ZW series

HITACHI

ZW30
ZW40
ZW50
ZW20

WHEEL LOADER

- **Model Code** : ZW20 / ZW30 / ZW40 / ZW50
- **Operating Weight** : ZW20 : 1 935-2 005 kg
  ZW30 : 2 785-2 900 kg
  ZW40 : 3 295-3 425 kg
  ZW50 : 3 605-3 735 kg
- **Bucket Capacity** : ISO Heaped : ZW20 : 0.3 - 0.5 m^3 / ZW30 : 0.4 - 0.65 m^3
  ZW40 : 0.5 - 0.8 m^3 / ZW50 : 0.6 - 0.9 m^3
- **Max. Engine Output** : ZW20 : 15.8 kW (21 HP)
  ZW30 : 22.2 kW (30 HP)
  ZW40 : 30.4 kW (41 HP)
  ZW50 : 30.4 kW (41 HP)

Hitachi Construction Machinery Co., Ltd.
www.hitachi-c-m.com

KL-EN018Q 13.07 (XD/NB,HT3)

With Emphasis on
Functional Beauty
Practical Compact Wheel Loader

ZW

Pleasant to Drive

The ZW compact wheel loader series features comfortable and reliable for use in a wide variety of fields. The strong and unique body of these compact machines was designed with functionality and mobility in mind.
The modern shape is a result of thorough research into the full range of basic functions.
Try the ZW compact wheel loader series equipped with a diverse range of high-quality functions demanded of versatile compact machinery, including comfortable operability, easy maintenance and environmentally friendly design.

● **The new engine complies with the Emission Regulations U.S EPA Interim Tier 4 and EU Stage III A (except ZW20)**

Note: The illustrations and photos used in this brochure include optional equipment.

Functional Beauty for Greater Work Performance

Heavy load performance that supports powerful digging, excellent stability, and strong traction force. Steering performance that improves work efficiency in tight job site. All part of greater work performance.

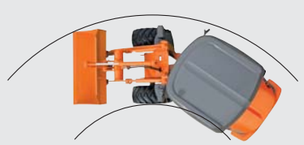
Excellent Stability

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

Ample Dumping Clearance and Reach

	Dumping Clearance	Dumping Reach
ZW30	2 155 mm	775 mm
ZW40	2 445 mm	800 mm
ZW50	2 500 mm	870 mm

Small Turning Radius for Tight Spaces



	Total Length (in Driving Mode)	Turning Radius
ZW30	4 165 mm	3 550 mm
ZW40	4 460 mm	3 740 mm
ZW50	4 630 mm	3 815 mm

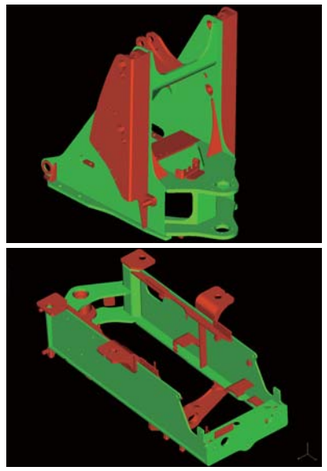
Note: The turning radius is the value of the outermost bucket.

In order to improve turning performance, such as the distance and position from the front axle to center pin and center pin to rear axle, great improvements have been made to this latest model. In this way, the compact wheel loader is now easier to use in city streets and other confined work spaces.

High-Powered Engine

Adopts a high-powered engine that allows for more powerful, smoother operation.

Reinforced Mainframe



To reinforce the front and rear frames, a box-section structure has been introduced. This improves durability, which results in greater reliability.

Lowering Large Counterweight

The use of a large counterweight at the bottom of the rear lowers the center of gravity, and improves stability.

Easy-to-Use Towing Pin

By lowering the towing pin position, it becomes unnecessary to lift a heavy rope, enabling much more stable towing performance.

Functional Beauty That Promotes Skillful Operation and Comfort

Can be operated skillfully by operators without great experience.
Further, this quiet and comfortable operating environment is part of basic ZW concept.

Features of HST

Continuously adjustable speed can be achieved by operating the acceleration pedal - enabling start, acceleration, and stopping to be performed automatically.

- Operation is made easy with smooth automated speed controls
- Precision operations possible at extremely low speeds
- Excellent mechanical operations with highly responsive acceleration
- Smooth startup on slopes using HST brake
- Excellent traction at all speeds range

Simple and Secure Front Control Lever

A secure and easy-to-use front operation lever that controls the front attachment smoothly and speedily.

Convenient Forward/Reverse Lever

Switch easily between forward and reverse operations using the fingers of your left hand while holding onto the handle.

Easy-to-Read Monitor

An easy-to-read meter panel enables you to determine the machine's status at a glance. Instruments feature a compact layout for easy checking.

Walkthrough Type Cabin

A walkthrough type cabin enables mounting and alighting from either the right or left.

Easy Access to Operator's Station

There are handrails and large steps mounted on both the left and right of the cabin for easy access.

Electric Controled Parking Brake that Prevents Pulling Friction Damage

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

Comfortable Seat to Reduce Fatigue

A comfortable seat to relieve operator fatigue has been adopted. Absorbs unpleasant vibrations, reduces psychological and physical burdens, and reduces fatigue due to long time operation.

Seat Backrest Box

A convenient space is located behind the seat for storing documents, etc.

Panoramic-view Cab for Good Field of Vision (Optional)

Has a large sliding window on the left, a large windshield giving an unobstrusted view of the front.
The cab enables panoramic views via the addition of a lower window, which was absent in previous models, the removal of the rear corner pillar, and the use of a new and improved defroster nozzle, etc., providing a wide field of vision.

