ZX180LC-5
90 kW (121 hp)
ZX180LC

HITACHI
### Engine
- **Manufacturer and Model**: Isuzu 4J1
- **Net Rated Power (ISO 9249)**: 90 kW (121 hp) @ 2,200 rpm
- **Displacement**: 3.0L (183 cu in.)
- **Rated Power (ISO 9249)**: 70% (35 deg.)
- **Aspiration**: Turbocharged, air-to-air charge-air cooler

### Cooling
- Direct-driven, high-efficiency, low-noise, suction-type fan

### Powertrain
- **2-speed propel with automatic shift**

#### Maximum Travel Speed
- **Low**: 3.4 km/h (2.1 mph)
- **High**: 5.3 km/h (3.3 mph)

### Hydraulics
- **Open center, load sensing**

#### Main Pumps
- **2 variable-displacement axial-piston pumps**
  - **Maximum Rated Flow**: 191 L/m (50 gpm) x 2
- **Pilot Pump**: One gear
  - **Maximum Rated Flow**: 33.6 L/m (8.9 gpm)
  - **Pressure Setting**: 3930 kPa (570 psi)

#### System Operating Pressure
- **Implement Circuits**: 34 336 kPa (4,980 psi)
- **Travel Circuits**: 34 336 kPa (4,980 psi)
- **Swing Circuits**: 34 336 kPa (4,980 psi)
- **Power Boost**: 38 000 kPa (5,511 psi)

### Controls
- Pilot levers, short stroke, low-effort hydraulic pilot controls with shutoff lever

### Cylinders
- **Boom (2)**
  - **Bore**: 120 mm (4.72 in.)
  - **Rod Diameter**: 85 mm (3.35 in.)
  - **Stroke**: 1123 mm (44.21 in.)
- **Arm (1)**
  - **Bore**: 125 mm (4.92 in.)
  - **Rod Diameter**: 90 mm (3.54 in.)
  - **Stroke**: 1371 mm (53.98 in.)
- **Bucket (1)**
  - **Bore**: 105 mm (4.13 in.)
  - **Rod Diameter**: 75 mm (2.95 in.)
  - **Stroke**: 1060 mm (41.73 in.)

### Electrical
- **Number of Batteries (12 volt)**: 2
- **Battery Capacity**: 1,400 CCA
- **Alternator Rating**: 50 amp
- **Work Lights**: 2 halogen (one mounted on boom, one on frame)

### Undercarriage
- **Rollers (each side)**
  - **Carrier Rollers**: 2
  - **Track Rollers**: 7
- **Shoes (each side)**: 46
- **Track Guides**: Hydraulic
- **Chain**: Center
- **Sealed and lubricated

### Ground Pressure
- **600-mm (24 in.) Triple Semi-Grouser Shoes**: 41 kPa (5.95 psi)
- **700-mm (28 in.) Triple Semi-Grouser Shoes**: 36 kPa (5.22 psi)
- **800-mm (32 in.) Triple Semi-Grouser Shoes**: 32 kPa (4.64 psi)

#### Swing Mechanism
- **Swing Speed**: 12.8 rpm
- **Swing Torque**: 50 000 Nm (36,756 lb.-ft.)
**Serviceability**

**Refill Capacities**

- Fuel Tank: 320L (84.5 gal.)
- Cooling System: 22L (23.2 qt.)
- Engine Oil with Filter: 17L (4.55 gal.)
- Hydraulic Tank: 125L (33 gal.)
- Swing Gearbox: 6.2L (6.6 qt.)
- Propeller Gearbox (each): 6.8L (7.2 qt.)
- Hydraulic System: 220L (58.1 gal.)
- Propeller Gearbox (each): 6.8L (7.2 qt.)
- Pump Drive Gearbox: 0.9L (1 qt.)

**Operating Weights**

With full fuel tank; 79-kg (175 lb.) operator; 600-kg (1,323 lb.) general-purpose bucket; 2.71-m (8 ft. 10 in.) arm; 3910-kg (8,620 lb.) counterweight, and 700-mm (28 in.) triple semi-grouser shoes.

**Operating Weight**

18 350 kg (40,419 lb.)

