

ZW series



HITACHI

ZW
140



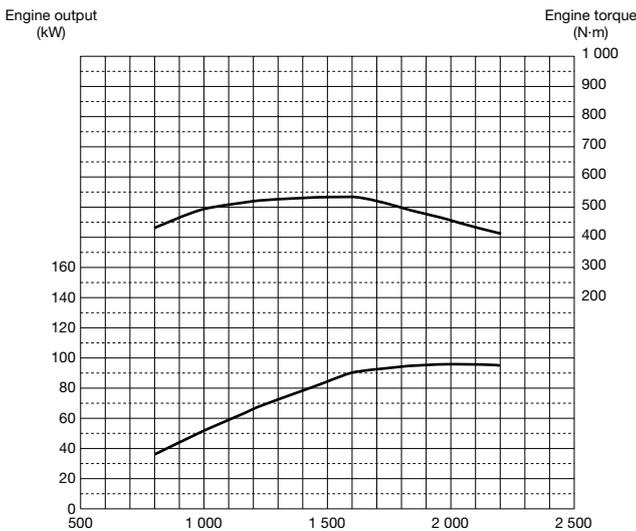
WHEEL LOADER

- **Model Code:** ZW140
- **Operating Weight:** 10 240 - 10 540 kg
- **Bucket Capacity:** ISO Heaped: 1.5 - 2.3 m³
- **Max. Engine Output:** 96 kW (129 HP)

SPECIFICATIONS

ENGINE

Model	Cummins QSB4.5
Type	4-cycle water-cooled, direct injection
Aspiration	Turbocharger and charge air cooled
No. of cylinders	4
Maximum power	
SAE J1349,	
Without Fan net	96 kW (129 HP) at 2 000 min ⁻¹ (rpm)
ISO 9249,	
Without Fan net	96 kW (129 HP) at 2 000 min ⁻¹ (rpm)
EEC 80/1269,	
Without Fan net	96 kW (129 HP) at 2 000 min ⁻¹ (rpm)
Bore and stroke	107 mm x 124 mm
Piston displacement	4.46 L
Batteries	2 x 12 V 620CCA, 80Ah, 140-min rated reserve
Air cleaner	Two element dry type with restriction indicator



POWER TRAIN

Transmission	Electrical-controlled 2 motor hydrostatic transmission with summation gear box
	Gear box: Fixed gear ratio, powershift countershaft type
Cooling method	Forced circulation type
Travel speed* (km/h)	Forward / Reverse
1st	7.0 / 7.0
2nd	13.0 / 13.0
3rd	20.0 / 20.0
4th	39.0 / 39.0

* With 17.5-25-12PR (L3) 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
Reduction and differential gear	Two stage reduction with torque proportioning differential
Oscillation angle	Total 20° (+10°, -10°)
Final drives	Planetary final drive

TIRES (tubeless, nylon body)

Standard	17.5-25 12PR (L3)
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BRAKES

Service brakes	Inboard mounted fully hydraulic 4 wheel wet disc brake HST(Hydro Static Transmission) system provides additional hydraulic braking capacity
Parking brake	Spring applied, hydraulically released, wet disc type with drive through prevention mechanism

STEERING SYSTEM

Type	Articulated frame steering
Steering mechanism	Fully hydraulic power steering with orbitrol
Steering angle	Each direction 40° ; total 80°
Relief pressure	19.6 MPa (200 kgf/cm ²)
Cylinders	Two double-acting piston type
No. x Bore x Stroke	2 x 65 mm x 419 mm
Minimum turning radius at the centerline of outside tire	4 950 mm

HYDRAULIC SYSTEM

Arm and bucket are controlled by Joystick lever	
Arm controls	Three position valve ; Raise, lower, float
Bucket controls with automatic bucket return-	
to-dig controls	Three position valve ; Roll back, hold, dump
Main pump	
(Load & steer)	Gear type 159 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)
HST charging pump	Gear type 41L /min @2 200 min ⁻¹ (rpm) at 2.5 MPa (25 kgf/cm ²)
Transmission charging	
pump	Gear type 17 L/min @2 200 min ⁻¹ (rpm) at 1.96 MPa (20 kgf/cm ²)
Fan pump	Gear type 30 L/min @2 200 min ⁻¹ (rpm) at 11.8 MPa (120 kgf/cm ²)
Hydraulic cylinders	
Type	Two arm and one bucket, double acting type
No. x Bore x Stroke	Arm : 2 x 125 mm x 620 mm Bucket : 1 x 150 mm x 445 mm
Filters	Full-flow 10 micron return filter in reservoir
Hydraulic cycle times	
Lift arm raise	6.0 s
Lower	3.0 s
Bucket dump	1.3 s
Total	10.3 s