Quiet Cab Interior

Quiet interior design for operator comfort.
Cab interior noise has been greatly suppressed to achieve quiet driving on rubber-mounted hydraulics, a tightly-sealed can operator frame and
a new low-noise engine.

Sun Visor (Optional)

Suppresses glare from the snow and sun.

AM/FM Radio + 2 Speakers (Optional)

Suspension Seat (Optional)

A suspension seat is available to lessen vibrations and shock during operation.

Functional Beauty—Safety and Environmentally Friendly

Achieving a higher-level of safety in the working environment with an array of advanced mechanisms.

ROPS* / FOPS** Cab (Optional)

The ROPS / FOPS cab is provided to protect the operator from injury in an accident.

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

Neutral Engine Start System

If the forward and reverse lever is not in neutral, the engine cannot start, enhancing safety.

Control Lever Lock

This safety mechanism locks the front control lever. Lever lock can be fitted optionally to third function levers.

Lockable Fuel Cap and Engine Cover

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

Reduced Environmental Impact Substances

- Lead-free aluminum radiator
- Lead-free wiring

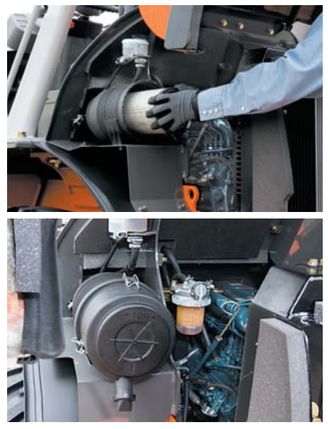
Functional Beauty—Centralized Rear Maintenance to Reduce Costs

In pursuit of functional beauty, models featuring this new design are not just beautiful, but also have easy and reduced running costs.

Wide-Open Engine Cover

Daily maintenance is simplified with wide-open engine cover and lowest counterweight. The engine cover can be opened at a touch, and is held with a gas damper. The engine room, which can be fully open, enables maintenance such as inspections, replacements and filling to be carried out with ease.

Replacement Friendly Filter Layout

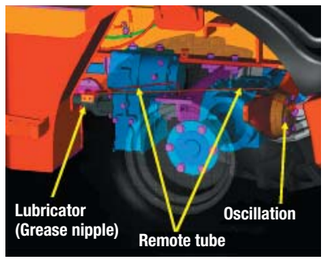


The layout enables easy replacement of the fuel and hydraulic system filters. These fuel filters are integrated combining water separator functions. The filters, including the engine oil filter and hydraulic oil tank return filters, are cartridge type filters for easy replacement.

Compact Electrics Layout

Electrical device relays are located together for easy maintenance.

Easy Remote Lubrication



Because the rear oscillation can be lubricated remotely, there is no need to crawl under the machine to perform this task.

HN Bush* Extends Lubrication Intervals

HN bushes boasting superior lubrication characteristics are used in the loader joints to extend the lubrication interval to 250 hours.

Note: For the lubrication interval from the start of operation to 50 hours, refer to the operator's manual.

Improved Cab Cleaning

The area around the door has been redesigned to produce a flat, even floor inside the cab. This allows for easy of cleaning.

SPECIFICATIONS

ENGINE		ZW30	ZW40	ZW50
Model		KUBOTA D1803-M-DI	KUBOTA V2403-M-DI	KUBOTA V2403-M-DI
Type		4-cycle water-cooled,direct injection		
No. of cylinders		3	4	4
Maximum power	ISO 9249, net	22.2 kW (30 HP) at 2 200 min^{-1} (2 200 rpm)	30.4 kW (41 HP) at 2 200 min^{-1} (2 200 rpm)	30.4 kW (41 HP) at 2 200 min^{-1} (2 200 rpm)
	SAE J1349, net	22.2 kW (30 HP) at 2 200 min^{-1} (2 200 rpm)	30.4 kW (41HP) at 2 200 min^{-1} (2 200 rpm)	30.4 kW (41HP) at 2 200 min^{-1} (2 200 rpm)
Bore and stroke		87 mm x 102.4 mm		
Piston displacement		1.826 L	2.434 L	2.434 L
Batteries		12V×490 CCA, 123-min.rated reserve	12V×490 CCA, 123-min.rated reserve	12V×490 CCA, 123-min.rated reserve
Air cleaner		Double stage dry type with restriction indicator		

POWER TRAIN	ZW30	ZW40	ZW50
Transmission controls	Hydrostatic transmission (HST) automatically controls power and speed		
Travel speed : Forward & Reverse	15 km/h With 12.5/70-16-6PR (L2) tires	15 km/h With 15.5/60-18-8PR (L2) tires	15 km/h With 15.5/60-18-8PR (L2) tires

AXLE AND FINAL DRIVE		ZW30	ZW40	ZW50
Drive system		Four-wheel drive system		
Front & rear axle		Semi-floating		
	Front	fixed to the front frame		
	Rear	Center pivot		
Oscillation angle		total 16° (±8°)	total 16° (±8°)	total 16° (±8°)
Final drives		Heavy-duty, planetary final drive		

TIRES (tubeless, nylon body)	ZW30	ZW40	ZW50
Standard	12.5/70-16-6PR (L2)	15.5/60-18-8PR (L2)	15.5/60-18-8PR (L2)

BRAKES	ZW30	ZW40	ZW50
Service brakes	Inboard mounted fully hydraulic wet disk		
Parking brake	Spring applied hydraulic released wet disk		

STEERING SYSTEM	ZW30	ZW40	ZW50
Type	Articulated frame steering		
Steering mechanism	Full hydraulic power steering with orbitrol®		
Steering angle	Each direction 41°; total 82°	Each direction 41°; total 82°	Each direction 41°; total 82°
Relief pressure	17.2 MPa (175 kgf/cm^2)	17.2 MPa (175 kgf/cm^2)	17.2 MPa (175 kgf/cm^2)
Cylinders	Double-acting piston type		
No. x Bore x Stroke	1 × 55 mm × 228 mm	1 × 60 mm × 228 mm	1 × 60 mm × 228 mm
Minimum turning radius at the centerline of outside tire	3 010 mm	3 125 mm	3 125 mm