**Optional Components**

- Undercarriage w/ Triple Semi-Grouser Shoes
  - 600 mm (24 in.): 6752 kg (14,873 lb.)
  - 700 mm (28 in.): 7143 kg (15,733 lb.)
  - 800 mm (32 in.): 7437 kg (16,396 lb.)
- One-Piece Boom (with arm cylinder) and Linkage
  - 2.71 m (8 ft. 10 in.): 881 kg (1,941 lb.)
  - 3.21 m (10 ft. 6 in.): 946 kg (2,084 lb.)
- Boom Lift Cylinders (2) Total Weight
  - 8067-mm (42 in.): 736 kg (1,636 lb.)
  - 8067-mm (42 in.): 785 kg (1,731 lb.)
  - 9067-mm (42 in.): 881 kg (1,941 lb.)
  - 9067-mm (42 in.): 946 kg (2,084 lb.)
- One-Piece Boom (with arm cylinder) and Linkage
  - 1556 kg (3,449 lb.)
- Counterweight Standard
  - 3910 kg (8,620 lb.)

**Operating Dimensions**

<table>
<thead>
<tr>
<th>Arm Length</th>
<th>2.7 m (8 ft. 10 in.)</th>
<th>3.21 m (10 ft. 6 in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm Digging Force</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAE</td>
<td>91 kN (20,459 lb.)</td>
<td>81 kN (18,210 lb.)</td>
</tr>
<tr>
<td>ISO</td>
<td>95 kN (21,358 lb.)</td>
<td>84 kN (18,865 lb.)</td>
</tr>
<tr>
<td>Bucket Digging Force</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAE</td>
<td>112 kN (25,180 lb.)</td>
<td>112 kN (25,180 lb.)</td>
</tr>
<tr>
<td>ISO</td>
<td>127 kN (28,552 lb.)</td>
<td>127 kN (28,552 lb.)</td>
</tr>
<tr>
<td>A Maximum Reach</td>
<td>9.43 m (30 ft. 11 in.)</td>
<td>9.43 m (32 ft. 7 in.)</td>
</tr>
<tr>
<td>B Maximum Digging Depth</td>
<td>6.57 m (21 ft. 7 in.)</td>
<td>7.07 m (23 ft. 2 in.)</td>
</tr>
<tr>
<td>C Maximum Cutting Height</td>
<td>9.4 m (30 ft. 10 in.)</td>
<td>9.79 m (32 ft. 1 in.)</td>
</tr>
<tr>
<td>D Maximum Dumping Height</td>
<td>6.57 m (21 ft. 7 in.)</td>
<td>6.93 m (22 ft. 9 in.)</td>
</tr>
<tr>
<td>E Minimum Swing Radius</td>
<td>3.13 m (10 ft. 3 in.)</td>
<td>3.13 m (10 ft. 3 in.)</td>
</tr>
<tr>
<td>F Maximum Vertical Wall</td>
<td>5.55 m (18 ft. 3 in.)</td>
<td>6.28 m (20 ft. 7 in.)</td>
</tr>
<tr>
<td>G Tail-Swing Radius</td>
<td>2.55 m (8 ft. 4 in.)</td>
<td>2.55 m (8 ft. 4 in.)</td>
</tr>
</tbody>
</table>
### Machine Dimensions

<table>
<thead>
<tr>
<th>A Overall Length</th>
<th>ZX180LC-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.71-m (8 ft. 10 in.) arm</td>
<td>9.04 m (29 ft. 8 in.)</td>
</tr>
<tr>
<td>3.21-m (10 ft. 6 in.) arm</td>
<td>9.04 m (29 ft. 8 in.)</td>
</tr>
<tr>
<td>B Overall Height</td>
<td></td>
</tr>
<tr>
<td>2.71-m (8 ft. 10 in.) arm</td>
<td>3.08 m (10 ft. 1 in.)</td>
</tr>
<tr>
<td>3.21-m (10 ft. 6 in.) arm</td>
<td>3.39 m (11 ft. 1 in.)</td>
</tr>
<tr>
<td>C Rear-End Length/Swing Radius</td>
<td>2.55 m (8 ft. 4 in.)</td>
</tr>
<tr>
<td>D Distance Between Idler/ Sprocket Centerline</td>
<td>3.37 m (11 ft. 1 in.)</td>
</tr>
<tr>
<td>E Undercarriage Length</td>
<td>4.17 m (13 ft. 8 in.)</td>
</tr>
<tr>
<td>F Counterweight Clearance</td>
<td>1030 mm (3 ft. 5 in.)</td>
</tr>
<tr>
<td>G Upperstructure Width</td>
<td>2.5 m (8 ft. 2 in.)</td>
</tr>
<tr>
<td>H Cab Height</td>
<td>2.95 m (9 ft. 8 in.)</td>
</tr>
<tr>
<td>I Track Width w/ Triple Semi-Grouser Shoes</td>
<td>600 mm (24 in.)</td>
</tr>
<tr>
<td>J Gauge Width</td>
<td>2.20 m (7 ft. 3 in.)</td>
</tr>
<tr>
<td>K Ground Clearance</td>
<td>450 mm (18 in.)</td>
</tr>
<tr>
<td>L Overall Width w/ Triple Semi-Grouser Shoes</td>
<td>600 mm (24 in.)</td>
</tr>
</tbody>
</table>
## Lift Capacities