SERVICE REFILL CAPACITIES

Fuel tank	180.0 L
Engine coolant	25.0 L
Engine oil	14.0 L
Transmission gear box.....	10.0 L
Front axle differential & wheel hubs	24.0 L
Rear axle differential & wheel hubs	25.0 L
Hydraulic reservoir tank	80.0 L

EQUIPMENT

STANDARD EQUIPMENT

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

ENGINE

- Coolant recovery tank
- Hydraulically operated cooling fan with heat sensing system
- Fan guard
- Muffler, under hood with large exhaust stack
- Environmentally friendly engine oil drain
- Engine oil cooler
- Fuel Filter
- Quick-release fuel pre-filter with water separator function
- Air heater (For cold start)
- Air filter double element

POWER TRAIN

- Electrically controlled HST system
- Torque proportioning differentials, front and rear

HYDRAULIC SYSTEM

- Bucket auto leveler
- Float system
- Reservoir sight gauge
- Hydraulic filters, vertical mounting
- Joystick lever
- Two-spool main control valve
- O-Ring Seal joints

ELECTRICAL

- 24-volt electrical system
- Standard batteries (2), 12-volt with 620CCA, 80 Ah
- Alternator, 65 A and 24-volts
- Lights: Driving with guards / Turn signals with hazard switch / stop, tail and back-up lights
- Work lights on cab, front (2)
- Work lights, rear (2)
- Horn, with push button in center of steering wheel and switch on joystick lever knob or right console

- Reverse warning alarm
- Monitor and alarm system, multi-function electronic audible and visual warning include
- LCD monitor display: Speedometer / Clock / Hour-meter / Odometer / Replacement intervals / Ride control / Speed range
- Gauges: Engine coolant temperature / Fuel level
- Warning lights: Engine / Transmission / Discharge warning
- Indicator lights: Turn signals / High beam / Working lights / Service / Parking brake / Stop / Brake oil low pressure / Brake oil low level / Seat belt / Glow signal / Maintenance / Forward / Reverse switch / Water separator / Over heat / Engine oil low pressure / Air filter restriction / Hydraulic oil temperature /
- 24-volt AM/FM stereo radio with clock

OPERATOR'S STATION

- Cab
- ROPS* / FOPS** / Multi-plane isolation mounted for noise / Vibration reduction / Front and rear windshield washers / Safety glass
- Adjustable armrest
- Bi-level auto air conditioner and pressurize cab
- Front / Rear defroster
- Hot and cool box
- Sun visor
- Seat(Kab), fabric, high back, mechanical suspension, adjustable for weight-height, fore-aft position, backrest tilt, and armrest angle
- Seatback pocket
- Retractable seat belt, 50 mm
- Large tray and drink holder
- Rubber floor mat
- Adjustable steering column
- Steering wheel, textured with spinner knob
- Rear view mirrors, outside (2) and inside (2)
- Handrails and steps, ergonomically located and slip resistant
- Coat hook

LOADER LINKAGE

- Z-bar loader linkage provides (High bucket breakout)

BUCKETS AND ATTACHMENTS

- General purpose bucket with bolt-on cutting edges: 2.0 m³ (ISO heaped)

TIRES

- 17.5-25-12PR (L3)
- Single-piece rims

OTHERS

- Fenders, front and rear
- Articulation locking bar
- Anti-vandal protection, includes lockable engine enclosure, and fuel fill
- Counterweight, built-in
- Drawbar, with rocking pin
- Lift and tie-down hooks
- Open type rear grill

OPTIONAL EQUIPMENT

Optional equipment may vary by country, so please consult your Hitachi dealer for details.

ENGINE

- Air pre-cleaner
- Reverse rotating cooling fan

POWER TRAIN

- Limited slip differential

HYDRAULIC SYSTEM

- Three-spool main control valve
- Third spool piping
- Joy stick-lever and auxiliary lever for third function
- Multi-functional joystick lever
- Multi-functional joystick lever and auxiliary lever for third function
- Ride control system, automatic type
- Lift arm kick-out system
- Lift arm auto leveler

ELECTRICAL

- Front Working Lamps on Cab (2)
- Rear Working Lamp on Cab (2)
- 12-volt outlet

BUCKETS AND ATTACHMENTS

- High lift arm
- Buckets (See pages 18-19)

OPERATOR'S STATION

- Seat(Grammer), fabric, high back, air suspension, seat heating, adjustable for weight-height, fore-aft position, backrest tilt, and armrest angle, seat cushion length and angle, headrest height and angle adjustment, lumbar support
- Headrest for Grammer seat
- Headrest for Kab seat
- Retractable seat belt, 76 mm

