

ZW-5 series



HITACHI

Reliable solutions

# ZW310



## WHEEL LOADER

Model Code: ZW310-5A

Engine power: 216 kW (290 HP)

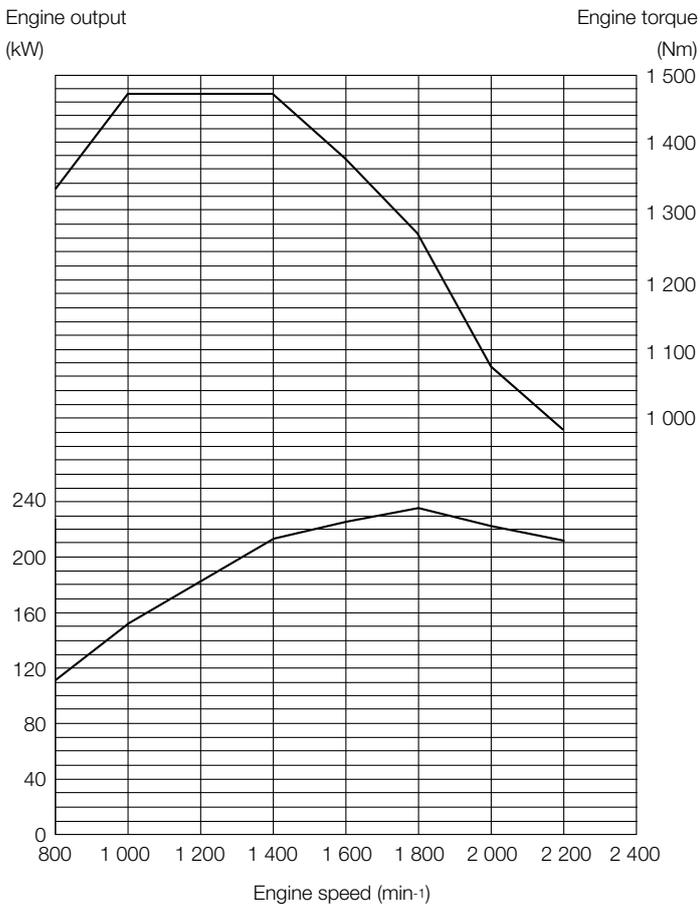
Operating Weight: 22 410 - 22 860 kg

Bucket ISO Heaped: 3.4 - 4.5 m<sup>3</sup>

# SPECIFICATIONS

## ENGINE

Model .....	CUMMINS QSM11
Type .....	4-cycle, water-cooled, direct injection
Aspiration .....	Turbocharger and intercooled
No. of cylinders .....	6
Maximum power	
SAE J1995/ISO14396, gross.....	239 kW (320 HP) at 1 800 rpm
SAE J1349/ISO 9249, net .....	236 kW (316 HP) at 1 800 rpm
Rated power	
SAE J1995, gross.....	216 kW (290 HP) at 2 100 rpm
Maximum torque .....	1 478 Nm at 1 000 - 1 400 min <sup>-1</sup> (rpm)
Bore and stroke .....	125 mm X 147 mm
Piston displacement .....	10.82 L
Batteries .....	DC 12 V X 2
Air cleaner .....	Double element dry type with restriction indicator



## POWER TRAIN

Transmission .....	Torque converter, countershaft type powershift with computer-controlled automatic shift and manual shift features included.
Torque converter .....	Three element, single stage, single phase
Main clutch .....	Wet hydraulic, multi-disc type
Cooling method .....	Forced circulation type
Travel speed* Forward / Reverse	
1st .....	6.8 / 6.8 km/h
2nd .....	11.5 / 11.5 km/h
3rd .....	21.6 / 21.6 km/h
4th .....	34.7 / 34.7 km/h

\* With 26.5-25-16PR (L3) tires.

Data at power mode are the same as data at standard mode.

