

ZW series

HITACHI

ZW80

ZW90



WHEEL LOADERS

- **Model Code** : ZW80 / ZW90
- **Operating Weight** : ZW80: 4 895-5 270 kg
ZW90: 6 005-6 375 kg
- **Bucket Capacity** : ISO Heaped : ZW80 : 0.7-1.0 m³
ZW90 : 0.9-1.2 m³
- **Rated Engine Output** : ZW80: 45.6 kW (61 HP)
ZW90: 53.1 kW (71 HP)

Agile and Compact
ZW80 and ZW90 Wheel Loaders

ZW

Agility and Big Power

Agile footwork and high power. Those come from the Hitachi new compact wheel loaders, ZW80 and ZW90. The dynamic styling is impressive, reflecting high mobility, power and productivity.

| | ZW80 | ZW90 |
|-------------------------------|--------------------|--------------------|
| Rated Output | 45.6 kW (61 HP) | 53.1 kW (71 HP) |
| Maximum Bucket breakout Force | 46.6 kN | 51.3 kN |
| Maximum Travel Speeds, F/R | 34 km/h | 32 km/h |

Note:
Photos and illustrations shown on this brochure may include optional equipment.
The machines shown are positioned for the sake of demonstration. When leaving the machine at job sites, please take necessary safety measures: for instance, rest the front attachment on the ground.

- The new engine complies with the Emission Regulations U.S EPA Interim Tier4, and EU Stage III A



Functional Beauty for Greater Work Performance



High Stability

The machine is well balanced by lowering the center of gravity, keeping balance between front and rear, and left and right.

Big Power, High Fuel Efficiency and Clean Technology

Ample Engine Output [New]



The new high-powered clean engine is mounted for productive, and powerful loader operations.

eco Mode Switch [New] About 10% Fuel Consumption Reduction

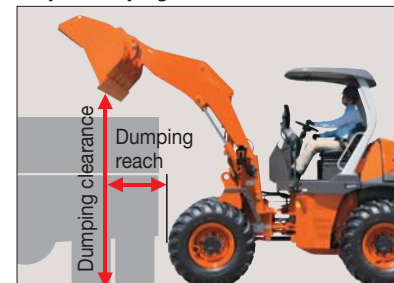


In the eco mode, fuel consumption can be reduced by about 10% by lowering engine speed. This is effective in light-duty operations, such as snow removal and gravel collection.

Third-Stage Emission Regulations

The clean engine complies with the emission regulations U.S EPA interimTier4, and EU stage III A.

Ample Dumping Clearance and Reach



| | Dumping clearance | Dumping reach |
|------|-------------------|---------------|
| ZW80 | 2 500 mm | 880 mm |
| ZW90 | 2 705 mm | 910 mm |

High Maneuverability in Confined Space

| | Overall length | Min. turning radius* |
|------|----------------|----------------------|
| ZW80 | 5 120 mm | 4 475 mm |
| ZW90 | 5 490 mm | 4 900 mm |

*Loader clearance circle, bucket in carry position.

Easy-to-Read Monitor



The easy-to-read monitor allows the operator to check operating conditions of the machine at a glance. Meters and indicators are grouped for easy monitoring.

New Electronic-Controlled HST [NEW]

The HST pump and motor can be electronically controlled independent of oil temperature. So, smooth acceleration and deceleration can be done by depressing the accelerator pedal.

- Smooth inching operation with accelerator pedal
- Precision operations possible at extremely low speeds
- Excellent driving performance with highly responsive acceleration
- Smooth startup on slopes using HST brake mechanism

Easy Access to Operator's Station [NEW]



There are handrails and large steps mounted on both the left and right of the operator's station for easy access.

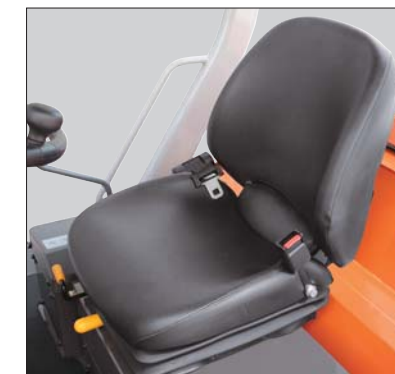
Ergonomic Control Lever



The control lever is ergonomically designed for easy, speedy control of the front attachment.