Boldface type indicates hydraulically limited capacity; lightface type indicates stability-limited capacities, in kg (lb.). Ratings at bucket lift hook; machine equipped with 600-kg (1,323 lb.) bucket; standard gauge; and situated on firm, uniform supporting surface. Total load includes weight of cables, hook, etc. Figures do not exceed 97 percent of hydraulic capacities or 75 percent of weight needed to tip machine.

All lift capacities are based on ISO 10567 (with power boost).

<table>
<thead>
<tr>
<th>Load Point Height</th>
<th>1.5 m (5 ft.)</th>
<th>3.0 m (10 ft.)</th>
<th>4.5 m (15 ft.)</th>
<th>6.0 m (20 ft.)</th>
<th>7.5 m (25 ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal Distance from Centerline of Rotation</td>
<td>Over Front</td>
<td>Over Side</td>
<td>Over Front</td>
<td>Over Side</td>
<td>Over Front</td>
</tr>
<tr>
<td>6.0 m (20 ft.)</td>
<td>4.5 m (15 ft.)</td>
<td>4.5 m (15 ft.)</td>
<td>4.5 m (15 ft.)</td>
<td>4.5 m (15 ft.)</td>
<td>4.5 m (15 ft.)</td>
</tr>
<tr>
<td>With 2.71-m (8 ft.) arm and 700-mm (28 in.) shoes</td>
<td>4000</td>
<td>3800</td>
<td>4000</td>
<td>3800</td>
<td>4000</td>
</tr>
<tr>
<td>3.0 m (10 ft.)</td>
<td>3050</td>
<td>2900</td>
<td>3050</td>
<td>2900</td>
<td>3050</td>
</tr>
<tr>
<td>With 2.71-m (8 ft.) arm and 700-mm (28 in.) shoes</td>
<td>(8,850)</td>
<td>(8,850)</td>
<td>(8,850)</td>
<td>(8,850)</td>
<td>(8,850)</td>
</tr>
<tr>
<td>3.0 m (10 ft.)</td>
<td>3350</td>
<td>3200</td>
<td>3350</td>
<td>3200</td>
<td>3350</td>
</tr>
<tr>
<td>With 2.71-m (8 ft.) arm and 700-mm (28 in.) shoes</td>
<td>(10,700)</td>
<td>(10,700)</td>
<td>(10,700)</td>
<td>(10,700)</td>
<td>(10,700)</td>
</tr>
<tr>
<td>3.0 m (10 ft.)</td>
<td>3700</td>
<td>3550</td>
<td>3700</td>
<td>3550</td>
<td>3700</td>
</tr>
<tr>
<td>With 2.71-m (8 ft.) arm and 700-mm (28 in.) shoes</td>
<td>(12,650)</td>
<td>(12,650)</td>
<td>(12,650)</td>
<td>(12,650)</td>
<td>(12,650)</td>
</tr>
<tr>
<td>3.0 m (10 ft.)</td>
<td>3900</td>
<td>3750</td>
<td>3900</td>
<td>3750</td>
<td>3900</td>
</tr>
<tr>
<td>With 2.71-m (8 ft.) arm and 700-mm (28 in.) shoes</td>
<td>(16,500)</td>
<td>(16,500)</td>
<td>(16,500)</td>
<td>(16,500)</td>
<td>(16,500)</td>
</tr>
<tr>
<td>3.0 m (10 ft.)</td>
<td>4200</td>
<td>4050</td>
<td>4200</td>
<td>4050</td>
<td>4200</td>
</tr>
<tr>
<td>With 2.71-m (8 ft.) arm and 700-mm (28 in.) shoes</td>
<td>(19,500)</td>
<td>(19,500)</td>
<td>(19,500)</td>
<td>(19,500)</td>
<td>(19,500)</td>
</tr>
<tr>
<td>3.0 m (10 ft.)</td>
<td>4450</td>
<td>4300</td>
<td>4450</td>
<td>4300</td>
<td>4450</td>
</tr>
<tr>
<td>With 2.71-m (8 ft.) arm and 700-mm (28 in.) shoes</td>
<td>(22,500)</td>
<td>(22,500)</td>
<td>(22,500)</td>
<td>(22,500)</td>
<td>(22,500)</td>
</tr>
</tbody>
</table>
Buckets