## AXLE AND FINAL DRIVE

Drive system .....	Four-wheel drive system
Front & rear axle .....	Semi-floating
Front .....	Fixed to the front frame
Rear .....	Trunnion support
Reduction and differential gear .....	Single stage reduction with torque proportioning differential (std) / limited slip differential (optional)
Oscillation angle .....	Total 20° (+10°,-10°)
Final drives .....	Heavy-duty planetary, mounted inboard

## TIRES

Tire size .....	26.5-25-16PR (L3)
Optional .....	Refer to standard & optional equipment list

## BRAKES

Service brakes .....	Inboard mounted fully hydraulic 4 wheel wet disc brake. Front & rear independent brake circuit
Parking brakes .....	Spring applied, hydraulically released, located in transmission

## STEERING SYSTEM

Type .....	Articulated frame steering
Steering angle .....	Each direction 37° ; total 74°
Cylinders .....	Double-acting piston type
No. x Bore x Stroke .....	2 x 70 mm x 542 mm

## HYDRAULIC SYSTEM

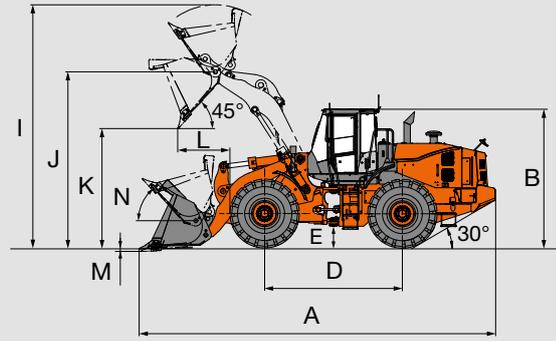
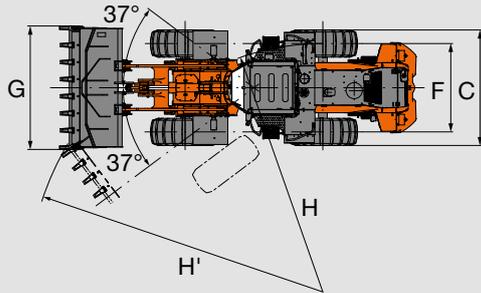
Lift arm and bucket are controlled by independent control lever.	
Lift arm controls .....	Four position valve ; raise, hold, lower, float
Bucket controls with automatic bucket return-to-dig control .....	Three position valve ; roll back, hold, dump
Main pump (Serve as steering pump)	
.....	Variable displacement axial piston pump
Maximum flow .....	323 L/min at 2 000 min <sup>-1</sup> (rpm)
Maximum pressure ..	29.4 MPa
Fan pump	
.....	Fixed displacement gear pump
Maximum flow .....	84.9 L/min at 2 000 min <sup>-1</sup> (rpm)
Maximum pressure ..	17.4 MPa
Hydraulic cylinders	
Type .....	Double acting type
No. x Bore x Stroke ...	Arm : 2 x 145 mm x 930 mm
	Bucket : 1 x 185 mm x 510 mm
Filters .....	Full-flow 15 micron return filter in reservoir
Hydraulic cycle times*	
Lift arm raise .....	6.2 s
Lift arm lower .....	3.2 s
Bucket dump .....	1.2 s
Total .....	10.6 s

\* Data at power mode are the same as data at standard mode.

## SERVICE REFILL CAPACITIES

Fuel tank .....	370 L
Engine coolant .....	40 L
Engine oil .....	34 L
Torque converter & transmission .....	52 L
Front axle differential & wheel hubs .....	48 L
Rear axle differential & wheel hubs .....	48 L
Hydraulic oil tank .....	123 L

## DIMENSIONS & SPECIFICATIONS



Bucket type			Standard arm				High lift arm	
			General purpose				Rock bucket	General purpose
			Bolt-on cutting edge		Bolt-on teeth		Bolt-on teeth	Bolt-on cutting edge
Bucket capacity	ISO heaped	m <sup>3</sup>	4.0	4.5	3.8	4.3	3.4	4.0
	ISO struck	m <sup>3</sup>	3.5	4.0	3.3	3.8	2.9	3.5
A Overall length		mm	8 790	8 910	8 930	9 050	8 900	9 240
B Overall height		mm				3 470		
C Width over tires		mm				2 930		
D Wheel base		mm				3 450		
E Ground clearance		mm				505		
F Tread		mm				2 230		
G Bucket width		mm	3 100	3 100	3 120	3 120	3 120	3 100
H Turning radius (Centerline of outside tire)		mm				6 270		
H' Loader clearance radius, bucket in carry position		mm	7 330	7 360	7 385	7 415	7 375	7 520
I Overall operating height		mm	6 100	6 215	6 100	6 215	5 775	6 555
J Height to bucket hinge pin, fully raised		mm				4 410		4 865
K Dumping clearance 45 degree, full height		mm	3 095	3 010	2 975	2 890	3 000	3 550
L Reach, 45 degree dump, full height		mm	1 215	1 300	1 280	1 370	1 235	1 245
M Digging depth (Horizontal digging angle)		mm	95	95	125	125	125	95
N Max. roll back at carry position		deg				50		48
Static tipping load *	Straight	kg	17 090	16 940	17 260	17 120	17 280	14 100
	Full 37 degree turn	kg	14 910	14 780	15 060	14 930	15 080	12 300
Breakout force		kN	184	169	198	181	202	184
		kgf	18 770	17 240	20 200	18 460	20 600	18 770
Operating weight*		kg	22 540	22 670	22 410	22 540	22 620	22 860