Comfort-Designed Seat [NEW]



The short-stroke suspension seat is provided as standard equipment to absorb shocks and vibration during operation, reducing operator's fatigue in long hours of operation.

Convenient Forward/Reverse Lever

Shift lever provides finger-tip control of forward and reverse operations with your left hand while holding onto the steering wheel.

Walkthrough Type Canopy/Cab



The walkthrough type canopy/cab allows for easy access from either side. The flat floor enables easy cleaning.

Electric Controlled Parking Brake

The electric controlled parking brake functions prevent dragging as well as seizure. If the engine stalls, the parking brake is applied automatically.

Boosted Operator Comfort and Safety



Panoramic Cab (Optional)

The panoramic cab gives almost all-round visibility with the wide front glass window and pillarless rear corners.

Low-noise Level in cab

The cab is sound insulated with highly sealing design, new low-noise engine, and rubber-mounted operator frame and hydraulics. The result is 5 dB(A) reduction in noise level.

Long-Stroke Suspension Seat (Optional)



A long-stroke suspension seat, which well absorbs shocks and vibration, is optionally available.

Assortment of Cab Options

- Heater
- Twin heaters
- Air conditioner
- Sun visor (front)
- Sliding window (right door)



ROPS/FOPS* Cab (Optional)



The ROPS/FOPS cab is adopted to protect the operator from roll-over accidents and falling objects. Also, the ROPS/FOPS canopy is optionally available.

*ROPS: Roll-Over Protective Structure: ISO3471
FOPS: Falling Object Protective Structure: ISO3449*

Neutral Engine Start System



If the forward/reverse is not in neutral (N), the engine cannot start, enhancing safe operation.

Reducing Environmental Impact

Resin parts are marked for identification, facilitating recycling after disposal.

NS (New Standard) Engine Key



The exclusive NS engine key is provided standard for protection against theft and vandalism.

Control Lever Lock



The control lever and optional auxiliary function lever are lockable for safety.

Immobilizer Key (Optional)



An immobilizer key is optionally available. The immobilizer key incorporates an IC chip whose ID code must be

verified by the machine itself to start the engine.

Lockable Filler Cap and Engine Cover



The filler cap and engine cover can be locked with the engine key for protection against vandalism.

Concentrated Servicing Points



Wide-Open Engine Cover

Daily maintenance is simplified with the wide-open engine cover and low-profile counterweight. The engine cover can be opened at a touch and held with a gas damper for quick inspection, replacement and replenishment.

HN Bushings



The time-tested HN bushings are utilized at joints of the front attachment, extending lubricating intervals up to 250 hours.

Note: For an initial 50-hour lubricating interval, refer to the Operator's Manual.

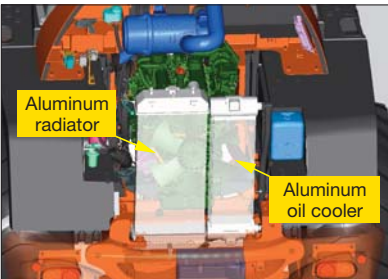
Brake Oil Reservoir

The brake oil reservoir allows direct checking of brake oil. Its warning light turns on for alerting.

Battery

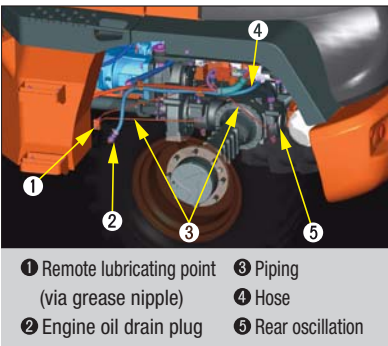
Battery electrolyte level can be checked at a glance through an opening of the counterweight.

Aluminum Radiator and Oil Cooler



The aluminum radiator and oil cooler are located side by side for easy cleaning.