OTHERS

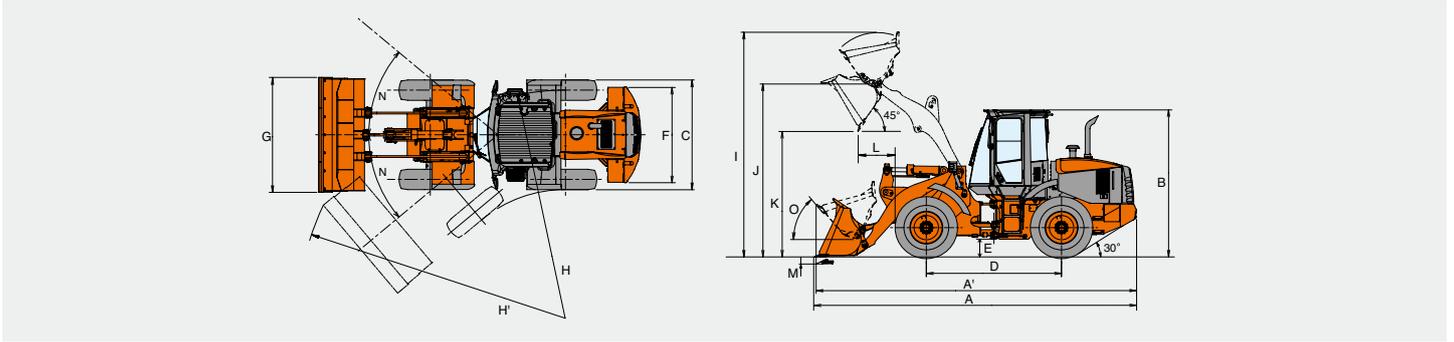
- Full rear fender and mud guard
- Rear license plate bracket
- Wheel blocks
- High lift arm
- Emergency steering system
- Bottom guards, front frame and transmission

Note: *: ROPS (Roll Over Protective Structure) Conforms to ISO 3471:1994

** : FOPS (Falling Objects Protective Structure) Conforms to ISO 3449:1992 Level all

SPECIFICATIONS

DIMENSIONS & SPECIFICATIONS



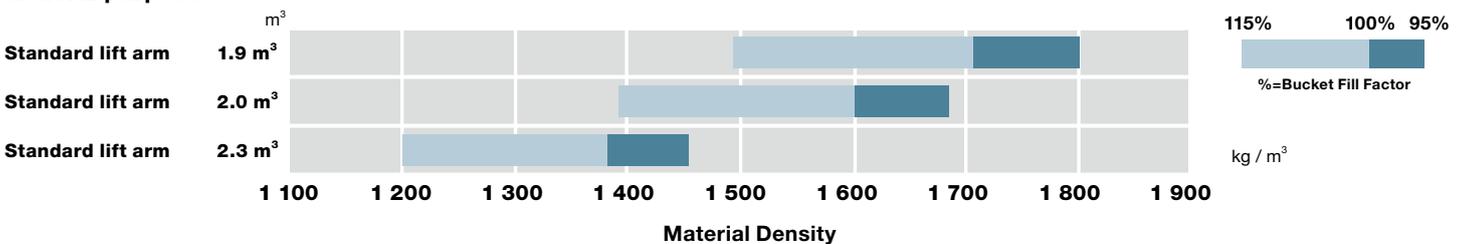
Bucket type			Standard Arm		
			General Purpose		
			With bolt-on cutting edges	With bolt-on teeth	With bolt-on cutting edges
Bucket capacity	ISO heaped	m ³	2.0	1.9	2.3
	ISO struck	m ³	1.6	1.6	1.9
A	Overall length	mm	6 910	7 040	7 010
A'	Overall length (Traveling figure)	mm	6 870	6 960	6 930
B	Overall height	mm		3 170	
C	Width over tires	mm		2 390	
D	Wheel base	mm		2 900	
E	Ground clearance	mm		380	
F	Tread	mm		1 930	
G	Bucket width	mm		2 480	
H	Turning radius (Centerline of outside tire)	mm		4 950	
H'	Loader clearance circle, bucket in carry position	mm	5 740	5 770	5 760
I	Overall operating height	mm	4 950	4 950	5 040
J	Height to bucket hinge pin, fully raised	mm	3 730	3 730	3 730
K	Dumping clearance 45 degree, full height	mm	2 790	2 700	2 720
L	Reach, 45 degree dump, full height	mm	950	1 030	1 020
M	Digging depth (Horizontal digging angle)	mm	110	120	110
N	Max. roll back at carry position	deg		50	
Static tipping load *	Straight	kgf	8 050	8 170	7 990
	Full 40 degree turn	kgf	6 970	7 090	6 910
Breakout force		kN	96	104	87
		(kgf)	(9 790)	(10 600)	(8 870)
Operating weight *		kg	10 290	10 240	10 330

