

ZW series



HITACHI

**ZW**  
**140**



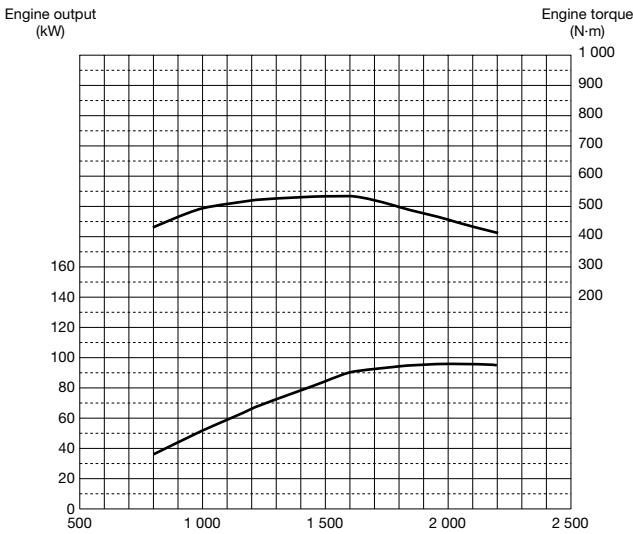
## WHEEL LOADER

- **Model Code:** ZW140
- **Operating Weight:** 10 240 - 10 540 kg
- **Bucket Capacity:** ISO Heaped: 1.5 - 2.3 m<sup>3</sup>
- **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 <sup>-1</sup> (rpm)
ISO 9249,	
Without Fan net .....	96 kW (129 HP) at 2 000 min <sup>-1</sup> (rpm)
EEC 80/1269,	
Without Fan net .....	96 kW (129 HP) at 2 000 min <sup>-1</sup> (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 <sup>2</sup> )
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 <sup>-1</sup> (rpm) at 20.6 MPa (210 kgf/cm <sup>2</sup> )
Relief pressure setting .....	20.6 MPa (210 kgf/cm <sup>2</sup> )
HST charging pump .....	Gear type 41L /min @2 200 min <sup>-1</sup> (rpm) at 2.5 MPa (25 kgf/cm <sup>2</sup> )
Transmission charging pump .....	Gear type 17 L/min @2 200 min <sup>-1</sup> (rpm) at 1.96 MPa (20 kgf/cm <sup>2</sup> )
Fan pump .....	Gear type 30 L/min @2 200 min <sup>-1</sup> (rpm) at 11.8 MPa (120 kgf/cm <sup>2</sup> )
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 m<sup>3</sup> (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

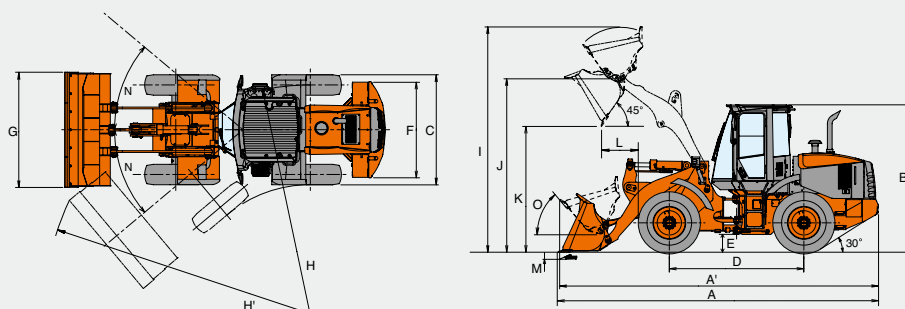
- Full rear fender and mud guard
- Rear license plate bracket
- Wheel blocks
- High lift arm
- Emergency steering system
- Bottom guards, front frame and transmission

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 <sup>3</sup>	2.0	1.9	2.3
	ISO struck	m <sup>3</sup>	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