Remote Lubrication and Engine Oil Drain



Remote lubrication and engine oil drain eliminates the need for getting under the rear oscillation.

Concentrated Electric Parts

Electric parts, such as relays, are grouped at one point for simple maintenance.

Coolant Reservoir

The coolant reservoir allows for direct coolant level checking.

Double-Element Air Cleaner

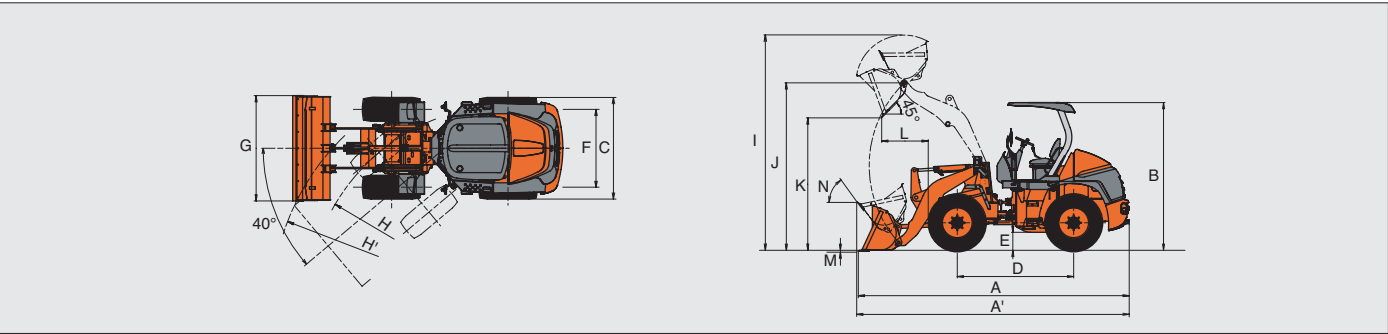
The double-element air cleaner is located strategically for the convenience of inspection and replacement.

Fuel Filter and Water Separator

A cartridge type fuel filter is used for easy replacement. The water separator has a transparent cup for easy water level checking.