HYDRAULIC SYSTEM		ZW30	ZW40	ZW50
Arm and bucket are controlled by mechanical single control lever				
Arm controls		Four position valve; Raise, hold, lower, float		
Bucket controls		Three position valve; Roll back, hold, dump		
Main pump	(Load & steer)	Gear type 34.9 L/min 2 200 min^{-1}(rpm) at 20.6 MPa (210 kgf/cm^2)	Gear type 39.5 L/min 2 200 min^{-1}(rpm) at 20.6 MPa (210 kgf/cm^2)	Gear type 48.3 L/min 2 200 min^{-1}(rpm) at 20.6 MPa (210 kgf/cm^2)
Relief pressure setting		20.6 MPa (210 kgf/cm^2)	20.6 MPa (210 kgf/cm^2)	20.6 MPa (210 kgf/cm^2)
Hydraulic cylinders	Type	Two arm and one bucket, double acting type	Two arm and one bucket, double acting type	Two arm and one bucket, double acting type
	No. x Bore x Stroke	Arm: 2 × 65 mm × 450 mm Bucket : 1 × 65 mm × 364 mm	Arm : 2 × 65 mm × 539 mm Bucket: 1 × 70mm × 431 mm	Arm: 2 × 70 mm × 531 mm Bucket: 1 × 70 mm × 450 mm
Filters		Full-flow 10 micron return filter in reservoir		
Hydraulic cycle times	Arm raise	5.0 s	5.0 s	5.0 s
	Arm lower	3.0 s	3.0 s	3.0 s
	Bucket dump	1.0 s	1.0 s	1.0 s

SERVICE REFILL CAPACITIES	ZW30	ZW40	ZW50
Fuel tank	45 L	45 L	45 L
Engine coolant	4.5 L	6.5 L	6.5 L
Engine oil	5.6 L	7.6 L	7.6 L
Front axle differential & wheel hubs	4.5 L	4.5 L	4.5 L
Rear axle differential & wheel hubs	4.5 L	4.5 L	4.5 L
Hydraulic reservoir tank	38 L	38 L	38 L

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STANDARD & OPTIONAL EQUIPMENT

Note: ○ Standard ● Optional

	ZW30	ZW40	ZW50
ENGINE			
Coolant recovery tank	○	○	○
Environmentally friendly engine oil drain	○	○	○
Quick-release fuel filter and water separator	○	○	○
Glow system (for cold start)	○	○	○
Double-element air cleaner	○	○	○
Clog prevention net and fan	●	●	●
POWER TRAIN			
Hydrostatic transmission (HST), electronic shift control, hydrostatic oil cooler, inching pedal, and forward and reverse	○	○	○
HYDRAULIC SYSTEM			
Automatic bucket return-to-dig control	○	○	○
Hydraulic filters, vertical mounting	○	○	○
Two-function hydraulic valve with joystick control (mechanical controlled)	○	○	○
Three-function hydraulic valve with joystick control and auxiliary lever for third function (mechanical controlled)	●	●	●
ELECTRICAL			
12-volt electrical system	○	○	○
Standard batteries (1), 12 volt with 490 CCA, 123-min. rated reserve	○	○	○
Alternator, 60 amps and 12 volts	○	○	○
Lights Driving with guards / Turn signals / Stop, tail and buck-up lights / (Conform to SAE 99)	○	○	○
Work lights on cab, front (2) (Cab model only)	●	●	●
Work lights, rear (2) (Cab model only)	●	●	●
Horn, with push button in center of steering wheel (Conforms to SAE J994, J1446)	○	○	○
Backup alarm	○	○	○
Monitor and warning system, multi-function electronic analog instruments: Engine coolant temperature / Fuel level / Hour-meter	○	○	○

	ZW30	ZW40	ZW50
ELECTRICAL			
Operator warning lights: Brake oil / Engine oil pressure / Alternator voltage (charge)	○	○	○
Indicator lights: Turn signals / forward /Reverse	○	○	○
Parking brake (negative)	○	○	○
12-volt AM/FM radio (for cab model only)	●	●	●
OPERATOR'S STATION			
Canopy			
FRP roof	○	○	○
ROPS*1 / FOPS*2	●	●	●
Cab			
Steel cab (with ROPS / FOPS)	●	●	●
Heater / Defroster (Cab model only)	●	●	●
Seat belt, 50mm	●	●	●
Seat, vinyl covered, mechanical suspension, adjustable for weight-height, fore-aft position, backrest tilt	●	●	●
Seat, vinyl covered, adjustable for fore-aft position, backrest tilt	○	○	○
Rubber floormat	○	○	○
Steering wheel, textured with spinner knob	○	○	○
Rear view mirrors, outside (2)	○	○	○
Handholds, steps, and slip resistant	○	○	○
LOADER LINKAGE			
Z-bar loader linkage provides "high bucket breakout"	○	○	○
BUCKETS AND ATTACHMENTS			
Full line of Hitachi pin on buckets with selection of bolt-on cutting edges			
General purpose bucket with bolt on cutting edges	0.4 m^3 (ISO heaped)	○		
	0.5 m^3 (ISO heaped)		○	
	0.6 m^3 (ISO heaped)			○
Light material handling bucket with bolt on cutting edges	0.5 m^3 (ISO heaped)	●		
	0.6 m^3 (ISO heaped)		●	
	0.7 m^3 (ISO heaped)			●

*1 : ROPS (Roll Over Protective Structure) Conforms to ISO 3471;1994.
*2 : FOPS (Falling Objects Protective Structure) Conforms to ISO 3449; 1992 Level II.