A full line of buckets is offered to meet a wide variety of applications. Digging forces are with power boost. Buckets are equipped with ESCO teeth standard. Replaceable cutting edges and a variety of teeth are available through Hitachi parts. Optional side cutters add 150 mm (6 in.) to bucket widths. Capacities are SAE heaped ratings.

<table>
<thead>
<tr>
<th>Type Bucket</th>
<th>Bucket Width</th>
<th>Bucket Capacity</th>
<th>Bucket Weight</th>
<th>Bucket Dig Force</th>
<th>Arm Dig Force 2.42 m (7 ft. 11 in.)</th>
<th>Arm Dig Force 2.91 m (9 ft. 7 in.)</th>
<th>Bucket Tip Radius</th>
<th>Number of Teeth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Duty</td>
<td>760 mm</td>
<td>30 in.</td>
<td>0.54 m³</td>
<td>0.71 cu. yd.</td>
<td>622 kg</td>
<td>1,969 lb.</td>
<td>135.9 kN</td>
<td>30,554 kN</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>135.9 kN</td>
<td>30,554 kN</td>
<td>29.271 kN</td>
<td>107.1 kN</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>107.1 kN</td>
<td>1463 kN</td>
<td>24.071 kN</td>
<td>57.61 kN</td>
</tr>
<tr>
<td>Heavy Duty</td>
<td>915 mm</td>
<td>36 in.</td>
<td>0.69 m³</td>
<td>0.97 cu. yd.</td>
<td>708 kg</td>
<td>1,559 lb.</td>
<td>135.9 kN</td>
<td>30,554 kN</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>135.9 kN</td>
<td>30,554 kN</td>
<td>29.271 kN</td>
<td>107.1 kN</td>
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<td>1463 kN</td>
<td>24.071 kN</td>
<td>57.61 kN</td>
</tr>
<tr>
<td>Heavy Duty</td>
<td>1220 mm</td>
<td>48 in.</td>
<td>0.99 m³</td>
<td>1.29 cu. yd.</td>
<td>872 kg</td>
<td>1,922 lb.</td>
<td>135.9 kN</td>
<td>30,554 kN</td>
</tr>
<tr>
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<td>1463 kN</td>
<td>24.071 kN</td>
<td>57.61 kN</td>
</tr>
<tr>
<td>Heavy Duty</td>
<td>915 mm</td>
<td>36 in.</td>
<td>0.74 m³</td>
<td>0.97 cu. yd.</td>
<td>809 kg</td>
<td>1,782 lb.</td>
<td>135.9 kN</td>
<td>30,549 kN</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>135.9 kN</td>
<td>30,549 kN</td>
<td>29.271 kN</td>
<td>106.8 kN</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>106.8 kN</td>
<td>1473 kN</td>
<td>24.016 kN</td>
<td>58.5 kN</td>
</tr>
<tr>
<td>Heavy Duty</td>
<td>1065 mm</td>
<td>42 in.</td>
<td>0.91 m³</td>
<td>1.19 cu. yd.</td>
<td>886 kg</td>
<td>1,951 lb.</td>
<td>135.0 kN</td>
<td>30,349 kN</td>
</tr>
<tr>
<td>High Capacity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>135.0 kN</td>
<td>30,349 kN</td>
<td>29.197 kN</td>
<td>106.8 kN</td>
</tr>
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<td>High Capacity</td>
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<td>30,554 kN</td>
</tr>
</tbody>
</table>