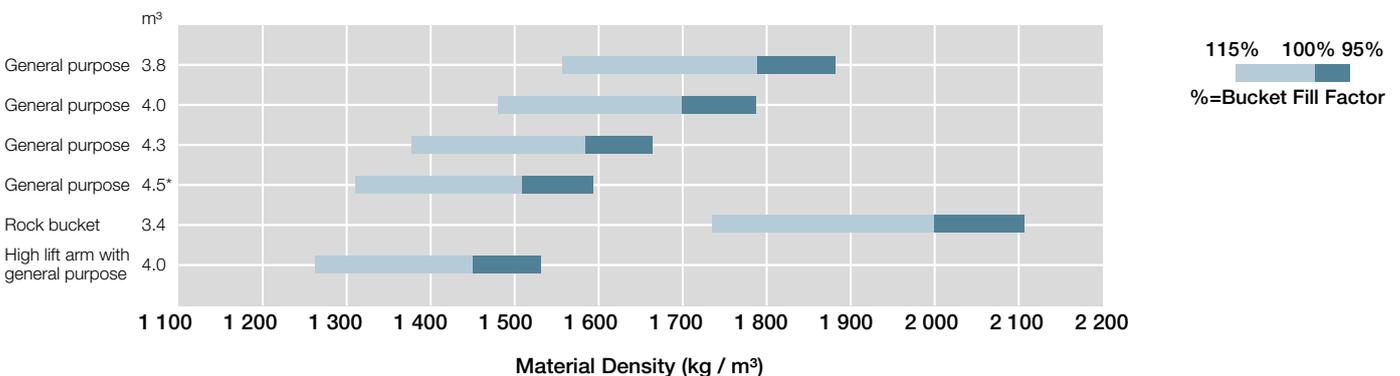
Note: All dimensions, weight and performance data based on ISO 6746-1:1987, ISO 7131:2009 and ISO 7546:1983

\*: Static tipping load and operating weight marked with\* include 26.5-25-16PR(L3) tires (No ballast) with lubricants, full fuel tank, 2 080kg counterweight, ROPS cab and operator. Machine stability and operating weight depend on counterweight, tire size and other attachments.

## WEIGHT CHANGE

Option item	Operating weight (kg)	Tipping load (kg)		Overall width (mm) (outside tire)	Overall height (mm)	Overall length (mm)
		Straight	37 degree turn			
Tire	26.5-25-16PR (L3)	±0	±0	±0	±0	±0
	26.5-25-20PR (L3)	+100	+70	+60	±0	±0
	26.5-25-20PR (L4)	+580	+420	+370	±0	±0
	26.5-25-20PR (L5)	+940	+690	+600	±0	±0
	26.5R25 (L3)	+100	+70	+60	±0	±0
	26.5R25 (L4)	+500	+360	+320	+15	+30
	26.5R25 (L5)	+840	+620	+540	+15	+30
Belly guard (front frame)	+100	+30	+30	-	-	-
Belly guard (rear frame)	+95	+100	+90	-	-	-
2 540 kg Counterweight	+460	+1 070	+930	-	-	-

## BUCKET SELECTION GUIDE



# EQUIPMENT

● ..... Standard equipment

○ ..... Optional equipment

## OPERATOR'S STATION

Adjustable steering column	●
Ashtray, cigar lighter	●
Audio	
AM/FM radio	●
AM/FM radio with AUX for digital audio player	○
Auto control air conditioner	
with single intake filter	●
with double intake filter	○
Cab	
ROPS (ISO3471), FOPS (ISO3449)	●
Non ROPS / FOPS cab	○
Coat hook	●
Front/Rear defroster	●
Glove compartment	●
Rear view camera & monitor	○
Rear view mirrors	
Inside (2)	●
Outside (2)	●
Retractable seat belt, 50 mm	●
Rubber floor mat	●
Seat	
Mechanical suspension seat: fabric, high back, adjustable for armrest angle, fore-aft position, reclining angle and weight-height.	●
Air suspension seat with headrest and heater: fabric, high back, adjustable for armrest angle, damper, fore-aft position, headrest height and angle, inclination of the seat, lumbar support, reclining angle, seat depth and weight-height.	○
Storage	
Cup holder	●
Digital audio player holder (with AUX for digital audio player)	○
Document holder	●
Hot & cool box	●
Seatback pocket	●
Sun visor	●
Textured steering wheel with spinner knob	●
Safety glass (tempered)	●
Windshield washer front and rear	●
Windshield wipers front and rear	●