STANDARD & OPTIONAL EQUIPMENT

Note: ○ Standard ● Optional

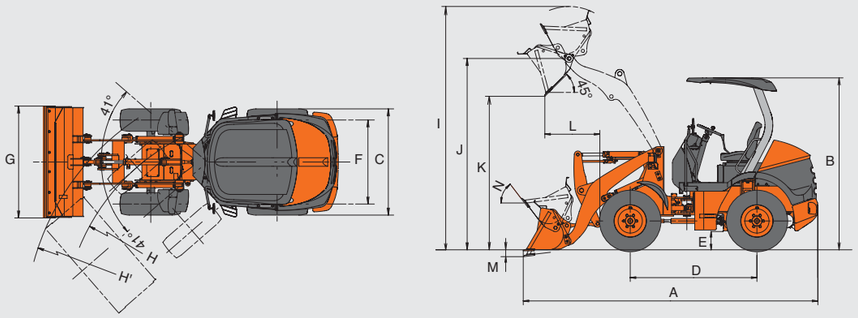
		ZW30	ZW40	ZW50
BUCKETS AND ATTACHMENTS				
Full line of Hitachi pin on buckets with selection of bolt-on cutting edges				
Light material handling bucket with bolt on cutting edges (wide type)*3	0.65 m3 (ISO heaped)	●		
	0.8 m3 (ISO heaped)		●	
	0.9 m3 (ISO heaped)			●
Quick-coupler and mechanical control system for quick-coupler locking pins, lines, and valves.		●	●	●
Full line of Hitachi buckets for quick coupler with selection of bolt-on cutting edges				
General purpose bucket with bolt on cutting edges	0.4 m3 (ISO heaped)	●		
	0.5 m3 (ISO heaped)		●	
	0.6 m3 (ISO heaped)			●
Light material handling bucket with bolt on cutting edges	0.5 m3 (ISO heaped)	●		
	0.6 m3 (ISO heaped)		●	
	0.7 m3 (ISO heaped)			●
Light material handling bucket with bolt on cutting edges (wide type)*3	0.65 m3 (ISO heaped)	●		
	0.8 m3 (ISO heaped)		●	
	0.9 m3 (ISO heaped)			●
Full line of construction utilityforks, pallet forks, and attachments*4				
Lumber and pallet fork	Max load 700 kg (pin on type)	●		
	Max load 860 kg (pin on type)		●	
	Max load 980 kg (pin on type)			●
Lumber and pallet fork	Max load 650 kg (for quick coupler)	●		
	Max load 810 kg (for quick coupler)		●	
	Max load 920 kg (for quick coupler)			●

		ZW30	ZW40	ZW50
BUCKETS AND ATTACHMENTS				
Manure fork	Max load 500 kg (for quick coupler)	●		
	Max load 550 kg (for quick coupler)		●	
	Max load 550 kg (for quick coupler)			●
Roll grab	Max load 550 kg (for quick coupler)	●		
	Max load 700 kg (for quick coupler)		●	
	Max load 800 kg (for quick coupler)			●
TIRES				
Bias ply	12.5/70-16-6PR (L2)	○		
	15.5/60-18-8PR (L2)		○	○
Tire chain (H type)		●	●	●
Spare tire with rim		●	●	●
Spare rim		●	●	●
Solid tires with rims per machine		●	●	●
Spare solid tire with rim		●	●	●
Standard tires and galvanized rims per machine		●	●	●
Spare standard tire and galvanized rim		●	●	●
Spare galvanized rim		●	●	●
OTHERS				
Vandal protection, includes lockable engine enclosure, and fuel fill		○	○	○
Counter weight, built-in		○	○	○
Power steering		○	○	○
Lifting lig (4-point support)		○	○	○

*3 : The light material handling bucket (wide type) is designed for handling of low density such as feed, compost, dung, etc. (especially farm usage).
*4 : Contact your Hitachi dealer for further information.

DIMENSIONS & SPECIFICATIONS

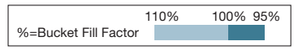
ZW30



Bucket type			Standard boom			Standard boom with quick-coupler		
			General purpose	Light material handling	Light material handling (wide)	General purpose	Light material handling	Light material handling (wide)
			bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges
Bucket capacity	ISO heaped	m3	0.4	0.5	0.65	0.4	0.5	0.65
	ISO struck	m3	0.34	0.42	0.58	0.34	0.42	0.58
A Overall length		mm	4 140	4 270	4 410	4 275	4 405	4 545
B Overall height, bucket on ground (with FRP canopy)		mm	2 415					
Overall height, bucket on ground (with ROPS cab)		mm	2 480					
C Width over tires		mm	1 505					
D Wheel base		mm	1 780					
E Ground clearance		mm	255					
F Tread		mm	1 180					
G Bucket width		mm	1 570	1 570	1 690	1 570	1 570	1 690
H Turning radius (centerline of outside tire)		mm	3 010					
H' Loader clearance circle, bucket in carry position		mm	3 550	3 610	3 700	3 635	3 650	3 740
I Overall operating height		mm	3 420	3 435	3 515	3 420	3 525	3 610
J Height to hinge pin, fully raised		mm	2 685					
K Dump clearance 45 degree, full height		mm	2 155	2 065	1 965	2 060	1 965	1 865
L Reach, 45 degree dump, full height		mm	775	865	965	870	960	1 060
M Digging depth (horizontal digging angle)		mm	40					
N Max. roll back at carry position		deg	53					
Static tipping load* (with FRP canopy)	straight	kgf	1 700	1 650	1 580	1 555	1 505	1 420
	Full 41 degree turn	kgf	1 400	1 360	1 300	1 280	1 240	1 170
Breakout force		kN	29.3	23.3	19.1	22.8	18.5	15.4
		(kgf)	(2 990)	(2 380)	(1 950)	(2 330)	(1 890)	(1 570)
Operating weight* (with FRP canopy)		kg	2 785	2 800	2 835	2 870	2 890	2 900

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 12.5/70-16-6PR (L2) tires (no ballast) with lubricants, coolant, full fuel tank and operator. Machine stability and operating weight depend on counterweight, tire size and other attachments.*
3. The light material handling bucket (wide type) is designed for handling of low density such as feed, compost, dung, etc. (especially farm usage).