DIMENSIONS & SPECIFICATIONS

DIMENSIONS & SPECIFICATIONS



| Bucket type | | | ZW80 | | | | | | ZW90 | | | | | | | |
|---|------------|----|--|--------------|---------------------------------|--------------|---------------|--------------|--|--------------|---------------------------------|--------------|---------------|--------------|--------------|-------|
| | | | Standard Arm | | Standard Arm with Quick-Coupler | | High Lift Arm | | Standard Arm | | Standard Arm with Quick-Coupler | | High Lift Arm | | | |
| | | | General purpose with bolt-on cutting edges | | | | | | General purpose with bolt-on cutting edges | | | | | | | |
| Bucket capacity | ISO heaped | m³ | 0.9 | 1.0 | 0.9 | 1.0 | 0.7 | 0.9 | 1.1 | 1.2 | 1.1 | 1.2 | 0.9 | 1.1 | | |
| | ISO struck | m³ | 0.7 | 0.8 | 0.7 | 0.8 | 0.58 | 0.7 | 0.9 | 1.0 | 0.9 | 1.0 | 0.75 | 0.9 | | |
| A Overall length | | | mm | 5 120 | 5 245 | 5 280 | 5 400 | 5 625 | 5 725 | 5 490 | 5 630 | 5 650 | 5 785 | 5 800 | 5 840 | |
| B Overall height, bucket on ground (with canopy) | | | mm | 2 790 | | | | | | 2 990 | | | | | | |
| Overall height, bucket on ground (with ROPS/FOPS cab) | | | mm | 2 850 | | | | | | 3 050 | | | | | | |
| C Width over tires | | | mm | 1 920 | | | | | | 2 150 | | | | | | |
| D Wheel base | | | mm | 2 200 | | | | | | 2 350 | | | | | | |
| E Ground clearance | | | mm | 340 | | | | | | 430 | | | | | | |
| F Tread | | | mm | 1 470 | | | | | | 1 690 | | | | | | |
| G Bucket width | | | mm | 1 990 | | | | | | 2 350 | | | | 2 210 | 2 350 | |
| H Turning radius (centerline of outside tire) | | | mm | 3 795 | | | | | | 4 100 | | | | | | |
| H' Loader clearance circle, bucket in carry position | | | mm | 4 475 | 4 505 | 4 540 | 4 570 | 4 700 | 4 740 | 4 900 | 4 915 | 4 935 | 4 985 | 4 930 | 5 035 | |
| I Overall operating height | | | mm | 4 065 | | 4 165 | | 4 315 | 4 410 | 4 285 | 4 265 | 4 380 | 4 370 | 4 430 | 4 480 | |
| J Height to hinge pin, fully raised | | | mm | 3 165 | | | | 3 505 | | 3 365 | | | | 3 560 | | |
| K Dump clearance 45 degree, full height | | | mm | 2 500 | 2 415 | 2 390 | 2 305 | 2 915 | 2 845 | 2 705 | 2 620 | 2 595 | 2 510 | 2 930 | 2 900 | |
| L Reach, 45 degree dump, full height | | | mm | 880 | 960 | 990 | 1 075 | 1 140 | 1 210 | 910 | 995 | 1 020 | 1 105 | 1 065 | 1 095 | |
| M Digging depth (horizontal digging angle) | | | mm | 65 | | | | 335 | | 70 | | | | 170 | 170 | |
| N Max. roll back at carry position | | | deg | 53 | | 49 | | 52 | | 53 | | 50 | | 53 | | |
| Static tipping load* | | | straight | kgf | 3 650 | 3 560 | 3 350 | 3 290 | 2 630 | 2 590 | 4 620 | 4 600 | 4 420 | 4 350 | 4 010 | 3 970 |
| | | | Full 40 degree turn | kgf | 3 110 | 3 030 | 2 840 | 2 780 | 2 220 | 2 180 | 3 790 | 3 770 | 3 610 | 3 540 | 3 280 | 3 240 |
| Breakout force | | | kN(kgf) | 46.6 (4 750) | 39.0 (3 975) | 36.8 (3 755) | 31.8 (3 245) | 55.2 (5 625) | 46.4 (4 735) | 51.3 (5 230) | 43.1 (4 390) | 40.6 (4 140) | 35.0 (3 575) | 55.5 (5 660) | 46.6 (4 750) | |
| Operating weight (with canopy)* | | | kg | 4 895 | 4 940 | 5 030 | 5 050 | 4 995 | 5 025 | 6 005 | 6 020 | 6 130 | 6 155 | 6 035 | 6 075 | |
| Operating weight (with ROPS/FOPS canopy)* | | | kg | 4 960 | 5 005 | 5 095 | 5 115 | 5 060 | 5 090 | 6 070 | 6 085 | 6 195 | 6 220 | 6 100 | 6 140 | |
| Operating weight (with ROPS/FOPS cab)* | | | kg | 5 115 | 5 160 | 5 250 | 5 270 | 4 215 | 5 245 | 6 225 | 5 240 | 6 350 | 6 375 | 6 255 | 6 295 | |

Notes: 1. All dimensions, weight and performance data based on ISO 6746-1:1987, ISO 7131:1997 and ISO 7546:1983
2. Static tipping load and operating weight marked with * include 17.5/65-20 10PR: ZW80, 16.9-24 10PR: ZW90 tires (no ballast) with lubricants, coolant, full fuel tank and operator.
Machine stability and operating weight depend on counterweight, tire size and other attachments.