## ELECTRICAL SYSTEM

Backup alarm	●
Batteries	
Standard batteries (108 Ah-765 CCA)	●
Large capacity batteries (140 Ah -930 CCA)	○
Battery disconnect switch	○
12 V power outlet	○

## COOLING SYSTEM

Fan	
Cooling fan with heat sensing	●
Automatic reversible cooling fan with heat sensing	○
Fan guard	●
Radiator	
Standard fin pitch radiator	●
Wide fin pitch radiator	○

## LIGHTS

Brake & tail lights	●
Clearance lights	●
Headlights	●
Turn signals with hazard switch	●
Work lights	
Front lights on cab (2)	●
Rear lights on rear grille side cover (2)	●
Additional front lights on cab (2)	○
Rear lights on cab (2)	○

## POWER TRAIN

Automatic transmission with load sensing system	●
Clutch cut position switch	●
Differential	
TPD (Torque Proportioning Differential)	●
LSD (Limited Slip Differential)	○
DSS (Down Shift Switch)	●
Forward/Reverse lever	●
Power mode switch	●
Quick power switch	●
Travel mode selector (Auto1-Auto2)	●

## ENGINE

Air intake	
Rain cap	●
Pre-cleaner (Sy-Klone)	○
Air filter double elements	●
Cartridge-type engine oil filter	●
Cartridge-type fuel filter	●
Engine oil remote drain	●

## MONITORING SYSTEM

Gauge: coolant temperature, fuel, transmission oil temperature	●
Indicator lights: air filter restriction, clearance lights, control lever lock, discharge warning, emergency steering, engine warning, fan reverse, forward/reverse selector switch, high beam, hydraulic oil temperature, maintenance, parking brake, power mode, preheat, seat belt, service, transmission oil temperature, transmission warning, turn signals, work lights	●
LCD monitor display: clock, ECO, F-N-R/Shift position, hold, hour meter, odometer, replacement intervals, ride control, speedometer	●
Warning lights: axle oil temperature, brake oil low pressure, engine oil low pressure, overheat, steering oil low pressure	●

BRAKE SYSTEM	
Front & rear independent brake circuit	●
Inboard mounted fully hydraulic 4 wheel wet disc	●
Pedal	
Double (LH & RH) brake pedal	●
Single brake pedal	○
Spring-set/Hydraulic-released parking brake	●

HYDRAULIC SYSTEM	
Bucket auto leveler (Automatic return to dig control)	●
Control lever	
for 2 spools control valve	
2 levers	●
	
Multifunction lever (MF lever)	○
	
for 3 spools control valve	
MF lever & AUX lever for 3rd function	○
	
2 levers & AUX lever for 3rd function	○
	
- Outside layout pattern (Bucket - liftarm - 3rd)	○
Control lever lock handle	●
Dual lift arm auto leveler	○
Hydraulic filters	●
Lift arm float system	●
Lift arm kick out	●
Reservoir sight gauge	●
Ride control system (OFF-AUTO type)	○

TIRES	
26.5-25-16PR (L3)	●
26.5-25-20PR (L3)	○
26.5-25-20PR (L5)	○
26.5R25 (L3)	○
26.5R25 (L5)	○

MISCELLANEOUS	
Articulation lock bar	●
Belly guard (bolt on type) (front / rear frame)	○
Bucket cylinder guard	○
Counterweight	
2 080 kg counterweight	●
2 540 kg counterweight	○
Drawbar with locking pin	●
Emergency steering	○
Fenders	
Front & half covered rear fenders	●
Front & full covered rear fenders with mud flaps	○
Front & half covered rear fenders with mud flaps	○
Global e-service	●
Lift arm	
Standard lift arm	●
High lift arm	○
Lift & tie down hooks	●
On board information controller	●
Anti-vandal protection	
Battery cover with locking bracket	●
Lockable engine cover	●
Lockable fuel refilling cap	●

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

## CÔNG TY TNHH TAM HOÀNG MINH



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