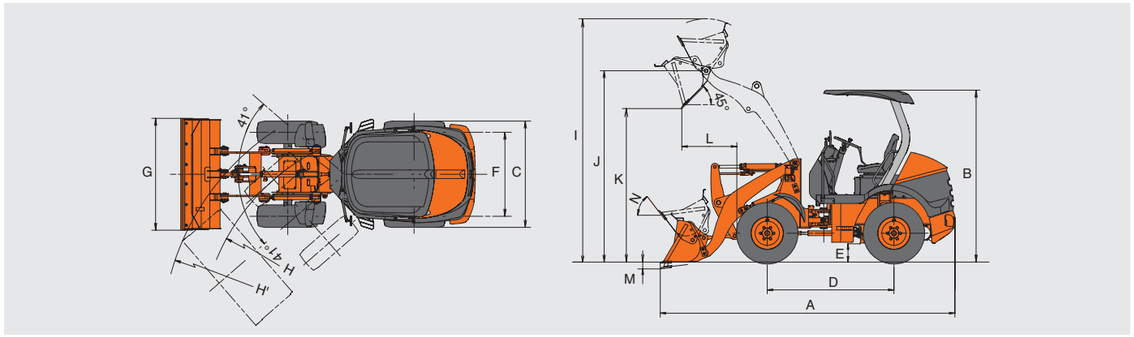
BUCKET SELECTION GUIDE



ZW30			Bucket Capacity m3	Material density kg/m3 800 / 1 000 / 1 200 / 1 400 / 1 600 / 1 800
Standard lift arm	General purpose	With bolt-on cutting edges	0.4	
	Light material handling	With bolt-on cutting edges	0.5	
	Light material handling (wide)	With bolt-on cutting edges	0.65	
Standerd lift arm with quick-coupler	General purpose	With bolt-on cutting edges	0.4	
	Light material handling	With bolt-on cutting edges	0.5	
	Light material handling (wide)	With bolt-on cutting edges	0.65	

DIMENSIONS & SPECIFICATIONS

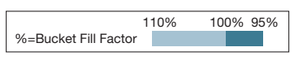
ZW40



Bucket type			Standard boom			Standard boom with quick-coupler		
			General purpose	Light material handling	Light material handling (wide)	General purpose	Light material handling	Light material handling (wide)
			bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges
Bucket capacity	ISO heaped	m³	0.5	0.6	0.8	0.5	0.6	0.8
	ISO struck	m³	0.42	0.52	0.65	0.42	0.52	0.65
A Overall length		mm	4 435	4 515	4 635	4 570	4 650	4 770
B Overall height, bucket on ground (with FRP canopy)		mm	2 495					
Overall height, bucket on ground (with ROPS cab)		mm	2 560					
C Width over tires		mm	1 660					
D Wheel base		mm	1 850					
E Ground clearance		mm	295					
F Tread		mm	1 260					
G Bucket width		mm	1 690	1 690	1 890	1 690	1 690	1 890
H Turning radius (centerline of outside tire)		mm	3 125					
H' Loader clearance circle, bucket in carry position		mm	3 740	3 765	3 885	3 780	3 800	3 920
I Overall operating height		mm	3 795	3 865	3 895	3 885	3 955	3 990
J Height to hinge pin, fully raised		mm	3 030					
K Dump clearance 45 degree, full height		mm	2 445	2 390	2 305	2 350	2 295	2 210
L Reach, 45 degree dump, full height		mm	800	855	940	895	955	1 035
M Digging depth (horizontal digging angle)		mm	50					
N Max. roll back at carry position		deg	54					
Static tipping load* (with FRP canopy)	straight	kgf	2 100	2 050	1 955	1 905	1 855	1 710
	Full 41 degree turn	kgf	1 720	1 680	1 600	1 560	1 520	1 440
Breakout force		kN	35.8	31.6	26.9	28	25	21
		(kgf)	(3 650)	(3 220)	(2 750)	(2 850)	(2 550)	(2 150)
Operating weight* (with FRP canopy)		kg	3 295	3 310	3 335	3 375	3 390	3 425

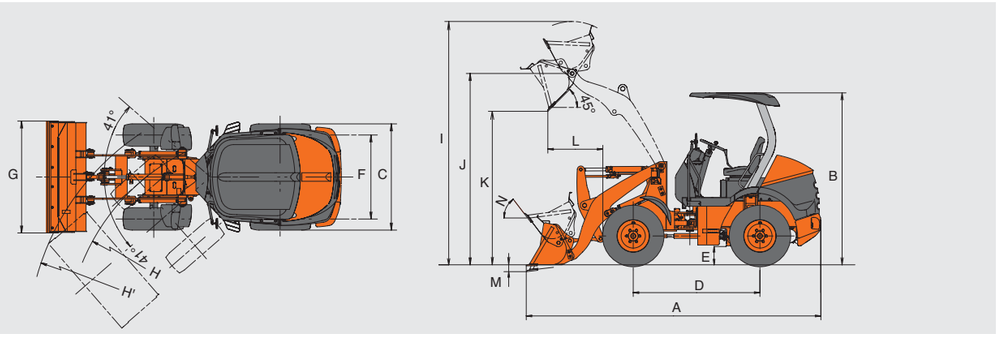
Notes: 1. *All dimensions, weight and performance data based on ISO 6746-1:1987, ISO 7131:1997 and ISO 7546:1983*
2. *Static tipping load and operating weight marked with * include 15.5/60-18-8PR (L2) tires (no ballast) with lubricants, coolant, full fuel tank and operator. Machine stability and operating weight depend on counterweight, tire size and other attachments.*
3. *The light material handling bucket (wide type) is designed for handling of low density such as feed, compost, dung, etc. (especially farm usage).*

