamshell telescopic excavators was to produce machines that would enable you to complete underground construction projects safely and on schedule. Several design features incorporated on the latest models highlight Hitachi’s commitment to operator safety, offering enhanced visibility of the job site, easy maintenance solutions, and early warnings and alerts in the cab to ensure a successful operation.

**SAFETY**

**Floor window**

The floor of the sliding cab has been designed with a large polycarbonate window, which provides the operator with excellent visibility of the site below. This helps him to carry out the excavation work safely and accurately, ensuring a high level of performance.

**Reduced vibration**

Vibrations in the cab can have a negative effect on the comfort of operators and influence their ability to work for long periods of time. Hitachi has redesigned the cab’s sliding mechanism from roller to slide-plate, which results in less vibration and fewer jolts.

**Warning lights and safety alarms**

The safe performance of the Zaxis-5 excavator with clamshell telescopic arm is aided by the use of warning lights and safety alarms. For instance, if either of the two ropes were to break suddenly or extend too far, an indication light would alert the operator immediately.

In addition, a warning buzzer will alert the operator if too much pressure is applied once the clamshell bucket has reached the ground and is excavating the material.

**Hose rupture valve**

The clamshell telescopic arm is also equipped with a hose rupture valve, which, in the unlikely event of a damaged cylinder, will prevent any other impact on the machine or the environment.

**Key features**

- Sliding cab with floor window
- Easy to open top cover
- Rope alert and bucket alarm
- Shock-absorbing device
**SPECIFICATIONS**

**ZX350LC**

**ENGINE**

<table>
<thead>
<tr>
<th>Model</th>
<th>Isuzu AL-6HK1X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>4-cycle water-cooled, common rail direct injection</td>
</tr>
<tr>
<td>Aspiration</td>
<td>Variable geometry turbocharged, intercooled, cooled EGR</td>
</tr>
<tr>
<td>Aftertreatment</td>
<td>Muffler filter</td>
</tr>
<tr>
<td>No. of cylinders</td>
<td>6</td>
</tr>
<tr>
<td>Rated power</td>
<td>202 kW (271 HP) at 1 900 min⁻¹ (rpm)</td>
</tr>
<tr>
<td>ISO 9249, net</td>
<td>202 kW (271 HP) at 1 900 min⁻¹ (rpm)</td>
</tr>
<tr>
<td>EEC 50/1269, net</td>
<td>202 kW (271 HP) at 1 900 min⁻¹ (rpm)</td>
</tr>
<tr>
<td>SAE J1349, net</td>
<td>202 kW (271 HP) at 1 900 min⁻¹ (rpm)</td>
</tr>
<tr>
<td>Maximum torque</td>
<td>1 080 Nm (110 kgfm) at 1 500 min⁻¹ (rpm)</td>
</tr>
<tr>
<td>Piston displacement</td>
<td>7.790 L</td>
</tr>
<tr>
<td>Bore and stroke</td>
<td>115 mm x 125 mm</td>
</tr>
<tr>
<td>Batteries</td>
<td>2 x 12 V / 135 Ah</td>
</tr>
</tbody>
</table>

**HYDRAULIC SYSTEM**

**Hydraulic Pumps**

- Main pumps: 3 variable displacement axial piston pumps
- Maximum oil flow: 2 x 288 L/min
- 1 x 260 L/min
- Pilot pump: 1 gear pump
- Maximum oil flow: 36.4 L/min

**Hydraulic Motors**

- Travel: 2 variable displacement axial piston motors
- Swing: 1 swash plate piston motor

**Relief Valve Settings**

- Implement circuit: 34.3 MPa (350 kgf/cm²)
- Swing circuit: 32.4 MPa (330 kgf/cm²)
- Travel circuit: 34.3 MPa (350 kgf/cm²)
- Pilot circuit: 3.9 MPa (40 kgf/cm²)
- Power boost: 38.0 MPa (388 kgf/cm²)

**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: 2
- Telescopic arm control pedal: 1

**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 type.
- Swing speed: 9.7 min⁻¹ (rpm)
- Swing torque: 120 kNm (12 240 kgfm)

**Operator’s Cab**

- Independent spacious cab, 1 005 mm wide by 1 675 mm high, conforming to ISO 8520 Standards.
  * International Organization for Standardization

**UNDERCARRIAGE**

**Tracks**


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

- Upper rollers: 2
- Lower rollers: 8
- Track shoes: 48
- Track guards: 3

**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 3.2 km/h

**WEIGHTS AND GROUND PRESSURE**

- Maximum traction force: 298 kN (30 400 kgf)
- Gradeability: 26% (15 degree) continuous

**SOUND LEVEL**

- Sound level in cab according to ISO 6396: LpA 70 dB(A)
- External sound level according to ISO 6395 and EU Directive 2000/14/EC: LwA 104 dB(A)