Bucket Selection Guide*

*Contact your Hitachi dealer for optimum bucket and attachment selections. These recommendations are for general conditions and average use. Does not include optional equipment such as thumbs or couplers. Larger buckets may be possible when using light materials, for flat and level operations, less compacted materials, and volume loading applications such as mass-excavation applications in ideal conditions. Smaller buckets are recommended for adverse conditions such as off-level applications, rocks, and uneven surfaces. Bucket capacity indicated is SAE heaped.
### Engine
- Auto-idle system
- Batteries (2 - 12 volt)
- Coolant recovery tank
- Dual-element dry-type air filter
- Electronic engine control
- Enclosed fan guard (conforms to SAE J1308)
- Engine coolant to ~37 deg. C (~34 deg. F)
- Programmable auto shutdown
- Fuel filter with water separator
- Full-flow oil filter
- Turbocharger with charge air cooler
- 500-hour engine-oil-change interval
- 70% (35 deg.) off-level capability
- Engine-oil-sampling valve

### Hydraulic System
- Reduced-drift valve for boom down, arm in
- Auxiliary hydraulic valve section
- Spring-applied, hydraulically released automatic swing brake
- Auxiliary hydraulic-flow adjustments through monitor
- Auto power lift
- 5,000-hour hydraulic-oil-change interval
- Hydraulic-oil-sampling valve
- Auxiliary hydraulic lines
- Auxiliary pilot and electric controls
- Auxiliary filter restriction indicator kit
- Load-lowering control device
- Single-pedal propel control
- Control pattern change valve

### Undercarriage
- Planetary drive with axial piston motors
- Propulsion motor shields
- Spring-applied, hydraulically released automatic propel brake
- Track guides, front idler and center
- 2-speed propel with automatic shift
- Upper carrier rollers (2)
- Sealed and lubricated track chain
- Triple semi-grouser shoes, 600 mm (24 in.)
- Triple semi-grouser shoes, 700 mm (28 in.)
- Triple semi-grouser shoes, 800 mm (32 in.)

### Upperstructure
- Right-hand, left-hand, and counterweight mirrors
- Vandal locks with ignition key: Cab door / Service doors / Toolbox
- Debris screen
- Remote-mounted engine oil and fuel filters

### Front Attachments
- Centralized lubrication system
- Dirt seals on all bucket pins
- Less boom and arm
- HN bushings
- Reinforced resin thrust plates
- Tungsten carbide thermal coating on arm-to-bucket joint
- Arm, 2.6 m (8 ft. 6 in.)
- Arm, 3.1 m (10 ft. 2 in.)
- Attachment quick-couplers
- Boom cylinder with plumbing to mainframe less boom and arm
- Buckets: Ditching / Heavy duty / Heavy-duty high capacity / Side cutters and teeth
- Material clamps

### Operator’s Station
- Meets ISO 12117-2 for ROPS
- Adjustable independent-control positions (lever-to-seat, seat-to-pedals)
- AM/FM radio
- Auto climate control/air conditioner/heater/pressurizer
- Built-in Operator’s Manual storage compartment and manual
- Cell-phone power outlet, 12 volt, 60 watt, 5 amp
- Coat hook
- Deluxe suspension cloth seat with 100-mm (4 in.) adjustable armrests
- Floor mat
- Front windshield wiper with intermittent speeds
- Gauges (illuminated): Engine coolant / Fuel
- Horn, electric
- Hour meter, electric
- Hydraulic shutdown lever, all controls
- Hydraulic warm-up control
- Interior light
- Large cup holder
- Machine Information Center (MIC)
- Mode selectors (illuminated):
  - Power modes (3) / Travel modes (2 with automatic shift) / Work mode (1)

### Electrical
- 50-amp alternator
- Blade-type multi-fused circuits
- Positive-terminal battery covers
- ZXLink™ wireless communication system
- (available in specific countries; see your dealer for details)
- Rearview camera
- Cab extension wiring harness

### Lights
- Work lights: Halogen / One mounted on boom / One mounted on frame
- 2 lights mounted on cab / One mounted on right side of boom

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**Key:** Standard ▲ Optional or special

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Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at test conditions specified per ISO 9249. No derating is required up to 2000-m (6,560-ft.) altitude. Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on a unit with 1067-mm (42 in.), 0.83-m³ (1.09 cu. yd.), 789-kg (1,731 lb.) general-purpose bucket, 3.21-m (10 ft. 6 in.) arm; 3910-kg (8,620 lb.) counterweight; 700-mm (28 in.) triple semi-grouser shoes; full fuel tank; and 78-kg (170 lb.) operator.