BUCKET SELECTION GUIDE



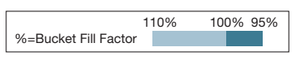
ZW40			Bucket Capacity m³	Material density kg/m³ 800 1 000 1 200 1 400 1 600 1 800
Standard lift arm	General purpose	With bolt-on cutting edges	0.5	
	Light material handling	With bolt-on cutting edges	0.6	
	Light material handling (wide)	With bolt-on cutting edges	0.8	
Standerd lift arm with quick-coupler	General purpose	With bolt-on cutting edges	0.5	
	Light material handling	With bolt-on cutting edges	0.6	
	Light material handling (wide)	With bolt-on cutting edges	0.8	

ZW50



Bucket type			Standard boom			Standard boom with quick-coupler		
			General purpose	Light material handling	Light material handling (wide)	General purpose	Light material handling	Light material handling (wide)
			bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges
Bucket capacity	ISO heaped	m³	0.6	0.7	0.9	0.6	0.7	0.9
	ISO struck	m³	0.52	0.6	0.75	0.52	0.6	0.75
A Overall length		mm	4 655	4 775	4 865	4 790	4 910	5 000
B Overall height, bucket on ground (with FRP canopy)		mm	2 495					
Overall height, bucket on ground (with ROPS cab)		mm	2 560					
C Width over tires		mm	1 660					
D Wheel base		mm	1 850					
E Ground clearance		mm	295					
F Tread		mm	1 260					
G Bucket width		mm	1 690	1 690	1 890	1 690	1 690	1 890
H Turning radius (centerline of outside tire)		mm	3 125					
H' Loader clearance circle, bucket in carry position		mm	3 815	3 850	3 960	3 855	3 890	4 000
I Overall operating height		mm	3 975	4 010	4 040	4 065	4 100	4 130
J Height to hinge pin, fully raised		mm	3 140					
K Dump clearance 45 degree, full height		mm	2 500	2 415	2 350	2 405	2 320	2 255
L Reach, 45 degree dump, full height		mm	870	955	1 015	965	1 050	1 100
M Digging depth (horizontal digging angle)		mm	55					
N Max. roll back at carry position		deg	55					
Static tipping load* (with FRP canopy)	straight	kgf	2 390	2 314	2 190	2 190	2 120	1 995
	Full 41 degree turn	kgf	1 960	1 900	1 800	1 800	1 740	1 640
Breakout force		kN	33.4	28	25	27	23	21
		(kgf)	(3 400)	(2 850)	(2 500)	(2 750)	(2 350)	(2 100)
Operating weight* (with FRP canopy)		kg	3 605	3 705	3 660	3 685	3 705	3 735

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 15.5/60-18-8PR (L2) tires (no ballast) with lubricants, coolant, full fuel tank and operator. Machine stability and operating weight depend on counterweight, tire size and other attachments.*
3. *The light material handling bucket (wide type) is designed for handling of low density such as feed, compost, dung, etc. (especially farm usage).*



ZW50			Bucket Capacity m³	Material density kg/m³ 800 1 000 1 200 1 400 1 600 1 800
Standard lift arm	General purpose	With bolt-on cutting edges	0.6	
	Light material handling	With bolt-on cutting edges	0.7	
	Light material handling (snow)	With bolt-on cutting edges	0.75	
	Light material handling (wide)	With bolt-on cutting edges	0.9	
Standerd lift arm with quick-coupler	General purpose	With bolt-on cutting edges	0.6	
	Light material handling	With bolt-on cutting edges	0.7	
	Light material handling (wide)	With bolt-on cutting edges	0.9	

A high-performance, compact wheel loader that is gentle to the environment while operating in urban areas and conducting night work.

Features of HST

Continuously adjustable speed can be achieved by operating the acceleration pedal enabling start, acceleration, and stopping to be performed automatically.

- Driving is made easy with smooth automated speed changes
- Precision operations possible at extremely slow speeds
- Excellent mechanical operations with highly responsive acceleration
- Smooth startup on slopes using HST brake operations
- Excellent traction at all speeds

A Single-Speed Locking Mechanism to Improve Performance

This switches the operation mode for the travel speed between work mode and drive mode.

LOW : When the switch is set to LOW, the speed is fixed and work mode is selected.

AUTO : When the switch is set to AUTO, work mode is released and the vehicle enters drive (automatic variable speed) mode.

High-Output Engine

15.8 kW(21 HP)

Top-Class Traction Force

17.2 kN(1 750 kgf)

Improved Starting Performance

When the outside air temperature is low and starting the engine is difficult, starting performance can be improved by turning the key switch to the HEAT (preheat) ON position.