**SERVICE REFILL CAPACITIES**

- Fuel tank: 630.0 L
- Engine coolant: 40.0 L
- Engine oil: 48.0 L
- Swing device: 15.7 L
- Travel device (each side): 9.2 L
- Hydraulic system: 340.0 L
- Hydraulic oil tank: 180.0 L

**CLAMSHELL BUCKET**

<table>
<thead>
<tr>
<th>Bucket type</th>
<th>S-SP155</th>
</tr>
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<tbody>
<tr>
<td>Bucket capacity</td>
<td>m³ 1.55</td>
</tr>
<tr>
<td>Max. digging force</td>
<td>kN (kgf) 99.1 (10 100)</td>
</tr>
<tr>
<td>Max. height</td>
<td>mm 3 590</td>
</tr>
<tr>
<td>Max. opened height</td>
<td>mm 3 060</td>
</tr>
<tr>
<td>Closed width</td>
<td>mm 2 170</td>
</tr>
<tr>
<td>Opened width</td>
<td>mm 2 480</td>
</tr>
<tr>
<td>Bucket width</td>
<td>mm 1 200</td>
</tr>
<tr>
<td>Number of teeth</td>
<td>7</td>
</tr>
<tr>
<td>Weight</td>
<td>kg 2 350</td>
</tr>
</tbody>
</table>
## SPECIFICATIONS

### WORKING RANGES

![Diagram of working ranges](image)

<table>
<thead>
<tr>
<th>Telescopic arm type</th>
<th>S-TC300R-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telescopic arm system</td>
<td>Hydraulic cylinder + wire rope</td>
</tr>
<tr>
<td>A Max. vertical digging depth</td>
<td>30 000</td>
</tr>
<tr>
<td>B Radius at max. vertical digging depth</td>
<td>6 900</td>
</tr>
<tr>
<td>C Max. vertical digging radius</td>
<td>8 550</td>
</tr>
<tr>
<td>D Depth at max. vertical digging radius</td>
<td>25 630</td>
</tr>
<tr>
<td>E Max. working radius</td>
<td>11 180</td>
</tr>
<tr>
<td>F Max. dumping height</td>
<td>4 840</td>
</tr>
<tr>
<td>G Min. front swing radius</td>
<td>5 550</td>
</tr>
<tr>
<td>H Height at min. front swing radius</td>
<td>17 550</td>
</tr>
<tr>
<td>I Cab sliding distance</td>
<td>1 300</td>
</tr>
</tbody>
</table>

**Unit: mm**
### SPECIFICATIONS

#### DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Unit: mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Distance between tumblers</td>
<td>4 050</td>
</tr>
<tr>
<td>B</td>
<td>Undercarriage length</td>
<td>4 940</td>
</tr>
<tr>
<td>*C</td>
<td>Counterweight clearance</td>
<td>1 160</td>
</tr>
<tr>
<td>D</td>
<td>Rear-end swing radius</td>
<td>3 780</td>
</tr>
<tr>
<td>E</td>
<td>Overall width of upperstructure</td>
<td>3 290</td>
</tr>
<tr>
<td>F</td>
<td>Overall height of cab</td>
<td>3 420</td>
</tr>
<tr>
<td>*G</td>
<td>Min. ground clearance</td>
<td>500</td>
</tr>
<tr>
<td>H</td>
<td>Track gauge</td>
<td>2 590</td>
</tr>
<tr>
<td>I</td>
<td>Track shoe width</td>
<td>600</td>
</tr>
<tr>
<td>J</td>
<td>Undercarriage width</td>
<td>3 190</td>
</tr>
<tr>
<td>K</td>
<td>Overall width (folding the step)</td>
<td>3 390 (3 060)</td>
</tr>
<tr>
<td>L</td>
<td>Overall length</td>
<td>20 250</td>
</tr>
<tr>
<td>M</td>
<td>Overall height of boom</td>
<td>3 170</td>
</tr>
<tr>
<td>N</td>
<td>Track height with triple grouser shoes</td>
<td>1 060</td>
</tr>
<tr>
<td>O</td>
<td>Swing centre to front distance</td>
<td>16 480</td>
</tr>
</tbody>
</table>

* Excluding track shoe lug  
G: Triple grouser shoe

#### TRANSPORTATION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Unit: mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>1 030 mm</td>
<td></td>
</tr>
<tr>
<td>Weight (with Sliding cab)</td>
<td>24 800 kg</td>
<td></td>
</tr>
</tbody>
</table>

**Telescopc Arm**

- Width: 1 030 mm  
- Weight: 6 580 kg

**Counterweight**

- Width: 2 950 mm  
- Weight: 12 400 kg

**Clamshell Bucket**

- Width: 1 270 mm  
- Weight: 2 350 kg

**Telescopc Arm**

- 14 060 (with bucket hanger bracket)  
- 13 200 (without bucket hanger bracket)
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, recycling of resources, and enhancement of ecosystem.

Prior to operating this machine, including 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, customer modified and installed parts, optional parts and all standard equipment with some differences in color and features. Before use, read and understand the Operator’s Manual for proper operation.

Hitachi Construction Machinery

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