BUCKET SELECTION GUIDE

| | | % = Bucket Fill Factor 110% 100% 95% | | | | | | | | | |
|--|-----|--------------------------------------|------------------------|-------|-------|-------|-------|-------|--|--|--|
| ZW80 : General purpose bucket with bolt-on cutting edges | | Bucket Capacity m³ | Material density kg/m³ | | | | | | | | |
| | | | 800 | 1 000 | 1 200 | 1 400 | 1 600 | 1 800 | | | |
| Standard arm | 0.9 | | | | | | | | | | |
| | 1.0 | | | | | | | | | | |
| Standard lift with quick-coupler | 0.9 | | | | | | | | | | |
| | 1.0 | | | | | | | | | | |
| High lift arm | 0.7 | | | | | | | | | | |
| | 0.9 | | | | | | | | | | |
| ZW90 : General purpose bucket with bolt-on cutting edges | | Bucket Capacity m³ | Material density kg/m³ | | | | | | | | |
| | | | 800 | 1 000 | 1 200 | 1 400 | 1 600 | 1 800 | | | |
| Standard arm | 1.1 | | | | | | | | | | |
| | 1.2 | | | | | | | | | | |
| Standard lift with quick-coupler | 1.1 | | | | | | | | | | |
| | 1.2 | | | | | | | | | | |
| High lift arm | 0.9 | | | | | | | | | | |
| | 1.1 | | | | | | | | | | |

SPECIFICATIONS

| ENGINE | | ZW80 | ZW90 |
|---------------------|-------------------------|--|--|
| Model | | KUBOTA V3307-DI-T | |
| Type | | 4-cycle water-cooled,direct injection | |
| No. of cylinders | | 4 | |
| Maximum power | SAE J1349, with Fan net | 45.6 kW (61 HP) at 2 200 min ⁻¹ (2 200 rpm) | 53.1 kW (71 HP) at 2 400 min ⁻¹ (2 400 rpm) |
| | ISO 9249, with Fan net | 45.6 kW (61 HP) at 2 200 min ⁻¹ (2 200 rpm) | 53.1 kW (71 HP) at 2 400 min ⁻¹ (2 400 rpm) |
| Bore and stroke | | 94 mm x 120 mm | |
| Piston displacement | | 3.331 L | |
| Batteries | | 12V× 662 CCA, 159-min.rated reserve | |
| Air cleaner | | Double stage dry type | |

| POWER TRAIN | | ZW80 | ZW90 |
|----------------------------------|--|---|------------------------------------|
| Transmission controls | | Hydrostatic (HST) transmission automatically controls power and 2-speed | |
| Travel speed : Forward & Reverse | | 34 km/h with 17.5/65-20 10PR tires | 32 km/h with 16.9-24 10PR tires |

| AXLE AND FINAL DRIVE | | ZW80 | ZW90 |
|----------------------|-------|-----------------------------------|------|
| Drive system | | Four-wheel drive system | |
| Front & rear axle | | Semi-floating | |
| | Front | Fixed to the front frame | |
| | Rear | Center pivot | |
| Oscillation angle | | total 22° (±11°) | |
| Final drives | | Heavy-duty, planetary final drive | |

| TIRES (tubeless, nylon body) | ZW80 | ZW90 |
|------------------------------|----------------------|-------------------|
| Standard | 17.5/65-20 10PR (L2) | 16.9-24 10PR (L2) |

| BRAKES | | ZW80 | ZW90 |
|----------------|--|--|------|
| Service brakes | | Inboard mounted fully hydraulic wet disk | |
| Parking brake | | Spring applied hydraulic released wet disk | |

| STEERING SYSTEM | | ZW80 | ZW90 |
|--|--|--|--------------------|
| Type | | Articulated frame steering | |
| Steering mechanism | | Full hydraulic power steering with orbitrol® | |
| Steering angle | | Each direction 40°; total 80° | |
| Cylinders | | Double-acting piston type | |
| No. x Bore x Stroke | | 2 × 45 mm × 340 mm | 2 × 50 mm × 340 mm |
| Minimum turning radius at the centerline of outside tire | | 3 795 mm | 4 100 mm |