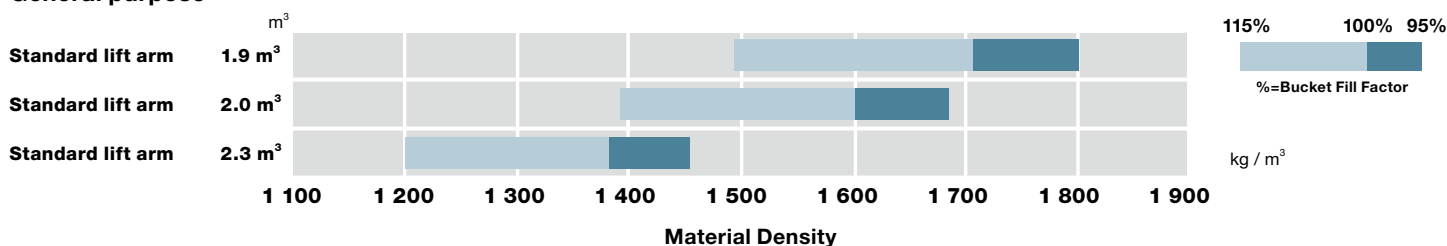
Note: 1. All dimensions, weight and performance data based on ISO 6746-1:1987, ISO 7137:1997 and ISO 7546:1983

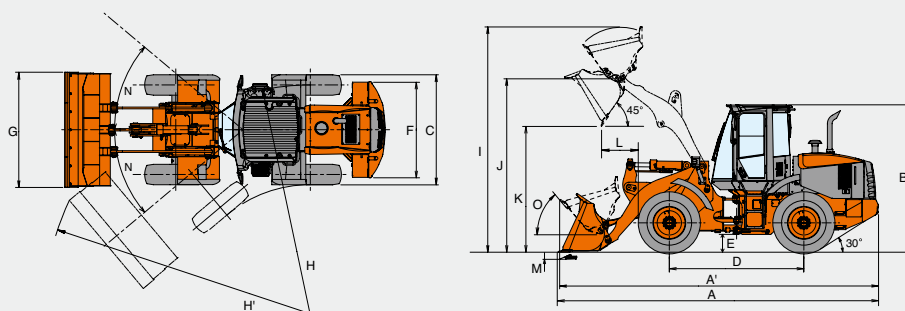
2. Static tipping load and operating weight marked with\* include 17.5-25-12PR (L3) tires (No ballast) with lubricants, full fuel tank and operator.

Machine stability and operating weight depend on counterweight, tire size and other attachments.

## BUCKET SELECTION GUIDE

### General purpose



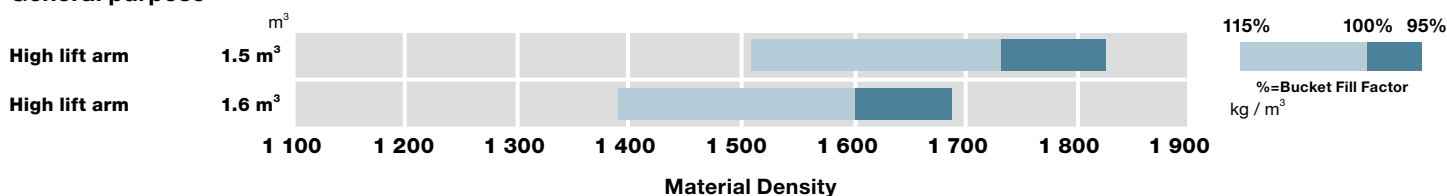


Bucket type			High Lift Arm	
			General Purpose	
			With bolt-on cutting edges	With bolt-on teeth
Bucket capacity	ISO heaped	m <sup>3</sup>	1.6	1.5
	ISO struck	m <sup>3</sup>	1.3	1.2
A Overall length		mm	7 240	7 360
A' Overall length (Traveling figure)		mm	7 220	7 300
B Overall height		mm	3 170	
C Width 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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