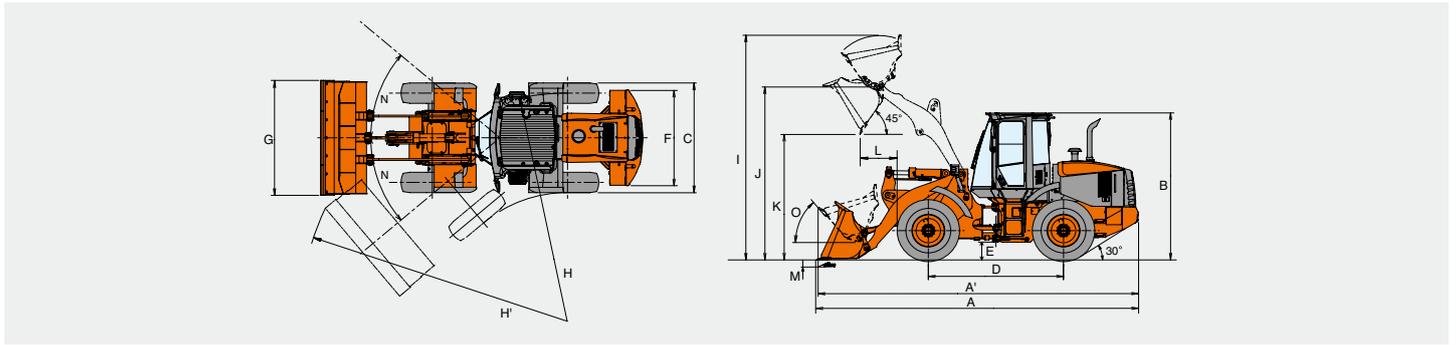
Note: 1. All dimensions, weight and performance data based on ISO 6746-1:1987, ISO 7137:1997 and ISO 7546:1983

2. Static tipping load and operating weight marked with* include 17.5-25-12PR (L3) tires (No ballast) with lubricants, full fuel tank and operator. Machine stability and operating weight depend on counterweight, tire size and other attachments.

BUCKET SELECTION GUIDE

General purpose



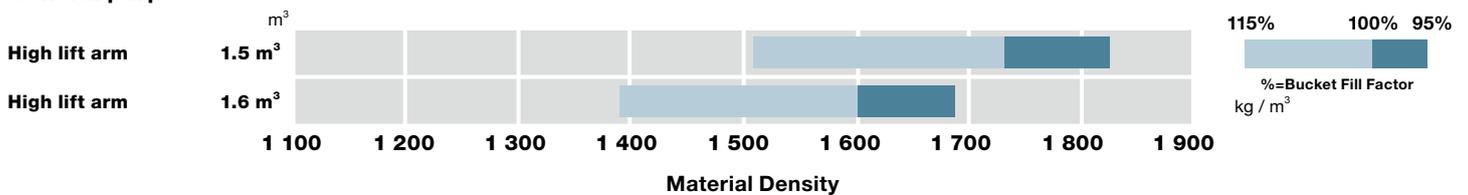


Bucket type			High Lift Arm	
			General Purpose	
			With bolt-on cutting edges	With bolt-on teeth
Bucket capacity	ISO heaped	m ³	1.6	1.5
	ISO struck	m ³	1.3	1.2
A Overall length		mm	7 240	7 360
A' Overall length (Traveling figure)		mm	7 220	7 300
B Overall height		mm	3 170	
C Width over tires		mm	2 390	
D Wheel base		mm	2 900	
E Ground clearance		mm	380	
F Tread		mm	1 930	
G Bucket width		mm	2 480	
H Turning radius (Centerline of outside tire)		mm	4950	
H' Loader clearance circle, bucket in carry position		mm	5 890	5 930
I Overall operating height		mm	5 140	
J Height to bucket hinge pin, fully raised		mm	4 090	
K Dumping clearance 45 degree, full height		mm	3 250	3 160
L Reach, 45 degree dump, full height		mm	1 020	1 090
M Digging depth (Horizontal digging angle)		mm	200	210
N Max. roll back at carry position		deg	50	
Static tipping load *	Straight	kgf	6 300	6 410
	Full 40 degree turn	kgf	5 430	5 530
Breakout force		kN	114	124
		(kgf)	(11 620)	(12 640)
Operating weight *		kg	10 540	10 480

Note: 1. All dimensions, weight and performance data based on ISO 6746-1:1987, ISO 7137:1997 and ISO 7546:1983

2. Static tipping load and operating weight marked with* include 17.5-25-12PR (L3) tires (No ballast) with lubricants, full fuel tank and operator.
Machine stability and operating weight depend on counterweight, tire size and other attachments.

General purpose



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