| HYDRAULIC SYSTEM | | ZW80 | ZW90 |
|--|------------------------|--|--|
| Arm and bucket are controlled by mechanical single control lever | | | |
| Arm controls | | Four position valve; Raise, hold, lower, float | |
| Bucket controls | | Two position valve; Roll back, dump | |
| Main pump | (Load & steer) | Gear type 72 L/min 2 200 min ⁻¹ (rpm) at 20.6 MPa (210 kgf/cm ²) | Gear type 79 L/min 2 400 min ⁻¹ (rpm) at 20.6 MPa (210 kgf/cm ²) |
| Relief pressure setting | | 20.6 MPa (210 kgf/cm ²) | |
| Hydraulic cylinders | Type | Two arm and one bucket, double acting type | |
| | No. x Bore x Stroke | Arm: 2 × 85 mm × 552 mm Bucket : 1 × 80 mm × 457 mm | Arm: 2 × 90 mm × 552 mm Bucket : 1 × 85 mm × 457 mm |
| Filters | | Full-flow 10 micron return filter before reservoir | |
| Hydraulic cycle times | Arm raise | 5.0 s | |
| | Arm lower | 3.5 s | |
| | Bucket dump | 1.0 s | |

| SERVICE RIFILL CAPACITIES | | ZW80 | ZW90 |
|--------------------------------------|--|------|-------|
| Fuel tank | | 82 L | 100 L |
| Engine coolant | | 10 L | |
| Engine oil | | 11 L | |
| Front axle differential & wheel hubs | | 6 L | |
| Rear axle differential & wheel hubs | | 10 L | |
| Hydraulic reservoir tank | | 50 L | |

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STANDARD & OPTIONAL EQUIPMENT

| Equipment | | | |
|---|---|-------------|--|
| ○ : Standard ● : Optional △ : Estimate — : Not attachable or no setting | | | |
| Components | Items | ZW80 / ZW90 | |
| Operator's station | Canopy | ○ | |
| | ROPS/FOPS canopy | ● | |
| | ROPS/FOPS cab, w/front & rear work lights, 2 each, 55 W | ● | |
| Seat, w/seat belt | Standard short-stroke suspension seat | ○ | |
| | Long-stroke suspension seat (fabric) | ● | |
| | Long-stroke suspension seat (imitation leather) | ● | |
| Tires and differential | Traction tires | ○ | |
| | Solid tires | △ | |
| | Foam filled tire | △ | |
| | Galvanized rim | ● | |
| | LSD (Limited slip differential) | ● | |
| Attachments | Attachment piping with auxiliary function lever (3-spool valve, 2 levers) | ● | |
| | High-lift arm ^{*1} | ● | |
| | Quick coupler (mechanical) | ● | |
| | Quick coupler (hydraulic) ^{*2} | ● | |
| | Lumber fork (pallet fork) | ● | |
| | Roll grab (bale grab) ^{*2} | ● | |
| | Roll fork (bale fork) | ● | |
| | Manure fork | ● | |
| | Ride control | ● | |
| | Galvanized bucket | ● | |
| Others | Immobilizer key | ● | |
| | Back buzzer | ○ | |
| | Standard battery | ○ | |
| | Large-capacity battery | ● | |
| | Alternator (80A) | ○ | |
| | Double-element air cleaner | ○ | |
| | Dust screen (radiator) | ● | |
| | Wide fin radiator | ● | |
| | Under-guard | ● | |

^{*1} If you want to install other attachment than pin-connected bucket, contact our HITACHI authorized dealer.

^{*2} Order a set of attachment piping (3-spool valve and 2 levers).

Cab and Canopy Equipment

| ○ : Standard ● : Optional — : Not attachable or no setting | | | |
|--|-----------------------------|-----------------------------|---------------|
| Components | Items | Canopy, ROPS/FOPS canopy | ROPS/FOPS cab |
| Lights | Head light | ○ | ○ |
| | Backup light | ○ | ○ |
| | Front work lights (twin) | — | ○ |
| | Rear work lights (twin) | ● | ○ |
| | Rear work light (single) | ● | — |
| Air-conditioning | Air conditioner | — | ● |
| | Heater | — | ● |
| | Twin heaters | — | ● |
| | Foot heater | ● | — |
| Others | Sliding window (right door) | — | ● |
| | Sunvisor (front) | — | ● |

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 colour and features.

Before use, read and understand the Operator's Manual for proper operation.