Other

- Enclosed wet-disc brake
- Electric parking brake
- Safety devices
- Easy maintenance
- Equipped with HN bush
- Large fuel tank (33 L capacity)

Cab Specifications (Optional)

- Wide panorama cab (without ROPS / FOPS)
- Wider foot space and lever operation area with stylishly-spacious design, improved operability and operator comfort

SPECIFICATIONS

ZW20

ENGINE		
Model		KUBOTA D1105-K3A
Type		4-cycle water-cooled,direct injection
No. of cylinders		3
Maximum power	ISO 9249, net	15.8 kW (21 HP) at 2 500 min-1 (2 500 rpm)
	SAE J1349, net	15.8 kW (21 HP) at 2 500 min-1 (2 500 rpm)
Bore and stroke		78 mm x 78.4 mm
Piston displacement		1.123 L
Batteries		12V×490 CCA, 123-min.rated reserve
Air cleaner		Single stage dry type with restriction indicator

POWER TRAIN	
Transmission controls	Hydrostatic transmission (HST) automatically controls power and speed
Travel speed : Forward & Reverse	15 km/h with 10-16.5-4PR (L2) tires

AXLE AND FINAL DRIVE		
Drive system		Four-wheel drive system
Front & rear axle		Semi-floating
	Front	fixed to the front frame
	Rear	Center pivot
Oscillation angle		total 16° (±8°)
Final drives		Heavy-duty, planetary final drive

TIRES (tubeless, nylon body)	
Standard	10-16.5-4PR (L2)

BRAKES	
Service brakes	Inboard mounted fully hydraulic wet disk
Parking brake	Spring applied hydraulic released wet disk

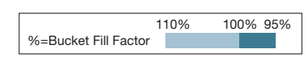
STEERING SYSTEM	
Type	Articulated frame steering
Steering mechanism	Full hydraulic power steering with orbitrol®
Steering angle	Each direction 42°; total 84°
Relief pressure	17.2 MPa (175 kgf/cm2)
Cylinders	Double-acting piston type
No. x Bore x Stroke	1 x 50 mm x 233 mm
Minimum turning radius at the centerline of outside tire	2.545 m

HYDRAULIC SYSTEM		
Arm and bucket are controlled by mechanical single control lever arm controls		Four position valve; Raise, hold, lower, float
Bucket controls with automatic bucket return-to-dig control		Three position valve; Roll back, hold, dump
Main pump	(Load & steer)	Gear type 25 L/min 2 500 min-1(rpm) at 20.6 MPa (210 kgf/cm2)
Relief pressure setting		20.6 MPa (210 kgf/cm2)
Hydraulic cylinders	Type	Two arm and one bucket, double acting type
	No. x Bore x Stroke	Arm: 2 × 55 mm × 385 mm Bucket: 1 × 60 mm × 262 mm
Filters		Full-flow 10 micron return filter in reservoir
Hydraulic cycle times	Arm raise	4.6 s
	Arm lower	3.2 s
	Bucket dump	1.0 s

SERVICE REFILL CAPACITIES	
Fuel tank	33 L
Engine coolant	5.5 L
Engine oil	3.6 L
Front axle differential & wheel hubs	3.5 L
Rear axle differential & wheel hubs	3.5 L
Hydraulic reservoir tank	23 L

Orbitrol® is a registered trademark of Char-Lynn.

BUCKET SELECTION GUIDE



ZW20			Bucket Capacity m3	Material density kg/m3 800	1 000	1 200	1 400	1 600	1 800
Standard lift arm	General purpose	With bolt-on cutting edges	0.3					110%	100% 95%
	Light material handling	With bolt-on cutting edges	0.4			110%	100% 95%		
	Light material handling (wide)	With bolt-on cutting edges	0.5		110%	100% 95%			
Standerd lift arm with quick-coupler	General purpose	With bolt-on cutting edges	0.3					110%	100% 95%
	Light material handling	With bolt-on cutting edges	0.4			110%	100% 95%		
	Light material handling (wide)	With bolt-on cutting edges	0.5	110%	100% 95%				

STANDARD & OPTIONAL EQUIPMENT

ZW20

Note: ○ Standard ● Optionalt

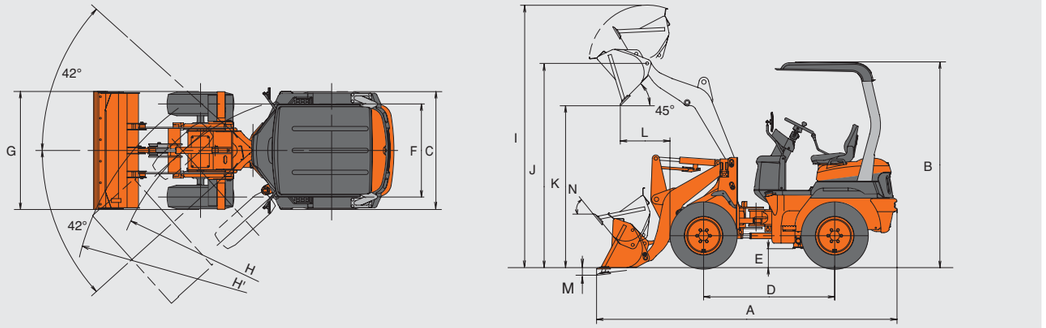
ENGINE	
Coolant recovery tank	○
Environmentally friendly engine oil drain	○
Quick-release fuel filter and water separator	○
Glow system (for cold start)	○
Single-element air cleaner	○
Clog prevention net and fan	●
POWER TRAIN	
Hydrostatic transmission (HST), electronic shift control, hydrostatic oil cooler, inching pedal, and two speeds forward and reverse	○
HYDRAULIC SYSTEM	
Automatic bucket return-to-dig control	○
Hydraulic filters, vertical mounting	○
Two-function hydraulic valve with joystick control (mechanical controlled)	○
Three-function hydraulic valve with joystick control and auxiliary lever for third function (mechanical controlled)	●
ELECTRICAL	
12-volt electrical system	○
Standard batteries (1), 12 volt with 490 CCA, 123-min. rated reserve	○
Alternator, 40 amps and 12 volts	○
Lights Driving with guards / Turn signals / Stop, tail and buck-up lights / (Conform to SAE 99)	○
Work lights on cab, front (2) (Cab model only)	●
Work lights, rear (1) or (2) (Cab model only)	●
Horn, with push button in center of steering wheel (Conforms to SAE J994, J1446)	○
Backup alarm	○
Monitor and alarm system, multi-function electronic analog instruments: Engine coolant tem-perature / Fuel level / Hour-meter	○
Operator warning lights: Brake oil / Engine oil pressure / Alternator voltage (charge)	○
Indicator lights: Turn signals / forward /Reverse	○
Parking brake (negative)	○
12-volt AM/FM radio (for cab model only)	●
OPERATOR'S STATION	
Canopy	
FRP roof	○
ROPS*1 / FOPS*2	●
Cab	
Steel cab (without ROPS / FOPS)	●
Heater / Defroster (Cab model only)	●
Seat belt, 50mm	●
Seat, vinyl covered, mechanical suspension, adjustable for weight-height, fore-aft position, backrest tilt	●
Seat, vinyl covered, adjustable for fore-aft position, backrest tilt	○

OPERATOR'S STATION	
Rubber floormat	○
Steering wheel, textured with spinner knob	○
Rear view mirrors, outside (2)	○
Handholds, steps, and slip resistant	○
LOADER LINKAGE	
Z-bar loader linkage provides "high bucket breakout"	○
BUCKETS AND ATTACHMENTS	
Full line of Hitachi pin on buckets with selection of bolt-on cutting edges	
General purpose bucket with bolt on cutting edges : 0.3 m³ (ISO heaped)	○
Light material handling bucket with bolt on cutting edges: 0.4 m³ (ISO heaped)	●
Light material handling bucket with bolt on cutting edges: 0.5 m³ (ISO heaped)*3	●
Quick-coupler and mechanical control system for quick-coupler locking pins, lines, and valves	●
Full line of Hitachi buckets for quick coupler with selection of bolt-on cutting edges	
General purpose bucket with bolt on cutting edges : 0.3 m³ (ISO heaped)	●
Light material handling bucket with bolt on cutting edges : 0.4 m³ (ISO heaped)	●
Wide (daily & livestock) bucket with bolt on cutting edges : 0.5 m³ (ISO heaped)	●
Full line of construction utilityforks, pallet forks, and attachments*4	
Lumber and pallet fork : Max load 500 kg (pin on type)	●
Lumber and pallet fork : Max load 450 kg (for quick coupler)	●
Manure fork : Max load 450 kg (for quick coupler)	●
Roll grab : Max load 400 kg (for quick coupler)	●
TIRES	
Bias ply : 10-16.5-4PR (L2)	○
Tire chain (H type)	●
Spare tire with rim	●
Spare rim	●
Solid tires with rims per machine	●
Spare solid tire with rim	●
Standard tires and galvanized rims per machine	●
Spare standard tire and galvanized rim	●
Spare galvanized rim	●
OTHERS	
Vandal protection, includes lockable engine enclosure, and fuel fill	○
Counter weight, built-in	○
Power steering	○
Lifting lig (4-point support)	○

*1 : ROPS (Roll Over Protective Structure) Conforms to ISO 3471;1994.
*2 : FOPS (Falling Objects Protective Structure) Conforms to ISO 3449; 1992 Level ll.
*3 : The light material handling bucket (wide type) is designed for handling of low density such as feed, compost, dung, etc. (especially farm usage).
*4 : Contact your Hitachi dealer for further information.

DIMENSIONS & SPECIFICATIONS

ZW20



Bucket type			Standard boom			Standard boom with quick-coupler		
			General purpose	Light material handling	Light material handling (wide)	General purpose	Light material handling	Light material handling (wide)
			bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges	bolt-on cutting edges
Bucket capacity	ISO heaped	m³	0.3	0.4	0.5	0.3	0.4	0.5
	ISO struck	m³	0.24	0.35	0.43	0.24	0.35	0.43
A Overall length		mm	3 440	3 555	3 695	3 555	3 675	3 815
B Overall height, bucket on ground (with FRP canopy)		mm	2 350					
Overall height, bucket on ground (with ROPS cab)		mm	2 395					
C Width over tires		mm	1 335					
D Wheel base		mm	1 500					
E Ground clearance		mm	215					
F Tread		mm	1 065					
G Bucket width		mm	1 350	1 405	1 570	1 350	1 450	1 570
H Turning radius (centerline of outside tire)		mm	2 545					
H' Loader clearance circle, bucket in carry position		mm	2 970	3 025	3 140	3 000	3 060	3 175
I Overall operating height		mm	3 005	3 085	3 030	3 085	3 170	3 115
J Height to hinge pin, fully raised		mm	2 335					
K Dump clearance 45 degree, full height		mm	1 850	1 765	1 665	1 765	1 680	1 580
L Reach, 45 degree dump, full height		mm	570	650	755	650	740	840
M Digging depth (horizontal digging angle)		mm	55					
N Max. roll back at carry position		deg	51					
Static tipping load* (with FRP canopy)	straight	kgf	1 350	1 290	1 250	1 240	1 180	1 150
	Full 42 degree turn	kgf	1 100	1 050	1 020	1 000	950	930
Breakout force		kN	21	16	13	16	13	10
		(kgf)	(2 100)	(1 650)	(1 300)	(1 600)	(1 300)	(1 050)
Operating weight* (with FRP canopy)		kg	1 945	1 935	1 960	1 965	1 985	2005

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 10-16.5-4PR (L2) tires (no ballast) with lubricants, coolant, full fuel tank and operator. Machine stability and operating weight depend on counterweight, tire size and other attachments.*
3. The light material handling bucket (wide type) is designed for handling of low density such as feed, compost, dung, etc. (especially farm usage).